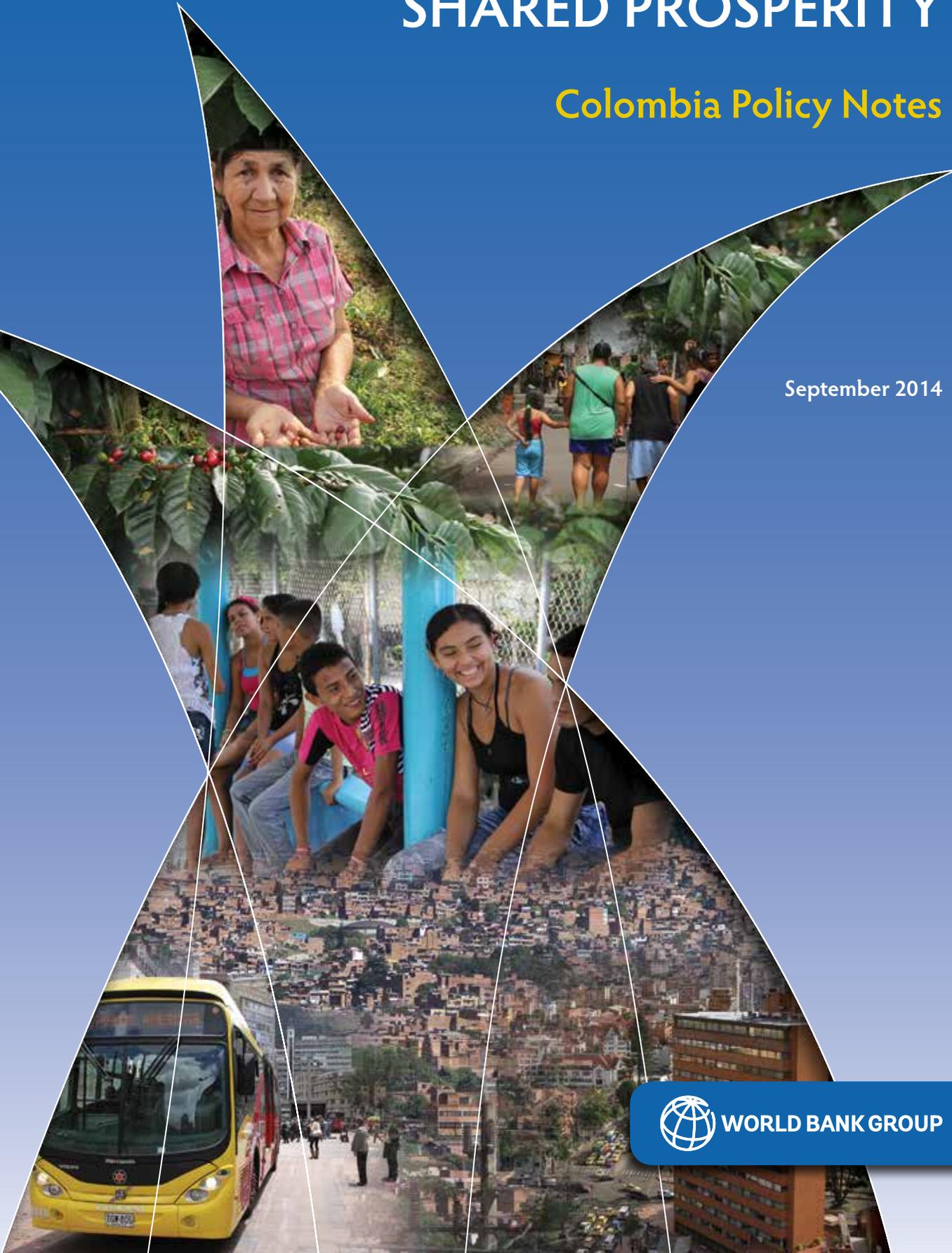


TOWARDS SUSTAINABLE PEACE, POVERTY ERADICATION, AND SHARED PROSPERITY

Colombia Policy Notes

September 2014



WORLD BANK GROUP

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Graphic design: Robert Reineke

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ACKNOWLEDGEMENTS

This set of policy notes was produced by World Bank experts working in the Colombia Country Team. Chapter 1 was drafted by Dorly Castañeda, Marcelo Fabre, Margarita Puerto Gomez, and Markus Kostner. Chapter 2 was produced by Carlos Rodríguez Castelán, Lea Giménez, and Daniel Valderrama under the general guidance of Louise Cord. Chapter 3 was produced by Barbara Cunha with inputs from Konstantin Wacker, German Galindo and Diana Marcela Carrero Rivera. Chapter 4 was authored by Michael Morris and Natalia Gómez with inputs from Laurent Msellati, Holger A. Kray, Carole Megevand, Victoria Stanley, Enrique Pantoja, Luz Berania Diaz Rios, Diego Arias Carballo, Juliana Castaño Isaza, Erick C.M. Fernandes and Daniel M. Sellen. The authors of Chapter 5 are Angelica Nuñez and Jose Luis Acero with inputs provided by Anna Wellenstein, Catalina Marulanda, Augustin Maria, Camila Rodriguez, and Mauricio Cuellar. Chapter 6 was prepared by Eric Dickson, Claudia Lorena Trejos, Daniel Sellen, and Diana Marcela Rubiano Vargas. Chapter 7 was prepared by Irina Klytchnikova under the general guidance of Emilia Battaglini, with research assistance by Anna Lena Sauer and helpful comments from Ernesto Sanchez-Triana, Carole Megevand, Juliana Castaño, Rita Cestti, Greg Browder, Daniel Sellen, Franka Braun, Daniele La Porta and Todd Johnson. Chapter 8 was drafted by Mauricio Cuellar, Leonardo Canon, Shomik Mehndiratta, Carlos Murgui, Daniel Pulido, and Marcela Silva. The author of Chapter 9 is Patricia Caraballo, with inputs and contributions received from Eva M. Gutierrez, Catiana Garcia-Kilroy and Rekha Reddy. Chapter 10 was prepared by Javier Botero, Wendy Cunningham, Eva Gutierrez, Robert Hawkins Leonardo Iacovone, Esperanza Lasagabaster, and William Maloney. Chapter 11 was produced by Alejandra Corchuelo, Ana María Oviedo, Antonio Giuffrida, Ronald Gomez, Joana Silva and Wendy Cunningham. Chapter 12 was drafted by a team led by Pedro Arizti, including Eguiar Lizundia, Jorge Luis Silva, Barbara Cunha, Carlos Rodríguez Castelán, German Galindo, John Gonzalez, Mónica Peñuela, Manuel Fernando de Castro, and Azul del Villar.

Peer reviewing was provided by Augusto de la Torre, Issam Abousleiman, Mathew Stephens, Gabriel Demombynes, Emily Sinott, John Nash, Peter Ellis, Joaquín Toro, Juan Gaviria, James Seward, Jose Guillermo Reis, Truman Packard, Alberto Leyton and Emilia Battaglini. Consultations were also held with representatives of Ministerio de Hacienda and Dirección Nacional de Planeación, who provided rich insights and knowledge of priority issues in Colombia.

The overview as well as coordination of the set of policy notes was led by Samuel Freije, with inputs and support from Domoina Rambeloarison and German Galindo. Editorial reviews and translations were by Robert Reineke, Richard Galm, Juan Carlos Liceaga and Manuel Gómez. Administrative support was provided by Beatriz Elena Franco, Elsa Coy and Lorena Bustos. Overall supervision was provided by Gloria Grandolini and Gerardo Corrochano (World Bank Directors for Colombia) and Issam Abousleiman (Country Manager for Colombia).

ACRONYMS

4G	Fourth Generation of Concession Program	Educación Superior
AFP	Administradoras de Fondos de Pensiones y de Cesantía Pension Fund Administrator	National Intersectorial Commission of Quality Control of Higher Education
ANI	Agencia Nacional de Infraestructura National Infrastructure Agency	CONPES Consejo Nacional de Política Económica y Social
ATM	Automated Teller Machine	National Council on Economic and Social Policy
BID	Banco Interamericano de Desarrollo Inter-American Development Bank	COP Colombian Peso
BVC	Bolsa de Valores de Colombia Colombia Stock Exchange	COP Conference of the Parties to the Convention
CAR	Corporación Autónoma Regional Autonomous Regional Corporation	CORPOICA Corporación Colombiana de Investigación Agropecuaria
CAT-DDO	Catastrophe Risk Development Loan Deferred Drawdown Option (World Bank)	Colombian Corporation on Agricultural Research
CB	Commercial Bank	CPI Consumer Price Index
CEDLAS	Centro de Estudios Distributivos, Laborales y Sociales Center for Distributive, Labor and Social Studies	CSA Climate Smart Agriculture
CEPAL	Comisión Económica para América Latina y el Caribe United Nations Economic Commission for Latin America and the Caribbean	CSO Civil Society Organization
CGR	Comptroller's General Office Contraloría General de la República	DALY Disability Adjusted Life Years
CIAT	Centro Internacional de Agricultura Tropical International Center for Tropical Agriculture	DANE National Bureau of Statistics
CNA	Consejo Nacional de Acreditación National Accreditation Council	DB Doing Business
CONACES	Comisión Nacional Intersectorial de Aseguramiento de la Calidad de la	DNP Departamento Nacional de Planeación National Planning Department
		DPS Departamento para la Prosperidad Social Department for Social Prosperity
		DRM Disaster Risk Management
		ECLAC Economic Commission for Latin America and the Caribbean
		EIA Environmental Impact Assessment
		EITI Extractive Industries Transparency Initiative
		ELN Ejército de Liberación Nacional de Colombia National Liberation Army
		ENCV Encuesta de Calidad de Vida Quality of Life Survey

ENDS	Encuesta Nacional de Demografía y Salud National Demography and Health Survey	IDC	Índice Departamental de Competitividad de Colombia Department Competitiveness Index
EPA	Export Promotion Agency	IDEAM	Instituto de Hidrología, Meteorología y Estudios Ambientales
EPS	Entidad Promotora de Salud Public Health Agency		Institute of Hydrology, Meteorology and Environmental Studies
FAG	Agricultural Guarantee Fund Fondo de Garantía Agropecuaria	IDP	Internally Displaced Person
FAO	Food and Agriculture Organization	IGAC	Instituto Geográfico Agustín Codazzi Agustin Codazzi Geography Institute
FARC	Fuerzas Armadas Revolucionarias de Colombia Revolutionary Armed Forces of Colombia	ILO	International Labor Organization
FDI	Foreign Direct Investment	IMAN	Impuesto Mínimo Alternativo Nacional National Alternate Minimum Tax
FDN	Financiera de Desarrollo Nacional National Development Bank	IMF	International Monetary Fund
FEDEGAN	Federación Nacional de Ganaderos National Rancher Federation	INCODER	Instituto Colombiano de Desarrollo Rural National Institute for Rural Development
FINDETER	Financiera de Desarrollo Territorial Territorial Development Finance Company	INTOSAI	International Organization of Supreme Audit Institutions
FONADE	Fondo Financiero de Proyectos de Desarrollo Financial Fund of Development Projects	INVIAS	National Road Agency Instituto Nacional de Vías
FSAP	Financial Sector Assessment Program	IP	Intellectual Property
FTA	Free Trade Agreement	IPO	Initial Public Offering
GDP	Gross Domestic Product	IPSAS	International Public Sector Accounting Standards
GEF	Global Environment Fund	IQ	Intelligence Quotient
GEIH	Gran Encuesta Integrada de Hogares Large Integrated Survey of Households	ISFL	Initiative for Sustainable Forest Landscapes
GNI	Gross National Income	IT	Information Technology
HCS	Health Care System	LAC	Latin America and the Caribbean
HHI	Herfindal-Hirschman Index	LAPOP	Latin American Public Opinion Project
HOI	Human Opportunity Index	LAVCA	Latin America Private Equity and Venture Capital Association
IAP	Indoor Air Pollution	LCSSO	Latin American and Caribbean Social Development
ICFES	Instituto Colombiano para el Fomento de la Educación Superior Colombian Institute for the Promotion of Higher Education	LEADER	Liaison Entre Actions de Développement de l'Économie Rurale
ICRG	International Country Risk Guide		Links between Actions for Rural Development
ICT	Information and Communications Index		

LOOT	Ley Organica de Ordenamiento Territorial Territorial Management Organic Law	PE	Private Equity
LSE	London School of Economics	PEFA	Public Expenditure and Financial Accountability
M&E	Monitoring and Evaluation	PES	Payment for Environmental Services
MADR	Ministerio de Agricultura y Desarrollo Rural Ministry of Agriculture and Rural Development	PISA	Programme for International Student Assessment
MADS	Ministerio de Ambiente y Desarrollo Sostenible Ministry of Environment and Sustainable Development	POMCA	Plan de Manejo de Cuencas Watershed Management Plan
MESEP	Misión para el Empalme de las Series de Empleo, Pobreza y Desigualdad Mission for the Splicing of Employment, Poverty and Inequality Series	POS	Plan Obligatorio de Salud Mandatory Health Plan
MHCP	Ministerio de Hacienda y Crédito Público Ministry of Finance and Public Credit	POS	Point of Sale
MHCT	Ministerio de Vivienda, Ciudad y Territorio Ministry of Housing, City and Territory	POT	Plan de Ordenamiento Territorial Territorial Organization Plan
MICT	Ministerio de Comercio, Industria y Turismo Ministry of Commerce, Industry and Tourism	PPA-PDA	Programa Agua para la Prosperidad Water for Prosperity
MILA	Mercado Integrado Latinoamericano Integrated Latin American Market	PPP	Purchasing Power Parity
MMR	Mild Mental Retardation	PPP	Public Private Partnership
MEN	Ministerio de Educación Nacional Ministry of Education	PPSAM	Programa de Protección Social al Adulto Mayor Social Protection Program for Adults
MPI	Multidimensional Poverty Index	PyME	Pequeña y Mediana Empresa Small and Medium Enterprise
MT	Medium-term	R&D	Research and Development
NBFI	Non-Bank Financial Institution	RC	Régimen Contributivo Contributory Regime
NGO	Non-Governmental Organization	REDD+	Reduced Emissions from Deforestation and Forest Degradation
NIS	National Innovation System	REDI	Recent Economic Developments in Infrastructure
OCYT	Observatorio Colombiano de Ciencia y Tecnología Colombian Observatory for Science and Technology	RS	Régimen Subsidiado en Salud Subsidized Regime
OECD	Organization for Economic Cooperation and Development	RUAF	Registro Único de Afiliados Unique Register of Affiliates
		SAVER	Saneamiento para Vertimientos Sanitation of Wastewater Discharge
		SEDLAC	Socio-Economic Database for Latin America and the Caribbean
		SENA	Servicio Nacional de Aprendizaje National Training System
		SFC	Superintendencia Financiera de Colombia Superintendency of Finance
		SGP	Sistema General de Participaciones
		SGR	Sistema General de Regalías
		SGSSS	Sistema General de Seguridad Social en Salud

	General System of Social Security in Health	UAESPE	Unidad Administrativa Especial del Servicio Publico de Empleo
SINA	Sistema Nacional Ambiental		Special Administrative Unit for the Public Employment Service
	National Environmental System		
SISBEN	Sistema de Selección de Beneficiarios de Programas Sociales	UAP	Urban Air Pollution
	System for Selecting Beneficiaries of Social Programs	UK-DECC	United Kingdom Department of Energy and Climate Change
SME	Small and Medium Enterprise	UNFCCC	United Nations Framework Convention on Climate Change
SNG	Subnational Government	UNGRD	Unidad Nacional para la Gestión del Riesgo de Desastres
SNPAD	Sistema Nacional para la Prevención y Atención de Desastres		National Unit for Disaster Risk Management
	National System for Disaster Prevention and Response	UNICEF	United Nations Children's Fund
SNR	Superintendencia de Notariado y Registro	UPC	Unidad de Pago por Capitación
	Superintendence of Notaries and Registry Offices	URB	Unified Registry of Beneficiaries
SNS	Superintendencia Nacional de Salud	VAT	Value Added Tax
	National Superintendence of Health	VC	Venture Capital
SPI	Shared Prosperity Indicator	WAVES	Wealth Accounting and Valuation of Ecosystem Services
SPS	Silvo-pastoral systems	WBG	World Bank Group
SPS	Social Protection System	WDI	World Development Indicator
SRO	Self-Regulatory Organization	WDR	World Development Report
ST	Short-term	WEF	World Economic Forum
TA	Technical Assistance	WHO	World Health Organization
TC	Titulizadora Colombiana	WSH	Water, Sanitation and Hygiene
TFP	Total Factor Productivity	WTI	West Texas Intermediate
TTO	Technological Transfer Office	WWTP	Wastewater treatment plant

An Overview of World Bank
Policy Notes for Colombia

For its client countries, the World Bank provides incoming presidential administrations with a selective diagnostic of current challenges and an independent set of policy recommendations to contribute to the nation's development process. In the case of Colombia, the inauguration of a new administration for 2014–18 is the occasion for a new set of policy notes.

The World Bank has been a long-time partner of Colombia's development process. For years, World Bank experts have studied the Colombian economy and provided diagnoses and policy recommendations, some of which have contributed to the discussion and implementation of important reforms. Recent sets of published policy notes have been "Colombia: The Economic Foundation of Peace" in 2003 and "A Window of Opportunity" in 2007.

Progress brings new challenges. Colombia's recent advances in economic and social policy demand a focus on more sophisticated solutions to new questions or to intractable old problems. These new policy notes are based on the current involvement of World Bank experts in Colombia and their insights on which policies could help sustain peace, eradicate poverty, and share prosperity. Today, these three development objectives—sustainable peace, poverty eradication, and shared prosperity—seem within realistic reach for the first time in Colombian history.

This overview summarizes the current status of the three development objectives and the proposed policies to achieve them in nine areas: rural development, urban development, disaster risk management, environmental sustainability, infrastructure, financial markets, innovation, social protection, and subnational governments. These policy areas are interrelated—i.e., advances in one are necessary for successes in others. For instance, building infrastructure is necessary for rural and urban development, but infrastructure requires sound financial markets and efficient local governments. All of those factors will not be enough to increase productivity if firms and universities do not make innovation thrive. In the end, increased productivity

provides the means for a more encompassing social protection system, and both productivity and social protection are necessary for poverty eradication and sustainable peace. Notwithstanding these intricate connections, and only for ease of exposition, we discuss these three objectives and nine policy areas separately. After discussing the evolution and status of the objectives, the following sections group policies into three general themes: (i) organizing the territory; (ii) mustering physical, financial, and human resources; and (iii) promoting people and localities.

Three Development Objectives

Colombia faces three fundamental development objectives. Attaining higher levels of well-being for all Colombians will necessarily involve achieving sustainable peace, eradicating poverty, and sharing prosperity. Without peace, the country would not fully secure the most fundamental human rights. With poverty, many would be deprived from the most basic needs. Without shared prosperity, only a few would enjoy the benefits of economic growth. These three objectives are necessary conditions for Colombians to realize their full development potential. Recent trends indicate they are within reach.

Transition to sustainable peace

Achieving sustainable peace is currently a Government priority and an utmost aspiration for Colombian society. More than fifty years of violence have affected at least three generations of Colombians at the national, subnational, community, and individual levels. Between 4.7 million and 5.7 million people were internally displaced between 1985 and 2012. In the same period, an estimated 220,000 people were killed, 27,000 were kidnapped, 25,000 disappeared, and 6,421 children were recruited by illegal armed groups. The causes of this protracted conflict have evolved over time with cycles of violence, instability, and weak governance, impacting not only on human lives but also economic development. It is estimated

that without the armed conflict, Colombia's annual growth rate would be 1.5 percentage points higher and poverty rates would be half what they are now. The Government has moved forward on several fronts to attain sustainable peace. Under the *Ley de Justicia y Paz* (Justice and Peace Law) and the *Ley de Víctimas y Restitución de Tierras* (Victims and Restitution Law) of 2011, the Government has set a framework for reintegrating ex-combatants, returning land to people displaced by conflict, and providing reparations to enable families and communities to resume their livelihoods. In the past decade, the Government has made strenuous efforts to reduce violence and increase state presence. The country is no longer considered high risk for investment; it has increased its capacity to guarantee basic citizens' rights; crime and murder rates have declined; and even drug production, one of the main drivers of conflict, has been significantly reduced. Furthermore, the ongoing peace process can lead to consolidation of a sustainable peace.

However, cycles of violence and entrenched conflict persist in some regions and against some groups. Since the early 2000s, Colombia has seen substantial declines in the number of new internally displaced people (IDP), politically motivated homicides, victims of land mines, and the homicide rate (related not only to the conflict but to general criminality). However, occasional peaks show the continued risk of bursts or cycles of violence. The national trends disguise regional differences. Violence is more prevalent in regions with weak local institutions, high revenues from natural resources extraction, and the presence of illegal armed groups. Arauca, Casanare, Caquetá, Meta, Nariño, and Valle del Cauca are among the departments with a larger share of violent events. In addition, specific population groups are overrepresented among victims of armed conflict—for example, rural, afro-Colombian, and indigenous populations.

This time and space variability, observed in the international experience as well as in Colombia, leads to three main changes to the understanding of armed conflict and peace, outlined in Chapter 1 of these policy notes (*Supporting Colombia's Transition*

to Sustainable Peace and Development). First, “post conflict” may be a misleading term because a period of conflict followed by reduction of tensions or even a peace agreement can be followed by a new cycle of violence. Peace should be seen as a process rather than the end of peace negotiations or military policy. Second, conflict is territory specific. Building peace at the national level implies distinct policies based on local dynamics and their relationship to the central government. Third, the sustainability of the peace-building process implies that policies aimed at preventing violence are multi-sectorial. A deep understanding of institutional capacity is essential for transforming vicious cycles of violence into virtuous cycles of institutional transformation.

The ongoing peace process with the FARC has become a central government priority, offering an opportunity to end the country's repetitive cycles of violence. Nonetheless, sustainable peace in Colombia will depend on the results of a collective effort of envisioning the country at peace and building it. While the Colombian transition to peace is unique, lessons from other countries can be useful for policy makers. Global experiences show that the main challenge in peace processes is to prevent cycles of violence from recurring in order to allow society to build a sustainable peace.

Chapter 1 uses international evidence to identify three main transitions Colombian society must undergo to build sustainable peace. First, a security transition from violence to respect of human rights and international humanitarian law—the aim is to prevent the recurrence of violence. Second, a development transition from a war economy to a peace economy—the aim is to create a more inclusive economy, with a legal option for ex-combatants and victims to participate while promoting economic recovery, rebuilding financial systems, and enhancing basic service delivery. Third, a political transition—the aim is to create conditions conducive to a participatory democracy.

These transitions involve implementation of a complex set of security, judicial, and socio-economic policies at the national and local levels. For

instance, when peace and stability return to rural areas affected by civil conflict, there will be an urgent need to resettle displaced populations, give them secure access to land for their livelihoods, provide them with the means to resume productive activities, and restore their voice in the national policy dialogue (Chapter 4 on rural development provides diagnostics and policy recommendations in this regard). In addition, subnational governments could play a critical role in the transition process. Because the risk of violence is greater in departments or municipalities with weak institutions, building capable and legitimate institutions at the local level will be key to breaking Colombia's cycles of violence (Chapter 12 on subnational governments elaborates on this). Some policy options are summarized as policy recommendation later in this report, and others are extensively discussed in the accompanying policy notes.

Fast poverty reduction but persistent inequality

In the past decade, Colombia has reduced poverty faster than ever before, but income inequality and vulnerability to poverty remain at unacceptably high levels. Chapter 2 of these policy notes (*Toward Shared Prosperity in Colombia*) provides a detailed analysis of Colombia's poverty and inequality trends over the past decade. Between 2002 and 2012, Colombia decreased its moderate poverty headcount rate from 49.7 percent to 32.7 percent and its extreme poverty headcount rate from 17.7 percent to 10.4 percent. The multidimensional poverty rate—defined as the percentage of people deprived in at least five well-being indicators—declined from 49 percent in 2003 to 27 percent in 2012. This rapid decline in poverty has been accompanied by an increase in the share of the population in the middle class from 15.1 to 27.2 percent; however, the share of the population vulnerable to poverty also rose, becoming the largest group in Colombia at 37.7 percent. This rising vulnerability to poverty is, on the one hand, the consequence of recent decline in poverty. People escape poverty but still remain close to the poverty

line and are likely to return to poverty if macroeconomic conditions were to worsen (Chapter 3 on economic growth discusses the main macroeconomic risks). Vulnerability is also associated, on the other hand, to environmental risks: natural disasters and pollution (Chapters 6 and 7 examine these sources of vulnerability).

Inequality, as measured by the Gini coefficient, fell from 0.57 in 2002 to 0.54 in 2012, but it remained above the regional average and much higher than the OECD average. The persistence of high levels of inequality can be linked to several factors, including insufficient access to higher education, pensions, and affordable housing. However, these factors have shown slight improvements in recent years. The exception is the unremitting inequality across regions. The gap between the departments with the highest and the lowest poverty rates has increased over the decade. In 2002, the difference in poverty rates between Huila and Bogota D.C. was 37.8 percentage points; in 2012, the Choco and Bogota D.C. poverty rates were 56.4 percentage points apart. The promotion of social policy and economic growth in Colombia's vulnerable regions is fundamental for reducing inequality (Chapter 4 on rural policy and Chapter 12 on subnational government management have policy recommendations to pursue this goal).

In addition to regional differences, another important aspect of poverty and inequality concerns disadvantaged groups—i.e., internally displaced people (IPDs), indigenous people, and afro-descendants. Ethnic minorities face high rates of poverty. Indigenous households have both the highest rate of multidimensional poverty (58 percent in 2010) and the lowest reduction from 2003 to 2010. Among these disadvantaged groups, the IDPs face enormous barriers. In 2010, their poverty rate was 96.7 percent. Their extreme poverty rate was 66.4 percent, implying that at least one out of four people in extreme poverty was an IDP in 2010. These numbers are based on standalone reports, but more systematic data are needed draw a precise profile of poverty and inequality among these disadvantaged groups.

The rapid reduction in national poverty rates is a consequence of two forces: faster economic growth and expansion of social protection programs. The growth of employment and earnings driven by economic growth explain more than 60 percent of the reduction in extreme poverty from 2002 to 2012. Public transfers, mostly due to the *Familias en Acción* and *Adulto Mayor* programs, account for the remaining 40 percent. Labor incomes, either through an increase in earnings per worker or workers per family, represented 73 percent of the total reduction in moderate poverty between 2002 and 2012. An additional 16 percent of the reduction in moderate poverty came from transfers. Interestingly, access to housing represented a further 7 percent of moderate poverty reduction, but it had no impact on extreme poverty, hinting at the need for a policy to provide affordable housing for the poor.

Colombia's social assistance and social insurance programs have grown and won international recognition in recent years. The General System of Social Security in Health (Sistema General de Seguridad Social en Salud, or SGSSS) was created by the Law 100 of 1993 and guided the rapid expansion in coverage, financial protection, and equity of the health system. Colombia's health insurance program is globally applauded for its universal coverage. In response to the 1999 economic crisis, Colombia created the conditional cash transfer program *Familias en Acción*, which has grown into its largest social assistance program. Numerous impact evaluations have found the program improves human capital outcomes of children. In 2006, the Government created *Banca de las Oportunidades* to support financial inclusion through a combination of policy actions, including regulatory reforms, financial capability initiatives, and incentives for providers to meet low-income consumers' demand for banking services. The Government has also promoted the opening of bank accounts for the vast majority of *Familias en Acción* beneficiaries. In 2006, Colombia also created the *Red Juntos* program (now called *Red UNIDOS*), a one-stop-shop to help the extreme poor to access this variety of social programs. This agglomeration of programs, however, suffers from fragmentation and coverage gaps in the social

protection system. Chapter 11 on the social protection system in Colombia explains how this system can be made more effective and inclusive through a series of coordination and modernization policies.

Along with rapid poverty reduction, economic growth has brought shared prosperity. The World Bank's Shared Prosperity Indicator (SPI) measures whether economic growth is shared with those who are relatively less well-off—the bottom 40 percent of the population in terms of income. In Colombia from 2002 to 2012, the annualized growth rate of real income per capita among the bottom 40 percent grew at a slightly higher rate (4.4 percent) than the annualized growth rate of per capita income of the whole population (3.4 percent).

If it continues in coming years, this pattern of inclusive growth can lead to the eradication of extreme poverty within a decade. Assuming Colombia maintains the rates of growth and poverty reduction observed during 2008–13, extreme poverty will be below the 3 percent mark—the World Bank's global goal of poverty eradication—by 2013. This depends on enhancing the effectiveness of social protection programs and, more fundamentally, maintaining the healthy growth rates of recent years. Can these rates of inclusive growth be sustained in the near future?

Recent economic growth has brought shared prosperity. Is it sustainable?

Colombia sustained historically high growth rates in the past decade, supported by sound macro policies, commercial integration, and favorable external conditions. Significant structural reforms since the early 1990s, combined with important trade agreements, have led to a modernization of the economy. Prudent macroeconomic management has also helped improve resilience. Colombia weathered the international financial crisis of 2008–09 remarkably well and consolidated its position among the fast-growing Latin American (LAC) economies. Finally, favorable terms of trade and international financing conditions helped attract investment, accelerate economic activity, and

increase trade. As result, the Colombian economy sustained an average GDP growth of 4.8 percent in the past decade, more than 1 percentage point above the average for the previous three decades (3.5 percent). In per capita terms, the difference is also large—around 3 percent in the past decade, compared with 1.7 percent in previous decades. In the past four decades Colombia has been continuously closing its per capita income gap with other LAC countries. In 1970, LAC's per capita income was 2.1 times Colombia's income; by 2012 the difference was reduced to 1.6 times.

Colombia's long-term economic growth has been heavily based on factor accumulation; productivity growth was almost nil for most of the period, although it recovered in the last decade. Chapter 3 (*Structural Changes — Implications for Growth, Productivity, and Competitiveness*) describes Colombia's sources of economic growth over several decades. Per capita GDP growth since 1960s has relied mostly on factor accumulation. Total factor productivity (TFP) contributed only 0.1 percentage point to the almost 2 percent average annual growth between 1961 and 2011. This does not differ much from the rest of Latin America. However, an interesting pattern emerges when looking at high-growth Asian economies: Their rate of human capital accumulation does not differ much from Colombia's. The difference in per capita GDP growth is explained by Colombia's lower accumulation of physical/financial capital and lower rates of TFP productivity growth. In 2001–11, average per capita GDP growth increased to 2.8 percent, similar to the Latin American average, but still below the 3.9 percent in high-growth Asian economies. In this decade, Colombia has even managed to accumulate human capital faster than high-growth Asian economies, but capital accumulation and productivity growth still lag in comparison, explaining the recurrent difference in per capita GDP growth compared to the Asian economies. This indicates that convergence requires reforms to accelerate capital accumulation and productivity growth. Chapter 8 on building infrastructure, Chapter 9 on financial markets, and Chapter 10

on the innovation system elaborate policy recommendations towards these ends.

A closer look at sources of growth by economic activity indicates that productivity gains were uneven and largely influenced by labor reallocations. Almost all sectors had increases in productivity—measured by output per worker—in the past decade. These gains are the result of a combination of factors: capital accumulation, employment reallocations, and total factor productivity TFP gains. Interestingly, non-tradable activities have generated more than 50 percent of the new value added and productivity gains in the decade. On the other hand, tradable activities (i.e., agriculture, mining, and manufacturing) have lost share of total employment, despite gains in output per worker, particularly in the mining sector. In the end, the long-term trends of output in Colombia show the combined share of output in agriculture and manufacturing declined from 9.7 and 18.1 percent to 6.2 percent in 1976 and 12.0 percent in 2012. This long-term pattern is common to many countries, but it calls attention on the need to accelerate productivity growth in tradable activities to avoid widening productivity differentials across sectors.

While economic activity remains relatively diversified, Colombia's exports are among the world's most commodity-dependent. Various indicators can be used to analyze commodity intensity/dependency. Considering primary sector (agriculture and extractives) value added as a share of GDP, Colombia at 14.2 percent appears to be less commodity-intensive than both LAC (25 percent) and Asian economies (18 percent). However, this changes when fiscal and export dependency are considered. Commodity-related revenues represent 17.6 percent of Colombia's government revenues. This figure is larger for the LAC region (approximately 30 percent) but lower for Asian economies (approximately 14 percent). Colombia's commodity exports as shares total exports (70.2 percent) trail only Venezuela and Bolivia among LAC countries; they are well above the averages for the region (51 percent) and Asian countries (19 percent).

In contrast, commodity exports as share of GDP (11 percent) are much lower and in line with the LAC (11.7 percent) and Asian (12.3 percent) averages. This is mainly due to the fact that Colombia is relatively closed when compared to its peers.

Trade growth and, in particular, export growth have benefited significantly from high commodity prices during the past decade. Colombia's export value grew an average of 13.6 percent a year, largely driven by increases in the international prices of Colombia's main export commodities. Favorable prices helped increase Colombia's share of world exports from 0.2 percent in 2002 to almost 0.4 percent in 2012. The gain was almost entirely driven by extractive exports. Without them, Colombia's exports remain almost constant as share of the world's total.

Colombia's resource boom has been a blessing in many dimensions, but it poses social and economic policy challenges. The boom has boosted foreign investment, economic growth, and government revenues. However, the rising terms of trade and related capital inflows may lead to appreciation of the exchange rate, undermining the competitiveness of other sectors. Fuel sales increased to almost two-thirds of total exports, while manufacturing's share of total merchandise shipments declined significantly. In addition, extractive activities are often highly capital intensive, do not create many jobs, and generate large rents, which may harm the income distribution. Finally, the relatively large share of extractive activities trade and government revenues increases macroeconomic exposure to price fluctuations and volatility. Volatile revenues and associated pro-cyclical spending could have real costs for growth.

Commodity production and natural resources abundance do not necessarily hinder growth. The associated increase in oil export revenues brings along certain opportunities for Colombia because—if well-managed—it might serve as a financing source for economic development. There are many examples of countries rich in natural resources that managed their resources

well and achieved high growth while diversifying their economy beyond commodities—such as Norway, Chile, Botswana, Indonesia, Malaysia, or Thailand. In contrast, many commodity-rich countries are lagging in development, supporting the ideas that a “curse” can emerge if resources are poorly managed. Examples might include Nigeria, Venezuela, or Algeria. On top of fiscal considerations of how to manage commodities and natural resources, important environmental considerations also need to be addressed. Chapter 7 on environmental sustainability gives an account of these issues for Colombia.

Colombia has taken important steps to mitigate the risks associated with the commodity boom, but lessons from other economies suggest that more can be done. Given the macroeconomic framework, Colombia seems well-equipped to counter near-term risks and achieve structural shifts into non-commodity sectors. The public sector is characterized by modest debt levels, and the fiscal deficit has been on a downward path. The legal framework has been reformed with a fiscal rule to facilitate counter-cyclical policies, a decreased reliance on commodity revenues, and a reform to widen the tax base. Furthermore, the central bank has earned considerable credibility in the market and operates independently under a sound framework of flexible inflation targeting. While the fiscal rule helps limit fiscal volatility from commodity cycles, it does not per se resolve the problem of how to transfer resources from commodity industries to other sectors of the economy. Sector specific policies for comprehensive rural and urban development (as explained in Chapters 4 and 5) can help balance the patterns of economic growth in Colombia.

Nine Policy Areas

Achievement of the development objectives described in the previous section can be advanced through a set of policies. Although referring to a given sector and instrumented by specific policy actors, these policies are interrelated and have

links to different sectors as well as effects upon more than one objective. The order in which they are presented involves proximity of subject and method of analysis, not ranking or prevalence.

Organizing the Territory

Colombia is one of the world's richest countries in terms of biodiversity, and it is generously endowed with forests, water, and mineral resources. Located in northwest South America, Colombia is one of five “megadiverse countries” or biodiversity hotspots; i.e., countries that possess an exceptional wealth of plant and animal species. One reason for this wealth of biological resources is the wide variety of landscapes across Colombia. The country has 311 different types of ecosystems—61 million hectares covered by different kinds of forests, 10 million hectares of natural savannas, and about two million hectares of *páramos*. In addition, the country has six million hectares of varied marine and coastal ecosystems.

This immense diversity is accompanied by wide differences in living standards from one region to another, growing exposure to the risk of disasters and environmental degradation, and a still unrealized potential for multi-modal connectivity and inter-regional convergence. For Colombians, this territory poses a wealth of opportunities and challenges.

Improve rural areas first

Violence and illegality are concentrated in rural areas. In recent decades, these parts of the country have endured the most serious and persistent conflict: violence, illegal crop plantations, drug trafficking, land concentration, and displacements. Colombia's rural areas have the highest incidence of poverty. Their main economic activities—agriculture, fishing and forestry—have shrunk and underperformed. Consequently a large number of locals—between four and six million, depending on the source—have left vast rural areas underpopulated, the people struggling to get by in large urban centers. CODHES estimates the amount of

land abandoned between 1980 and 2010 at 6.65 million hectares (CODHES, 2012).

Despite the significant decline in the incidence of poverty at the national level, both moderate and extreme poverty remain significantly higher in rural areas. In 2012, extreme poverty in rural areas was 22.75 percent, compared with 6.59 percent in urban areas. For moderate poverty, rural areas were at 46.8 percent and urban areas at 28.4. These rates represent significant gains from 2002, when rural areas had extreme poverty of 33.11 percent and moderate poverty of 61.7 percent, compared with urban area rates of 12.24 percent in cities and 45.45 percent in the countryside. While moderate poverty reduction was impressive in both urban and rural areas, the gap between them increased from 1.35 to 1.64, suggesting that urban areas were more effective at lifting Colombians out of poverty. Half of the population in extreme poverty live in rural areas. Over all, the evidence suggests that poverty reduction been slightly biased towards urban areas. Eradicating extreme poverty implies paying special attention to rural areas.

The rural sector in general and agriculture in particular have considerable untapped potential for wealth creation and poverty reduction. Both feature many unutilized and underutilized resources. For instance, only 5.3 million of 22 million hectares of arable land are currently cultivated, and 38.8 million hectares are characterized by extensive pasture systems with an average stocking rate of less than one animal per hectare. Despite this considerable potential, the agricultural sector has underperformed. For the decade 1994–2004, agriculture managed average annual growth of 1.1 percent, while the economy grew at a 2.2 percent rate. For 2004–13, growth rates were 2 percent for agriculture and 4.7 percent for the economy. After years of lagging, the agricultural sector has shrunk as a share of the Colombian economy, going from 9.7 percent in 1976 to 6.2 percent in 2012.

The decline of the agricultural sector reflects years of public neglect and a lack of incentives for farmers to invest in productivity-enhancing technology.

The underperformance can be traced to three basic causes. First, institutions have been weak and ineffective. The public institutions charged with delivering services to Colombia's rural sector are fragmented, understaffed, and inconsistently managed. Responsibility for key functions is distributed across multiple agencies, responsibility remains highly centralized, and local capacity has generally been weak. Second, policies have been inappropriate, inconsistent, or inconstant. Agricultural policies have differed over the years in terms of focus and approach, but a common feature has been a recurring reliance on special initiatives, programs, and projects to provide immediate solutions to pressing crises. Third, public investments have been ineffective. Government spending has resulted in wide gaps in the allocation of public goods and services between rural and urban areas, disadvantaging the rural population in terms of opportunities. This rural disadvantage has undermined the incentives for private investment in farm and non-farm activities. Public investments directed to the rural sector very often have had little impact beyond the very short term, partly because they have tended to subsidize inputs and support prices received by private producers while neglecting to finance the public goods and services needed to improve overall competitiveness. Between 2010 and 2014, for example, the *Ministerio de Agricultura y Desarrollo Rural* (MADR) invested COP 7 billion in direct subsidies and COP 13 billion in subsidized credits to agriculture producers.

However, rural development is more than agricultural development—it encompasses everything that contributes to improved livelihoods of rural populations, including infrastructure, health, education, technology, connectivity, and social protection. Rural development requires significant investment in public goods and services, rather than direct subsidies to private goods and services. In an age of budget constraints, rural development efforts should focus primarily on areas where poverty is high and where the presence of the state is lacking.

The development of this “new rurality” will have to overcome three main challenges. First, it must

articulate and adopt a territorial approach to rural development. Efforts to promote rural development have often been less effective than anticipated because they have consisted mainly of sector-specific interventions. Instead, a territorial approach is characterized by: (i) multiple goals and objectives; (ii) sector interactions that optimize synergies; (iii) respect for the interests of local communities; (iv) adaptive planning and management; and (v) collaborative action and comprehensive stakeholder engagement. The ongoing *Misión Rural* initiative represents a movement toward such an approach.

Second, such development must overhaul the institutions charged with implementing rural development policies and programs and introduce a new policy-making process. The institutions that currently hold the mandate for rural development in Colombia are poorly suited for implementation of an integrated territorial approach. Effective implementation of a territorial approach will require re-thinking the way services are delivered to rural areas. It will be necessary to build a new institutional architecture consisting of centralized policy-setting and financing agencies, decentralized coordination mechanisms, and strong local implementation capacity. If a territorial approach to rural development is to take hold in Colombia, it will require a rebalancing of the relationship between the center and the periphery. Chapter 4 elaborates on the roles that Ministry of Agriculture and Rural Development, its Vice Ministry of Rural Development, the National Institute for Rural Development (INCODER), and local agencies can play in a successful implementation of a territorial approach in Colombia.

Third, rural development must tackle the land problem. Colombia's unequal distribution and inefficient use of land stands as the single largest obstacle to rural economic growth, social and political stability, and durable peace. Colombia's land resources are underutilized and inequitably distributed in ways that incur significant costs for society through unrealized agricultural growth potential, environmental degradation, poverty, conflict, and social dislocation. Regardless of its other

features, one thing is certain: to succeed, any new rural development strategy will have to begin by tackling the land problem. Three priorities stand out: formalize land tenure, build a national land administration system, and correct land use inefficiencies through policy reforms.

What needs to be done to reverse decades of underperformance in Colombia's rural economy and unlock agriculture's potential to contribute to broad-based, sustainable growth? Chapter 4 (*Agriculture and Rural Development*) identifies three sets of actions for immediate implementation, with considerable potential to help set the rural economy on the path to sustainable growth.

The first action will be to resettle displaced populations and provide people with the means to resume productive activities and restore their livelihoods. As peace and stability return to rural areas, the immediate priority will be to secure rural households access to land, to the productive inputs needed to re-launch agricultural activities, to the information and knowledge needed to use those inputs effectively, to the financial resources needed to pay for them, and to the infrastructure needed to deliver surplus production to the market. Needed interventions in the short to medium term include: (i) securing access to land; (ii) distribution of physical inputs for agricultural production as well as technical assistance, to ensure that recipients make effective use of the resources they receive; and (iii) affordable small-scale rural infrastructure, including affordable irrigation technologies (both gravity systems and pump-driven systems), community-level processing and storage facilities, and physical markets.

The second action will be to turn agriculture into a profitable activity for small-scale family farmers as well as large and medium-sized commercial farmers. This will require a two-pronged approach because agriculture has two distinct sub-sectors—a relatively large sector composed of small-scale family farmers, who produce mainly for home consumption and are poorly integrated to markets, and a relatively small but growing sector composed

of commercial farmers who produce mainly cash crops for domestic and export markets. For the first group, efforts will be needed to transition from subsistence-oriented farming to more commercial farming. The second group will need to modernize production methods so they can compete in an increasingly globalized economy. Needed interventions include: (i) revitalizing technology generation and transfer systems through public private partnerships and commercial alliances for production of commercial crops; (ii) developing programs for silvo-pastoral systems (SPS) through a mix of financial incentives; and (iii) reducing deforestation and forest degradation rates while stimulating investments in commercial forestry systems that are technically efficient, economically profitable, socially inclusive, and environmentally friendly.

The third action focuses on making policies sustainable by safeguarding them against economic instability, weather variability, and environmental degradation. Over the longer term, the health and well-being of the rural sector will depend on the Government's ability to successfully implement a territorial approach to development. Interventions in this realm include: (i) a new institutional architecture to manage territorial development at both national and local levels; (ii) an institutional framework to manage agricultural risk; and (iii) implementation of National Climate Adaption plan, with appropriate monitoring.

Make cities more connected and productive

Today 75 percent of Colombians live in cities, but this share is expected to grow to 85 percent by 2050—an increase of 20 million new urban dwellers. While commodities have been an important factor in Colombia's growth, the urban economy has contributed more than 50 percent to GDP growth rate in the past four decades. Moving forward, strengthening the role of cities may help mitigate the inherent risks of commodity-intensive economies. An efficient urban system will be necessary to support the transition from a commodity-driven economic system to a stronger resource-based

manufacturing structure and then to more knowledge-intensive industries and services.

Cities will also play a major role in continued poverty reduction. Despite lower rates of moderate and extreme poverty than rural areas, cities have larger shares of the moderate poor (more than 70 percent). Moreover, policies and investments that facilitate (through planning and land availability) and promote (through increased investment) access to city-level services—such as water, sanitation, affordable housing, health, education, urban transport, and public and recreational spaces—will be essential for country-wide poverty reduction. This is particularly apt for reductions in the multidimensional poverty index, which responds not only to incomes but also to services characteristic of city life.

Colombia's urban areas can be analyzed at two levels. First, the system-of-cities level studies the functioning of the largest urban agglomerations and inter-connected cities as a whole. Second, the city or urban agglomeration level focuses on local-city-specific problems of urban planning, service delivery, and public finance.

Expensive inter-city connectivity burdens Colombia's system of cities, which include 18 urban agglomerations and 28 nodal cities. Large physical and economic distances separate Colombian cities. To move goods from one city to another often requires transport over the Andes and navigating altitude differences in excess of 2,000 meters, exacerbating economic distances and increasing logistical costs. Unlike many vibrant cities across the globe, Colombian cities are at a distance from ports and other cities in the urban portfolio. Bogota and Medellin are more than 500 kilometers from a port. In contrast, Shenzhen, Mumbai, and Bangkok are port cities that connect their countries to world markets. To reach major ports, goods coming from Colombian cities must, on average, be transported about three times further than in Brazil and Chile, and six times further than in Argentina, the Republic of Korea, and China. Better connecting cities would increase the

urban system's economic efficiency and allow for cities to specialize and perform specific functions within the system. In sum, Colombia would benefit from an increased integration and connectivity of its system of cities through transport and logistics infrastructure, which would encourage specialization and increase competitiveness in international markets.

At the city level, there are three general challenges. First, within-city coordination of service provision needs to improve. In many cities, water, sewerage, solid waste management, electricity, and transport networks frequently span several administrative boundaries, yet metropolitan planning and coordination has been limited. There is a need to foster and enhance coordination at a regional and metropolitan scale, recognizing the need to adjust to the functional relationship between small and medium-sized cities. Second, the cities need to take advantage of agglomeration economies to increase their economic potential. High population densities have not been matched by high economic densities. For instance, a comparison of actual building densities with legally permitted densities in such cities as Bogota shows considerable underuse of available land. In 2010, 63 percent of commercial space, 53 percent of residential space, and 54 percent of industrial space in Bogota were underused. This is probably a result of several factors, but information asymmetry between market participants likely plays a large role. Low economic densities hamper the ability of cities to enable economic interactions that help create markets and promote innovation and investment

Third, cities need to diversify and enhance their sources of financing. Small and mid-sized cities must strengthen their fiscal fundamentals, while mid-sized and large cities must continuously innovate with fiscal instruments. Municipal tax collections have increased with decentralization and administrative reforms across all categories of cities. However, small and mid-sized cities have not kept pace with larger cities in their ability to increase local revenues. Real tax revenues show a positive correlation with the cadastral system's accuracy.

Large cities have more comprehensive land cadasters. Bogota, for example, has attained 100 percent land registration. In comparison, only 43 percent of all rural areas in Colombia are included in the system. Only Bogota, Medellin, and Cali have independent cadaster offices; all others are handled at the national level. A strong push is required to strengthen the fiscal fundamentals for small and mid-sized cities. This might be done through capacity-building in municipal fiscal management, strengthening local cadastral systems, and structuring fiscal and performance incentives in the national transfer system.

Chapter 5 (*Urban Sector*) has detailed policy recommendations for the system of cities and cities. At the system-of-cities level, the following actions would be recommended. The country needs to develop and adopt a national urban policy that recognizes and defines its system of cities. To achieve this, the following actions are recommended in the short term: (i) implement the CONPES on Urban Policy to define the system of cities, instructing the National Statistics Department (DANE) to generate data at metropolitan, agglomeration, and regional levels and instructing the ministries to mainstream and apply the system-of-cities analysis within their sectorial policies; (ii) mainstream the system-of-cities concept in the National Development Plan 2014–18; and (iii) promote an institutional reform within the Ministry of Housing (MHCT) to move from a housing-centered agenda toward a territorial approach to development in coordination with other relevant sectors, including urban planning and economic activities, water and sanitation, waste management, urban transport, social facilities, and urban amenities.

At a city level, the Government needs to foster and enhance coordination at a regional and metropolitan scale, recognizing the need to adjust to the functional relationships between small and medium-sized cities. To achieve this, the following actions are recommended in the short term: (i) define and promote the most convenient systems of coordination, taking into account the Colombian legal framework, which allows the creation of multiple

institutions, has not proven effective in promoting metropolitan coordination in the long term; (ii) define and promote the most convenient incentives in terms of technical assistance, funding, financing, and guarantees to foster metropolitan projects; and (iii) formulate and support creation of Public Services Master Plans (water, sanitation, and solid waste management).

Manage disaster risks better

Latin America is experiencing an increase in the number of reported disasters—a trend likely to continue because 20 LAC countries have more than 50 percent of their GDP exposed to two or more natural hazards. Annual expected economic losses for the region amount to more than US\$5 billion, and most of these losses are associated with damage to public sector assets in health, education, water, transport, and infrastructure sectors or damage to private houses. In addition, significant losses are often concentrated in the agricultural sector, impacting production, markets, government tax revenues, and trade balances. Nonetheless, rapid urbanization, with its growth of city populations and assets in combination with poorly or unplanned development, is the main driver of the costs associated with disasters in the region.

Colombia has the world's 10th highest economic risk of two or more hazards, according to the World Bank's natural disaster hotspot study. In Colombia, 84.7 percent of the population and 86.6 percent of the assets are located in areas exposed to two or more natural hazards. The exposure includes both low-frequency/high-impact events, such as earthquakes, Pacific tsunamis, volcanic eruptions, and occasional Atlantic hurricanes, and high-frequency but lower impact events, such as floods and landslides. Many researchers expect climate change to exacerbate flooding and landslides in large parts of the country. Colombia has Latin America's highest rate of recurrent disasters triggered by natural events, with an average of more than 600 reported disasters each year. Colombia's main challenge in disaster risk management is reducing some of its extremely high levels of vulnerability.

Increasing climate variability in Colombia, most commonly associated with the cyclical occurrence of *El Niño* and *La Niña* phenomena, contribute to growing losses. Between 1950 and 2011, *El Niño* impacted the country 15 times and *La Niña* 13 times. While the nationwide flooding and landslides associated with *La Niña* 2010–11 produced one the largest economic losses as a result of rainfall, other episodes such as *La Niña* 2008–09 had similar economic impacts in terms of the number of municipalities affected and the types of principal losses (agrarian, housing, transport). The tendency for greater weather variation in specific areas of the country cannot lead to the conclusion that these regional changes have directly increased the country's disaster risk.

Broadly speaking, scientists and politicians recognize climate change's potential negative impacts; however, disaster risk in Colombia is notably exacerbated by additional factors. The increase of disaster risk can be attributed to a combination of climate variability and the population's heightened vulnerability as a result of economic, social, and environmental drivers.

The growth in exposure of people and assets, combined with inadequate land-use planning, explains growing economic and social impact of disasters. In geographical terms, 36 percent of the national territory (960 municipalities, including those with the largest populations) is exposed to high seismic hazards, predominately in the Pacific and Andean regions. Similarly, 18 percent of Colombia faces high landslide risk (most frequently attributed to heavy rains), and 12 percent of the national territory is located in areas with increased vulnerability to floods. The share of the population at high risk is 28 percent for earthquakes, 32 percent for landslides, and 38 percent for flooding. Moreover, Colombia faces a particularly regressive distributional impact in terms of who bears the greatest burden of risk. Small and low-income municipalities do not necessarily have the greatest economic losses in absolute terms, but they are socio-economically the most vulnerable to natural hazards and they have least capacity to recover. As a result,

better resource and risk management would have a direct impact upon poverty and regional inequality.

Four factors contribute to the accumulation of disaster risk. First, conceptual advances in the relationship between disaster risk management and sustainable development have not been incorporated into government policy or made an integral part of public administration, allowing risk conditions to grow. Second, risk is constantly accumulating in cities and rural areas due to ineffectual municipal land-use planning policies and instruments and deficient watershed management. Third, the inadequate application of disaster risk management policies in sectorial planning threatens the sustainability of investments, both in goods and services sectors, contributing to rising levels of exposure and vulnerability. Fourth, in the absence of a clear policy on government responsibility for responding to disasters and the associated losses, citizens and the private sector are implicitly discouraged from assuming proactive roles in risk reduction and management, resulting in greater fiscal costs.

To reverse this situation, six policy recommendations are proposed—with further elaboration into short and medium-term actions in Chapter 6 (*Disaster Risk Management in Colombia*). First, implement the National Disaster Risk Management Law. This recommendation focuses on the regulation of Law 1523 and adoption of the National Disaster Risk Management Plan (according to Decree 1974/2013). It is also necessary to move forward in the operationalizing funding mechanisms for local and sectorial disaster risk management initiatives. Second, increase effectiveness and efficiency of disaster risk management investments, strengthening the mandatory incorporation of disaster risk management criteria in public projects and the adoption of a strategy for monitoring responsibilities and investments. This recommendation also includes the development of land-use planning instruments, with investment plans to advance effectively in disaster risk reduction. Third, strengthen subnational capacity in the design and application of planning instruments to reduce the causes and accumulation of disaster risk. This

recommendation promotes the review of local and regional capacity for disaster risk assessment and responds to the demand for risk knowledge in land-use and development planning. It would also support the formulation and implementation of a national policy on at-risk settlements.

Fourth, systematically reduce flood and landslide risk to minimize associated impacts. This recommendation centers on improving the understanding of disaster risk and its links to environmental policy, development, and adaptation to climate change. It entails assigning responsibility for management of rivers and water bodies to a single national entity and establishes the roles and coordination mechanisms for the associated agencies. It aims to adopt regulations for flood and landslide control and management and to develop a strategy for implementation, monitoring, and control. Fifth, reduce disaster risk and associated impacts through policies and sectorial action plans. This recommendation can be achieved through appointing a unit responsible for disaster risk management in each sector and the implementation of sectorial policies for risk management in each ministry. The strategy also seeks to support the adoption and implementation of sectorial and inter-ministerial action plans in risk management. And sixth, assign public and private responsibilities in risk management and strengthen the Government's policies for reducing fiscal vulnerability. This final policy recommendation addresses the adoption of clear policy guidelines on the level of protection that the national government and local authorities offer to those affected by disasters. It suggests adjustment of regulations to clarify the private sector's responsibility and reduce fiscal contingencies resulting from the needs expressed by the affected population. It also promotes strategies to increase local and sectorial awareness of risk management and improve capacity in risk management strategies.

Strive for environmental sustainability

Natural resources are important to the Colombian economy. In 2012, agriculture, forestry, and fishing represented 6.2 percent of GDP, mining and

quarrying contributed 7.7 percent, with electricity, gas, and water adding 3.6 percent. However, the genuine net savings indicator, a measure of environmental sustainability, shows that Colombia's gross national savings, after subtracting the costs of pollution and depletion of minerals and natural resources, fluctuate around zero, far below OECD and regional averages. Furthermore, environmental degradation has high costs for the economy, estimated at 3.7 percent of GDP by the 2007 World Bank study. These salient facts give rise to environmental challenges typical of a middle-income country with high income growth, a rich endowment and high dependence on natural resources, and a high concentration of urban population. Chapter 7 (*Environmental Sustainability in Colombia*) highlights two areas that merit specific attention: pollution management and environmentally sustainable growth.

Pollution management is the main priority on Colombia's environmental agenda, including air pollution, water pollution, and solid waste management. As the economy and urban population have grown, the annual costs of urban air pollution have increased dramatically to an estimated 1 percent of GDP, matching the contribution of the minerals sector or coal. Together with other environmental health problems—indoor air pollution from solid fuel used for household chores and inadequate access to improved water sources and sanitation—annual environmental health costs reach 2 percent of GDP. Without considering the cost of natural disasters, this makes urban air pollution the biggest environmental problem—ahead of water supply, sanitation, and hygiene.

Investment in wastewater treatment and solid-waste management needs to keep up with the growing urban areas. Only around a quarter of Colombia's wastewater is treated, with the rest discharged directly into water bodies and marine estuaries. Many of the rivers passing through Bogotá, Medellín, Cali, and other urban areas are heavily polluted, and coastal cities such as Cartagena and Barranquilla experience water quality problems in estuary and near-shore areas. Solid waste management and the

management of hazardous waste are other areas that require greater policy and investment efforts. One-fifth of Colombian municipalities, located predominantly in rural areas, do not have adequate waste disposal, and around one-third of the country's sanitary landfills are not properly managed and do not comply with environmental regulations. Reducing pollution will require efficient and sustainable water utilities; partnership building at the local, national, and international levels; proper policies; greater institutional planning; and adequate financial arrangements.

Urban air pollution causes three times as many deaths as inadequate water supply, sanitation, and hygiene, and five times as many deaths as indoor air pollution. Despite considerable progress in environmental management over the past decade, a recent assessment reveals that Colombia's population still faces significant adverse impacts from exposure to urban air pollution (UAP), inadequate water, sanitation, and hygiene (WSH), and indoor air pollution from solid fuel use (IAP). The total health cost attributable to these three factors amounted to about COP 10.2 trillion annually, or about 2 percent of GDP in 2010. In terms of mortality, about 7,600 premature deaths a year can be attributed to these environmental factors. About 5,000 deaths are associated with UAP, around 1,600 with inadequate WSH, and 1,000 with IAP. In terms of the burden of disease—measured in terms of lost disability adjusted life years (DALYs)—the pattern is similar: nearly 70 percent of DALYs are attributable to UAP, around 20 percent to WSH, and around 10 percent to IAP. The relative burden of health costs from these three factors are at the same level as 2002, but the overall magnitudes of the costs has changed, reflecting population and income growth, better access to improved sanitation, and growth in Colombia's urban population. Health costs in the three sectors are moderate compared to other countries in the region, and the share of air pollution costs is high.

Colombia's economy is vulnerable to risks associated with its natural resource richness; they can

be minimized by strong governance and effective public spending on other productive sectors of the economy and education. Countries well-endowed in natural resources often do not develop highly diversified economies, and they are at risk of developing weak institutions—a phenomenon known as “the resource curse.” But recent empirical evidence reveals that possessing commodity wealth does not necessarily compromise a country's growth. The risks can be overcome by: (i) prudent management of natural resource rents; (ii) replacement of whatever natural wealth that is extracted with other forms of durable capital; and (iii) efficient public spending fueled by windfall rents from natural resources. In a contrary case, total wealth will decline and growth will not be sustainable, and some evidence suggests that is happening in the LAC region. Because of unproductive choices, countries with high resource rents tend to end up with lower genuine savings rates. This has been happening in Colombia, where the adjusted net savings—a measure of savings after subtracting the costs of natural resources extracted and the costs of pollution—have lingered around zero and far below the regional average. This indicator suggests that the Colombian economy has a very low rate of savings, and growth is not sustainable from an environmental perspective.

Regarding environmentally sustainable growth, it is also important to consider that the peace process, a renewed focus on agricultural development, and the planned investment in roads infrastructure may expand the deforestation frontier. The measures to promote forest and biodiversity conservation and address deforestation pressures will need to be closely connected with policies that support sustainable agriculture. Promoting sustainable forestry and land-use practices will require: (i) strengthening the technical assistance programs through rural extension services; (ii) supporting agricultural research and innovation to improve agriculture's resilience to climate change; (iii) slowing the advance of the deforestation frontier by measures that promote a shift from extensive cattle farming, notably through

greater security of land tenure; and (iv) improving the management of protected areas. In intensive agriculture, incentives for more efficient use of fertilizers and pesticides would help improve farmers' profits while reducing soil and water pollution.

The formidable and complex environmental challenges facing Colombia require a comprehensive and ambitious agenda. This agenda, spelled in more detail at the end of Chapter 7, can be summarized into five general areas. First, enforce environmental regulations, such as monitoring and enforcement of environmental standards for landfills and developing economic instruments for the hazardous waste sector as stipulated by the 1993 Law 99. Second, strengthen data and information systems. This includes the creation of real-time air quality alert systems to reduce exposure during peak pollution times, strengthening of data and systems measuring fertilizer consumption by type of crop and optimum use and providing technical assistance to farmers through extension services, and, more generally, developing a national policy on green environmental accounting, with guidance on information provision and coordination across agencies and the public. Third, increase investments that foster environmental protection—wastewater treatment, vehicle fleet renewal (e.g., junking programs for the old bus fleet and programs to retrofit the most polluting vehicle classes), and integrated urban planning with alternative transportation systems (e.g., scaling up Bus Rapid Transit). Fourth, enhance institutional coordination. It is necessary to build in-house capacity for environmental analysis among district environmental authorities, the Department of National Planning (DNP), the Ministry of Health, and the Ministry of Environment and Sustainable Development—in partnership with the academia, local universities, and other stakeholders. Fifth, promote green growth and meet international standards for environmental protection. This includes developing a national Green Growth Strategy and pursuing Colombia's proposal for achieving the OECD's body of environmental instruments.

Marshalling All Forms of Capital: Infrastructure, Finance and Innovation

As a percentage of GDP, capital investment in Colombia has been growing for several consecutive years: from 14.9 percent in 2000 to 24.6 percent in 2013. This ratio is now among the highest in the region. Furthermore, foreign direct investment has reached record levels lately, making Colombia one of the region's preferred destinations of international investors. And yet, productivity gains are meager and convergence to higher living standards is too slow. The fruits of recent efforts will be seen in the near future. Colombians need to enhance these efforts by making more and better investments.

Close the infrastructure gap

Colombia's infrastructure gap is particularly acute in road transport—shown by the high logistics costs compared to similar economies around the world. A host of studies and benchmarks highlight Colombia's transport infrastructure bottlenecks. For instance, Colombia ranks 69th among 144 countries in the World Economic Forum's competitiveness ranking (2012–13 and 2013–14 reports), pulled down mainly by the quality of its combined transport, supply, and telecommunications infrastructure (ranked 92nd) and the quality of its institutions (ranked 110th). In the World Bank's 2014 Logistics Performance Index, Colombia ranks 97th among 160 countries, making it one of the worst performers relative to regional peers. The country ranks 93rd among 185 economies in the World Bank's 2013 Doing Business indicator related to *Ease of Cross Border Trade*, which predominantly highlights the country's high inland transportation costs and time in performing a foreign trade transaction. In particular, more than 65 percent of the exporting/importing costs in Colombia are associated with inland transport, and these costs are more than double the LAC and OECD averages. Furthermore, an analysis of

Colombia's infrastructure gap by transport mode finds the largest deficiency in road infrastructure, where Colombia ranks 130th out of 148 countries in WEF's competitiveness ranking for 2013–14. A 2013 study by *Fedesarrollo* estimates that reducing Colombia's gap in road infrastructure would require at least 25 percent more roads (approximately 45,000 kilometers) and 30 percent more paved roads (approximately 8,000 kilometers). The gaps in port and airport infrastructure are less significant, although most facilities are already operating at maximum capacity, and this will only worsen with increased trade and passenger demand.

Closing the Colombian infrastructure gap involves a series of challenges. These include: (i) lack of long-term strategic planning in the sector and a fragmented institutional and regulatory framework; (ii) limited local and national capacity to manage the decentralization of the road network and other decentralized functions; (iii) an unprecedented increase in the number of road concessions demanding contract management capabilities; (iv) weak frameworks to address transport sector externalities, such as road accidents, transport-related greenhouse gas emissions, and resilience to climate change-related events; and (v) slow diffusion of multimodal transport corridors and improved logistics practices. Chapter 8 (*Transport Infrastructure*) elaborates on policy recommendations to address each of these. What follows summarizes the the main diagnostics and policy actions.

First, the transport sector has been characterized by inadequate policy and planning capacity, the lack of a multimodal policy, a short-term and reactive vision and management, and a shortage of technical personnel in key agencies. The recent administration's reform package is a step in the right direction for overcoming some of these shortcomings. Yet, the new institutional set-up also raises some concerns, such as delegation of some core functions of the Ministry of Transport to other recently created transport agencies and the proliferation of project structuring agencies. The changes may help create a pipeline of transport projects in the near future, but eventually competencies and

boundaries will need to be better defined to achieve more efficient and specialized interventions, particularly with regard to the decentralization process.

It will then be necessary to clarify and strengthen the competencies and roles of various transport agencies at the national level. First and foremost, the Ministry of Transport needs to overhaul its technical capacities to strengthen its policy-making functions and move away from a short-term and reactive vision and management, strengthen its policy-making functions, and link them with a concrete long-term infrastructure investment plan. Second, the new institutional set-up emerging at the national level calls for a broad exercise to clarify the roles of various transport sector agencies in a coherent and coordinated manner and to make sure that the capacities are being developed to fully discharge the responsibilities established by the new institutional framework.

Second, the majority of secondary and tertiary roads are under subnational jurisdiction, and they are largely unpaved and in poor condition. It is a clear indication of limited institutional capacity of local governments in planning, structuring, financing, and project management. This challenge calls for improvements in the institutional set-up for managing the secondary and tertiary road network and bolstering capacities at the subnational level. There is a need to mesh long-term planning for the national, regional, and local road networks. In addition, it will be important to bolster project structuring and project management capacities at the subnational level. The ultimate goal is to avoid fragmented and atomized public investments by prioritizing the structuring and implementation of subnational projects that have regional or national impact and are conceived within a long-term infrastructure master plan.

Third, implementation of the 4G concession program will result in 40 new projects for the construction of 8,100 kilometers of national roadways over the next eight years, generating new investments of approximately USD\$26 billion. By the end of 2014, executing the 4G program as expected

would double the 25 road concessions from previous generations of public-private partnership (PPP) programs. This tremendous increase in projects under management will put significant pressure on contract management functions and will call for an important institutional effort. Research and experience indicate that concession agreements are subject to a high incidence of renegotiation, and the Government must be in a strong position to manage incumbent operators and enforce contracts that are inherently complex and involve a wide variety of legal, financial, and technical obligations on the part of private operators that must be continuously monitored.

Colombia needs to enhance the Government's PPP contract management capacity and reinforce the planning, structuring, and project evaluation filters in the PPP project planning cycle. The 4G program's unprecedented increase in the number of road concessions will demand an important institutional effort in contract management. In this respect, setting up adequate governance and technical competencies in the Transport Regulatory Commission to respond to its chartered responsibilities is critical. The Agencia Nacional de Infraestructuras (ANI) contract management functions also need to be revamped. In terms of improving the planning and structuring capacities of transport PPPs, the Government could also consider designing and implementing a capacity-building program on PPPs for public structuring agencies. Refining the PPP project cycle and establishing more detailed guidelines and procedures is also key.

Fourth, the ever-growing number of casualties and fatalities on the road network has made road safety a prominent issue at all levels of government. In Colombia, road fatalities are the second cause of death overall, and the leading cause of death among children and early youth (the 5- to 14-year cohort). In terms of resilience to climate change, the meteorological phenomenon known as *La Niña* proved the road sector's lack of preparedness in 2010 and 2011 and demonstrated the need for mainstreaming environmental management and disaster risk policies in the transport sector.

The recommendation is to mainstream road safety and environmental management in the transport sector policy agenda. The Government needs to continue in an aggressive and decisive manner to design and implement an integrated, multi-disciplinary, and results-focused approach to road safety. In this respect, moving forward with the creation of the Road Safety Lead Agency with a Safe System approach based on technical and independent criteria is crucial. These concerted efforts to improve road safety should ultimately be measured and monitored against the United Nations goal for the Decade of Action—reducing by 50 percent the deaths by road accidents in 2011–20. In terms of environmental management, Colombia needs to revamp its adaptation, mitigation, and resilience strategies to manage the climate change risks and vulnerabilities on transport infrastructure. This will require collecting and continuously updating information on high risk areas as well as designing and implementing disaster risk assessment policies and associated prevention and mitigation measures in the transport sector.

Fifth, road transport dominates a sector characterized by low diffusion of multi-modal and logistics practices. The overall modal split in Colombia's freight transportation clearly shows road transport's dominance, with 70 percent of total freight volume moved by truck. Railroads account for 27 percent and are used almost exclusively to move coal from mines to maritime ports for export. Inland navigation represents 3 percent of freight, with flows concentrated on the Rio Magdalena and mainly used to transport oil and its derivatives. Commercial navigability for other products could be feasible but would require development of intermodal facilities and dredging to ensure all-season navigability. Under these conditions, modern multimodal transport is virtually non-existent in Colombia, and all freight except for coal and oil moves by road.

The policy recommendation centers on promoting the adoption of multimodal transport in trade and private participation in logistics services. Colombia can expect a significant expansion of freight transport as a result of new trade agreements. In

response to this increased pressure in its transport networks, the adoption of multimodal transport strategies should emerge from an integrated and strategic planning exercise focused on key trade corridors and guided by economic rationales—cost-efficiency criteria, distances to be travelled, type of cargo to be transported, etc. In addition, logistics platforms must be planned to optimize flows from production centers to multimodal integration centers, taking into account that logistics activities put additional strain on the already congested urban road networks. In this sense, the most important task for the Government is to provide the enabling environment and regulations for the private sector to develop these complementary logistics services (logistics centers, transfer centers, and cargo consolidation facilities).

More and better financial services for all

Leaving behind the crisis of 1999, Colombia's banking system is today much better supervised and resilient, a fact demonstrated during the recent global financial crisis. Colombia has become a pioneer within the region in adapting macroprudential policies and Basel III standards. At the same time, Colombia's capital markets have been rapidly expanding in size, and they are now among the most developed in Latin America. Banking and insurance sector intermediation is comparable to countries of similar per capita GDP, size, and demographics—but capital market intermediation to the private sector remains below potential. Assets of the supervised financial system reached 75 percent of GDP at the end of 2013, with the banking sector accounting for more than half of all financial system assets. Credit to the private sector has recovered to its pre-1999 crisis levels, doubling from a low of 20 percent of GDP in 2003 to 40 percent in 2003. Pension Fund Administrators are the most important non-bank financial institutions, holding assets equal to around 21 percent of GDP in 2013. Insurance premiums are still small at 2.4 percent of GDP, but they have been growing. Meanwhile, mutual funds are slowly growing to be the second largest player of the capital markets, with assets of 6.8 percent of GDP. Despite

high equity market capitalization, investors buy and hold, limiting turnover. In addition, the size of domestic private sector issuance is very small compared to peer countries.

Despite their recent progress, financial markets can still do more for equity, growth, and resilience in Colombia. Current challenges include: (i) reforming an oversight architecture that has not adapted to the new financial structure; (ii) further developing government debt and non-debt markets and broadening the investor base; (iii) expanding financial inclusion, particularly in rural areas, by increasing the population's financial literacy and creating financial products to enhance access to credit for small and medium enterprises (SMEs). A list of diagnostics and actions—derived from Chapter 9 (*Financial Sector Policy Note*)—follows.

First, Colombia's financial oversight architecture was designed more than a decade ago and has not adapted to the new financial sector structure. The definition of financial intermediation, focused exclusively on collection of resources for the public, is both strict and unclear in interpretation, creating grey areas for supervision, such as provision of funeral insurance or issuance of pre-paid cards. Some financial cooperatives that collect resources from members are now bigger than some of the banks subject to full prudential oversight. The formation of cross-border conglomerates and the development of capital markets have put increased demands on prudential and conduct supervision (discussed below). In addition, new intermediaries are being created, such as issuers of electronic deposits, expanding the universe of supervised institutions.

The existing financial sector oversight architecture should be revised to accommodate the new financial sector structure. A first-best option would involve a comprehensive review of the definition of financial intermediation as well as the mandates of all institutions with responsibilities for financial sector oversight. Such a review should take into account international experiences in countries with similar financial sector structures as well as the comparative advantages of existing

institutions in Colombia. A comprehensive evaluation would involve changing several laws, but a more modest review could involve the heavy burden the law puts on the Superintendencia Financiera de Colombia (SFC) for conduct supervision. At the minimum, authorities should rethink the structure of SFC. An alternative worth considering would be a “Twin Peaks” structure, with SFC retaining responsibilities for prudential supervision of all institutions and conglomerates and a new institution in charge of conduct supervision across all markets and the creation of a more collegiate decision structure. It is also recommended that authorities continue to develop the integrated risk measurement tools necessary for monitoring conglomerates’ increasingly complex risk structure. While the Colombia groups’ recent expansion abroad is positive for the system, it requires close monitoring and improved risk management tools to better gauge trends and risks overseas. Moreover, the increased complexity of Colombian capital markets calls for new approaches for regulatory oversight. SFC would benefit from updating the supervisory framework to ensure that supervisors have access to all information necessary to assess a conglomerate’s intra-party risks and its exposure to new jurisdictions. In addition, it could take further steps to enhance protection of minority shareholders’ rights and investor protection, especially for collective investment vehicles.

Second, Colombia needs to develop financial markets, particularly for investments in housing and infrastructure. Government bond markets are well developed, representing 22 percent of GDP as of December 2012. However, the non-government debt market is small at 5.9 percent of GDP, and it is dominated by financial institutions. Equity market capitalization has seen a substantial increase over the past several years, but it is highly concentrated among a small number of issuers. The number of new IPOs or secondary offerings is also very small. Furthermore, the capital markets’ investor base is dominated by pension funds, with an incipient mutual fund industry and a small presence of insurance companies and foreign investors.

The policy recommendations span several activities: (i) improve the liquidity of the government bond market yield curve from short- to long-term tenors; (ii) support development of an institutional and regulatory framework that promotes financing for housing and infrastructure through capital markets; (iii) develop policy and regulatory changes to support a more diversified institutional investor base for long-term financing; (iv) continue the process of phasing out double taxation on foreign investors as well as the complex administrative and registration procedures for accessing foreign exchange and the domestic securities market; and (v) promote the development of options for hedging minimum wage risk and increase competition in the annuities industry.

Third, fostering access and usage of financial services, particularly in rural areas, is a key challenge in Colombia. Progress has been made in the number of access points, but low product use reduces the benefits of inclusion. Colombians have difficulties using financial products in the informal economy because of consumers’ lack of knowledge concerning the financial products available, the benefits of using those products, and the institutions that provide them. Even as financial services become more physically accessible, many Colombians need to increase their comfort level with formal financial institutions. A recent World Bank survey found that more than two-thirds of the Colombian population could not do a simple interest rate calculation, and they were never taught to manage money, making it difficult for them to analyze the terms and conditions of financial products. A similar lack of formal financial knowledge was found in other developing countries in Latin America, such as Mexico. Finally, credit for SMEs, particularly microcredit, remains limited. The 2013 *Gran Encuesta PYME (GEP)* survey indicated that more than 50 percent of SMEs reported no access to the financial sector; in particular, SMEs cannot access sufficient long-term financing to modernize their operations, and they lack alternative non-bank financing sources.

Colombia needs to ratify a comprehensive financial inclusion strategy, with a strong inter-institutional

coordination mechanism. This strategy should include: (i) well-designed financial education interventions for promoting responsible use of financial services; (ii) legal and regulatory improvements to continue promoting the regular use of financial services, with an emphasis on mobile banking and other technological innovations that facilitate transactions; and (iii) the effective implementation of the new Guarantees Law (1676) and creation of an enabling framework for factoring to support the Government's objective of easing SMEs' credit access.

Make innovations thrive

Poor growth performance in Colombia is largely explained by lackluster productivity, associated to low innovation levels. Measured by TFP growth, productivity has averaged a low 0.5 percent over the past 60 years, climbing to 1 percent between 2003 and 2010—a rate that is still slow even by LAC or Asian standards. An extremely large number of Colombian companies are too far from the frontier to proactively respond to increasing external competitive pressures. At 0.18 percent in 2011, national research and development (R&D) expenditures as a share of GDP are roughly half the expected rate for a country at Colombia's level of development. Other resource-abundant countries like Canada and Australia invest approximately 2 percent of GDP in R&D, with South Africa at 0.93 percent and Malaysia at 0.63 percent. For Colombia, the decline in R&D from 0.25 percent at the end of the 1990s is entirely explained by the collapse in private sector R&D—from a peak of 12 percent in 1997 to under 0.04 percent in 2006–10. According to the National Innovation Survey IV (2007–08), only 11.8 percent of Colombian firms with more than 10 workers innovate in product or process, compared to 30 percent on average for countries at Colombia's level of development.

The national innovation system is a conceptual framework integrated by three pillars: supply, demand, and governance. On the supply side, innovation requires sources of ideas and quality human capital across the spectrum relevant to

the needs of firms and farms. The demand for innovation comes from companies and entrepreneurs. There can be little productivity growth if they lack the capacity to innovate or if the competitive and trade context offer few incentives to innovate. Most important, the governance of the innovation system includes the institutions that define policies and programs to promote innovation, the rules for their coordination, and the incentives to accumulate and reallocate physical and knowledge capital to enhance and promote productivity growth. Innovation contributes little to Colombian economic growth because the innovation system is weak in all three components.

Supply of skills and knowledge in Colombia requires increased quality and relevance. Colombia is not producing students with enough 21st Century skills. At the primary and secondary levels of education, Colombia continues to underperform in math and science. In the most recent results from PISA 2012, Colombia scored significantly below the averages for both the OECD and similar middle income countries in Latin America. The National Training System (SENA) absorbs vast resources yet gets mixed reviews from the private sector on relevance and quality. Studies suggest little or no impact of technical education. Enrollment in tertiary education fails to attract and retain talent. Finally, agricultural extension needs an overhaul, and universities and research centers are weakly connected to private sector demand.

Demand for innovation among Colombian firms is lacking because of the weak quality of management, which generates low technological “absorptive capacity.” A recent LSE-World Management Survey, undertaken jointly by World Bank and DNP, revealed that Colombian firms are among the worst measured to date in management quality. Strikingly, the survey also suggests that managers have the largest gap between “perceived performance” and “real performance.”

Finally, governance of the Colombian innovation system is fragmented, overlapping, and inefficient. At present, Colombia does not have a coherent system

to encourage increasing productivity and sophistication of firms over time. Many different elements of the support system are scattered across poorly coordinated ministries. SENA, for instance, operates basic start-up support as well as sophisticated technological parks (“*technoparque*”). COLCIENCIAS and InnPulsa are also charged with higher-end support to innovative firms. In fact, Colombia has at least 56 different programs to support improvements within existing firms, spread across multiple agencies that are often overlapping and underfunded. The recent review performed by the Comité Técnico Mixto shows that many of these programs are small and underfunded, with 90 percent receiving only 20 percent of the total resources.

Recommendations in Chapter 10 for improving governance of the national innovation system involve moving toward a clear division of roles, specialization, and coordination so that it becomes an integrated system. In this context, one agency would focus on the supply of higher level human capital and research; another one, with close connections to private sector, would focus more on the demand side and raising firms’ capacity for innovation. Another one would specialize in technical training, with a strong regional and local presence. Finally, the activities of these specialized agencies could be monitored and reviewed from a central institution that would have no responsibilities in the specific implementation of concrete programs and activities. A coordinating body at the highest level—a presidential body—is necessary to implement these recommendations and to engage in ongoing oversight of the system and long-run planning.

Recommendations for strengthening firms’ demand for innovation require identifying specific needs and targeting programs. SMEs and less advanced firms constitute the great majority of Colombian businesses and require specific programs that help them close the productivity gap with more advanced companies. These programs require adequate design, piloting, implementation and evaluation. The recommendations include: (i) technological extension programs to im-

prove the quality of firm management along a range of dimensions—production and operations, quality control, strategy, logistics, human resource management, the environment, continuous improvement, lean manufacturing, Six Sigma, 5S, etc.; (ii) agricultural extension; and (iii) targeted programs for micro-entrepreneurs that support a “group” of local entrepreneurs (like post-conflict regions targeting re-integration of youth at higher risks of participating in illicit activities).

Recommendations for improving the supply side are the most complex to implement and longest to mature. These involve: (i) establishing targets for improving the quality of primary and secondary education, with a focus specifically on science and math outcomes; (ii) developing and implementing a plan to upgrade universities to ensure alignment with the needs of industry; (iii) ensuring development of a supply of technical skills of high quality and aligned with the needs of industry; and (iv) consolidating and upgrading research centers.

Empowering People and Localities

People are not only the direct beneficiaries of development but, more important, the main agents of developmental change. When people have access to health, education, and protection from vulnerabilities and risks, they will be able to fully participate and guide the development process. This participation occurs predominantly in the localities where people live. Having capable people and effective localities is a prerequisite for successful development. The next two sections refer to an integrated social protection system and to efficient subnational governments (departments, municipalities) as development mechanisms that promote people and localities.

Tools for an integrated Social Protection System

Over the past 20 years, Colombia has developed a rich array of social security, social assistance, and labor-market programs to support the needs

of vulnerable populations. Approximately 80 national programs are operating to manage a range of social risks, and some programs have achieved substantial coverage. Coverages offered to those who pay into the system of contributory social security schemes are: pensions, health insurance, occupational hazard insurance, and a set of other benefits (via *Cajas de Compensación*, workers' clubs that provide services ranging from unemployment insurance to sports clubs); these programs are intended to protect against income shocks and help smooth consumption over the life cycle. To reduce poverty and promote greater human development, Colombia has a range of social promotion (assistance) interventions, many of which provide the same services as the contributory system but to a population that does not pay into the system. The objective of these programs is to “graduate” the poor to the social security programs and to protect them against shocks. These are rounded out by several labor market interventions that promote employability, provide job training (mostly through SENA), and protect workers against economic shocks.

In spite of the development and expansion of social programs and institutional realignment, the results are not as strong as hoped. Social expenditures increased 50 percent over the past decade, one of the region's fastest rates of growth, and poverty rates fell. However, the record isn't entirely encouraging. The Gini indicates inequality remains among the highest in Latin America. Health outcomes are average—or below average in some cases. Maternal mortality has been stagnant since 2009; infant neonatal mortality (11.2 per 1,000 live births in 2012) is higher than in neighboring countries with similar development levels; so is the prevalence of diabetes. As discussed in Chapter 2, cash transfers to the poor, namely *Familias en Acción*, were responsible for significant declines in rates of extreme poverty (28 percent) and moderate poverty (19 percent), but declines were much smaller in rural areas, where *Familias* is most prevalent.

The disappointing outcomes can be traced to various factors that create bottlenecks in converting

investment to results, including (i) system fragmentation, (ii) coverage gaps and overlaps, and (iii) limited information. First, the social protection system (SPS) is fragmented along many dimensions. Multiple programs address the same risk, partly due to financing mechanisms. For example, Colombia is in the process of developing its fifth program to provide cash to the elderly population. Multiple programs are also a result of several ministries or directorates developing their own programs for sub-sets of the population. For example, multiple entrepreneurship programs target women, extreme poor, rural populations, micro-enterprises, indigenous groups, and youth, all of which provide a combination of skills development, entrepreneurial training, and stipends or loans.

System fragmentation makes the SPS inefficient as a means of managing social risks. The ad hoc collection of programs by institutions at the national and subnational level does not create a pathway out of the risk. Even if it did, the target populations have little awareness of which programs they are eligible for and which programs can best raise their living standards. Administrative fragmentation also creates unnecessary costs and confusion. The two health insurance regimes unified their benefit packages, but they still maintain different sources of financing, follow different methodologies for the calculation of insurance premiums, use different insurers, and follow different sets of rules and regulations. This produces costs that could be avoided with increased harmonization between the two regimes.

Second, in spite of a large number of social programs and considerable overlap, Colombia faces two coverage issues: insufficient coverage of some risks and insufficient coverage of some populations. In health, the risk of poverty from illness is effectively mitigated by health insurance that covers around 92 percent of the population—but the risk of illness is not well covered. The health insurance model focuses on individual and specialized health services, rather than providing wider-reaching public health, prevention, and health promotion activities and addressing health problems at

the primary-care level. Labor risks are also insufficiently covered. Programs for the more than two million unemployed are limited to job training, largely through SENA, with a smaller number accessing labor intermediation services. The elderly population is well covered, but the benefits are insufficient. Nearly half of the 2.4 million people over age 60 are poor; among the 30 percent who receive pensions, most are not poor.

Third, although social expenditures in Colombia are on par with the Latin America region, improved information collection and management could lead to efficiency gains. For instance, the health sector could better manage information to improve beneficiaries' use of the system and the quality of services. The National Superintendence of Health (SNS) has a mandate for the inspection, surveillance, and control of more than 9,000 providers and insurers across the country, but it lacks the financial and human resources to effectively collect information and act on it to improve health care quality. Similarly, the labor sub-system has severe information gaps that lead to policy and program inefficiencies. Colombia does not have a unified information database about labor market trends.

Three policy recommendations—developed in more detail in Chapter 11 (*Moving Toward a Social Protection System*)—are offered as responses to these challenges. First, strengthen SPS management tools to overcome inefficiencies created by system fragmentation and reach uncovered populations. In the long run, Colombia can converge to an interconnected and articulated SPS with a set of risk-focused program streams that are easily identifiable and accessible by the population, complemented by a series of sub-systems similarly functioning in an articulated and client-focused manner. Through planning, coordinating what is already there, and introducing new tools in a gradual yet high-quality way, Colombia can achieve an effective SPS and the efficiency gains and improved outcomes that come with it.

Second, build the labor sub-system by creating information for policymaking and program

purposes. A labor sub-system is necessary because labor risks are insufficiently covered in a country with high informality and unemployment rates. Two main recommendations are: First, create an inclusive, comprehensive employment service, providing the population with information about job search and training opportunities. This system would replace the more limited service offered by SENA to its graduates. Second, articulate and strengthen regional labor observatories to provide consistent information for policy-making and decision-making.

Third, modernize the health sub-systems by developing a new health-care model with stronger internal management and controls. The main idea is to reduce administrative fragmentation through: (i) creation of a new health care model that would focus on managing the health risks of the population living in specific geographical areas and enhancing the coordination between local health administrations and insurers; (ii) develop more sophisticated and effective tools to manage health financing processes—from payment systems to technology assessments and price regulations for pharmaceuticals; (iii) enhance the regulatory capacity of the Superintendencia de Salud, through new functions and upgrading its technical and human capabilities; and (iv) conduct public outreach to improve the image of the SGSSS during this period of reform as a means of collecting and disseminating information and addressing public concerns.

Improve the decentralization process

In decentralizing, Colombia has aimed to find the right balance between central authority and local autonomy, equity in resource distribution, and higher efficiency in public spending. Colombia is a unitary country, divided into 32 departments (regional governments) headed by popularly elected governors and departmental assemblies. Composed of locally elected representatives, the assemblies are responsible for, among other things, approving the departments' budgets. In addition, there are just over 1,100

municipalities with elected mayors and municipal councils. According to the IMF, subnational governments (SNGs) collectively account for a large share of public spending in Colombia—8.1 percent of GDP in 2011. Departments and municipalities raise about 3 percent of GDP in tax revenues, with the remainder provided by the General Participation System (*Sistema General de Participaciones*, or SGP), central government transfers, and other funding sources, such as non-tax revenues and royalties on natural resources. Small municipalities tend to be poorer than larger ones. In municipalities with populations of less than 50,000, 46 percent of the inhabitants have at least one unmet basic need, compared with 29 percent nationwide. The country as a whole has a keen interest in the decentralization framework and SNGs' efficiency and effectiveness because of the high incidence of poverty in small municipalities and the resources managed at the local level and their impact on service delivery and national development goals.

Fiscal decentralization has substantially advanced in Colombia over the past two decades. Today, SNGs execute the vast majority of the national budget. Table 0.2 shows this move toward fiscal decentralization; the share of subnational expenditures represented by total government expenditures grew in more than 10 percentage points from 1995 to 2009.

However, the current fiscal and governance framework for SNGs has not led to rapid regional convergence. Although Colombia has seen steady but slow convergence in per capita income across regions, the overall fiscal system (taxes and transfers) shows a limited redistributive capacity, even compared with other countries in LAC region. The SGP, which provides central Government transfers to the SNGs based on poverty variables (among other factors), has had little impact in reducing differences among departments and municipalities. Similarly, it is unclear whether the comprehensive tax reform recently approved by Congress will do anything to address disparities across regions. By contrast, the *Sistema General de*

Regalías (SGR) reform appears to be a step in the right direction. World Bank projections suggest poor departments will grow faster than richer ones under the new framework. In sum, while the new royalties system will help reduce disparities, more efficient execution of SGR resources and bolder reforms are needed to increase the pace of regional convergence.

Critical gaps across Colombia's regions, departments, and municipalities remain an impediment to regional competitiveness and are closely related to services delivered by SNGs. Educational achievement shows significant regional variance. Regional disparities in competitiveness, as measured by levels of economic performance, infrastructure, human capital, and science and technology, have broadened during the past decade. Furthermore, SNGs have significant shortcomings in the overall management of resources. The evidence suggests that SNGs lack the capacities, the systems, and the data to properly manage, monitor, control, evaluate, and report on the use of resources affecting service delivery.

Broadly, the functioning of Colombian SNGs faces two types of challenges. The first relates to the decentralization framework and institutional coordination. There are three issues: (i) poor coordination between central and subnational government, (ii) distortions to the incentives framework, and (iii) inconsistent long-term strategic planning. In Colombia, the breadth of programs, funding sources, agency responsibilities, and SNG priorities challenge the central Government's ability to coordinate interventions. Moreover, the incentive structure for improved SNG performance has been distorted by frequent changes in the policy environment and the limited range of fiscal incentives or disincentives from the central Government to effectively reward or sanction performance. Finally, the strategic planning mechanisms of the Government and SNGs are only weakly linked. The available information does not permit expression of sector and regional priorities that would promote the development of long-term planning strategies.

The second type of challenge is related to the capacity of SNGs. Two issues are prominent—(i) not enough attention to broadening local revenue sources and (ii) weak local capacity to manage new decentralized systems. At 1.5 percent of GDP for 2010, Colombia’s property tax collections are now above the Latin American average (0.8 percent of GDP) and slightly below the OECD average (1.8 percent). However, this revenue represents only 20 percent of the overall local tax collection, and most municipal tax administration authorities (except those in the large cities) have weak management and control capacity.

Chapter 12 (*National and Subnational Public Finances and Governance*) provides a set of five policy recommendations in response to these challenges. First, improve coordination among levels of government and key central Government agencies. The three critical levels of government (central, departmental, and municipal) and key central actors, such as DNP, Ministry of Hacienda (MHCP), the Ministry of the Interior, and *Contraloría General de la República* (CGR), require closer collaboration and synchronized action. The agencies need standardized and coordinated approaches to core public management functions and processes, such as accounting and public financial management as well as procurement rules and standards. Second, enhance subnational control and its monitoring and evaluation (M&E) framework. The central Government should emphasize improving and integrating the control and M&E instruments of the agencies directly involved, such as DNP, MHCP, and CGR. Institutionalizing evaluation is key to identifying and tracking SNGs’ performance. Evaluation will generate regular feedback loops to guide SNGs’ management and strengthen the central Government’s role in tracking SNGs’ progress. Third, implement an effective incentives framework for SNGs. It is critical to define performance indicators and information tools to measure SNGs’ management capacity, set out standards and good practices in subnational public management performance, and implement an incentives framework to reward superior

or outstanding performance or assist underperformers in achieving sustained performance. It is also necessary to make operational the incentives that are already attached to the SGP and SGR institutional frameworks.

Fourth, review and adjust the decentralization framework after an independent evaluation, particularly the SGP, the SGR, and the role of the departments. In the first place, the Government should undertake an in-depth analysis of the SGP and SGR to independently determine what is working well and what is not. The findings could lead to changes (operational rather than legal) that increase the system’s efficiency, probably by merging the SGP and SGR funds into a single budget, control, and M&E framework. In addition, it would be advisable to review the impact of the current formulas for resource allocation. The Government should also continue working on clarifying and enhancing the role of the departments, including proposals for a new organic law (*Ley de régimen departamental*). Such proposals should outline the departments’ competencies, their role as coordinators/supporters of small municipalities, and their control and M&E functions in resource use, evaluating results, and municipal fiscal and management performance.

Fifth, sustain technical assistance to SNGs through new management and IT tools. Capacity-building activities should focus on solving problems that prevent the adequate delivery of services or the sustained improvement of service outcomes. The new technical assistance delivery approach should aim at (i) creating management tools for SNGs, especially in core management areas—planning, investment, procurement, financial management, local tax administration, and civil service; and (ii) ensuring technical continuity through a low turnover of trained staff.

Common Threads

This overview of the World Bank policy notes for Colombia concludes with a listing of common

threads that weave through all the chapters. As mentioned at the beginning, the various recommendations are inter-connected and impact one or more of the development objectives. These common threads are evidence of regularities that pervade Colombia's most pressing development challenges. Making them explicit helps define guiding principles for developmental change in Colombia.

First, not surprisingly, almost all policy notes call for more and better capital investment, particularly in infrastructure but also in other forms of capital accumulation. Be it in rural roads, multi-modal transportation, watershed systems, wastewater and landfill plants, there are multiple calls for modern projects. Moreover, the policy notes' support for better universities, research centers, capital markets, and long-term financing mechanisms make the point that Colombia also needs more mature financial and knowledge capital.

Second, and related to the first point, the policy notes support a subtle re-examination of subsidies *vis-a-vis* investment in public goods. A case in point is the detrimental impact on investment in rural development from the excessive concentration of subsidies within the budgets of Government agencies attending rural areas. Policies to increase private participation in infrastructure, land-value capture mechanisms as a tool for local government financing, and enforcement of land and safety regulations are all signs of a need to reconsider explicit or implicit subsidies that drag public finances and hinder, or plainly prevent, investments in public goods.

Third, the policy notes recognize the utmost importance of enhanced subnational governments for policy implementation. Subnational governments are seen as a vital agents of policy implementation—from their role as enforcers of local environmental regulations and their responsibility in delivering basic social services to their participation in urban planning, investment in rural development infrastructure, and managing municipal finances. However, the notes also recognize that local governments leave a lot to be desired in terms of capacity, incentives, and means to address these

responsibilities. Strengthening and empowering subnational governments is a regular plea through these policy notes.

Fourth, and related to the third point, coordination through levels of government and across agencies is deemed paramount. All areas under analysis in these policy notes indicate the need for a better institutional framework. Development of a territorial approach to rural development, national urban policy and metropolitan plans, national infrastructure plans, a national innovation system, social protection system—all these areas require better institutional coordination and, in some case, redesign. These policy notes diagnose overlapping agencies' mandates, population coverage gaps, conflicting authorities, and limited planning and implementation capacity. Overcoming these institutional limitations is a task that will lead not only a more effective administration but also to a better direction in the development process.

Fifth, quality databases, information systems, and M&E protocols face growing yet unmet demand. Labor and health databases, air pollution information systems, the *Sistema Integrado de Información Financiera*, timely census data, and rural and urban land cadasters are just a few examples of information requirements mentioned in various policy notes. These data are needed for better policy planning and implementation. Without the data, problems cannot be diagnosed, programs cannot be monitored, and solutions cannot be confirmed. Information and M&E protocols are indispensable for modern economic and social progress.

These five common threads, and the multiple and diverse analyses and policy recommendations from which they are derived, intend to contribute to the understanding of Colombia's current development challenges. They testify to the commitment of World Bank experts in Colombia and their desire to help, in some small way, the country achieve its higher development goals.

Colombians and their institutions have a fruitful experience in implementing development policies,

and their current advanced challenges are proof of the many successes they have achieved in recent years. These advances have put them within close

reach of achieving fundamental development goals: sustainable peace, eradication of poverty, and shared prosperity.

PART ONE

BACKGROUND NOTES



CHAPTER 1

Supporting Colombia's Transition to Sustainable Peace and Development



Main Messages

This background note proposes a framework for understanding the transition from armed conflict to sustainable peace in Colombia. The first section describes the general characteristics of the conflict in Colombia. The second section introduces the overall World Bank approach to armed conflict as a development challenge, then draws implications for Colombia, discussing the transition from war to peace and the linkages between the security, development, and political transitions. Finally, the third section analyzes Colombia's current policies and the main challenges involved in the transition period.

The topics covered by the peace dialogues in Havana are interrelated and address conflict stressors—such as land concentration, inequalities among population groups, the rural/urban gap, deficient justice, unemployment, and lack of opportunities for young people. However, implementation of the agreement will be decisive in advancing the transition toward sustainable peace and development. Challenges loom at every level: at the individual and family level, with the trauma and psychosocial effects of the armed conflict on various generations; at the community level, with high levels of mistrust (among citizens, communities, and vis-à-vis the state) and a culture of illegality; at the subnational level, with deficient capacities of local government institutions and lack of civilian state presence in conflict-affected areas; and at the national level, with the top-down policies and difficulties in inter-sector coordination.

An agreement resulting from the peace dialogues will accelerate political, security, and development aspects at the national level and in specific regions. However, insecurity may rise as a result of negotiations because armed actors will try to fill spaces left by FARC, and the guerrilla's dissidence will try to grow. As insecurity rises, public support for the negotiations may wane in regions affected by violence and in cities where the benefits of peace will not be tangible. Like other countries in the aftermath of peace negotiations, the Colombian government's greatest challenge in ensuring the agreement's success will be guaranteeing a minimum level of stability after the negotiations while strengthening current institutions and transforming those that perpetuate cycles of violence. Policies and programs from different sectors should share the common objective of preventing cycles of violence from recurring, and they should be designed to reinforce the three transitions to peace—political, security, and development.

There is a great risk that local power-holders will either violently resist implementation of peace-agreement measures or adapt to them without necessarily transforming the institutional framework. To mitigate the risk of national policies' instability or perverse effects, it is important to have regional information and design policies in a differentiated way according to each area's capacities, needs, and challenges. In addition, a clear road map establishing short-, medium-, and long-term actions and objectives is essential to supporting transitions at the local level. Finally, policy processes can build confidence on the peace outcome prior to deepening the institutional transformation with the purpose of reducing inequalities among people and among regions.

The Dynamics of Armed Conflict in Colombia

Colombia can be seen as a country with two seemingly incompatible profiles. On one hand, it is a stable formal democracy, immune to the authoritarian and populist tendencies that have negatively impacted other South American countries. With a per capita GNI of US\$11,380 for 2012,¹ it is also an upper middle-income country, representing one of Latin America's most dynamic economies. It is well integrated in the global economy, with OECD standards within its reach.

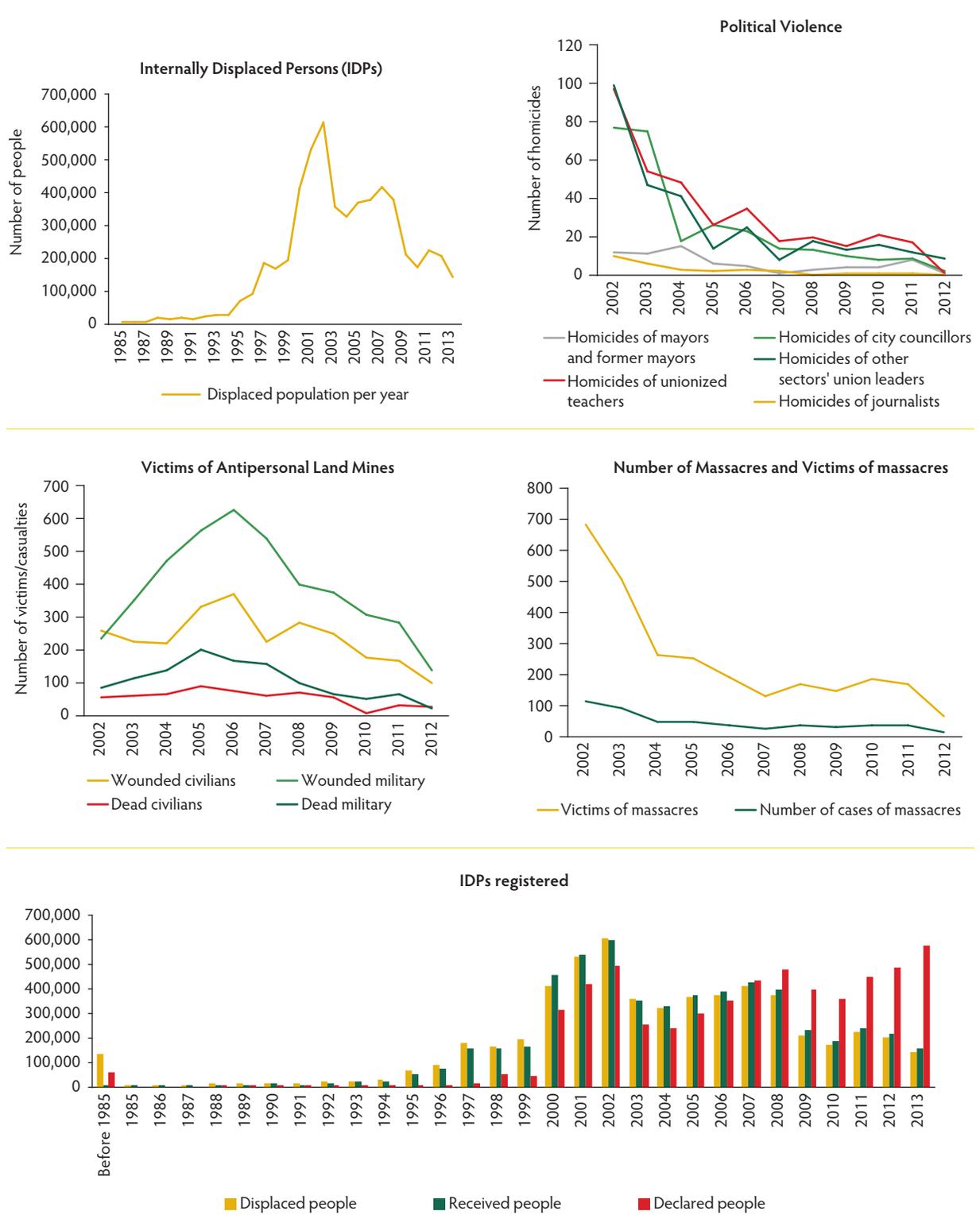
On the other hand, Colombia has been trapped in repeated cycles of violence, where inequality, poverty, and weak institutional capacity reinforce armed conflict and vice-versa.² To date, attempts to end the armed conflict through peaceful or military means have not succeeded. Starting in the early 1940s, the violence arose from ideological confrontations between two main political parties.³ During the Cold War, east-west polarization shifted the center of gravity of violence to asymmetrical, low-intensity warfare between communist insurgencies and government forces. During the 1980s, the armed conflict became a protracted confrontation of multiple actors, including drug-trafficking cartels, insurgency movements, and paramilitary forces with multiple, overlapping forms of violence. Since the 1990s, these illegal armed groups have regularly attacked infrastructure, undermined state legitimacy, and used violence and terror against civilians, dispossessing them from their lands, creating forced displacement, and damaging the social fabric.⁴ Fifty years of violence have affected at least three generations of Colombians at the national, subnational, community, and individual levels (see Figure 1-1). Between 4.7 million and 5.7 million people were internally displaced between 1985 and 2012. During the same period, an estimated 220,000 persons were killed, 27,000 people were kidnapped, 25,000 disappeared, and 6,421 children were recruited by illegal armed groups.⁵

In the past decade, the Government has made strenuous efforts to reduce Colombia's violence and poverty levels and increase state presence. The country is no longer considered a high risk for investment, and it has increased its capacity to guarantee basic citizens' rights. Even drug production, one of the main drivers of the conflict, has been significantly reduced. Despite this progress, the two incompatible profiles of Colombia still coexist, and violence continues to take a heavy toll on society.

Some economic analysis even goes so far as to suggest that if the country had been at peace for the past 20 years, per capita income would be 50 percent higher today.⁶ Furthermore, it is estimated that without the armed conflict, Colombia's annual growth rate would be 1.5 percentage points higher.⁷

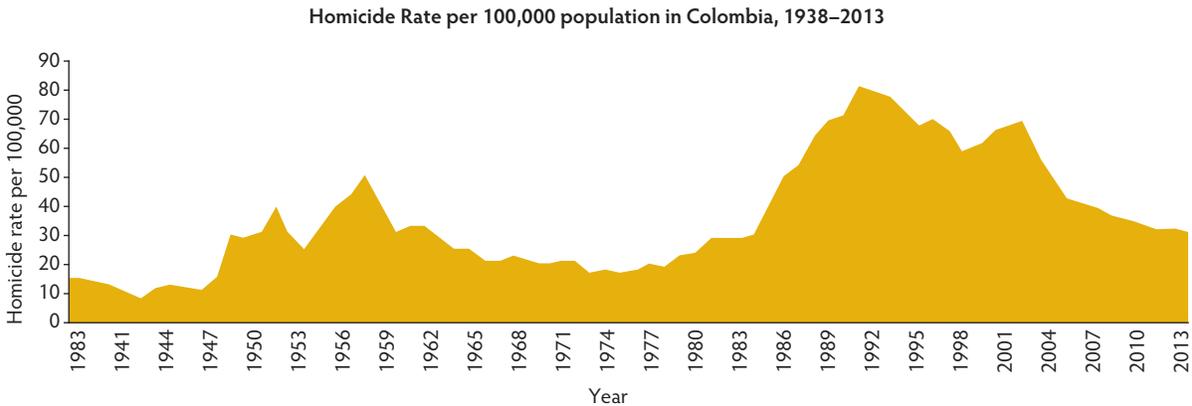
An institutional framework, or a set of tacit rules, among stakeholders and entities preserves the coexistence of the two profiles of Colombia—the formal democratic upper middle-income country and the conflict-affected one. This institutional framework impedes the functioning of democratic institutions, leaving behind regions and population groups. For instance, violence is greatest in regions with weak local institutions,⁸ high revenues from natural resources extraction,⁹ and the presence of illegal armed groups. In addition, specific groups, such as rural, afro-Colombian, and indigenous populations, are overrepresented among victims of the armed conflict. Education is also deficient on the Pacific and Caribbean coasts and in other areas where conflict is intense, which has negative implications for future generations and increases the development gaps with the rest of the country.¹⁰ Furthermore, the government's capacity varies across sectors and public entities; for example, government entities such as the Ministry of Finance, the Central Bank, the Planning Department, and the Ministry of Defense are better equipped, more efficient, and have more stable and qualified staffs than average line ministries. As a result, central government policies may be unable to reach violence-affected areas and may even have perverse effects.¹¹ In some

FIGURE 1-1: Violence in Colombia



Source: Data from the Observatory of Human Rights and International Humanitarian Law of the Vice-presidency of Colombia, 2014.

(continued on next page)

FIGURE 1-1: Violence in Colombia (*continued*)

Source: DANE.

regions, key democratic institutions such as the division of powers, free elections, and freedom of expression are respected: in others, the scope of central state policies is very limited.

The subnational areas where the institutional framework is weak are not well prepared to handle external and internal stresses. The external stresses can come from factors stemming from regional and global dynamics, none of which are under government control. They include instability of neighboring countries like Venezuela, price fluctuations of primary goods on international markets, global drug trafficking and cartel strategies, illegal trafficking of natural resources. Internal stresses can come from factors normally under the control of individual states, including the presence of illegal armed groups and their strategies to control territory or populations (landmines, confrontations with other groups, threats), illegal economic activities, polarization of society, mistrust of the government, corruption, limited access to justice and participation, high income inequality, unemployment, and difficulties in accessing the means of production such as land and credit.

Central government policies like the peace process with the FARC offer an opportunity to end the cycles of violence. The preliminary agreements from Havana recognize the importance of addressing

subnational needs in the peace-building process, which implies that a potential final agreement can be more than an “elite pact” among holders of political, economic, and military power. For this to happen, an understanding of stakeholders at the local, national, and international levels is essential for guiding the design and implementation of policies. National stakeholders include state actors such as the Congress, army, and local authorities, and non-state actors like illegal armed groups, the private sector, civil society (including ethnic groups), opposition groups, and the media. It should also be recognized that the FARC is only one of the multiple stakeholders in the armed conflict, and that the risk of increased violence is high in the aftermath of the peace agreements.

The transition from war to sustainable peace and development will require a particular equilibrium. On one hand, it will involve short-term strategies for stability built upon coalitions with some stakeholders. On the other, it requires long-term institutional transformations that will lead to the integration of parts of the territory and excluded populations into the national political, social, and economic life.

What does sustainable peace mean?

The definition of a peaceful Colombia will depend on the results of the peace negotiations and a

collective effort of envisioning a country at peace. According to Sergio Jaramillo, the Colombian High Commissioner for Peace, signing a peace agreement with the FARC signifies the start of a transition process toward peace.¹² The peace process is a means to end the violence while defining solutions to five core issues in Colombian society that need to be resolved independently of political and ideological affiliations. These core issues are: (i) rural development and land reform, (ii) political participation, (iii) cessation of conflict, (iv) addressing the problem of illegal drugs, and (v) victims' rights. Thus, a peace agreement will define "what to do" without arms as an obstacle, while Colombian citizens in each region will decide "how" this will occur, or in other words, how to transition from war to peace.

Global experiences show that the main challenge in the aftermath of a peace agreement is preventing the recurrence of cycles of violence, allowing society to implement the necessary and agreed-upon changes.¹³ Part of this challenge also lies on the way in which society as a whole is to be engaged in the implementation of the agreements. Part of Colombian society challenges current views and development of the peace talks and agreements and the country requires coming to terms with these. The following section outlines a global perspective for understanding conflict as a development challenge and a framework for a transition to sustainable peace and development, and it identifies policy options that have been effective in other contexts to prevent recurring cycles of violence. They may be useful for the Colombian case and its conflict dynamics, stresses, and stakeholders.

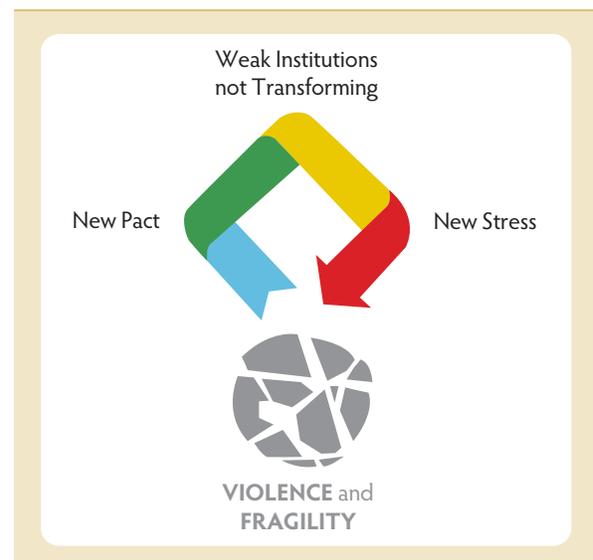
Understanding Armed Conflict and the Transition to Peace

The understanding of conflict dynamics has changed considerably since the Cold War. An inter-state perspective has evolved to an intra-state one that considers the correlation between poverty, inequality, lack of governance, and violence. Subnational conflicts like the Colombian one can

be analyzed as dynamics of violence and conflict embedded in a stable state, geographically concentrated, but with implications for the whole country.

Based on recent analysis of researchers and practitioners, the World Bank 2011 World Development Report (WDR) proposes a view of conflict as cycles of violence, arguing that many countries and subnational areas face cyclical violence, instability, and weak governance that have a significant impact on levels of human development. For instance, 40 percent of countries that have experienced civil war revert back to conflict within a decade.¹⁴ In addition, new types of violence and conflict have arisen in the form of interlinked criminal activities, rebel groups, and global movements. This view of conflict emphasizes not only its repeated and interlinked effects but also its regional and global repercussions. External factors (e.g., price shocks, climate change, international disputes) and internal factors (e.g., corruption, youth unemployment, discrimination) act as stresses that can cause violence to spiral if the institutional framework is not strong enough to address them. Countries and subnational areas with the weakest institutional legitimacy and governance are the most vulnerable to violence and instability and the least capable of responding to internal and external stresses.¹⁵

FIGURE 1-2: Vicious Cycles of Violence



Source: 2011 WDR.

This perspective on conflict entails three main changes in the understanding of armed conflict and peace. First, post-conflict may be a misleading term because periods of conflict ended with peace agreements can actually be followed by new cycles of violence (see Figure 1-2). In this regard, peace should be seen as a process rather than a stage to which a peace process or a military policy may lead. Second, conflict is territory specific, and a country can simultaneously endure multiple cycles of violence depending on subnational contexts. Therefore, building peace at the national level implies distinct policies based on local dynamics and their relationship to the central government. Thus, a clear understanding of local stakeholders and stresses—both internal and external—is essential. Third, the sustainability of the peace-building process implies that policies aimed at preventing violence are multi-sectorial and should address institutional transformation and good governance in the long term. Consequently, a deep understanding of institutional capacity is essential for transforming vicious cycles of violence into virtuous cycles of institutional transformation in a gradual and systemic manner. Just as violence repeats, efforts to build confidence in the peace outcome and transform institutions follow a repeated pattern.

The transition to sustainable peace and development

Three main transitions for building sustainable peace

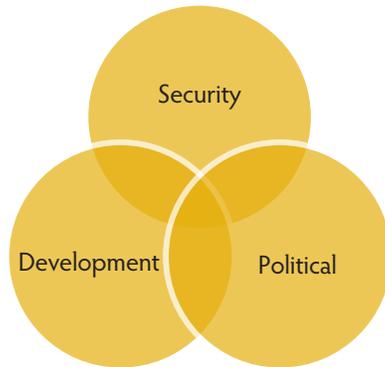
In the peace-building literature, the overall transition from war to peace is made up of multiple transitions that happen simultaneously at the local, subnational, and national levels. Considering that peace means more than simply the non-existence of violence, the literature identifies three main transitions that a society must undergo to build peace: (i) a security transition from violence to the respect of human rights and international humanitarian law, with the objective of preventing the recurrence of violence; (ii) a development transition from a war economy to a peace economy, aimed at creating a more inclusive economy with a legal option

for combatants originating in both statutory and non-statutory forces and victims to participate while promoting economic recovery, rebuilding financial systems, and enhancing basic service delivery; and (iii) a political transition, aimed at creating conditions conducive to a participatory democracy.¹⁶

The three transitions—security, development, and political—are a simplification of the multiple challenges faced by a society in building sustainable peace based on democratic principles. For instance, different aspects of the justice transition are part of the three transitions. The successful disarmament of ex-combatants, the process of truth and judgments of mass atrocities, and the guarantee of non-repetition for victims will support the security transition. The transformation of an illegal armed group to a political party able to participate in the national life is part of the political transition, while sustainable reparation for victims is part of the development transition. In addition, the social transition is often referred to as the reconciliation process between members of the society polarized by ideology, religion, social classes, or ethnicity. In our perspective, reconciliation and inclusion are at the same time outcomes and underlying process of each transition, the final purpose of which is a redefinition of the social pact.¹⁷ As they are interdependent and simultaneous, policies tend to overlap them. The utility of the framework is that it allows policies to reduce the risk of reinforcing cycles of violence by carrying out actions for each transition while taking into account implications for the other transitions. Such a risk has been extensively analyzed in the literature about countries emerging from war.¹⁸ It also allows for the prioritization of those actions that reinforce the three transitions—in graphic terms, actions at the intersection of security, economic development and political actions (see Figure 1-3).

Even though the transitions should occur simultaneously, launching recovery and reconstruction programs requires minimum security conditions. In addition, strong economic recovery in the short term significantly reduces the risk of recurring violence, and political transformations towards a strong participatory democracy underpin both

FIGURE 1-3: Three Transitions Toward Sustainable Peace



- Security transition from violence to the respect of human rights and international humanitarian law
- Development transition from a war economy to an inclusive peace economy
- Political transition from sub-national fragility to a participatory democracy

economic and security gains.¹⁹ Governments face multiple trade-offs because they need to ensure that the political and security objectives prevail over other goals, including good macroeconomics that require a degree of flexibility in the short term and clear growth goals in the long term.²⁰

The time frame for a transition toward sustainable peace and development

The long-term perspective of a transition towards sustainable peace is at least one generation, while the short-term perspective corresponds to four to seven years following the conclusion of a peace agreement. Based on international experiences, the 2011 WDR estimates that achieving functioning bureaucratic quality takes a minimum of 20 years, and bringing corruption under reasonable control takes 27 years. The fastest institutional transformations of the 20th century took one generation—in Portugal and South Korea.²¹ According to an OECD econometric study by Hoeffler, economic recovery occurs slowly and is strongest during the fourth, fifth, and sixth years following the signing of a peace agreement.²² In the Colombian case,

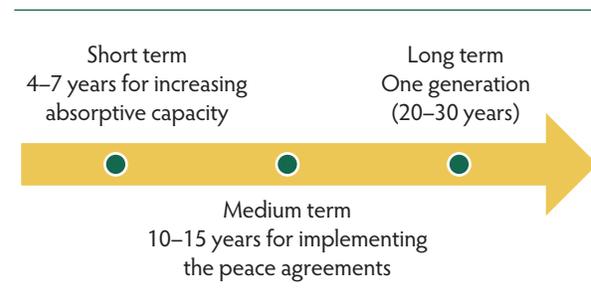
the medium term corresponds to the time frame set at the negotiation table for the implementation of the final agreement, which is 10 years. Figure 1-4 illustrates the time frame for building sustainable peace.

Prioritizing policies for transforming institutions and preventing a recurrence of violence

Transition periods can create either mistrust among stakeholders who lack confidence in the government's promises or capacity to transform the situation, or high expectations of rapid change that cannot be delivered by existing institutions. Moreover, since there are winners and losers in terms of the reforms agreed upon in a peace process, losers can become spoilers and increase instability to resist change. Governments are therefore under pressure to demonstrate commitment to peace in the short term without causing instability and, at the same time, prepare the necessary reforms for long-term peace.

In this regard, the 2011 WDR proposes a framework to deal with the trade-off between short-term stability and the long-term goals of transformation. Considering that there is a limit to the degree of change that society can absorb at any one time, the WDR proposes prioritizing policies and introducing gradual changes. Priority should be given to policies aimed at transforming institutions that have a direct role in the prevention of repeated cycles of violence—such as justice, citizen security,

FIGURE 1-4: Timeline for a Transition to Sustainable Peace in Colombia



and job creation. However, many reforms need to build trust and create capacity before being implemented. Thus, the first phase before institutional transformation involves restoring confidence by developing collaborative, inclusive-enough coalitions, using signals and commitment mechanisms to build support, and delivering early results.

The second phase involves institutional changes in the security, economic, and political spheres that focus on citizen security, jobs, and justice, sectors that stand at the crossroads of the three transitions. The two phases help to mitigate the risk of a new cycle of violence by increasing resilience to external and internal stresses. Figure 1-5 shows the two phases of policy design as repetitive loops meant to prepare profound transformations while working on the stability of the short term.

Policies and programs for the three transitions

The 2011 WDR analysis of transitions to peace in the 20th century found that some policies and programs have proven to be more effective than others in preventing cycles of violence from recurring. While the Colombian transition to peace is

unique, lessons from other countries can be useful to policy makers. Drawing on key lessons from the 2011 WDR, this section discusses the three transitions for Colombia in the short, medium, and long term. The next section will focus on the current Colombian government policies and key challenges for the transition to peace.

The main goal of all of the transitions is to prevent recurring violence. Table 1-1 summarizes the specific goals of each transition over the short, medium, and long terms.

Political transition toward a participatory democracy

As highlighted in the case of Northern Ireland and the democratic transitions in Chile and Portugal, successful political transitions have taken place through a series of actions undertaken over a decade or more (see Table 1-2).²³

In Colombia, the scope of the political transformation will be determined by the peace agreement. In any event, for any reform aimed at improving the quality of a democracy to succeed, the relationship between the state and its citizens must be

FIGURE 1-5: Repeated Cycles of Action to Bolster Institutional Resilience

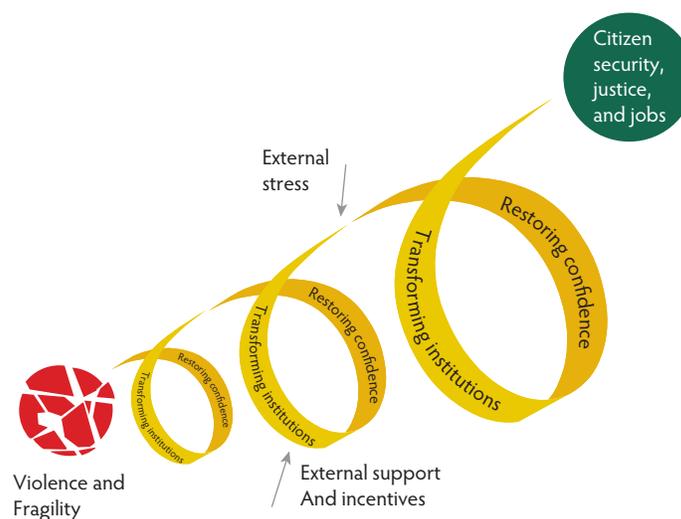


TABLE 1-1: Goals for Colombia's Transitions

Transition	Short-term priority	Medium-term goal	Long-term goal
Political-democratic participatory	Justice services provided at the local level Dialogues with guerilla groups initiated, reduction of corruption and impunity	Institutional architecture is inclusive; local governments redeployed and strengthened; transitional justice measures fully implemented	Political participation and reconciliation
Security-citizen security	Citizen security programs launched at the local level	Reforms of security forces carried out	Peaceful coexistence and respect for human rights
Development-inclusive development	Jobs creation programs established and early service delivery in subnational critical areas initiated	Recovery and (re)integration of people and regions in the national economy; education and health reforms	Inclusive economy and human development

strengthened, and participation must be reinforced at the local level. The policy dilemma becomes apparent in the short term because local coalitions are crucial in preventing violence, but dismantling patronage systems occurs only over time. In this regard, the 2011 WDR suggests a two-step process to find a balance between stability and change: first, build trust in the transition to peace by implementing policies that signal a break from the past and instill trust that the new direction will not be reversed; second, encourage institutional transformations in different sectors, with priority on providing justice in critical regions. Through such a process, the institutional architecture that preserves inequalities among the population and regions is gradually transformed.

Short-term priority: justice and participation. In the early stages of the transition to peace, sending signals of changes in the rules of the

political game can be extremely beneficial in building confidence in the peace outcome. According to the 2011 WDR, these signals include reducing injustice and impunity, increasing the transparency of information, implementing visible anticorruption measures, and defining credible and feasible approaches and timelines toward political reform.

Parallel to the security strategy, there should also be provision of local-level justice services, reinforcement of ombudsmen offices, and a matching of increased police force capacity with courts, prison systems, and witness protection programs. In addition, the aftermath of a peace agreement should open participation spaces (with facilitators) at the local level in which civilian stakeholders (civil society organizations (CSOs), the private sector, local authorities, churches, ex-combatants) can conduct a safe dialogue about common projects for their region.

Transitional justice measures start in the short term but are fully implemented in the medium term. They have the potential to reinforce recognition of victims, promote civic trust, and contribute to the democratic rule of law—if they are truthfully implemented, which means that they are encouraged by the national government with an institutional framework at the local level.²⁴ To operate properly, for instance, local peace committees for truth and reconciliation programs require financial and human resources, including third-party mediation. At the same time, community-driven approaches

TABLE 1-2: Pace of Political Transitions

ICRG indicators 1985–2009	Years to threshold at pace of...	
	fastest 20	fastest ever
Bureaucratic quality	20	12
Corruption	27	14
Military in politics	17	10
Gov. effectiveness	36	13

Source: 2011 WDR.

Note: ICRG = International Country Risk Guidance.

aimed at reintegrating ex-combatants appear to be an important part of the process. To be completely reintegrated, ex-combatants have reported that it is important to them to feel like an active part of their communities.²⁵

For these participatory spaces to be effective, it is important to increase and, in some cases, create the capacity of local institutions, particularly in conflict-affected regions, by providing human resources, training, and technology. Furthermore, citizens should learn their rights and ways to hold local institutions accountable, reporting noncompliance with agreements.

Strong strategic communication of the signals of change is important. The media plays a key role in sending these signals, building trust in the peace outcome, and ensuring public accountability. Experience shows that this capacity needs to be developed in a coordinated manner, so that the media can support the transition to peace without losing its autonomy.²⁶ In this regard, basic skills and journalistic training are as essential as establishing professional standards and strict regulations concerning false information and stigmatization. In Colombia, for instance, there seems to be a social sanction that favors victims and punishes perpetrators, creating disincentives for ex-combatants. This could negatively impact reintegration and the transition to peace.²⁷ Media and communication policies can help reduce resistance toward reintegration.

The medium-term goal in the transition to a participatory democracy involves enabling the institutional architecture to integrate isolated regions and making elections and deliberative spaces accessible to all. The long-term outcome is achieved when political participation is possible and reconciliation is achieved. It also implies that the social pact has been rebuilt.

According to the 2011 WDR estimates, the end of the early period of political transition should be conducive to carrying out other reforms, such as education and health. At that stage, the capacity of local institutions would be improved, but efforts

would still be necessary to maintain service delivery and guarantee citizen participation. To encourage institutional strengthening and participation, policies can combine state and non-state actors as well as top down and bottom up approaches, with the participation of local CSOs, the private sector, and authorities.

In Colombia, it is expected that ex-combatants would be integrated into political life in the medium term. If the security strategy and the transitional justice measures are carried out, political parties should be able to organize, and the guerrillas' institutional structure will be absorbed in the legal political sphere.

The security transition toward the end of armed confrontations, respect for human rights, and reduction of perceived insecurity²⁸

Policies designed to encourage the security transition aim to achieve specific goals in each period and can: (i) restore confidence in the peace outcome within security forces and civilian populations, demonstrate a break from the past, and help to build collaborative coalitions with key stakeholders to prevent spoilers from taking actions that would negatively impact the peace agreement and (ii) gradually transform security institutions.

The short-term priority of the security transition is to consolidate and coordinate security services to ensure a comprehensive security approach that reduces objective insecurity as well as perceptions of insecurity.

According to the 2011 WDR, the conditions to allow for the right-sizing of the military may not be appropriate in the short term, but civilian oversight of the security forces is required to prevent abuses and increase public trust. Security forces, the police, and the military can reinforce their legitimacy by: (i) increasing the dialogue with political leaders from different ideological backgrounds to discuss the mission of the security forces in supporting national objectives, such as reconciliation;

(ii) increasing the dialogue with local authorities and communities to define “community safety plans” with an emphasis on violence prevention; and (iii) increasing the participation of women in police and military forces, which may reduce mistrust toward security forces, particularly concerning sexual abuse.²⁹ The experience of Haiti’s police reform is an example of progress in basic functions and state-society trust in security institutions.³⁰

It is important for the military to commit to improvements in accountability and human rights without undermining their engagement in the transition to peace. In this regard, choices need to be made about the institutions where dismantling covert, abusive, or corrupt networks will occur. It will be important to identify the positions within those institutions that will be subject to screening and the types of abuses that will be prioritized. Even a small but visible transformation can send a strong signal of a real break with the past and persuade stakeholders to work collaboratively.

At the local level, early delivery of results include concrete actions, such as demining, that are needed not only to reduce deaths, but also to allow people to move freely and without fear and to enable public services to be delivered. In addition, it is essential to protect social leaders, human rights activists, and leftist groups. These actions will allow for the efficient implementation of important policies for the economic and political transitions, such as land restitution, victims’ return, and service delivery in isolated areas.

The medium-term goals of the security transition are reforming the main security institutions and continuing to reduce insecurity, real and perceived. Police and military reforms include professionalization of forces under civilian oversight and the redefinition of incentives. Instead of targets based on the number of rebels or criminals captured or killed, the goals can include freedom of movement and citizen trust in particular areas. The main purpose of the security forces would be enhancing national unity and effective state-society relations while addressing criminal violence. The long-term

outcome is to reduce violence while ensuring that people can coexist peacefully, with respect for human rights and justice available to all.

Development transition from a war economy to an inclusive peace economy

Programs and policies supporting the development transition can prevent violence from recurring while encouraging virtuous cycles in the short, medium, and long term. Policies can help to: (i) build trust in the peace outcome by increasing service delivery and job opportunities through better performance of public institutions and an improved operating environment for the private sector and (ii) gradually transform the institutional framework at the local and national levels to avoid the perpetuation of inequalities and the exclusion of people and regions.

Short-term priority: job creation and early service delivery. According to the 2011 WDR, survey evidence from Colombia, the Democratic Republic of the Congo, Gaza, Mali, Sierra Leone, and Cote d’Ivoire suggests that unemployment and idleness are the main reasons that young people join rebel groups and gangs.³¹ In Colombia, the Government’s challenge is to encourage job creation and economic growth at a time of potential fiscal deficits. At the same time, authorities cannot lose sight of other important goals—sound macroeconomic management in the long term, maintaining low inflation, facilitating access to credit, and encouraging private sector investment with a social perspective (responsible entrepreneurship).

Programs include emergency job creation projects designed to meet local communities’ (not particular population groups’) needs, with local inputs, priorities, and ownership. The focus should be on conflict-affected areas, where reconstruction projects can create employment in the short term and promote regional development through community clean-up and reconstruction of bridges, schools, health centers, churches, sanitation facilities, oil pipelines, and energy towers.³² Broad community-based programs may also be more conducive to stability and tailored to facilitate the reintegration

of youth.³³ For instance, projects can increase livelihoods with farm and fishery rehabilitation, small business support through microcredit, training, and market assistance. A mixture of state and non-state, bottom-up and top-down approaches can also serve to underpin long-term institutional transformation. In this regard, it may be useful to examine the experiences of India and Mozambique in community-based public works.³⁴ Kosovo and Rwanda³⁵ offer interesting lessons related to value-chain projects, access to finance, and investments to bring producers and markets together.

Nonetheless, short-term measures should be market-sensible, and market-sensible development must be conflict-sensitive.³⁶ Encouraging development of the local private sector is necessary for creating sustainable jobs and transforming informal and illegal economies into formal and legal ones. The national and local private sectors, as well as foreign investors, can play an important role in building trust among population groups by supporting the peace process and its implementation at the local level. In Northern Ireland, support from the Confederation of Business Industry helped increase the government's communication capacities through nationwide media and public campaigns.³⁷ In South Africa, the Consolidated Goldfields organized the dialogue between the African National Congress and the Afrikaners.³⁸ In the Philippines, La Frutera Inc. and Pglas Corp. promoted reconciliation and religious tolerance at the workplace in a marginalized area by employing Muslims and Christians, including ex-combatants. In Sri Lanka, chamber of commerce members from across the country promoted joint initiatives between Muslims, Sinhalese, and Tamil businesses.³⁹ Foreign investors and diaspora can play an essential role by investing in conflict-affected areas, creating jobs directly, and by supporting local private sector business through "buying local" and encouraging value-chain development.

Early service delivery will help the government send signals of its good intentions to people at the local level and demonstrate its ability to deliver on promises and withstand pressure from influential

groups. In this regard, development policies can be designed in a way that brings different actors together for legal economic purposes, reinforcing inclusive coalitions. The experiences of Indonesia and Liberia show the importance of being present at the local level to regain citizens' confidence in the state's capacity to provide a better quality of life, create employment opportunities for youth in the short-term, and generate a positive climate for investment and growth.⁴⁰ Foreign Direct Investment companies, particularly those operating in the primary sector, can be encouraged to support the processes of service delivery as a way of gaining a "social license" to operate by following Global Compact guidelines. In Afghanistan, for example, the communication firm Roshan engaged extensively with local communities in extremely violent areas while expanding the country's mobile network. Mobile services increased people's access to information, finance, and accountability mechanisms.

The medium-term goals of the transition from a war economy to an inclusive peace economy are stabilizing the labor market for better livelihoods and making local economies more dynamic and better connected to the national economy. Both serve the objective of reintegrating ex-combatants, internally displaced people (IDPs), and victims into society. This implies an improved operating environment for the private sector, including access to finance, clear property rights, land registers, business-friendly taxes, and the delivery of essential services (electricity, water, justice). The long-term outcome includes reduced inequality among population groups and regions and increased social cohesion. In addition, areas that have been previously isolated and adversely affected by violence reach national levels of human development, and gain in shared prosperity.

Challenges for the Colombian Government in the Transition Period

Recent decades have seen seven attempts to end Colombia's armed conflict through dialogue. At

the end of 1990s, the failure of peace negotiations between the Government and the country's largest guerrilla group, the FARC, was a hard lesson for Colombian society⁴¹ and the international community. As a result, the current peace process in Havana is viewed with considerable skepticism by Colombian society, and multilateral actors have not yet been called upon to participate. Nevertheless, the process could represent a real opportunity for sustainable peace—if it is followed by a coherent transition to peace. In this regard, the role of international partners may prove essential in supporting the implementation phase of the potential agreements and restoring confidence in the peace outcome and the transformation of institutions perpetuating cycles of violence.

Through an examination of the current Colombian government's main policies, this section discusses the main challenges in launching the transitions in the aftermath of a peace agreement.

Political transition

The peace dialogue represents the main step toward peace because it opens the way to a political transition that reinforces the development and security transitions. Two main transformations have been undertaken by the current administration of President Juan Manuel Santos. The first transformation, already accomplished, is recognition of the armed conflict, its correlation with poverty, inequality, and exclusion, and its impact on vulnerable populations and the country's development. The second transformation is embedded in the policy framework designed to reinforce the peace agreements, which includes the Victims Reparation and Land Restitution Law, the Judicial Framework for Peace, and the Rural Mission and Agrarian Pact. The potential Havana agreements will scale up current government efforts in many regions and offer the possibility of transforming institutions that have long perpetuated cycles of inequality, exclusion, weak governance, and violence.

Two characteristics of the Colombian institutional framework constitute the main challenges for

political transition. The first characteristic is the existence of the two profiles of the country, the democratic upper-middle income profile and the conflict-affected one profile. This characteristic can make the transition smoother than in other upper middle income countries affected by armed conflict (Iraq, Lybia, Lebanon) because a considerable part of the state is efficient, democratic, and able to collect domestic resources. It could be enlarged to increase its presence and capacity in the conflict-affected parts of Colombia, particularly rural areas. However, Colombia's two profiles can also make the transition more challenging. Moving beyond conflict implies breaking the equilibrium between the two profiles, which has benefitted some population groups. Resistance from these groups can inhibit the institutional transformation necessary for building an inclusive country. The implementation of current central government policies—such as victims' reparations and land restitution processes—shows the scope of the challenge of overcoming the two profiles of Colombia. These policies need to be reviewed to increase their efficiency and improve judicial procedures⁴² because their success can be a strong signal of commitment to peace.

The second characteristic of Colombia's transition would be the subnational dynamics determined by local contexts. Each region has to be understood on its own as well as in terms of its links with the national dynamics. For instance, dialogues with illegal armed groups operating in some conflict-affected regions—notably, the ELN guerrillas—may be necessary at the national or local levels for political transition to advance. Colombian regions draw lessons from transitions in other armed-conflicts. For example, the Indonesian central government's role in integrating subnational areas like the Aceh region, where the Free Aceh movement was active, after the 2004 tsunami and earthquake might be interesting. Areas of Colombia affected by isolated conflict could also learn from Liberia, a low-income country considered fragile, where the government managed to capitalize on donor programs to visibly deliver public goods and restore confidence in state institutions.⁴³

Colombian citizens' perception of corruption is another challenge for the Government. According to the LAPOP survey, Colombians' perception of corruption levels has increased since 2008; in 2012, it was the highest of the LAC region (82/100).⁴⁴ Changing these perceptions is going to be crucial to building trust in the capacity of the state to engage a transition toward sustainable peace by sending signals of real change in politics and policies (as indicated in the CONPES No. 167, "Estrategia Nacional de la Política Pública integral anti-corrupcion"). The experience of the Philippine program of promotion of good local governance through a "Seal of Good Housekeeping" and the "Performance Challenge Fund" may give some insights on how to incentivize anticorruption measures and accountability at the municipality and department levels. Indicators of governance become key determinants of access to resources and programs.

The political transition will be crucial for the development transition, and it will be shaped by the security transition. The redefinition of the rural institutional framework, particularly concerning land titles, is essential for economic development to take place, a linkage recognized in the preliminary Havana agreement on rural development. However, current policies for titling rural land, updating cadasters, and registering land-use information have been difficult to implement even on a small scale. Land restitution programs have faced challenges at the administrative and judiciary level; so far only 16,700 restitutions have been made, or less than 2 percent of potential claims. In addition, the programs have faced challenges at the security level due to the violent opposition of local power-holders, displayed through the assassination of social leaders and threats to civilian population. In a post-agreement scenario, transitional justice measures can speed up processes for victims' reparation and land restitution if coordinated with the security transition.

Security transition

Despite the new approach to armed conflict in Colombia and current efforts aimed at a negotiated

resolution, the Government has continued its traditional approach to security. Indeed, over the last decade, the approach to security has been dominated by the counterinsurgency logic reinforced by the war on drugs. The objective has been to defeat the guerrillas militarily, eliminate their sources of revenue, and regain state control over territories. Since 2012, the Government's main counterinsurgency plan has been the *Espada de Honor* under which military attacks on the FARC have led to the killing of the organization's main leaders. In addition, during the last 12 years, the Government has also professionalized the military forces, increased police and military presence throughout the country, and involved civilians in intelligence operations. While security levels have improved considerably, especially for main roads and urban centers, the war on drugs has been controversial—a conclusion repeatedly emphasized by President Santos in international forums. Based on aerial spraying of coca crops with the chemical glyphosate and manual eradication, this policy has had a modest effect on drug trafficking.⁴⁵ Researchers and civil society organizations have also emphasized the devastating effect of glyphosate on the environment and health.

The peace process can be an effective way to end armed confrontations, but current security policies will need to be rethought. If a peace agreement is reached, a cease-fire, disarmament, demobilization, and reinsertion will follow, and the defense and security doctrine will have to shift from counter-insurgency logic towards a strategic conversion to a new force structure based on the definition of new missions and assignments for both the military and police.

Concerning the reformulation of policies, it is essential to take into account lessons from past governments' main inter-institutional efforts for consolidating security gains—the *National Policy for Territorial Consolidation and Reconstruction*. The lessons will help to complement top-down policies with bottom-up approaches and to facilitate a greater presence of the civilian state in pacifying selected regions and guaranteeing fundamental rights for everyone. For instance, the program has been

unable to impact the whole state, although it increased expectations in the seven regions where it operated. According to program impact evaluations, the main obstacles involved (i) the top-down character of the program that left local authorities passive, (ii) difficulties in promoting inter-institutional coordination (for instance, essential roads were not built); (iii) the ambitious goals of the program, which were to be achieved in a short period, sacrificing citizen participation, trust-building, and accountability; and (iv) the dominance of patronage networks and weak institutions in the local political sphere. In 2014, for example, most of the areas targeted for consolidation were considered extremely high risk for elections due to high levels of corruption and fraud. Citizens mistrust the justice system, mayors' offices, and police.⁴⁶ Thus, the security-driven consolidation policy faces the challenge of restoring confidence at the local level and transforming institutions in the political and development spheres.

Development transition

Another characteristic of Colombia's transition to peace is the country's current positive growth cycle and its macroeconomic stability, which represents a major opportunity for reaching and implementing a peace agreement. A dynamic economy is conducive to integrating regions and population groups excluded from national life and launching a process of institutional transformation without experiencing a massive disequilibrium or aid dependence.

The objectives of the government's development plan can reinforce security and political transformation. Until now, the national plan's goals have emphasized increasing growth, balancing the fiscal deficit, and reducing unemployment. Of the five priority sectors, mining and housing have advanced, but infrastructure, agriculture, and infrastructure for land transport in rural areas⁴⁷ have lagged national levels.⁴⁸ Therefore, although the general goals of the plan have been fulfilled, the fact that those three sectors lag behind have affected regions historically excluded and geographically isolated from the national economy.

Development dynamics can reinforce the security and political objectives of the transition to peace by addressing conflict stresses like inequality, unclear rules, and uneven access to information in the short, medium, and long terms. In the medium term, it is expected that implementation of agreements on rural development—including land titling, infrastructure, and access to land, credit, and services—would be fully under way. If potential stresses from the free-trade agreements are identified in the short term and the institutional framework is prepared to handle them, international markets can offer good opportunities to integrate rural areas into national and global economies. Transitional arrangements facilitating market access for products coming from conflict-affected areas for a trade agreement's first 10–15 years can boost incentives for local economies. In this regard, the experience of Haiti and Mozambique can be useful.⁴⁹

The private sector has an essential role to play once the state is engaged in strengthening regulations and institutions, rebuilding basic infrastructure, and providing security. For instance, Colombia's reintegration programs based on public-private partnerships can be enriched with local stakeholders' participation and reconciliation objectives.⁵⁰ In addition, partnerships between the public and private sectors, donors, and civil society can help to rebuild markets and investor confidence, leading to new employment opportunities. Value chains can also connect farmers with the private sector and FDI, and spark innovation and employment growth. Eventually, targeted programs can be transformed into employment creation in the private sector.⁵¹ Colombia is ranked 43rd in *Doing Business*,⁵² well above the regional average, revealing the dynamism of the country's private sector. Public policies may consider drawing on the private sector, both national and international, to support short-term actions in conflict-affected areas to develop formal local economies in the medium and long term. Colombia's national investment promotion agency can play a key role in supporting investors and informing them about risk-mitigation options.

Endnotes

- ¹ GNI Per capita, PPP (current international prices), World Development Indicators (see <http://databank.worldbank.org/data/views/reports/tableview.aspx>).
- ² Recent political economy literature examines the consequences of weak state capacity for economic growth and welfare as well as the effects of armed conflict on state capacity. Acemoglu, Ticchi, and Vindigni (2006) argue that elites may have incentives to choose inefficient state institutions to limit redistribution. A similar argument is developed by Besley and Persson (2011) for explaining why politicians make inefficient fiscal choices. Besley and Persson (2008) have documented a negative correlation between internal conflict and the capacity of the state several decades later. Cardenas, Eslava, and Ramirez (2013) apply the model for Colombia and show how internal conflict deteriorates state capacity in Colombian municipalities. Acemoglu, D, Ticchi, D, and Vindigni, A (2006), "Emergence and persistence of Inefficient States," *Journal of the European Economic Association*, 9, 177–208. Besley, T and Person, T (2011), *Pillars of prosperity*, Princeton University Press. Cardenas, Besley, T and Person, T (2008), "Wars and State capacity," *Journal of the European Economic Association*.
- ³ An intensively violent period (1948–1958) known as *la Violencia* was characterized by political violence between the Colombian Conservative Party and the Colombian Liberal Party.
- ⁴ World Bank, SIDA (2000), "Colombia. Essays on Conflict, Peace and Development."
- ⁵ Source: Centro Nacional de Memoria Historica, informe general "Basta Ya", 2013. Statistics about victims are controversial, see Chapter 1 of the report, p. 52. The NGO CODHES estimates 5,712,506 IDPs, while the Government registered 4,744,000 IDPs since 1985, the date established by law for recognizing the status of victim. The Commission for Historical Memory estimates 218,094 deaths by violent conflict from 1958 to 2012, including civilians and combatants. In January 2014, the website of the Unit for Integral attention and Victims' Reparation registered a total of 5.9 million victims demanding reparations.
- ⁶ According to WB Country brief 2008.
- ⁷ Daniel Mejia, quoted by *The Economist*, 2012. A literature review on quantitative studies of the costs of violence on economic growth in Colombia was done by Riascos, A, Vargas, J, (2011), "Violence and growth in Colombia: a review of the quantitative literature," Universidad del Rosario, Serie Documentos de Trabajo, No 102.
- ⁸ Acemoglu, Robinson, and Santos quantitative analysis shows the equilibrium of a Colombian democratic central state with non-democratic regions by studying the incentives for the legislative and executive to tolerate paramilitary presence and control over some regions. Acemoglu, Robinson, and Santos (2013) "The Monopoly of Violence: Evidence from Colombia," *Journal of the European Economic Association*, January, 11 (S1).
- ⁹ Dube and Vargas demonstrate how a rise in the international price of natural resources (oil, coal, gold) increases conflict in the Colombian regions where those resources are exploited. Cardenas, Eslava, and Ramirez analyze how violence erodes state capacity for collecting taxes and providing public services. Since the lack of state presence increases illegal actors' presence and control over the regions, the perverse cycle is completed: weak institutions, violence, poverty, and inequality. Dube, O, Vargas, J (2013), "Commodity price shocks and civil conflict: evidence from Colombia," *The Revue of Economic Studies Advance Access* (February). Cardenas, M, Eslava, M, Ramirez, S (2013), "Why internal conflict deteriorates state capacity? Evidence from Colombian municipalities," CEDE, Universidad de Los Andes, Documento 59 (December).
- ¹⁰ The Fundacion Compartir study (2014) shows the lower level of education for teachers in the Pacific, Caribbean, and Amazon regions, and its direct relation with attacks from illegal armed groups, displacement, and poverty. Also, the level of teachers' education determines the level of student performance. Fundacion Compartir (2014), "Tras la excelencia docente. Como mejorar la educacion de todos los colombianos" (January).

- ¹¹ See the negative correlation between political competition with murders of politicians in municipal elections, Sanchez, F, Palau, M, (2006), "Conflict, decentralization and local governance in Colombia: 1974–2000," CEDE, Universidad de Los Andes, Documento 2006–46.
- ¹² Jaramillo, S, Alto Comisionado para la Paz (2013), "Transición en Colombia ante el proceso de paz y la justicia," *El Tiempo*, May 14.
- ¹³ Conflicts are not one-off events; they are ongoing and repeated. In the 2000s, for instance, 90 percent of the civil wars occurred in countries that had experienced a civil war in the past 30 years. Additionally, many countries that have negotiated political and peace agreements face high levels of crime and violence—for example, El Salvador, Guatemala, and South Africa. Hewitt, Winkelfeld, Gurr et al (2012), *Peace and conflict 2012*, Center for International Development and Conflict Management. See World Bank (2011), *Conflict, Security and Development*, World Development Report 2011. Referred to as 2011 WDR.
- ¹⁴ Collier et al. (2008), "Post-conflict risks," *Journal of Peace Research*, 45 (4).
- ¹⁵ 2011 WDR, p. 7.
- ¹⁶ Castaneda (2014) proposes defining peacebuilding as the crossroads of these three transitions, based on the literature and practitioners debates on peacebuilding. Castaneda, D (2014), *The European Approach to Peacebuilding. How the EU used civilian tools for peace in Colombia and beyond*, to be published, Palgrave. David (1999) summarizes the common elements of the peacebuilding approaches. David, C, (1999), "Does peacebuilding build peace? Liberal (mis)steps in the peace process," *Security Dialogue*, Vol. 30, No. 1.
- ¹⁷ After a peace agreement, many other transitions are taking place, including justice and social transitions. However, the three main transitions encompass the others. Countries like Vietnam went through the economic and security transitions but the political one was not based on democratic principles. Eastern Europe's transition involved political and economic transformations but in most cases not the security one nor the social consequences of long-term armed struggle.
- ¹⁸ For instance, economic policies that encourage development of a specific industry or sector can trigger conflict among populations that do not have access to the opportunities generated by the sector or armed actors capable of taking the production means by force. By the same logic, a security action that leaves local population without a sustainable livelihood can spur mistrust, increase youth unemployment, and open the way to illegal economies. In addition, elections and decentralization carried out in non-secure environments where other political rights are not guaranteed and inequalities are rampant can make competition for power a source of violence. Del Castillo, G (2008), *Rebuilding war-torn societies: the challenges of post-conflict reconstruction*, Oxford University Press. Ball (2001), "The challenges of rebuilding war-torn societies," in Crocker, Chester et al. (eds), *Turbulent Peace: The challenges of managing international conflict*, USIP. Cousens, E, Kumar, C, (eds) (2001), *Peacebuilding as politics: cultivating peace in fragile societies*, Lynne Rienner. Siegle, J, O'Mahony, P, (2006), "Assessing the merits of decentralization as a conflict mitigation strategy," prepared for USAID's Office of Democracy and Governance as a supporting study to the revision of the Decentralization and Democratic Local Governance Programming Handbook.
- ¹⁹ Collier et al. (2008).
- ²⁰ Del Castillo (2008), "Economic reconstruction of war-torn societies: the role of the international financial institutions," *Seton Hall Law Review*, Vol 38.
- ²¹ 2011 WDR, p. 108.
- ²² Hoeffler, A, (2012), "Growth, Aid, and Policies in Countries Recovering from War", OECD-DAC, WP 1/2012.
- ²³ Portugal and Chile transformed institutions during their transitions from dictatorship (1974, 1990). Transformation included reducing military control over politics, achieving a functioning bureaucratic quality, bringing corruption under reasonable control, and undertaking land reform, WB (2011), p. 13, p. 109. South Korea's transition after the Korean War (ended in 1954) offers an example of transforming institutions to rebuild the country and foster development financed by U.S. funds. After the war, land reform took place.
- ²⁴ De Greiff, Duthie (2009), *Transitional Justice and Development*, International Center for Transitional Justice and Social Sciences Research Council.

- ²⁵ In Colombia, 97 percent of ex-combatants reported that they needed to feel like an active part of their communities to be completely reintegrated. But reception communities fear them and jealousy increased with demobilization benefits. Kaplan and Nussio (2013) argue that well-organized communities may support participation of ex-combatants, protecting them from remaining armed groups, better than non-organized communities. Security conditions are not determinant in the integration processes. Guerrilla ex-combatants are more likely to participate in community organizations than paramilitaries (and less than civilians).
- ²⁶ WB (2011), WDR, p. 124.
- ²⁷ Cardenas, Casas, Mendez,
- ²⁸ Wills et al. found that perceived insecurity in rural Colombia affects the levels of subjective well-being of individuals and communities. Interestingly, a reduction of violence does not necessarily reduce perceptions of insecurity, while the social capital can reduce the perception of insecurity and mitigate its effect on well-being. Wills, E, Orozco, L et al. (2011), "The relationship between perceptions of insecurity, social capital and subjective well-being: Empirical evidence from rural areas of conflict in Colombia," *Journal of Socio-Economics*, 40.
- ²⁹ The police in Nicaragua have given priority to "gender perspective," one of their nine institutional principles and values. Nicaragua. Mobbeck, E (2010), "Gender, Women and Security Sector Reform," *International Peacekeeping*, 17 (2). UN-Women, "Gender-Sensitive Police Reform in Post-Conflict Societies."
- ³⁰ 2011 WDR, p. 153. In five years, Haiti's national police transformed from the least to the most trusted institution of the state.
- ³¹ Boas, Tilnes, and Flat (2010), "Comparing the Cases," Background paper for WDR 2011. Neumayer (2003), "Good Policy Can Lower Violent Crime: Evidence form a cross-national Panel on Homicides Rates 1980–97," *Journal of Peace Research* 40–6.
- ³² USAID strongly recommends: Job creation should not single out population groups by ex-combatants, victims, and ethnicity because this could rekindle or perpetuate problems. USAID (2006), "Job Creation in Postconflict Societies," Issue paper No. 9, January, p. 2.
- ³³ WB (2011), *Jobs*, World Development Report, p. 195.
- ³⁴ McLeod and Davalos (2008), "Post-Conflict Employment Creation for Stabilization and Poverty reduction," UNDP. Wilson (2002) "Reopening Mozambique: Lessons Learned from the Feeder Road Program," ILO, UNDP, SIDA, Maputo. Del Ninno, Suabarao, Milazzo (2009), "How to Make Public Works Work: A Review of Experiences," Social Protection Discussion Paper 905, WB.
- ³⁵ Coffee in Rwanda is a good example of value chains creating jobs and increasing social cohesion. See Boudreaux and Jutta (2009), "The Role of Entrepreneurship in conflict reduction in the Post-Genocide Rwandan Coffee industry: Quantitative Evidence from Field Study," Working paper 09–24, Mercatus Center, George Mason University. For Kosovo dairy products and other examples of value chains, see Parker (2008), "A Synthesis of Practical Lessons from Value Chain Projects in Conflict-Affected Environments," Micro Report 105, USAID. The 2002 "bulldozer initiative" in Bosnia and Herzegovina (and the subsequent "guillotine" initiative) can be an example of a program meant to simplify business regulations, eliminating bureaucratic impediments to private sector growth. Herzber (2004), "Investment Climate Reform: Going the Last Mile, The Bulldozer Initiative in Bosnia and Herzegovina," Policy Research Working Paper, 3390, WB. Rwanda's experience in how to overhaul its contract enforcement regime, considered an impediment to investment, is an example on how to increase domestic business registration and encourage investment. Biz CLIR (2007), "Overhauling Contract Enforcement: Lessons from Rwanda," BizCLIR Issues Paper 17, USAID.
- ³⁶ Bold, C (2009), "The Importance of Private Sector Development in Conflict-affected Countries," IFC Smart Lessons (November).
- ³⁷ International Alert (2006), "Local Business, Local Peace: the Peacebuilding Potential of the Domestic Private Sector."
- ³⁸ Gerson, A (2001), "Peacebuilding: the private sector's Role", in *the American Journal of International Law*, Quoted by Porter Peschka (2011).
- ³⁹ Porter Peschka, M (2011), "The Role of the Private Sector in Fragile and Conflict-Affected States," WDR 2011, Background paper, July 2010 (updated April 2011).

- ⁴⁰ After the tsunami of August 15, 2005, the Helsinki peace agreement ended the 30-year conflict in Indonesia. The Ministry of Home Affairs and the Aceh and Nias Rehabilitation and Reconstruction Agency (BRR), with funding from the World Bank, adopted the community-driven development approach to alleviate poverty in rural areas, improving local governance by helping communities plan their own development, develop basic community infrastructure, and enhance social development and livelihood opportunities. Goovaerts, Piet; Gasser, Martin and Belman Inbal, Aliza, “Demand-driven Approaches to Livelihood Support in Post-War Contexts: A Joint ILO/WB Study,” the WB Social Development Papers, Conflict Prevention and Reconstruction Series—CPR No. 29. The signing of the Accra Comprehensive Peace Accord on August 18, 2003, and the subsequent departure of ousted President Charles Taylor ended the civil war in Liberia. Rule was turned over to the National Transitional Government of Liberia on October 14, 2003. A short-term employment creation program, called Roads-with-UNMIL, helped prevent youth reinsertion in illegal armed groups by improving their livelihoods. This measure reinforced stability in the short term, allowing for later adoption of classical development instruments, such as public works and private-sector involvement. Giovine, Krech, Ionkova, Bach (2011), “Holding on to Monrovia. Protecting a fragile peace through economic governance and short-term employment,” Background paper for the WDR 2011, WB.
- ⁴¹ Around 70 percent of the population in conflict areas support the current peace process, compared to a national average of 58 percent, according to the Observatorio de la Democracia, Los Andes University (<http://obsdemocracia.org/>). There is a high level of mistrust in rural and urban areas concerning FARC intentions. For instance, 82 percent consider the guerrillas a criminal band and less than 20 percent believe they have political ideals (according to the Centro Nacional de Memoria Historica’s 2012 survey on Colombian perceptions of the guerrillas and the paramilitary demobilization process). Encuesta Nacional. “Que piensan los Colombianos después de 7 años de Justicia y Paz?” September 2012.
- ⁴² A 2014 OAS report 2014 assesses the challenges in implementing the victims’ reparation and land restitution law. Among them, there is low institutional articulation (returns are done without the support of the military or an increased presence of the state), consultation and participation spaces are weak (territorial tables for dialogue do not have a budget), information does not circulate, victims have disproportionate costs for making claims, and risks for victims’ leaders are high. See OEA/ Sec Gr (2012), “Decimo octavo informe Semestral del Secretariado General al Consejo Permanente sobre la Misión de Apoyo de la Organización del Estados Americanos al proceso de Paz en Colombia (MAPP/OEA),” November 4.
- ⁴³ See Giovine et al. (2011). After the Accra Agreement in August 2003, the international community supported the transition to peace by (i) preventing full state capture by corrupt elites in advance of elections (2006) and (ii) securing a peace dividend for the vulnerable groups that could most directly threaten peace (young ex-combatants and refugees). Two innovative instruments were used: (i) an anticorruption scheme called Governance and Economic Management Assistance Program (GEMAP), involving such measures as expatriate co-signing authority and (ii) a short-term employment-generation scheme now known as—Roads-with-UNMIL.
- ⁴⁴ Rodriguez Raga, Sellison (2013), *Cultura política de la democracia en Colombia y en las Américas, 2012: Hacia la igualdad de oportunidades*, Barometro de las Américas, p. 113.
- ⁴⁵ Mejia, D (2010), *Políticas anti-droga bajo el Plan Colombia: costos, efectividad y eficiencia*, Universidad de los Andes, April 15. Isacson, A (2013), *Time to Abandon Coca Fumigation in Colombia*, WOLA, October 7.
- ⁴⁶ Econometria, SEI S.A. (2010), “Evaluar el Esquema Operativo y Funcional del Plan Nacional de Consolidación Territorial frente a lo establecido en la directiva presidencial, levantar línea de base de los beneficiarios y formular recomendaciones,” Evaluation for DNP and PNC. CIP, “Waiting for Consolidation: Monitoring Colombia’s U.S.-aided Counterinsurgency and Development Program,” Report by Abigail Poe, Adam Isacson, Yamile Salinas, Nancy Sánchez, February 1, 2012.

⁴⁷ An OECD study on transport points out the institutional difficulties in making a coherent policy for transport in Colombia with bottlenecks due to the lack of co-ordination between agencies and ministries and national and subnational levels as well as the lack of fiscal and institutional capacity at the subnational level. Nieto-Parra, Olivera, and Tibocha (2013), *The politics of transport infrastructure policies in Colombia*, OECD Development Centre.

⁴⁸ See Policy Notes analysis.

⁴⁹ Porter Peschka, M (2011).

⁵⁰ For a detailed analysis of the reintegration programs in Colombia, see Thorsell (2013), "Towards People-Centred Economic Reintegration? An Analysis of the Economic Reintegration Strategy of Demobilised Combatants in Colombia," Colombia Internacional, Enero-Abril 2013.

⁵¹ WB (2011), p. 195.

⁵² See Doing Business: <http://www.doingbusiness.org/data/exploreeconomies/colombia>.



CHAPTER 2

Toward Shared Prosperity in Colombia



Main Messages

Between 2002 and 2013, Colombia experienced strong, sustained economic growth. Real GDP per capita grew at an annual average of 3.3 percent, more than 1 percentage point above the Latin American and Caribbean (LAC) average. Colombia also managed to weather the 2008 global financial crisis, maintaining positive growth throughout 2008–13—in fact, the average growth rate during this period was similar to the pre-crisis average. Growth was more “pro-poor” in the post- than pre-crisis years, with the population at the lower end of Colombia’s income distribution reaping greater growth-related benefits than the average population. Colombia also achieved impressive reductions in the share of the population facing extreme, moderate, and multidimensional poverty. Extreme poverty fell from 17.7 percent in 2002 to 9.1 percent in 2013, while moderate poverty fell from 49.7 percent in 2002 to 30.6 percent in 2013. Colombia also achieved a significant decrease in the Multidimensional Poverty Index (MPI)—from 49 percent in 2003 to 24.8 percent in 2013.

Nevertheless, poverty levels in Colombia remain high. Almost one in three households is considered poor; and, in addition, vulnerable households represent the largest social group, which means that a sizable segment of the population is at risk of falling back into poverty. Both moderate and extreme poverty rates remain significantly higher in rural areas than urban ones and, in fact, the moderate poverty gap between the two areas widened in 2002–13. Only one in four households is considered middle class, putting Colombia behind other LAC countries, such as Argentina, Brazil, Chile, and Mexico.

In the past decade, poverty reduction was driven primarily by an increase in labor income, greater labor market participation by household members, and the expansion of public transfers. In addition, the observed poverty reduction associated with transfers coincided with the expansion of conditional cash transfer programs. For example, *Familias en Acción* increased its coverage from around 514,000 households in 2005 to approximately 2.86 million in 2013, or nearly 25 percent of Colombian households.

Despite their relatively small contribution to total income, transfers were a key driver in reducing Colombia’s income inequality, particularly in 2008–13. However, Colombia remains one of the most unequal countries in the region. Even after the past decade’s robust economic growth and decreasing poverty rates, the share of total income going to the bottom 10 percent of the population continues to be around 1.1 percent, while the top 10 percent receives more than 42.3 percent. Overall, the analysis suggests that Colombia’s poverty would have declined further had the country experienced more equitable economic growth, indicating that reducing inequality remains a relatively unexploited source of further welfare gains.

In 2010, the Government introduced the *Prosperidad para Todos* development plan. In addition to sustainable economic growth, the plan calls for positive distributional and social effects. Under the *Prosperidad para Todos* umbrella, the December 2012 tax reform focused on changing the distributional impact of the tax system and reducing informality in the labor market. Further inequality reductions would necessitate additional tax reforms and more generous and better-targeted social transfers, and sustained efforts to increase access to high-quality education and to basic services for the less well off.

Building the Foundations of Shared Prosperity in Colombia: Recent Trends in Poverty, Shared Prosperity, and Inequality

A decade of impressive poverty reduction

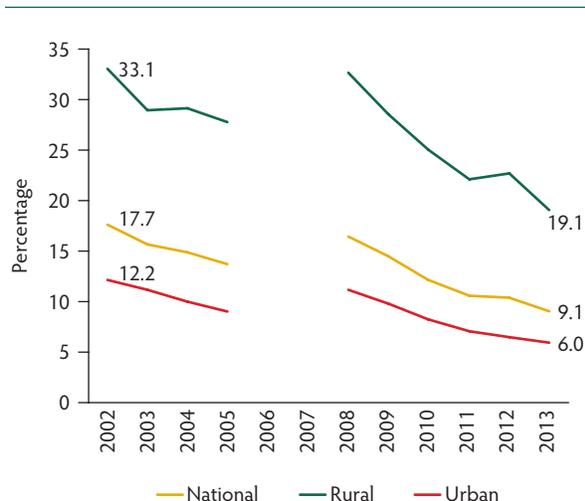
Colombia has made impressive strides in reducing poverty. Extreme poverty fell from 17.7 percent in 2002 to 9.1 percent in 2013, an average annual drop of 0.78 percentage points (Figure 2-1). Moderate poverty fell from 49.7 percent in 2002 to 30.6 percent in 2013, an average annual drop of 1.73 percentage points (Figure 2-2).¹ The decline in moderate poverty translates into an absolute decrease in 5.97 million poor people—from nearly 19.96 million in 2002 to about 13.99 million in 2013. The rate of poverty reduction was comparable across urban and rural areas; however, it should be noted that extreme poverty

continues to be significantly higher in rural areas (Figure 2-1).

Along with poverty reduction expressed in monetary terms, Colombia also achieved a significant decrease in the Multidimensional Poverty Index (MPI) (see Box 2-1).

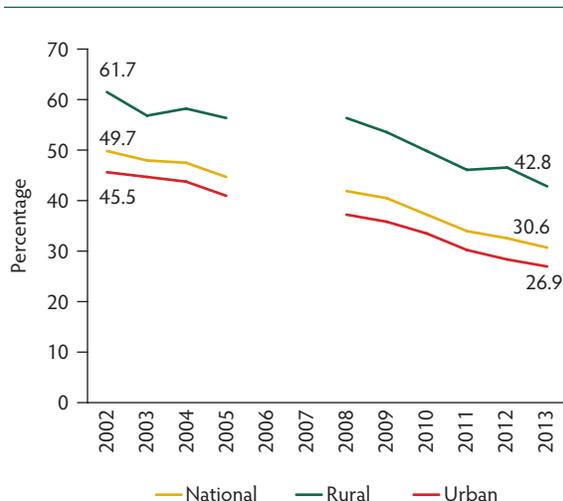
More households in Colombia are now middle class and fewer are living in poverty, yet a substantial number of them remain vulnerable to falling back into poverty (Figure 2-3). Currently about one in three Colombian households is considered poor and one in four households is considered middle class. Moreover, with about one in three households classified as vulnerable, a substantial percentage of the population runs the risk of falling back into poverty. During 2002–12, Colombia managed to increase the size of its middle class by 12.1 percentage points, a gain of 80 percent.² By 2011, the vulnerable class surpassed the poor; according to conservative estimates, the middle class should also surpass the poor by 2015.³ Despite the

FIGURE 2-1: Extreme Poverty Reduction



Source: World Bank staff calculations based on DANE-MESEP data.
Note: Poverty estimates based on the official poverty line. The MESEP committee decided that reporting data/statistics for 2006 and 2007 would not be prudent given the methodological changes that took place in those years. In other words, only the statistics reported for the 2002–05 and the 2008–13 series are comparable.

FIGURE 2-2: Moderate Poverty Reduction



Source: World Bank staff calculations based on DANE-MESEP data.
Note: Poverty estimates based on the official poverty line. The MESEP committee decided that reporting data/statistics for 2006 and 2007 would not be prudent given the methodological changes that took place in those years. In other words, only the statistics reported for the 2002–05 and the 2008–13 series are comparable.

progress, it is important to note that Colombia's poverty remains high, and the size of its middle class still lags other LAC countries, such as Argentina, Brazil, Chile, and Mexico (see Box 2-2).

Colombia has failed to close the regional gaps in social mobility. According to Angulo et al. (2012), Colombia's inter-generational social mobility increased when measured by physical assets or by years of educational attainment—but it remains lower than in such comparable countries as Mexico and Chile. In particular, the authors estimate that a Colombian from the lowest 40 percent of the physical assets distribution (where three out

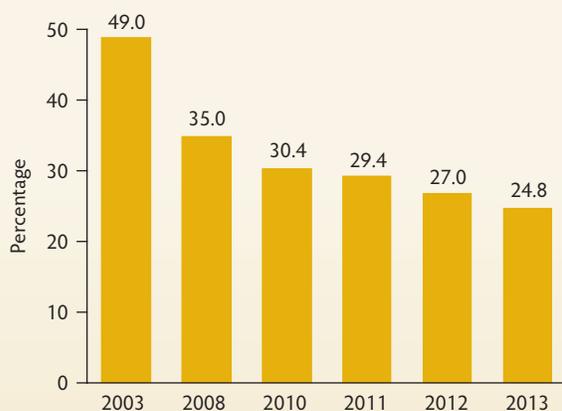
of four people are poor) has a 5 to 7 percent probability of transitioning to the richest 20 percent of the distribution. Similarly, Ferreira et al. (2013) analyze long-term intra-generational mobility between income classes (poor, vulnerable, and middle class) and find that Colombia's poor have a less than 1 percent probability of moving out of poverty and into the middle class in one generation (17 years), a relatively low mobility rate shared by 10 of the 18 LAC countries they considered.

In recent years, Colombia's average rate of poverty reduction surpassed the LAC average, narrowing the gap with its regional peers. World Bank

BOX 2-1: Multidimensional Poverty in Colombia

In 2011, the Government adopted a multidimensional measure of poverty. To be classified as multidimensionally poor, a person must be deprived in at least five of 15 designated welfare indicators. These key measures are: educational achievement, illiteracy, school attendance, educational gap, access to childcare services (health, nutrition, care), child labor, long-term unemployment, formal employment, healthcare access, healthcare access when needed, access to drinking water, access to sanitation, quality of floor in the housing, quality of wall, and critical overcrowding.

MULTIDIMENSIONAL POVERTY REDUCTION



Source: DANE (2013) for MPI 2010–2013, DNP (2011) based on Encuesta de Calidad de Vida (DANE) for MPI 2003–08.

The MPI for Colombia declined from 49 percent in 2003 to 24.8 percent in 2013, indicating that the country halved the share of its population that is multidimensionally poor. In contrast to monetary poverty, the changes in the MPI were larger during the pre-crisis period, when the MPI decreased on average by 2.8 percentage points whereas between 2008 and 2013 the MPI decreased on average by 2 percentage points. These differences between the MPI and monetary poverty are likely due to the universal coverage of some of the MPI indicators. Regarding the spatial distribution of multidimensional poverty, most of the population under this condition lives in the largest cities although the incidence is higher in smaller municipalities (see Figure A3.1 in Annex 3).

Since being adopted as an official poverty measurement, the MPI declined from 30.4 percent in 2010 to 24.8 percent in 2013; this decline translates into approximately 2.13 million Colombians being lifted out of multidimensional poverty in three years. The key drivers behind the MPI's decrease were

(continued on next page)

poverty estimates based on the regional US\$4-a-day poverty line show that moderate poverty in Colombia decreased an average of 1.54 percentage points a year between 2002 and 2008. Between 2008 and 2012, it decreased at a much faster 2.28 percentage points a year. This acceleration in poverty reduction contrasts with the rest of the region. The LAC rate of moderate poverty reduction was higher during the 2002–08 period (1.92 percentage points) than in subsequent years (1.39 percentage points through 2012). Nonetheless, Colombia has yet to regain its 2002 moderate poverty ranking vis-à-vis other LAC countries. It should also be noted that Brazil and Mexico achieved comparable

poverty reduction with relatively smaller rates of GDP growth.

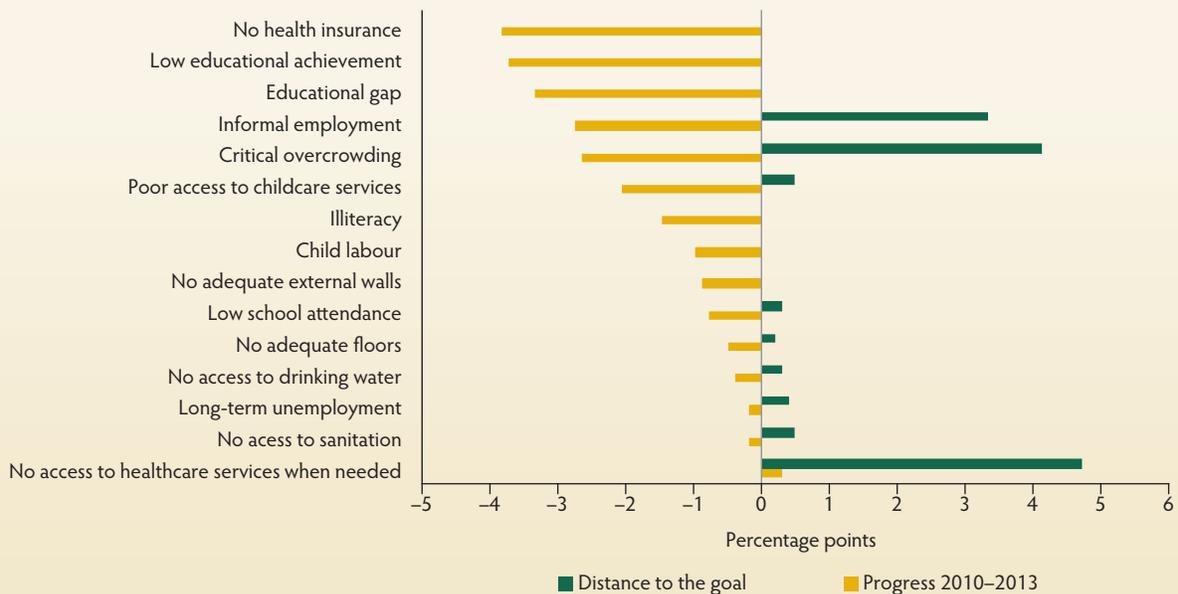
Who and where are the poor in Colombia?

Compared to the vulnerable and middle-class populations, the poor in Colombia have lower levels of educational attainment, are less likely to work (both men and women),⁴ have more members per household, and are more likely to live in female-headed households. Poorer households also have higher dependency ratios due to larger numbers of children under 14 years of age and elderly

BOX 2-1: Multidimensional Poverty in Colombia *(continued)*

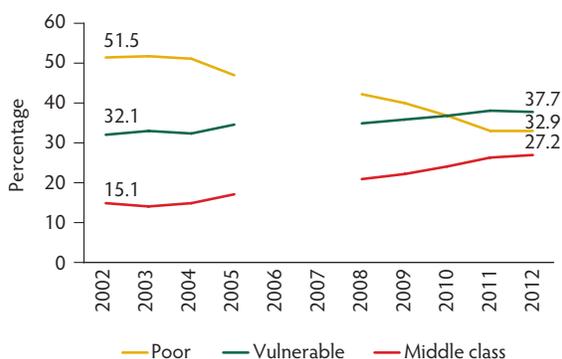
improvements in the health and education dimensions. In particular, there have been declines of 3.9 percentage points in the number of individuals with no health insurance, 3.8 percentage points in the number of individuals with low educational attainment, and 3.4 percentage points in the number of individuals with an educational gap. Critical overcrowding, informal employment, and no access to health-care services when needed are more than 3.5 percentage points away from the targets set for 2014. Otherwise, all of the indicators are likely to reach their respective targets on time. Nevertheless, no access to health care services when is needed, long-term unemployment, and no access to sanitation deserve particular attention; they have experienced setbacks or little improvement over the three-year span.

MPI (%) 2010–13



Source: World Bank staff calculations based on DANE (2013).

FIGURE 2-3: Less Poor, More Middle Class, but More Vulnerable to Falling Back Into Poverty



Source: World Bank Staff calculations using SEDLAC data (CEDLAS and the World Bank). Poor are individuals living in households for which the average per capita income is less than US\$4 PPP, vulnerable are those with average per capita incomes between US\$4 and US\$10 PPP, and middle class those with average per capita incomes between US\$10 and US\$50 PPP.

above 70 years of age. Although the dependency ratio declined for all three socio-economic groups in 2002–13, it remained significantly higher for the less well-off relative to the middle class.⁵

The elderly and ethnic minorities face high poverty rates. A recent press release by Colombia's National Bureau of Statistics (DANE) reports that the incidence of moderate poverty among households headed by senior citizens (older than 65 years old) was 27.6 percent in 2012—but it was much higher in rural areas (42.7 percent). According to a recent study by Angulo et al. (2011), indigenous households have both the highest rate of multidimensional poverty (58 percent in 2010) and the smallest MPI reductions in 2003–10. Income

BOX 2-2: Growth of Colombia's Middle Class Was Positive but Lagged Other LAC Countries

In the past decade, the Latin American middle class grew at a faster pace than in the 1990s. Despite significant variation across countries, the region achieved overall positive growth of the middle class from 2002 to 2012 (see figure below). The year 2011 was the first time the LAC region had more people in the middle class than in poverty (World Bank 2013), and 2012 saw a continuation of the trends of declining poverty and a growing middle class.

When it comes to transitioning the poor and the vulnerable into the middle class, Colombia was similar to its regional peers with SEDLAC comparable middle class populations in 2002— e.g., Bolivia and Ecuador. However, a number of countries outperformed Colombia—e.g., Costa Rica, Brazil, Chile and Peru. By 2012, Colombia had the fifth smallest middle class in LAC.

THE RISE OF MIDDLE CLASS IN LAC (CIRCA 2002–12)



Source: World Bank staff calculations based on the Socio-Economic Database for Latin America and the Caribbean (CEDLAS and the World Bank).

Note: Circa 2002 denotes other years for Argentina (2004), Chile (2003), Guatemala (2000), Ecuador (2003), Paraguay (2003), and Peru (2004); circa 2012 denotes other years for Chile (2011), the Dominican Republic (2011), Guatemala (2011), Honduras (2011), and Paraguay (2011). The definition of middle class is based on López-Calva, L. y E. Ortiz-Juarez (2014).

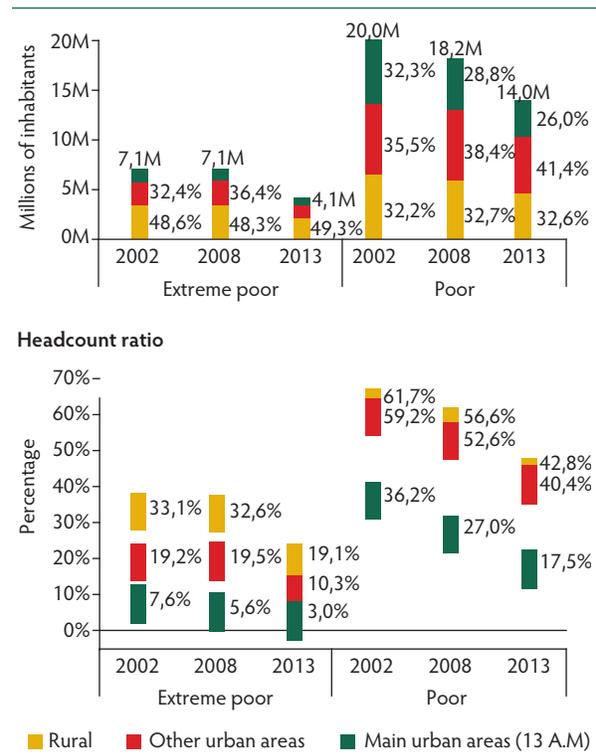
comparisons based on ethnicity encounter some biases related to the large share of non-market incomes for specific ethnic groups (Cárdenas et al. 2012); however, it is important to note that the unconditional family per capita income is 59 percent lower for Afro-Colombian households than for households in a different ethnic group, suggesting that the prevalence of monetary poverty among Afro-Colombians is likely to be significantly higher.

In terms of regional poverty, the large historical disparities between urban and rural areas persist. Despite the significant decline in the incidence of poverty at the national level, both moderate and extreme poverty levels remain significantly higher in rural areas (Figures 2-1 and 2-2). From 2002 to 2013, rural areas' extreme poverty rates fell from 33.11 to 19.1 percent; in urban areas, they fell from 12.24 to 6.0 percent. During the same period, moderate poverty in rural areas declined from 61.7 to 42.8 percent, while urban areas saw a drop from 45.45 to 26.9 percent. Moreover, the rural-urban ratio in the poverty headcount increased from 1.35 to 1.59 percent, suggesting that urban areas were more effective than rural areas at lifting Colombians out of poverty.

While large historical disparities between urban and rural areas persist, the incidence of poverty varies considerably when comparing the 13 main metropolitan areas with other urban areas (Figure 2-4). In 2013, the poverty rate in the medium and small urban areas (40.4 percent) was 2.3 times greater than the main metropolitan areas (17.5 percent). In fact, the rate for the medium and small urban areas was not far below the rural poverty rate of 42.8 percent. Between 2002 and 2013, the share of the poor population living in medium and small urban areas increased by 5.9 percentage points; by contrast, the percentage of the poor living in the main urban areas decreased by 6.3 percentage points. The urban rate was only 10 percent lower than the other urban rate in 2002. By 2013, it was nearly 40 percent lower.

Moderate poverty declined at the national level, but differences at the department level became more

FIGURE 2-4: Poverty Incidence Across Areas



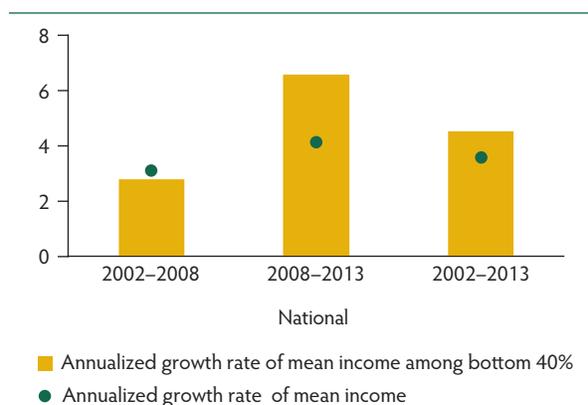
Source: World Bank staff calculations using DANE-MESEP (2002–2013).

pronounced. In 2002, the gap between the department with the highest poverty rate (Huila) and the lowest poverty rate (Bogotá D.C.) was 37.8 percentage points; in 2013, the difference was about 52.85 percentage points, with Choco displacing Huila as the department with the highest poverty rate.

The findings suggest that poverty reduction in 2002–13 was biased toward main urban areas and high-income departments (see Annex 1). In particular, about 57 percent of the total poverty reduction occurred in high-income departments and Bogotá, home to approximately 50 percent of the population. The low-income departments, home to approximately 20 percent of the population, accounted for only 13.9 percent of this period's total poverty reduction.

Socio-demographic factors were also significant in the 2002–13 patterns of poverty reduction (see Annex 1). A decline in the share of households with less than 25 percent labor force participation

FIGURE 2-5: Measures of Shared Prosperity Between the Early and Late Parts of Decade



Source: World Bank Staff estimates based on MESEP-DANE 2002–2013.

accompanied an almost equal increase in the share of household with more than 50 percent labor force participation; this shift was associated with a 29 percent reduction in poverty. Similarly, when considering household composition, there was a decline in the share of households with three or more children and an increase in the number of households with less than two children; this shift was associated with a 27.6 percent of the observed reduction in poverty. Lastly, the decline in the number of households headed by an individual with less than primary education was linked to a 22.4 percent of the total reduction in poverty.

More shared prosperity with reduction in inequality toward the end of the decade

The World Bank's Shared Prosperity Indicator (SPI) measures the annualized growth rate of average income among the bottom 40 percent of the population. It gives an indication of how well prosperity is shared with those who are relatively less well-off while keeping a focus on overall economic growth (Basu 2013).⁶

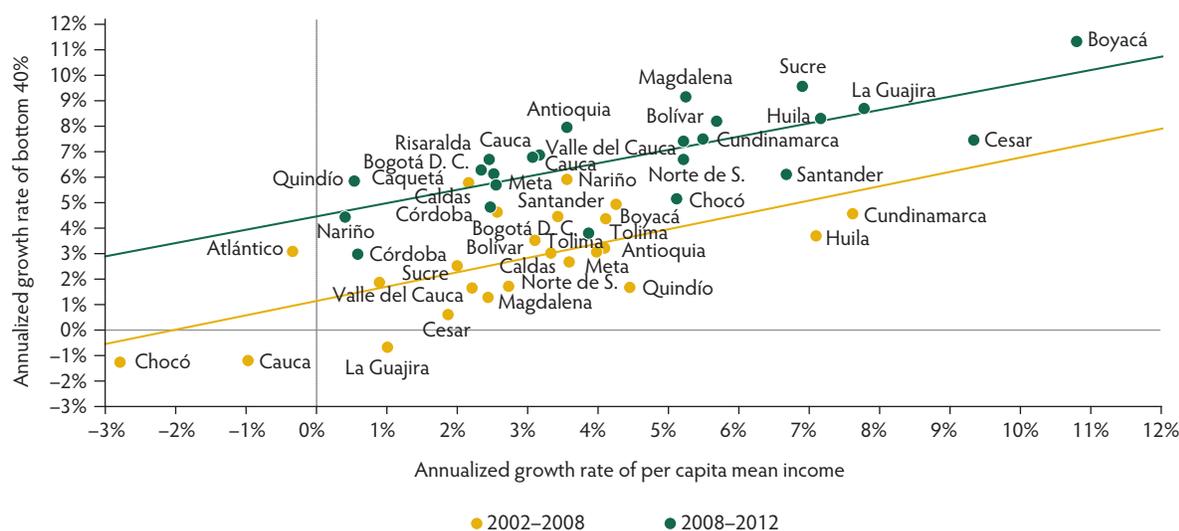
Over time, some qualitative differences emerge in the distribution of economic prosperity's benefits in Colombia. In the pre-crisis period of 2002 and 2008, real income per capita of the bottom

40 percent—i.e. the SPI—grew at 2.7 percent, below the mean growth rate of about 3.1 percent (Figure 2-5). Between 2008 and 2013, however, the bottom 40 percent of Colombia's income distribution fared better. The SPI rose to 6.6 percent, significantly higher than the 4.1 percent growth in average income per capita. Over the 11-year period, the SPI was 4.5 percent per year, slightly higher than the 3.6 percent for the general population.

Over the same period, department-level improvements in the SPI were robust (Figure 2-6). Between 2002 and 2008, the annualized growth rate of per capita mean income was generally higher than the SPI. The reverse was true during the latter part of the period (2008–13), resulting in a narrowing of the income gap between the less well-off and the average person across departments.

Colombia's income distribution remains among the most unequal in the world. Real income per capita growth patterns in 2002–13 are consistent with the inequality measures (Table 2-1). For example, the ratio of per capita income of the richest 10 percent to the bottom 10 percent to the income distribution declined slightly—from 13.36 in 2002 to 12.1 in 2013. However, the ratio between the richest 75 percent and the bottom 25 percent of the income distribution remained virtually unchanged, going from 3.62 in 2002 to 3.61 in 2013. Similarly, the Gini coefficient and the Theil index remained practically stagnant during the earlier part of the period, and declined only marginally during the latter part of the period.^{7,8} With comparable or higher levels of inequality at the beginning of 2002–12 period, regional peers (e.g. Bolivia and Brazil) achieved better results in reducing income inequality over the 10-year span. Moreover, Colombia's Gini coefficient remained higher than the regional average in 2012, placing Colombia among the three most unequal countries in LAC, one of the most unequal regions of the world (Figure 2-7).

Low mobility accompanies Colombia's high and persistent inequality. Some income redistribution took place in 2002–12 (bottom panel of Figure 2-8), driven primarily by persistent

FIGURE 2-6: Robust Department-level Improvements in the SPI over the Decade

Source: World Bank staff estimates based on MESEP-DANE (2012).

declines in the income held by the top quintile and increases in the income held by the middle class. However, the gap between the highest quintile and the bottom 40 percent of the population remained large at the end of the period. In 2013, the year with the lowest level of inequality, the richest 20 percent of the population held about 58 percent of total income, while the bottom 40 percent held around 10 percent of total income (top panel of Figure 2-8). Moreover, while the income share of the bottom 40 percent increased over

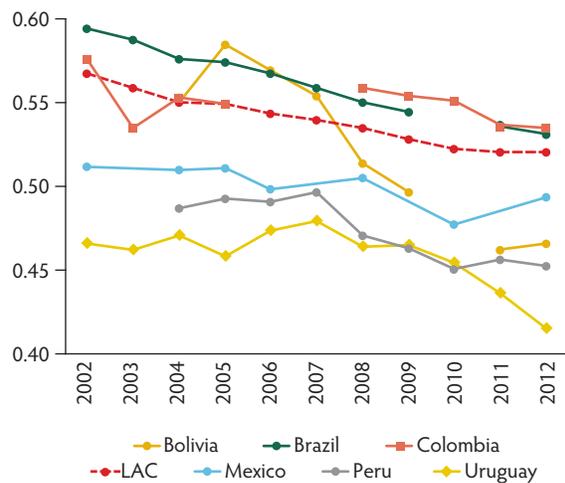
the period, it did so only marginally. However, the redistribution process taking place during the latter part of 2002–13 can be described as “pro-poor”; in particular, between 2010 and 2013, when Colombia experienced the largest decline in inequality, the redistribution of income benefited the poorest half of the population and the vulnerable class more than during the pre-crisis years (bottom panel of Figure 2-8). Overall, persistently high levels of inequality limited the growth’s effect on poverty reduction.⁹

TABLE 2-1: Inequality in Colombia

	2002	2008	2010	2013
Gini	0.572	0.566	0.560	0.539
Theil	0.692	0.651	0.641	0.586
p90/p10	13.4	14.4	13.0	12.1
p75/p25	3.6	3.8	3.7	3.6
Annualized changes				
Gini points		-0.099	-0.325	-0.680
Theil points		-0.674	-0.528	-1.832
p90/p10		0.174	-0.675	-0.325
p75/p25		0.038	-0.074	-0.046

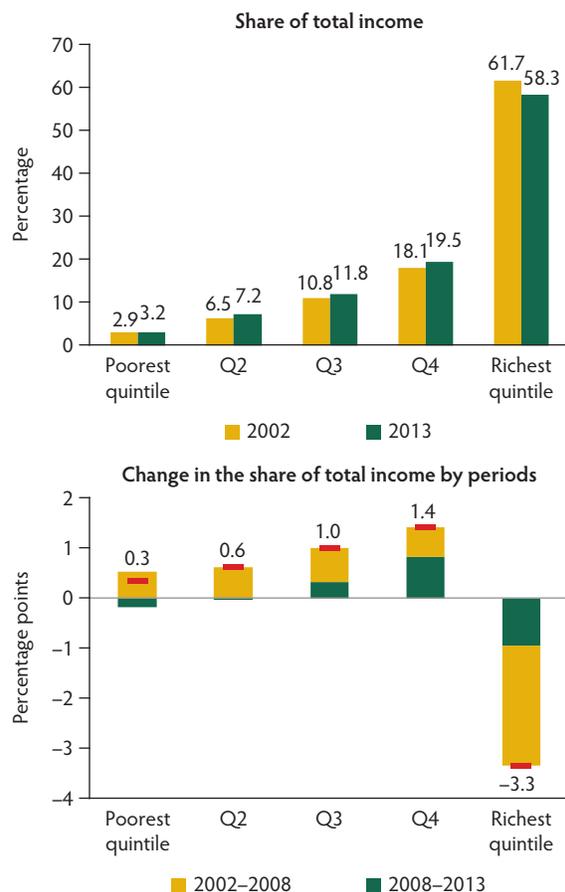
Source: World Bank staff calculations based on DANE-MESEP (2002–2013).

FIGURE 2-7: LAC Inequality



Source: LAC Equity Lab tabulations of SEDLAC (CEDLAS and the World Bank).

FIGURE 2-8: 2002–12: A Period of High Inequality and Low Mobility



Source: World Bank staff calculations using on DANE-MESEP (2002–2013).

The redistributive capacity of Colombia's tax system was limited during the period. Lustig et al. (2013) compare Colombia with other countries in Latin America. They find that pre-tax income inequality in Colombia and Brazil was almost identical—0.575 and 0.574, respectively. After taking into account each country's existing tax, subsidies, and cash and in-kind transfer structures, Colombia's Gini coefficient is only marginally reduced (to 0.535) whereas Brazil's declines significantly (to 0.439).

It is clear that the redistributive capacity of the Colombian system of taxes (see Box 2-3) and social transfers can be improved. In particular, the effect of social transfers in Colombia, when netted out of the tax system, shows a weak effect on income inequality. In Figure 2-9, social programs on the right-hand side are only relatively progressive compared to initial distribution (including indirect subsidies, spending on tertiary education, and indirect taxes), while the social programs on the left-hand side are progressive in absolute terms (such as the conditional cash transfer program *Familias en Acción*, subsidies to the elderly through the *Adulto Mayor* program, now *Colombia Mayor*, and spending on health and elementary education).¹⁰

In sum, as noted earlier, high inequality hampered economic growth's impact on poverty reduction (see Box 2-4). Simulation results show that poverty in Colombia would have declined more had the country experienced more equitable economic growth.

The Drivers Behind the Observed Changes in Poverty and Inequality

As a first step in understanding the main drivers of Colombia's improvement over time, this section examines the trends for each underlying component of income and decomposes the distributional changes in income from 2002 to 2013. The insights taken from this analysis are intended to build the evidence base for Colombia's future policy making. It must be noted, however,

BOX 2-3: Equity Implications of Fiscal Policy Changes in Colombia

In December 2012, the Government passed tax reforms designed to improve fiscal policy's impact on inequality and poverty reduction. These reforms focused on various elements of the tax code. A key component is the new income tax system, Impuesto Mínimo Alternativo Nacional (IMAN), which aims to increase income taxes for the top 0.6 percent of the population while decreasing them for the rest of Colombians. Prior to the 2012 tax reform, the population was divided into four different tax brackets based on income levels. IMAN creates more tax brackets to increase the progressivity of the direct tax system. The introduction of the new income tax system was expected to drastically improve the distribution of wealth within the country. While lowering income tax rates for 99.4 percent of the population, the Government sought to maintain revenues with tax-system changes that were revenue neutral.

THE IMPACT OF THE COLOMBIA TAX REFORM ON THE GINI COEFFICIENT AND ON TAX REVENUES

Scenarios	Gini Coefficient	Tax revenue (1,000,000,000 COP)
Gini – <i>status quo</i>	0.58634	4.9
Gini – Tax bill	0.57827	4.8
Gini – Approved reform	0.57901	4.8

Source: World Bank staff calculations based on GEIH 2011 and administrative data 2010.

Note: Coefficient is estimated for all workers reporting labor income.

The World Bank conducted a series of analyses to measure the impact of these reforms on inequality and tax revenues. The first analysis, which examines the impact of IMAN, is based on data from administrative tax records and household statistics from the Gran Encuesta Integrada de Hogares (GEIH). The two sources of data allow constructing a pseudo-income distribution, correcting the problem of underrepresentation of high-income households that is typical of household surveys. The results reveal that the Gini coefficient decreases from 0.586 to 0.579. The estimated impact of the reform is not trivial, considering that the average yearly reduction of Latin American countries' Gini over the past 10 years was 0.51 percentage points.^a

The analysis also shows that the introduction of IMAN leads to a slight decrease in government revenues of approximately 100 million COP. However, it is important to note that this analysis only accounts for changes in the income tax (IMAN) and does not include the introduction of the corporate (CREE) and luxury taxes or the changes in the VAT structure.

GINI COEFFICIENT AND TAX REVENUE (CONSUMPTION)

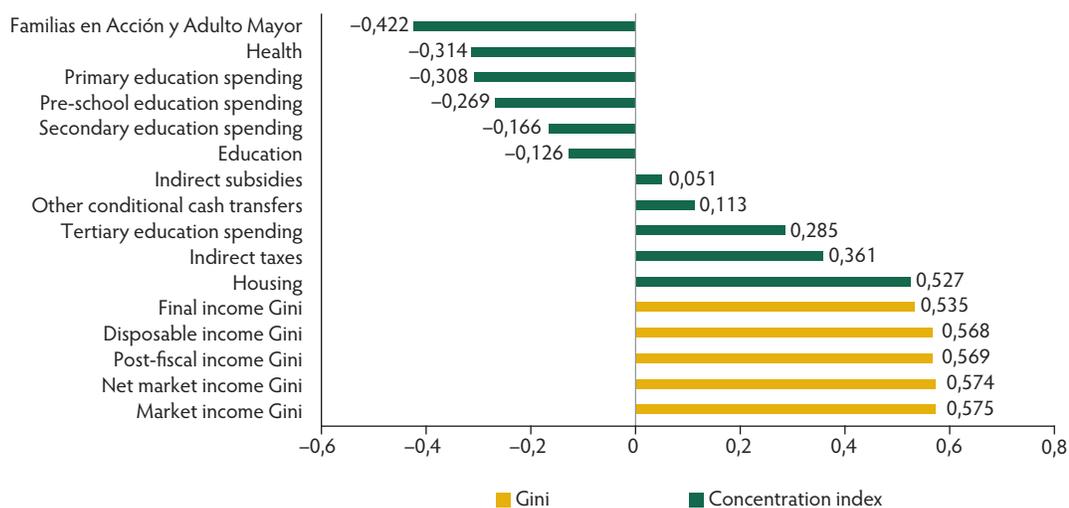
Scenario	Gini Coefficient	Tax Revenue (1,000,000,000 COP)
Gini – <i>status quo</i>	0.50968	15.7
Gini – Tax bill	0.50881	16.1
Gini – Approved reform	0.50895	16.2

Source: World Bank staff calculations based on LATA simulator and ECV 2011.

The second analysis, based on consumption data from the ENCV (Encuesta de Calidad de Vida), follows the LATA microsimulation technique and focuses on the effect of the changes to the VAT on income distribution and tax revenues, assuming individuals' purchasing habits remain the same. Because this analysis only considers changes to the VAT code, consumption (*vis-à-vis* income) is used to determine the proportional impact of cash gains and losses. The analysis shows that Colombia's 2012 tax reform yields a modest reduction in the consumption Gini from 0.50986 to 0.50895. The result is in line with the IMAN analysis. With regard to tax revenues, the corresponding simulation yields an increase in tax revenues from 15,700,000,000 to 16,200,000,000 COP.

^a Calculated using SEDLAC (Center for Distributive, Labor and Social Studies and the World Bank) harmonized data for 2001–11.

FIGURE 2-9: Concentration and Gini Coefficients



Source: Lustig et al. 2013, based on data from ECV 2010.

that the analysis does not identify causal effects; however, it does help focus attention on the factors that quantitatively are most important in describing recent changes in poverty and inequality.

Evaluating the dynamics of sources of income

The observed changes in Colombia's levels of poverty and inequality can be attributed to, among other things, changes in household demographic characteristics (age composition, fertility, labor market participation), changes in the share of occupied adults (access to labor markets), changes in labor income (rewards and distribution of skills), and changes in non-labor income (transfers, housing, pensions, and other non-labor income). Understanding the relative importance and the dynamics of each of these factors may help to shed light on the main drivers of changes in poverty and inequality from 2002 to 2013. This section examines the trends for each underlying component of income.

Changes in labor income likely led to significant changes in the overall income distribution. The data show that labor income constitutes a major part of total income both *over time and across all*

quintiles of the income distribution. In 2013, for example, labor income accounted for 65.15 percent of total income of the lowest quintile (the poor) and 71.3 percent of total income of the highest quintile (the rich). Between 2008 and 2013, moreover, the labor income share increased across all quintiles, except for the bottom one.

Over the years, income from transfers increased considerably for the poor, suggesting that transfers played an important role in the observed reduction in extreme poverty. The increase in the relative size of income from transfers coincides with the expansion of conditional cash transfer programs.¹¹ In particular, transfers accounted for 5.7 percent of income for the bottom quintile of the income distribution in 2002, rising to 17.2 percent in 2013. Above the lowest two quintiles (that is, for the third quintile and higher), however, transfers increased only slightly, remaining a relatively negligible source of income throughout the period.

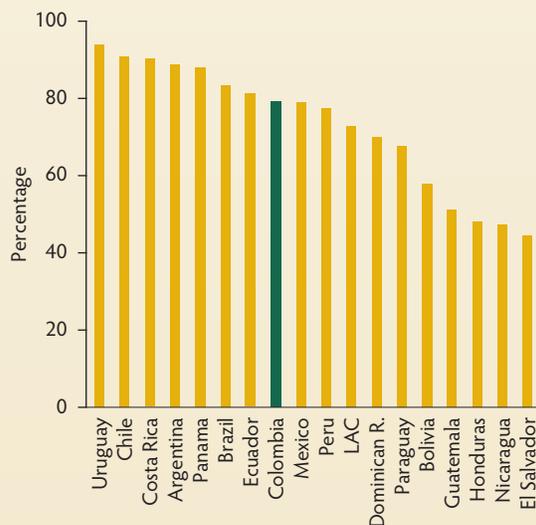
The remaining sources of income are unlikely to have been important drivers of poverty reduction. The results corresponding to other sources of household income shows that capital, pensions, and other types of income generally account for relatively small shares of total

BOX 2-4: Persistently High Levels of Non-Monetary Inequality

Ferreira (2012) estimates that inequality of access to basic services, as measured by the Human Opportunity Index (HOI), explains more than 20 percent of Colombia's total inequality. The HOI is a scalar measure that synthesizes two factors: the average coverage rate of a basic good or service for the population under study and the relative measure of equality of opportunity, adjusted for differences in access to basic services between individuals based on their circumstances (Paes de Barros et al. 2009).^a Regarding the dynamics of the HOI, Molinas et al. (2012) show that Colombia's HOI registered clear improvements between 1997 and 2008, increasing by 17 percent. Colombia also did well compared to other countries, placing above the LAC average and near the HOI level of top performing countries in the region (chart below). However, the country still shows important gaps in equality of access to basic services (water, sanitation, internet, and education), and the main circumstances explaining the inequality are parental education and geographical location.

Colombia's recent progress in educational attainment has been slower than its regional peers (World Bank 2013). Moreover, the dispersion or inequality in years of education increased substantially in Colombia, while it decreased in LAC. This dispersion contributed to increasing labor income inequality in Colombia, diminishing the reduction in income inequality gained by changes in returns to skills (Azevedo et al. 2013).

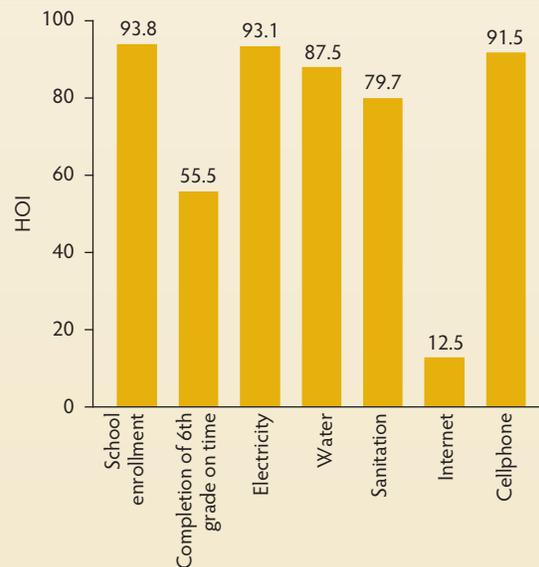
HUMAN OPPORTUNITY INDEX (CIRCA 2012)



Source: World Bank (2014).

Note: The overall HOI is a simple average of the HOI computed for each opportunity. Argentina, Dominican Republic, Guatemala, Nicaragua and Panama do not have the same number of opportunities in the overall HOI. For more details about the circumstances, years selected for the circa and the opportunities that are not present in the overall HOI please see World Bank (2014).

HUMAN OPPORTUNITY INDEX IN COLOMBIA (2012)



Source: World Bank (2014).

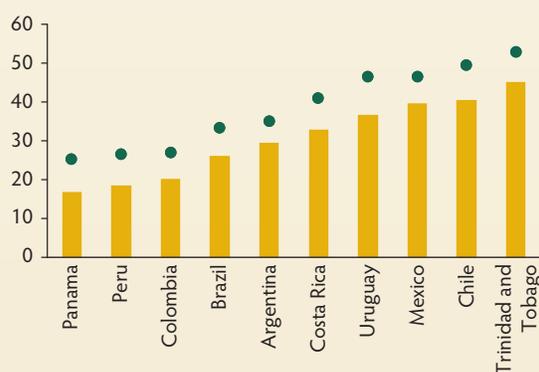
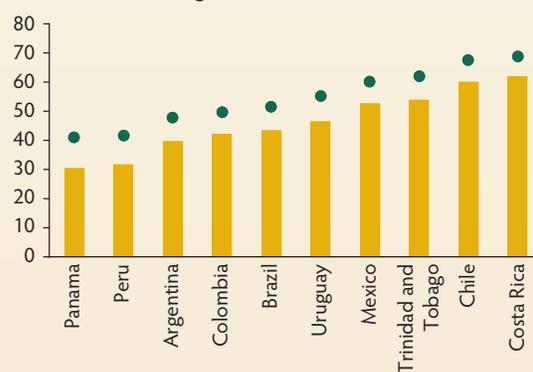
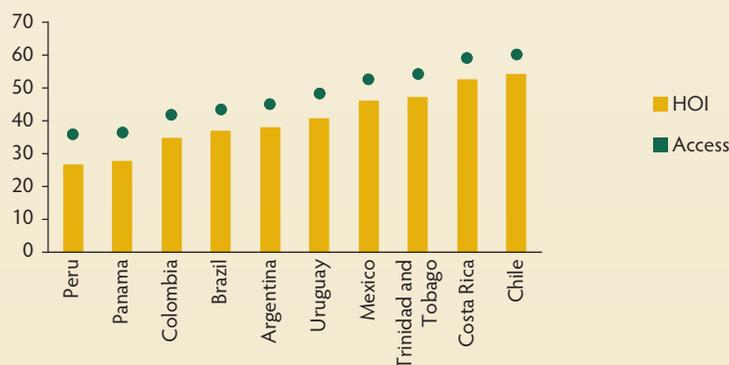
Note: The circumstances used in this analysis are the gender of the child, parents' education, family per capita income, number of siblings, presence of both parents, gender of the household head, and urban or rural residence.

Turning to the quality of education, the 2012 PISA^b scores reveal a pending task because Colombia had below-average performance in all three subjects tested—math, reading, and science (OECD 2014). The standardized scores can also be used to assess access to quality education in the LAC countries that participated in the assessment (see charts below). Colombia shows consistently low levels of access to quality education relative to other LAC nations in basic math (27 percent), reading (50 percent), and science skills (45 percent). Similarly, Colombia finds itself among the countries with the lowest PISA HOI.

(continued on next page)

BOX 2-4: Persistently High Levels of Non-Monetary Inequality (*continued*)

These findings have important implications for equity and shared prosperity in Colombia, where education is often found to inhibit inter-generational mobility. Estimating the effect of inequality of opportunities on the inequality outcomes in Colombia, Ferreira and Melendez (2012) find that 18 to 24 percent of inequality in adult labor outcomes (labor income or per capita household income) is explained by characteristics that are beyond an individual's control; the most important is parental education. Similarly, Ferreira et al. (2013) find that 3.5 additional years of parental education in Colombia are, on average, associated with more than 2.5 additional years of schooling in the next generation. Peru had the highest education persistence among the countries studied, with slightly over three years of schooling in the next generation, and Ethiopia had the lowest education persistence, with less than 0.5 years of schooling. The study also reports that Colombia ranked seventh among 42 countries—rich and poor—in the correlation of education attainment across generations.

PISA HOI**Basic Skills in Math****Basic Skills in Reading****Basic Skills in Science**

Source: <http://www1.worldbank.org/poverty/visualizeinequality/>.

Note: Access in this case refers to the percentage of students who demonstrate the basic competencies in math, reading, science, respectively, if above level 2 according to OECD. The HOI is computed as in Molinas et al (2012).

Overall, the empirical evidence suggests further improvements in education are likely to translate into significant reductions in inequality, generate large welfare-enhancing impacts among the less well-off, and produce positive spill-over effects on health outcomes.^c

^a Barros et al. (2009) define circumstances as: "personal, family or community characteristics that a child has no control over, and that, for ethical reasons, society wants to be completely unrelated to a child's access to basic opportunities." Children are used to calculate the index because they are less likely to have any control of their circumstances.

^b The Programme for International Student Assessment (PISA) evaluates student skills in math, reading, and science for students roughly between 15 and 16 years of age in more than 65 countries.

^c For instance, higher education among household heads leads to increases in total household income that are the largest for the lowest quintile and decrease moving up the income ladder (Zuluaga 2007).

household income (Figure A3.2, bottom panel). One exception is the relative share of pensions in the top quintile, which represented about 10 percent of these households' income throughout the period. Overall, the observed changes in household income over time are related to the relative growth of labor income, the growth in transfers at the lower end of the income distribution, and the relative stagnation of capital, pensions, and other sources of income.

Understanding the sources of poverty reduction¹²

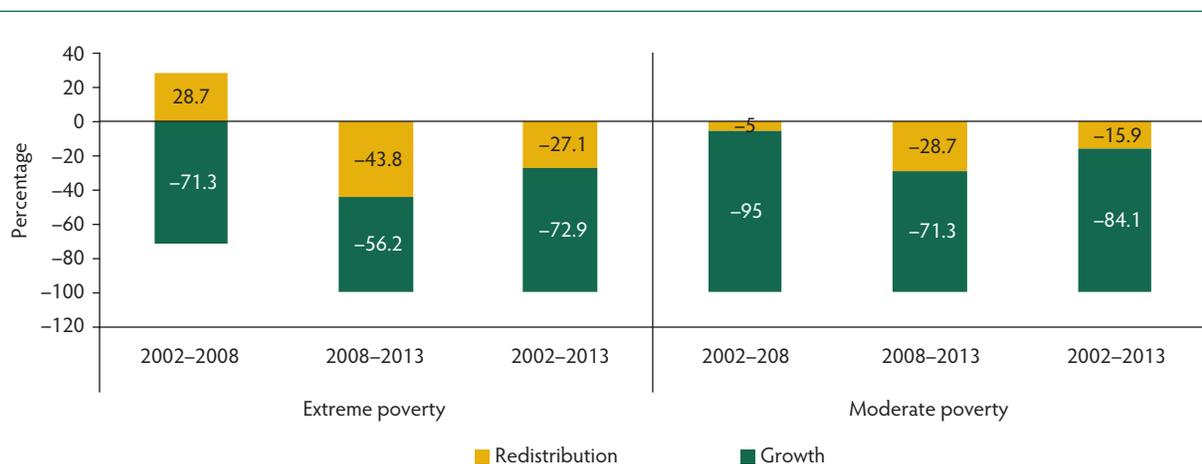
This section delves into the most important drivers of poverty reduction and the rise of the middle class in Colombia between 2002 and 2013. First, it analyzes the extent to which the changes in poverty levels and the middle class are due to increasing mean income (holding constant the income distribution prevailing in 2002) and the extent to which the changes are due to shifts in the distribution of income (holding constant the mean level of income prevailing in 2002). Observed changes in total household income are then decomposed into different parts that can be attributed to changes in household demographic characteristics (age composition, fertility, labor force participation), changes in the share of occupied adults (access to

labor markets), changes in labor income (rewards and distribution of skills), and changes in non-labor income (transfers, housing, pensions, and other non-labor income).¹³

Consistent with the trends in poverty and inequality, the Datt and Ravallion (1992) decomposition, which breaks down the changes in poverty headcount into its growth and redistribution components, suggests qualitative differences in the underlying drivers of poverty reduction between the earlier and the latter parts of the period. In 2002–08, the reduction in the poverty headcount ratio was mostly explained by the growth component (Figure 2-10). In particular, 95 percent of the reduction in moderate poverty was due to growth, and redistribution accounted for only 5 percent. In the same period, the redistribution component had a negative effect on the reduction of extreme poverty headcount. Between 2008 and 2013, however, the redistribution component explained nearly half of extreme poverty reduction and 28.7 percent of moderate poverty reduction.

As in LAC (World Bank 2013), poverty reduction in Colombia was driven primarily by labor market changes, such as increases in labor income and a greater labor market participation of household members. Figure 2-11 shows the decomposition

FIGURE 2-10: Growth and Redistribution Components of Changes in Poverty and Middle Class



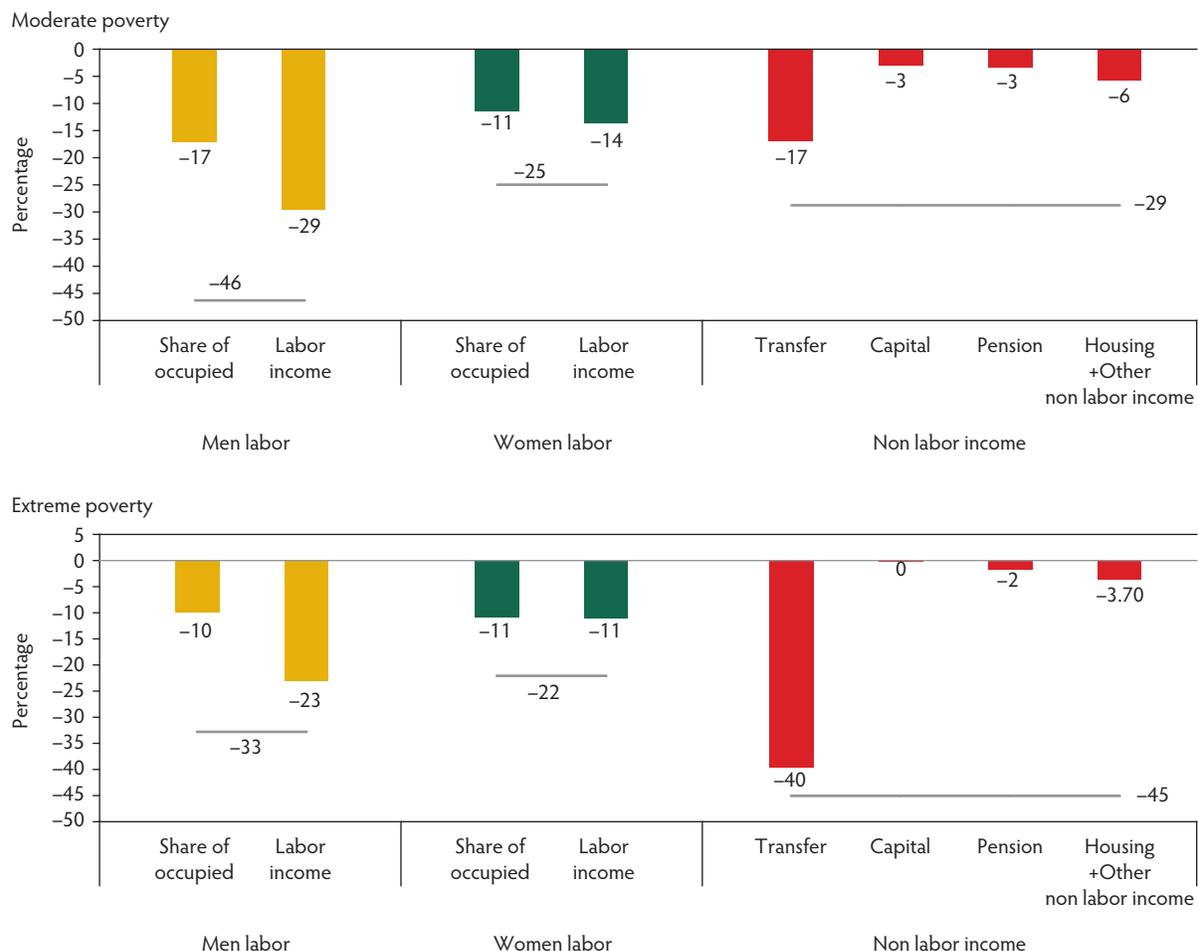
Source: World Bank staff calculations based on DANE-MESEP (2002–2013).
Note: Figure reports the results of a Datt and Ravallion (1992) decomposition.

of observed changes in total household income into parts that can be attributed to changes in household demographic characteristics, changes in the share of occupied adults, changes in labor income, and changes in non-labor income. The increase in labor income explains 43 percent of the decline in moderate poverty, with higher female earnings responsible for 13.6 percent and male earnings responsible for 29.4 percent. Moreover, the share of occupied household members explains 28.3 percent of the variation for moderate poverty and 20.7 percent for extreme poverty. In other words, more than 70 percent of the

moderate poverty decrease is related to changes in labor market income and participation.

The expansion of well-targeted public transfers proved effective in terms of reducing poverty in Colombia. The change in poverty associated with transfers was -16.8 percent for moderate poverty and -39.7 percent for extreme poverty; the corresponding changes in LAC were -13 percent and -23 percent (World Bank 2013). These patterns suggest that the safety-net expansion that took place in 2002–13 was both effective in reducing poverty—in particular extreme poverty—and

FIGURE 2-11: Components of Changes in Extreme and Moderate Poverty Reduction 2002–13



Source: World Bank staff calculations based on DANE-MESEP (2002–2013).

Note: Figure shows contributions of changes in income per capita from 2002 to 2013 to poverty reduction (%). For details on the underlying methodology, see Azevedo et al. (2012). Other non-labor income includes income from capital, housing, and non-workers income. Share of occupied refers to gains attributable to increases in the number of employed household members.

well-targeted (see the evolution of transfer shares across quintiles in the Annexes).

Compared to the LAC region as a whole (World Bank 2013), the contributions of pensions to poverty reduction in Colombia were low. In particular, the change in poverty associated with pensions in Colombia was -2.8 percent for moderate poverty and 0.1 percent for extreme poverty: the analogous numbers for LAC were -13 percent and -15 percent (Figure 2-11). This is not surprising given Colombia's "pay as you go" pension system, which has 1.4 million beneficiaries who are almost exclusively at the upper end of the income distribution.

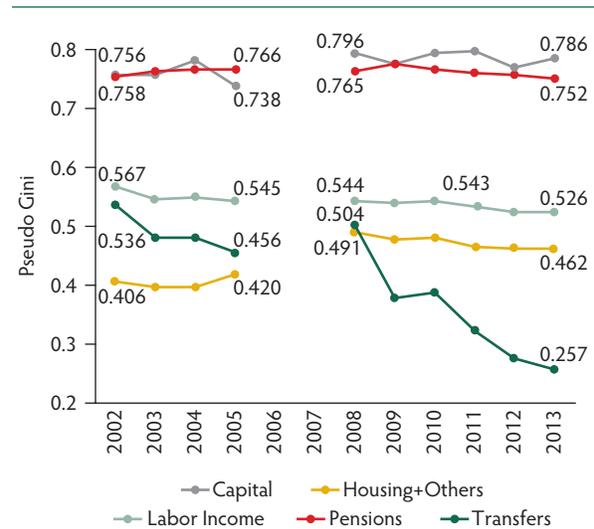
Understanding the sources of changes in inequality

Pension and capital income (which is considered regressive) do not account for a significant proportion of Colombia's income inequality. Figure 2-12 illustrates the level of inequality of each source of income as measured by the pseudo-Gini coefficient. Pension and capital income, being primarily held by those in the higher income deciles, have a pseudo-Gini coefficient of around 0.75. Despite the unequal distribution, pensions explain only 8.5 percent of the observed level of income inequality in 2002–13 and capital income only 4.3 percent.¹⁴

Labor income accounted for 54.8 percent of the observed reduction in inequality in Colombia (Figure 2-13). However, it is important to note that the highly unequal distribution of labor income, coupled with the fact that labor income represented more than two-thirds of total income throughout 2002–13, explains Colombia's persistently high level of inequality. For instance, like the Gini of total income, the pseudo-Gini corresponding to labor income declined only marginally, decreasing from 0.567 in 2002 to 0.526 in 2013, primarily during the latter part of the 11-year period.

Transfers were a surprisingly important driver of reduced inequality. Representing less than 5 percent of total income throughout 2010–13, transfers

FIGURE 2-12: Stagnation of Total Inequality is Due to Stagnation of Labor Income

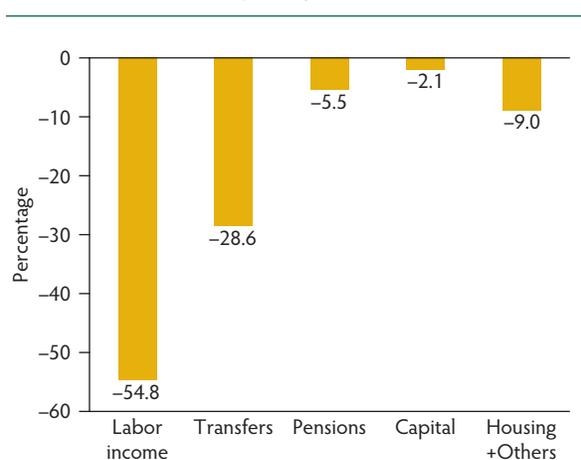


Source: World Bank staff calculations using DANE-MESEF (2002–2013).

are linked to a 28.6 percent decline in inequality (Figure 2-13). Two factors contributed to this relatively high elasticity of inequality to changes in transfers. As noted earlier, transfers not only grew at a high rate relative to other sources of income during 2008–13, but they also benefited those at the lowest end of the income distribution the most (see Figure A3.2 and Figure A3.3). As a result, the pseudo-Gini of transfers declined by more than 50 percent over 2002–13—from 0.536 to 0.257. Overall, the growth in transfers combined with their "pro-poor" redistribution effects had a positive and relatively large impact on the reduction of income inequality over the past decade.

Projecting future poverty incidence rates

To reach the extreme poverty target of 3 percent by 2030, defined by the World Bank, Colombia must reduce its poverty level by an average of 0.36 percentage points a year, equivalent to a cumulative reduction of 6.1 percentage points over the corresponding 17 year period. The suggested pace of poverty reduction is lower than the one the country has experienced since 2002 (annual reduction of extreme poverty of 0.77 percentage

FIGURE 2-13: Explaining Changes in Income Inequality, 2010–2013

Source: World Bank staff calculations using DANE-MESEP (2010–2013).

points). Assuming that population growth remains constant, achieving this target implies moving 2.23 million people out of extreme poverty by 2030. Based on Colombia's recent poverty reduction performance, three different methodologies are used to project the future performance of the country to its goal of extreme poverty eradication.

Poverty projections presented in this section are based on different methods and assumptions on changes in income growth and growth elasticity of poverty (Table 2-2). Three projection methods are used, all of them based on the recent trends of economic growth and poverty reduction in Colombia. The first method projects future poverty assuming a constant rate of poverty reduction based on the recent growth of per capita GDP and the corresponding growth elasticity of poverty. Given that the growth of per capita GDP usually differs from household income growth, the second method uses the 2010–13 mean household per capita income growth (from household surveys) and simulates future income distributions departing from the 2013 distribution. Finally the third method is similar to the second but unlike the latter it assigns different growth rates to each income decile (following the concept of growth incidence curve).

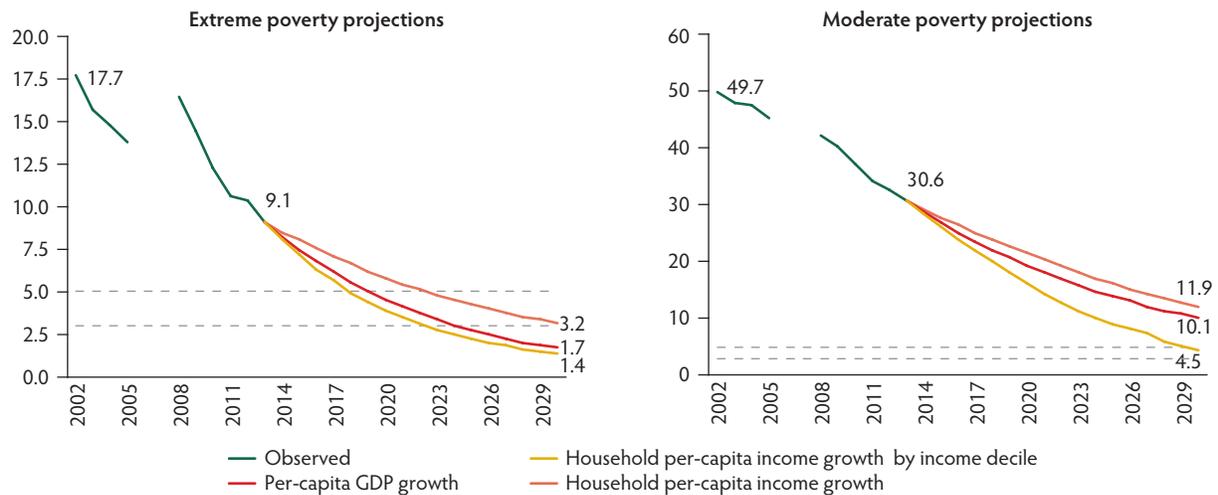
According to the above discussed methods, Colombia will reach the target of 3 percent extreme poverty rate before 2030 (Figure 2-14). The first method projects an extreme poverty rate of 3 percent by 2024. The second and third methods, project a 3 percent extreme poverty rate by 2030 and 2022,

TABLE 2-2: Growth Rates and Poverty Elasticities Parameters Used in Poverty Projections

Method	Assumptions based on short term trends 2010-13		
	Growth	Moderate poverty elasticity	Extreme poverty elasticity
Per-capita GDP growth	Annualized growth rate of GDP per-capita 3.7	Static elasticity -1.7	Static elasticity -2.5
Household per-capita income growth	Annualized growth rate of mean household per-capita income 3.5	Dynamic elasticity. -1.5	Dynamic elasticity. -1.7
Household per-capita income growth by income decile	Annualized growth rate of mean household per-capita income by income decile. Growth first decile: 6.8 Growth second decile: 6.0 Growth third decile: 5.7	Dynamic elasticity. -1.7	Dynamic elasticity. -1.5

Source: Authors' calculation based on GEIH-MESEP (2010–2013) DANE for poverty measures and DANE National Accounts for GDP.

Note: Growth of incomes and poverty elasticities correspond to annualized growth rates between 2010 and 2013. Static elasticity is equal to the ratio between annualized growth rate of moderate (extreme) poverty and annualized growth rate of GDP per-capita. Dynamic elasticity means that the annualized growth rate was applied to the 2013 income distribution, thus the value of elasticity depends on the percentile of the income distribution selected and the growth rate applied, the numbers above for the dynamic elasticities are the average elasticity for each year.

FIGURE 2-14: Can We Expect Extreme Poverty to Be 3 Percent or Less by 2030?

Source: World Bank staff calculations using GEIH-MESEP (2010-2013) DANE for poverty data, and DANE National Accounts data for GDP. Note: the dashed lines indicate the point at which poverty would be at 5% and 3%, respectively.

respectively. The estimates also suggest that moderate poverty will be cut by half (about 15 percentage points) sometime around 2021 and 2026, depending the method that is used (Figure 2-14). Moreover, following recent trends in growth and poverty reduction, by 2030 it is expected that the moderate poverty will be between 5 and 10 percentage points. All of these projections suggest that if unemployment rate, labor income growth and non-labor income growth continue its recent performance (2010–13), poverty headcount in Colombia will achieve the current levels of countries with relatively low poverty rates like Argentina and Uruguay.

Final Remarks

From 2002 to 2013, Colombia experienced strong economic growth along with impressive declines in moderate, extreme, and multidimensional poverty. More households in Colombia are now classified as middle class, and conservative estimates show the middle class should surpass the poor in size by 2015. Notwithstanding qualitative differences between the earlier and the latter part of the period, Colombia's less-well-off people benefited more from growth than the average person, signifying progress toward greater shared prosperity.

However, important challenges remain. Poverty levels in Colombia are relatively high and the size of the middle class continues to lag behind other LAC countries. Moreover, a sizable segment of the population—more than one out of three households—remains vulnerable to falling back into poverty. Large historical disparities between urban and rural areas also remain. More important, inequality in Colombia remains high. The share of total income going to the bottom 10 percent of the population continues to be around 1.1 percent, while the top 10 percent of the population receives more than 42.3 percent.

To address these challenges, the Government introduced a national development plan called *Prosperidad para Todos* in 2010. In addition to sustainable economic growth, the plan calls for positive distributional and social effects. This plan represents an important step toward attaining shared prosperity; nevertheless, the results from this note show that the associated fiscal reforms are expected to have only a moderate impact on inequality. Further poverty and inequality reductions would require sustained growth, deeper fiscal reforms, more and better targeted social transfers, and sustained efforts to increase access to high-quality education and to basic services for the less well-off.

Endnotes

- ¹ Between 2008 and 2012, moderate poverty decreased an average of 2.33 percentage points a year, whereas between 2002 and 2008, moderate poverty decreased at a much slower pace (1.27 percentage points per year). Declines in the \$1.25 a day (PPP) poverty rate were similarly impressive, going from 11.7 percent in 2002 to 6.6 percent in 2012.
- ² Estimations by Angulo et al. (2013) for 2002–11 show similar trends and levels. The authors use the middle class definition of Lopez-Calva and Ortiz-Juarez (2011), who argue that the central characteristic of the middle class is vulnerability to poverty. Under this definition, US\$10 PPP a day is an absolute lower bound for the middle class, and this coincides with a less than 10 percent probability of falling into poverty. The lower bound for the vulnerable class is the official poverty line of US\$4.06 PPP a day.
- ³ The forecast is derived by, first, taking the average of the annualized growth of per-capita income from two periods—2008–13 and 2010–13—and then applying the estimated average annualized growth to per capita household income.
- ⁴ Male and female labor force participation increased among the middle class and the vulnerable; among the poor, it declined for men and remained practically stagnant for females.
- ⁵ For more details, please refer to Annex 2.
- ⁶ In April this year, World Bank Group President Jim Yong Kim announced a twin strategy for the World Bank going forward: (1) to end global extreme poverty by 2030 and (2) to promote “shared prosperity,” a sustainable increase in the economic well-being of the poorer segments of society, defined as the poorest 40 percent of the population.
- ⁷ Between 2010 and 2013, the Gini index declined 2.1 points, from 56 to 53.9, and the Theil index declined 5.5 points from 64.1 to 58.6. This four-year decline in inequality coincided with the acceleration in the average rate of poverty reduction in Colombia.
- ⁸ Moreover, the decomposition of the Theil index by region reveals that within country inequality also remained practically stagnant in 2002–12, explaining around 10 percent of the period’s overall inequality.
- ⁹ Simulation results show that poverty in Colombia would have declined more had the country experienced a more equitable economic growth. For instance, substituting Colombia’s income redistribution Brazil’s and holding Colombia’s per-capita income growth at the actual level in 2002–12 results in a counterfactual reduction from Colombia’s observed poverty headcount of 4.1 percentage points in moderate poverty and 1.3 percentage points in extreme poverty.
- ¹⁰ This does not, however, reflect quality issues in access to basic services.
- ¹¹ According to Escobar and Olivera (2013), public transfers as a portion of public spending increased significantly between 2003 and 2010, going from 10.3 percent in 2003 to 13.6 percent in 2010. Similarly, during the latter part of the 11-year period, there was a large expansion of social programs, such as AIS and *Familias en Acción*. The coverage of the latter increased from around 514,000 households in 2005 to about 2.86 million households in 2013 (nearly 25 percent of households in the country).
- ¹² For the purpose of benchmarking, Colombia’s experience to that of LAC, this section uses SEDLAC harmonized data and the World Bank poverty lines. For details, see Annex 4.
- ¹³ For details on the underlying methodologies used in this section, see Datt and Ravallion (1992) and Barros et al. (2006).
- ¹⁴ The observed income inequality refers to that measured by the Gini coefficient; the Gini coefficient is calculated as the weighted sum of the pseudo-Gini coefficients corresponding to different income components, weighted by the relative contribution of each to total income.

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Annex 1: Decomposing poverty reduction—The intra-sectorial effect versus the inter-sectorial effect

Household Characteristics	Distribution		Components of intrasectorial effect	Intra-sectorial effect (%)	Inter-sectorial effect (%)	Interaction effect (%)
	2002	2013				
Departments where households live by level of GDP – per capita						
Bogota D.C	16.2	16.7	18.3	99.0	0.8	0.2
High level of income	33.8	31.7	38.7			
Medium level of income	29.9	30.9	28.2			
Low level of income	20.1	20.7	13.9			
Participation of occupied inside the household						
Occupied less than 25% of household members	33.2	22.7	22.6	73	29	-2
Between 25% and 50% of household members	50.1	50.1	42.2			
More than 50% of household members	16.7	27.2	8.2			
Number of occupied of the household						
None or one occupied	43.8	41.6	41.8	98.1	2.1	-0.16
Two occupied	32.8	35.2	29.2			
Three or more occupied	23.3	23.3	27.2			
Children and youth among the household						
Without child or youth	22.7	30.5	12.9	73.8	27.6	-1.3
With one or two child or youth	49.5	52.3	39.6			
With three or more children or youth	27.8	17.2	21.3			
Gender of household head						
Male	77.1	68.4	84.4	102.2	0.5	-2.8
Female	22.9	31.6	17.8			
Education of household head						
None or primary	56.4	46.2	61.3	85.6	22.4	-7.91
Secondary education	32.3	36.4	24.0			
Tertiary education	11.4	17.4	0.3			
Zone						
Urban	74.2	76.7	72.1	97.4	2.3	0.3
Rural	25.9	23.3	25.7			

Source: World Bank staff calculations based on DANE-MESEP (2002–2013).

Annex 2: Typology of economic classes in Colombia

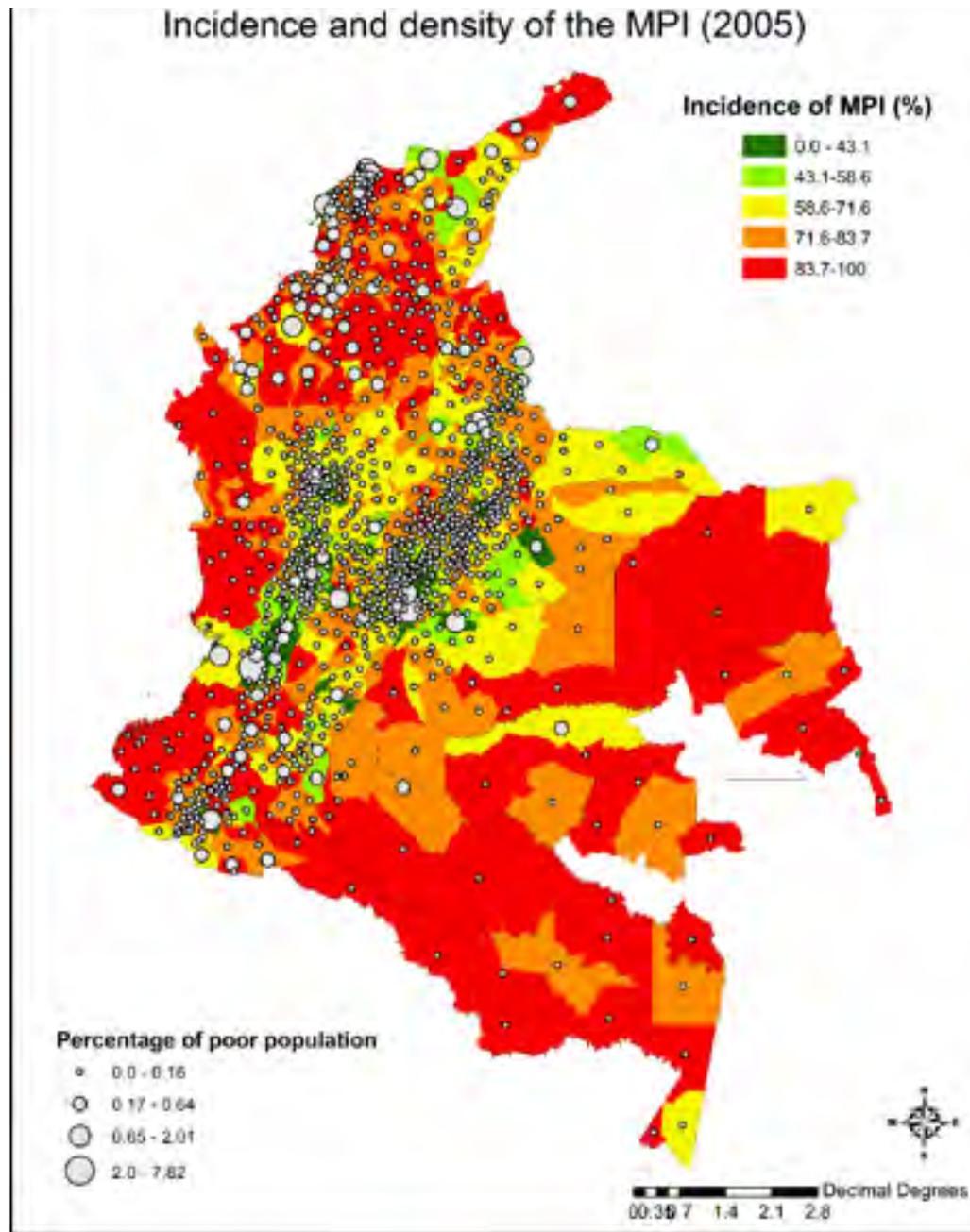
	Poor		Vulnerable		Middle Class	
	2002	2013	2002	2013	2002	2013
Family per-capita income	2.2	2.5	6.3	6.8	19.7	20.2
Household Characteristics						
Demographic characteristics						
Number of members with ages 0–14	2.5	2.2	1.4	1.3	0.8	0.7
Number of members with ages 15–22	0.9	0.8	0.8	0.7	0.5	0.4
Number of members with ages 23–69	2.3	2.1	2.4	2.3	2.3	2.2
Number of members older than 70	0.2	0.1	0.2	0.2	0.2	0.2
Total number of household members	5.8	5.2	4.7	4.5	3.8	3.5
Education characteristics						
Primary education	1.9	1.4	1.3	1.1	0.5	0.5
Secondary education	1.4	1.4	1.7	1.5	1.2	1.1
Tertiary education	0.1	0.2	0.4	0.5	1.3	1.2
Total Number of adult household members	3.3	3.0	3.4	3.1	3.0	2.9
Labor Characteristics						
Male participation rate (%)	73.4	66.8	76.8	76.2	76.3	79.4
Female participation rate (%)	42.4	42.0	51.9	54.5	59.3	62.9
Total Participation rate (%)	57.3	53.7	64.2	65.2	67.8	71.2
Male unemployment rate (%)	16.0	11.5	11.2	7.3	7.7	4.9
Female unemployment rate (%)	29.6	22.1	17.5	13.4	9.9	6.6
Unemployment rate (%)	21.2	15.9	13.8	9.9	8.7	5.6
Dependence rate of the household	3.7	3.5	2.6	2.5	2.1	1.9
Proportion of occupied members in the household (%)	31.0	31.9	44.1	46.5	53.0	59.2
Geographic Characteristics						
Urban (%)	67.8	67.4	77.8	76.1	85.3	86.8
Household head characteristics						
Female household head (%)	22.5	35.1	23.5	30.1	23.2	30.1
Primary education (%)	70.6	63.3	50.9	47.7	23.1	27.5
Secondary education (%)	26.7	32.3	38.9	41.0	35.2	35.7
Tertiary education (%)	1.8	4.3	8.8	11.3	41.0	36.8

Source: World Bank staff calculations based on DANE-MESEP (2002–2013).

Note: Lopez-Calva et al. (2012) estimate the threshold of Middle Class between US\$10–US\$50 (2005 ppp) daily per-capita. This threshold minimizes the probability of falling again into poverty defined as US\$4 (2005 ppp) daily per-capita. A person is considered poor if his/her monthly per-capita income falls below the national poverty line; a person is considered vulnerable if his/her monthly per-capita income falls above the national poverty line and below the income level that corresponds to the lower bound used to define the middle class.

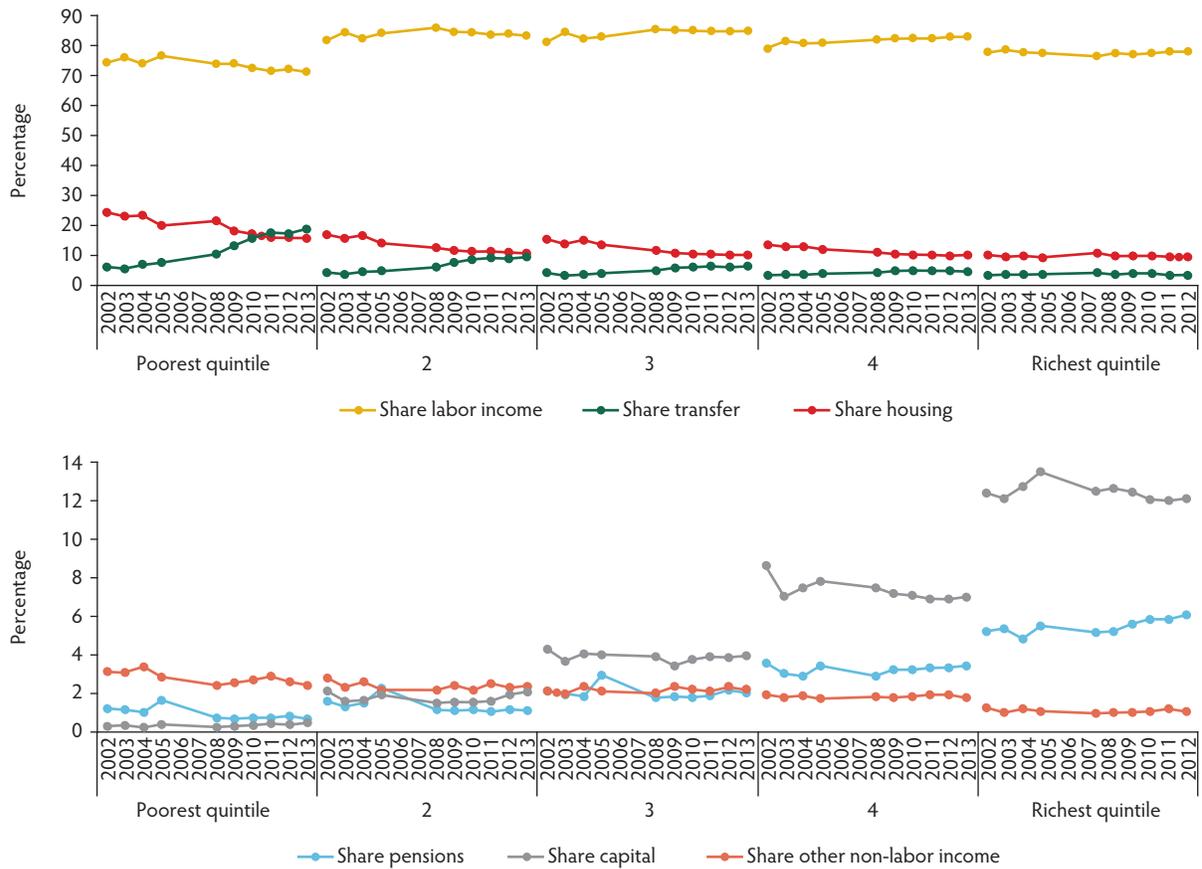
Annex 3: Figures

FIGURE A3.1: Multidimensional Poverty Mapping



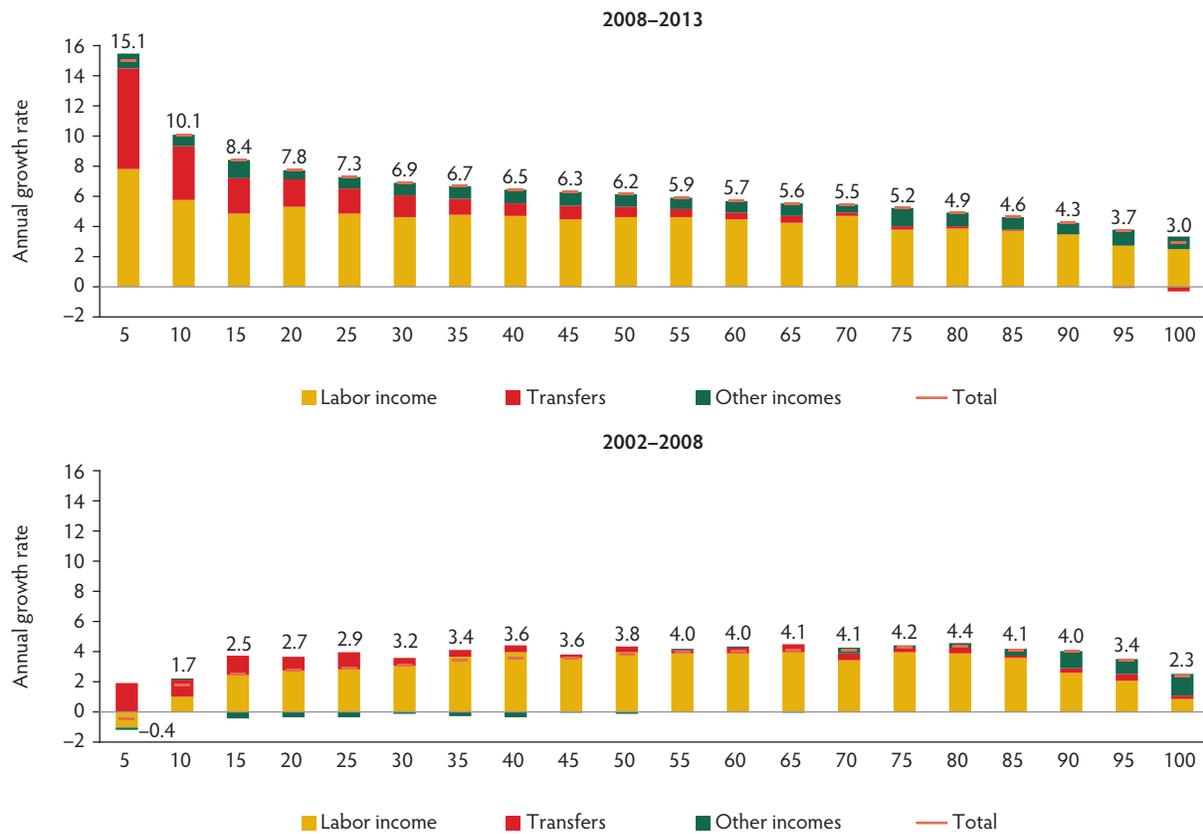
Source: World Bank staff calculations based on Dirección de Ingreso Social, Departamento para la Prosperidad Social (DPS), Bogotá, Colombia.

FIGURE A3.2: Income Shares by Income Quintiles and Over Time



Source: World Bank staff calculations based on DANE-MESEP (2002–2013).

FIGURE A3.3: Growth Incidence Curve of Per Capita Income, 2008–13



Source: World Bank staff calculations based on DANE-MESEP (2002–2013).

Note: The figure shows the annualized average growth rate of real per capita income. Nominal values are deflated using Colombia's average Consumer Price Index (CPI) by year.

Annex 4: Main differences in methods for measuring poverty in Colombia

	Monetary poverty – World Bank	Monetary Poverty – Official measure
Poverty measures	<p>Moderate poverty: proportion of the population whose family per capita income is below the moderate poverty lines officially set by LAC governments.</p> <p>Extreme poverty: proportion of the population whose family per capita income is below the extreme poverty lines officially set by LAC governments.</p>	<p>Moderate poverty: proportion of the population whose family per capita income is below the total value of the food and the non-food baskets.</p> <p>Extreme poverty: proportion of the population whose family per capita income is below the value of the food basket.</p>
Poverty lines	<p>Moderate Poverty Line: US\$4.00 PPP (2005) per capita per day or 198,926 pesos per capita per month (2012).</p> <p>Extreme Poverty Line: US\$2.50 PPP (2005) per capita per day or 124,329 pesos per capita per month (2012).</p>	<p>Moderate Poverty Line: US\$4.06 PPP (2005) per capita day line or 202,083 pesos per capita month line (2012).</p> <p>Extreme Poverty Line: US\$1.83 PPP (2005) per capita per day or 91,207 pesos per capita per month (2012).</p>
Welfare measure	<p>Measured by per capita family income, which considers: labor income, transfers, pensions, imputed rent and capital income.</p> <p>Considers only observed income in the survey.</p>	<p>Measured by per capita family income, which considers: labor income, transfers, pensions, imputed rent, and capital income.</p> <p>Considers observed and non-observed (imputed) income in the survey.</p>
Conversion to real values	<p>Uses national CPI and conversion factor from pesos to USD in 2005 PPP to deflate the income aggregate.</p>	<p>Uses regional food (general) CPI of the poor population to convert the value of extreme (moderate) poverty line to current values.</p>
Data source	<ul style="list-style-type: none"> • SEDLAC harmonized data (World Bank-CEDLAS) based ECH (2002–2005) and GEIH (2008–2013) from DANE. • Observations from third quarter of each year. 	<ul style="list-style-type: none"> • ECH (2002–2005) and GEIH (2008–2013) from DANE. • Observations of whole year.

CHAPTER 3

Structural Changes – Implications for Growth, Productivity, and Competitiveness



Main Messages

Colombia's sound macro policies and commercial integration, aligned to favorable external conditions, helped sustain historically high growth and low volatility in the past decade. The growth helped to close the per capita income gap with top LAC economies (LAC6) and high income peers (OECD), but it was not enough to catch up with the fast-growing Asian economies. Colombia's economic growth has been historically based on factor accumulation. While productivity growth increased in the past decade, it remains well below the Asian and high-income economies.

Despite its positive performance, Colombia still faces bottlenecks to achieving high and sustained growth. While accumulation of labor (expansion of labor force participation), physical and human has played an important role in economic growth, Colombia still lags with respect to physical capital, particularly infrastructure, and human capital. In addition, low productivity is an impediment to sustained growth and convergence. Low productivity growth has been linked to several factors, including lack of adequate skills to assimilate new technologies and consistently innovate, relatively low levels of international trade and integration, and decades of armed conflict. Addressing these issues is a necessary step in Colombia's convergence path.

Growth only had a minor impact on Colombia's regional disparities. Colombia's growth performance brought a small reduction in per capita income disparities across regions, but differences in standards of living remain significant. In particular, differences in poverty rates, access to services, and quality of institutions have been stubbornly persistent.

Economic growth was accompanied by important changes in the structure of production and exports, with the extractive sector playing a larger role over the past decade, fueled by high international prices. GDP composition experienced small changes, with an increase in the participation of extractive industries and a reduction in the role of manufacturing. However, economic activity remains relatively diversified by regional standards, with services representing the largest share of GDP. High international commodity prices, together with trade integrations efforts, fostered an expansion in Colombia's

international trade, both as a share of GDP and as a share of the world's trade. Export expansion has been associated with an increasing participation of extractive commodities and a high concentration of Colombia's export basket. Exports of non-commodity products had a more modest performance due to factors such as competition from Chinese producers and weak economic performance in destination countries, such as Venezuela. At the same time, export expansion has brought more diversification in trading partners.

Colombia's resource boom has been a blessing in many dimensions, but poses social and economic policy challenges. The boom has boosted foreign investment, economic growth, and government revenues. However, changes in the terms of trade have contributed to a concentration of exports and appreciation of the exchange rate, potentially undermining the competitiveness of other sectors. In addition, extractive activities are often highly capital intensive, do not create many jobs, and generate large rents. If not well invested or redistributed, these rents may increase income inequality. Finally, the relatively large share of extractive exports and government revenues increases macroeconomic exposure to price fluctuations and volatility. Without adequate management, volatile revenues and associated pro-cyclical spending could inhibit growth.

Colombia has taken important steps to mitigate the risks associated with the commodity boom, but lessons from other economies suggest more can be done. Colombia has decreased its reliance in commodity revenues by building a strong macroeconomic framework with moderate debt levels and pursuing a fiscal consolidation aimed at facilitating counter-cyclical policies. Furthermore, the central bank operates under a sound framework of flexible exchange rate and inflation targeting. While these tools help limit volatilities driven by commodity cycles, they do not per se resolve the problem of how to transfer resources from commodity industries to other sectors of the economy. Development funds could also support diversification through well-targeted domestic investment. "Sustainable investment tools"¹ can help allocate the resources of such funds, taking into account long-term development goals and project-based cost-benefit considerations.

Structural Changes and Growth Dynamics

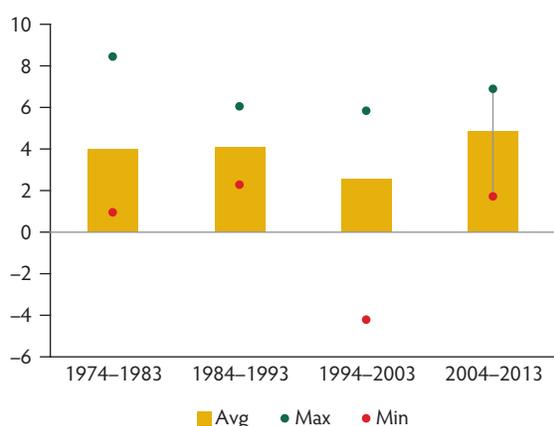
Colombia's historically high growth rates of the past decade have been supported by sound macro policies, commercial integration, and favorable external conditions (Figure 3-1). Significant structural reforms since the early 1990s, combined with important trade agreements, have led to modernization of the economy. Prudent macroeconomic management has also helped bolster resilience. Colombia weathered the financial crisis remarkably well and consolidated its position among the fast growing Latin American (LAC) economies. Finally, favorable terms of trade and international financing conditions helped attract investment, accelerating economic activity and trade. As a result, the Colombian economy sustained an average GDP growth of 4.8 percent in the past decade, more than 1 percentage point above the average for the previous three decades (3.5 percent). In per capita terms, this difference is also large—around 3 percent in the past decade, compared with 1.7 percent in the previous decades.

Growth helped close the per capita income gap with top LAC economies (LAC6)² and high income peers (OECD), but the country continues

to lag fast-growing Asian economies (Figure 3-2).³ In the past four decades, Colombia has been continuously closing the per capita income gap⁴ with other LAC countries. In 1970, LAC's per capita income was 2.1 times Colombia's; by 2012, this difference was reduced to 1.6 times. The income gap with OECD⁵ countries progressed in a nonlinear way. In 1970, OECD countries had an average per capita income that was 8.8 times Colombia's; it increased to 10.9 in 2000 and fell back to 8.7 in 2012, driven by both Colombia's strong performance and the crisis faced by many high income countries. Colombia's income growth was not strong enough to close its income gap with top Asian economies. The average per capita income for fast-growing Asian economies was similar to Colombia's in 1970; by 2012, it was more than three times higher.

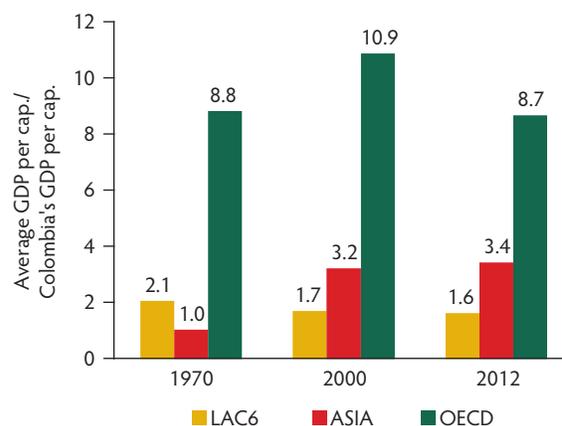
Achieving high—and sustained—growth is critical to shaping a country's development process and fostering convergence to high income levels. Sustaining slightly higher growth rates for long periods can significantly affect the pace of convergence. A simple counterfactual exercise illustrates what Colombia's per capita income would look like today had the country followed different growth paths since 1960 (Figure 3-3). If Colombia's per capita income growth over the past decade had persisted since 1960, it would add 0.6 percentage

FIGURE 3-1: Growth Performance in Past Decades (%)



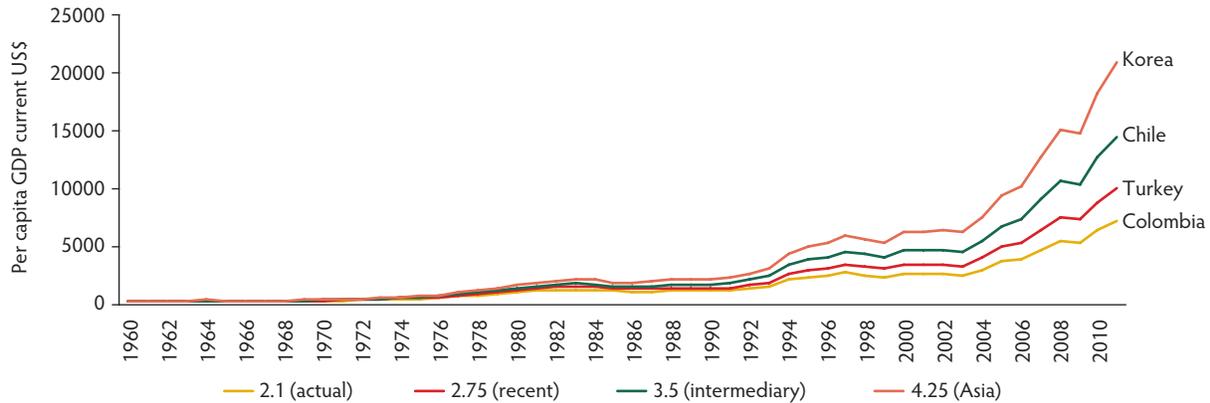
Source: Authors' calculations using IMF and WDI data.

FIGURE 3-2: Colombia's Per Capita Income Gap (%)



Source: Authors' calculations using IMF and WDI data.

FIGURE 3-3: Counterfactual GDP Per Capita (US\$)



Source: Authors' calculations using IMF and WDI data.

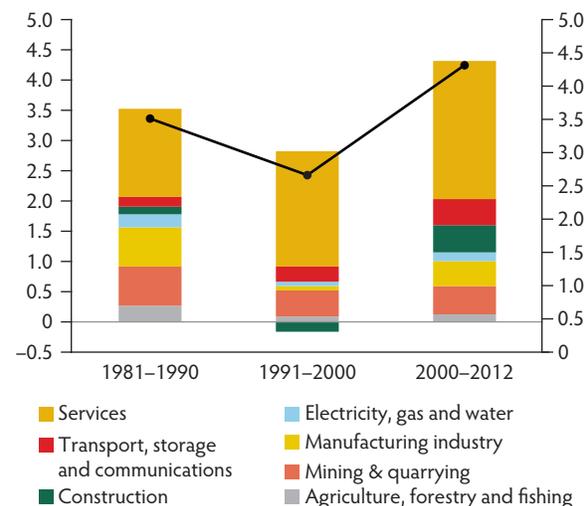
point to actual performance, raising income growth to around 2.7 percent instead of the actual 2.1 percent. Under this scenario, Colombia would now have a per capita income level 50 percent higher, similar to Turkey's. If Colombia had been able to sustain an average growth rate similar to the 4 percent of fast-growing Asian economies, it would now have three times its current per capita income, rising to the level of high-income countries like Korea and Greece.

Colombia's growth was accompanied by important changes in the structure of production, with increased participation of the extractive sector during the past decade. From a sector point of view, growth was consistently driven by non-tradable services. Oil and mining have played an increasing role, while manufacturing has gradually been losing significance as an engine of growth. These patterns brought small composition changes in the Colombian economy over time. Extractive activities increased from 2.2 percent of GDP in 1976 to almost 8 percent in 2012, and manufacturing fell from 18 percent to 12 percent (Figure 3-4 and Figure 3-5). Composition changes in exports (discussed later in the note) were much more significant.

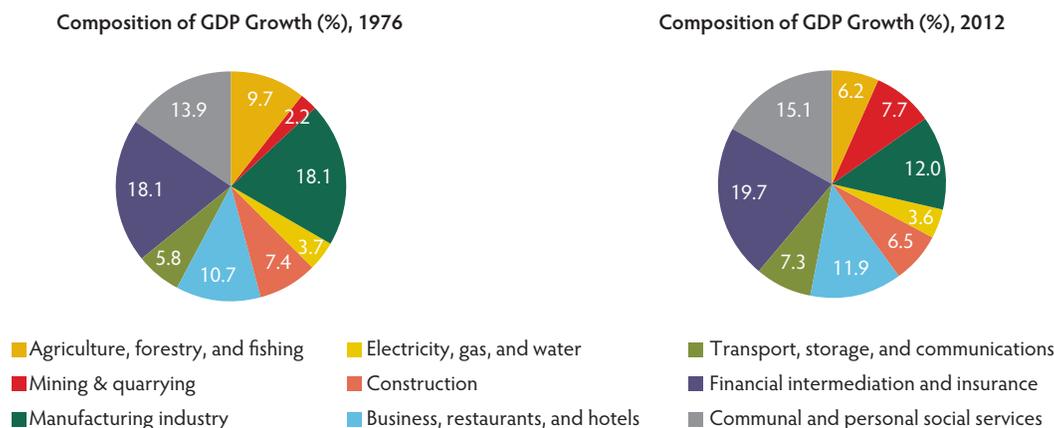
While economic activity remains relatively diversified, Colombia's exports are among the most

commodity-dependent. Commodity intensity/dependency can be analyzed through different dimensions (Figure 3-6). Considering value added as a share of GDP in the primary sector (agriculture and extractives), Colombia (14 percent) appears to be less commodity intensive than both the LAC (25 percent) and Asian economies (18 percent). However, this changes when fiscal and export dependency are considered. Commodity-related revenues represent almost 18 percent of Colombia's

FIGURE 3-4: Sectorial Decomposition of GDP

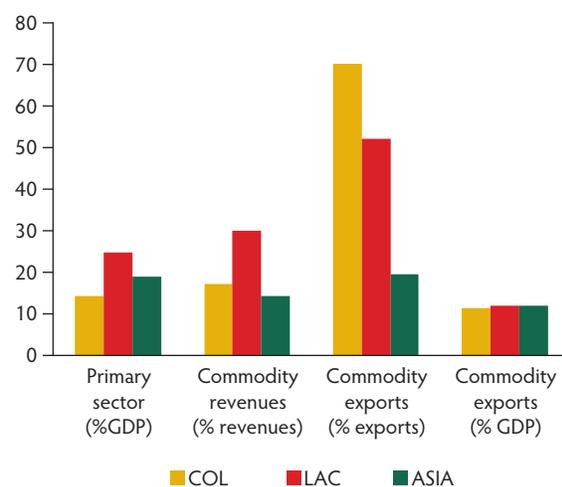


Source: Authors' calculations using IMF and WDI data.

FIGURE 3-5: The Changing Composition of GDP Growth

Source: Authors' calculation using WDI and IMF data.

government revenues, less than the LAC average (approximately 30 percent), but more than the average for Asian economies (approximately 14 percent). Colombia's commodity exports as a share of total exports (70 percent) is the third largest in LAC, behind Venezuela and Bolivia, and well above the regional average (51 percent) and the average for Asian countries (19 percent). In contrast, commodity exports as share of GDP (11 percent) is much lower and in line with the regional averages (11.7

FIGURE 3-6: Commodity Intensity/Dependency

Source: Authors' calculation using WDI and IMF data.

percent for LAC and 12.3 percent for Asia). This is mainly due to the fact that Colombia is relatively closed compared to its peers.

Growth decomposition and productivity dynamics

Colombia's economic growth since the 1960s was based heavily on factor accumulation; productivity growth was almost nil for most of the period, although it recovered in the past decade (Table 3-1). Despite many caveats, growth accounting exercises can provide some intuition about an economy's growth patterns.⁶ For Colombia, per capita GDP growth since the 1960s has relied mostly on factor accumulation. Of the almost 2 percent average annual growth between 1961 and 2011, total factor productivity (TFP) contributed only 0.1 percentage point. Physical capital accumulation contributed 1.4 percentage points, and the combined effect of employment growth and human capital accumulation contributed another 2.6 percentage points. The higher speed of population growth partly compensates for employment and human capital expansion (-2.1 percentage points). Starting in the 1980s, average per capital GDP growth dropped to 1.6 percent and the TFP contribution became negative due in part to Colombia's weak economic performance in the early 1980s and late 1990s.

TABLE 3-1: Growth Accounting Exercise

	1961–2011					1981–2011					2001–2011				
	K	L*H	TFP	N(-)	Y p.c.	K	L*H	TFP	N(-)	Y p.c.	K	L*H	TFP	N(-)	Y
Colombia	1.42	2.63	0.07	2.12	1.99	1.43	2.28	-0.31	1.80	1.60	1.49	2.42	0.35	1.51	2.75
LAC	1.39	2.45	0.06	2.05	1.85	1.20	2.38	-0.50	1.76	1.33	1.28	2.12	0.68	1.33	2.75
Brazil	1.54	2.53	0.51	1.97	2.61	1.05	2.63	-1.14	1.55	1.00	0.69	1.38	2.56	0.90	3.73
Bolivia	0.72	2.52	-0.40	2.17	0.67	0.75	2.74	-0.87	2.04	0.58	0.90	2.24	0.33	1.09	2.38
Chile	1.76	2.09	0.15	1.57	2.43	1.74	2.57	0.12	1.40	3.03	0.99	2.37	0.52	1.77	2.12
Costa Rica	1.63	2.91	0.07	2.52	2.09	1.33	2.61	-0.04	2.26	1.64	2.16	2.60	-0.52	1.03	3.21
Mexico	1.42	2.90	-0.36	2.17	1.79	1.12	2.42	-1.16	1.65	0.72	1.77	2.32	0.13	1.70	2.52
Panama	1.76	2.60	1.29	2.25	3.39	1.59	2.72	0.36	1.95	2.72	1.09	1.73	-0.85	1.26	0.71
Peru	1.26	2.31	-0.08	2.13	1.36	1.18	2.14	-0.43	1.71	1.18	2.06	3.14	1.30	1.72	4.79
Paraguay	1.68	2.87	-0.41	2.42	1.71	1.47	3.10	-1.70	2.32	0.54	1.48	2.05	2.07	1.17	4.44
Uruguay	0.95	1.04	0.24	0.58	1.65	0.83	1.04	0.39	0.48	1.78	1.03	2.55	0.32	1.88	2.02
Venezuela	1.17	2.59	-0.46	2.68	0.61	0.68	1.99	-0.69	2.17	-0.18	0.90	0.91	1.34	0.17	2.98
Asia	2.34	2.51	1.52	1.86	4.50	2.26	2.08	1.46	1.52	4.28	1.68	1.75	1.62	1.13	3.92
China	2.59	2.27	2.77	1.44	6.19	3.04	1.79	4.73	1.02	8.54	3.67	1.14	5.04	0.55	9.30
Hong Kong (SAR)	2.06	2.91	1.22	1.65	4.54	1.80	1.38	1.60	1.11	3.66	1.15	1.03	1.86	0.44	3.60
Indonesia	1.89	2.25	1.05	1.79	3.40	2.33	2.10	0.71	1.52	3.63	1.84	1.71	1.65	1.16	4.05
Korea	2.87	2.53	1.67	1.36	5.71	2.76	1.79	1.91	0.83	5.64	1.75	1.27	1.01	0.46	3.56
Malaysia	2.34	2.99	1.05	2.41	3.97	2.37	2.84	0.45	2.37	3.29	1.52	2.04	0.96	1.90	2.62
Philippines	1.60	2.51	-0.17	2.52	1.41	1.44	2.22	-0.59	2.26	0.81	1.38	2.00	1.18	1.86	2.70
Singapore	2.51	3.09	1.79	2.25	5.14	2.33	3.06	1.16	2.47	4.08	1.69	3.08	0.64	2.55	2.85
Thailand	2.29	1.78	2.44	1.83	4.69	1.89	1.88	1.53	1.23	4.08	0.88	2.18	0.98	0.87	3.17
Taiwan	2.89	2.25	1.88	1.52	5.50	2.40	1.66	1.61	0.87	4.80	1.25	1.27	1.29	0.40	3.40
US	0.95	1.28	0.82	1.04	2.01	0.80	0.86	1.01	1.00	1.66	0.64	0.31	0.60	0.93	0.61
Japan	1.93	0.69	1.83	0.59	3.86	1.07	0.48	0.48	0.28	1.76	0.31	0.01	0.29	0.06	0.55

Source: Authors' calculations using Penn World Table 8.0 and ILO.
Note: K stands for capital; L for employment; H for human capital; N for population; and Y for output.

Finally, in the past decade (2001–11), average per capita GDP growth increased to approximately 2.8 percent, with a larger TFP contribution (0.4 percentage points). Factor accumulation patterns remained similar to the previous decades, but the contribution of population growth (–1.5 percentage points) was much lower than employment and human capital (2.4 percentage points).

Colombian productivity growth is in line with the LAC average but significantly lower than the averages for Asian economies, the U.S., and Japan. Low, and sometimes even negative, TFP growth has affected most LAC economies, with the exception of Panama. Regional performance improved in the past decade with the rise of other high productivity countries, such as Peru and Uruguay. However, LAC remains well below the fast-growing Asian economies. The latter grew at an average rate of 4.3 percent between 1961 and 2011, with TFP growth accounting for 1.5 percentage points. This corresponds to almost all the difference in per capita income growth between Colombia and Asian countries. In the same period, the U.S. averaged TFP growth of 0.8 percent, while Japan was at 1.8 percent.

Despite the importance of factor accumulation to growth, Colombia still lags with respect to physical capital, particularly infrastructure. Colombia has a large infrastructure gap. The country ranks 117th out of 148 countries in infrastructure quality,⁷ more than one point below the world average. This gap is the largest in the transport sector, where Colombia is ranked well below Latin American peers and other emerging economies (Perrotti and Sánchez, 2011; WEF, 2012). Both the quality (i.e. paved roads out of total roads) and quantity (i.e. length of roads per square kilometer) of roads are low (Calderón and Servén, 2010). Road length scaled by land area is less than a tenth of the OECD average. The length of the rail network is also limited. As a result of limited network and service bottlenecks, the country's costs of internal freight transport are one of the highest in the world, with important consequences on competitiveness. Despite sustaining investment rates in roads and railways above the

regional average, Colombia's transport infrastructure gap has increased over time (OECD 2013), suggesting that a critical challenge for Colombia is investing more effectively.

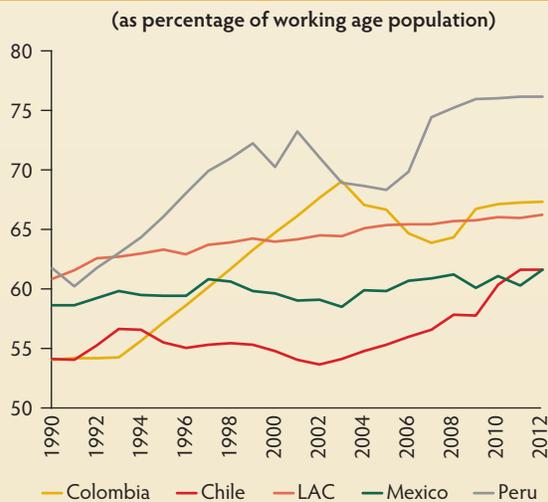
Colombia also lags with respect to human capital—in particular, educational outcomes. Education plays a key role in developing human capital. Colombia's total spending on education as a share of GDP (7.6 percent in 2011) is higher than the OECD average (6.2 percent) and the average in most emerging economies (OECD 2013); however, spending per student is significantly lower—15 percent of per capita income vs 23 percent for the OECD (WDI 2011). Overall educational outcomes remain poor. While Colombia has made progress in primary and secondary educational attainment and achievement, it was among the lowest ranking countries in the PISA 2012, confirming underperformance relative to the country's middle-income status. Enrollment rates in pre-school and tertiary education also remain well below the OECD average and even some regional peers, such as Argentina and Chile. Only half of students aged 17 to 21 who have completed high school pursue tertiary education; among those who do, 45 percent drop out, mostly during the first semester because they are not academically prepared (OECD 2013). In addition to affecting growth, inadequate skill formation has social and equity implications. Low-skill individuals are more likely to be unemployed or underemployed, with significantly lower expected incomes.

While Colombia's labor market outcomes improved considerably in recent decades, contributing to overall economic growth, unemployment and underemployment rates are high, preventing further gains from demographic dividends (see Box 3-1). Following the LAC trend, the Colombian labor market conditions have improved over the past three decades: labor participation has more than doubled, while the urban unemployment rate has declined to single digits. Despite these advances, Colombia's unemployment and informality rates remains among the region's highest, with half of the employed people working informally in

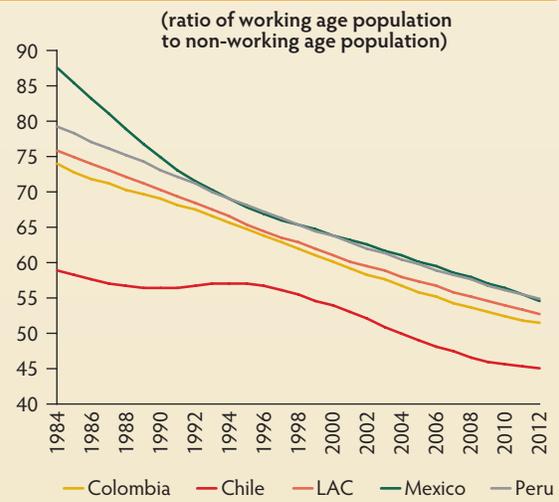
BOX 3-1: Recent Demographic and Labor Markets Dynamics

Labor market conditions have improved considerably in recent years: however, the unemployment rate remains high both by OECD and LAC standards, and formal job creation remains constrained by high labor costs. Following the LAC trend, the Colombian labor market has improved in the past three decades: labor participation has more than doubled, while the urban unemployment rate has declined to single digits. Despite these advances, Colombia's unemployment rate remains among the region's highest (below only Barbados, Jamaica, and The Bahamas) as well as above the OECD average. In addition, half of employed individuals work in the mostly low-productivity informal sector.

Colombia is currently under a “demographic dividend” that represents a window of opportunity to increase living standards. Between 1960 and 2000, the country completed the transition from a largely rural agrarian society to a predominantly urban industrial one, with low fertility and mortality rates. During this period, the age profile of the country shifted from high concentration of young people (more than 63 percent of the population was younger than 25 in 1960) to a more balanced one (47 percent of the population was younger than 25 in 2010). As a result, the labor force temporarily grew more rapidly than the population dependent on it. Periods with decreasing dependency ratios are known as demographic windows or windows of opportunity. During this period the share of net savers relative to net consumers tend to increase, freeing up resources for investment in economic development. The dependency rate declined from 74 percent of working-age population in 1984 to 60 percent in 2000 (Figures below). Dependency ratios are expected to continue decreasing until 2025–30, when Colombia's demographic window of opportunity will start closing.

LABOR FORCE PARTICIPATION RATE

Source: WDI, World Bank 2014.

DEPENDENCY RATIO

Source: WDI, World Bank 2014.

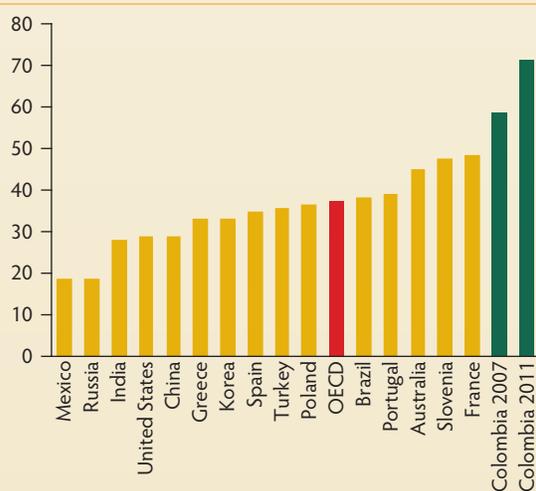
Women have driven the increase in labor participation, and the labor force composition has shifted toward workers with higher educational levels. Between 1984 and 2013, labor-force participation increased from 54 percent to 67 percent. Female participation almost doubled since 1984, explaining most of this trend. Meanwhile, the 25- to 55-year age group increased the most. Furthermore, labor participation of Colombians with more than 12 years of education rose 8.7 percent between 1991 and 2012, compared with an increase of 4.9 percent from those with less than 12 years of education.

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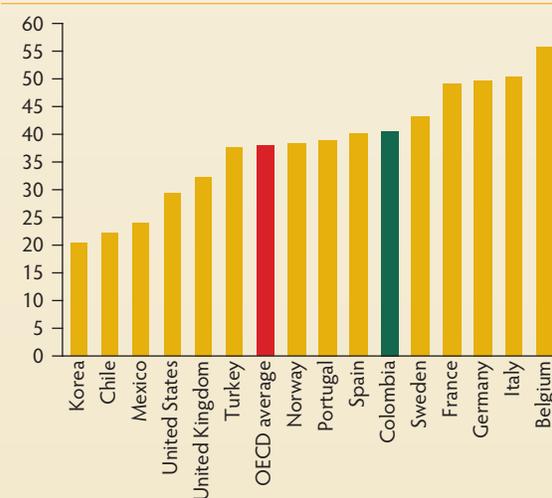
BOX 3-1: Recent Demographic and Labor Markets Dynamics *(continued)*

National unemployment fluctuated significantly during the past three decades, but it has been decreasing steadily since the 2008 global crisis. The national unemployment rate spiked in the second half of the 1990s, reaching its all-time high amid the 1998 recession. After this episode, the rate continued to fall until the 2008 global economic crisis, when it rose again to 12 percent. Since then, unemployment decreased to 9.6 percent in 2013. Women's unemployment decreased from an all-time high of 24 percent in 2000 to 14 percent in 2013, while men's declined from 17 percent to 8 percent in the period. Unemployment dynamics differed considerably between cities. Bogota saw a decrease from 18 percent in 2001 to 9 percent in 2013; Cali's decrease was more modest—from 18 percent to 14 percent. Finally, employment opportunities are consistently better for educated workers in urban areas throughout the whole period.

Despite increasing wages, wide wage dispersion persists between formal educated and informal non-educated workers. The size of the national informal sector has remained above 40 percent since 1984. Moreover, informal workers' relative income has decreased, reflecting the low productivity of the Colombian labor force. Colombia's institutional set-up led to a 21 percent real increase in the minimum wage between 1998 and 2010. However, two-thirds of informal workers earn less than the minimum wage. This fact is exacerbated by the differences in educations and skills. Given the high minimum wage, formal workers tend to be educated and enjoy legal protection and good labor conditions, while informal workers tend to be less educated and subject to lower-quality jobs.

RATIO OF MINIMUM TO AVERAGE WAGES

Source: OECD Economic Surveys: Colombia 2013 – © OECD 2013.

NON-WAGE LABOR COSTS AS SHARE OF TOTAL LABOR COSTS

Source: OECD Economic Surveys: Colombia 2013 – © OECD 2013.

Several investigations point to restrictive labor regulations, particularly the high minimum wage and non-labor costs, as the main cause of this segmentation in the labor market. In 2011, Colombia's minimum wage stood at 71 percent of the average wages, up from 58 percent in 2007 and one of the highest in the world (Figure above to the left).^a Regional differences in incomes are high, and the uniform national minimum wage is at or above median incomes outside the capital. High non-wage labor costs compound the effects of the minimum wage on formal employment. At 82 percent of wages (formal

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BOX 3-1: Recent Demographic and Labor Markets Dynamics (*continued*)

and informal), these costs are high by OECD standards (Figure above to the right), contributing to the high informality, particularly in the poorer regions of the country.

Although the 2012 tax reform reduced non-wage labor costs, plenty of space remains for creating the right incentives to increase formal employment and realize the gains from Colombia's demographic dividend. The Government has recently moved forward in addressing constraints to formal job creation. In its 2012 tax reform, payroll taxes were reduced from 29.5 percent to 16 percent for employees with salaries below 10 minimum wages (which represent the bulk of all employees). According to official estimates, this reduction could create between 400,000 and 1 million new jobs in the formal sector. Nonetheless, the country could still do more to reduce labor costs, improve job creation, and improve the matching between workers and firms.

^a The salary is determined by a tri-party negotiation process at the end of the year, and it is against the law to decrease it.

low-productivity jobs. So far, these outcomes have prevented Colombia from taking full advantage of its demographic dividends (decreasing dependency ratios). Addressing them would help accelerate economic growth and convergence during the remaining 10 to 15 years of this favorable demographic window.

Historically, many factors have contributed to Colombia's slow productivity growth, including particularly low levels of innovation. First, Colombia's low levels of human capital have implications for productivity. Those with little or no education are predominantly employed in less productive activities in the informal sector. In addition, quality education helps develop advanced skills that are crucial for assimilating new technologies and consistently innovating. In fact, innovation rates are low and Colombia's management practices are among the worst in the region.⁸ According to the National Innovation Survey IV (2007–08), only 11.8 percent of Colombian firms with over 10 workers innovate in product or process, compared to 30 percent on average for countries at its level of development. At 0.18 percent in 2011, national research and development (R&D) expenditures as a share of GDP are roughly half the expected rate for a country at Colombia's level of development. Second, Colombia remained relatively closed until the early 1990s. The economic literature has identified positive productivity spillovers

from competing with, buying from, selling to, and receiving investment from foreign firms. By limiting trade and investment for decades, Colombia has restricted opportunities for technology adoption. In fact, Colombia's improvements in TFP growth coincide with a continued effort to open the economy.⁹ Finally, decades of armed conflict had important consequences for economic activity and regional disparities (discussed in more details in the next section). The conflict imposes high direct and indirect costs, hindering investment in physical assets, destroying human capital (injuries and deaths), and creating distortions that affect overall productivity, such as violation of property rights, disruptions and public services and institutions. Estimated growth losses associated with the conflict range from 0.6 percentage point to 1.77 percentage points a year.¹⁰

Productivity growth was uneven across economic sectors, and it was largely influenced by labor reallocation across sectors. An alternative growth decomposition exercise can help illustrate labor productivity and labor reallocation dynamics across sectors (Table 3-2).¹¹ Labor productivity gains, measured by valued added per worker, accounted for 63 percent of the overall per capita output growth between 2001 and 2013 (1.8 percentage points of the 3 percent annual growth rate); changes in the employment rate (21 percent) and labor force as a share of the population

TABLE 3-2: Growth Decomposition: Contribution to Total Growth in Value Added Per Capita, Colombia 2001–13 (%)

	Contribution of changes in Employment (%)	Contribution of within sector changes in output per worker (%)	Contributions of Inter-sectoral Shifts (%)	Total (%)
<i>Sectoral contributions</i>				
Agriculture	-7.07	4.63	6.52	4.07
Mining and hydrocarbons	0.38	5.88	1.14	7.41
Manufacturing	-0.75	5.63	-0.27	4.61
Electricity, gas and water	0.21	0.23	0.78	1.22
Construction	4.67	6.56	0.75	11.98
Commerce, hotels, restaurant	9.90	7.75	-2.15	15.49
Transport and communication	6.32	3.07	0.13	9.52
Financial services and real state	9.96	-10.51	18.44	17.89
Communal, social and personal services	-2.39	13.52	1.00	12.13
Change in capital per worker		24.85		
TFP		11.91		
<i>Subtotals</i>	21.23	36.76	26.33	84.31
Demographic component				15.69
<i>Total</i>				100.00
Annual % change in value added per capita 2001–2013				3.08

Source: Authors' calculations using DANE data.

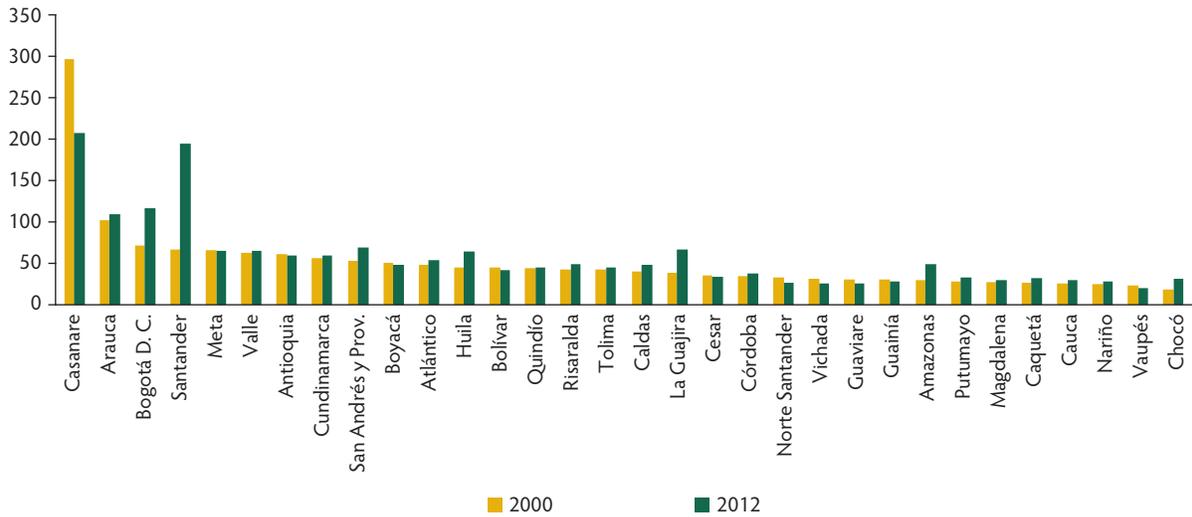
(16 percent) account for the rest. Labor productivity and gains can be decomposed into changes in labor productivity within sector and employment and labor reallocation across sectors, while employment gains can be decomposed by sector. In Colombia, the first component of labor productivity accounted for 60 percent of the gains (37 percent of the overall growth) and the second accounted for the remaining 40 percent (26 percent of the overall growth). In almost all sectors, within-sector productivity gains contributed to aggregate productivity gains. The exception was financial services, where employment grew faster than the sector's value added. Labor reallocation impacts vary across sectors. For example, labor shifts out of agriculture, a sector with relatively low labor productivity, positively contributed to overall productivity growth. At the same time labor shifts out of manufacturing, a high productivity sector, had a negative impact on aggregate productivity. Labor shifts into commerce, a low productivity

sector, decreased aggregate productivity, while large employment shifts into financial services, a highly productive sector, had the largest positive impact on aggregate productivity.

Growth at the regional level

Colombia's growth performance contributed to a small reduction in per capita income disparities, but differences in living standards remain significant. Per capita income in most states increased relative to the benchmark of Bogota, with the biggest gains in states with lower relative income (Figure 3-7). Researchers find mild convergence¹² during the 2000s.¹³ However, Colombia's differences in per capita income among regions are still large when compared with the regional differences in OECD economies (OECD, 2013). Most of the regions' GDP per capita gap with respect to Bogotá is due to low labor productivity. This dispersion across departments has remained

FIGURE 3-7: Income Per Capita as % of Bogota

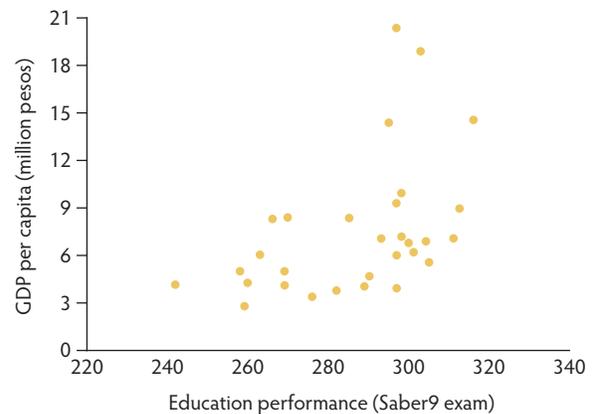


Source: Authors' calculations based on DANE data.

almost constant over the past decade. The main exception has been commodity-producing areas, where highly productive commodity sectors have emerged, although they have created little employment.

Regions with low productivity suffer from the same bottlenecks that explain Colombia's lag with respect to Asia and high-income countries. In addition to violence, which has been especially intense in poor regions, low access to education and subpar student performance have been identified as the main bottlenecks hindering regional GDP per capita growth and productivity¹⁴ (Figure 3-8). In addition to traditional education, these regions lag behind in entrepreneurial training during secondary, tertiary, and continuing education (OECD, 2012b). Furthermore, the quality of transport infrastructure differs greatly across regions (Figure 3-9). High regional discrepancies in the quality of roads suggest significant opportunities to raise competitiveness through mere rehabilitation and maintenance of existing roads in low-performing regions (Ramírez and Parra-Peña, 2010). These differences are reflected in the Department Competitiveness Index, which measures basic services, efficiency, sophistication, and innovation. The index is

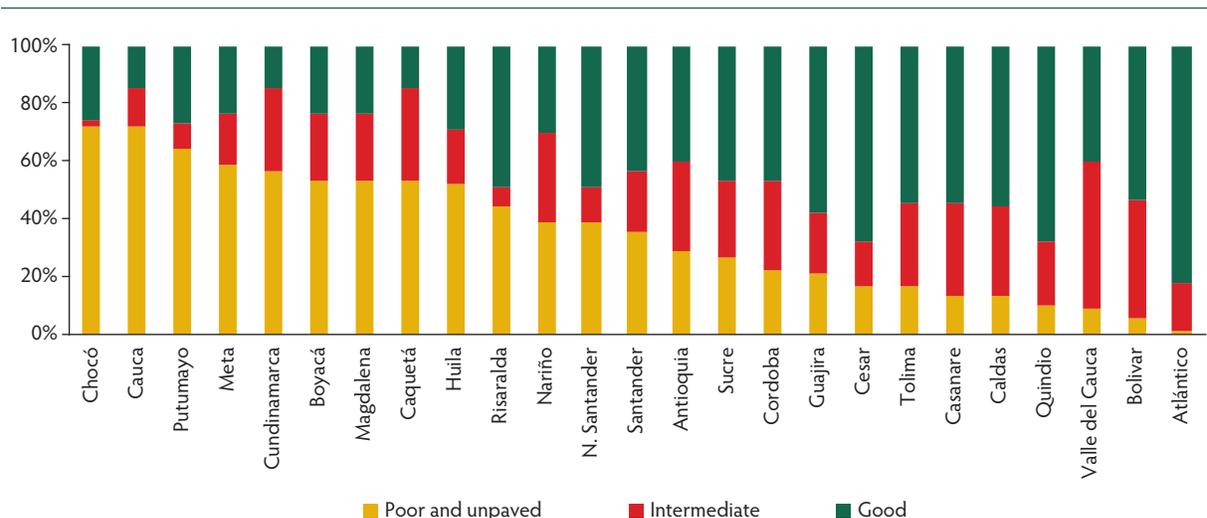
FIGURE 3-8: Education and Income Across Departments, 2010 (OECD 2013)



Source: OECD Economic Surveys: Colombia 2013 - © OECD 2013.

closely correlated with per capita income, except for oil-producing regions.

Historically, institutions have also played a role in per capita income disparities across regions, but if well implemented recent reforms might help alleviate this issue. The 1991 constitution sought to promote regional expenditures yet failed to reduce inequalities. Sub-national authorities began to receive

FIGURE 3-9: Quality of Roads at Department Level, 2009 (OECD 2013)

Source: OECD Economic Surveys: Colombia 2013 - © OECD 2013.

much larger public resources (especially those linked with oil production) but their capacity to effectively manage and invest them was not raised. As a result, the vast royalties from natural resources extraction have been ineffective (Olivera and Perry, 2009) or misused. Between 2000 and 2012, close to a third of the sanctions in the public administration (national and sub-national) were applied to mayors and local councilors (OECD, 2013). The 2011 royalties reform is expected to alleviate this problem. It aims to distribute revenues more equitably across regions, with the share allocated directly to commodity-producing regions reduced from 80 percent before 2011 to 10 percent after 2014. Most of the resources will be spent on infrastructure projects (40 percent) and on a science, innovation, and technology fund (10 percent). In fact, non-tax revenues and transfers seem to be negatively associated with per capita income growth at departmental level. Based on the model prior to the reform, royalties are also negatively associated with growth; when the reform is considered, royalties become positively associated with regional growth (Table 3-3, based on Lopez-Calva et al., 2013), i.e. they are expected to become a convergence factor. It is worth keeping in mind that potential implementation challenges—for example, the capacity to design, select, and execute infrastructure and innovation projects—are not considered in these estimates.

While per capita income across regions suggests a slow convergence, differences in poverty rates and access to services are stubbornly persistent. Colombia's moderate and extreme poverty rates (monetary poverty) have dropped significantly over the decade. However, regions that already had lower poverty rates had larger poverty reduction than regions with higher poverty rates (Figure 3-10). As a result, differences across regions were maintained and, in some cases, even amplified. A similar pattern arises when multidimensional poverty is taken into account. This indicator reflects access to key public services. While the indicator is only available for recent years, it suggests little change in regional disparities.

Structural changes in international trade

International trade as a share of GDP has increased steadily, rising from 21 percent in the early 1970s to 32 percent in 2012, but Colombia is still among the LAC's most closed economies. Between 1980 and 2012, goods exports increased from 7.6 percent to almost 16 percent of GDP, while goods imports rose from 13.5 percent to 16 percent of GDP. Despite the increase, Colombia's trade as a share of GDP remains lower than the LAC average (39 percent) and much lower than the average for fast-growing Asian economies (75 percent).

TABLE 3-3: Royalties and Regional Convergence

	Fixed Effects Estimates of Conditional Convergence, 2012–2016	
	No Reform (1)	Reform (2)
Real Income at $t-1$	-0.02366*** (0.00412)	-0.03444*** (0.00063)
Taxes at $t-1$	0.02081*** (0.00255)	0.01046*** (0.00037)
Non Tax Revenue at $t-1$	0.00043 (0.00091)	0.00040*** (0.00011)
Regalias at $t-1$	-0.00015** (0.00007)	0.00119*** (0.00004)
Transfers at $t-1$	-0.03518*** (0.00362)	-0.03151*** (0.00047)
Constant	0.59363*** (0.04808)	0.82186*** (0.00845)
R-squared	0.716	0.983
Number of Observations	154	154

Source: Enamorado, Lopez-Calva, y Rodríguez-Castelán, 2013.

Notes: Dependent Variable: Growth rate, Per Capita Income; Fixed effects estimates weighted by population size; Robust Standard Errors within parentheses; All monetary measures are expressed in logs and real terms 2005; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

In the LAC, Colombia is the second most closed economy after Brazil (21 percent of GDP).

Trade growth, and in particular export growth, during the past decade have benefited significantly

from high commodity prices. Colombia's export value grew an average of 13.6 percent a year during the past decade. This growth was largely driven by increases in the international prices of Colombia's main export commodities. When

FIGURE 3-10: Evolution in Poverty Rates

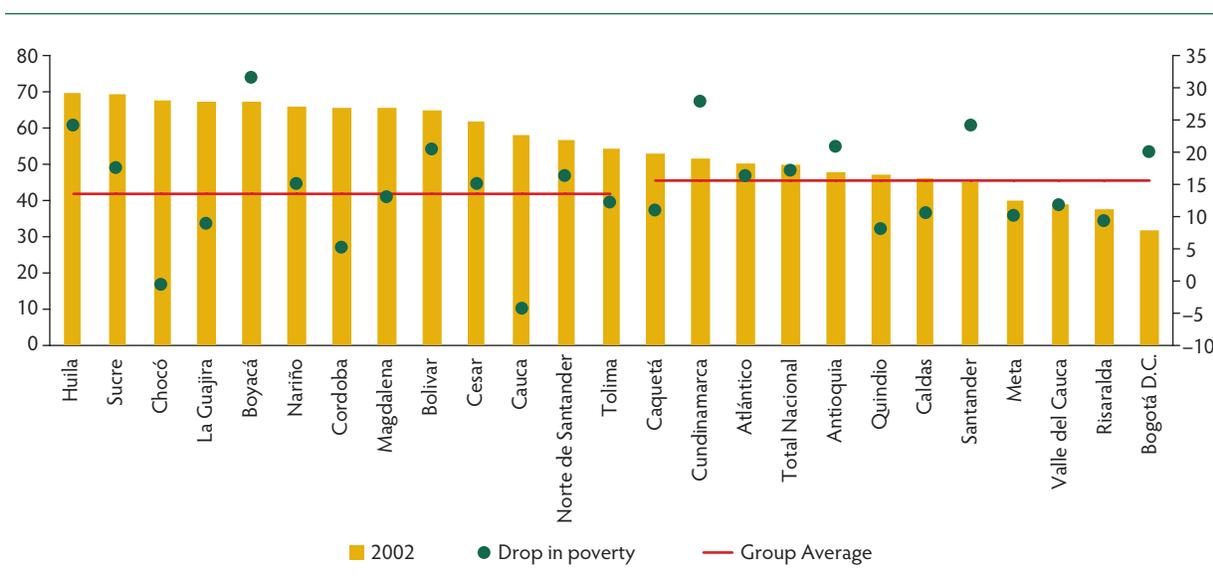
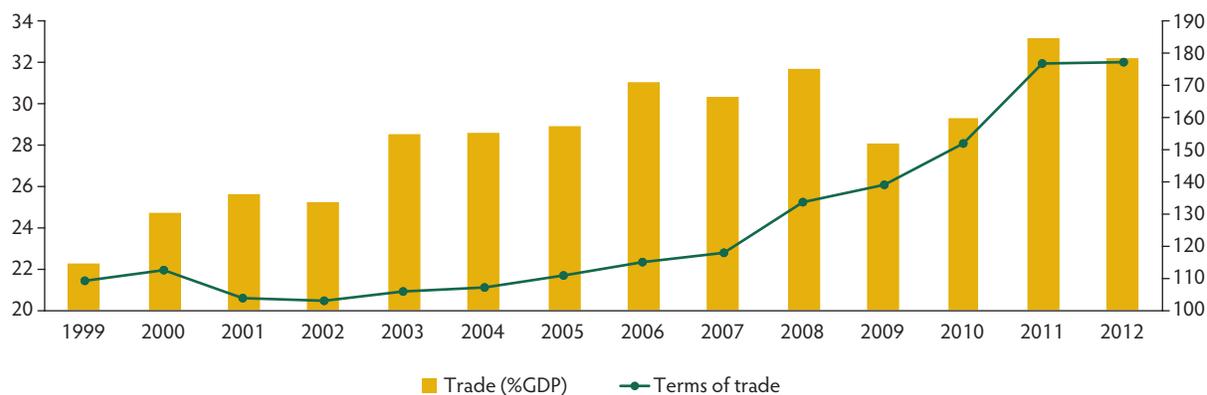
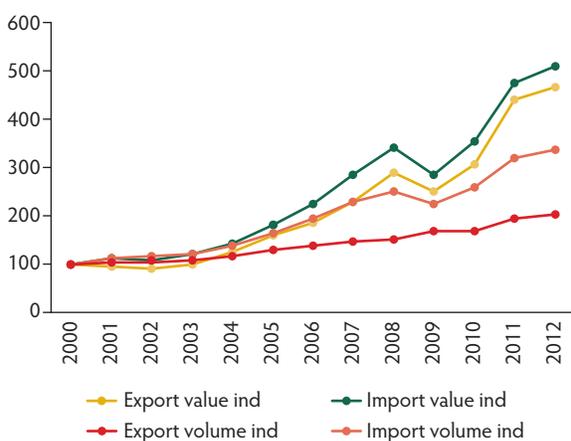


FIGURE 3-11: Recent Trade Dynamics



Source: Authors' calculations using IMF and WDI data.

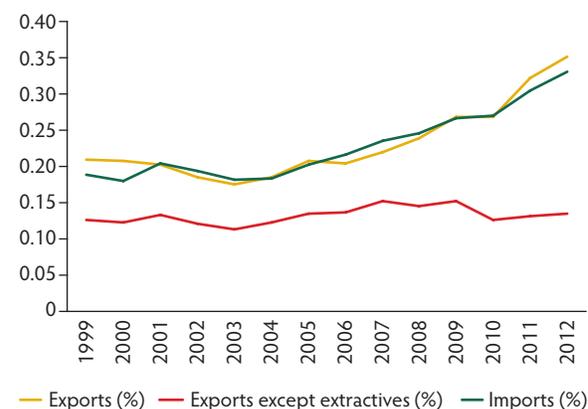
FIGURE 3-12: Export Values vs Volumes



Source: Authors' calculations using IMF and WDI data.

measured in volumes, export growth fell to an average of 6 percent per year (Figure 3-12). For imports, this difference was 14 percent growth in values and 10.6 percent growth in volumes, further exposing Colombia's external balance to commodity-price fluctuations. However, favorable prices helped raise Colombia's exports as a share of the world total from 0.2 percent in 2002 to almost 0.4 percent in 2012. This effect is almost entirely driven by extractive activities. Excluding extractive exports, Colombia's exports remain almost constant as a share of the world's exports (Figure 3-13).

FIGURE 3-13: Colombia's Share of World Imports and Exports (%)



Source: Authors' calculations using IMF and WDI data.

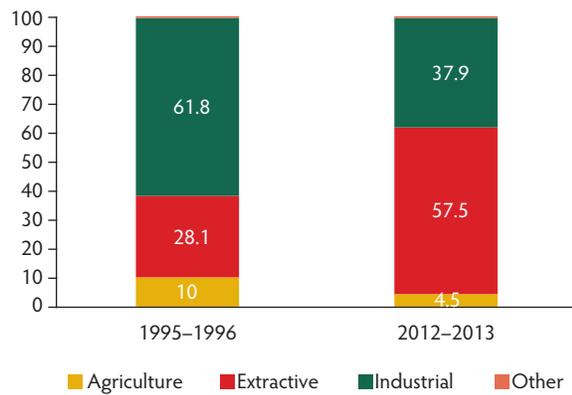
Export expansion has been associated with an increasing participation of extractive commodities and a high concentration of Colombia's export basket. Colombia experienced significant changes in export composition during the past decade. In the mid-1990s, manufacturing goods accounted for the majority of exports (62 percent), followed by extractives (28 percent) and agriculture (10 percent). By 2012–13, the roles have been reversed, with extractive exports accounting for 58 percent and manufacturing (38 percent) and agriculture (4.5 percent) falling significantly (Figure 3-14). While high oil and mining prices account for a

large portion of this change, other factors were also at play. For example, the economic crisis in Venezuela, one of the main destinations of Colombia’s manufactured products, contributed to a weak performance of this sector. Changes in the structure and composition of exports led to a much higher level of concentration¹⁵ in Colombia’s export basket (Figure 3-15).

In terms of export destinations, Colombia is more diversified than it was at the beginning of the

decade. New countries arise as important destination partners. For example, China did not appear among the top 20 export destinations at the beginning of the decade; now, it is the third largest consumer of Colombia products. Mexico also gained importance as an export destination. In contrast, Venezuela, the third largest destination at the beginning of the decade, is now in 10th position. Overall, these changes made Colombia’s exports less concentrated¹⁶ with respect to destination markets (Figure 3-16). The changes in destination markets are associated with the change in export composition. The new partners are net commodity importers and net manufacturing exporters, while old partners like Venezuela are net manufacturing importers.

FIGURE 3-14: Changes in Export Composition

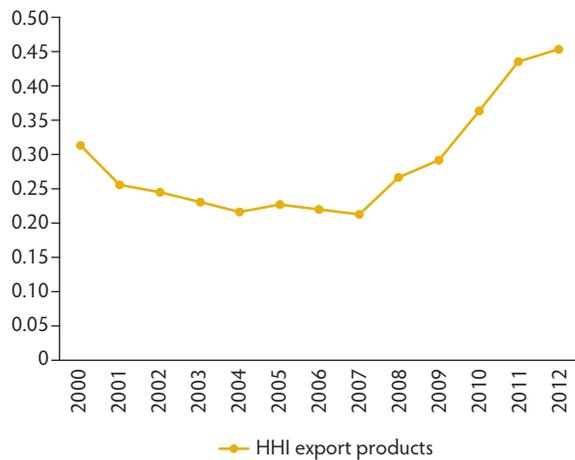


Source: Authors’ calculations using IMF and WDI data.

Macro Implications and Risks

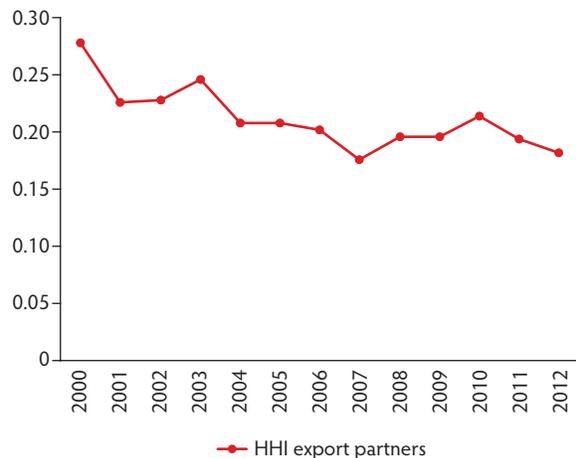
Colombia’s resource boom has been a blessing in many dimensions, but poses social and economic policy challenges. The boom has boosted foreign investment, economic growth, and government revenues. However, changes in the terms of trade and related capital inflows have contributed to the appreciation of the exchange rate, undermining the competitiveness of other sectors. As previously

FIGURE 3-15: Concentration in the Export Basket



Source: Authors’ calculations using IMF and WDI data.
Note: HHI stands for Herfindal-Hirschman index.

FIGURE 3-16: Concentration in Export Destinations



Source: Authors’ calculations using IMF and WDI data.

discussed, fuel sales increased to almost two-thirds of total exports, while manufacturing's share of total merchandise exports declined significantly. In addition, extractive activities are often highly capital intensive, do not create many jobs, and generate large rents, which may harm income distribution. Finally, the relatively large share of extractive activities in trade and government revenues increases macroeconomic exposure to price fluctuations and overall economic volatility.¹⁷ Volatile revenues and associated procyclical spending could have real costs for growth.

Commodity production and natural resources abundance do not necessarily hinder growth. The increase in oil export revenues brings certain opportunities for Colombia because—if well-managed—they might serve as a financing source for economic development. Norway, Chile, Botswana, Indonesia, Malaysia, and Thailand are examples of countries rich in natural resources that managed their resources well and achieved high growth rates, diversifying their economies beyond commodities. In contrast, many commodity-rich countries are lagging in development, supporting the idea that a “curse” can emerge if resources are poorly managed. Examples in this group might include Nigeria, Venezuela, and Algeria.

One of the potential challenges associated with large commodity booms is the “Dutch disease.” Natural resources generate large profits (economic rents) in places where they are abundant—that is, where they can be produced at a marginal cost below levels that prevail elsewhere. This has two major effects on the economy's relative incentives. First, to the extent the resources are exported, the inflow of foreign exchange appreciates the real exchange rate—that is, it raises the price of non-tradable goods relative to tradable goods. Second, it increases the returns to production of the resource relative to other tradable goods. Both of these effects reduce the incentive to invest in production of other tradable goods, resulting in a production and export structure dominated by the resource.

Colombia's recent economic dynamics indicates some initial symptoms consistent with the Dutch disease, but it is too early for conclusions. Over the past decade, Colombia's real exchange rate appreciated by almost 40 percent vis-à-vis trading partners.¹⁸ This has made the country's export goods more expensive for foreigners, decreasing the international competitiveness of Colombian goods with high price elasticities, such as manufactured goods. In fact, manufacturing exports fell as a share of total exports, and overall production has been sluggish. The strong exchange rate also lowered domestic costs of imports, and Colombia has run slightly negative trade and current account balances. In particular, the current account deficit has not been positive in a single quarter since 2001 (see Figure 3-2). While these facts are consistent with the Dutch disease, it is important to be circumspect because other factors might be involved. In the case of manufacturing performance, factors such as the crisis in Venezuela, and competition from China seemed to have been much more important than exchange-rate appreciation (Griffin, 2014). Manufactures might have also been affected by sluggish external demand of high income partners such as the U.S. and Europe.

A large fraction of the current account deficit is financed by abundant FDI flows, which have been relatively stable over time.¹⁹ Nevertheless, FDI flows can still be challenging; for instance, Colombia receives a considerable amount of FDI in the commodity sector, which is usually prone to sudden capital flow reversals (see Figure 3-3). For this reason, the current account deficit could create some pressures in the medium term if the investment flows were to reverse—especially with official reserves that are low compared to other resource-rich emerging economies.²⁰ Box 3-2 discusses the potential repercussions for Colombia of a sudden drop in oil prices. Over the longer run, a structural current account deficit implies that it will be paid off in the future. The ability to do so will depend on sustaining growth and export competitiveness.

In addition to external prices, commodity booms depend on the internal production capacity. Although the commodity boom is likely to continue, considerable uncertainty surrounds its length and intensity. Colombia's proven oil and gas reserves are estimated to last seven to eight years. Oil production is expected to peak in 2018 at 1.14 million barrels a day and then decrease slowly to less than 0.8 million barrels a day in 2035. The

expected life of commodity resources in Colombia is, however, difficult to estimate because exploration in much of the country has barely started. Uncertainty about future discoveries is large. Similarly, forecasts for commodity prices and terms of trade have wide error margins. While commodity prices may decline as new sources of supply emerge, their levels may well remain relatively high based on growing demand from Asia.

BOX 3-2: How Vulnerable Is Colombia's External Sector to Oil Price Fluctuations?

Colombia's high reliance on oil exports—about two-thirds of exports are fuel—and its persistent current account deficit raise questions about the external sector's vulnerability to oil price fluctuations. Movements in oil prices are quite substantial: in the past 20 years, yearly declines of 60 percent and monthly declines of 20 percent were not uncommon.^a For our analysis, we assume an annual price decline of a third.^b Considering estimated net petroleum exports of 240 million barrels per year^c and an oil price of US\$100 per barrel, a one-third decline could potentially translate into a US\$8 billion loss of export revenues. The current account deficit of US\$12 billion would increase by two thirds.

However, this back-of-the-envelope calculation neglects that foreign demand does respond to oil price changes. It is often said that demand for oil is fairly inelastic, but this assumption is certainly too restrictive. To better assess the vulnerabilities of Colombia's current account to an oil price shock, we calculate a short-run price elasticity of total oil exports of approximately 0.3, meaning that the value of oil exports decreases by about one-third of the percentage shock to prices. Considering this effect, the current account deficit would only increase by an estimated 20 percent. In practice, of course, many other effects are at work (e.g., the exchange rate, domestic demand, and capital flows). If we estimate the effect of oil prices on the overall current account balance in a simple reduced-form model, we hardly find any significant effect at all.

Considering these results, we assess Colombia's risk exposure to oil price fluctuations as modest. However, it should be noted that considerably larger oil price shocks might occur and calculations with data from "normal" times are usually not a good guide for such singular events. In such a bust environment, Colombia's vulnerability to shocks will depend more on factors like global capital flow patterns or the perception of investors—which in turn will be influenced by long-run development perspectives—and the capacity of the macroeconomic framework to accommodate such shocks in the short run (e.g. international reserves which are currently at a largely adequate level^d). In any case, what will probably matter most is not the short-run fluctuation of the oil price by itself but a development outlook predominantly based on oil (and other commodities).

^a This magnitude is calculated as the lower quartile value minus 1.5 times the inter-quartile range for WTI:

$Q1 - 1.5 \times IQR$

^b Note that declines by 60 percent from the year before might not be uncommon for a given month but this is often mitigated over the whole year. In the past two decades, the largest price decline measured over a full calendar year was 45 percent (2009), followed by 35 percent (1998). We thus consider a shock of a third a reliable downside magnitude.

^c www.eia.gov.

^d See Endnote 20.

Sound fiscal management and reforms have increased Colombia's overall resilience to shocks, but the fiscal account is still exposed to a sudden drop in oil prices. Colombia has implemented important reforms in the past decade, including two comprehensive tax reforms that helped increase non-oil revenues and a fiscal consolidation rule and medium-term fiscal framework that gradually reduces the structural deficit to 1 percent of GDP by 2020. The rule shielded the government's fiscal target from oil price fluctuations and determined that a part of the savings in favorable cycles should be dedicated to an oil sovereign fund. Sound management also led to a reduction in central government debt from 45 percent of GDP in 2003 to 37 percent in 2013, reducing fiscal risks. Nevertheless, a sharp decline in oil prices could temporarily affect fiscal outcomes as oil-related revenues represent 16 percent of total central government revenues. A US\$10 decline in the per barrel oil price reduces central government revenue by approximately 0.4 percent of GDP (with a one year lag). If a large shock occurs before the sovereign fund is fully funded, Colombia will have to rely on other tools to avoid real implications to the economy, such as the renewed US\$5.8 billion IMF flexible credit line.

Besides short-term risks from macro-financial linkages,²¹ overreliance on commodity production has several adverse structural implications. One of them is the pass-through of commodity price volatility to the rest of the economy. Macroeconomic volatility has long been an impediment to growth and poverty reduction in Latin America.²² While Colombia's fiscal framework reforms have introduced some buffers against oil price swings (see below), economic diversification could further contribute to stability. It would also broaden the tax base, which is important because Colombia's revenue collection as a share of GDP is relatively low. A broader tax base is important for investments in training, education, and infrastructure as well as for progressive redistribution, all of which are important to sustaining the current economic growth

trajectory and avoiding typical "middle income traps." Finally, broadening the tax base would increase social ownership in public expenses: as more public expenditures are financed from general taxes, taxpayers will have an incentive to monitor the efficiency and effectiveness of these expenses more closely.

Colombia has taken important steps to mitigate the risks associated with the commodity boom, but lessons from other economies suggest more can be done. Given the macroeconomic framework, Colombia seems well-equipped to counter near-term risks and achieve structural shifts toward non-commodity sectors. The public sector is characterized by modest debt levels, and the fiscal deficit has been on a consolidation path. The legal framework has been reformed, with a fiscal rule designed to facilitate counter-cyclical policies and decrease the reliance in commodity revenues and a tax reform to widen the tax base. Furthermore, the central bank has earned considerable credibility in the market and independently operates under a sound framework of flexible inflation targeting. While the fiscal rule helps limit fiscal volatilities driven by commodity cycles, it does not per se resolve the problem of how to transfer resources from the commodity industries to other sectors of the economy. Supporting this transition through budget expenses would be one option. Alternatively, development resource funds that exist in many countries, such as the United Arab Emirates or Kazakhstan, do not necessarily have to invest in foreign assets but could also support diversification through well-targeted domestic investments. "Sustainable investment tools"²³ can help allocate the resources of such funds. They combine the rationale of saving resource revenues abroad with the benefits of investing them domestically, considering bottlenecks and lacking absorptive capacity in the domestic economy, thus taking into account long-term development goals and project-based cost-benefit considerations. Such tools have been parameterized for other resource rich countries but could be adjusted for the Colombian case and could further refine the country's elaborate fiscal framework.

Endnotes

- ¹ See Berg, A., R. Portillo, S.C. Yang, F.F. Zanna (2013). “Public Investment in Resource-Abundant Developing Countries,” *IMF Economic Review*, 61(1): 92–129.
- ² Argentina, Brazil, Chile, Peru, Mexico, Venezuela.
- ³ Korea, Singapore, China, Thailand, Indonesia, and Malaysia.
- ⁴ Measured by GDP per capita at constant 2005 US\$.
- ⁵ Considering only high income OECD countries.
- ⁶ It is worth to keep in mind that results can be sensitive to assumptions about measures of human capital, estimated return on human capital, capital depreciation, labor force, etc. We chose to adopt the Penn World Table assumptions to ensure consistency across a large number of countries. This assumption might differ from other country specific studies.
- ⁷ Infrastructure Quality Index, World Economic Forum 2013–14.
- ⁸ World Bank (2013).
- ⁹ Eslava, Haltiwanger, Kugler, Kugler, (2012).
- ¹⁰ A. Saavendra (2013), M. Santa Maria, N. Rojas, G. Hernandez (2013).
- ¹¹ The methodology adopted uses Shapley decomposition to link changes in particular components to changes in total per capita GDP by taking into account the relative size of each economic activity as well as the magnitude of the changes. This approach gauges the marginal effect on a variable of interest (in this case, output per capita) of the sequential elimination of each of its contributory factors (in this case, the national working age population, employment rates and output per worker in each economic activity). Since there are several possible sequences of elimination, the method assigns to each factor the average marginal contribution of all possible elimination sequences. The decomposition was produced using the Job Generation and Growth Decomposition Tool from the World Bank’s Employment Lab. For a full description of the method and a simulation toolkit, visit: (<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTEMPHAGRO/0,,contentMDK:22042518~menuPK:2743902~pagePK:148956~piPK:216618~theSitePK:2743783,00.html>)
- ¹² Both beta and sigma convergence.
- ¹³ Lopez-Calva, Castelã, and Enamorado (2013), Aguirre Tobón (2005), Branisa and Cardozo, (2009), Royuela and García (2010).
- ¹⁴ CEER, 2007.
- ¹⁵ Measured by the Herfindahl–Hirschman Index.
- ¹⁶ Measured by the Herfindahl–Hirschman Index.
- ¹⁷ Commodities and extractive commodities in particular have higher short-term price volatility than other goods. Price fluctuations, regardless of their effect on investment, create volatility in foreign exchange earnings and government revenues (World Bank 2010).
- ¹⁸ In addition to commodity revenues, capital inflows from industrialized countries during a period of loose global financial conditions also put appreciation pressures on the exchange rate. The exact degree of appreciation in the real effective exchange rate depends on the underlying method used to construct the trade weights. The JP Morgan method leads to lower appreciation (close to 30 percent); IMF IFS data indicates a stronger appreciation (above 50 percent).
- ¹⁹ WBG staff calculations based on IFS data. Furthermore, almost the whole FDI position is financed by equity and investment fund shares, not debt instruments. The latter are considered as more volatile. Flows in recent years, however, were very debt-intensive.
- ²⁰ By the end of 2012, Colombia’s official reserves covered 5.1 months of imports. This is a magnitude similar to other commodity exporters, such as Angola (7.1), Malaysia (6.6), Indonesia (6.1), Nigeria (5.7), Chile (4.5) and Venezuela (3.9). However, it is considerably less than, for example, Algeria (34.8), Bolivia (14), Peru (12.5), and Botswana (12.2). Source: WDI. Accumulated reserves, however, increased since early 2012. For an assessment of optimal reserve holdings, see Calvo, G. A., A. Izquierdo, R. Loo-Kung (2012): “Optimal Holdings of International Reserves: Self-Insurance against Sud-

- den Stop,” NBER Working Paper 18219. According to their calculations (for 2010), Colombian reserve holdings were too small.
- ²¹ Potential risks in this aspect include inter-linkages between such phenomena as the build-up of debt in pockets of the market not on the supervisory authorities’ radar screen, currency mismatches on balance sheets, overvaluation in segments of the equity market, the possibility of a drop in capital inflows, and the interplay of these factors that might lead to a vicious downward spiral with asset price declines and credit defaults.
- ²² See e.g. Inter-American Development Bank (1995), “Overcoming Volatility in Latin America.” Report on Economic and Social Progress in Latin America. Gavin, M., R. Hausmann, R. Perotti, and E. Talvi (1996), “Managing Fiscal Policy in Latin America and the Caribbean: Volatility, Procyclicality, and Limited Creditworthiness.” IADB Working Paper 326. Crespo-Cuaresma, J., S. Klasen, and K.M. Wacker (2013), “Why We Don’t See Poverty Convergence: The Role of Macroeconomic Volatility.” Courant-Research-Centre: Poverty, Equity, and Growth. Discussion Paper 153.
- ²³ See Berg, A., R. Portillo, S.C. Yang, F.F. Zanna (2013). “Public Investment in Resource-Abundant Developing Countries,” *IMF Economic Review*, 61(1): 92–129.

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PART TWO

POLICY NOTES

CHAPTER 4

Agriculture and Rural Development



Main Messages

Rural areas of Colombia, long home to high levels of poverty and lagging development, are at risk of falling even further behind the country's urban areas. Decades of civil conflict have taken a heavy toll on the rural economy. Security deficiencies and neglect of the rural population have led to the displacement of hundreds of thousands of households and the abandonment of countless farms and small enterprises. The result has been a slowing of productive activity in many rural areas, accompanied by increasing instability. Agricultural growth, once a leading driver of overall GDP growth, has faltered. Production gains have been narrowly concentrated in a handful of export crops, while output of many of the staple crops grown by the majority of rural households has stagnated. The lagging agriculture performance has exacerbated what was already a wide welfare gap between urban and rural areas.

The recent sluggish performance of the rural economy poses a problem for the Government, but it also represents an enormous opportunity. Blessed with abundant land and water resources, Colombia's rural sector has considerable untapped potential for wealth creation and poverty reduction, but that potential is not being realized. Many agricultural policies have been ineffective, service delivery to rural areas remains weak, and chronic underinvestment in rural infrastructure has left many producers unable to access inputs and isolated from markets.

With the peace talks raising prospects that security may soon be restored to the countryside, policy makers could soon be presented with an opportunity to reverse the decades-long decline in the rural economy. The task will not be easy, however, and it will not be accomplished overnight. For that reason, the Government will have to implement a phased approach that focuses in turn on issues that need to be addressed in the short, medium and longer term.

As peace and stability return to rural areas, the immediate priority will be providing rural households with the means to engage in productive activities and resume their livelihoods. This will mean ensuring that households have secure access to land, to the productive inputs needed to resume agricultural activities, to the information and knowledge needed to use those inputs effectively, to the financial resources needed to pay for them, and to the infrastructure needed to deliver surplus production to the market.

After measures have been implemented to restore rural livelihoods, especially in areas that have been severely affected by conflict, a second priority will be to get agriculture going. This will be possible only when the constraints currently inhibiting agricultural growth are overcome. These constraints include factors that contribute to low farm-level productivity, factors that reduce the profitability of agriculture, and factors that undermine the competitiveness of Colombian producers. Overcoming these constraints will require a comprehensive strategy of policy reforms, institutional changes, and supporting investments.

Finally, over the longer term, the health and well-being of the rural sector will depend on the ability of the Government to implement a territorial approach to rural development. This will require a fundamental rethinking of how services are delivered to rural areas. Starting with a broad concept of the rural sector that encompasses multiple sectors, a wide range of partners and stakeholders, and many different economic activities, it will be necessary to build a new institutional architecture consisting of centralized policy-setting and financing agencies working hand in hand with strengthened decentralized implementation and coordination entities, local civil society organizations, and private firms.

The Agricultural Sector in Colombia: Opportunities and Challenges

The rural sector in Colombia is blessed with abundant resources. It features many unutilized and underutilized resources that, if properly exploited, could provide the basis for broad-based and sustainable growth. These include:

- i. 22 million hectares of arable land, only 5.3 million hectares of which are currently cultivated (IGAC, 2012);
- ii. 38.8 million hectares currently used for grazing and livestock production, largely characterized by extensive and inefficient pasture systems with an average stocking rate of less than one animal per hectare (IGAC, 2012);
- iii. 60 million hectares of forest, including 477,575 hectares currently being managed as commercial plantations (IGAC, 2012);
- iv. Abundant water resources that can be exploited for energy generation, agriculture, and a wide range of industrial uses;
- v. Extractive resources (minerals and energy) that could become an important source of income for rural populations;
- vi. Rich biological diversity, providing many opportunities to generate wealth through biodiversity and environmental services; and
- vii. Attractive landscapes that could be the basis for sustainable tourism as a source of income generation for rural populations.

Despite its considerable potential, the rural economy has underperformed. Agriculture is the backbone of the rural economy in Colombia, yet over the past 20 years, value added in agriculture has risen by less than the whole economy. For the decade 1994–2004 agriculture had an average annual GDP growth of 1.1 percent whereas the whole economy grew at a 2.2 percent rate. For the period 2004–2013 the rates were 2.0 and 4.7 percent, respectively.¹ After years of lagging performance, the agricultural sector has lost relative size within the

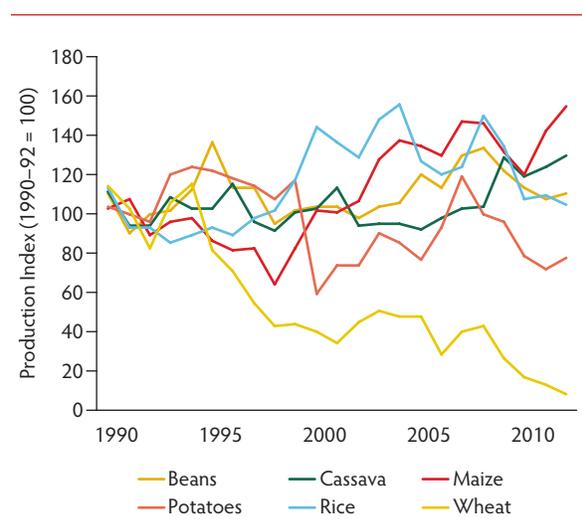
Colombian economy; by 2012, it represented only 6.2 percent of total GDP.

Across a wide range of sub-sectors, the trends are not encouraging.

Food crops. Over the past two decades, production of many leading food crops has fluctuated widely around generally flat trends (Figure 4-1). Two notable exceptions are maize (production increased in response to strengthening demand from the feed industry) and wheat (production plummeted in the face of increasingly competitive flour imports). For food crops generally, the overall pattern is symptomatic of a sector with little innovation and production subject to the vagaries of weather.

Cash crops. Over the past two decades, cash crops have suffered differing fortunes. Production of traditional export crops, especially coffee, cocoa, and cotton, has fallen as productivity has stagnated and competitiveness has declined. Meanwhile, production has surged for some non-traditional export crops, including palm oil, flowers, and sugar cane.

FIGURE 4-1: Production of Principal Food Crops in Colombia, 1990–2012



Source: FAOSTAT.

Livestock. Livestock production, especially the raising of cattle for meat and dairy, is an important activity, contributing 20 percent of agricultural GDP and 1.6 percent of total GDP. The livestock sub-sector generates approximately 950,000 jobs, representing about 28 percent of all rural employment and 7 percent of all employment. Over one-third (34 percent) of Colombia's total land surface is used for cattle ranching, or about 38.8 million hectares. According to the Livestock Sector Strategy 2019, among those 38.8 million hectares, only 19.3 million are suitable for this purpose. The remaining land is suitable for forestry (10 million hectares) and agriculture (9 million hectares). The underutilization of much of the land that is used for livestock production, combined with unequal distribution of land, has been a major source of conflict in many parts of the country.

Ranching is for the most part carried out in areas with high levels of poverty, unequal income distribution, widespread illiteracy, recurrent violence, and highly unequal patterns of land ownership. Except for a small percentage of very large farmers, most landholdings are small and face financial and technological limitations. Working capital and natural resources are inefficiently used, leading to high production costs and marginal profitability. Average stocking rates on pastures are estimated at less than one animal per hectare. This sub-sector is one of the major drivers of deforestation in tropical areas, and also a main contributor to greenhouse gas emissions and soil erosion

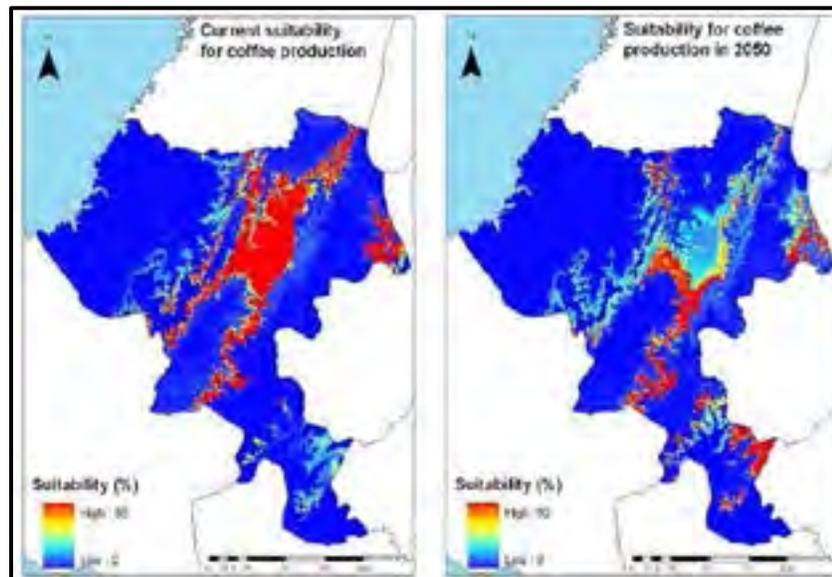
Forestry. With more than 50 percent of its national territory under natural forests, representing over 60 million hectares, Colombia is classified as heavily forested. Native forests are the main source of wood and fiber used by local communities and national industries.

Tapping the potential of forests to contribute to growth and poverty reduction will depend on preservation of this important resource, which will mean slowing and eventually stopping deforestation. The annual rate of deforestation decreased from around 238,000 hectares from 2005–10 to

just under 148,000 hectares in 2011–12. While the trend is clearly positive, many underlying drivers of deforestation continue to pose major threats to natural forests in specific areas—the so-called “hotspots of deforestation.” These drivers include the expansion of the agriculture frontier, concealed planting of illegal crops, forced displacement of large numbers of people and unauthorized colonization, construction of roads and other infrastructure, illegal logging, uncontrolled forest fires, and illicit mining. According to IDEAM² (2013), the expansion of the agricultural frontier was responsible for 65 percent of Colombian deforestation between 2005 and 2010. The lack of policies that promote commercial reforestation and the lack of regulations and implementation of environmental standards, in particular illegal mining, exacerbate this problem.

Climate change poses a growing threat. Colombia is very vulnerable to climate change, with yield declines of 10 to 20 percent projected by 2020 for maize, soybeans, and wheat, even after taking into account adaptation efforts involving adoption of new plant varieties and better land and crop management practices. Colombian farmers, particularly smallholders, will need to cope with changing precipitation patterns, extreme weather conditions, and increased risks of droughts, floods, pests, and fires. Studies by the Palmira (Valle del Cauca)-based International Center for Tropical Agriculture (CIAT) paint a worrying scenario for coffee, with major contractions likely by 2050 in the areas most suitable for coffee (Figure 4-2).

The impacts of climate change will not be exclusively negative. For example, irrigated rice appears likely to benefit from warmer, more humid conditions: rice yields are projected to increase by 10 to 15 percent between 2020 and 2050, assuming good crop, land, and water management. In addition, a recent WBG Low Carbon Growth study for Colombia revealed that forests, fruit trees, and other perennial crops could potentially provide good options for crop diversification and replacement for coffee in the medium to long term.³

FIGURE 4-2: Projected Impacts of Climate Change on Coffee-Growing Areas in Cauca, Colombia

Source: CIAT 2011.

A likely outcome of climate change will be more extreme weather-related events, especially droughts and floods. Evidence of the impacts of such extreme events was apparent during 2010–11, when Colombia experienced severe flooding that led to huge losses and steep declines in yields of several crops, such as coffee: of the 3.2 million people affected by the *La Niña* phenomenon in 2011, 67 percent experienced agricultural losses (BID-CEPAL, 2012). Developing climate smart agriculture (CSA) practices must be a priority for overcoming the projected climate impacts and providing resilient productivity growth in the face of looming climate change.

Causes of Underperformance in the Rural Economy

Agricultural productivity growth has lagged, reflecting years of public neglect and a lack of incentives for farmers to invest in productivity-enhancing technology. A range of factors contribute to the low productivity of agriculture and constrain agricultural growth: weak research and extension services, limited use of improved

genetics, inadequate use of purchased inputs, low levels of mechanization and irrigation, poor access to production credit, and fragile natural and human resource bases. National institutions that provide services to rural producers have been slow to react to structural changes in global demand for Colombia's traditional exports—for example, the steep decrease in coffee prices following the collapse of the International Coffee Agreement.

Low productivity in agriculture is reflected in a lack of competitiveness. Colombia's large domestic market provides substantial potential for agricultural growth in the short to medium term. Once production has expanded to fully meet domestic demand, additional growth will have to come via expansion into international markets. Access to these markets is constrained, however, by the non-competitiveness of Colombia's export crops. This arises from a number of factors, including high production costs, the difficulty of accessing global markets, a challenging international trade environment, and inconsistent macro policies (e.g., foreign exchange policies that have alternately encouraged and then

discriminated against exports), and a deficient agricultural innovation system (World Bank 2003).

The underperformance that has characterized the rural economy can be traced to a number of causes related to government support to the sector.

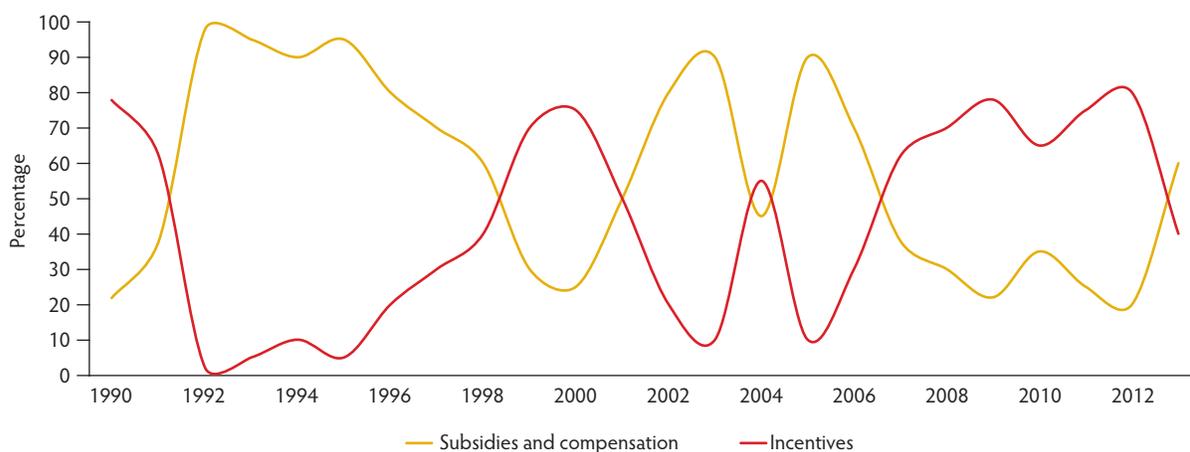
Weak and ineffective institutions. The public institutions charged with delivering services to Colombia's rural sector are fragmented, understaffed, and inconsistently managed. Responsibility for key functions is distributed across multiple ministries and agencies, so it has been difficult to forge an overall vision for agricultural development. Responsibility remains highly centralized, resulting in top down approaches that frequently fail to address the priorities of rural communities. Local level capacity has generally been weak. Finally, service delivery has been subject to elite capture, with a disproportionate share of public resources earmarked for agriculture going to a few small but politically powerful producers of export crops.

Inappropriate and inconsistent policies. Agricultural policies have differed over the years in terms of focus and approach, but a common feature has been a recurring reliance on special initiatives, programs, and projects to provide immediate solutions to

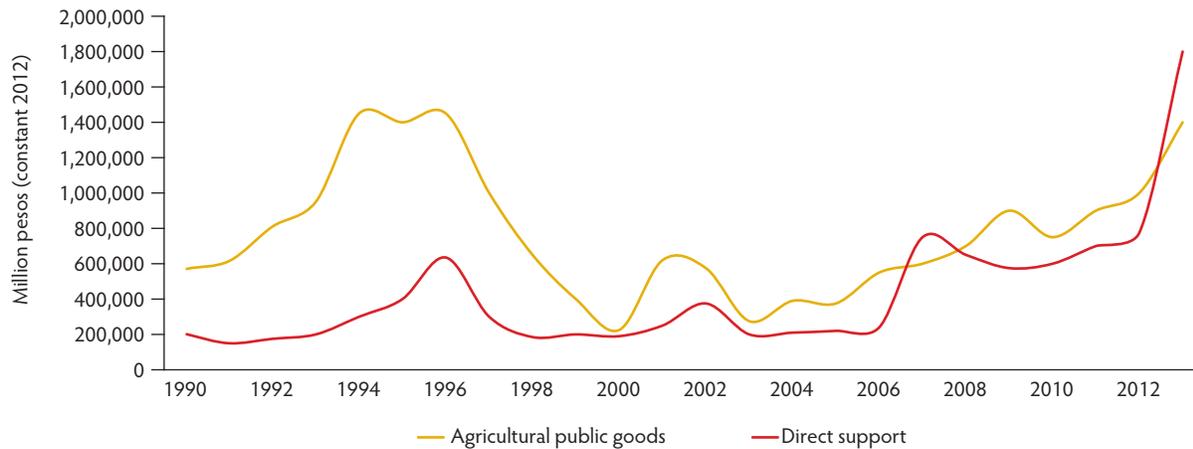
pressing crises. Policies have tended to change frequently with new political leadership (Figure 4-3). Many special initiatives and programs, while well-intentioned, have been financially unsustainable. In some cases, this has been because agricultural policies have provided trade protection for products in which Colombia does not enjoy a comparative advantage in production. Policies that protect sub-sectors deemed strategically important have done a disservice by permitting inefficient producers to survive, while relieving them of pressures to modernize production methods in ways that would allow them to lower production costs and compete effectively in international markets.⁴

Ineffective public investments. Government spending has been biased against the rural sector, resulting in wide gaps in the allocation of public goods between rural and urban areas and disadvantaging the rural population in terms of opportunities. In addition, the anti-rural bias in public goods and services has undermined the incentives for private investment in farm and rural non-farm activities. Public investments that have been directed to the sector very often have had little impact beyond the very short term, partly because they have tended to subsidize inputs and support prices received by private producers, rather than financing the public goods and services needed to improve overall

FIGURE 4-3: Evolution of Direct Support



Source: Calculations for the National Human Development Index, 2011, based on DNP.

FIGURE 4-4: Evolution of Agricultural Public Goods and Direct Support

Source: Presentación IGAC Sep/08: Declaración del 2009 como Año de los Suelos de Colombia.

competitiveness. While in the early 1990s, public spending was oriented toward sectoral public goods (agricultural competitiveness, and public goods for rural development), it shifted its emphasis to direct support to producers (mainly marketing subsidies, and compensation for prices) in the first decade of the 2000s. For instance, this included: incentives for rice storage, compensations for the price of cotton, a program protecting income from coffee production, and special lines of credit, among others. It is worth noting that a trend toward a more equitable distribution of resources, mainly targeted to sectoral public goods, has emerged in recent years.

Rural Development

Today, vast areas of rural Colombia suffer from high levels of poverty and lagging development. Four decades of civil conflict have led to the displacement of millions of households, the abandonment of hundreds of thousands of farms, the stagnation of a once-dynamic agro-industrial sector, and the withering of many non-agricultural rural activities (e.g., tourism).

The Government is pursuing a new vision of rural development grounded in three principles:

- Rural development is more than agricultural development—it encompasses everything that contributes to improved livelihoods of rural populations, including infrastructure, health, education, technology, connectivity, and social protection;
- Rural development requires significant investment in public goods and services, rather than direct subsidies to private goods and services; and
- In an age of budget constraints, rural development efforts should focus primarily on areas where poverty is concentrated and where the presence of the state is lacking.

If the administration is to succeed in realizing the vision of a “new rurality,” it will have to overcome three main challenges:

- It must clearly articulate and successfully adopt a territorial approach to rural development;
- It must overhaul the institutions charged with implementing rural development policies and programs and introduce a new process for policy-making and territorial development planning; and
- It must tackle the land problem because the unequal distribution and inefficient use of land poses the single largest obstacle to growth, social and political stability, and durable peace in Colombia.

Adopt a territorial approach to rural development

In Colombia, as in many other countries, efforts to promote rural development have often been less effective than anticipated because they have consisted mainly of sector-specific interventions—in agriculture, education, health, transport, energy, water and sanitation, and so on. These sector-specific interventions generally failed to take into account the multi-faceted nature of rural livelihoods; as a result, they have not been able to exploit important synergies between complementary activities. Sector-specific interventions tend to be inefficient because they do not recognize interactions among productive activities that can be critically important in generating and sustaining benefits at multiple levels—individual, household, community, and territory. Furthermore, by neglecting to fully address trade-offs associated with competing uses of resources, they fail to incorporate the perspectives of all stakeholders and do not address the many possible sources of conflict over resources.

The traditional fragmentation of effort can be overcome only by adopting a broader, yet at the same time more integrated, approach to rural development—a so-called *territorial approach*. The distinctive features of this strategy for rural development have been aptly described by Caballero (2005):

The territorial approach to rural development results from a combination of a view of the rural economy and a policy approach to rural development. Under this approach, the rural economy consists of: (1) a widened concept of the rural space to include small rural towns and links with intermediate cities; (2) a multi-sectorial approach to the rural economy covering different economic sectors including farm and non-farm activities; and (3) a recognition of the existence of different territories in the rural space with different capacities, potentials and needs.

The policy approach correspondingly: (1) is focused on the productive transformation of the rural economy; (2) recognizes the importance of institutional change to bring about such transformation;

(3) presupposes some territorial identity and the possibility of building a long term collective territorial project through participatory planning; (4) advocates for conscious involvement and collaboration of different local actors (public, private and civil society); (5) emphasizes territorial competitiveness (as opposed to mere product competitiveness) and making maximum economic use of territorial assets; and (6) favors economic synergies through the clustering of activities around development axes to achieve critical economic masses.⁵

The territorial approach to rural development has its origins in the field of applied ecology—specifically, in the integrated landscape approaches that are increasingly being used to guide the management of productive landscapes. Landscape approaches tend to be characterized by five common components that are also relevant for territorial approaches to rural development: (i) interventions must be designed to promote multiple goals and objectives; (ii) ecological, social, and economic interactions must be managed to reduce negative trade-offs and optimize synergies; (iii) roles of local communities must be acknowledged and taken into account; (iv) planning and management of interventions must be adaptive; i.e., they must evolve over time as circumstances change and as experience accumulates; and (v) collaborative action and comprehensive stakeholder engagement must be encouraged and institutionalized.

While the logic of a territorial approach to rural development is easy to grasp, the practical challenge confronting policy makers is how to translate the underlying principles into actual investment plans. In a world of budget constraints, difficult questions invariably arise: Which sectors to target? What actors to involve? How much to invest? What order to follow? Answers to these questions are necessarily elusive, partly because the optimal combination and sequence of investments varies according to local circumstances.

In the absence of a magic formula that can be used to guide decision-making, the way forward

is usually to engage in some type of participatory planning exercise involving diagnosis of the problem, identification of key constraints, elaboration of potential interventions, and estimation of costs and benefits. This is followed by a prioritization exercise that takes into account the various interventions' likely contributions—individually and in combination with others—to the achievement of locally relevant objectives.

The ongoing *Misión Rural* initiative represents the first step in such a planning exercise. The *Misión Rural* team is in the process of generating data and analyses that will feed into a broad-based priority-setting exercise, the results of which can be used to design a new rural development policy grounded in a territorial approach. The *Misión Rural* team is undertaking a functional review of existing policies and service delivery bodies for rural development. An additional effort to analyze and benchmark key institutions' strategy, operations, budgets, and human resources management functions will be required to derive concrete recommendations for the new rural development strategy. Because it is being carried out in a participatory manner, using frequent consultations with a wide range of stakeholders and partners, the *Misión Rural* initiative should serve as a platform for building consensus among public agencies, civil society organizations, and private actors in support of an inclusive integrated rural development strategy that is grounded in a long-term vision of territorial development that transcends electoral cycles.

Overhaul rural institutions and rural policy-making processes

Adoption of a territorial approach to rural development will have limited impact unless it is accompanied by changes in the policies governing rural development and the institutions charged with implementing those policies. Broadening the concept of the rural sector to include an expanded number of stakeholders and a wider range of economic activities (both agricultural and non-agricultural), and recognizing the importance of location in development objectives, will generate demands that

existing institutions will be unable to meet. What will be needed, therefore, is a restructuring of the current institutional architecture to strengthen sectorial coordination mechanisms, empower regional and local organizations, and promote public/private synergies. This new architecture must be able to serve as an effective platform for building consensus among public agencies, private firms, and civil society organizations with respect to a territorial development strategy.

The institutions that currently hold the mandate for rural development in Colombia are poorly suited for implementation of an integrated territorial approach. During the past two decades, the institutions responsible for agriculture and rural development activities have become steadily more concentrated. What was once a diversified configuration featuring multiple specialized institutions whose activities were loosely coordinated by MADR has evolved into a new structure in which responsibility for rural development activities has become consolidated within a smaller number of institutions that have operated more or less independently, sometimes without much coordination and often without a lot of resources. Meanwhile, the rural investment budget has become more concentrated within MADR. At the same time, investments in many of the sectors that are important in the rural space (e.g., energy, mining, education, health, social protection, environment, and infrastructure) continue to be decided by ministries other than MADR, including many for which the rural development agenda is relatively unimportant.

The fragmentation and lack of coordination among rural institutions is made worse by a lack of strong accountability to local authorities. In many regions, the political and administrative decentralization that resulted from the 1991 Constitution has not had the intended effect of empowering local governing bodies. As a result, they have not been able to fulfil the important role assigned to them in making sure the goods and services provided by public agencies meet local needs. When key public agencies approach spatial planning at different levels of aggregation, the inevitable result is fragmentation

of effort and dispersion of resources. Responsibility in many public agencies remains highly centralized, resulting in top-down approaches that frequently fail to address rural communities' priorities. Capacity at local level has eroded steadily over time, and it is now generally very weak.

Effective implementation of a territorial approach will require re-thinking the way services are delivered to rural areas. It will be necessary to build a new institutional architecture comprising strong centralized policy-setting and financing agencies, decentralized coordination mechanisms, and strong local implementation capacity. If a territorial approach to rural development is to take hold in Colombia, it will require a rebalancing of the relationship between the center and the periphery.

The recent re-organization of MADR included creation of the Vice Ministry of Rural Development,⁶ leaving MADR well-placed to assume the lead role in the design and implementation of rural development policies and strategies at the national level. Key functions that MADR could undertake include: (i) data collection and analysis, (ii) strategy formulation, (iii) policy and program design, (iv) implementation of selected policies and programs, (v) coordination of policies and programs implemented by others, and (vi) facilitation of the relationship between the central ministries and decentralized agencies and organizations.

The Colombian Institute for Rural Development (INCODER) should focus on facilitating territorial development, leaving the land administration function that it currently performs to a new institution. It has already been noted that effective rural development requires coordinated interventions in multiple sectors—e.g., agriculture, transport, energy and mining, education, health, telecommunications, and social protection. Since MADR cannot take responsibility for all activities, INCODER could coordinate multi-sectorial investments at the regional level and facilitate communication with other centralized agencies and decentralized bodies operating at the sub-national level.

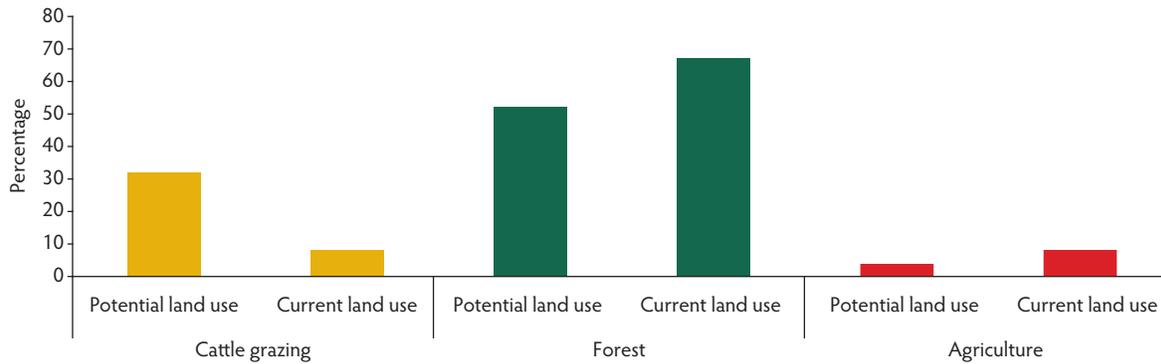
INCODER would in turn need support at the local level. Rural Development Agencies—similar to the Local Action Groups established through the LEADER program⁷—could be created to implement territorial development plans at the local level. The Local Action Groups would identify and execute local development strategies, including making decisions about the allocation of financial resources and managing them. Experience shows that successful Local Action Groups bring together public and private partners and strike an equitable balance among the interests of the full range of socio-economic groups present in the area.

More evidence-based policy-making should accompany institutional reforms, with expanded capacity to take into account the wide variance in circumstances at the local level. Policy and program design will have to be based on comprehensive analyses of the strengths, weaknesses, opportunities, and threats associated with the diverse territories. Implementation will need to be based on customized sets of interventions targeting locally relevant development challenges. Following principles of decentralized program management, the selection of interventions for each region would be decided by representative regional councils, formed from a number of key rural stakeholders, and empowered communities will implement and evaluate the impacts of rural development interventions at the territorial level.

Tackle the land problem

Regardless of its other features, one thing is certain: to succeed, any new rural development strategy will have to begin by tackling the land problem. Colombia's land resources are under utilized and inequitably distributed in ways that incur significant costs for society through unrealized agricultural growth potential, environmental degradation, poverty, conflict, and social instability. Several studies have used soil maps and current land cover and land use data to estimate what are referred to as "conflicts of land use" (IGAC, 2003, Malagón 1998, *Acción Social*). The results show that 62.3 percent of Colombia's territory presents a

FIGURE 4-5: Current and Potential Land Use



Source: Presentación IGAC Sep/08: Declaración del 2009 como Año de los Suelos de Colombia.

conflict with its potential or biophysical best use (Figure 4-5).

In addition to land misuse, land distribution remains highly unequal. Empirical studies⁸ of Colombia’s rural sector show that about 1 percent of the parcels cover more than half (53.8 percent) of the available land; meanwhile, about 90 percent of the parcels share approximately one-fourth of the land. Furthermore, trends in land tenure indicate that between 1984 and 1996 the largest landholdings expanded, medium-sized landholdings contracted, and small landholdings became further fragmented. The Gini coefficient of land inequality is already among the highest in Latin America and continues to worsen (Figure 4-6).

A further difficulty is the lack of complete land records in rural areas. It is estimated that about two-thirds (68.7 percent) of the land in rural areas are

held without property titles, and 44 percent of the land in rural areas is not covered by the cadaster. The lack of titles has posed a major challenge for the restitution process.

The informality of land tenure in rural areas is a contributing factor to the inequality of land distribution (high land Gini) and the on-going conflict. Improving land governance and securing land rights for all people is necessary for both rural development and peace consolidation in rural areas.

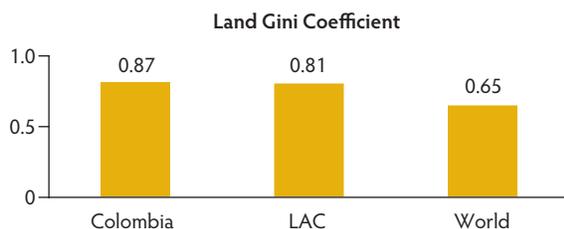
What will it take to tackle the land problem in Colombia? Three priorities stand out:

Formalize land tenure

Colombia has a strong legal framework that recognizes a broad spectrum of rights for both individuals and groups. However, weaknesses persist in the norms, regulations, institutions, and procedures for land administration and management. This is a particular problem for informal or undocumented land rights—an estimated two-thirds of rural land rights. Formalizing land tenure will require Colombia to:

- Strengthen the institutional framework by establishing a clear leader for the land sector at the national level (including cadaster, registry, formalization, restitution), with both the political

FIGURE 4-6: Land Distribution Inequality



Source: Ana María Ibáñez (2012) and FAO (2012).

and financial capital to make reform happen and coordinate the many institutions involved.

- Begin systematic cadaster-registration pilot programs that include formalization of land rights in several areas of the country. This will test institutional coordination, determine resource needs, and identify any needed regulatory or law changes.⁹
- Over the medium term, consider real institutional reform, particularly a merging of the cadaster (from IGAC) and the land registry (from SNR) to create a real land administration agency.

Build a national land administration system

Colombia desperately needs a national land administration system that can work for all citizens in all parts of the country, with services available at least at the municipal level. This will require institutional coordination and/or reform at the national and local levels. Public awareness campaigns can then help build a culture among citizens of valuing property registration and keeping the system up-to-date; however, this can only work if the system is affordable and available to all.

Correct land use inefficiencies through policy reforms.

In urban areas, 70 to 80 percent of landowners are identified for tax purposes; in rural areas, it is less than 50 percent due to the level of informality and lack of up-to-date information in the cadaster. Eighty percent of municipal tax revenues are collected by only 28 of the 1,094 municipalities in Colombia. Colombia's rural land base is also undervalued and lightly taxed, which limits the scope of local governments to increase their revenues and acts as an incentive for speculation, land concentration, and misuse of rural land. Correcting land use inefficiencies will require Colombia to:

- Develop better mechanisms (institutional, legal) to coordinate the national, departmental, regional, and local plans and planning

functions. This could be done through the articulation of the national territorial zoning guidelines, territorial zoning commissions, and territorial zoning plans.

- Develop guidelines and criteria to improve efficiency in land use in a consultative manner (at both national and local levels), presenting the strategy as support that the central level offers to municipalities to positively impact rural productivity and employment.
- Keep tax rates current and based on up-to-date values. Low tax rates can distort private investment decisions and should be corrected to avoid a misallocation of limited economic resources, such as the best quality of agricultural lands. Measures can be put in place to ensure that the poor are not economically disadvantaged, but overall taxes need to reflect the value of the land.

Local governments have to be part of the solution—both as users of the information and as significant players in land-use planning and property taxation. Local governments could also help support the maintenance of the cadaster. Currently, there are limited incentives for mayors to make reforms and improve tax collections, and municipalities have limited capacity to improve on their own, making support for local governments essential.

Implementation modalities: immediate next steps

The Government has confirmed its strong commitment to introducing a new rural development strategy that will set the rural economy firmly on a path to sustained growth, poverty reduction, security, and stability.

Realizing this ambitious set of objectives will be possible only if three major challenges can be overcome: (i) successfully adopting a territorial approach to rural development; (ii) overhauling the institutions responsible for implementing rural development policies and programs and introducing a new policy-making process; and (iii) tackling the land problem.

Overcoming these three challenges will require changes in the way rural development policies are designed and implemented. In this context, the following actions should be considered for immediate implementation:

1. *Introduce participatory planning processes that recognize territorial differences.* The National Planning Department (DNP) could play an important role in supporting the collective identification of “rural spaces” or “territories” that would form the basis of a new territorial approach to rural development. These “rural spaces” or “territories” would be based on clearly defined criteria—e.g., agro-environmental homogeneity, economic dynamics, rural-urban interactions, or socio-cultural identity. DNP could work with sectorial ministries and territorial entities to ensure that sector investments respond in a coordinated way to territorial development plans. DNP could also support participatory planning processes within the “rural spaces” or “territories” by coordinating preparation of participatory territorial plans that would be supported by national agencies but be implemented at the territorial level.
2. *Strengthen the decentralized institutions that engage in rural development.* At the territorial level, capacity and participation will need to ensure that all rural stakeholders are able to work together effectively in formulating territorial development plans, participating in their implementation (through rural development agencies), and carrying out supervisory activities. Under the *Pacto Nacional Agrario*, the Government is already investing significant resources in an effort to revive the Departmental and Municipal Rural Development Councils, which could potentially play an important role in supporting territorial development planning by serving as spaces for effective interaction among diverse groups of rural stakeholders and the building of social consensus around territorial development strategies.
3. *Make available increased funding to support multi-sectorial activities.* Colombia’s fiscal decentralization strategy has increased the flow of resources

to the local level, but many small and medium-sized municipalities still do not have access to sufficient resources to make significant investments in the public goods and services. The fiscal decentralization strategy needs to be accelerated, with the goal of channeling enough resources to local municipalities to allow them to scale up their support to local rural development activities. Local governments must be encouraged and empowered to play a larger role in land-use planning and the management of property taxation. Currently, mayors have limited incentives to implement reforms and improve tax collection, and municipalities have limited capacity to manage the public resources that are earmarked for rural development.

Policy Recommendations

Achieving broad-based and sustainable growth in the agricultural sector and promoting rural development in Colombia will not be achieved quickly. Because the challenges facing the rural economy are numerous and varied, and because the resources available to address the challenges are limited, the incoming Government will not be able to tackle all problems simultaneously. Even recognizing that transforming the rural economy will be enormously challenging, policy makers will have to begin somewhere. In this context, three sets of actions can be identified with considerable potential to help set the rural economy on the path to sustainable growth in the long term.

Restoring rural livelihoods

As peace and stability return to rural areas, the immediate priority will be providing rural households with the means to engage in productive activities and resume their livelihoods. The need will be most urgent in areas that have been affected by civil conflict, but other areas (i.e., the poorest and most affected by disasters) will require assistance as well. This will mean ensuring that households have secure access to land, to the productive inputs needed to resume agricultural activities, to the

information and knowledge needed to use those inputs effectively, to the financial resources needed to pay for them, and to the infrastructure needed to deliver surplus production to the market.

Efforts are already under way to achieve these objectives. Under the Victims and Restitution Law of 2011, the Government is restoring land to people who were displaced by conflict, and it is providing reparations to families and communities to enable them to resume their livelihoods. However these initiatives are just underway and significant additional resources will be needed to meet the nation's needs. Needed interventions include:

Securing access to land. Millions of households lack secure title to land used for agricultural activities and remain reluctant to make investments needed to improve the land's long-term productivity. Improvements in the framework governing tenure, access, and use of land are needed, first to clarify access and use rights for those who are returning to lands from which they were displaced. Over the longer term, ensuring greater security of tenure will be important not only for Colombians but also for the growing numbers of foreign investors who are expressing interest in commercial agriculture enterprises in Colombia.

Land administration reform will require special attention to the needs of minority groups. Indigenous peoples (3.3 percent of the population) and Afro-descendant communities (10.5 percent) have been disproportionately victimized by land taking throughout the conflict period (DANE, 2005). The 1991 Constitution clearly recognizes the special territorial rights of indigenous peoples, and Afro-descendants' land rights are included in Law 70 of 1993.

Rebuilding productive capacity. People living in rural areas, especially places heavily affected by conflict, and displaced populations returning to these areas will require immediate assistance to resume their livelihoods. During a transitional period, the Government will be called upon to distribute productive inputs—seed and planting materials,

fertilizer, agricultural implements, breeding stock, and veterinary supplies—to households that lack the means to purchase these supplies. The goal should not be to set up permanent programs that will distribute inputs on a continuing basis, but rather to provide a one-off injection of resources that will allow disadvantaged households to get back on their feet.

Global experience in post-conflict situations suggests that distribution of physical inputs will have to be accompanied by technical assistance that ensures recipients make effective use of the resources. To the extent possible, these efforts should be oriented to integrate farmers into commercial value chains. MADR, CIAT, and the World Bank are currently evaluating the potential of the approach of the Productive Alliance project, which combines farmer organization with access to finance, markets, and technology in disadvantaged and post-conflict areas. Preliminary outcomes suggest that the model may be well-suited for combining livelihood restoration and rebuilding productive capacity.

Exploiting quick wins in small-scale rural infrastructure. Following decades of underinvestment, infrastructure deficiencies remain a major constraint in many rural areas, particularly infrastructure related to irrigation, processing and storage of crops, and road transport. The widespread perception is that attacking infrastructure constraints necessarily requires massive and sustained public investment; however, plentiful evidence indicates that relatively modest investments in small-scale infrastructure can have rapid and significant impacts on production. An urgent priority for the new Government will be stimulating investment in affordable, small-scale rural infrastructure, including irrigation technologies (both gravity and pump-driven systems), community-level processing and storage facilities, and physical markets.

Getting agriculture going

A second priority for the Government must be establishing the conditions for getting agriculture

going quickly. Immediate measures can serve as a down payment on the more far-reaching interventions that will be needed over the longer term to bring about structural changes and unleash the enormous untapped potential of agriculture as a driver of broad-based growth and poverty reduction. Needed interventions include:

Aligning policies and programs. Reversing years of policies that protected economically strategic or politically influential sectors, the Government in recent years has signaled its commitment to building a competitive, export-oriented agricultural sector by entering into more than 20 free-trade agreements. Adjusting to these agreements will require effort. The Government will have to work to dismantle protectionist measures, choke off the flow of subsidies going to inefficient producers, and reorient public investment toward the provision of public goods and services (e.g., infrastructure, basic research, provision of market information) that will support tomorrow's more competitive commercial agriculture.

Providing market access. Arguably the most critical constraint to agricultural development in Colombia has been poor market access, especially outside the coffee zones and some other privileged areas, such as the *Sabana* of Bogotá and the Valle de Cauca. Improving market access requires infrastructure investments (e.g., rural roads, storage capacity, processing facilities), but it also entails market information systems, rural credit programs, and value chain integration mechanisms. Experience in Colombia and elsewhere shows that when market access is improved, producers are quickly able to absorb improved technologies and lift production systems to higher levels (Perry 2012).¹⁰ Improved market access not only increases agricultural opportunities but more generally contributes to a more livable countryside.

Seizing the opportunity of systems and products that are potentially competitive. In February 2013, the Government established the Coffee Commission, with the responsibility of developing a new strategy for the sector. It called for a set of studies covering

such critical aspects as credit, sector profitability, exchange rate volatility, producer price stabilization schemes, coffee institutions, and research. The studies' results and recommendations from the Coffee Commission are expected to provide key insights on policy options, including structural changes needed to ensure the sector's long-term competitiveness. This analytical exercise could also be carried out for other crops showing competitive advantage.

Tapping the potential of livestock. Sustainable development of the rural economy will not be possible without the integration of livestock production into rural livelihood strategies. Because many livestock keepers are poor, productivity gains in the sector are likely to contribute to both growth and poverty reduction. Improving the productivity of livestock systems would allow domestic consumption requirements to be met with a reduced land area, freeing up unproductive pasture land for other uses. Silvo-pastoral systems (SPS) that are managed to take advantage of productive synergies between improved pastures, carefully selected tree species, and livestock offer particular promise as an alternative livestock model. Through the alliance led by the *Federación Nacional de Ganaderos* (FEDEGAN) and with financial support from the Global Environment Fund (GEF) and the United Kingdom Department of Energy and Climate Change (UK-DECC), the Government has launched pilot programs designed to promote adoption of SPS on a large-scale. The most promising approach consists of a mix of financial incentives (such as payment for environmental services, or PES), with technical assistance to farmers. Lessons learned from the on-going project are expected to help in designing future PES schemes.

Taking advantage of forest systems. Sustainable development of Colombia's rural economy will also require attention to forests and forest systems. At a minimum, it will be important to preserve the natural capital that is currently embodied in natural forests. The country needs to pursue the progress made on the Reduced Emissions from Deforestation and Forest Degradation (REDD+) agenda to

define development trajectories that will not come at the expense of natural forests. The Wealth Accounting and Valuation of Ecosystem Services (WAVES) initiative, which develops tools to more accurately measure the full range of environmental services produced by natural resources, could help better determine the “true value” of natural forests—information that would contribute to forest-policy decision making.

Preservation of natural forests can complement development of commercial forestry systems that are technically efficient, economically profitable, socially inclusive, and environmentally friendly. An important first step in developing a national commercial forestry development strategy would be to develop a model that would allow: (i) identification of the most promising areas for commercial reforestation, (ii) identification of the most promising value chains, based on current and projected future demand for tree products, (iii) assessment of the infrastructure and logistical systems needed to deliver tree products to markets, and (iv) assessment of institutional frameworks that could be put in place to ensure equitable and sustainable management of natural forests and the commercial forestry sector. The World Bank Group is currently assisting the Government with the development of a series of analytical papers on promoting commercial reforestation in Colombia through a PROFOR grant.

Reforming agricultural innovation systems. Technology-driven increases in agricultural productivity will be needed to get Colombia’s agriculture going. For this to happen, technology generation and transfer systems will have to be revitalized. While some new technology can be generated locally, much can also be imported and adapted to local conditions. Efforts to develop a national innovation system focused on generating new technologies are just a start; Colombia will also need to encourage the emergence of small, local innovation systems focused on technical assistance and the application of knowledge already available. This suggests emphasis should be placed on encouraging public/private/NGO partnerships and commercial

alliances as vehicles for promoting the introduction and dissemination of innovations (Perfetti 2009).¹¹ The Productive Alliances Program provides a good example of how commercial partnerships between producers and agribusiness firms can stimulate innovation, raise productivity, and improve competitiveness in selected value chains.

Opportunities exist as well to strengthen extension service delivery systems already being run by established industry organizations. For example, efforts are under way to strengthen the role of the municipalities in providing technical assistance. They are required to prepare agricultural extension plans, which are required to offer free technical assistance to small- and medium-scale producers, either by developing capacity or by contracting with private businesses or NGOs.

Colombia has started to put in place more decentralized systems for technology generation and application. The *Proyecto Transición de la Agricultura*, for example, managed a substantial competitive grant with considerable success. Support to CORPOICA, the national agricultural research organization, has also been strengthened, but the challenge now is to stabilize support for at least 10 to 20 years. New initiatives for technical assistance are in the pilot stage. It is time that Colombia consolidates the most promising initiatives and ensures long-term funding for them.

Managing production risk. As agriculture becomes increasingly commercial, it becomes more important to ensure that producers, consumers, and investors are adequately protected from risk. Risk management takes on added significance because the agricultural sector of Colombia is particularly vulnerable to natural hazards. In recent years, the lack of a comprehensive *ex ante* strategy to manage the agricultural sector’s fiscal risks has resulted in higher-than-anticipated fiscal outlays as the Government provided emergency assistance to uninsured farmers. In an effort to control unanticipated fiscal outlays, the Government needs to look at ways to improve the institutional framework to manage agricultural risks. MADR has

recently taken steps to create an Agricultural Risk Management and Financing Directorate. These initiatives need to be continued and strengthened, with the goal of identifying risk management instruments that are tailored to the needs of Colombia's evolving rural economy.

Promoting climate-smart agriculture. Climate change is already having significant impacts on Colombia's agricultural sector, as witnessed by major flooding experienced during the 2012–13 crop season. These impacts will become more significant in the future. Analyses by CIAT researchers indicate that significant temperature rises, more erratic precipitation, and higher pest and disease prevalence are likely by 2050. By 2050, the expected average increase in annual mean temperature is estimated at 2.5 degrees C, and precipitation is likely to rise by 2.5 percent. Without accelerated adaptation, climate change is likely to translate to: (i) soil degradation and organic matter losses in Andean hillsides; (ii) flooding along the Caribbean and Pacific coasts; (iii) niche losses for coffee, fruit, cocoa, and bananas; (iv) changes in the prevalence of pests and diseases; and (v) melting of glaciers and water stress. To address the extensive socioeconomic implications of these effects, the Government must prioritize adaptation, investing in regionally-based assessments, research and development, and technology transfers to and training for farmers.

Projections show that 80 percent of crops will likely be impacted in the majority of their current areas of cultivation by 2050, with particularly severe impacts on high-value perennial crops. Considerable work has been done to identify specific threats, quantify likely impacts, and rank adaptation measures, but this work needs to be more systematically integrated into policy design and investment planning.

Supporting territorial development

Over the longer term, the health and well-being of the rural sector will depend on the ability of the Government to complement the sectorial approach with a territorial approach to rural development. The *Pacto Nacional Agrario*¹² and the

recently launched *Misión Rural*¹³ are trying to lay the groundwork for this strategy.

While the legal framework for territorial planning exists in Colombia, implementation presents a number of challenges. Law 388/97 requires local governments to establish territorial plans, or *Planes de Ordenamiento Territorial* (POTs), which among other things set out technical guidelines with respect to land use and territorial development. Purely in administrative terms, implementation of POTs has been a limited success: only 65 percent of Colombia's 1,097 *municipios* have completed the process and ratified the POT. In addition, POTs for rural areas have rarely been used as a tool to address directly the challenges of municipalities and rural populations. Many lack technical rigor, and even those that are technically sound tend to be of limited use in the absence of serious participatory analysis of the issues. Since land-use planning is a local function, a great deal depends on the willingness and capabilities of local mayors and staff, which vary greatly across the country. While planning laws call for citizen participation, it is not fully regulated nor well understood by local authorities; therefore, it is little practiced. Participation is generally used for the approval of plans already formulated by technical staff, not to feed into the planning process and identify the needs and priorities of the local population.

Introducing a new approach to policy-making. If a territorial approach to rural development is to take hold in Colombia, it will require rebalancing the relationship between the center and the periphery. To ensure that public interventions effectively address the key development and reconciliation challenges facing rural areas, *policy and program formulation* will have to be based on a comprehensive, evidence-based analysis of the strengths, weaknesses, opportunities, and threats associated with these areas. The analytical approach being used for the *Misión Rural* reflects this type of approach. *Policy and program implementation* would then be based on customized sets of interventions targeting locally relevant development challenges. Following principles of decentralized program management, the

selection of interventions for each region would be decided by regional councils, formed from a number of key rural stakeholders. Although the primary focus will still be on the productive transformation of the rural economy, achieving this goal will require institutional changes that meaningfully empower communities to take control of participatory, bottom-up processes that allow them to plan, implement, and evaluate the impacts of development interventions at the local level.

Building a new institutional architecture. Effective implementation of a territorial approach to development will require a complete rethinking of how services are delivered to rural areas. Starting with a broad concept of the rural sector that encompasses multiple sectors, a wide range of partners and stakeholders, and many different economic activities, it will be necessary to build a new institutional architecture consisting of centralized policy-setting and financing agencies, decentralized implementation and coordination entities, local civil society organizations, and private firms. A functional review of existing policy programming and delivery bodies could serve to analyze and benchmark strategy, operational, budget, and human resource management functions of key institutions and derive recommendations for the definition and delivery of a new institutional architecture. This new architecture could serve as a platform for building consensus among public agencies, civil society organizations, and private actors in support of an inclusive, integrated rural development strategy that

is grounded in a long-term vision that transcends the electoral cycle.

The Road Ahead: Rebalancing Public and Private Roles

What needs to be done to reverse decades of underperformance in the rural economy of Colombia and unlock agriculture's potential to contribute to broad-based, sustainable growth? The country must restore the livelihoods of the many rural households that have seen their fortunes decline and transform today's subsistence-oriented agriculture into a vibrant and dynamic commercial agriculture. Achieving this transformation will not be easy. Agricultural activities are mainly carried out by private operators—the millions of individuals, cooperatives, associations, and firms engaged in the production, processing, transport, storage, and distribution of raw commodities as well as transformed products. Public spending can stimulate growth only indirectly. Government policies can play a catalytic role by providing public goods and services that boost the returns to private investment, but public interventions must be appropriately targeted and correctly timed to “crowd in” rather than “crowd out” private spending. In the final analysis, the success of the government's efforts to get agriculture going and transform the rural economy will depend on its ability to leverage the latent power of the private sector.

General Actions	Specific development challenge	Short-term policy options	Medium-term policy options
1. Restoring rural livelihoods	Land tenure security	Continue restoring land to people affected by conflict and providing reparations to families and communities. Pilot approaches for systematic registration and cadaster.	Improve the legal and institutional framework governing tenure, access, and use of land. Build a national land administration system.
	Recapitalization of households	Distribute seed, fertilizer, farming implements, and technical assistance to resettled populations.	Reform rural finance mechanisms, programs, etc., and restore rural extension services to better serve the needs of rural poor.
	Infrastructure quick wins	Selective road construction projects to connect surplus production areas to markets. Small-scale irrigation projects where returns are highest.	
2. Realizing the potential of agriculture	Crops	Revitalize technology generation and transfer systems. Encourage public/private partnerships and commercial alliances to promote introduction and dissemination of innovations.	Improve the institutional framework to manage agricultural risks.
	Livestock	Pilot SPS adoption through a mix of financial incentives (such as payment for environmental services, or PES), with technical assistance to farmers.	Scale up PES/Technical Assistance schemes at the national level to "transform" the livestock sector in Colombia.
	Forestry	Pursue readiness to REDD+ and WAVES agenda. Define models for the development of commercial plantations.	Reduce deforestation and forest degradation rates. Stimulate investments in commercial forestry systems that are technically efficient, economically profitable, socially inclusive, and environmentally friendly.
3. Adopting a territorial approach to rural development	New institutional architecture	Undertake a functional review of existing policies and service delivery bodies for rural development. Use the <i>Misión Rural</i> initiative as the platform for building consensus among public, private and civil society organizations in support of inclusive integrated rural development strategy. Support implementation of POTs with participatory local planning processes. Test multi-sector coordination initiatives for service delivery.	Install a new institutional architecture to manage territorial development, including strengthening the local level. Increase funding to support multi-sector activities at the territorial level (accelerate fiscal decentralization). Invest significantly in public goods and services, rather than direct subsidies to private goods and services.
	Risk management	Design an institutional framework to manage agricultural risks.	Implement the institutional framework to manage agricultural risks.
	Climate smart rural development	Strengthen the National Climate Adaptation Plan with clear objectives that defines tasks and details investment needs.	Implement the National Climate Adaptation Plan, monitor impacts, and continuously update.

Endnotes

- 1 Source, DANE. Data taken from Banco de la Republica web site: <http://www.banrep.gov.co/pibase-1994> and <http://www.banrep.gov.co/es/pib>.
- 2 Instituto de Hidrología, Meteorología y Estudios Ambientales de Colombia.
- 3 World Bank. 2014 (in press). Low Carbon Growth in Colombia.
- 4 Perfetti, J.J.(coordinator); A. Balcázar; A. Hernández; J. Leibovich with A. Becerra; S. Botello; S. Cortés; L. Estrada; C.Rodríguez; H. Vásquez. 2103. Políticas para el desarrollo de la agricultura en Colombia. Bogotá and Washington: SAC and Fedesarrollo.
- 5 Caballero, J.M. 2005. The Territorial Approach to Rural Development. World Bank. Departamento Administrativo Nacional de Estadística (DANE). 2013. Cuentas Nacionales Trimestrales. Producto Interno Bruto. Segundo Trimestre-Septiembre 2013.
- 6 Decreto No. 1985, 2013.
- 7 The Links between Actions for Rural Development (LEADER) initiative was established by the European Union to help rural actors consider the long-term potential of their regions. As the name suggests, the focus of the initiative is on promoting rural development at the local level. LEADER encourages rural territories to explore new ways to become or to remain competitive, to make the most of their assets, and to overcome the challenges they may face, such as an aging population, poor levels of service provision, or a lack of employment opportunities. In this way, LEADER contributes to improving the quality of life in rural areas both for farm families and the wider rural population. It uses a holistic approach to address rural problems. It recognizes, for example, that being competitive in food production, having an attractive environment, and creating job opportunities for the local population are mutually supportive aspects of rural life, requiring specific skills, appropriate technologies, and services delivered as a coherent package with tailored policy measures. http://ec.europa.eu/agriculture/rur/leaderplus/index_en.htm.
- 8 “Unidades Agrícolas Familiares, tenencia y abandono forzado de tierras en Colombia,” Acción Social, Proyecto Protección de Tierras y Patrimonio de la Población Desplazada, Diciembre 2010, Bogotá.
- 9 The World Bank has extensive international experience with such processes and could provide technical assistance.
- 10 Perry, S. 2012. El sistema de extensión agropecuaria en Colombia. Bogotá.
- 11 Perfetti, J.J. 2009. Crisis y pobreza rural en América Latina: el caso de Colombia, Documento de trabajo No. 43, Programa Dinámicas Territoriales Rurales, RIMISP, Santiago, Chile.
- 12 The rainy season in 2011–12 generated a crisis in the rural sector that exacerbated longstanding structural constraints to rural development and peace. Farmers strongly protested. This situation was a “wake-up” call for the country, leading to the *Pacto Agrario*. MADR has allocated important resources to constitute and strengthen local participation in collecting information in rural areas, defining local public policies. and identifying priority subprojects for investment in the short run. This information, together with the Agrarian Census (2014), will be critical inputs for the *Misión Rural* in generating medium- and long-term policy guidelines for rural development in Colombia, consistent with the principles of the preliminary peace accords already reached in Havana.
- 13 Launched by President Santos in early March 2014, with outcomes expected by December 2014, the *Misión Rural* is designed to generate the information needed to orient rural development policy toward growth, equality, and political and social stability in Colombia.
 BID-CEPAL. 2012. Valoración de daños y pérdidas. Ola invernal en Colombia 2010–2011.

CHAPTER 5

Urban Sector



Main Messages

Colombia is at an advanced stage of urbanization and has a demonstrated capacity for innovative urban management. In the past, cities have contributed to economic growth and poverty reduction, and they can continue to do so.

However, Colombia must overcome poor connectivity among cities and between cities and ports, lack of effective coordination mechanisms for urban agglomerations, unarticulated and duplicate planning instruments, and lack of efficiency and innovation in how cities finance themselves.

This note has two sets of Policy Recommendations: Colombia needs to address the challenges at two levels: (i) national/System of Cities level, and (ii) city/agglomeration level.

Main recommendations at the national/System of Cities level include: (i) implement the CONPES on Urban Policy defining the System of Cities, instructing the National Statistics Department (DANE) to generate data at metropolitan, agglomeration, and regional levels and instructing the ministries to mainstream and apply the System of Cities approach within their sectorial policies; (ii) mainstream the System of Cities concept in the National Development Plan 2014–18; and (iii) promote an institutional reform within the Ministry of Housing (MHCT) to move from a housing-centered agenda toward a territorial approach to development.

Main recommendations at the city/agglomeration level include: (i) define and implement incentives (co-financing, technical assistance, and guarantees) to promote strategic metropolitan projects; (ii) develop framework approaches for the use of alternative tools to finance urban investments, such as tradable development rights, land-value capture mechanisms, and the structuring of public/private partnerships for urban redevelopment and renovation.

Background

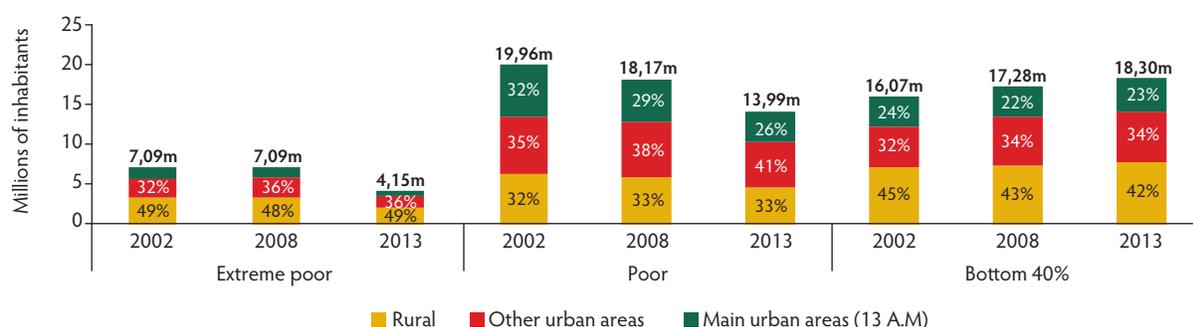
Colombia is at an advanced stage of urbanization and has a demonstrated capacity for innovative urban management. Today 75 percent of Colombians live in cities. This share is expected to grow to 86 percent by 2050, which would represent around 20 million new urban dwellers.¹ Relative to its regional peers, Colombia stands out as having a strong urban sector.² Several Colombian metropolitan areas rank among the world's 50 most-densely populated cities,³ and many have provided internationally recognized examples of successful urban initiatives. Examples include slum upgrading programs to improve mobility and reduce social and economic exclusion in Medellin, sustainable urban transport programs in Bogota, and programs to foster competitive local urban economies in Bucaramanga. At the national level, the country has developed well-recognized legal frameworks and institutions to promote sound urban policies.

In the past, cities have been engines of growth; moving forward, they will be important to sustaining Colombia's achievements in economic growth. Between 2002 and 2012, Colombia experienced steady and strong economic growth as well as an impressive decline in the prevalence of moderate, extreme, and multidimensional poverty.⁴ Decades of sustained urbanization gradually increased the concentration of people and jobs, consolidating economies of scale and agglomeration that have

contributed to economic prosperity (Figure 5-1). Overall, Colombia's economic growth has been strongly driven by commodities, but the urban economy, including manufacturing, financial services, retail, commerce and hospitality has contributed more than 50 percent to GDP's growth rate in the past four decades.⁵ Moving forward, strengthening the role of cities may contribute to mitigating the risks inherent to commodity intensive economies.⁶ An efficient urban system will be necessary for the move from a commodity-driven economic system to a stronger resource-based manufacturing structure and then to more knowledge-intensive industries. It is important that cities enable this transition through an improved connective infrastructure, sound land management, and proactive policies that ensure urban livability.

Cities will also play a major role in continued poverty reduction and shared prosperity. Despite the urban areas' lower poverty rates, the larger size of the urban population still makes the urban poor an important target for reducing overall poverty. As of 2013, urban areas housed more population in moderate and extreme poverty (9.5 million) than rural areas (4.6 million). Thus, while the poverty rate is 40 percent higher in rural areas compared to urban areas, the number of people affected by a 1 percent reduction in the urban poverty rate is 68 percent higher than the same change in the rural poverty rate. Moreover, the dominance of the main cities in terms of economic density and jobs creation (Map

FIGURE 5-1: Distribution of the Bottom 40 Percent in Colombia, 2002–12



Source: World Bank staff calculations based on GEIH-MESEP (2002–2013).

5-1) makes the urban agglomerations a source of opportunities for low income families. These numbers suggest that city-level policies and investments that facilitate (through planning and land availability) and promote (through increased investment) access to basic services—such as water, sanitation, affordable housing, health, education, urban transport, and public and recreational spaces—will be essential for country-wide poverty reduction.

Despite relatively lower levels of poverty, the main urban areas (13 metropolitan areas) show continued divergence from middle-sized cities in key development indicators, contributing to regional disparities (Figure 5-1). The urban poverty rate of the Colombia's middle-sized cities (42.2 percent) in is similar to the rural poverty rate (46.8 percent), or almost two times the urban poverty rate of the 13 largest metropolitan areas. Furthermore, in the past 10 years, middle-sized cities' poverty rate has increased 5 percent, reaching 40 percent of the national distribution in 2012. By contrast, the percentage of the poor in the 13 largest metropolitan areas fell 6 percent over the decade. Addressing this and the existing urban-rural disparities will be crucial to achieving shared prosperity and contributing to the post-conflict agenda.

The main sources of persistent inequality in Colombia are the historical disparities between urban and rural areas. Despite the significant decline in the incidence of poverty at the national level, moderate poverty remains high in rural areas relative to urban ones. Over the past decade, moreover, the gap between rural and urban areas has widened, with the ratio of moderate poverty between the two regions increasing from 1.35 to 1.64.⁷ In fact, the moderate poverty headcount rate of rural areas in 2012 was still higher than that of urban areas in 2002. Overall, the evidence suggests the reduction of poverty has been slightly biased towards urban areas.

The key challenge for the next administration will be developing urban policies that harness the benefits of urbanization for economic growth and poverty reduction. This involves policy action at

MAP 5-1: Distribution and Concentration of Jobs in Colombia



Source: World Bank staff calculations (2010) based on DANE Census 2005.

two levels: (i) at the national urban system (also defined as the System of Cities), and (ii) at city (or agglomeration) level.

Knowledge

The System of Cities in Colombia

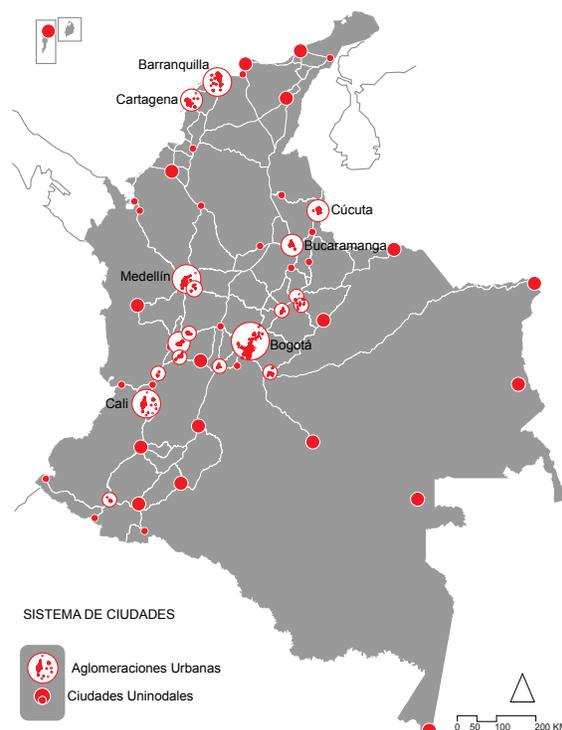
Colombia's System of Cities incorporates 151 municipalities and includes around 28 million inhabitants. A distinct feature of Colombian cities is their tendency to become agglomerations or functional metropolitan areas—where basic urban services and activities are spread across several municipalities. An “agglomeration” is defined as a group of municipalities that have a functional relationship. In the case of Colombia, the *Misión Ciudades*⁸ stipulates that a municipality has a “functional relationship” when 10 percent or more of its population commutes to an adjacent “core” municipality to conduct their main daily activities.⁹ The analysis suggests that Colombia has 18 agglomerations that span more than 113 municipalities (Map 5-2). In addition, the methodology identified 38 nodal cities that do not span beyond the municipal administrative boundary but that have more than 100,000 inhabitants, or perform core functions within a region. So the System of Cities includes 18 urban

MAP 5-2: The 18 Urban Agglomerations



Source: DNP-Mision Ciudades, 2014.

MAP 5-3: The System of Cities



Source: DNP-Mision Ciudades, 2014.

agglomerations and the 38 nodal cities for a total of 151 municipalities (Map 5-3).

The *Colombia Urbanization Review—Amplifying the Gains from the Urban Transition*¹⁰ identified important challenges of the System of Cities. Colombian cities need to better connect among themselves and with external markets, which would in turn promote higher levels of specialization. Significant physical and economic distances separate Colombian cities. To move goods from one city to another often requires transport over the Andes and includes navigating altitude differences in excess of 2,000 meters, exacerbating economic distances and increasing logistical costs.¹¹ To reach major ports, goods coming from cities must, on average, be transported about three times further than in Brazil and Chile, and six times further than in Argentina, the Republic of Korea, and China. Unlike many vibrant cities around the globe, Colombian cities are at a distance from ports and other

cities in the urban portfolio. Bogotá and Medellín are more than 500 kilometers away from a port. In contrast, Shenzhen, Mumbai, and Bangkok are port cities that connect their countries to world markets. Better connecting Colombian cities will increase the economic efficiency of the urban system, allow cities to specialize, and result in cities performing a specific function in the system.

The ongoing expansion of the national road infrastructure¹² will help to link cities more efficiently. Moving forward, cities need to integrate the new infrastructure within their urban spaces and economies. A critical aspect that may further impact the efficiency of the overall urban system is how metropolitan agglomerations plan their urban space in a sustainable manner to better connect to future highway corridors and take advantage of new road networks to enhance productivity and competitiveness while mitigating possible negative externalities. Specifically, metropolitan agglomerations will need

to: (i) plan how to connect to future highway networks; (ii) optimize the location as well as the cost of transport and logistics infrastructure, understanding possible implications on land prices, land-use changes, and urban sprawl; (iii) coordinate land-use planning at metropolitan scale; and (iv) develop the tools to implement a coherent green logistics and urban connectivity approach that mitigates adverse externalities, such as gentrification, sprawl, and negative environmental and social impacts.

In sum, the benefits from increased integration and connectivity through transport and logistics infrastructure need to be supported by policies at the System of Cities, agglomeration, and regional levels that would allow specialization and increased competitiveness. Yet, designing policies at the national level with this in mind is never easy, and the country first needs to develop information systems at the System of Cities level that shape policy design and implementation. For example, understanding the trends in intra-city trade can prove essential to logistics investments and generating information on labor mobility, and they should help determine investments and planning in service provision, notably housing, education, and health.

Challenges at the city level

At the city/agglomeration level, Colombian cities face important challenges. First, they need to find better ways to coordinate and collaborate across governments to strengthen urban planning and service delivery. Second, they need to take advantage of agglomeration economies to increase their economic potential. Third, they need to diversify and enhance their sources of financing. These challenges are discussed below.

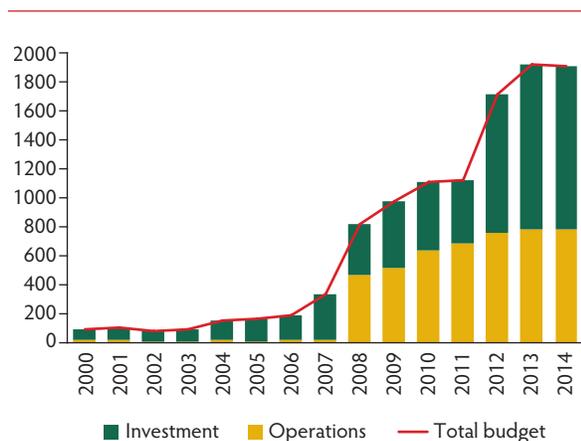
Coordination across subnational governments is fundamental to consolidating and harnessing Colombia's decentralization process. Colombia is one of the most-highly decentralized countries in Latin America. Over 1,000 municipal governments have identical responsibilities for land-use planning, basic infrastructure service delivery, and the

provision of social services. In many Colombian cities, water, sewerage, solid waste management, electricity, and transport networks frequently span several administrative boundaries, yet there are limited examples of metropolitan planning and coordination. Urban management is not a challenge exclusively for municipal governments, so addressing the urban agenda will require much closer collaboration across governments. To be effective, Colombia will need efficient, multi-tiered policy coordination mechanisms to support policy formulation and coordinated interventions between national and local governments. To deliver services more effectively, metropolitan and regional agencies may be necessary where there is a mismatch between municipal boundaries and the urban economic footprint.

Land-use planning in agglomerations will be the cornerstone of effective collaboration amongst municipalities. Legal and administrative constraints make integrated land and territorial planning virtually impossible. Currently, disaster risk, environmental, water resource management, and rural and urban planning are done separately, with little or no incentive to coordinate. Furthermore, the location of jobs, houses, and basic services has important implications for urban residents and for municipal budgets, yet there are no incentives in place to ensure investments are not location-neutral. Integrated urban planning could facilitate service provision by generating economies of scale, which in turn could make additional resources available for cities by using innovative land-value capture instruments.

Land-use planning for the housing sector deserves particular attention. Because of Colombia's large overall housing deficit of 3.8 million (2.2 million in urban areas), the housing sector has been a priority for the Government in recent years (Figure 5-2). In 2014 alone, the Government allocated around US\$1 billion to support public housing for the poorer segments: in addition, it operated programs to support interest rate buy-downs for low- and middle-income households and subsidized credit guarantees. Most of the new housing stock is being built in the fringes of cities, where developers

FIGURE 5-2: Sectorial Budget, Ministry of Housing, City and Territory (Million US\$), 2000–2014^a



Source: World Bank staff calculations using Central Bank and Ministry of Finance and Public Credit's data.^b

^a In 2010, the former Ministry of Environment, Housing and Territorial Development (MAVDT) was divided in the Ministry of Housing, City and Territory (MVCT) and the Ministry of Environment and Sustainable Development (MADS).

^b Bitacora de Cifras Presupuestales 2000–2014 <http://www.minhacienda.gov.co/Home/Minhacienda/presupuestogeneraldelanacion/cifrasHistoricas>.

are able to find affordable plots. Indeed, cities in many cases have expanded their urbanized areas to accommodate these new developments. Urban expansion that responds only to building targets merits careful evaluation because it can be counterproductive in terms of affordability (by increasing household expenditures on transport and municipal expenditures on investments and maintenance of infrastructure), urban and economic densities, and social exclusion. Land-use planning at the agglomeration level can help in understanding mobility patterns and identifying underutilized areas within city limits as alternatives to urban expansion and, perhaps more important, to develop innovative land value capture mechanisms that can be used for affordable inner-city housing production.

Municipal and regional integration is not only crucial to providing better services, planning, and governance but also to fostering stronger, more resilient and inclusive economies. The concentration of economic activity within regions is inevitable and usually desirable for economic growth, but the large spatial disparities in welfare levels that often

accompany this concentration are not. The *World Development Report 2009: Reshaping Economic Geography* recognized that development is far from being a process of smooth convergence. Instead, it is highly spatially differentiated. Typically, developing countries have widening welfare gaps between leading and lagging regions, partly due to agglomeration economies coupled with falling transport costs. In low-income Cambodia, for example, the gap between leading and lagging areas in consumption of otherwise similar households is almost 90 percent. In middle-income Argentina, the gap is 50 percent; in Canada, it is just 20 percent.¹³

The WDR 2009 recommends that governments should pursue integration to exploit the benefits of concentration while keeping spatial disparities manageable. Policies should aim at improving market links between leading and lagging regions through greater domestic factor mobility, especially of labor. However, other spatially targeted policies may also be needed. The guiding principles for designing policies are higher densities, shorter distances, and lower divisions between cities/regions. Three of the world's most prosperous places display these characteristics: Tokyo, the largest city in the world with 35 million people, is packed into less than 4 percent of Japan's land; in the United States, the world's largest economy, about 35 million people change residences each year; and within Western Europe, today's most connected continent, countries trade about 35 percent of GDP.¹⁴

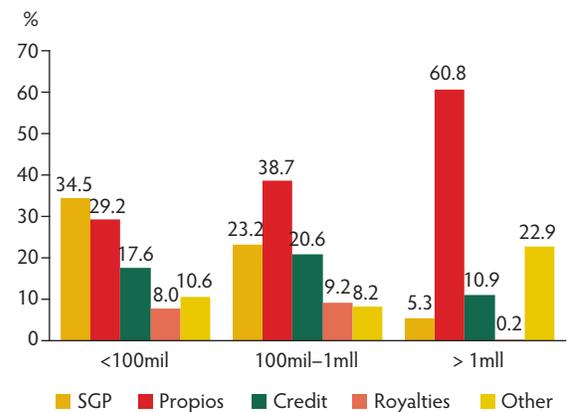
In Colombia, higher population densities have not been matched by high economic densities. For instance, a comparison of actual building densities with legally permitted densities in such cities as Bogota shows considerable underuse of available land. In 2010, 63 percent of commercial space, 53 percent of residential space, and 54 percent of industrial space in Bogota were underused. This is probably a result of several factors, but information asymmetry between market participants likely plays a large role. Low economic densities hamper the ability of cities to enable economic interactions that help create markets and promote innovation and investment.

Cities need to diversify and enhance access to finance to expand service delivery. It is estimated that during the next 25 years a municipality of less than 100,000 inhabitants will require approximately US\$150 per capita annually to meet its investment needs in service delivery and infrastructure. A city with population between 100,000 and 1 million will require US\$145 and a city with over 1 million inhabitants US\$107 per capita. Of these resources, 75 percent would be needed to maintain current and future infrastructure.¹⁵ This situation is even more challenging because smaller municipalities currently rely mainly on national transfers to fund their investments; their operating costs used up almost all of their resources and they had no capacity to acquire debt.

Mid-sized and small cities must strengthen their fiscal fundamentals, while mid-sized and large cities must continuously innovate with fiscal instruments.¹⁶ Municipal tax collection has increased with decentralization and administrative reforms across all categories of cities. However, mid-sized and small cities have not kept pace with larger cities in their ability to increase local revenues. There is a positive correlation between real tax revenue and the accuracy of the cadastral system. Large cities have more comprehensive land cadasters. Bogota, for example, has attained 100 percent land registration. In comparison, only 43 percent of all rural areas in Colombia are included in the system. In Colombia, only Bogota, Medellin, and Cali have independent cadaster offices; all others are handled at the national level. A strong push is required to strengthen the fiscal fundamentals for mid-sized and small cities. This might be done through increasing capacity-building in municipal fiscal management, strengthening local cadastral systems, and structuring fiscal and performance incentives in the national transfer system.

Mid-sized and large cities must find new and innovative ways to finance urban infrastructure. Cities will require broad and diversified strategies to finance themselves, including increasing access to municipal bonds and credit markets, accessing municipal

FIGURE 5-3: Sources of Funding for Municipal Investment Expenditures



Source: DNP-Mision Ciudades 2014.

development funds and specialized financial intermediaries, and expanding the existing land-based financing instruments. Colombia is a leader in land-based financing instruments in Latin America. However, these innovative land-based financing instruments have had limited “penetration” beyond one single transaction per city. Mid-sized and large cities should aim to innovate with new instruments for infrastructure financing, adapting international and regional experiences to the Colombian context. Among these are: tradable development rights, land sales and leases, tax-increment financing, and the structuring of public/private partnerships for urban redevelopment and renovation.

Policy Recommendations

Within Colombia’s decentralized environment, what should the role of the national government be in the urban sector at both the System of Cities and the agglomeration levels? This note presents a list of policy recommendations that can be implemented in the short and medium term.

At a System of Cities level:

The country needs to develop and adopt a national urban policy that recognizes and defines

its System of Cities. To achieve this, the following actions are recommended in the short term: (i) implement the CONPES on Urban Policy defining the System of Cities, instructing the National Statistics Department (DANE) to generate data at metropolitan, agglomeration, and regional levels and instructing the ministries to mainstream and apply the System of Cities analysis within their sectorial policies; (ii) mainstream the System of Cities concept in the National Development Plan 2014–18; and (iii) promote an institutional reform within the Ministry of Housing (MHCT) to move from a housing-centered agenda toward a territorial approach to development in coordination with other relevant sectors, including urban planning and economic activities, water and sanitation, waste management, urban transport, social facilities, and urban amenities.

Generating sufficient, systematic, and robust information at the System of Cities level is a necessary first step. The *Misión Ciudades* developed valuable information on population dynamics, infrastructure investments needs, environmental planning, and information and communication technologies at the System of Cities level. Moving forward, Colombia could benefit from a systematic information and statistical database at the agglomeration level to better understand the dynamics of the System of Cities as well as helping determine policy and investment priorities.

The country needs to deepen its economic connectivity between and within its agglomerations. As a complement to the road network expansion and the government's efforts to consolidate the main highway corridors, cities will need to plan ahead for potential bottlenecks at city and metropolitan levels by implementing land-use plans that take advantage of the new infrastructure while mitigating urban sprawl, reducing negative externalities, and enhancing quality of life for urban residents. The Government will need to: (i) promote within its National Competitive System the development of competitive and innovation

action plans per agglomeration; (ii) implement a comprehensive strategy for land use and logistics around major cities at a metropolitan scale, including analysis on potential adverse externalities and possible implications on land markets, and (iii) develop territorial strategies for the urban area and its hinterland.

At a city/agglomeration level:

The Government needs to foster and enhance coordination at a regional and metropolitan scale, recognizing the need to adjust to the functional relationship between small and medium-sized cities. To achieve this, the following actions are recommended in the short term: (i) define and promote the most convenient system of coordination per agglomeration, taking into account the Colombian legal framework, which allows the creation of multiple institutions, has not proven to be effective in promoting metropolitan coordination in the long-term; (ii) define and promote the most convenient incentives in terms of technical assistance, funding, financing and guarantees to foster metropolitan projects; and (iii) formulate and support the creation of Public Services Master Plans (water, sanitation, and solid waste management) per agglomeration.

Colombia needs to foster efficiency and innovativeness in how cities finance themselves, especially for infrastructure solutions. To achieve this, the following actions are recommended in the short term: (i) promote, support, and implement a nationwide strategy to assess public management performance in small and medium-sized cities, including the revision of budget and fiscal management, debt management, and capacity to finance in national and international markets; and (ii) develop framework approaches for the use of alternative tools to finance urban investments, such as tradable development rights, land-value capture mechanisms, and the structuring of public/private partnerships for urban redevelopment and renovation.

Policy Challenges at a System of Cities level	
Policy Challenges at a System of Cities level	Recommendations
The country needs to develop and adopt a national urban policy that recognizes and defines its System of Cities	(i) Implement the CONPES on Urban Policy to define the System of Cities, instructing the National Statistics Department (DANE) to generate data at metropolitan, agglomeration, and regional levels and instructing the ministries to mainstream and apply the System of Cities analysis within their sectorial policies; (ii) mainstream the System of Cities concept in the National Development Plan 2014–18; and (iii) promote an institutional reform within the Ministry of Housing (MHCT) to move from a housing-centered agenda toward a territorial approach to development in coordination with other relevant sectors, including urban planning and economic activities, water and sanitation, waste management, urban transport, social facilities, and urban amenities.
The country needs to deepen its economic connectivity between and within its agglomerations	(i) Promote within its National Competitive System the development of competitive and innovation action plans per agglomeration; (ii) implement a comprehensive strategy for land use and logistics around major cities at a metropolitan scale, including analysis of potential adverse externalities and possible implications on land markets; and (iii) develop territorial strategies for the urban area and its hinterland.
Policy Challenges at a city/agglomeration level	
Policy Challenges at a city/agglomeration level	Recommendations
The Government needs to foster and enhance coordination at a regional and metropolitan scale	(i) Define and promote the most convenient system of coordination per agglomeration, taking into account the Colombian legal framework, allowing the creation of multiple institutions, has not proven effective in promoting metropolitan coordination in the long term; (ii) define and promote the most convenient incentives in terms of technical assistance, funding, financing, and guarantees to foster metropolitan infrastructure projects; (iii) formulate and support the creation of Public Services Master Plans (water, sanitation, and solid waste management) per agglomeration.
The country needs to foster efficiency and innovativeness in how cities finance themselves	(i) Promote, support, and implement a nationwide strategy to assess public management performance in small and medium-sized cities, including the revision of budget and fiscal management, debt management, and capacity to finance in national and international markets; and (ii) develop framework approaches for the use of alternative tools to finance urban investments, such as tradable development rights, land-value capture mechanisms, and the structuring of public/private partnerships for urban redevelopment and renovation.

Endnotes

- ¹ *Misión Ciudades*, 2014
- ² Colombia had only six cities with more than 100,000 inhabitants in 1951; today, it has 57 cities with populations between 100,000 and 1 million (including three cities between 1 million and 4 million and one mega-city reaching 9 million residents).
- ³ Bogota, Medellín, Cali, Barranquilla, and Bucaramanga.
- ⁴ The annualized growth rate of real GDP per-capita averaged 3.2 percent over the past decade, more than 1 percentage point above the LAC average for the same period.
- ⁵ *Colombia Urbanization Review—Amplifying the Gains from the Urban Transition*, 2012.
- ⁶ While there is no evidence of a commodity curse in Colombia, the 2010 WB Report *Natural Resources in Latin America and the Caribbean beyond Booms and Busts?* identifies several commodity-related risks that can adversely affect a country's prospect for economic and institutional development if they are not managed properly.
- ⁷ World Bank's own calculation (2014).
- ⁸ The WB supported the *Misión del Sistema de Ciudades (2012–13)*. Under this initiative, a council of nation-

al and international experts has been convened to provide cross-sector policy guidance to ensure that cities are engines of sustainable and inclusive economic growth in Colombia. The initiative is focused on the efficiency of the entire urban system. A total of 17 studies were commissioned under the *Misión* to better understand demographic trends, environmental and urban planning synergies, investment needs, productivity, and System of Cities poverty and inequality trends.

- ⁹ Using the OECD standard, the threshold was established as 10 percent of labor force commuting to work to the urban core.
- ¹⁰ World Bank, 2012.

¹¹ It costs US\$94 to move one ton from Bogotá to Cartagena, compared to US\$75 to ship one ton from Cartagena to the United States. Roda & Perdomo (2011) cited in the *Colombian Urbanization Review* (2012)

¹² For further analysis on the infrastructure challenges and road network development, see the *Infrastructure Policy Note*.

¹³ World Development Report 2009.

¹⁴ Ibid.

¹⁵ *Misión Ciudades*, 2014.

¹⁶ For further analysis on the subnational fiscal challenges, see the *National and Subnational Public Finances and Governance Policy Note*.

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CHAPTER 6

Disaster Risk Management in Colombia



Main Messages

The growth of disaster risk in Colombia can be attributed for the most part to issues relating to inadequate territorial, sectorial, and private-sector management, rather than such external factors as climate change. According to the Analysis of Disaster Risk Management in Colombia,² four factors contribute to the escalating disaster risk. First, conceptual advances in the relationship between disaster risk management and sustainable development have not been incorporated into government policies or become integral parts of public administration, contributing to the growth of risky conditions. Second, risk is constantly accumulating in cities and rural areas due to a failure to implement and control municipal land-use planning policies and instruments and inadequate watershed management. Third, the inadequate application of disaster risk management policies in sectorial planning threatens the sustainability of investments, both in goods producing and service sectors, contributing to rising levels of exposure and vulnerability. Fourth, in the absence of a clear policy delimiting government responsibility for responding to disasters and the associated losses, citizens and the private sector are implicitly discouraged from assuming proactive roles in risk reduction and management, resulting in greater fiscal costs.¹

To address these challenges, Colombia would benefit from enhancing governance for disaster risk management. The focus of these measures should be on consolidating government policies that strengthen local capacity for land-use planning, improve the coordination of government entities for watershed management, define responsibilities of sectorial stakeholders, and promote the participation of public and private actors, contributing to reducing the government's fiscal vulnerability to disasters.

Supporting recommendations:

Regulate the Disaster Risk Management Law 1523 (2012) with particular emphasis on the institutional framework, the associated funding windows for national and sub-national governments, and the National Disaster Risk Management Plan (*Plan Nacional de Gestión del Riesgo de Desastres*). Through these integrated actions, the effectiveness and efficiency of risk management investments will be strengthened through strategic planning, coordination among territorial levels, and monitoring and control.

Adopt regulations for flood and landslide control and management, technical standards for risk assessment and mitigation, and a strategy for implementation. To achieve this objective, the various agents responsible for watershed management will be central to reducing flood and landslide risk through planning, investment, and monitoring and control. Through these strategies, the formulation and implementation of watershed management plans (*Planes de Ordenación y Manejo de Cuencas Hidrográficas*) should be accelerated and incorporated as a determining instrument in municipal land use plans (POTs).

Strengthen local capacity in territorial management to reduce the origin and accumulation of disaster risks. A national strategy to strengthen municipal risk management should take into account differences in institutional, technical, and financial capacities among local governments to design and implement their respective Municipal Disaster Risk Management Plans (*Planes Municipales de Gestión del Riesgo*). One of the main objectives of these plans will be to orient and prioritize interventions and investments in risk reduction. In addition, a specific focus should be placed on reducing the amount of housing in high-risk areas through incorporating hazard and risk assessment into land-use planning, implementing integrated neighborhood improvement plans, and designing resettlement programs for non-mitigable high-risk areas.

Reduce the continued generation of disaster risk and associated impacts through policies and sectorial action plans. To achieve this, the design and implementation of sectorial policies for risk management in each ministry should include risk assessment and associated prevention and mitigation measures. The wider application of these sectorial policies and plans will also support the consideration of disaster risk in public projects and investments, facilitate effective and timely disaster response efforts, and support an important dialog on the shared responsibility for reducing risks between the Government and the private sector. Priority sectors include finance, housing, agriculture, water supply and sanitation, and transportation.

Background

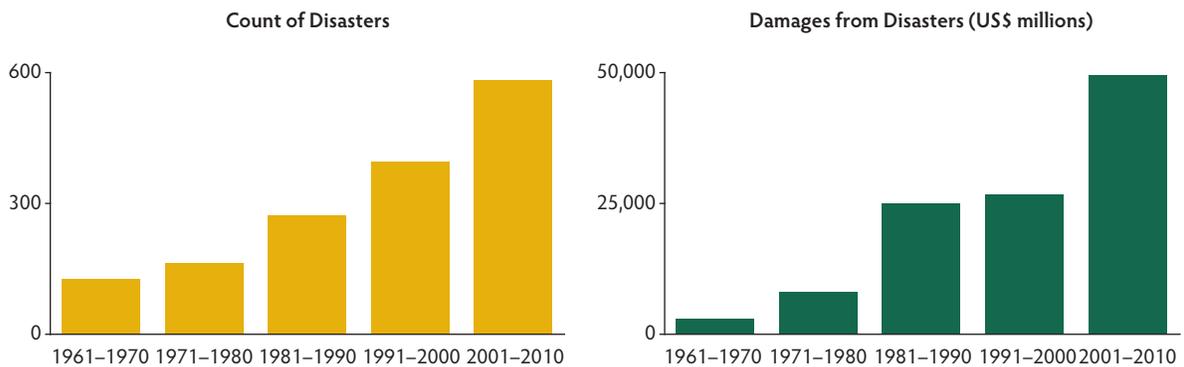
Latin America is experiencing an upward trend in the number of reported disasters, and 20 LAC countries have more than 50 percent of their GDP exposed to two or more natural hazards.³ Annual expected economic losses for the region amount to more than US\$5 billion (Figure 6-1), and most of these losses are associated with damage to public sector assets in health, education, water, transport, and infrastructure sectors or damage to private houses. In addition, significant losses are often concentrated in the agricultural sector, impacting production, markets, affecting government tax revenue and the trade balance. Nonetheless, rapid urbanization, with its growth of urban populations and assets in combination with poorly or unplanned development, is the main driver of the costs associated with disasters in the region.⁴ For example, it is estimated that a major earthquake near any of Colombia's largest cities could generate losses of US\$12.7 billion for Bogota, US\$7.5 billion for Medellin, US\$6.4 billion for Cali, and US\$2 billion for the coffee-growing region (Cardona, et al. 2004 a and b).

Colombia has the 10th highest economic risk of two or more hazards in the world, according to the natural disaster hotspot study by the World Bank.

In Colombia, 84.7 percent of the population and 86.6 percent of the assets are located in areas exposed to two or more natural hazards. The exposure includes both low-frequency/high-impact events, such as earthquakes, tsunamis (in the Pacific), volcanic eruptions, and hurricanes (in the Atlantic), and high-frequency but lower impact events, such as floods and landslides. Many researchers expect climate change to exacerbate flooding and landslides in large parts of the country. Colombia has Latin America's highest rate of recurrent disasters triggered by natural events, with an average of more than 600 reported disasters each year. Colombia's main challenge in disaster risk management is reducing some of the existing extremely high levels of vulnerability.

The country has been a pioneer in Latin America in developing a comprehensive approach to disaster risk management, resulting in a decrease in fatalities. Specifically, advances in monitoring, early warning systems, and the organization of national and local entities for emergency response have contributed to a reduction in the loss of life caused by natural phenomena. However, damage to property, infrastructure, and livelihoods continues to rise, largely because of an increase in vulnerability as a result of insufficiently planned urban growth, inadequate land-use planning, and limited application of building codes. The increase

FIGURE 6-1: Disasters Events and Losses in Latin America, 1961–2011



Source: EM-DAT.

Source: EM-DAT.
Note: Truncated for 2010 losses.

of economic losses in recent events demonstrates this, especially during *La Niña* 2010–11. Economic losses attributed to this single event were as high as COP\$2.1 trillion (US\$1.1 billion) (0.4 percent GDP-2010) and the total damage was estimated at COP\$11.2 trillion (US\$6.1 billion). Among the most affected sectors were housing (44 percent), infrastructure (38 percent), social services⁵ (11 percent), and the productive sectors (7 percent).⁶

The development and approval of the National Policy and a National System for DRM (*Law 1523*, April 2012) established a new institutional framework for Disaster Risk Management. This has been pursued by adopting a more comprehensive approach to risk management, establishing new structures and functions for different subnational levels, and ensuring a more explicit alignment with the Constitution of 1991, oriented toward sustainable development. The National Policy on DRM was based on a broader understanding of risk reduction and its multiple dimensions, rather than retaining a predominant focus on disaster response. This new approach facilitates the mainstreaming of DRM into land-use and territorial planning while facilitating the application of principles of sustainable development. Nonetheless, important steps remain to be addressed relating to the regulation of *Law 1523*, with an initial focus on those articles permitting the operationalization of funding mechanisms for territorial levels and sectoral disaster risk management initiative (understanding risk, risk reduction and emergency response).

As part of the country's approach to fiscal risk management, Colombia has made important advances in financial protection instruments to cover post-disaster expenditures associated with immediate response, rehabilitation, and reconstruction. Depending on the magnitude and type of event, the Government has a variety of instruments and sources of financing at its disposal to reduce its fiscal exposure. These include: (i) insuring government property against the impacts of natural hazards, mandatory since 1993, allows part of the financial risk in case of a disaster to be transferred to the insurance/reinsurance sector; (ii) budgetary

re-allocations; (iii) the National Fund (Emergency Response Account), the main source of resources for responding to the multiple low-intensity disasters that occur every year; (iv) the National Royalties Fund that has been used since 2007 to provide additional resources for disaster response and reconstruction in regions and municipalities where it is permitted by law; (v) subsidy accounts or pools are utilized by selected ministries, and these may be accessed for additional financing in the event of a disaster (their financing is scarce); (vi) contingent loans (such as the Catastrophe Risk Development Policy Loan Deferred Drawdown Option (CAT-DDO) from the World Bank), which give the government immediate and timely access to liquidity in national disasters; (vii) city-specific disaster prevention and management funds, which are in place for selected major urban areas, are now mandatory for all municipalities under *Law 1523* and must include funding mechanisms for the understanding of risk, risk reduction and emergency response; and (viii) the use of international loans, creation of new taxes, and sale of government assets in the case of extreme events. Finally, the MHCP and World Bank have been working closely to define a new parametric instrument which, through its eventual application, would protect the national budget following a catastrophic seismic event.

The use of the World Bank-financed CAT-DDO after the 2010–11 *La Niña* phenomenon showed the advantages of contingent credits as sources of immediate liquidity. As part of the Government's program on disaster risk management, the MHCP in 2008 signed its first contingent pre-negotiated credit line in the amount of US\$150 million, which could be activated immediately upon declaration of a national disaster. In December 2010, the Government made effective use of this instrument and requested its full disbursement to cope with the damage from the *La Niña* 2010–11 phenomenon. In November 2012, the Government and the World Bank signed a second CAT-DDO in the amount of US\$250 million.

Since 2012, the MHCP has made significant progress in designing a comprehensive strategy for the

financial management of disasters. The ministry identified three priority policy areas for assessing, reducing, and managing fiscal risk from natural disasters: (i) identification and understanding of fiscal risk due to natural disasters; (ii) financial management of disaster risk, including the implementation of innovative financial instruments; and (iii) catastrophe risk insurance for public assets. As the strategy was being developed, the Government implemented parallel activities in the three areas to improve its financial capacity to respond to emergencies and mitigate long-term fiscal impacts from disasters. With World Bank support, MHCP launched the “Colombia: Policy Strategy for Public Financial Management of Natural Disaster Risk” in December 2013. The document was presented in a national Forum jointly hosted by MHCP and UNGRD.

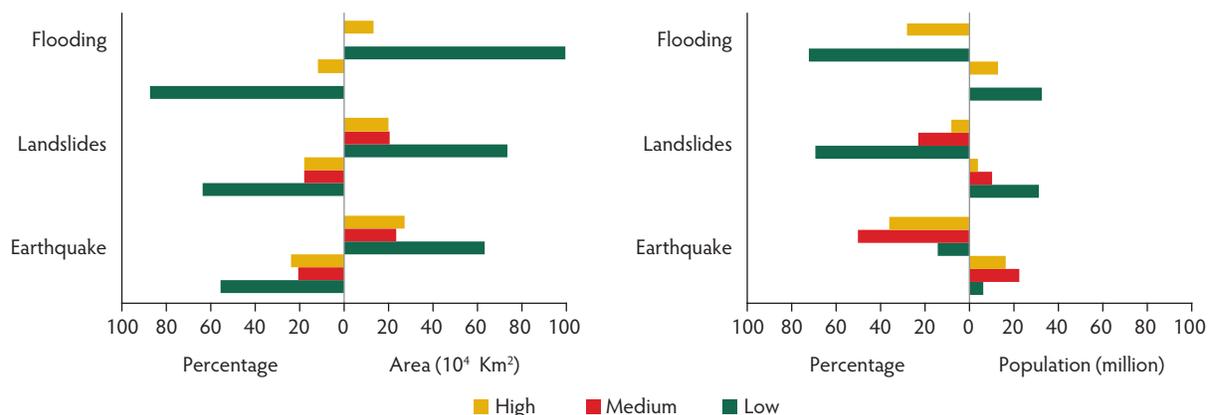
Knowledge

According to a World Bank analysis of disaster risk management in Colombia,⁷ 86 percent of the country’s population is exposed to medium and high seismic hazards, 31 percent to medium and high landslide hazards, and 28 percent to potential severe flooding (Figure 6-2). In geographical terms, 36 percent of the national territory (960 municipalities) is exposed to high seismic hazard, mostly in the Pacific and Andean regions

(departments of Huila, Chocó, Valle del Cauca, Nariño, Risaralda, Cauca, and Quindío). At the same time, 18 percent of the national territory is located in areas that have high landslide risk (most frequently attributed to hydro-meteorological phenomena), especially in the departments of Quindío, Risaralda, Caldas, Nariño, Cauca, Arauca, Meta, Huila, Cundinamarca, Boyacá, Tolima, and Santander. Twelve percent of the national territory is located in areas with increased vulnerability to floods, distributed in 79 municipalities, mainly in the departments of Valle del Cauca, Atlántico, Cundinamarca, Magdalena, Antioquia, Cordoba, Cesar, Cauca, and Meta. Although Colombia has been working steadily in the area of hazard assessment, it is necessary to advance in vulnerability and risk analyses in order to define and implement associated risk reduction measures.

Between 1970 and 2011, more than 28,000 events were registered that caused significant losses, nearly 60 percent of which were reported as of 1990 (Table 6-1). Data demonstrates an evident increase in reported events, which can be attributed to the growth in exposed population and assets and the greater availability and quality of information sources.

FIGURE 6-2: Area and Population Exposed to Earthquakes, Landslides, and Floods in Colombia



Source: OSSO Corporation, 2011 from OSS O-EAFIT Corporation, 2011.

During this period, loss of life due to disasters diminished, but the quantity of housing destroyed

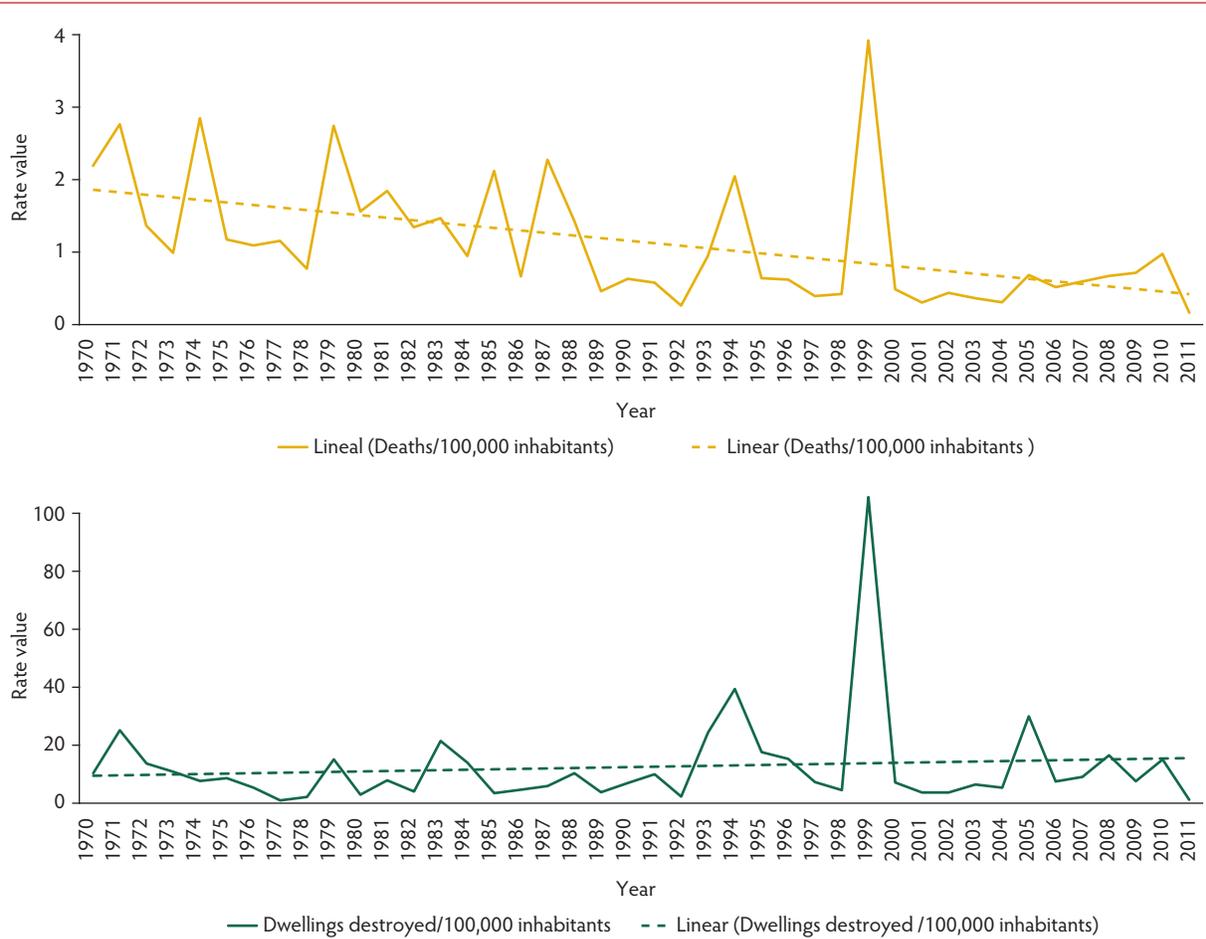
increased (Figure 6-3). The Andean and Pacific region had the largest damages and losses associated

TABLE 6-1: Events and Losses by Decades

Principal source of information	Decade	Events	Fatalities	Population Affected	Housing Destroyed	Housing Partly Affected
Hemerographic	1970–79	5,657	4,025	1,710,541	23,060	25,584
	1980–89	5,123	28,316	4,727,790	29,317	15,873
Official	1990–99	6,465	3,957	9,204,412	88,956	191,828
	2000–09	9,270	2,180	9,284,073	41,689	470,987
	2010–11	2,187	519	2,823,885	7,403	358,378
Total		28,702	38,997	27,750,701	190,425	1,062,650

Source: OSSO Corporation, 2011 from OSSO-EAFIT Corporation, 2011.

FIGURE 6-3: Loss of Life and Destroyed Housing Per 100,000 Inhabitants, 1970–2011



Source: OSSO Corporation, 2011 from OSSO-EAFIT Corporation, 2011.

Note: The notable spike (1999) is the result of coffee-growing region earthquake and La Niña episode. The graph does not include losses produced by the RI Nevado del Ruiz volcanic eruption of 1985.

with destroyed housing, while the Caribbean and Pacific regions (most susceptible to floods) had the highest quantity of partly affected housing. In both regions, damages and losses relative to population were concentrated in municipalities with less than 100,000 inhabitants, which are typically characterized by high proportions of unsatisfied basic needs.⁸

In natural disasters, small and low-income municipalities do not necessarily have the greatest economic losses in absolute terms; however, they are socio economically the most vulnerable to natural hazards and have least capacity to recover. Data on losses, normalized by the size of the municipal population, indicate that both destroyed houses and losses of life are focused in municipalities with populations of between 10,000 and 50,000 inhabitants (Figure 6-4).

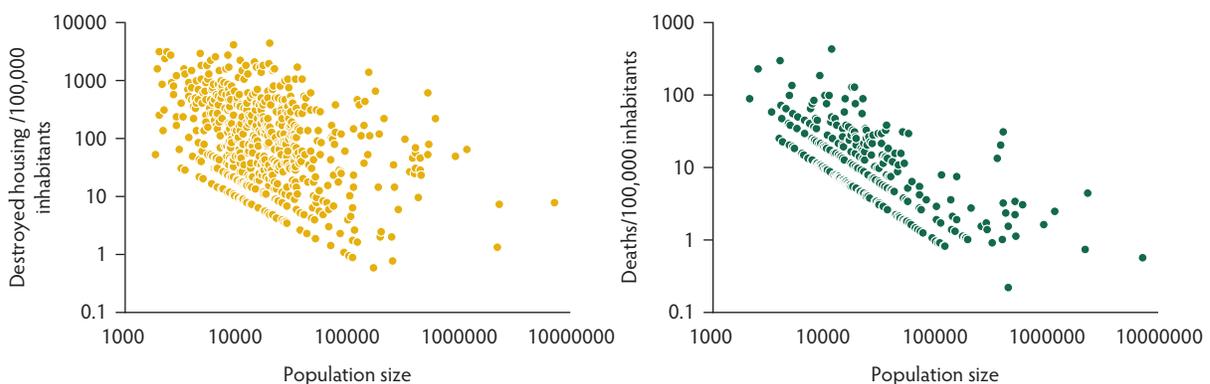
Between 1970 and 2010, accumulated losses in the housing sector associated with all types of disasters (large, intermediate, and minor) amounted to US\$7.1 billion, and average annual losses were US\$177 million. The large disasters (OSSO Corporation, 2011) have resulted in losses of approximately US\$2 billion. Intermediate and minor disasters have caused housing losses of approximately US\$5 billion. The numbers confirm that the effects of damages and losses caused by minor and

intermediate events in the housing are greater—in fact, 250 percent larger—than those produced by large disasters. This calculation, even though conservative, demonstrates that the accumulation of events considered minor or moderate requires a strong policy response to reduce the vulnerability of the population in the housing sector. These impacts are generally produced by environmental degradation and the inappropriate use and occupation of land, mainly by the most fragile socioeconomic strata.

Regional analysis reveals a positive correlation between natural disasters and declining welfare indicators (Figure 6-5).⁹ A recent study on poverty and natural disasters in Colombia showed that disasters increased the percentage of population that suffers hardships related to “educational conditions in the home” and “conditions of children and youth.” Moreover, disasters had a greater impact on the percentage of the population characterized by high levels of truancy, low educational achievement, limited access to potable water, and poor quality of household materials used in flooring.¹⁰ In general, it refers to those populations that are living in small municipalities with low technical and financial capacities for advancing in disaster risk management.

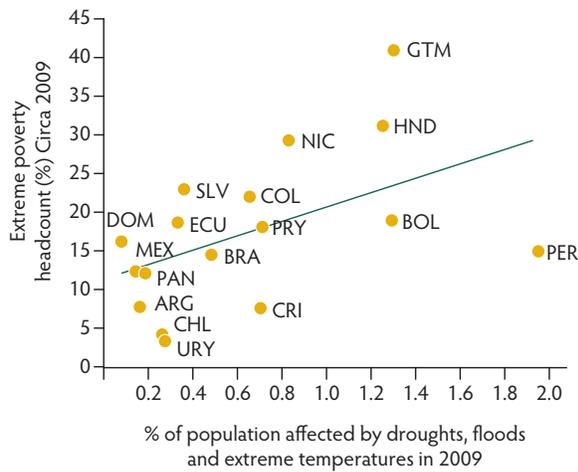
Increasing climate variability, most commonly associated with the cyclical occurrence of the

FIGURE 6-4: Destroyed Housing and Loss of Life Per 100,000 Inhabitants, by Municipal Population, 2001–10



Source: OSSO Corporation, 2011 from OSSO-EAFIT Corporation, 2011.

FIGURE 6-5: Correlation Between Poverty and Natural Disasters in LAC, 2009



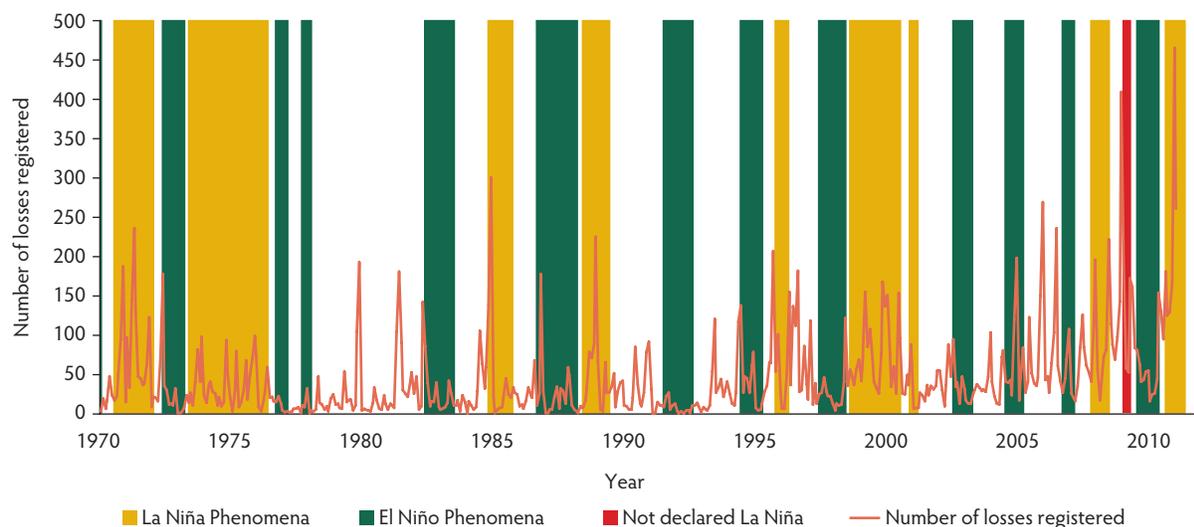
Source: Shifting Gears to Accelerate Shared Prosperity in Latin America and the Caribbean, The World Bank, 2013.

El Niño and La Niña phenomena, contribute to growing losses in Colombia (Figure 6-6). Between 1950 and 2011, *El Niño* impacted the country 15 times and *La Niña* 13 times. While the nationwide flooding and landslides associated with *La Niña* 2010–11 produced one the largest economic losses incurred as a result of rainfall, other episodes such

as *La Niña* 2008–09 had similar economic impacts in terms of the number of municipalities affected and the types of principal losses (agrarian, housing, transport). The tendency to register heightened weather variation in specific areas of the country can not lead to the conclusion that these regional changes have directly increased disaster risk in the country.

In addition to socio-economic inequality, environmental degradation exacerbates existing vulnerabilities. Susceptibility to river flooding, flash floods, and landslides in Colombia has grown as a result of deforestation, soil erosion, and unplanned settlements. The factors that contribute to increasing vulnerability—such as the built environment’s physical characteristics, political/institutional capacity to implement risk-reduction programs, and economic instability—are also increasing in rural areas, where the natural characteristics of the land are often at odds with productive uses, such as livestock and agriculture. This is particularly evident in municipalities with high percentages of unsatisfied basic needs and limited development that contributed to high levels of environmental degradation. For example, Colombia’s agricultural sector is particularly vulnerable to natural hazards, an

FIGURE 6-6: La Niña and El Niño Phenomena vs Annual Registered Losses



Source: Campos, A. et al., Analysis of Disaster Risk Management in Colombia: A Contribution to the Creation of Public Policies (Bogotá: The World Bank, GFDRR, 2012).

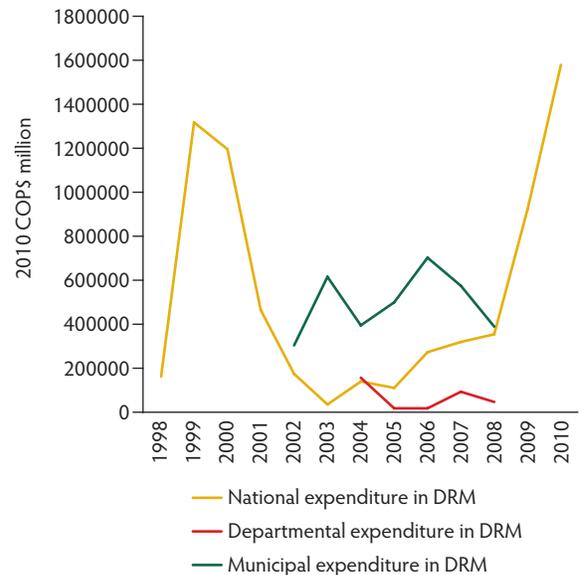
exposure that could be reduced by climate-smart agriculture and productive land-use planning. Pending challenges also include the analysis and quantification of agriculture risks, which could potentially serve as an input to the National Disaster Financing Strategy.

Broadly speaking, the potential negative impacts of climate change are recognized by scientists and politicians; however, disaster risk in Colombia is notably exacerbated by additional factors. The increase of disaster risk can be attributed to a combination of climate variability and the population's heightened vulnerability as a result of economic, social, and environmental drivers.¹¹

In assessing the financial resources allocated to the country's defined goals relating to disaster risk management, fundamental differences exist in the amount and items financed by different levels of government. While the national government has predominately focused its efforts on enhancing the understanding of risk and emergency response/recovery¹² (Figure 6-7), local governments have invested modestly in selected measures that contribute to risk reduction, such as reforestation and watershed conservation.¹³ Municipal investments, however, reveal an inverse relationship to those made by the national government, demonstrating the national government's strong role in financing the recovery process. This is largely the result of a lack of required counterpart funding from local governments, discouraging municipalities from assuming responsibility in recovery efforts.

Events that can produce the most critical future scenarios from the viewpoint of their financial impact and loss of life are a severe earthquake, tsunami (in the Pacific), a volcanic eruption, and a La Niña episode. Earthquakes, although they are rare, have a greater potential impact in the country. A large-scale volcanic eruption, although it may recur once in 500 years, would also be a crisis of national magnitude. Heavy cumulative rainfall caused by the *La Niña* phenomenon may produce the most immediate effects in terms of number of municipalities with significant

FIGURE 6-7: Total Investments in Disaster Risk Management at National, Department, and Municipal Levels^a



Source: Campos, A. et al., *Analysis of Disaster Risk Management in Colombia: A Contribution to the Creation of Public Policies* (Bogotá: The World Bank, GFDDR, 2012).

^a Blank data points for departmental and municipal expenditures refer to non-available data.

impacts on all sectors, especially the agriculture sector. As previously seen, severe flooding and widespread landslides have affected a significant percentage of the country, causing serious crop damages to landlords possessing large tracts of land, devastating the livelihoods of small farmers, and damaging housing, transportation, and other sectors.

Policy Recommendations

Colombia would benefit from improved governance structures relating to disaster risk management. These measures should focus on consolidating government policies that strengthen national, regional and local capacity for land-use planning, improve the coordination of government entities for watershed management, define responsibilities of sectorial stakeholders, and promote the

participation of public and private actors, reducing the Government's fiscal vulnerability to disasters. The six proposed policy recommendations are:

Implement the National Disaster Risk Management Law. This recommendation focuses on the regulation of Law 1523 and adoption of the National Disaster Risk Management Plan (according to Decree 1974/2013). It is also necessary to advance in the operationalizing funding mechanisms for local and sectorial disaster risk management initiatives.

Increase effectiveness and efficiency of disaster risk management investments. Strengthen the mandatory incorporation of disaster risk management criteria in public projects and the adoption of a strategy for monitoring responsibilities and investments. This recommendation also includes the development of land-use planning instruments, with investment plans to advance effectively in disaster risk reduction.

Strengthen subnational capacity in the design and application of planning instruments to reduce the causes and accumulation of disaster risk. This recommendation promotes the review of local and regional capacity for disaster risk assessment and responds to the demand for streamlining of risk knowledge in land-use and development planning. This would also support the formulation and implementation of a national policy on at-risk settlements.

Systematically reduce flood and landslide risk to minimize associated impacts. This recommendation centers on

improving the understanding disaster risk and its links to environmental policy, development, and adaptation to climate change. This policy suggests assigning responsibility for management of rivers and water bodies to a single national entity and establishes the roles and coordination mechanisms for the associated agencies. It aims to adopt regulations for flood and landslide control and management, and to develop a strategy for implementation, monitoring, and control.

Reduce disaster risk and associated impacts through policies and sectorial action plans. This recommendation can be achieved through appointing a unit responsible for disaster risk management in each sector and the implementation of sectorial policies for risk management in each ministry. The strategy also seeks to support the adoption and implementation of sectorial and inter-ministerial action plans in risk management.

Delimit public and private responsibilities in risk management and strengthen the Government's fiscal vulnerability reduction policies. The adoption of clear policy guidelines on the level of protection that the national government and local authorities offer to those affected by disasters is addressed in this final policy recommendation. It suggests adjustment of regulations to clarify the private sector's responsibility and reduce fiscal contingencies resulting from the needs expressed by the affected population. It also promotes strategies to increase local and sectorial awareness of risk management and improve capacity in risk management strategies.

Enhance Governance In Disaster Risk Management		
Policy challenges	Short-term policy recommendations	Medium-term policy recommendations
<i>Implementation of the Disaster Risk Management Law (1523).</i>	<ol style="list-style-type: none"> 1. Regulate Law 1523 with an initial focus on those articles related to operationalizing funding mechanisms for local disaster risk management initiatives. 2. Prioritize the adoption of the National Disaster Risk Management Plan. 	<ol style="list-style-type: none"> 1. Regulate Law 1523 with a focus on those articles related to operationalizing funding mechanisms for sectorial disaster risk management initiatives. 2. Fulfill defined objectives and targets of the National Disaster Risk Management Plan.
<i>Increase effectiveness and efficiency of disaster risk management investments.</i>	<ol style="list-style-type: none"> 3. Strengthen the mandatory incorporation of criteria for disaster risk management in the formulation of sectoral investment projects through the National Bank for Public Project Investment. 	<ol style="list-style-type: none"> 3. Adopt a strategy to strengthen planning, coordination, monitoring, and control for investments in risk management at regional and local levels of government. 4. Develop planning instruments relating to disaster risk management, watershed management, and local land use with investment plans.
<i>Strengthen subnational capacity in the design and application of planning instruments to reduce the causes and accumulation of disaster risk.</i>	<ol style="list-style-type: none"> 4. Design a national strategy to strengthen the technical and financial capacity of regional and local governments to incorporate disaster risk management for the purposes of land use and development planning. 	<ol style="list-style-type: none"> 5. Implement a national strategy to strengthen the technical and financial capacity of regional and local governments in disaster risk management, which seeks mechanisms to promote participation of the private sector. 6. Formulate and implement a national strategy for settlements in high-risk areas that sets guidelines for land zoning, defines mitigation criteria, and lays out resettlement programs when required.
<i>Systematically reduce flood and landslide risk to minimize associated impacts.</i>	<ol style="list-style-type: none"> 5. Assign responsibility for management of rivers and water bodies to a single national entity to improve the understanding of risk management and intra-governmental coordination for decision making. 	<ol style="list-style-type: none"> 7. Within Watershed Management Plans, regulate the inclusion of risk assessment and mitigation as part of each Master Plan for Flood and Landslide Control. 8. Formulate and incorporate Watershed Management Plans as a determining instrument in municipal land-use management planning.
<i>Reduce disaster risk and associated impacts.</i>	<ol style="list-style-type: none"> 6. Assign a unit responsible for disaster risk management in each ministry. 7. Design sectorial policies for risk management in each Ministry. 	<ol style="list-style-type: none"> 9. Implement sectorial policies through specific action plans for risk management in each ministry. 10. Design and adopt inter-ministerial risk management action plans.
<i>Delimit public and private responsibilities in risk management and strengthen the Government's fiscal vulnerability reduction policies.</i>	<ol style="list-style-type: none"> 8. Initiate implementation of the policy strategy for public financial management of natural disaster risk. 	<ol style="list-style-type: none"> 11. Design financial protection strategies for priority sectors and subnational governments to protect the country's financial balance on a long-term basis. 12. Regulate the procedures and mechanisms under which private sector agents participate in different phases of disaster risk management. 13. Promote and incentivize municipal and sectorial strategies to increase general awareness regarding disaster risk management at the household level. 14. Revise and adjust regulations to clarify public and private responsibilities relating to compensation for damages arising from disasters.

Endnotes

- ¹ Analysis of Disaster Risk Management in Colombia: A Contribution to the Creation of Public Policies. Bogota, Colombia: The World Bank: GFDRR, 2012.
- ² Ibid, p. 5
- ³ Dilley, M., R. Chen, U. Deichmann, A. Lerner-Lam, M. Arnold, J. Agwe, P. Buys, O. Kjestad, B. Lyon, G. Yetman, *Natural Disaster Hotspots – A Global Risk Analysis* (Washington D.C.: World Bank, 2005), p. 91.
- ⁴ The World Bank, 2013. *Guarding against disaster*. LCRVP Briefing Note.
- ⁵ CEPAL, BID (2012). “Valoración de daños y pérdidas – Ola invernal en Colombia 2010–2011”, p. 61.
- ⁶ Includes the following subsectors: education, health, family welfare, cultural heritage, sporting facilities, security and defense, and justice.
- ⁷ The World Bank, 2012. Analysis of Disaster Risk Management in Colombia: A Contribution to the Creation of Public Policies. Bogota, Colombia. GFDRR.
- ⁸ Unsatisfied basic needs (UBN) is one of the indicators that has traditionally been used to measure poverty in Colombia. The UBN makes evident the fragile conditions of the population in terms of the physical makeup of housing and its resilience, and the ability to recover in relation to the economic characteristics of the homes.
- ⁹ The World Bank, 2013. Shifting gears to accelerate shared prosperity in Latin America and the Caribbean.
- ¹⁰ Sanchez Fabio and Calderon Silvia. Pobreza y Desastres naturales. Proyecto “Fortalecimiento de la Gobernabilidad para la Administración del Riesgo Social en Colombia,” 2012.
- ¹¹ Marulanda, M., Cardona, O.D., Barbat, A. 2008. The Economic and Social Effects of Small Disasters Revision of the Local Disaster Index and the Case of Study of Colombia. Megacities Resilience and Social Vulnerability. United Nations University, Munich Re Foundations.
- ¹² National investments in emergency response have risen markedly in response to major disasters—for example, the 1999 earthquake (*Eje Cafetero*) and the flooding and landslides of 2010–11 (*La Niña*).
- ¹³ Selected large cities in Colombia, specifically those with greater technical and financial capacity, have made investments directly in risk reduction and disaster response.

CHAPTER 7

Environmental Sustainability



Main Messages

Natural resources are a backbone of the Colombian economy. In 2012, agriculture, forestry and fishing represented 6.2 percent of GDP while mining and quarrying represented another 7.7 percent. However, a measure of environmental sustainability for Colombia, the genuine net savings indicator, shows that gross national savings, after subtracting the costs of depletion of minerals, natural resources and pollution fluctuate around zero and are far below the OECD and the regional averages. Furthermore, environmental degradation has high costs for the economy, estimated at 3.7 percent of the GDP by the 2007 World Bank study. These salient facts give rise to the environmental challenges typical of a middle-income country with high income growth, a rich endowment and high dependence on natural resources, and a high concentration of urban population. The OECD accession process has created an impetus for strengthening environmental management in Colombia, a policy interest in moving toward a sustainable growth path, and an incentive to address the most pertinent environmental health challenges.

This policy note highlights two main areas: pollution management and environmentally sustainable growth. Pollution management—air pollution, water pollution and solid waste management—is the main priority on Colombia's environmental agenda. As the economy and the urban population have grown, the annual costs of urban air pollution have increased dramatically to an estimated 1 percent of GDP, matching the contribution to GDP of the minerals sector or coal. Together with other environmental health problems—indoor air pollution from solid fuel used for household chores and inadequate access to improved water sources and sanitation—annual environmental health costs reach 2 percent of GDP. Without considering the cost of natural disasters, this makes urban air pollution as the biggest environmental problem, ahead of water supply, sanitation, and hygiene.

Investment in wastewater treatment and solid-waste management needs to keep up with the growing urban areas. Only around a third of wastewater in Colombia is treated, with the rest discharged directly into water bodies and marine estuaries. Many of the rivers passing through Bogotá, Medellín, and Cali and other urban areas are heavily polluted, and coastal cities such as Cartagena and Barranquilla experience water quality problems in estuary and near-shore areas. Solid waste management and the management of hazardous waste are other areas that require greater policy and investment efforts. One-fifth of Colombian municipalities, located predominantly in rural areas, do not have adequate waste disposal, and around one-third of the country's sanitary landfills are not properly managed and do not comply with environmental regulations. Reducing pollution will require efficient and sustainable water utilities, partnership building at the local, national, and international levels, proper policies, greater institutional planning, and adequate financial arrangements.

In relation to environmentally sustainable growth, it is important to consider that the peace process, a renewed focus on agricultural development and the planned investment in roads infrastructure may expand the deforestation frontier. The measures to promote forest and biodiversity conservation and address deforestation pressures will need to be closely connected with policies that support sustainable agriculture. Promoting sustainable forestry and land-use practices will require: (i) strengthening the technical assistance programs through rural extension services; (ii) supporting agricultural research and innovation to improve agriculture's resilience to climate change; (iii) slowing the advance of the deforestation frontier by measures that promote a shift from extensive cattle farming, notably through greater security of land tenure; and (iv) improving the management of protected areas. Colombia is one of few global pilot countries participating in the BioCarbon Fund initiative supporting such practices. It has also signed on to the Aichi targets on protected areas, with the objective of expanding them to the areas with underrepresented ecosystems, areas under pressure from development and the advance of the agricultural frontier and other ecosystems that generate important economic services such as water provision and regulation, biodiversity habitats and biological corridors. Furthermore, in intensive agriculture, incentives for more efficient use of fertilizers and pesticides would help not only improve farmers' profits but also reduce soil and water pollution.

Background

Colombia is one of the richest countries in the world in terms of biodiversity, and it is generously endowed with forests, water, and mineral resources. Located in the northwest of South America, Colombia is one of what have been called the five “megadiverse countries” in the world, i.e. countries that possess an exceptional wealth of plant and animal species—known as a biodiversity hotspot. We only need to look at a few figures to realize just how special Colombia is. Stretching from the Pacific Ocean to the Caribbean Sea, the country covers “only” 0.8 percent of the world’s land surface, yet, with between 45,000 and 51,000 species, it is home to some 15 percent of all plant species in the world. And with 1,860 bird species, reptiles, mammals and 469 amphibians, Colombia has a biodiversity of fauna unrivalled by any other country. Moreover, in terms of the number of species of flora that only occur in one specific region, the so-called endemic species, Colombia is also a world leader. One reason for this huge wealth of biological resources is the wide variety of landscapes across Colombia. The country has 311 different types of ecosystems. 61 million hectares are covered by different kinds of forests, and about 2 million hectares of páramos and 10 million hectares of natural savannas, as well as 6 million hectares of different marine and coastal ecosystems. Coastal zones, coral reefs and marine areas generate significant economic benefits through ecosystem services they generate—tourism, artisanal and commercial fisheries and protection of the coastlines, housing and infrastructure.¹ Colombia is the second most biologically diverse country in Latin America. And this does not even take into account the richness of biodiversity in the Chocó region near the Pacific and in the peripheral parts of the Orinoco plains and Amazonia—for the biosphere here is still largely unexplored.² Colombia is also generously endowed with gold and other precious metals, oil, and coal.

Colombia’s solid framework of environmental management dates back to the 1974 National

Code on Renewable Natural Resources and Protection of the Environment. It was strengthened throughout the past two decades, making Colombia the Latin America region’s front-runner in the quality of environmental institutions and regulations under Law 99 (1993), which established Colombia’s system of environmental management in its current form. Pioneering efforts include implementation of economic instruments—water pollution and use charges—and the possibility of expanding them to air pollution and hazardous waste management. As part of the OECD accession process, Colombia has signed the green growth declaration and taken on a commitment to take significant steps to strengthen environmental management.

Against this backdrop, Colombia faces acute environmental challenges from rapidly rising pressure from air and water pollution in urban areas, forest and land degradation in rural areas, and a growing vulnerability to natural disasters and the effects of climate change. Those environmental challenges have intensified with the recent commodity price boom, the investment needs to overcome the infrastructure deficiencies (the main bottleneck for the economy’s competitiveness), and the rising urban population. The country faces tradeoffs. The large potential economic benefits from developing mineral resources and the road network are juxtaposed against the need to protect terrestrial and marine areas and the ecosystem services they generate, such as clean drinking water, bio-commerce, and tourism. The significant potential for developing agriculture and bringing new land into production vies with the risks of deforestation and pollution by agrochemicals, with the resulting degradation of water resources, soils, marine estuaries, and coral reefs and the siltation of hydropower dams. Urban sprawl and settlement in vulnerable areas must be weighed against the risks posed by floods and landslides, accentuated by the effects of climate change. Colombia is vulnerable to the effects of climate change, particularly through the devastating impacts of the natural disasters it frequently experiences. Colombia is a minor contributor to

the global greenhouse gas emissions, with more than half of its emissions stemming from land use, including emissions from agriculture, forestry and deforestation. In terms of greenhouse gas mitigation, the focus has been on emissions from land-use change, the largest driver of emissions in Colombia, and on the transportation sector, which offers large local side benefits of mitigation when local pollution is reduced.³

Sustainable management of natural resources in Colombia and effective management of pollution are important for the prospects of sustained growth and shared prosperity. This policy note examines whether economic growth has been sustainable, compares Colombia's environmental challenges and performance with other countries in the region and the OECD, and highlights critical steps on the environmental policy agenda, including the most urgent measures to help reduce the costs of pollution and degradation of natural resources and increase resilience to climate change. This policy note casts the issues in terms of shared prosperity, which is a concept recently adopted by the World Bank in its development assistance. It is an approach particularly relevant for the middle-income countries like Colombia as they seek to focus on overall economic growth that includes those who are relatively less well off (the bottom 40 percent). In some cases, establishing the links between the environment and natural resources and poverty is straightforward, as with environmental health, air pollution, and access to improved sources of drinking water; in other cases, the link is plausible but is not easily quantifiable due to the need for case-specific data on population exposure to pollutants, as with solid waste and wastewater.

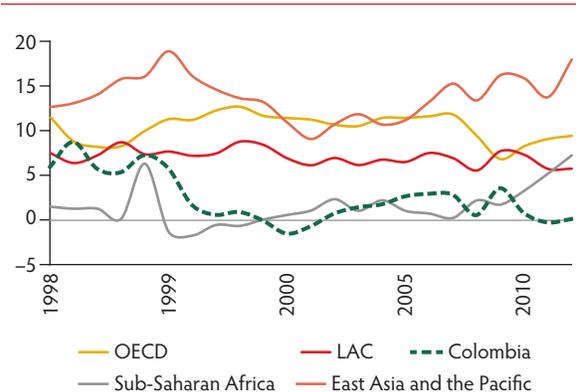
Is Economic Growth in Colombia Environmentally Sustainable?

Colombia's generous endowment of natural wealth increases the urgency to ensure sustainable use of those resources. According to research on wealth accounting and social welfare,

the "genuine" saving, or the adjusted net savings indicator, is a proxy for sustainability, and it shows the true rate of savings in an economy after accounting for natural resource depletion and pollution damages. While it is an imperfect indicator, suffering from measurement and theoretical shortcomings, negative adjusted net savings for several years in a row suggest that economic growth is likely unsustainable from an environmental perspective because total wealth is being depleted. Genuine savings tend to be lower in resource-rich economies, so it is no surprise to find them fluctuating around zero in Colombia in the past few years as energy production has increased (Figure 7-1).⁴

Colombia's economy is vulnerable to risks associated with its natural resource richness; they can be minimized by strong governance and effective public spending on other productive sectors of the economy and education. Countries well-endowed in natural resources often do not develop highly diversified economies, and they are at risk of developing weak institutions—a phenomenon known as "the resource curse." But recent empirical evidence reveals that possessing commodity wealth does not necessarily compromise a country's growth. The risks can be overcome by: (i) prudent management of natural resource rents;

FIGURE 7-1: Adjusted Net Savings, Including Particulate Emission Damage, 1990–2012



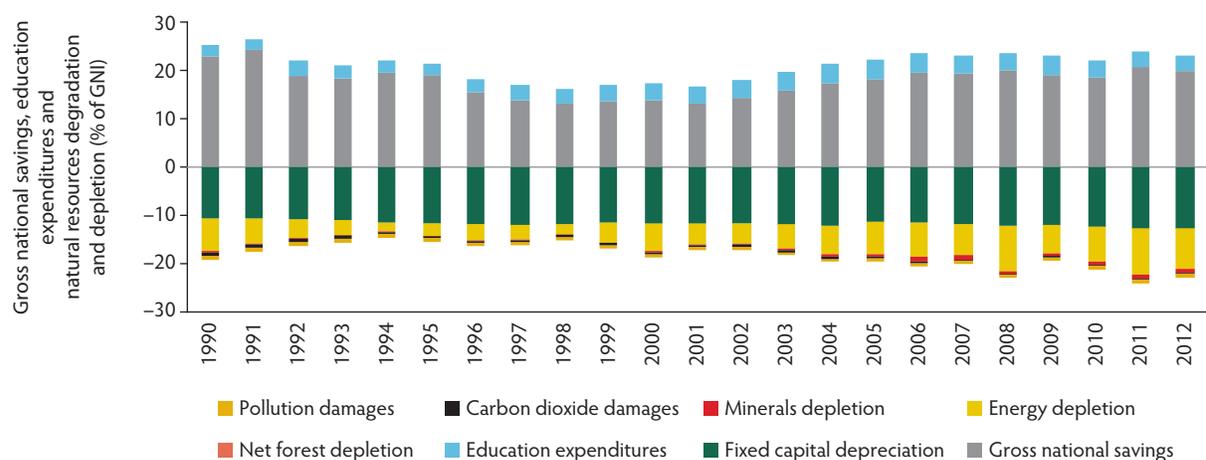
Sources: World Bank (2014). Calculated from the Adjusted Net Savings database.

(ii) replacement of whatever natural wealth that is extracted with other forms of durable capital; and (iii) efficient public spending fueled by wind-fall rents from natural resources. In a contrary case, total wealth will decline and growth will not be sustainable, and some evidence suggests that is happening in the LAC region.⁵ Because of unproductive choices, countries with high resource rents tend to end up with lower genuine savings rates. This has been happening in Colombia, where the adjusted net savings—a measure of savings after subtracting the costs of natural resources extracted and the costs of pollution—have lingered around zero and far below the regional average (Figure 7-1 and Figure 7-2). This indicator suggests that the Colombian economy has a very low rate of savings, and growth is not sustainable from an environmental perspective.

To take advantage of a period of high commodity prices without depleting its wealth, Colombia needs to increase its investment in the economy's productive sectors and education and strengthen the management of natural resource rents. One set of measures includes closing the infrastructure

gap, particularly in terms of road quality, where Colombia ranks 130th in the world, according to the recent Global Competitiveness Report. Investment in the road sector through the Fourth Generation (4G) program is expected to reach 7 percent of GDP over the next seven years, and it is critically important to ensure the efficiency of that spending.⁶ Another key is scaling up investment in education to build up human capital. More generally, it is critical to transform natural resource rents into other forms of capital in the economy's key growth sectors. Finally, ensuring sustainable long term growth requires integration of environmental considerations in the policy and investment agendas of the infrastructure, mining, energy, agriculture and other productive sectors. The risks are particularly high in Colombia due to the central role of the extractive industries in the economy, the plans to further scale up investment in the road sector, and the advance of the agricultural frontier in the context of the peace process. All of these would need to develop in the presence of strong and effective environmental institutions at the national and local levels, with an incentive structure to internalize environmental costs, and with an improved

FIGURE 7-2: Gross National Savings, Education Expenditures, and Natural Resource Degradation and Depletion, 1990–2012



Sources: World Bank (2014). Calculated from the Adjusted Net Savings database.

Note: Adjusted net savings are a measure of environmental sustainability calculated as follows: gross national savings plus education expenditures less natural resources depletion (minerals, energy and forest) and pollution and carbon dioxide damages. Net forest depletion for Colombia in the cross-country dataset is zero, understating this category and the overall depletion estimates for Colombia. "LAC" denotes the Latin America and the Caribbean Region average.

enforcement capacity of sectoral regulators and environmental agencies.

Environmental and social risks will need to be well managed. That will require the strengthening of the environmental licensing system, strategic environmental assessments of projects with cumulative effects, much more robust monitoring and enforcement systems, and improved coordination between the environmental and sectoral agencies and within the National Environmental System (*Sistema Nacional Ambiental*, or SINA) to ensure compliance with the environmental regulations. An important element for developing these mechanisms for infrastructure and extractive industries projects is the availability of forest and biodiversity monitoring systems, an early alert system for detecting deforestation, pollution monitoring, and economic analysis of the costs of pollution and degradation of forests, biodiversity and other natural resources. With support from the Nature Conservancy and World Bank, the Ministry of Environment and Sustainable Development (*Ministerio de Ambiente y Desarrollo Sostenible*, or MADS) developed a pioneering methodology for an additional instrument—biodiversity offsets. They enable projects to compensate for their biodiversity losses with an equivalent or greater value of strengthened biodiversity conservation in other areas. The regulatory and institutional framework needs to be developed to enable the implementation of offset projects, and valuation work for terrestrial and marine biodiversity needs to advance.⁷ Another set of measures to help move Colombia onto a more sustainable growth path consists of improving the management of natural resource rents through efficient institutions, governance mechanisms, and transparent information disclosures. In the extractive industries, an important initiative for disclosure is Colombia's candidacy for the Extractive Industries Transparency International (EITI) initiative.⁸ Improvements in the methodology for tendering strategic mining and oil reserves and ensuring compatibility with the terrestrial and marine protected areas' boundaries is another priority measure to help promote development of the extractive sector in a sustainable way.

Priority Issues on the Environmental Agenda through the Lens of Sustainable Growth

Wastewater treatment and solid waste management are important priorities on the urban environmental agenda, and tackling pollution has high economic and social benefits. The 2004 National Action Plan for Municipal Wastewater Management helped set the framework for the rapid evolution of wastewater management programs in Colombia's large urban areas and spelled out an ambitious target of reaching a 50 percent threshold of wastewater treatment by 2019. It is unlikely that the target will be met due to the financing challenges in the sector; even though wastewater treatment facilities have been built in many municipalities, many of them are not operational because of insufficient funding to cover operation and maintenance costs. Wastewater treatment is also the top concern on the broader water resources management agenda because of the significant pollution problems in urban and agricultural watersheds; at the same time, water quantity tends to be less of a problem and seasonal water scarcity, made worse by the effects of climate change, affects some hotspot areas, such as La Guajira, a large number of municipalities on the Atlantic coast, and many municipalities in the Orinoquia and Central region. As for solid waste management, it is particularly weak in mid-sized cities, small towns, and rural areas, and challenges remain in terms of enforcement of environmental standards for landfills.

The wastewater treatment rate in Colombia is relatively low, with only 33 percent of wastewater receiving any type of treatment. Many of the rivers passing through such urban areas as in Bogotá, Medellín, and Cali are highly polluted, and coastal cities such as Cartagena and Barranquilla experience water quality problems in estuary and near-shore areas. In 1950, an estimated 50,000 hectares of wetlands were connected to the *Río Bogotá*. By 2009, less than 1,000 hectares remained—much of

it degraded by poor water quality. Some evidence indicates that the high social benefits from wastewater treatment and recovery of urban watersheds go far beyond the environmental benefits. For example, a survey of 1,000 households carried out as part of project preparation to improve wastewater treatment and recuperate the watershed of *Río Bogotá* indicated strong support for cleaning up the river and transforming it into an urban environmental asset. The key elements of success are the presence of an efficient and sustainable water utility, partnership building at the local, national, and international levels, and the proper policy, institutional planning, and financial arrangements (see Box 7-1). In Cartagena, the recent implementation of a wastewater treatment project resulted in astonishing results and a recovery of water quality in the coastal zone, with multiple social and environmental benefits.⁹ Given Colombia's extensive coastlines and a significant concentration of population in coastal cities, wastewater treatment in coastal areas and discharge of treated wastewater is a significant issue. Discharge norms have not yet been developed for coastal zones. Devising sufficiently flexible discharge standards that take into account the characteristics of the receiving body of water (the ocean) is an important element of a strategy to scale up investment in wastewater treatment in Colombia.

Efforts to improve wastewater treatment are underway in other Colombian cities, and two main challenges will need to be addressed—coordination and financing. The first involves coordination and scale. Effective coordination mechanisms between municipalities are needed to invest in wastewater treatment facilities of the right capacity that connect all main discharge sources. Coordination strategies can build upon the existing mechanisms in the sector. Investment targets in wastewater treatment can be articulated with the municipal development plans through such programs as Water for Prosperity (*Programa Agua para la Prosperidad*, PAPPDA) and Sanitation of Wastewater Discharge (*Saneamiento para Vertimientos*, SAVER). The second issue is the availability of financing and, in particular, the challenges municipalities face in generating sufficient funds to co-finance investment

in new projects. At the current level of financing, it is highly unlikely that Colombia will meet the National Action Plan for Municipal Wastewater Management's target of having 50 percent of wastewater in Colombia treated by 2019. To tackle this challenge, it is necessary to improve financial sustainability of wastewater treatment companies through tariff policies.

An urgent need exists for review of the priority actions under the municipal Wastewater Management and Treatment Plans and review of the instruments for wastewater treatment financing. Among those measures, it would be necessary to make changes to the water use and water pollution charges scheme, established in accordance with the Law 99 (1993). The level of the fees, the pollutants that the charge is based on, and the management scheme of the revenues from the fees need to be revised, with the objective of promoting greater investment in wastewater treatment capacity by municipal sources. Furthermore, the way the fees for water pollution are currently calculated, they do not provide a sufficient incentive to reduce pollution—so a revision of the formula for the fees is needed.¹⁰

The challenges in terms of solid waste management are also formidable. Around 79 percent of 27 tons of solid waste Colombia's cities generate everyday is disposed of properly in landfills. Around one-third of the sanitary landfills do not operate in accordance with the environmental standards, resulting in health impacts through the spread of communicable diseases, fires, and pollution of water sources. Some waste is dumped directly into water bodies. The regulatory framework for solid waste management has been strengthened but requires further steps to increase investment and improve the monitoring and enforcement. For hazardous waste and chemicals management, the regulatory framework requires strengthening, and the existing information is not sufficient to prioritize policy actions and investment measures.

Colombia is a global hotspot for mercury pollution with high resulting environmental and health costs, making this a particularly urgent priority

BOX 7-1: Wastewater Treatment Has High Social and Economic Returns: The Example of *Río Bogotá*^a

More than 1,000 water bodies in Colombia have suffered as a result of the discharge of untreated wastewater. This has caused anoxic conditions in rivers in such places as Bogotá, Medellín, Cali, and Sogamoso and eutrophication in lakes and wetlands. The contamination of natural water resources reduces options for human consumption, increases the risk of infectious diseases, and deteriorates groundwater and other local ecosystems.

Large cities such as Bogotá, Medellín, Cali, and Cartagena are currently embarking on wastewater treatment programs. Colombia currently has 410 wastewater treatment plants (WWTPs) in 354 municipalities—about 32 percent of the municipalities in the country. However, only about 33 percent of these WWTPs perform efficiently and in accordance with environmental standards.

The World Bank assessed the economic feasibility of the *Río Bogotá* Environmental Recuperation and Flood Control project, designed to improve wastewater treatment and recuperate the watershed of the *Río Bogotá*. The project was judged economically feasible, with net benefits of US\$249 million over 40 years and an internal rate of return of 16.9 percent. The main benefits come from willingness to pay for an improved *Río Bogotá* environment with a string of multi-functional parks, along with reduced flood damages along the river.

A well-structured contingent valuation study was conducted in which more than 1,000 households were interviewed to determine their willingness to pay for environmental improvements. The survey indicated strong support for cleaning up the river and transforming it into an environmental asset. The average willingness to pay was estimated at around US\$3 per household per month, generating 92 percent of the net benefits. The forecast wastewater tariff increases needed to sustain operation of the Salitre wastewater treatment plant are estimated at US\$1.50 per household per month.

^a Adapted from World Bank (2010).

on the chemicals management agenda. Mercury is used extensively in Colombia's gold mining and in some industrial processes, and health risks are particularly acute in the small-scale and artisanal mining sectors. Mercury pollution has high health costs due to the neurological effects on adults and children—loss of intelligence (as measured by Intelligence Quotient, or IQ) and mild mental retardation (MMR). Mercury directly affects the gold-producing municipalities, where the population is exposed to vapors from mercury-based gold production processes and water pollution. It has indirect effects on the water sources, agriculture, and fisheries of downstream populations. A recent World Bank study found that health risks in the Antioquia region and the affected downstream municipalities alone, without considering

the direct health impacts on the population of the mining areas, are striking. In municipalities downstream from the Antioquia region's gold production areas, the mercury pollution-related economic toll from IQ losses and MMR may be on the order of 81 billion COP (US\$43 million) to 231 billion COP (US\$122 million), or 14 percent of the value added in the metallurgical sector of Antioquia.¹¹ Other health effects could not be quantified due to the difficulty of attributing a range of illnesses to mercury exposure, nor was it possible to quantify the cost of environmental impacts, so the above estimate is a lower bound on the damages. The epidemiological evidence is currently limited, and additional toxicological studies and epidemiological monitoring are needed to generate a more accurate estimate of the health effects of mercury

pollution and the resulting costs. Nevertheless, the need is clear for public intervention to improve awareness of the pollution and promote measures to improve incentives for innovation and the adoption of clean technologies in the mining sector.

The peace process opens up new growth prospects for agricultural production and the rural sector, and several steps can help make that growth environmentally sustainable. Colombia's rural areas were the most heavily damaged by years of conflict and violence. They have not been at the center of policy attention in the past few decades, leaving the agricultural sector and the rural economy suffering from underinvestment and subpar provision of public services. Under the new political scenario, investment in these areas would unleash significant pro-poor growth potential. As the policy note on agriculture and rural development emphasizes, it is critical to use Colombia's rich forest resources and cultivable land in ways that maintain the natural capital base, which includes 60 million hectares of forests, 22 million hectares of arable land (only a quarter cultivated), and abundant water resources. Given Colombia's mountainous terrain, land degradation and soil erosion are pervasive and result in annual economic losses estimated at more than 0.7 percent of GDP (Sanchez-Triana et. al., 2007).

In terms of the policy recommendations, the measures to promote forest and biodiversity conservation will need to be closely connected with policies that support sustainable agriculture. Promoting sustainable forestry and land-use practices will require: (i) strengthening the technical assistance programs through rural extension services; (ii) supporting agricultural research and innovation to improve agriculture's resilience to climate change; and (iii) slowing the advance of the deforestation frontier by measures that promote a shift from extensive cattle farming, notably through greater security of land tenure. Colombia is one of few global pilot countries participating in the BioCarbon Fund initiative supporting such practices. It has also signed on to the Aichi targets on protected areas, with the objective of expanding them to the areas with underrepresented ecosystems, areas

under pressure from development and the advance of the agricultural frontier and other ecosystems that generate important economic services such as water provision and regulation, biodiversity habitats and biological corridors (see Box 7-2). Furthermore, in intensive agriculture, incentives for more efficient use of fertilizers and pesticides would help not only improve farmers' profits but also reduce soil and water pollution.

In addition to managing pollution risks and slowing the advance of the deforestation frontier, growing in a sustainable way will require improved management of the risks of natural disasters. Floods and landslides are the most frequent disasters that afflict Colombian cities and rural areas, and their frequency is expected to rise due to the effects of climate change and greater climate variability. Colombia is well advanced in terms of a comprehensive approach to disaster risk management, but the systems in place have not been sufficiently effective in preventing population exposure and vulnerability. Part of the problem is the gradual increase in the occupation of areas unsuitable for sustainable development; or land uses and productive activities incompatible with the existing landscapes and ecosystems. Improved management of the risks will require strengthening existing planning and policy instruments, such as the Watershed Management Plans (*Planes de Manejo de Cuencas POMCAs*), Territorial Management Plans (*Planes de Ordenamiento Territorial*, POTs), and the Departmental and Municipal Plans.¹²

The range of services generated by Colombia's ecosystems is not appropriately recognized by the economy. Sitting at the confluence of the Andes and Chocó biodiversity hotspots, Colombia is considered the world's second most biodiverse country. It is home to unique ecosystems, such as the high-altitude tropical wetlands and *páramos*. In addition to being home to unique biodiversity, the *páramos* also play a key role in water regulation and reducing the risk of landslides in downstream areas. In this context, sustainable land use and protection of the upstream watersheds and *páramos* will translate into real economic and social benefits, making delimitation

BOX 7-2: The BioCarbon Fund in Colombia—Initiative for Sustainable Forest Landscapes (ISFL)

The BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL) is a multilateral facility, supported by donor governments and managed by the World Bank. It seeks to promote reduced greenhouse gas emissions from the land sector through REDD+,^a more sustainable agriculture, and climate smart land-use planning and policies. It has pledges totaling US\$300 million from Norway, the United Kingdom, and the United States.

The ISFL is set up to support activities to manage land-use change while minimizing forest loss and greenhouse gas emissions. It builds on the experience of Tranches 1 and 2 of the BioCarbon Fund and will address the loss of forests, which remains a fundamental global challenge, particularly in the tropics. In Colombia, more than 50 percent of greenhouse gas emissions can be attributed to land-use transformation in the rural sector. Deforestation and other land-use changes account for almost one-third of global emissions. Agriculture is estimated to be the driver of approximately 80 percent of deforestation worldwide, with commercial agriculture being most important in Latin America. At the same time, agricultural expansion is also part of a strategy to raise rural incomes.

ISFL promotes climate-smart agricultural and low carbon land-use practices in selected geographical areas where agriculture is a major cause of deforestation. The initiative builds on a portfolio of jurisdictional programs in Zambia, Ethiopia, Indonesia, and Colombia. The ISFL consists of two components:

- i. Technical assistance and grant funding to support selected countries with implementation of its REDD+ strategies and the creation of enabling environments that change the way land-use decisions are made. Grants will be disbursed through the BioCarbon Fund's associated technical assistance facility, the BioCFplus;
- ii. Results-based financing (a.k.a., payment for performance) based on achieved emission reductions. The main metric for results-based payments will be carbon emission reductions, but other economic, environmental, and social indicators will be monitored. Carbon payments (including some upfront milestone payments) will be made through the BioCarbon Fund.

In Colombia, the selection of a jurisdiction is ongoing in close coordination with the ministries charged with agriculture (MADR) and the environment (MADS).

^a REDD was first discussed in 2005 by the UNFCCC at its 11th session of the Conference of the Parties to the Convention (COP) at the request of Costa Rica and Papua New Guinea, on behalf of the Coalition for Rainforest Nations, when they submitted the document "Reducing Emissions from Deforestation in Developing Countries: Approaches to Stimulate Action," with a request to create an agenda item to discuss consideration of reducing emissions from deforestation and forest degradation in natural forests as a mitigation measure. The 2007 COP in Bali introduced the terminology REDD+ under the "Bali Action Plan," with reference to additional eligible mitigation activities: sustainable management of forests, conservation of forest carbon stocks and enhancement of forest carbon stocks. Source: Wikipedia.

of the *páramos* an urgent priority for the economic agenda as well as biodiversity conservation. In light of the Government's commitment to achieving the Aichi targets of protecting 17 percent of terrestrial areas and 10 percent of marine areas by 2020, the expansion of protected areas would need to target places that generate the most valuable ecosystem services or include underrepresented ecosystems.¹³

The ongoing program on Wealth Accounting and Valuation of Ecosystem Services (WAVES) in Colombia, supported by the World Bank, seeks to help improve the recognition of the role natural resources and ecosystem services play in the economy and generate national accounting data on water, forests, and ecosystem services as an input for decision-making processes.

Priority Environmental Challenges through the Lens of Shared Prosperity: Environmental Health

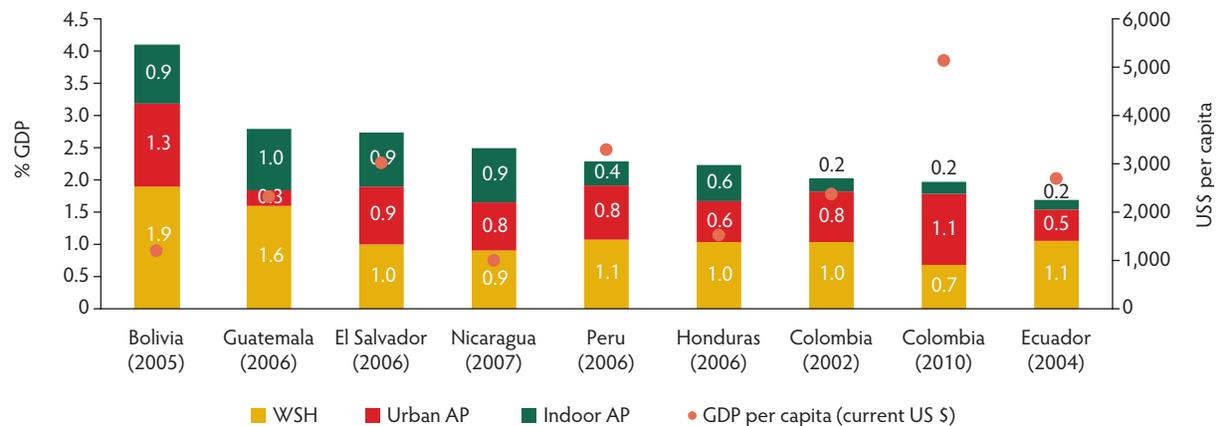
The shared prosperity and pollution management agendas are closely linked. According to a recent World Health report, about 7 million premature deaths—one in every eight deaths globally in 2012—are linked to exposure to air pollution from ambient and household sources (WHO, 2014). Indoor air pollution, mainly due to the use of solid fuels for cooking and other domestic needs, is another major cause of respiratory illness, disproportionately affecting women and children and primarily rural households. Inadequate access to improved sources of drinking water and sanitation is the leading cause of diarrheal illness and mortality of children under five years of age, with the risks of disease and mortality amplified by malnutrition. The environmental health problems linked to pollution from those sources have high economic costs in terms of premature mortality, health expenditures, and the loss of productivity, not to mention deterioration of the quality of life.

Urban air pollution causes three times as many deaths as inadequate water supply, sanitation, and hygiene, and five times as many deaths as indoor air pollution. Despite considerable progress in environmental management over the past decade, a recent assessment reveals that Colombia's population still faces significant adverse impacts from exposure to urban air pollution (UAP), inadequate water, sanitation, and hygiene (WSH), and indoor air pollution from solid fuel use (IAP) (Golub et al., 2014). The total health cost attributable to these three factors amounted to about 10.2 trillion COP annually, or about 2 percent of GDP in 2010 (Figure 7-3). In terms of mortality, about 7,600 annual premature deaths can be attributed to these environmental factors (Table 7-1). About 5,000 deaths are associated with UAP, around 1,600 with inadequate WASH, and 1,000 with IAP. In terms of the burden of disease—measured in terms of

lost disability adjusted life years (DALYs)—the pattern is similar: nearly 70 percent of DALYs are attributable to UAP, around 20 percent to WSH, and around 10 percent to IAP.¹⁴ The overall burden of health costs from these three factors is at the same level as 2002, but the relative magnitude of the costs has changed, reflecting population and income growth, an improvement in access to improved sanitation, and growth in urban population in Colombia.¹⁵ Health costs in the three sectors are moderate compared to other countries in the region, and the share of air pollution costs is high.

Health costs of urban air pollution have increased relative to other health costs, but better air quality in Bogota helped temper the rise. In 2002 a World Bank study found that urban air pollution was the fourth highest in terms of associated costs, following water supply, sanitation and hygiene, and natural disasters (Sanchez-Triana et al., 2007). In the recent round of evaluations that update the earlier study, the mean annual cost of Colombian urban air pollution is estimated at 5.7 trillion COP, or 1.1 percent of GDP in 2010 (Table 7-1). Mortality represents about 79 percent of total estimated costs. Setting aside natural disasters, this puts urban air pollution in first place, ahead of water supply and sanitation and hygiene (Golub et al., 2014).¹⁶ As evident from sensitivity analysis carried out by the study, the costs of urban air pollution would have been even higher in the absence of an improvement in air quality in Bogota.

Improvements in fuel quality and other policy measures implemented since 2002 to improve urban air quality in Bogota alone have helped reduce pollution. Using methodologies and statistical methods to estimate health costs of pollution validated by the World Health Organization (WHO), the recent assessment estimates that a reduction in particulate matter—PM10 levels—from an average of 66 micrograms per cubic meter in 2002 to 59 micrograms helped save an average of 200 lives in 2010 due to the avoided mortality from respiratory illnesses; in addition, around 252 billion COP a year in health costs were saved due to

FIGURE 7-3: Environmental Health Costs in Colombia and in the Region (% of GDP)

Source: Country Environmental Analyses for various years. For Colombia, see Golub et al. (2014) for the 2010 results and Larsen (2004) for 2002 (reported in Sanchez-Triana et al., 2007).

Note: For Colombia, the estimates of the costs of urban air pollution (AP) for 2002 and 2010 (shown above) are not directly comparable because a slightly different methodology was used in the more recent assessment. The latest data take into account significant income growth in Colombia over the past decade and an expansion of the air-quality monitoring network (and populations of cities with monitoring data are included in the 2010 analysis, whereas in 2002 an extrapolation was used for cities without monitoring networks). About half of the costs are due to population exposure to air pollution in Bogota, and air quality has improved there since 2002. Sensitivity analysis reveals that, keeping all other factors constant, health costs due to air pollution in Bogota alone would have been 7 percent higher in 2010 had air quality not improved.

that improvement in air quality. Without the gains, the number of deaths due to air pollution in 2010 would have been 7 percent higher than estimated; in 2012, 16 percent more deaths would have been attributed to air pollution.

Indoor air pollution weighs the most on women and children, affecting the rural population and perpetuating the cycle of poverty. The mean estimated annual cost of health impacts from indoor air pollution associated with the use of traditional

fuels (mainly fuel wood) in rural areas of Colombia is 1.1 trillion COP (0.22 percent of GDP in 2010). This environmental factor weighs most heavily on the vulnerable groups and often perpetuates the poverty cycle. Mortality in children under age five years of age represents 6 percent of the cost, and mortality in women over 30 years of age represents about 78 percent. Acute respiratory illness in children and adult females and Chronic Obstructive Pulmonary Disease morbidity of adult females represent 16 percent of the cost.

TABLE 7-1: Summary of Environmental Health Costs in 2010

Factor	Annual Mortality	Annual Morbidity	Associated Monetary Costs	
	Number of premature deaths	DALYs (million)	COP (billion)	Percentage of GDP
Urban Air Pollution (UAP)	5,000	65	5,700	1.12
Water, sanitation and hygiene (WSH)	1,600	20	3,450	0.68
Indoor Air Pollution (IAP)	1,000	12	1,129	0.22
Total	7,600	97	10,279	2.02

Source: Golub et al. (2014).

Note: US\$1=COP\$1,817. DALYs are disability-adjusted life years. The epidemiological and environmental data are for 2010, and the GDP was reported for 2009 at the time of the study.

Health costs of inadequate water supply, sanitation, and hygiene have fallen, but a large share of the costs still results from child mortality. The mean estimated annual cost of health impacts from an inadequate supply of drinking water and sanitation and from poor hygiene in Colombia is 3.45 trillion COP (0.68 percent of GDP in 2010). Mortality in children under age five represents 17 percent of the cost, with morbidity accounting for the remaining 83 percent. Diarrheal mortality and morbidity represent about 89 percent of the total cost, estimated at 3.05 trillion COP annually. Urban areas represent about 77 percent of the total diarrheal cost. The reduction of health costs in this sector has been associated with improvements in public health measures, with a resulting reduction of background diarrheal mortality and morbidity burdens, and an increase of rural populations with access to improved sanitation in 2002–10.

Recent efforts to strengthen air quality management have diminished increases in air pollution. Colombia has made significant progress toward effective air pollution management in the past decade. The 2010 Air Pollution Control and Prevention Policy made progress in air quality assessment, monitoring, standardization of air quality inventories, fuel-quality improvement, and implementation of incentive programs for environmental control and monitoring. Despite the policy efforts to control air pollution and a series of measures implemented at the national and local levels, pollution pressure continues to grow with an increase in the vehicle fleet. Over the 2000s, it increased 40 to 50 percent in Bogota and Bucaramanga and 10 to 20 percent in Cali and Medellin.

No systematic efforts have been made to reduce the burden of disease from indoor air pollution. One area where little progress has been achieved over the past decade is in management of indoor air pollution. No efforts have focused on decreasing exposure to indoor air pollution, and the burden of diseases associated with it continues to be overwhelmingly concentrated among Colombia's rural households. Trends are not encouraging—53 percent of rural households used solid fuels in 2005,

compared to just over 50 percent in 2010 (ENDS, 2005; ENDS, 2010). The highest incidence of solid fuel use is found in the Eastern (18 percent) and Caribbean regions (20 percent). Bogotá is the only region where solid fuel use for household uses is negligible.

Sanitation and diarrheal treatment have improved in rural areas, reducing the incidence of diarrheal illness. General malnutrition (low weight for age) in Colombia decreased from 7 percent in 2005 to 4.5 percent in 2010. Severe malnutrition has also decreased slightly—from 0.6 to 0.5 percent (ENDS, 2010: 298). The use of some sort of oral rehydration therapy—the main remedy used to treat diarrheal illness in children—increased from 61 percent in 2000 to 70 percent in 2005 and 74 percent in 2010 (ENDS, 2010: 256). Although not proportional to GDP growth over the same period, these improvements are still notable. However, systematic differences remain between urban and rural areas as well as among regions in terms of the awareness and care of diarrheal diseases in children.

Rural-urban and regional differences persist in the supply of safe drinking water and provision of appropriate means of sanitation. In the 2002–2010 period corresponding to the environmental health analysis above, national demographic and health surveys show decreases of 13 percent in the share of Colombia's population without access to improved sanitation, using the WHO/UNICEF definition.¹⁷ The share of the rural and urban population with improved sanitation reached 84 and 99 percent, respectively. The national statistics on rural and urban coverage by piped sewerage networks, which is one of the improved sanitation sources for the purposes of environmental health analysis and the WHO/UNICEF definition, show similar gains in rural areas. According to the household surveys carried out by the National Statistics Department, the coverage of rural areas by sewerage networks increased from around 65 percent in 2003 to nearly 70 percent in 2013. Nevertheless, inadequate WSH in rural areas is still a serious environmental health and health equity problem that disproportionately affects the relatively poor rural population.

In terms of the next steps on the policy agenda, the following steps will be critical for advancing in terms of controlling the air pollution: (i) design economic instruments to reduce air pollution along the lines of water use and pollution charges in Colombia (e.g., air pollution charges established by the 1993 Law 99); (ii) promote renewal of the vehicle fleet (e.g., junking programs for the old bus fleet, programs to retrofit most polluting vehicle classes); (iii) promote fuel switching from coal to natural gas and switching to improved ovens in industry (e.g., improved stoves programs for brick producers); (iv) strengthen the capacity for air quality and emissions modeling at local environmental authorities, forging alliances with universities and other interested stakeholders; and (v) create real-time air quality alert systems to reduce population exposure during peak pollution times. On the indoor air pollution management agenda, a national program will need to be developed in conjunction with local agencies to improve incentives for the use of improved stoves and, where available, switching to cleaner fuels such as natural gas. The implementation of the 2014 Law 1715 on Renewable Energy presents an opportunity for reducing the costs of indoor air pollution by promoting the use of alternative non-fossil energy sources in rural areas that are not interconnected.

In terms of the water supply and sanitation agenda, investments in wastewater treatment need to be scaled up significantly, with emphasis on household sanitation and hygiene. A significant scaling up of investment in wastewater treatment will require the enabling institutional and financial conditions. In that context, the methodology for water use and water pollution charges will need to be revised, with an eye to improving incentives for investment in wastewater treatment. From the health perspective, provision of improved sanitation to households and the soft measures—education and promotion of hygiene—will result in the highest social benefits and help further reduce child mortality. Institutional strengthening and the scaling up of investments are also needed in the solid waste management sector, including hazardous waste and chemicals. Effective coordination mechanisms will

need to be established to facilitate improved collaboration across municipalities and between municipalities, the Autonomous Regional Corporations (*Corporaciones Autonomas Regionales*, or CARs), and national environmental and sectoral agencies. Improvements along those dimensions will help reduce environmental health costs in contamination hotspots, where exposure to pollutants and vector-borne diseases due to improper solid waste management is high. Typically, the poorest households benefit the most from such improvements.

The OECD Accession Creates an Impetus for Green Growth

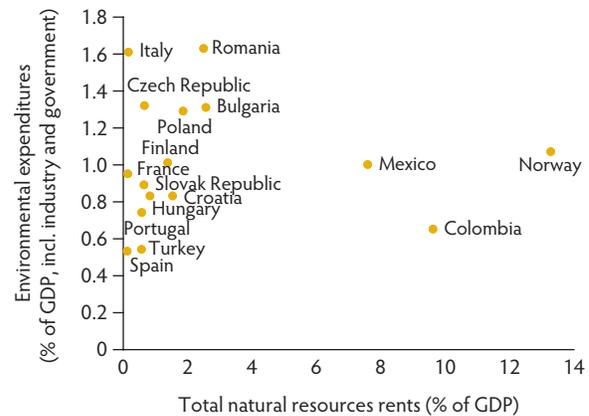
The prospect of OECD accession creates an opportunity for strengthening environmental management in Colombia and moving toward a more sustainable growth path. As part of the accession process, Colombia has signed the declaration on green growth. In the environmental performance review for Colombia, the OECD recommends establishing green growth as a central element of the 2014–18 National Development Plan and defining concrete, measurable environmental objectives for key economic sectors. By green growth, the OECD refers to development that achieves sustainable economic growth and social stability, safeguards the environment, and conserves resources for future generations. Conversely, “development that is not based on green growth may lead to prosperity, but only in the short term, and will soon be undermined by insecurity and vulnerability” (OECD 2013: 13). The benefits of green growth result from sustainable management of natural resources, lower risks of pollution, greater access to basic infrastructure services for all population groups (including the poor, more secure livelihoods), and a shift to a resilient and less energy-intensive growth path.

To gain the OECD membership, Colombia will need to show how it plans to attain the key targets of the OECD’s *acquis* on the environment. The OECD’s requirements include a set of around 72 recommendations and decisions and 45 specific recommendations for strengthening environmental

management in Colombia. A key element will be increased public and private spending on environmental protection and environmental services; now, it is significantly lower in Colombia at around 0.33–0.6 percent of GDP, compared with 1 percent and above for OECD countries (Figure 7-4).¹⁸ The recent assessment by the *Contraloría* notes that the current level of environmental expenditures in Colombia is insufficient for adequate performance of the national environmental institutions of the National Environmental System (*Sistema Nacional Ambiental*, or SINA). The low level of public environmental expenditures and the economy’s remarkably high dependence on natural resource rents, as well as the high costs of environmental degradation in Colombia, make it necessary to place sustainable growth at the core of the development agenda.

Institutional strengthening is one of the most challenging and important areas in Colombia’s shift to a green growth path. Despite such recent measures as the creation of the new National Environmental Licensing Agency, challenges remain in the enforcement of Colombia’s extensive framework of environmental laws and regulation, and serious difficulties persist in the vertical organization of the environmental management system. The 33 CARs have key responsibilities for implementing environmental policies at subnational level. The MADS is responsible for developing policy guidelines and issuing regulations and standards at the national level and coordinating CARs’ activities, and CARs are supposed to function as integral parts of the environmental management system and guarantee the implementation and enforcement at the local level. However, as pointed out by the OECD, “the Constitution provides CARs with a high degree of autonomy in administrative and fiscal terms, and they are subject to few accountability constraints and controls. In addition, their system of governance leaves them vulnerable to capture by local interests; and they are financed in a way that results in most of them lacking human and other resources. These weaknesses hinder the development of the national environmental information system and the implementation of environmental impact assessment (EIA) and licensing procedures, and impede a consistent approach to

FIGURE 7-4: Total Natural Resource Rents and Environmental Expenditures (% of GDP)



Source: Eurostat (2013) and DANE (2013).

Note: An additional category of environmental expenditures, reported for some European countries, are outlays by public and private enterprises specializing in producing environmental services. The category is high for some European countries (especially Spain, France, Poland, Italy, and Romania) and is not reported in the figure above to make the data comparable to Colombia. DANE does not report environmental expenditures by private enterprises.

environmental enforcement” (OECD, 2014: 42). Progress in this area will be critical for attaining more sustainable developmental outcomes.

Policy Recommendations

Policy recommendations fall within the following areas: (i) reducing the environmental health costs by controlling urban air pollution, improving access to improved water supply and sanitation sources, and reducing indoor air pollution; (ii) improving wastewater management; (iii) strengthening the performance of the solid waste sector and improving hazardous waste management; (iv) accounting for the role of natural capital and ecosystem services and their sustainable use in the Colombian economy; and (v) short-term recommendations to attain green growth, including institutional strengthening and the improvement of the environmental licensing process to increase its effectiveness and efficiency. The policy note does not provide recommendations to help reduce the vulnerability to natural disasters; that is covered by a separate policy note.

Development Challenges	Policy Recommendations
<p>1. Pollution has high health costs in Colombia and weighs disproportionately on the poor. Urban air pollution has the highest health costs, and they have risen to the top in terms of mortality and economic costs due to illness.</p>	<ul style="list-style-type: none"> • Design economic instruments to reduce air pollution (e.g. introduce air pollution charges established by the 1993 Law 99 and revise fuel and vehicle taxation schemes to provide incentives for the use of clean fuels and clean vehicles); • Promote renewal of vehicle fleet (e.g., junking programs for the old bus fleet; programs to retrofit most polluting vehicle classes); • Promote integrated urban planning, alternative transportation systems such as scaling up Bus Rapid Transit (BRT) <i>Transmilenio</i> lines and traffic management through Peak and Plate (<i>pico y placa</i>) and congestion pricing programs; • Promote fuel switching from coal to natural gas, switching to improved ovens in industry (e.g., improved stoves programs for brick producers); • Strengthen the capacity for air quality and emissions modeling at local environmental authorities, forging alliances with universities and other interested stakeholders; • Create real time air quality alert systems to reduce exposure during peak pollution times.
<p>2. Health costs of inadequate water supply, sanitation, and hygiene have fallen but a large share of the costs still results from child mortality.</p>	<ul style="list-style-type: none"> • Promote access to improved drinking water sources and sanitation, particularly in rural areas. Carry out a cost-benefit analysis of interventions in the water supply and sanitation sector at a disaggregated level by district and poverty level to improve the targeting of the investments; • Promote hygiene programs (e.g. hand washing campaigns) shown to be effective at improving health outcomes in this sector, particularly when they support customized curricula in schools and kindergardens and “training of trainers” programs; • Strengthen the capacity to carry out economic analysis of health costs and cost benefit analysis of policy interventions and investment programs by building in-house capacity at the district environmental authorities, Department of National Planning, Ministry of Health and Ministry of Environment and Sustainable Development, in partnership with academia, local universities and other stakeholders.
<p>3. Indoor air pollution causes respiratory illness and premature mortality, weighing the most on women and children, affecting the rural population and perpetuating the cycle of poverty.</p>	<ul style="list-style-type: none"> • Design and implement a cross-sectoral program to address indoor air pollution that includes the interventions below; • Evaluate existing improved stove programs and implementing measures to ensure improved delivery and operation of the programs and to maximize their effectiveness and efficiency in contributing to the achievement of improved health outcomes in population groups most affected by indoor air pollution, in addition to fuel efficiency as promoted by Ley 1715 of 2014; • Establish different mechanisms to build awareness of the health effects of indoor air pollution, particularly in rural communities, through existing outreach programs, such as those for rural health care; <ul style="list-style-type: none"> • Include in housing subsidy programs for rural low-income housing requirements for building codes and housing design in poor communities to allow for improved ventilation, including the design of chimneys; • Evaluate the availability of LPG and other cleaner fuels in areas that predominantly use fuelwood, and implement actions to improve availability and access to fuelwood users in a safe and cost-effective manner; • Implement a research program to improve understanding of underlying factors that affect exposure levels; • Extend the coverage of rural electrification programs.

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Development Challenges	Policy Recommendations
<p>4. Wastewater is a major source of pollution in urban watersheds and only a quarter of wastewater flows are treated.</p>	<ul style="list-style-type: none"> • Significantly increase investment in wastewater treatment, creating enabling conditions for investment in and promotion of PPPs, particularly by improving the coordination of investments in wastewater treatment infrastructure across municipalities, by articulating the PAP-PDA and SAVER program targets with municipal and departmental plans; • Strengthen the financing mechanisms of operation and management costs of wastewater treatment facilities through such measures as tariff changes and the development of other financial instruments (e.g. guarantees); • Strengthen the municipal capacity for designing bankable wastewater treatment project of appropriate scale; • Revise the system of water use and pollution charges established by the 1993 Law 99 (see below).
<p>5. Solid waste management faces formidable challenges; 20 percent of municipalities do not have adequate waste disposal and 30 percent of sanitary landfills do not follow the environmental regulations. Hazardous waste is lagging solid waste in terms of regulation and implementation.</p>	<ul style="list-style-type: none"> • Strengthen the monitoring and enforcement of environmental standards for landfills; • Develop economic instruments for the hazardous waste sector as stipulated by the 1993 Law 99; • Strengthen the coordination mechanisms between the CARs and municipalities in solid waste management; • In the area of hazardous waste and chemicals management, improve pollutant and polluted sites inventories and devise strategies to address environmental legacies; • To reduce the health costs of mercury pollution, implement a series of actions, including (i) monitoring of air and water quality in mining production areas and in areas downstream, (ii) carry out epidemiological surveillance of populations exposed to pollution, (iii) carry out awareness campaigns, (iv) promote the use of clean technologies in the mining sector, (v) promote formalization in the small-scale and artisanal mining sector, (vi) develop inspection and monitoring capacity at the National Mining Agency.
<p>6. Sectorial policies and water resources management plans do not translate into investment plans at the watershed and local levels. There is an absence of an integrated framework for marine and coastal resources management.</p>	<ul style="list-style-type: none"> • Strengthen the mandate of the MADS for water resources management, developing mechanisms to add to the impact of water resources planning tools on investments; • Revise the system of economic instruments for water resources management (water use and pollution charges); the current levels are very low and do not provide sufficient incentives to reduce pollution and do not promote greater investment in wastewater treatment, particularly by municipalities; • Develop wastewater discharge standards for coastal and marine areas, taking into account the absorption capacity of the receiving water body (e.g. assess the feasibility of submarine emissaries when treatment is sufficient); • For coastal and marine areas, develop a new Integrated Coastal Zones Management Policy building upon two earlier overlapping policies and a Masterplan to implement it.

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Development Challenges	Policy Recommendations
<p>7. Ecosystem services, biodiversity, and forest resources generate significant economic benefits, particularly drinking water and water regulation services in cities. They reduce the risks of natural disasters, particularly floods and landslides. However, the value of these services is not adequately accounted for in sectorial policies and a large share of the páramos, wetlands, and strategically important ecosystems has been altered, reducing the water regulation benefits. As the peace agenda progresses and investment in road infrastructure rises, the agricultural frontier will likely expand, adding to the deforestation pressures. Furthermore, agriculture is the main source of greenhouse gas emissions in Colombia.</p>	<ul style="list-style-type: none"> • Attain the Aichi targets on protected areas, expanding them in areas with underrepresented ecosystems, areas under pressure from development and, among other criteria, areas that generate significant ecosystem services (e.g. the páramos); • Develop a national policy on green environmental accounting, with guidance on information provision and coordination across agencies and the public; • Enhance policy framework, including access to credit for small and medium farmers, to release land with degraded pastures from extensive livestock production for other uses that have potential for environmental mitigation, such as agroforestry, silvopastoral systems, and commercial forestry, and promote sustainable agricultural production methods; • Strengthen data and systems measuring fertilizer consumption by type of crop and optimum use and provide technical assistance to farmers through extension services; • Secure land tenure regimes for small landholders, promoting land-use intensification and reducing clear cutting, and remove any perverse incentives for land titling that promotes the expansion of slash-and-burn agriculture.
<p>8. Economic growth is not on a sustainable path, with a low level of genuine savings.</p>	<ul style="list-style-type: none"> • Strengthen environmental institutions, coordination mechanisms across sectors on the environmental agenda, coordination between the MADS and CARs, and develop financing mechanisms to facilitate improved monitoring and enforcement; • Strengthen the environmental licensing process and the Strategic Environmental Assessment for projects with significant cumulative impacts, and improve the methodology for tendering strategic mining and hydrocarbons reserves; • Develop a national Green Growth Strategy and Colombia's proposal for the attainment of the OECD's body of environmental instruments and priority recommendations; • Develop real-time environmental information systems to provide inputs in decision making, including forest monitoring, a mining sector cadaster, and green national accounting (e.g., for devising the green growth strategy and the licensing process); • Ensure the attainment of the Extractive Industries Transparency International (EITI) status.

Endnotes

- ¹ An ongoing study by the World Bank “Valuing Marine and Coastal Ecosystems in Colombia: Considerations for the Design of Conservation Strategies” has estimated the value of the economic services generated by the coastal and marine ecosystems of Colombia. Preliminary estimates suggest that of the different types of ecosystems, those with a higher value per hectare are the coral reefs (US\$1,097 per hectare per year) coastal bioma (seagrass, shelf sea, estuaries and shores) with a value of US\$446 per hectare, and coastal wetlands (mangroves) with an estimated value of US\$600. The study concludes that marine and coastal ecosystems generate an annual flow of goods and services estimated at between 0.94 and 3.06 percent of GDP in 2013. It is important to note that these are average estimates and that they are based on limited data that are not site-specific and cannot be used for the purposes of devising compensation and offsets programs. For a description of the methodology and the detailed results, refer to the study.
- ² Adapted from Howard, Pippa (2014). “Developing Offsets for Loss of Biodiversity: Experience from Colombia.” The World Bank, Washington, D.C.
- ³ The World Bank (2014). “Low Carbon Development for Colombia.” Washington, D.C.
- ⁴ The concept of adjusted net savings rests upon the premise of three forms of capital: natural, human, and physical. Transformation of one form of capital in another is possible. Thus, education expenditures are added to gross natural savings and partly offset the depletion of natural capital (Hamilton (2000), Hamilton and Ruta (2009)).
- ⁵ Sinnott et al (2010). “Natural Resources in Latin America and the Caribbean. Beyond Booms and Busts?” World Bank, Washington, D.C.
- ⁶ International Monetary Fund (2014). “Colombia. Staff Report for the 2014 Article IV Consultation.” Washington, D.C.: p. 12.
- ⁷ Howard, Pippa (2014). “Biodiversity Offsets: the Options for Colombia.” Latin America and the Caribbean Region LCSEN Occasional Paper Series. The World Bank. Washington, D.C.
- ⁸ The Extractive Industries Transparency Initiative (EITI) is a global coalition of governments, companies and civil society working together to improve openness and accountable management of revenues from natural resources. Countries implement the EITI Standard to ensure full disclosure of taxes and other payments made by oil, gas, and mining companies to governments. These payments are disclosed in an annual EITI Report. Colombia had declared its intention to apply for EITI candidacy during 2014.
- ⁹ Browder, Greg and Ricardi Duvil (2014). “Restoring the Coastal Environment in Cartagena, Colombia.” Latin America and Caribbean Region LCSEN Occasional Paper Series. The World Bank. Washington, D.C.
- ¹⁰ See, for example, Rudas (2010) and Blackman (2006).
- ¹¹ World Bank (2012). “Assessment of the Environmental and Health Impacts of Mercury Pollution in Colombia.” Washington, D.C. Draft report.
- ¹² Campos et al. (2011). “Analysis of Disaster Risk Management in Colombia. A Contribution to the Creation of Public Policies.” The World Bank. Washington, D.C.
- ¹³ OECD (2014). “Environmental Performance Review: Colombia.” OECD Publishing.
- ¹⁴ DALYs are the sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability.
- ¹⁵ See Sanchez-Triana et al. (2007).
- ¹⁶ To assess the benefits of improvements in air quality observed in Bogota since 2002, a sensitivity analysis was carried out by Golub et al. (2014). It shows the changes in mortality and morbidity and the associated costs in Bogota in two cases: a high concentration scenario with the average levels of PM10 measured in Bogota in 2002, and a low concentration scenario with the levels measured in 2012. It is estimated that 200 additional mortality cases would have occurred in Bogota had pollution levels remained unchanged at the 2002 level; 440 fewer mortality cases would have occurred, *ceteris paribus*, with a con-

centration level on average equal to 48 $\mu\text{g}/\text{m}^3$ (i.e., the ambient level of PM10 measured in Bogota in 2012). The set of policy measures, including the introduction and enforcement of more stringent fuel quality standards in Bogota, that led to the lower measured levels of PM10 resulted in a reduction of mortality cases in Bogota by 7 percent in 2010, compared to what they would have been had air quality not improved. A further improvement in air quality in 2012 resulted in a reduction of mortality cases in Bogota by 16 percent, compared with the baseline (2010) scenario.

¹⁷ The WHO/UNICEF Joint Monitoring Program (JMP) has established a standard set of drinking-water and sanitation categories that are used for monitoring purposes. An “improved” drinking-water

source is one that, by the nature of its construction and when properly used, adequately protects the source from outside contamination, particularly fecal matter. An “improved” sanitation facility is one that hygienically separates human excreta from human contact. The definitions used by the JMP are often different from those used by national governments. Estimates in JMP reports may therefore differ from national estimates. Source: <http://www.wssinfo.org/definitions-methods/watsan-categories/>

¹⁸ Public environmental protection expenditures in Colombia dropped from 0.6 percent of GDP in 2012 to 0.33 percent in 2013. The difference is due to a change in the methodology and accounting for investments in the water supply and sanitation sector in 2012.

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CHAPTER 8

Transport Infrastructure



Main Messages

Background: Colombia's transportation network plays an important role in the country's economic and social development. However, a fragmented institutional and regulatory framework, low technical capacity, and persistent low levels of investment lacking a strategic vision are the root causes of the country's transport infrastructure gap.

Current challenges include: (i) lack of strategic long-term planning in the sector and a fragmented institutional and regulatory framework; (ii) limited local and national capacity to manage the decentralization of the road network and other decentralized functions; inflexible and volatile budgets and limited contracting and implementation capabilities leading to low investments; (iv) an unprecedented increase in the number of road concessions demanding important contract management capabilities; (v) weak frameworks to address transport sector externalities, such as road accidents, transport-related greenhouse gas emissions and resilience to climate change related events; and (vi) low diffusion of multimodal transport corridors and improved logistics practices.

Main policy recommendations include clarifying and strengthening the competencies and roles of agencies at the national level, improving subnational level competencies in planning, project structuring, and project management, enhancing the contract management capacity for public/private partnership (PPP), streamlining the PPP project cycle and the planning and structuring of PPPs, mainstreaming road safety and environmental management in the sector's policy agenda, promoting multimodal transport based on integrated planning principles and economic rationale, and enhancing the environment for private participation in logistics services.

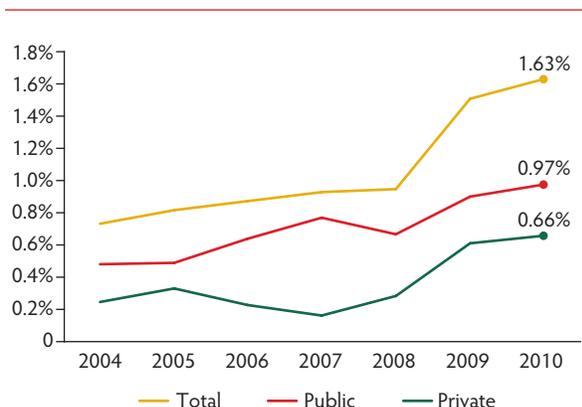
Background

The availability and quality of infrastructure are key determinants of long-run growth and affect the competitiveness of an economy; hence, improving the provision of infrastructure will be a determining factor in Colombia's ability to cash in on a potential growth dividend. Colombia's economic performance has been impressive in recent years, yet the country suffers from severe connectivity challenges that drag down its growth and competitiveness. Investment in transport infrastructure averaged 0.8 percent of GDP from 2001 to 2009, with recent National public investment rising to 1.3 percent of GDP in 2010 and 2011 (Figure 8-1).¹ However, several estimates conclude that investment should rise to at least 3 to 4 percent of GDP to close the country's infrastructure gap² and meet projected demand.³

Colombia's infrastructure gap is particularly acute in road transport—as shown by the high logistics costs compared to similar economies around the world. A host of studies and benchmarks highlight Colombia's transport infrastructure bottlenecks. For instance, Colombia ranks 69th among 144 countries in the World Economic Forum's competitiveness ranking (2012–2013 and 2013–2014 reports), mainly being pulled down mainly by the

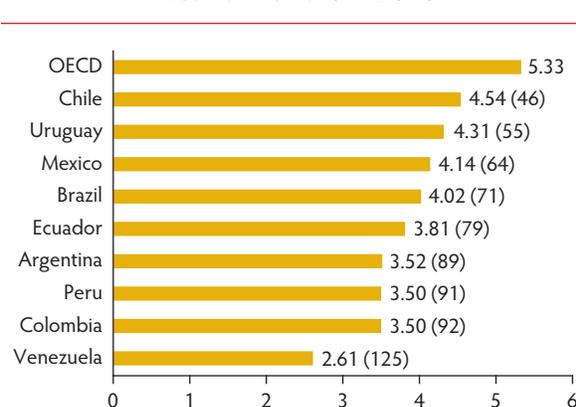
quality of its combined transport⁴, electricity supply and telecommunications infrastructure (ranked 92nd), and the quality of its institutions (ranked 110th, Figure 8-2). In the World Bank's 2014 Logistics Performance Index, Colombia ranks 97th among 160 countries, making it one of the worst performers relative to regional peers (Figure 8-3).⁵ The country ranks 93rd among 185 economies in the World Bank's 2013 Doing Business indicator related to *Ease of Cross Border Trade*,⁶ which predominantly highlights the country's high inland transportation costs and time in performing a foreign trade transaction (Figure 8-4). In particular, more than 65 percent of the exporting/importing costs in Colombia are associated with inland transport, and these costs are more than double the LAC and OECD averages.^{7,8} Furthermore, an analysis of Colombia's infrastructure gap by transport mode finds the largest deficiency in road infrastructure, where Colombia ranks 130 out of 148 in 2013–2014 WEF's GCR. A 2013 study by *Fedesarrollo*⁹ estimates that in order to reduce the gap in road infrastructure¹⁰ in Colombia, the country should have at least 25 percent more roads (approximately 45,000 kilometers), and 30 percent more paved roads (approximately 8,000 kilometers).¹¹ The gaps in port and airport infrastructure are less significant, although most of them are already operating

FIGURE 8-1: Investment in Transportation Infrastructure (% of GDP)



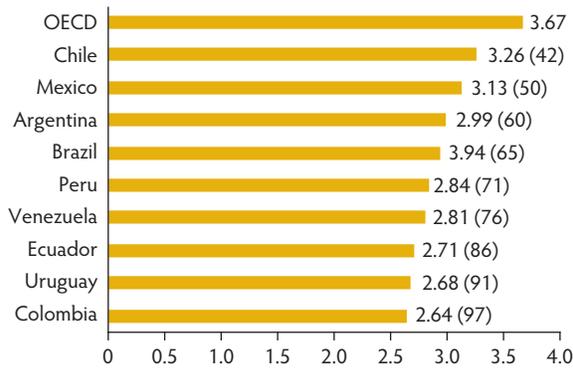
Source: Calculations based on DNP and DANE. Yepes, T.J. Ramírez, L. Villar and J. Aguilar, *Infraestructura de Transporte en Colombia* (Colombia: Fedesarrollo, 2013).

FIGURE 8-2: Transport Infrastructure Quality Rating According to the World Economic Forum 2013



Source: World Economic Forum 2013.

Note: Colombia's overall transport infrastructure quality rating is 3.50 on a scale of 1 to 7. Numbers in parenthesis refer to countries' overall ranking.

FIGURE 8-3: Logistics Performance Index, 2014

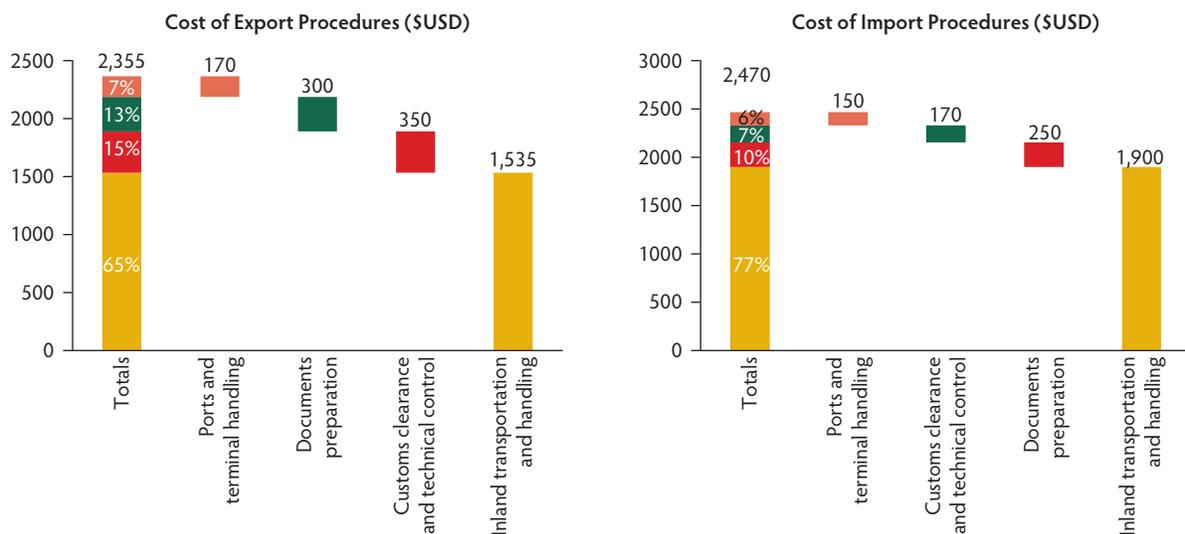
Source: World Bank's Logistics Performance Index 2014.

Note: Colombia's overall transport infrastructure quality rating is 3.50 on a scale of 1 to 7. Numbers in parenthesis refer to countries' overall ranking.

at maximum capacity, and this will only worsen with increased trade and passenger demand.

Against this backdrop, the economic relevance of Colombia's road sector has never been higher, triggered mainly by a rapid expansion of freight transportation by road and the potentially higher demands of new free trade agreements (FTA). Colombia's growth has been accompanied by increases in foreign and domestic trade flows, which

have placed tremendous pressure on the country's road infrastructure and underscored the need to improve connectivity within cities and between cities and ports to external markets. Transport infrastructure deficiencies also hinder regions from reaping the full benefits of trade. Regions continue to be self-contained and relatively autarkic, which hampers greater regional integration and more specialized and competitive cities.¹² The predominance of road transport has increased to the extent that other modes of transport, including river and rail, have historically ceased to be an option for the movement of general cargo. Instead, they have concentrated on moving special cargo, such as coal (rail) and oil/oil derivatives (rivers).¹³ Indeed, if Colombia continues on its current growth trajectory, if at the same time the new FTAs increase trade,¹⁴ and if all planned road investments are carried out in the coming years, the road network will have an acceptable level of service by 2020. By 2035, however, demand will again exceed road capacity.¹⁵ For the reasons described above, this Policy Note focuses on the road sector's looming challenges, while discussing constraints to creation of a modern multimodal transport sector and the role logistics services play in this respect.

FIGURE 8-4: High Cost of Importing and Exporting

Source: Doing Business 2014.

The transport sector is of paramount importance in overcoming the regional isolation at the root of the country's socioeconomic inequalities. The lack of roads and deficient road conditions are obstacles to rural areas' connection to the rest of the country. Being isolated hinders access to public services, makes products more difficult to sell to larger markets, limits economic opportunities, slows regional integration and competitiveness, and may even limit the presence of the Government¹⁶ in some regions. Although the planned improvements to the national road network (roads under concession) are important to connecting rural areas with markets, improving the connectivity and quality of secondary and tertiary roads is crucial for both regional development and reducing rural poverty.¹⁷

The Santos administration has implemented a number of reforms to revamp the institutional and regulatory framework, improve the investment climate, and enhance public-private dialogue in the transport sector. Responding to problems encountered in the three generations of concessions that started in the mid-1990s,¹⁸ the Santos administration embarked on a set of comprehensive reforms expected mobilize more private sector resources and skills for public transport projects. A PPP Law (Law 1508, 2012) was enacted. The National Institute of Concessions was transformed into the National Infrastructure Agency (ANI)—in charge of structuring and managing road concessions. The *Financiera de Desarrollo Nacional* (FDN) was created to provide long-term funding and innovative financial products to the infrastructure sector. Finally, a number of existing public agencies (FINDETER and FONADE) were given a mandate to provide project structuring services to develop a pipeline of projects. The new Infrastructure Law (Law 1682 from November, 2013), is designed to tackle some of the most pressing transport bottlenecks that have historically led to cost-overruns and delays in transport projects.¹⁹ It also calls for creation of two important agencies in the transport sector: the Transport Planning Unit (designated by Decree 946 of 2014) and the Transport Regulatory Commission (Decree 947 of 2014). These two agencies,²⁰ which are planned to be ful-

ly during 2015, will be the keystones from the National Government to develop and prioritize the robust pipeline of infrastructure projects within long term vision master plans.

Despite these achievements and the sector's important role in the country's economic and social development, a transport infrastructure gap persists, rooted in a fragmented institutional and regulatory framework, low technical capacity, and persistent low levels of investment that lacks a strategic vision, particularly in the secondary and tertiary networks. Colombia's transport sector underwent a series of transformations since the 1990s, but the pace of reforms and the degree to which these reforms have been internalized at the national, departmental, and municipal levels are quite different and even vary significantly among the subnational levels. The recent program of bold reforms is meant to improve the investment climate for private participation and strengthen the institutional framework at the national level. Successful implementation of the Fourth Generation of Concession Program (known as 4G)²¹ will be the ultimate test to gauge whether the reforms pay off. For those roads not under concession, what has become evident is that the decentralization of road infrastructure carried out in the 1990s was left incomplete. In practice, the allocation of competencies and responsibilities at the national and subnational level was never made clear. As a result, there is a need to revamp the institutional capacity at all levels and develop more strategic planning and financing options, so investments in the secondary and tertiary network generate economic and social impacts.

Knowledge

Road transport is the dominant mode in Colombia concentrating more than 70 percent of total freight volume movements; the sector has been characterized by low diffusion of multi-modal and logistics practices. The overall modal split in Colombia's freight transportation shows a clear dominance of road transportation, with 70 percent of total freight volume moved

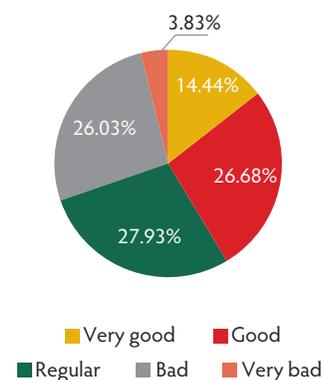
by truck. Railroads account for 27 percent of freight, and are used almost exclusively to transport coal from mines to maritime ports for export. Inland navigation represents 3 percent of freight, and flows are concentrated on the Rio Magdalena, which is mainly used to transport oil and its derivatives. Commercial navigability for other products could be feasible, but requires the development of intermodal facilities and dredging to ensure all-season navigability. Under these conditions, modern multimodal transport is virtually non-existent in Colombia, and except for coal and oil, all freight is concentrated by road.²² Almost all of Colombia's international trade is channeled through maritime ports. Truck flows through border crossings with Venezuela and Ecuador take comparatively small volumes, while air transportation is only relevant for the small fraction of higher value products or perishable goods.²³ As of recently, initiatives are underway to expand the installed port capacity on both coasts, improve the connectivity between ports and inland transportation network,²⁴ and expand the navigability in the Rio Magdalena,²⁵ by which the National Government expects to cut down by 50 percent freight transport costs to the Caribbean coast and foster coal mining.

Logistics services and practices have improved in Colombia, and the formulation and adoption in 2008 of a National Logistics Plan was a step in the right direction to develop the enabling environment and prioritize a set of actions to promote modern logistics practices and multimodality. However, numerous challenges still remain, including the consolidation of a national logistics observatory; improving inspection and customs clearing of freight at ports, airports and border crossings;²⁶ improving cargo handling in urban centers; improving cargo transport pricing and tariff schemes; improving the performance, efficiency, safety, reliability and greenhouse gas emission levels of the freight truck fleets; and mainstreaming communication and information technology in logistics practices.²⁷

The country's road infrastructure includes a network of 214,399 kilometers (out of which only

11.88 percent are paved).²⁸ This network includes roads that are the responsibility of three different administrative levels, i.e., national, departmental and municipal, as follows: (i) 17,249 kilometers of national roads, of which 11,682 are under public domain managed by the National Road Agency (INVIAS), and 5,262 are concessions managed by the ANI (with provisions for additional 8,100 kilometers from INVIAS to be transferred to ANI to be bid as part of the 4G plan, which will leave ANI with 13,362 kilometers); (ii) 42,954 kilometers of secondary roads are under the jurisdiction of 32 Departments; (iii) an estimated 141,945 kilometers of rural and local roads are primarily under the jurisdiction of municipalities, although INVIAS and Departments also manage a portion of this network;²⁹ and (iv) 12,251 kilometers of private roads (Table 8-1). About 80 percent of the primary network and 27 percent of the secondary network is paved. Moreover, only 1,170 kilometers of the primary network are dual carriageways. In general, the quality of the road network is poor (Figure 8-5), except on the access corridors to major cities and ports, which are predominantly under concession. Yet, since most of the assessment of road assets (particularly those under public domain) relies solely on visual inspections, there is a need to complement with more robust techniques to identify, quantify, and value the condition of the network.

FIGURE 8-5: Quality of the National,^a Secondary, and Tertiary Roads



Source: INVIAS for the national road network under its jurisdiction. Fedesarrollo (2013) for the secondary and tertiary roads.

^a Includes only national roads under INVIAS jurisdiction.

TABLE 8-1: Road Network in Colombia 2013

		Length (Km)	%	Paved (km)	Unpaved (km)
National Roads	INVIAS	11,682 (3,582)		8,313	3,369
	ANI	5,262 (13,362)		5,262	
	Departments	305		305	
	Total	17,249	8.0%	13,880	3,369
Secondary Roads	Departments	42,954	20.0%	11,598	31,356
Rural and Local Roads	INVIAS	26,970			
	Departments	14,195			
	Municipalities	100,780			
	Total	141,945	66.2%		141,945
Private Roads		12,251	5.7%		12,251
Total		214,399	100%	25,478	188,921

Source: Plan Vial Regional (PVR 2013).

Note: For national roads, number of kms in parenthesis reflects the reallocation due to the 4G plan.

The new institutional set-up at the national level offers an opportunity to revamp the institutional capacity, but Colombia needs to clarify the roles, responsibilities, and coordination mechanisms of the road sector agencies and, more generally, the entire transport sector. The transport sector has been characterized by inadequate policy and planning capacity, the lack of a multimodal policy, a short-term and reactive vision and management, and a shortage of technical personnel in key agencies.³⁰ The Santos administration's recent reform package is a step in the right direction for overcoming some of these shortcomings. Yet, the new institutional set-up also raises some concerns. The first relates to the role of the Ministry of Transport. One of its core functions—planning and prioritizing investments with high rate of social returns—has been delegated to the Transport Planning Unit. This unit, like a number of other recently created transport agencies (Regulatory Commission, ANI), is an independent body (*agencia adscrita*), not part of the ministry. The strategy has been adopted as a way to create incentives to attract and retain technical staff, improve governance structures, and contracting and implementation capacity. Nonetheless, it is important that the Transport Ministry also revamps its technical and implementation capacity to retain its policy-making mandate and consolidate and coordinate the different trans-

port sector agencies. The second issue emerges as a result of the new 4G concession program, and the fact that more than 75 percent of the national road network will be managed by ANI. Against this backdrop, the National Road Agency (INVIAS), which has important technical capacity deployed through the 32 Departments, is struggling to find a new role and mandate that will allow it to act as facilitator in the process of decentralization of regional road networks. Lastly, the proliferation of project structuring agencies (ANI, FDN, FONADE, and FINDETER) may help create a pipeline of transport projects in the near future, but eventually there will be a need to better define their competencies and boundaries to achieve more efficient and specialized interventions.

At the subnational level, the process of decentralizing the road network is still incomplete. Two tasks are of paramount importance to achieving the integration of the road network under all jurisdictions: (i) building up the institutional capacity (planning, structuring, financing and project management) and (ii) strengthening the coordination mechanisms between national, departmental, and municipal levels. Begun in the 1990s, the process of decentralizing the road network (both in terms of financing and capabilities) has proved inadequate. The poor condition of the road network,

particularly the secondary and tertiary roads that are mainly under subnational jurisdiction, is a clear indication of such deficiencies (Figure 8-5). Through the Ministry of Transport, the national Government has recently made some strides in supporting the departments with the mechanisms and institutional arrangements and regional financing mechanisms³¹ required to comply with the decentralization of competencies introduced in the 1990s. To this effect, the Ministry of Transport launched a program (*Plan Vial Regional*) to help the departments strengthen their technical and institutional capacities, access sources of funding, and financing and implement road management methodologies for the secondary road network.³² Yet, this technical support has not been extended to municipalities to improve the planning, procurement mechanisms for works³³ and road management capabilities of tertiary roads. Information on the quality of these networks is limited, complicating the process of investment planning and leading to fragmented and sporadic investments that make very little sense from an economic or social perspective. Sources of financing, including those from the national Government, are also extremely volatile, worsening the situation. Design of a technical assistance program similar to the one put in place for the secondary road network could be an option for improving municipal planning and road management capabilities under the current decentralized framework. Furthermore, the Ministry of Transport should leverage the newly created Transport Planning Unit to achieve an integrated planning process that generates strategic investments at the subnational level that make sense from a regional perspective. Project structuring and project management capacities also need to be shored up at the subnational level. These are becoming particularly important under the reforms supported by the new Royalties Law (*Ley de Regalías*)³⁴ and the PPP Law. Under these laws, subnational entities can originate and structure transport infrastructure projects to be financed by royalty transfers and/or can receive unsolicited proposals from the private sector that would need to be evaluated and filtered (more on this below). National public project structuring agencies (FDN,

FONADE, and FINDETER) could help build these capabilities at the sub-national level; alternatively, the government could follow the examples of Brazil, Mexico, and other countries and set up project structuring facilities or leverage support from private structuring agencies.³⁵

In terms of financing strategies, Colombia needs to develop a resource framework and the contracting and implementation capabilities for stable financing of the publicly managed road sector and adopt cost-effective asset management policies to make the most of available resources. The road network, particularly those assets managed by the public sector, has been subject to disruptive “stop-and-go” implementation programs, resulting from inflexible and volatile budget allocations. The pattern has impeded a long-term maintenance strategy³⁶ and implies that higher financial requirements are needed to overcome the backlog of deferred maintenance. Furthermore, limited contracting and implementation capabilities—at all levels of government—result in further maintenance backlogs because budget allocations are not executed in a given year.³⁷ Against this backdrop, a sound resource framework and a system for the financing of the road network in which resource allocation is based on cost-effective policies according to agreed and coherent priorities, developing more modern and sound financial planning mechanisms adequately linked to investment plans is required to reduce the deterioration of the road network and maintenance backlog.³⁸ At the national level, the 4G program under execution by ANI has prioritized corridor projects (including construction, operation and maintenance for over 20 years) with the highest socioeconomic benefits. In this sense, PPP legislation includes road maintenance requirements which are not dependent yearly budget allocations. In its turn, INVIAS is developing a performance-based road rehabilitation and maintenance program³⁹ to improve management and quality of the national road assets. However, deployment of this type of program would imply securing the necessary funds to rehabilitate segments that have not received interventions in recent years, implementing more modern planning strategies to

anticipate future requirements, and designing efficient work programs aligned with existing budgets. Through the *Plan Vial Departamental*, the Ministry of Transport has helped departments tap into more stable sources of financing and adopt more cost-effective management policies, but municipalities still face enormous challenges in this respect.

With its growing concession program, Colombia needs to enhance the Government's PPP contract management capacity and reinforce the planning, structuring, and project evaluation filters in the PPP project planning cycle. Implementation of the 4G concession program will result in 40 new projects for construction of 8,100 kilometers of national roadways and generate new investments of approximately USD\$26 billion over the next eight years. If the 4G program is executed as expected, by the end of 2014 alone, ANI will have at least 25 more road projects to manage.⁴⁰ This represents a doubling of the 25 road concessions from previous generations that ANI currently manages.⁴¹ This tremendous increase in projects under management will put significant pressure on ANI's contract management function and call for an important institutional effort. As documented in research and experience, concession agreements are subject to a high incidence of renegotiation⁴² and the Government must be in a strong position to manage incumbent operators and enforce contracts that are inherently complex and involve a wide variety of legal, financial, and technical obligations on the part of private operators that must be continuously monitored. As previously mentioned, the country needs to strengthen investment planning in the road sector, irrespective of the procurement model utilized (public works or PPP). Once a pipeline of projects that makes sense from an economic and social perspective is defined, public structuring agencies (ANI, FDN, FONADE, and FINDETER) should come in to support in the development of PPP projects, both at the national and local levels. In this sense, the Government's PPP support framework needs to be streamlined, with the mandates and competitive advantages of the various agencies involved in the PPP project cycle better defined (Ministry of Finance, DNP, Minis-

try of Transport, FONADE, FDN, FINDETER, ANI). In addition, project evaluation filters from the above mentioned agencies are coming in too late in the preparation cycle, since early screenings are required to reduce the risk of wasting resources in the preparation and evaluation of inadequate PPP projects and to avoid conflicts when national and subnational government entities deny (or ask to significantly modify) projects at a later stage.

Lastly, it is of paramount importance that Colombia continues to address transport sector externalities by mainstreaming road safety initiatives and environmental management programs (including resilience to climate change events of the road network and comprehensive vehicle mechanical and emissions inspections) into the policy agenda. Due to the ever-growing number of casualties and fatalities on the road network, road safety has become a common and prominent issue at all levels of government. In Colombia, road fatalities are the second cause of death overall, and the leading cause of death among children and early youth (5 to 14 year cohort).⁴³ Between 2012 and 2013, Colombia took important strides to establish a new institutional and technical framework to address road accidents and vehicle maintenance standards, by creating the Road Safety Lead Agency (Law 1702, 2013) based on international best practices (in parallel with the National Road Safety Fund to earmark specific resources for the implementation of the new policies), and the revised technical-mechanical mandatory inspection for all motor vehicles (Decree 019 of 2012). New regulation was also enacted to increase fines for driving under the influence of alcohol. Adequate enforcement and monitoring schemes for these regulations are still in the early stages and may undermine the effectiveness of the measures. In terms of resilience to climate change, the experience with the meteorological phenomenon known as *La Niña* in 2010 and 2011 proved the lack of preparedness of the road sector, and called for mainstreaming environmental management and disaster risk policies in the transport sector. Against this backdrop, the PPP Law requires government agencies to undertake a natural disaster risk and vulnerability analysis for all proposed projects.

Policy Recommendations

Policy Recommendation #1: Clarify and strengthen the competencies and roles of various transport agencies at the national level. First, and foremost, the Ministry of Transport needs to overhaul its technical capacities to strengthen its policy-making functions and move away from a short-term and reactive vision and management of the sector; strengthen its policy-making functions and link them with a concrete long term infrastructure investment plan. The creation of the new Transport Planning Unit is a step forward because the sector has been characterized by a lack of integrated, long-term planning (and a corresponding robust project pipeline). For this Unit to work properly, the Ministry of Transport needs to have the right technical personnel and the adequate coordination mechanisms and information flows, so the core planning function is not delegated but feeds into policy-making. Second, with the new institutional set-up emerging at the national level, a broad exercise should be launched to clarify the roles of various transport sector agencies in a coherent and coordinated manner and to make sure that the capacities are being developed to fully discharge the responsibilities established by the new institutional framework. For instance, the national roads agency INVIAS is currently struggling to find its role as facilitator of the decentralization of road networks amongst the new wave of road concessions led by Public structuring agencies (ANI, FDN, FONADE, and FINDETER). These agencies are openly competing to build a pipeline of transport sector PPPs, which can benefit greatly from a long term infrastructure master plan led by the Ministry of Transport and the Transport Planning Unit. The Superintendence of Ports and Transport also needs to be revamped to focus on supervision and build the technical capacities to respond to the new challenges is needed in coordination with the recently created Transport Regulatory Commission.

Policy Recommendation #2: Improve the institutional set-up to manage the secondary

and tertiary road network, bolster capacities at the subnational level, and develop a more stable financing framework and system for prioritizing investments, with the goal of generating impacts that make sense from an economic and social perspective. There is a need to mesh long-term planning of the national, regional, and local road networks. With the deployment of the *Plan Vial Departamental* program, the Ministry of Transport has taken important strides in helping departments with their planning and project structuring capacities. The ministry could leverage this program to support municipalities in developing competencies and instruments to manage the tertiary road network—e.g., collection of statistics, compilation of road inventories, guidelines to manage the network, identification of funding sources, etc. The Transport Planning Unit should also become the coordinating body for the integral planning of the sector at the subnational level, and INVIAS could take on a new and more focused role in providing technical assistance to municipalities in the management and maintenance of the tertiary network. To this effect, the experience of countries like Peru, Mexico, and India⁴⁴ could be benchmarked in designing a rural roads program anchored at INVIAS. The financing framework also needs to be tackled, particularly for rural roads. Since municipalities are largely dependent on transfers from the national Government, there is a need to prioritize resource allocation based on economic and/or social parameters to generate greater impacts. Lastly, there is a need to bolster project structuring and project management capacities at the subnational level. To tackle these deficiencies, the Government could consider the following alternatives: (i) agreements with national public project structuring agencies (mainly FONADE, due to its experience and important technical capacity, and also including FDN and FINDETER) to increase and strengthen support to sub-nationals; (ii) establishment of a proposed project structuring facility, perhaps funded by royalty system proceeds and with support from international honest brokers; (iii) leverage support from private structuring agencies, as it is done in countries like Brazil or

Mexico. The ultimate goal is to avoid fragmented and atomized public investments by prioritizing the structuring and implementation of subnational projects that have regional or national impact and are conceived within a long term infrastructure master plan, as opposed to fragmented and atomized public investments⁴⁵

Policy Recommendation #3: Enhance PPP contract management capacity and the planning and structuring of PPPs. The 4G program's unprecedented increase in the number of road concessions will demand an important institutional effort in contract management. In this respect, setting up adequate governance and technical competencies in the Transport Regulatory Commission to respond to its chartered responsibilities is critical. Contract management functions in the ANI also need to be revamped by implementing such initiatives as: (i) institutional specialization in managing pre-defined types of obligations that are present across all concession agreements (i.e., insurance requirements, performance bonds, supervision of quality of service, etc.); (ii) quality certification for policies and procedures to provide a sense of security to private sector participants and infrastructure users; (iii) intelligent use of outsourcing possibilities for tasks that could be better handled by third parties; (v) training and professional development programs to build a cadre of experienced contract managers; and (vi) a governance structure that shields the function from potential outside interference. In terms of improving the planning and structuring capacities of transport PPPs, the Government could consider designing and implementing a capacity building program on PPPs for public structuring agencies. It would provide structured training to public sector officials responsible for the preparation and evaluation of investment projects (Peru and Uruguay recently implemented such programs). Refining the PPP project cycle and establishing more detailed guidelines and procedures is also key. The Government could consider facilitating PPP project preparation and evaluation by: (i) introducing project screening at the pre-feasibility stage and better enforcing the PPP project registry created by the PPP Law;

(ii) mandating the use of standard project preparation and evaluation forms for private and public proponents; (iii) signaling to the private sector the priority sectors leveraging information from long term infrastructure master plans and its derived project pipeline.

Policy Recommendation #4: Continue to mainstream road safety and environmental management in the transport sector policy agenda. The Government needs to continue in an aggressive and decisive manner to design and implement an integrated, multi-disciplinary and results-focused approach for road safety. In this respect, moving forward with the creation of the Road Safety Lead Agency with a Safe System approach⁴⁶ based on technical and independent criteria is crucial. The experience of Lead Agencies operating successfully in Spain and Argentina should be considered. At a minimum, Colombia's Lead Agency should take on the following responsibilities: (i) spearhead road safety issues and serve as the central convening body for other stakeholders, including civil society, private sector, and national and local government bodies; (ii) organize and lead the team that plans and implements road safety policies; and (iii) lead technical aspects and establish a system for road safety information. In addition to creating the Lead Agency, Colombia needs to revise its National Traffic Code to include the road safety perspective/policy in its norms and include road safety design⁴⁷ criteria in the road network currently being developed, particularly dual carriageways. These concerted efforts to improve road safety should ultimately be measured and monitored against the goal set by United Nations for the Decade of Action—reducing by 50 percent the deaths by road accidents in the 2011–20 period. In terms of environmental management, Colombia needs to revamp its adaptation, mitigation, and increased resilience strategies to manage the risks and vulnerability posed by climate change on its transport infrastructure. This will require the collection and continuous update of information on high risk areas, the design and implementation of disaster risk assessment policies,

and associated prevention and mitigation measures in the transport sector.

Policy Recommendation #5: Promote the adoption of multimodal transport in trade corridors, guided by integrated planning principles and economic rationales, and enhance the enabling environment for private participation in logistics services. As previously mentioned in this note, Colombia can expect a significant expansion of freight transportation as a result of new trade agreements. As a response to this increased pressure in its transport networks, the adoption of multimodal transport strategies should emerge from an integrated and strategic planning exercise focused on key trade corridors and guided by economic rationales—cost-efficiency criteria, lengths to be travelled, type of cargo to be transported, etc. Furthermore, although the Government is making important strides in improving the infrastructure for handling certain

types of freight through inland navigation and rail, these investments need to be complemented with adequate logistics platforms and services that will make multimodal transport feasible. Additionally, logistic platforms must be planned in consideration to optimize flows from production centers to multimodal integration centers taking into account that logistic activities put additional strain to the already congested urban road networks in production centers.⁴⁸ In this sense, the most important task for the Government is to provide the enabling environment and regulations for the private sector to develop these complementary logistics services (logistics centers, transfer centers, and cargo consolidation facilities). It will involve facilitating and simplifying all procedures related to cargo control, inspection, and customs clearance.

The following matrix summarizes the overall diagnostic and policy recommendations over short (one year) and long-term (four years) horizon:

Development Challenge	Policy Recommendations—Short Term	Policy Recommendations—Long Term
Lack of strategic long-term planning and clarity on the roles and competencies of agencies at the national level.	<ul style="list-style-type: none"> Define/clarify competencies, governance structures, and coordination mechanisms of national level agencies (Transport Planning Unit, Regulatory Commission, Superintendence of Ports and Transport). Carry-out long-term investment master planning of the transport network which can set the grounds for a robust project pipeline and based on state of the art planning tools and sound economic analysis (cost-benefit analysis) while generating linkages with transport policy strategies. 	
Limited local (and national) capacity to manage more decentralized systems.	<ul style="list-style-type: none"> Design and roll-out a program, led by the Ministry of Transport, to support subnational governments in defining competencies and instruments to manage the secondary and tertiary road network. Implement Standard Bidding documents for road construction and maintenance programs at the subnational level. Bolster project structuring and project management capacities at the subnational level. 	<ul style="list-style-type: none"> Leverage the Transport Planning Unit as the coordinating body for the integral planning of the sector at the subnational level. Leveraging on studies and reports on diagnosis and strategies to fund public investment at the national and subnational level for infrastructure projects (including the REDI study financed by the World Bank), propose strategies to increase the public investment levels and innovative financing mechanisms at both levels.
Limited contract management capacities points to the need to strengthen the planning and structuring of PPPs.	<ul style="list-style-type: none"> Create, staff, and set up adequate governance and technical competencies in the Transport Regulatory Commission to respond to its chartered responsibilities in the PPP realm. Revamp contract management functions in the ANI for pre-defined types of obligations that are present across all concession agreements. Strengthen an early screening process in the PPP cycle to allow prioritizing projects in which private participation is more financially and economically feasible. 	<ul style="list-style-type: none"> Design and implement a capacity-building/training program on PPPs for public structuring agencies. Refine and streamline the actual PPP project cycle (as dictated by the process and procedures manual published by the Ministry of Hacienda) by standardizing project documents and establishing supervision, monitoring and enforcement mechanisms for these detailed guidelines and procedures. Better define competitive advantages and enforce mandates of the different public sector agencies involved in the PP project cycle, ensuring that project evaluation filters are timely and technically robust and avoiding relegating filters as procedure check-boxes. Link the PPP project pipeline with a long term infrastructure master plan which defines priority national and subnational projects.
Weak sectoral frameworks to address transport sector externalities, such as road accidents and climate change.	<ul style="list-style-type: none"> Staff and setup adequate governance and technical competencies in the Road Safety Lead Agency. 	<ul style="list-style-type: none"> Establish the National Road Safety Observatory. Incorporate environmental management policies in transport sector agenda.

(continued on next page)

(continued)

Development Challenge	Policy Recommendations—Short Term	Policy Recommendations—Long Term
Low diffusion of multimodal and logistics practices.	<ul style="list-style-type: none"> • Adopt multimodal systems in trade corridors, guided by strategic planning and economic rationale. • Consolidate the consolidation national logistics observatory at DNP. 	<ul style="list-style-type: none"> • Continue with the implementation of the National Logistics Plan, including dimensions related to: improving inspection and customs clearing of freight at ports, airports, and border crossings; improving cargo handling in urban centers; improving cargo transport pricing and tariff schemes; improving the performance, efficiency, safety, reliability, and greenhouse gas emission levels of the freight truck fleets; and mainstreaming communication and information technology in logistics practices.

Endnotes

- 1 Estimates from National Planning Department (DNP) indicate that combined private and National public investments in transport infrastructure in 2013 ascended to 2.94 percent of GDP.
- 2 The “infrastructure gap” is defined as the difference between a specific infrastructure requirement and the effective current supply or stock of infrastructure. The Economic Commission for Latin America and the Caribbean (ECLAC) estimates the gap based on the development of the stock of infrastructure-related capital relative to infrastructure demand. Refer to ECLAC, July 2011. “The Infrastructure Gap in Latin America and the Caribbean.”
- 3 According to Fedesarrollo (2013), 20 percent of this investment should be allocated to close the infrastructure gap and the remaining 80 percent to the expected increase in demand until 2020. See Fedesarrollo, 2013. “Infraestructura de Transporte en Colombia.”
- 4 The WEF’s GCR does not include a specific indicator for “quality of transport infrastructure.” However, measurements based on businessmen’s perceptions of the quality of roads rank the country 130 of 148 (2013–2014). Other perceptions rank railroad infrastructure, quality of port infrastructure, and quality of air transport infrastructure.
- 5 Colombia ranks third to last in South America, ahead of only Ecuador, and Venezuela.
- 6 The indicator groups the procedures in the following four aspects: (i) document preparation; (ii) customs clearance and technical control; (iii) ports and terminal handling; and (iv) inland transportation and handling.
- 7 High costs, however, are partly explained since Colombia has its main production centers in the mountainous center of the country and more distant from coastal ports than benchmark countries in the region.
- 8 The cost of exporting a similar good (per Doing Business methodology) amount to US\$2,355 in Colombia, US\$1,283 in LAC (average), and US\$1,070 in OECD countries (average). The corresponding costs of importing are US\$2,470, US\$1,676, and US\$1,090. World Bank’s Doing Business 2014 <http://www.doingbusiness.org>.
- 9 Refer to Fedesarrollo. 2013. “Infraestructura de Transporte en Colombia”.
- 10 However, benchmarks aggregating total number of kilometers of main, secondary and tertiary (rural) roads place Colombia as the country with highest road density in the region.
- 11 Fedesarrollo. 2013. “Infraestructura de Transporte en Colombia.”
- 12 In Colombia, where cities are relatively autarkic and do not currently play complementary roles because of the presence of a large number of economic sectors but at low scales with limited specialization, lowering transportation costs could lead to more specialized and competitive cities. See Pablo Roda (2011).

- ¹³ The National Infrastructure Agency—ANI—has made efforts to promote transport infrastructure projects which favor a multimodal approach, as demonstrated by the structuring and bidding of the strategic Magdalena River navigability project.
- ¹⁴ In 2005, Colombian ports moved 91.8 million tons, a number increased to 131.9 million tons in 2010. In the coming years, this activity is expected to increase between 20 and 40 percent, according to a recent study by Fedesarrollo (2013). “Infraestructura de Transporte en Colombia,” p. 39.
- ¹⁵ Roda, Pablo (2012). “Conectividad Interurbana en Colombia” Misión Ciudades.
- ¹⁶ Including the supply of government health, education, security, and institutional services.
- ¹⁷ Plan Vial Regional. 2013. Red Vial Nacional, 2013.
- ¹⁸ The problems associated with private participation in transport projects (project delays, high cost-overruns and the renegotiation of several contracts at a high cost to the Government) have been largely documented. Refer, for instance to Benavides (2010). “Reformas para Atraer la Inversión Privada en la Infraestructura Vial”; OECD Working Paper (2013). “Opening the black box of contract renegotiations: An analysis of road concessions in Chile, Colombia and Peru.”
- ¹⁹ The most important bottlenecks include: approval of environmental licenses, land and resettlement processes, and responsibility for the intervention and financing of public utility networks during construction of transport infrastructure. See “Informe de la Comisión de Infraestructura,” October 2012. <http://www.infraestructura.org.co/present/23nov/STEINER.pdf>.
- ²⁰ The Transport Planning Unit and the Transport Regulatory Commission were created as decentralized agencies from the Ministry of Transport; however, no institutional arrangements are yet in place to enable fluid communication channels between the agencies and the existing Planning Bureau (Oficina Asesora de Planeación) at Ministry of Transport.
- ²¹ In Colombia, concessions of the national primary network can be divided chronologically into four generations or phases, each with its own contract design principles. The Santos administration is launching the fourth generation, which includes approximately 8,100 kilometers and total investments of US\$24.5 billion and aims to tackle some of the challenges faced by previous phases.
- ²² Roda, Pablo (2012). “Conectividad Interurbana en Colombia” Misión Ciudades.
- ²³ World Bank (2004). Recent Infrastructure Developments.
- ²⁴ Refer to CONPES 3744, April 2013 “Política Portuaria para un País más Moderno.”
- ²⁵ Refer to CONPES 3758, August 2013. “Plan para Restablecer la Navegabilidad del Río Magdalena.” The bidding process for this Project is well advanced with contract award planned to happen during Q4 2014. In 2014, this project received the award for “most strategic infrastructure project in Latin America” at the 12th Latin American Infrastructure Leadership Forum.
- ²⁶ The National Government is advancing towards the approval of a new National Ports and Customs Statute (Estatuto Aduanero), which aims at modernizing, streamlining and strengthening customs processing at border crossings, ports, and airports.
- ²⁷ Refer to CONPES 3779, October 2013.
- ²⁸ Plan Vial Regional. 2013. “Red Vial Nacional 2013”
- ²⁹ Owing to lack of local resources and capacities for road maintenance, the decentralization process could not be fully completed and therefore significant portions of the tertiary road network remain with INVIAS under national jurisdiction. Refer to World Bank (2004). Recent Economic Developments in Infrastructure in Colombia.
- ³⁰ World Bank (2004). Recent Economic Developments in Infrastructure in Colombia.
- ³¹ Reports on the status of the decentralization process indicate that limited Municipal and Departmental finances undermine the capacity of subnational entities to embark in decentralized road construction and maintenance projects.
- ³² As of 2013, the results of the first phase of the Plan Vial Regional were: (i) 32 departments carried out inventories of their roads, cataloging 35,210 kilometers of roads; (ii) 25 Departmental Road Plans were approved; (iii) a set of road management guidelines and methodologies were developed to support the departments; (iv) a regional support group was created in the Ministry of Transport; and (v) facilitating access to finance (such as Royalty System, FINDETER, etc). See Ministry of Transport (2013). Plan Vial Regional.

- ³³ Including the implementation of Standard Bidding Documents for Departmental and Municipal road works contracts, which allow improved bidding processes with ultimate gains in cost-effectiveness.
- ³⁴ Introduced in 2012, the new Royalties Law, among other reforms, created a dedicated fund to finance strategic regional infrastructure investments. Transport projects, primarily focused on improving the secondary and tertiary network with paved roads, represent the highest share of infrastructure investment.
- ³⁵ Estructuradora Brasileira de Proyectos (EBP) in Brazil and the MuniAPP or PIAPPEM Programs in Mexico are among the facilities that fund project preparation and develop a PPP pipeline both at the national and subnational level. India's web-based PPP Toolkit (<http://toolkit.pppinindia.com/>) aims to improve the quality of infrastructure PPPs.
- ³⁶ While budgetary appropriations for the sector can be initially high, they can be curtailed throughout the year to keep overall spending in line with fiscal targets.
- ³⁷ According to the General Controller's Office, road-sector agencies executed only an estimated 15 percent of their budgets in 2013. Refer to Comptroller General's Office (2013) Review of National Budget.
- ³⁸ Official estimates indicate that the present backlog, or cost of rehabilitating the network back to a high quality standard, is in the order of US\$500 million, plus US\$120 million per year in maintenance costs. Refer to CAF (2008). "Mantenimiento Vial – Informe Sectorial."
- ³⁹ These types of contracts, widely used in places such as Argentina and Brazil for the rehabilitation and maintenance of the road network, include the following features: (i) linking budget allocations with multi-year expenditure requirements established under the contracts; (ii) increasing cost-efficiency as compared to ad-measurement type contracts; (iii) minimizing delays in project implementation; (iv) eliminating cost overruns; (v) reducing the risk of unsatisfactory quality in the rehabilitation and subsequent maintenance works improving the condition of the network, and slowing down the evolution of roughness; (vi) cutting down government's supervision costs; and (vii) fostering innovation in the programming and execution of works.
- ⁴⁰ It is expected that bids for the first package of nine roads (five Autopistas de la Prosperidad and four Victorias Tempranas) will be received by the end of April 2014 (April 9th for the Autopistas de la Prosperidad), and the projects will be awarded by the end of June 2014. Another 10 projects are currently in the prequalification process and are expected to be awarded by the end of September 2014. Finally, six more projects developed under private initiative are in advanced stages of preparation with bidding processes expected to be launched in 2014.
- ⁴¹ Also note that ANI has assumed the responsibility for managing all seven of the concession contracts that govern the operation of 17 airports in Colombia, and it will also be responsible for managing new concession contracts in the rail sector.
- ⁴² For instance, refer to OECD Working Paper (2013). "Opening the black box of contract renegotiations: An analysis of road concessions in Chile, Colombia and Peru;" Eduardo Engel E., Fischer R., Galetovic A. (2009). "Soft Budgets and Renegotiations in Public-Private Partnerships;" Guasch J. L., J. J. Laffont and S. Straub (2007), "Concessions of Infrastructure in Latin America: Government-led Renegotiation."
- ⁴³ In 2013, road fatalities were approximately 5,600, according to the National Institute of Legal Medicine and Forensic Sciences.
- ⁴⁴ For Peru, see Provias Descentralizado: <http://www.proviasdes.gob.pe/>. For India, see the Indian National Rural Roads Program, PMGSY: <http://pmgsy.nic.in/>.
- ⁴⁵ Refer to National and Subnational Public Finances and Governance Policy Note for a complementary discussion on this topic.
- ⁴⁶ This approach is based on the principle of shared responsibility to minimize the risk of accidents. This requires a multi-disciplinary and multi-sectorial vision.
- ⁴⁷ Road safety design features should reinforce road signaling standards and improve considerations on maximum turn radii, configuration of road accesses and lane exits and accepted materials and configurations for lane shoulders and dual carriageway split sections.
- ⁴⁸ Logistic platforms should consider the regional and urban dimensions of its impact in order to avoid hindering the internal competitiveness of urban centers.

CHAPTER 9

Financial Sector



Main Messages

The financial crisis in 1999 led to strengthening financial sector stability through revamping oversight. Today, Colombia's banking system is much better supervised and resilient, a fact demonstrated during the recent global financial crisis. Domestic conglomerates dominate the financial landscape, changing the structure of the financial system. At the same time, Colombia's capital markets have been rapidly expanding in size and instruments and they are now among the most developed in the Latin American region. Furthermore, a large share of the population still lacks access to formal financial services. Colombian authorities have made financial inclusion a core element of the socio-economic development of the country with enabling policies, but additional reforms are necessary.

Current challenges include: (i) reforming an oversight architecture that has not adapted to the new financial structure; (ii) further developing government debt and non-debt markets and broadening the investor base; (iii) expanding financial inclusion, particularly in rural areas, by increasing the population's financial literacy and creating financial products to enhance access to credit for small and medium enterprises (SMEs).

Main policy recommendations of this note address three areas. First, improving oversight of the financial sector: Recommendations include revising the existing financial sector oversight architecture with a view to adapting it to the new financial sector structure, strengthening consolidated supervision as well as establishing new rules to address the risks facing conglomerates expanding abroad.

Second, developing capital markets. Recommendations in this area include enhancing the efficiency of government debt markets; improving the enabling environment for issuing and investing in non-government bonds to facilitate financing of key sectors as infrastructure and housing; and broadening the investor base and making it more competitive. In particular, the country would benefit by expanding the investment options for pension funds and removing existing barriers to foreign investors.

Third, supporting financial inclusion. Organizing a national policy framework for financial inclusion with high-level and technical coordinating committees and a clear champion leader, perhaps at the presidential level, would improve the ability to design and target policies to promote responsible financial inclusion. Initiatives should focus on financial education for students and adults, facilitating the use of cell phones and other technologies in delivering financial services, and making it easier for SMEs to gain access to credit.

Background

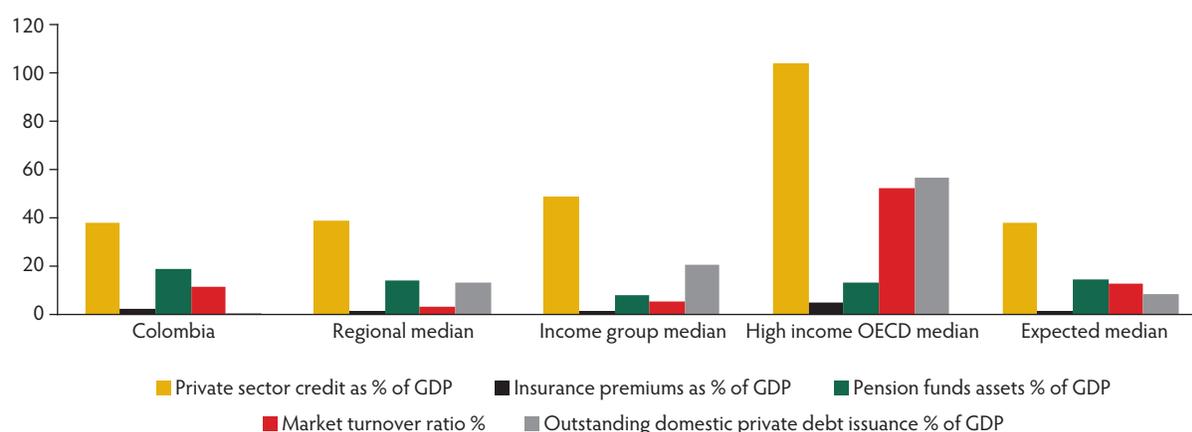
Strengthening financial sector oversight and developing capital markets has been at the core of Colombia's financial development agenda in the past decade. In 1999, poor loan origination standards coupled with weak banking supervision left banks particularly vulnerable to the economic downturn and culminated in the closing or recapitalization of several banks. This financial crisis had a strong impact on macroeconomic stability and growth, heightening poverty levels. Indeed, poverty increased 8 percentage points from 1995 to 1999,¹ particularly in the urban areas. As the situation stabilized, the focus shifted to strengthening financial sector stability through revamping oversight. Significant goals were achieved. Today, Colombia's banking system is much better supervised and resilient, a fact demonstrated during the recent global financial crisis.² Colombia has become a pioneer within the region in adapting macroprudential policies and Basel III standards.³ At the same time, Colombia's capital markets have been rapidly expanding in size, and they are now among the most developed in the Latin American region.

Banking and insurance sector intermediation is comparable to countries of similar per capita GDP, size, and demographics—although capital market

intermediation to the private sector remains below potential. Assets of the supervised financial system reached 75 percent of GDP at the end of 2013, with the banking sector accounting for more than half of all financial system assets. Credit to the private sector has recovered to its 1999 pre-crisis levels, doubling to around 40 percent of GDP in 2013 since the low 20 percent in 2003 (Figure 9-1). Pension Fund Administrators (AFPs) are the most important non-bank financial institutions (NBFI), holding around 21 percent of GDP in 2013. Insurance premiums are still small (2.4 percent of GDP), but they have been growing. Meanwhile, mutual funds are slowly growing to be the second largest player of the capital markets (6.8 percent of GDP). Despite high equity market capitalization, investors buy and hold, limiting turnover. In addition, the size of domestic private sector issuance is very small compared to that of its peers.

Despite progress in promoting financial inclusion, a large share of the population still lacks access to formal financial services. Internationally comparable data show that only 30.4 percent of Colombia's population over 15 years old has access to formal financial services (Findex, 2011), below the regional average of 39 percent (Figure 9-2). This is similar to the levels in Ecuador (36.7 percent), Mexico (27 percent), and Argentina (33.1 percent) but lower than Chile (42.2), Brazil (55.9), and Venezuela

FIGURE 9-1: Financial Sector Structure (as a Percentage of GDP 2012)



Source: Finstats.

(44.1 percent). Women and those living in rural areas utilize financial services less. Findex shows that 35.9 percent of men have a bank account, compared with 25.4 percent of women. Only 24.6 percent of the population in the rural areas has an account at a formal financial institution, compared to 33.5 percent of the urban population. Recent research findings highlight the importance of increasing financial services availability, including improved household welfare, reduced vulnerability to risks, and increased business activity.

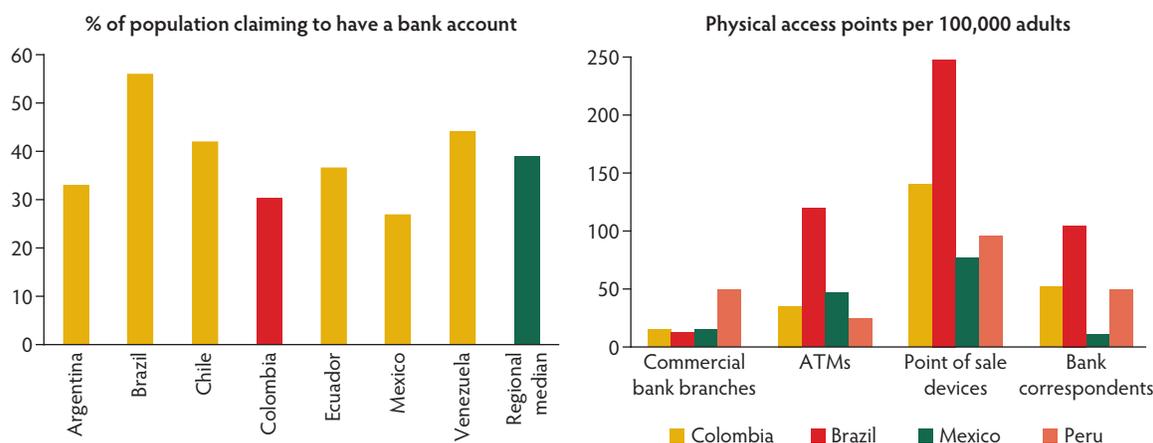
Colombia's banking penetration has grown, but actual customer usage remains low. Based on a strong banking system and favorable macroeconomic conditions, the number of commercial bank branches has grown to 15 establishments per 100,000 adults in 2012, up from 13.9 establishments per 100,000 adults in 2008.⁴ This is similar to the levels of Mexico (15) but lower than Peru (70) or Brazil (47). Penetration grew in terms of territorial presence, with more than 38,000 bank correspondents registered at the end of 2013. Nearly every municipality in the country has the presence of some financial institution. However, as many as two-thirds of banking correspondents handle less than five transactions a day and/or only accept bill payment transactions.⁵ Findex data show that more

than 40 percent of accounts at formal financial institutions are not used on a monthly basis.

Financial sector structure

Domestic conglomerates, increasingly operating across borders, dominate the financial landscape. Currently, 36 conglomerates have a strong presence in the financial system, with many of them operating in the real sector as well. These entities typically include one or more banks, leasing companies, financial corporations, insurance companies, pension fund administrators, and real sector companies. Ten of these conglomerates hold about 80 percent of total financial sector assets. In the banking sector, the percentage of assets held by the top three banks—Bancolombia S.A., Banco de Bogota S.A., and Davivienda S.A.—has remained largely stable at around 50 percent in the past three years. This rises to 62 percent if the four banks owned by the Grupo Aval conglomerate are analyzed as a single bank.⁶ After recent mergers and acquisitions, two domestic financial conglomerates dominate the pension-fund industry. Colombian financial conglomerates have around 170 subsidiaries abroad, with the largest assets of subsidiaries in Panama (44.4 percent), El Salvador (14.0 percent), Costa Rica (9.8 percent), and Honduras (6.7 percent) (Figure 9-3).

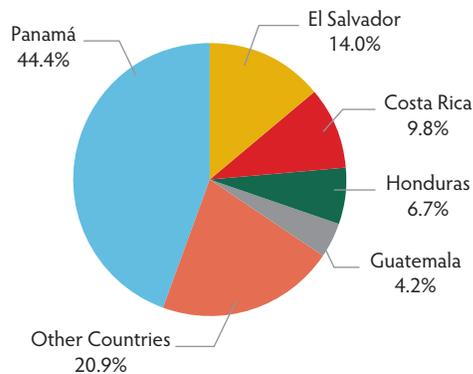
FIGURE 9-2: Comparison of Access to Finance Indicators in Latin America



Source: World Bank Findex 2011. % of population (age 15+) reporting possession of an account at a formal financial institution.

Sources: IMF Financial Access Database 2012 (commercial banks and ATMs, branches) and the Alliance for Financial Inclusion (POS, CBs).

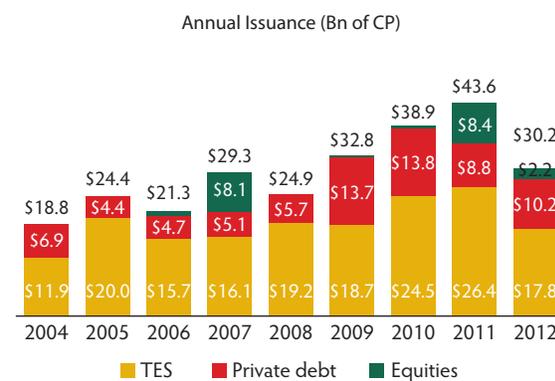
FIGURE 9-3: Percentage of Assets of the Subsidiaries of Colombian Banks Abroad as of Dec 2013



Source: Superintendencia Financiera de Colombia. Presentation "Supervisión de Conglomerados: La Visión del Supervisor", Cartagena June 27 2014 and WB calculations.
 Note: The assets correspond to the sum of the assets of individual subsidiaries in each country.

While government bond markets are deep, the non-government debt market is small and dominated by financial institutions. At the end of 2013, the Ministry of Finance registered that government bond markets in Colombia amounted to about 30 percent of GDP. Most debt is denominated in local currency, with average maturity of outstanding debt at around five years. The architecture of the primary and secondary markets is well-structured with links to each other through the primary dealer scheme and the two-tiered trading model. In contrast, non-government debt amounts only to about 6 percent of GDP. Issuance is concentrated in large issuers with credit ratings that rarely go below AA+. The underdevelopment of the market seems related to four factors: (i) bank dominance in the financial sector as the main source of funding for corporations; (ii) high risk aversion among institutional investors which limits demand for smaller and second tier rated issuers, even if they are above investment grade; (iii) high concentration of the investor base dominated by four pension funds; and (iv) regulations resulting in high issuance costs and long time-to-issuance. All these factors result in small and concentrated holdings, leading to low liquidity.

FIGURE 9-4: Annual Issuance in the Capital Markets



Source: SFC, MHCP, BVC, CT.

Equity market capitalization has seen a substantial increase over the past several years, but it is highly concentrated in a small number of issuers. As of the end of December 2013, 82 companies were listed across a range of sectors (agriculture, commerce, finance, industrial, etc.), with a total market capitalization of approximately US\$215 billion. Traded volumes in shares were approximately US\$26 billion in 2013. However, the listings of two large state-owned companies, Ecopetrol and ISA, and two large financial groups drive the result. The market is not very liquid, with trading concentrated in the 10 largest stocks accounting for around 80 percent of total market capitalization and a free float of only around 20 percent. The number of new IPOs or secondary offerings is very small—only four over the past three years.

Pension funds are an essential factor shaping the supply of capital-market instruments. In 2013, pensions' assets under management were at about 21.4 percent of GDP.⁷ Pension funds hold the largest share of these assets in government securities, followed by corporate securities, foreign assets, and, to a much lesser extent, deposits and equity in other financial institutions. According to recent Financial Sector Assessment Program (FSAP) findings, however, the ownership of leading AFPs by domestic economic groups could potentially be affecting the investment decisions of the industry.⁸ There are strict regulations on affiliated parties that prohibit

pension funds from investing in companies in their conglomerate. While this is best practice, it further narrows the investment options available in a country with a high concentration of industrial-financial conglomerates. This makes it even more important to broaden asset classes, including increasing share of corporate bonds and developing infrastructure-related securities.

Despite recent growth, private equity funds (PE) and venture capital (VC) represent only 1 percent of the total investment in Latin America. The industry plays a key role in leveraging resources to support entrepreneurship growth in the early stages, and in promoting a diverse and sophisticated productive sector in Colombia. The PE/VC industry grew at an average annual rate of 104 percent between 2005 and 2012. According to Bancoldex (2012), this capital was committed to 31 funds, concentrated mainly in infrastructure and real estate sectors. Despite this important dynamic, Colombia's PE/VC is still small compared to regional peers.⁹ According to the Latin America Private Equity and Venture Capital Association (LAVCA) Scorecard,¹⁰ one of the most important challenges for the development of this industry in Colombia is the somewhat complex tax environment for the PE/VC industry.

Colombian authorities have made financial inclusion a core element of the socio-economic development of the country with enabling policies. In 2006, the government created *Banca de las Oportunidades* to support financial inclusion through a combination of policy actions, including regulatory reforms, financial capability initiatives, and incentives for providers to meet low-income consumers' demand for banking services. The Government has also promoted the opening of bank accounts for the vast majority of beneficiaries of the *Familias en Acción* conditional cash-transfer program. There has also been progress in lightening regulatory and tax treatment for low-balance accounts, including exempting them from the 4x1,000 tax and introducing simplified account-opening procedures. Furthermore, the regulatory and supervisory environment for microcredit has been strengthened. A

secured transactions law that helps businesses use their assets to access credit was approved in 2013, and the collateral registry went live in March 2014. A financial education decree, a Committee on Financial Education, and a national financial inclusion strategy were approved in 2014 with a view to promote the usage of financial instruments in Colombia.

Products designed to better serve low-income populations have complemented financial inclusion policy efforts. Savings accounts with simplified processing and electronic deposits have been developed to seek a balance between the greater flexibility needed to promote financial inclusion and the safety requirements imposed by the Risk Management System of Money Laundering and Terrorism Financing. Mobile wallets and remittance-linked products are among the innovations supporting increased use of financial services that are becoming more common in Colombia.¹¹ Along with this, a 2009 Law on consumer protection for financial services mandates financial institutions to educate consumers on the products they offer.

Main Challenges

Oversight of the financial sector

Financial oversight architecture was designed more than a decade ago, and has not adapted to the new financial sector structure. The definition of financial intermediation in Colombia, focused exclusively on collection of resources for the public, is both strict and unclear in interpretation.¹² For instance, financial cooperatives that collect resources from members are now bigger than some of the banks subject to full prudential oversight. The formation of cross-border conglomerates and the development of capital markets have put increased demands on prudential and conduct supervision (discussed below). In addition, new intermediaries are being created, such as issuers of electronic deposits, expanding the universe of supervised institutions.

The Superintendencia Financiera de Colombia (SFC) has a broad mandate and a structure that makes supervision difficult.¹³ Currently, the SFC has a long list of responsibilities in both prudential and conduct areas, including the supervision of participants typically not covered by similar institutions worldwide,¹⁴ with some functions that are unipersonal to the superintendent. This broad authority presents challenges for the organization and resources of the SFC, which could create bottlenecks. On the strategic level, the SFC has not conducted an approval/review of regulatory priorities, plans, and resources with a view toward ensuring that the strategic direction and resources are aligned with the agency's expectations. The SFC's structure also presents challenges to the oversight of self-regulatory organizations (SROs) by splitting the responsibility for oversight between a range of independent departments without a centralized coordination and limited experience on the matter.

Recent changes in the structure of the Colombian financial sector, such as the increased internationalization of financial conglomerates, have exposed the need to enhance regulatory and supervisory standards. As the 2012 FSAP recommended, oversight practices should be adapted to the new challenges of conglomerates and the increased internationalization of the system. Conduct supervision, regulation of pension funds, and consolidated supervision are some of the key areas affected by the evolving structure. Increased market concentration and intra-party exposures could increase the risks of financial instability, with potentially adverse macroeconomic consequences. It also could affect competition and price formation in key markets. Moreover, the increasing penetration of foreign markets has generated a series of concerns: (i) the exposure of cross-border conglomerates to country, transfer, and foreign exchange risks as well as contagion risk within entities belonging to the group; (ii) the legal authority and operational capabilities of the supervisor to address this new task; and (iii) the use of appropriate corporate governance practices.

There are legal gaps that weaken the powers of SFC as the supervisor. A legal reform currently

under consideration proposes to include under full SFC supervision the holding companies of financial institutions and to force changes in a group's structure. However, other important legal gaps need to be addressed, including the definition of financial conglomerates, the definition of related party, and the scope and conduct of consolidated supervision that do not allow supervisors to fully "capture" an economic group and supervise diverse risks. In addition, some of the financial soundness indicators reflect only the situation for the consolidated supervised entities. This aspect could be solved if not only the financial and regulated entities but also the holding companies are subject to SFC supervision. Such a change requires a modification of the law and is under discussion by Colombian authorities.

The SFC has a robust framework for the supervision of several individual risks, but lacks an integrated view of risks management. As mentioned in the 2012 FSAP, the SFC has issued norms prescribing the standards for financial institutions' risk management on credit, market, liquidity, operational, and anti-money laundering risks. While these norms are applied to the individual institutions and individual risks, a general requirement mandates that supervised entities manage their risks in a comprehensive way for the whole financial groups. Furthermore, no standards exist for the management of interest rates in the banking book and country and transfer risks. These latter risks, which were originally considered low priority, have become significant with the expansion of Colombian banking groups abroad.

Development of capital markets

Policies to continue the development of capital markets are a high priority for government authorities. Overall, a range of actions is needed to further develop and improve Colombia's capital markets. The challenges include: enhancing the efficiency government debt markets; improving the enabling environment for issuing and investing in non-government bonds to facilitate financing of such key sectors as infrastructure and housing;

and broadening the investor base and making it more competitive. Reforms to tackle most of these issues are already underway or in the process of being designed, but additional targeted interventions are needed.

Key challenges to further developing government debt markets is increasing secondary market liquidity across the yield curve and creating competition in placement mechanisms by reducing the share of direct placements to public institutions. A better functioning of the money market would also contribute both to improved government debt markets and more efficient liquidity management tools for the financial sector. Despite efforts to improve repo markets and the interbank reference rate, important bottlenecks persist for more efficient money markets, such as the 4x1,000 tax on financial transactions that penalizes shorter-term transactions, which is being gradually phased out, and the erratic issuance of T-bills strictly tracking the Treasury's cash flow needs as established by law.

An important challenge remains to develop markets to funds investment needs, particularly in housing and infrastructure. The potential exist to significantly boost growth in the non-government debt market through the development of new types of fixed-income securities to finance housing and infrastructure. The latter could have a significant impact in the securities market because of Colombia's existing infrastructure gap.¹⁵ In this context, a comprehensive approach is required across several government agencies. The most important changes are being developed under the leadership of the Ministry of Finance, National Infrastructure Agency (ANI) and the National Development Bank (FDN), with the support of the World Bank Group. Issues include (i) improvement of the institutional set up in the Government to structure, allocate, and monitor infrastructure projects; (ii) the need for flexible issuance regulations for professional investors; (iii) lack of prudential regulations for banks that are specific to project finance; (iv) creation of new products and investment vehicles, such as

project bonds, credit enhancement schemes, and infrastructure funds; and (v) forming the enabling environment for pension funds to engage in infrastructure financing through capacity-building and a revision of their investment and minimum return rules.

Pension funds dominate the investor base due to limited development of other intermediaries, including foreign investors that are subjected to cumbersome regulations. The capital markets investor base is dominated by pension funds, with an incipient mutual fund industry and a small presence of insurance companies and foreign investors. As far as foreign investors are concerned, they have very little presence, mainly due to an unfavorable tax treatment and administrative red tape, particularly in the foreign exchange market. As of October 2013, foreigners held 6.6 percent of Colombia's total domestic Government securities, compared to Peru (52 percent), Uruguay (50 percent), Mexico (36 percent), and Brazil (17 percent).

Current regulations for pensions and insurance impede further risk-taking and the provision of long-term finance by pension funds. Participation of other investors in the capital market is still small. Pension funds are an essential factor shaping the supply of capital-market instruments, but their portfolios are relatively conservative and subject to minimum return regulations linked to the industry average, which encourages herd behavior along a benchmark of the industry's average return. The insurance industry is so far a negligible provider of long-term financing because the conditions to develop life insurance products at competitive prices are missing. Minimum pension disbursements, including annuities, need to be by law above the minimum wage, running above inflation in the past, which makes it impossible to hedge through market mechanisms. As a result, pension annuity products tend to be overpriced, demand for such products is limited, and the private pension fund system is at risk because of its dependency on the availability of affordable annuities. The annuity market is also affected by the inefficiencies in

the disability and survivorship market. The engagement of the public sector is required to assess options that would make life insurance a viable business as in countries at Colombia's level of development. This is not only relevant for the insurance industry but also for the sustainability of private pensions.

The *Mercado Integrado Latinoamericano* (MILA), the regional exchange initiative, is in the initial stages of development, and substantial regulatory harmonization needs to take place to further develop an integrated regional capital market. MILA involves connecting exchanges of Colombia, Chile, and Peru keeping its home regulations and supervisor. The three country supervisors are collaborating to harmonize rules and facilitate cross-border transactions. Results are still modest, but the initiative has triggered a series of cross-border acquisitions to create regional investment banks that can be expected to reshape the industry in the region. It is also expected that Mexico will join the initiative with the recent approval of its financial reform. Challenges ahead include further harmonization of regulations and taxation regimes on portfolio investments, the inclusion of IPOs, improving custodial connectivity, and expanding into fixed-income assets.

Financial inclusion

Fostering access and usage of financial services, particularly in rural areas, is a key challenge in Colombia. Progress has been made in the number of access points, but low product use reduces the benefits of inclusion. Colombians have difficulties using financial products in the informal economy because of consumers' lack of knowledge concerning financial products available, the benefits of using those products, and the institutions that provide them.¹⁶ Authorities have important challenges in increasing the greater use of financial services through mobile and other alternative channels that enable outreach to wider segments of the population and the development and utilization of flexible products customized to the needs low-income population, especially those living in

rural areas. Promoting access and use of financial services that will facilitate channeling resources to productive uses, especially in the area of agricultural finance, is also a key challenge at the core of the peace process. In addition, Colombia needs to find ways for financial institutions to operate in a sustainable manner in rural areas, without high levels of government guarantees to facilitate transactions. The expansion of financial inclusion can help to improve household management of risks, smooth consumption, and spur enterprise activities.

The need to strengthen the capability of the Colombian population to make sound financial decisions is an important challenge. Even as financial services become more physically accessible, many Colombians need to increase their level of confidence in formal financial institutions. A recent World Bank survey found that more than two-thirds of the Colombian population could not do a simple interest rate calculation, and they were never taught to manage money, making it difficult for them to analyze the terms and conditions of financial products. A similar lack of formal financial knowledge was found in other developing countries in Latin America, such as Mexico.

Credit for SMEs, particularly microcredit, remains limited. According to Asobancaria,¹⁷ the number of firms with at least one financial product reached 632,000 in December 2013, an increase of 25 percent compared to 2012. The most used product is the savings account. However, just 1 percent of these firms offer microcredit. The 2013 *Gran Encuesta PYME (GEP)* survey indicated that more than 50 percent of SMEs reported no access to the financial sector; in particular, SMEs have difficulties accessing sufficient long-term financing to modernize their operations, and they lack alternative non-bank financing sources. According to data from Factoring Chains International, Colombia lags Brazil, Mexico, and Chile, volume factoring,¹⁸ is often an important source of finance for SMEs that have difficulty accessing bank finance.

Recommendations

Improve oversight of financial sector

The existing financial sector oversight architecture should be revised with a view of adapting it to the new financial sector structure. An option would involve a comprehensive review of the definition of financial intermediation as well as the mandates of all institutions with responsibilities for financial sector oversight. Such a review should take into account international experiences in countries with similar financial sector structures as well as the comparative advantages of existing institutions in Colombia. A comprehensive evaluation would involve changing several laws, but a more modest review could involve the heavy burden the law puts on the SFC for conduct supervision.

At the minimum, authorities should rethink the structure of SFC. An alternative worth considering would be a “Twin Peaks” structure, with a SFC retaining responsibilities on prudential supervision of all institutions and conglomerates and a new institution in charge of conduct supervision across all markets and the creation of a more collegiate decision structure. In addition, strengthening the independence and the legal protection of the superintendent and other senior officials would be essential to make risk-based supervision viable. Currently, the head of the financial sector regulator (SFC) is appointed by the Government and may be changed after every political election. A fixed-term appointment staggered between administrations would help ensure its independence.

Despite significant improvements on consolidated supervision, further strengthening of supervisory procedures is necessary. The SFC has established good coordination mechanisms with international peers to monitor conglomerates’ activities. However, consolidated supervision in Colombia is hindered by some domestic financial groups’ complex and non-transparent corporate structures. The SFC should gain legal authority in this area,

especially to oversee currently unregulated bank holding companies. At the same time, the definition of related parties, the definition of a conglomerate, and the methodology for calculating consolidated capital should be revised.

It is recommended that authorities continue to develop the integrated risk measurement tools necessary for monitoring the increasingly complex risk structure of conglomerates. While the Colombia groups’ recent expansion abroad is positive for the system, it requires close monitoring and improved risk management tools to better gauge trends and risks overseas. SFC would benefit from updating the supervisory framework to ensure that supervisors have access to all information necessary to assess a conglomerate’s intraparty risks and its exposure to new jurisdictions. Formal written guidance with regard to the comprehensive risk management of banks and banking groups is necessary. The adoption of a new supervisory framework would give the SFC explicit authority to tailor prudential norms to the risk profile of each bank to help manage systemic risk and enhance the effectiveness of risk-based supervision.

The increased complexity of Colombian capital markets calls for new approaches for regulatory oversight. The need for reform arises not only from new types of products and investors but also from the recent liquidation of *Interbolsa*, the largest broker-dealer. In addition to ongoing efforts to improve the oversight framework, it might be beneficial to review the current Self-Regulatory Framework to achieve a clearer delineation of responsibilities between the regulators and the Self-Regulatory Organizations.¹⁹ In addition, the SFC has substantial authority to oversee the securities sector, but could take further steps to enhance protection of minority shareholder rights and investor protection, especially for collective investment vehicles.

Development of capital markets

Liquidity of the government bond market yield curve from short- to long-term tenors should be

improved. The government bond market is already relatively developed, but improvements could be made in terms of price formation and liquidity. This would support a more efficient money market for liquidity management in the financial sector and more efficient price formation in longer-term maturities. Reforms recommended include: (i) a more regular issuance policy in T-bills; (ii) a revision to the re-opening and liability management policies to further support secondary market liquidity; (iii) a revision of primary market and primary dealers rules to increase competition.²⁰

The development of an institutional and regulatory framework to support capital market financing for housing and infrastructure is essential, given that they are strategic sectors for Colombia's development. Reforms are necessary on several fronts: (i) reviewing laws and regulations related to housing and the issuance of mortgage covered bonds; (ii) establishing a "hybrid issuance regime" for professional investors;²¹ (iii) reviewing prudential regulations so banks can increase their capacity to lend to project finance schemes and provide guarantee facilities while keeping equivalent standards to those of corporate lending; (iv) developing credit enhancement and take-out schemes to facilitate institutional investors engagement in infrastructure financing;²² and (v) developing high-quality infrastructure funds, including both equity and bonds that could channel pension funds' investments.

Policy and regulatory changes could support a more diversified institutional investor base for long-term financing, particularly the reinforcement of the regulatory framework to engage pension funds in long-term financing for infrastructure. Increasing the pool of investors, particularly long term, would support the deepening of capital markets. Existing investors, such as pension funds, could play a greater role in capital market development while increasing the opportunities for higher returns within acceptable risk limits.²³ Specific activities planned by the Government and supported by World Bank experience in other countries include:

- i. A revision of pensions funds minimum return regulations to introduce more competition and flexibility in their portfolio composition, including higher exposure to infrastructure financing.²⁴
- ii. A revision of pension funds investment regulations to increase their capacity to invest in alternative assets, including infrastructure.
- iii. An assessment of the main obstacles preventing pension funds from increasing their exposure to infrastructure investments (e.g. projects financial structure, risk management capacity, economies of scale for dedicated teams) and the implementation of programs to address them.
- iv. The development of guidelines for best practices in terms of required resources and risk-monitoring schemes for infrastructure investments by institutional investors.

Colombia would benefit by continuing the process of phasing out double taxation of foreign investors as well as revising the complex administrative and registration procedures to access the foreign exchange and the domestic securities market. A greater presence of foreign investors would help address the structurally concentrated nature of Colombia's financial sector by increasing competition. It would also contribute to extending maturities, improving liquidity, and increasing the appetite for instruments with a higher risk profile. Drawbacks related to excessive capital inflows and outflows could be handled by establishing more transparent and simple regulations that would enable the Government to control flows when necessary while reducing distortions in capital market development.

The efficiency and competitiveness of annuities market should be improved. To address these challenges, two types of actions are recommended: (i) the development of options for hedging minimum wage risk and increased competition in the annuities industry; and (ii) an estimation of the actuarial cost of the insurance of disability and survivorship for users in the private pension scheme, so a competitive pricing structure could be introduced for these services.

Support financial inclusion

Colombia needs to implement a comprehensive financial inclusion strategy, with a strong inter-institutional coordination mechanism. Organizing a national policy framework for financial inclusion with high-level and technical coordinating committees as well as a clear champion would improve the ability to design and target policies to promote responsible financial inclusion. The strategy would support efforts to promote the access to and use of financial services, with a focus on marginalized populations, SMEs, and rural areas.

Inclusion will be helped by promoting the sustainability of financial sector operations in rural areas. Credit guarantee programs, such as the *Fondo Agropecuario de Garantía* (FAG), offer high levels of coverage for loans that could be creating moral hazard problems for banks that use the guarantees. To avoid contamination of rural lending markets, FAG and other guarantee programs should be reviewed in light of past performance and international good practices. Furthermore, capacity-building should be provided to credit cooperatives and other private institutions that have shown promise in serving the needs of rural businesses and households.

Well-designed financial education interventions will be an important element of promoting responsible use of financial services. Following the issuance of the national financial education decree, primary schools in select municipalities will begin pilot programs for financial education in 2014, with a proposed expansion in the following year to secondary schools and the rest of the country. Age-appropriate curricula, resource materials and, teacher training will be critical to support the understanding of the fundamentals of personal finance and use of financial products. Colombia could draw on the Brazilian experience, which rigorously evaluated its public financial education program with the support of governmental institutions and representatives from several private sector institutions. For the adult population, shorter interventions featuring the transmission of key messages (i.e., through public service programming, the media and entertainment

programming, or workplace initiatives) could be a more appropriate avenue to promote desired financial behaviors. Efforts to support the enforcement of Colombia's financial consumer protection framework, particularly provisions related to transparent presentation of costs, will be a key complement to financial education efforts.

Additional legal and regulatory improvements are necessary to continue promoting the regular use of financial services, with an emphasis on technological avenues that facilitate transactions. Authorities should continue to support an enabling regulatory framework for the use of mobile banking and other technological innovations, which would make it easier to expand financial services to the poor, women, and other unserved groups, particularly in remote areas where branches are not cost-effective. The use of a technology like cell phones can provide a massive link to increase the use of formal banking services, offering large segments of the population cheaper access with simpler procedures. Efforts to expand financial services in innovative ways (i.e., through correspondents and mobile channels) will help bring these services closer to customers. For example, the *Pague Digital* law proposed in 2014 would establish a license for new classes of financial services providers for electronic payments, deposits, and savings that is expected to facilitate and reduce the costs of these transactions for consumers. As Colombian financial institutions expand their outreach and tailor their products and requirements to serve a larger pool of consumers, customers' demand and use should increase as well.

The effective implementation of the new Guarantees Law (1676) and creation of an enabling framework for factoring would support the Government's objective of easing credit access for SMEs. The law was enacted in August 2013, followed in February 2014 by Decree 400, regulating the use of movable assets as collateral in financial operations. The new law is expected to facilitate a much faster execution of guarantees. Additionally, defining regulations to support the use of electronic invoices could support the use of factoring as a source of finance for SMEs.

Development Challenge	Recommended Policy Option	Institutions	Timeline
Improve oversight of financial sector	Rethink the structure of SFC and strengthen the independence of the superintendent.	SFC, MHCP	ST
	Strengthen consolidated supervision by (i) giving SFC legal authority to oversee currently unregulated bank holding companies and (ii) redefining the concepts of related parties and conglomerates.	SFC, MHCP	ST
	Adopt an improved capital adequacy regulation adapted to Basel III recommendations.	SFC, MHCP	ST
	Develop integrated risk measurement tools necessary to monitor the increasingly complex risk structure of conglomerates.	SFC, MHCP	MT
	Improve the capital markets oversight framework.	SFC, MHCP	ST
Develop capital markets	Improve liquidity of the government bond market yield curve from short- to long-term tenors.	MHCP	MT
	Support development of an institutional and regulatory framework that promotes financing for housing and infrastructure through capital markets.	MHCP	ST
	Develop policy and regulatory changes to support a more diversified institutional investor base for long-term financing.	MHCP	ST
	Continue the process of phasing out double taxation on foreign investors as well as the complex administrative and registration procedures for accessing foreign exchange and the domestic securities market.	MHCP	MT
	Promote the development of options for hedging minimum wage risk and increase competition in the annuities industry.	SFC, MHCP	MT
Support financial inclusion	Approve a comprehensive financial inclusion strategy, including financial literacy actions.	MHCP	ST
	Promote the sustainability of financial sector operations in rural areas.	SFC, MHCP	MT
	Support an enabling regulatory framework for the use of mobile banking and other technological innovations, including the proposed <i>Pague Digital</i> law that establishes a new license category to issue electronic payments and deposits.	MHCP	MT
	Develop a platform to support the use of factoring as a source of finance for SMEs.	MHCP	MT

Note: ST = Short Term; MT = Medium Term.

Endnotes

- ¹ In 1995, the poverty rate was 49.5 percent; in 1999, it was 57.5 percent. However, these numbers should be carefully examined because they were calculated using a dated poverty measurement methodology that clashed with improvements in the national household survey system that led to changes 2002.
- ² Government efforts have been extensively supported by the World Bank and other multilaterals through a number of operations, including loans, technical assistance, analytical work, and policy dialogue.
- ³ Some of the reforms implemented in the past few years have the objective of strengthening the capital and liquidity standards for banks and insurance

- companies, in particular through the adoption of Basel III standards. In addition, measures have been adopted to support the strengthening of financial conditions of credit establishments during financial distress periods, including countercyclical provisions.
- ⁴ IMF Financial Access Survey (2012). According to the Association of Banks of Colombia (Asobancaria) this number increases to 17 per 100,000 adults.
- ⁵ FSAP 2012.
- ⁶ Conglomerates can own various financial institutions or subsidiaries. For instance, one of the largest local groups (Aval Group) manages four banks (Banco de Bogota, Banco de Occidente, Banco AV

- Villas, and Banco Popular) and is controlled by one final beneficiary owner. The Grupo Empresarial Antioqueño (GEA) is composed of three firms (SURA, Argos, and Nutresa) and has a complex structure of control. While this group has a significant stake in Bancolombia as well as insurance and pension institutions, it is hard for the SFC to monitor the horizontal relationships among these financial institutions. Grupo Bolivar has divided its control into several holdings, each one in charge of a different financial business (banking, insurance, and pension funds).
- 7 Source: Quarterly National Accounts and SFC Report “Actualidad del Sistema Financiero Colombiano” December 2013.
 - 8 AFP Proteccion, belongs to Group Antioqueño (37 percent of pension assets), AFP Porvenir belongs to Group Aval (44 percent), AFP Colfondos belongs to Group Scotiabank (14 percent), and AFP Old Mutual Skandia belongs to Group Old Mutual (UK) (5 percent).
 - 9 Other emerging Latin American countries account for a larger regional share of the industry, including Brazil (79 percent), Mexico (4 percent), and Peru (4 percent).
 - 10 The LAVCA Scorecard measures 13 dimensions that affect the development of private equity and venture capital.
 - 11 According to the 2013, SFC financial inclusion report, a significant increase in the usage of mobile and internet banking was registered, with a growth rate of the number of transactions of 870 percent and 94 percent respectively during the 2009–2013 period.
 - 12 Collection of resources from more than 10 individuals without a licence could be considered illicit financial intermediation.
 - 13 The mandates of the SFC are to preserve the stability, safety, and confidence of the financial system; organize and develop the Colombian capital markets; protect investors, depositors, and insurance policy holders; and assure protection for consumers of financial services. Recently the SFC was given responsibility for oversight of public health agencies (EPS).
 - 14 For example, SFC is responsible for payment system oversight, a mandate typically placed in central banks, as well as the oversight of health insurance providers.
 - 15 Including US\$26 billion of planned investments in an ambitious road concessions program (G4).
 - 16 See World Bank, Colombia’s Financial Capabilities Report, July 2013.
 - 17 *Informe Semestral de Inclusion Financiera*, June 2013.
 - 18 In 2012, Colombia’s total factoring volume was at EUR4.5 billion, while Brazil reached EUR43.6 billion, Mexico EUR26.1 billion, and Chile EUR24 billion.
 - 19 An assessment of strengths and weaknesses of the current model would need to be conducted to determine whether the existing SRO model is adequate seven years after its inception. The World Bank team is supporting this assessment. Recommendations are being made taking into account the existing current oversight framework, but it would need to be revised if SFC responsibilities were to change.
 - 20 The World Bank team is currently supporting the MHCP in reinforcing its government debt market strategy along these lines.
 - 21 This is in line with professional issuance regimes developed in the U.S. (e.g. 144A), the EU, and several advanced EMEs, which now account for the majority of the fixed-income market.
 - 22 FDN is currently developing such instruments and is expected to be one of its main providers.
 - 23 Pension funds’ demand is an essential factor shaping the supply of capital market instruments, but their portfolios are relatively conservative and subject to minimum return regulations based on the industry average, which encourages herd behavior.
 - 24 With World Bank support, authorities are working on the reform of the private pension industry by improving the enabling environment for investment diversification, revising the minimum returns schemes and other areas for the strengthening of the pension industry in Colombia.

CHAPTER 10

The Urgent Innovation Agenda— Governance, Knowledge, and Firms



Main Messages

Innovation—the adoption of new production techniques and the introduction of new products—is the best defense against foreign competition and the commodity-driven exchange rate appreciations that are especially hard on the SME sector.¹ Innovation is also essential for taking advantage of the new markets opened by free-trade agreements (FTAs) and to reviving the agricultural sector, where stagnant productivity has become a sensitive political issue. Colombia has a window of opportunity, created by a strong macro environment, increased integration with the global economy, and a commodity boom that offers the resources for the important project of development. However, it faces important weaknesses in innovation policy that threaten to undermine this opportunity; these weaknesses require substantial and urgent policy changes. To seize the opportunity, the innovation agenda must become a priority for the country.² This policy note makes policy recommendations regarding the governance of the National Innovation System, funding for innovation, modernization of demand (i.e., firms) and demand (e.g., education centers) for innovation.

The governance and public components of the National Innovation System (NIS) require reform managed at the highest levels, and existing institutions need to specialize, become technically stronger, and stop competing among themselves. The well-known market failures that characterize innovation imply an important role for government in redressing them. Coordination among the players in the Colombian innovation system has been hampered by weak institutional capacity within agencies and competition among them. Although progress was made with the creation of the coordinating Comité Técnico Mixto in 2013, a large number of programs remain fragmented and redundant.³ Similarly, the agricultural research and extension services need modernizing. At the oversight level, overlapping legal norms leave it unclear who is in charge of certain aspects of the system and hence who should lead reform efforts in those areas.⁴ Colombia needs to rethink its NIS with an eye toward clear definition of roles and development of a multi-decade plan for institutional strengthening. Success will require strong leadership at the presidential level.

The coming on line of *regalias* (royalties) offers new resources for innovation, but a strategy is needed to lower the risk of resource misallocation from low capacity at subnational levels. One promising idea that has begun to be implemented—a series of almost off-the-shelf modules for successful national initiatives in such areas as secondary school science education, technological assistance or agricultural extension. However, the current bottom-up strategy for allocating *regalias* is separated from a national strategy supporting innovation.

Key focus on modernizing lagging firms and farms is crucial because they are the main generators of innovation and productivity. Growth is driven by firms and farms, and they must be at the center of discussions of innovation and reforms of the NIS. Recent studies suggest that Colombia's firms lag substantially in management quality and preparation for innovation. Further, productivity in the agricultural sector, where 60 percent of the poor live, has not kept pace with overall growth.

Improving the quality of human capital and the supply of knowledge is essential. Studies find that low-quality education is one of the contributing factors to low productivity and slow economic growth in Latin America, including Colombia. From weak fundamentals in math and science, as reflected in recent PISA scores, to low university enrollments and PhD graduates in engineering and science to relevant research—the country must remove improve the quality and relevance of its educational offerings.

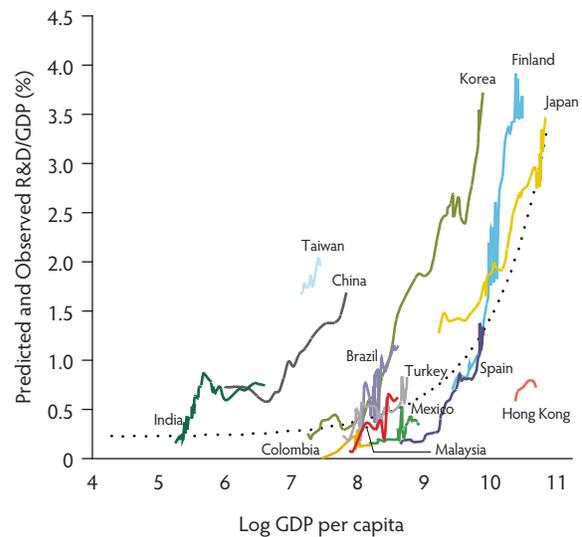
Monitoring and evaluation (M&E) needs to become a central element of all government programs. Major programs of worker training, government research, and firm support lack the most rudimentary documentation of their effectiveness. Mainstreaming M&E throughout the Government would force prioritization, help in the consolidation and pruning of programs related to innovation, and lead to better targeting.

Background and Context

Poor growth performance in Colombia is largely explained by lackluster productivity, associated to low innovation levels. Half of Colombia's growth is due to productivity improvements, a large fraction of which come from innovation. TFP growth has averaged a low 0.5 percent over the past 60 years, climbing to 1 percent between 2003 and 2010—a rate that is still slow even by LAC standards (e.g., compare with Chile's 2 percent TFP growth after reforms). An extremely large number of Colombian companies are too far from the frontier to proactively respond to increasing external competitive pressures. At 0.18 percent in 2011, national research and development (R&D) expenditures as a share of GDP are roughly half the expected rate for a country at Colombia's level of development (the dotted line in Figure 10-1). Other resource-abundant countries like Canada and Australia invest approximately 2 percent of GDP in R&D, with South Africa at 0.93 percent and Malaysia at 0.63 percent on R&D. For Colombia, the decline in R&D from 0.25 percent at the end of the 1990s is entirely explained by the collapse in private sector R&D—from a peak of 12 percent in 1997 to under 0.04 percent in 2006–10. According to the National Innovation Survey IV (2007–08), only 11.8 percent of Colombian firms with over 10 workers innovate in product or process, compared to 30 percent on average for countries at its level of development.

Conflict lowers productivity because of risk-avoiding coping strategies impact productive choices. An often overlooked consequence of the conflict is its effect on productive choices because of the greater risks for investments in productive activities. This is especially strong in agriculture. A recent study shows that farmers who live in areas threatened by armed fighters tend to favor fast-growing crops, which allow short-term returns, or they convert cropland into pasture for cattle, a mobile product that can be quickly liquidated (Arias et al 2013).⁵ In this risky context, farmers prefer to avoid coffee, cocoa, rubber, fruit trees or other permanent crops, which require investments that take longer

FIGURE 10-1: Colombia's Deficient R&D Performance

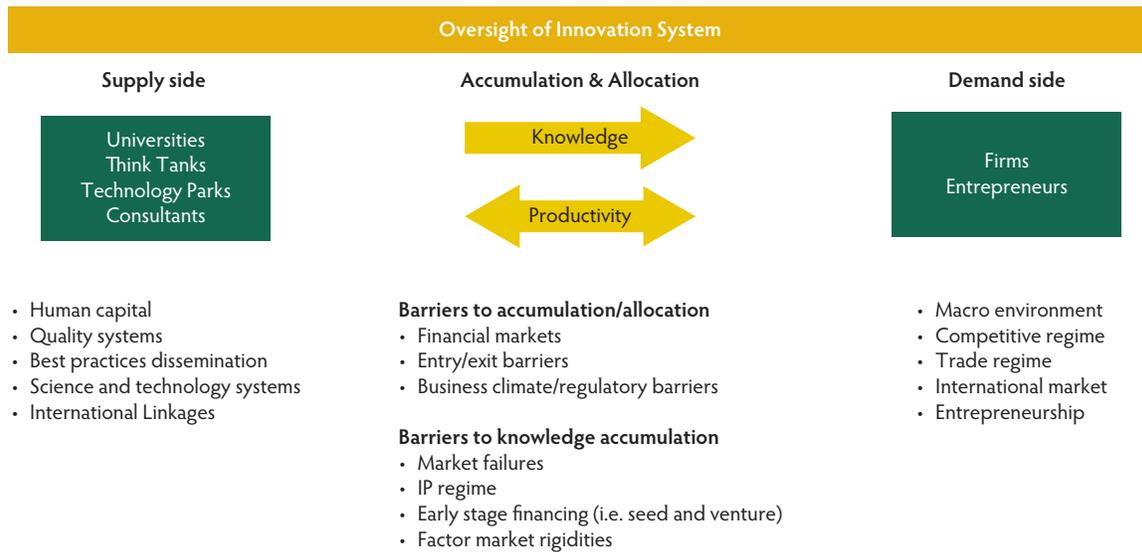


Source: Goñi, Edwin y Maloney, William. Why Don't Poor Countries do R&D. World Bank Working Paper.

to yield returns and are harder to liquidate in the short-term, even if they are more profitable in the long run. This risk minimization strategy hampers profitability and generates an inefficient allocation of resources.⁶

Three main pillars support National Innovation Systems (NIS) in general and Colombia's National System of Science, Technology and Innovation in particular, each of which will be analyzed separately (Figure 10-2). First, the governance system includes the institutions that share responsibilities for defining the policies and programs to promote innovation, the rules and mechanisms for their coordination, and the overall context that shapes incentives for the accumulation and reallocation of the physical and knowledge capital that promotes productivity growth. Second, on the demand side, firms and entrepreneurs are the centerpiece of the NIS; if they lack the capacity, or the competitive and trade contexts offer few incentives to innovate, then there can be no productivity growth. Last, but not least, on the supply side, innovation requires sources of ideas and quality human capital across a spectrum that is relevant to the needs of firms and farms.

FIGURE 10-2: Schematic of the National Innovation System



Source: Maloney, 2014.

Distortions that influence incentives for the allocation of inputs can have sizeable economy-wide effects on overall productivity. By comparing China and India with United States, Hsieh and Klenow (2009) show that these distortions, external to the firm, account for 30 to 60 percent of the productivity gaps among these countries.⁷ The usual factors affecting physical capital accumulation, such as those captured by Doing Business (DB) Reports,⁸ are also relevant to the accumulation of knowledge capital. In addition to those factors measured by DB indicators, especially important for innovation and productivity are intellectual property regimes, financing conditions for early stage ventures, and factor-market rigidities.

Quality of education matters. A World Bank Study on Education and Skills for the 21st Century in LAC (2009–11) concludes that Latin America's inability to increase the new economy skill content of its labor force may be related to low educational quality and unfavorable business environments. The analysis shows that education plays an important part in the acquisition of skills; more education enables individuals to engage in occupations with higher skill content; and better quality education would likely enable the region

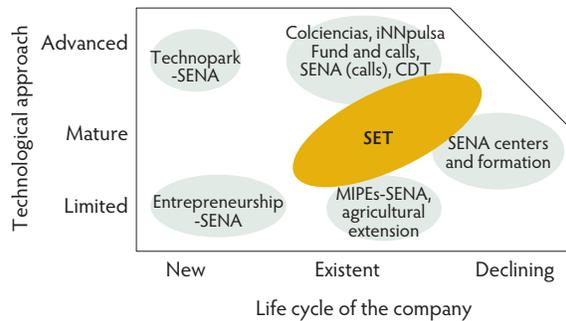
to move toward better jobs, with a higher content of new economy skills.⁹

Challenges

Governance of the Colombian National Innovation System

The governance system supporting innovation in Colombia is characterized by fragmentation, duplication, and lack of specialization. Creating innovative firms involves an extensive process of raising the capacity of existing and new firms and cultivating over time their demand for innovation and ability to absorb technologies. To date, Colombia does not have a coherent integrated system of support mechanisms that will encourage the increasing productivity and sophistication of firms over time and render them more able to use and generate output-increasing knowledge. Figure 10-3 shows that many different elements of the support system are now scattered across different entities, with substantial overlap and duplication of programs. The National Training System (SENA), for instance, operates both basic start-up support as well as advanced technological parks (technoparque).

FIGURE 10-3: Support Systems for Firms Across Age and Level of Sophistication



Source: World Bank Mission (May 2012).

Note: SET = System of Technological Extension.

Colciencias and InnPulsa are both responsible for supporting the most sophisticated and innovative firms. In fact, Colombia has at least 56 different programs to support improvements within existing firms, spread across multiple agencies that are often duplicative and underfunded. The recent review performed by the Comité Técnico Mixto¹⁰ shows that many of these programs are small and underfunded; 90 percent of the programs control only 20 percent of the total resources.

Most programs that support innovation lack a robust evaluation strategy, making it hard to justify expansion, improvements, or elimination. Programs

that support innovation are numerous, and many are very small, with an excessive number of “pilots” being launched. Most critically, a majority of the programs lack a rigorous evaluation framework. In practice, evaluation is a concern that emerges *ex post*, which makes it difficult to rigorously evaluate the efficacy and efficiency of these programs. For this reason, high-level policy makers are in a difficult position when they have to decide about expanding, reforming, or eliminating a program.

Lack of capacity at subnational government hampers the effectiveness of the *regalias* funds devoted to innovation. Ten percent of the COP 9 billion of royalty funds, or about US\$500 million, are earmarked for innovation, science, and technology. Capacity constraints in local administrations may affect project formulation and effective execution of expenditures. Funds requested by local governments point to lack of adequate regional innovation strategies that balance both activities to improve skills (supply side) and firms capabilities to effectively use these skills to innovate (demand side).

Challenges to factor accumulation and allocation

Substantial room for improving the business environment exists in Colombia. While it has achieved important progress in the Doing Business indicators,¹¹ Colombia still lags the regional top performer

TABLE 10-1: Ease of Doing Business Rank (Doing Business Report, 2014)

Economy	Ease of Doing Business Rank	Starting a Business	Dealing with Construction Permits	Getting Electricity	Registering Property	Getting Credit	Protecting Investors	Paying Taxes	Trading Across Borders	Enforcing Contracts	Resolving Insolvency
Colombia	43	79	24	101	53	73	6	104	94	155	25
Argentina	126	164	181	80	138	73	98	153	129	57	97
Brazil	116	123	130	14	107	109	80	159	124	121	135
Chile	34	22	101	43	55	55	34	38	40	64	102
Mexico	53	48	40	133	150	42	68	118	59	71	26
Peru	42	63	117	79	22	28	16	73	55	105	110

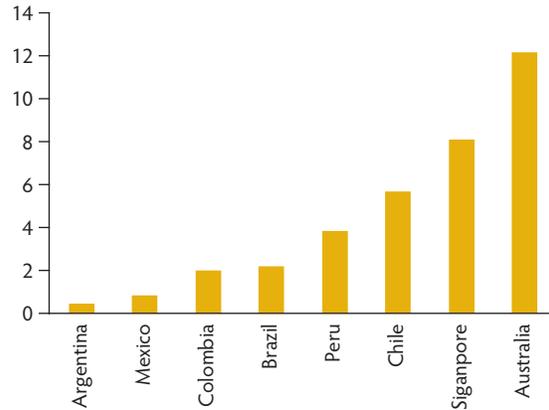
Source: World Bank.

(i.e. Chile), and it is even further behind when compared with OECD countries (Table 10-1).

Regulations and incentives for entry of dynamic young firms at the subnational level are particularly important. Recent work has shown that the vast majority of jobs and income growth in Colombia is generated by the top 10 percent of young firms.¹² The need to facilitate entry, support, and, if necessary, allow exit of such firms is therefore crucial. Large differences exist in terms of barriers to entry between places like Armenia, Santa Marta, or Pereira, where setting up a new business takes no more than a couple of days, and places like Dosquebradas, Tunja, or Valledupar, where the same operation takes more than 20 days (Figure 10-4).¹³

The lack of a developed system to support early-stage financing reduces entry opportunities, especially for innovative young firms. As they move from the proof of concept phase to being established and perhaps publically listed, innovative firms require a spectrum of distinct financing sources of differing characteristics (Figure 10-6). Colombia has representation in most phases of the life cycle—but it is truly small (Figure 10-7).¹⁴ For the innovative start-ups, Colombia’s market-driven programs of venture capital/private equity (VC/PE) remain low relative to

FIGURE 10-5: New Business Density, 2012

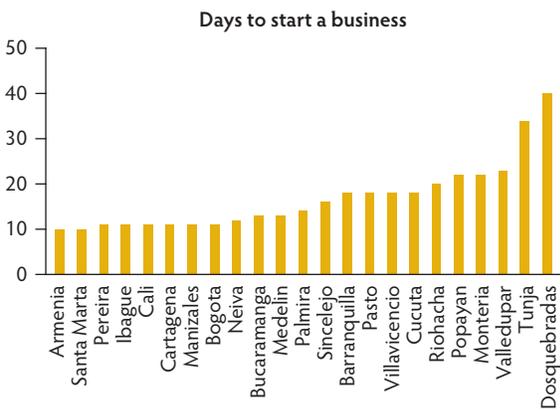


Source: Entrepreneurship Snapshot, World Bank, (2012).

market size: 0.16 percent of GDP, compared to Brazil at 0.27 percent or the US and UK at close to 1 percent. Government programs to ameliorate market failures and provide financing across the innovation lifecycle (start up, venture capital etc.) related to innovation are deficient in coverage, fragmented, and poorly coordinated.

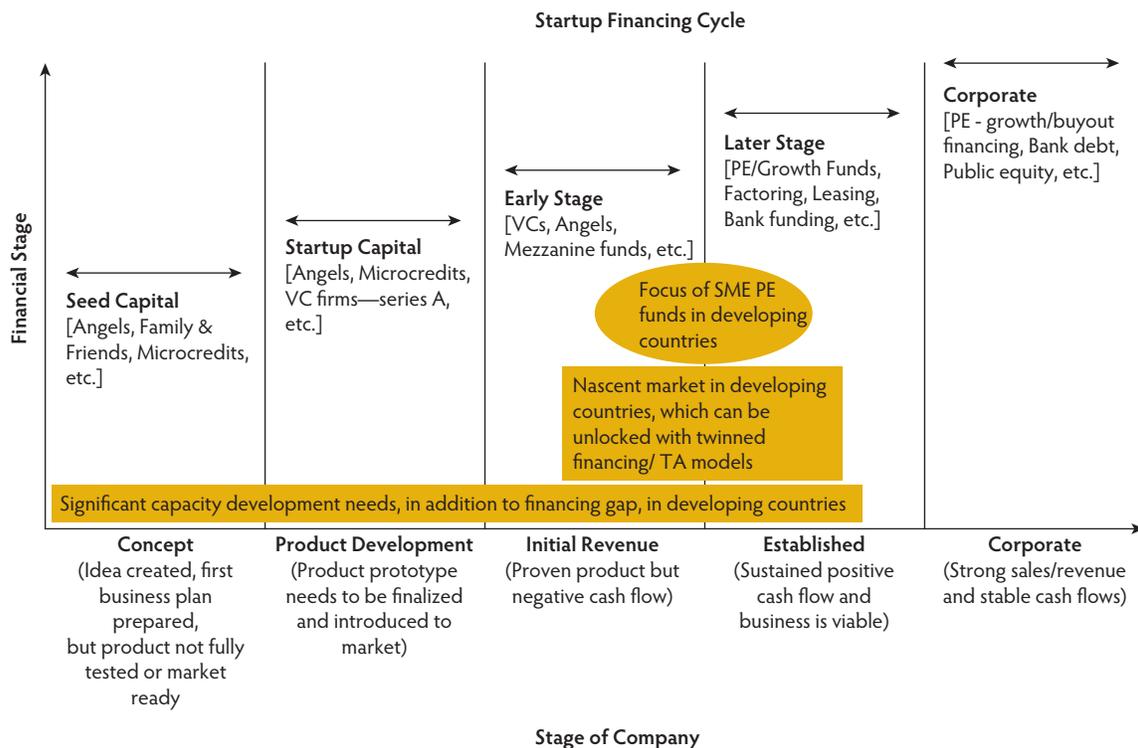
The intellectual property regime requires strengthening and adapting to the needs of Colombia’s entrepreneurial ecosystem and specifically SMEs. An effective intellectual property (IP) regime plays an important role in fostering innovation in various ways. It fosters technological innovation through patents, business innovation through trademarks, software innovation through copyrights, and even more “indigenous” types of innovation through geographical indications. Colombia has improved its IP regime and tried to make it more efficient and effective—but important challenges are ahead. First, granting IP offices judicial powers in 2012 was an important step forward in improving the efficiency of IP litigations; however, it is still necessary to improve the quality of IP examinations and reduce delays. Second, the IP system’s user base of the outside Bogota is very limited and hampered by the absence of regional IP services. Third, the availability of information for businesses has improved (i.e. online), but most Colombian companies, especially SMEs, still have very limited knowledge and capacity to take advantage of the

FIGURE 10-4: Differences Between Cities in Colombia



Source: Doing Business in Colombia (2013).

FIGURE 10-6: Startup Financing Cycle



Source: Authors'—Various Research Sources.

IP system. Finally, the system is now specifically focused on patents, which may not be the most important instruments for Colombian SMEs.¹⁵

Demand-side challenges

Firms are very heterogeneous and their needs are different. In Colombia, the top firms are 400 percent more productive than the laggards. Differences of the same order of magnitude exist in terms of their managerial capacities, limiting firms' ability to raise funds, particularly in early stages (Figure 10-8).¹⁶ Instruments to support innovation need to be tailored to specific groups of firms and the temptation of “one-size-fits-all” needs to be carefully avoided.

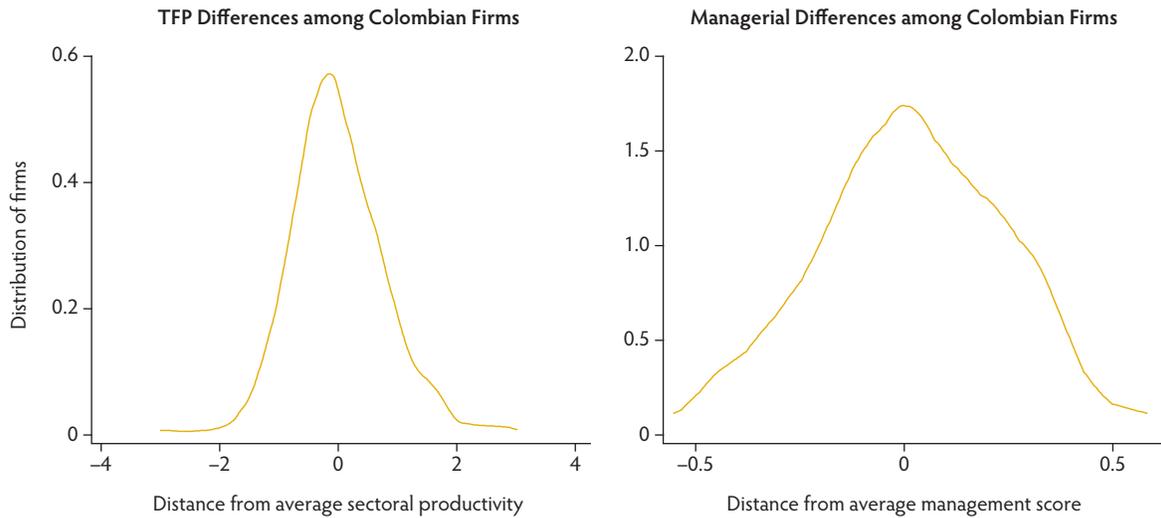
Weak quality of firm management generates low technological “absorptive capacity.” A recent London School of Economics-World Management Survey undertaken jointly by World Bank and DNP revealed that Colombian firms have among the worst

management quality measured to date (Figure 10-9). This translates to poor ability to identify and adapt new technologies, little long-run planning, and poor human resource policies. In fact, the top quartile of Colombian firms performs close to the bottom quartile of U.S. firms in terms of their managerial score.¹⁷ Moreover, Colombian managers are not aware of their poor managerial performance—the gap between “perceived performance” and “real performance” is largest in Colombia. A recent study of firm practices by Bain Consulting found that only 37 percent of Colombian firms benchmark their activities against best practices, well below the 83 percent in the global sample. Similarly, only 37 percent of Colombian firms undertook practices for knowledge management, while the global average was 62 percent.

Challenges to the supply of skills and knowledge

Colombia needs to improve the quality of its education system to supply skills and knowledge

FIGURE 10-8: Productivity and Managerial Differences in Colombia

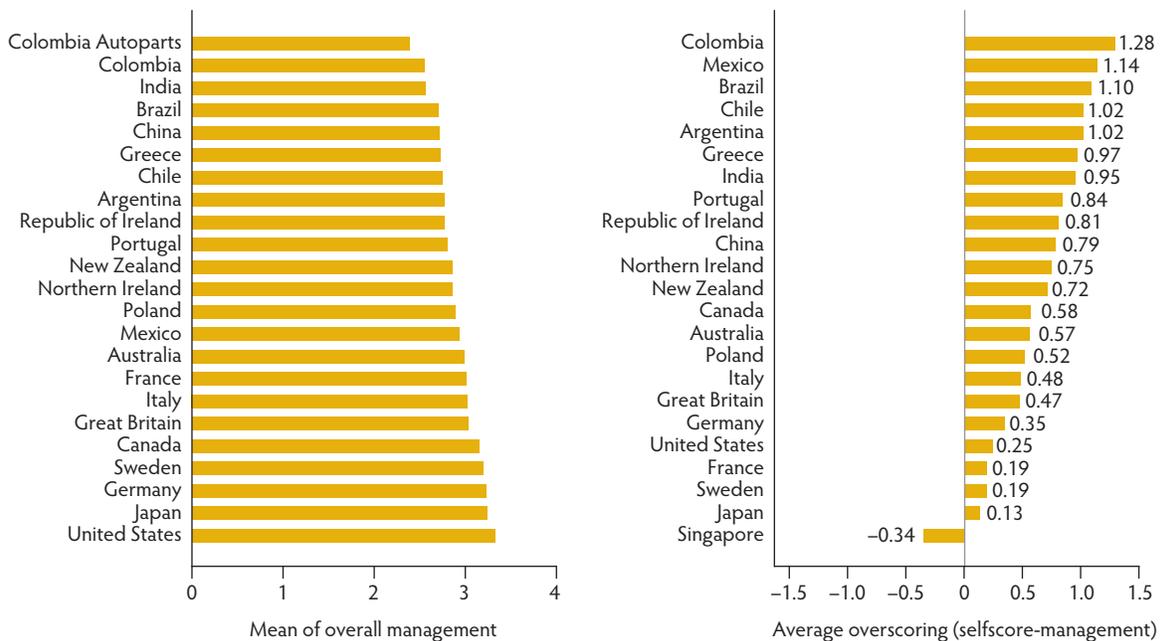


Source: Entrepise Survey Data 2010 (World Bank).

Few academic programs and institutions are accredited as high quality by the national educational quality assurance system. The mandatory Register of Qualified Programs (*Registro de Calidad*) represents an enormous, positive step in quality assurance. However, high-quality accreditation covers

only about 22 percent of the programs and 10 percent of the institutions. Moreover, only 14 percent of the faculty in Colombia has doctorates, compared to 40 percent in the region, suggesting a deeper issue of overall quality in the system. In addition, with the information from the Labor

FIGURE 10-9: Managerial Quality in Colombia



Source: DNP/World Bank based on World Management Survey.

Observatory for Education on labor market insertion for higher education graduates and SABER PRO results, more emphasis could be placed in the accreditation process in results and outcomes.

Universities and research centers are weakly connected to private-sector demand. Colombia’s collaboration between higher education institutions and the private sector compares unfavorably to peers and OECD countries, probably reflecting a low opinion of the quality of scientific institutions (Figure 10-10). On the research side, Colombia has more than 300 Technological Centers, only 40 percent of which were evaluated as performing reasonably well.²⁰ Colombia produces 9.3 scientific and technical journal articles per million inhabitants, compared with averages of 21 for Latin America and 590 for most developed countries. Moreover, the Colombian Observatory for Science and Technology (OCYT) reports that the research is highly concentrated in humanities and social sciences, which account for almost half of the indexed publications. More clarity on research outcomes is needed, along with alignment of financial incentives to ensure quality and relevance to the private sector.

The agricultural system of research and extension is in need of a thorough modernization. Colombia

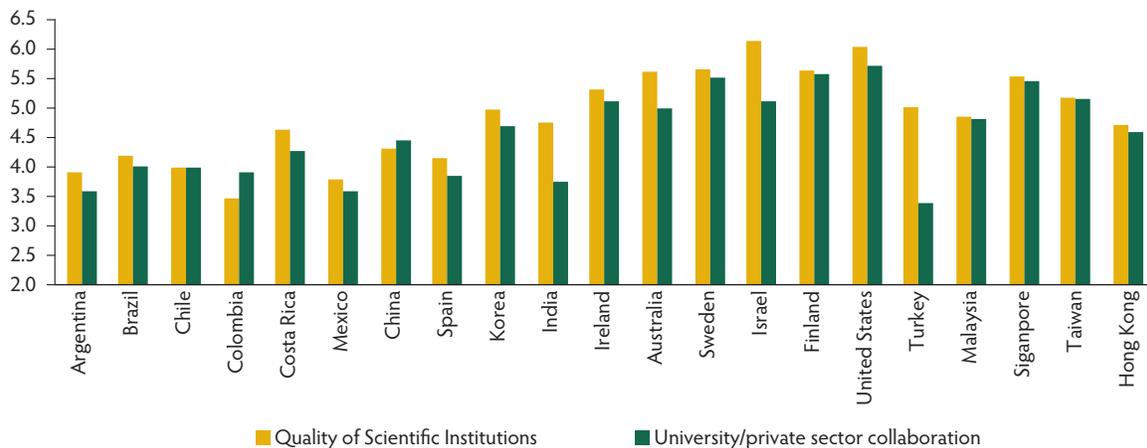
has a long history of extension programs, but it is a history of policy inconsistency over time and inadequate attention to research and maintenance of the human capital of agents (Perry 2012, Perfetti et al. 2009). Despite the country’s vast land resources and the importance of rural prosperity for achieving peace, Perry contends: “Today, there is no national system of extension nor of technical assistance in Colombia and reforms over the last two decades have appeared to leave what system there was exhausted and disarticulated.” In terms of coverage, agriculture institutes are often involved in research, which does not translate into technology diffusion (Scott 2005). Furthermore, for vast areas of the country, there is little in the way of solid agricultural research that would point farmers of any size toward lucrative crops, perhaps for export, appropriate to their ecosystems.

Policy Recommendations

Recommendations for improving the governance of the NIS

Establish a presidential level coordinating body. A coordinating body at the highest level is necessary to implement the recommendations suggested

FIGURE 10-10: Private Sector Opinion on the Quality of Scientific Research and Degree of Collaboration with Universities



Source: World Economic Forum, 2013-2014 Global Competitiveness Report (2013 data).

here and to engage in ongoing oversight of the system and long-run planning. This would provide a strong signal of the political will to push forward the “innovation locomotive.” Arguably, the coordinating body should be an energetic joint National Council of Competitiveness and Innovation that would be led by the nation’s president, attended by the relevant ministers, and structured by the *Alta Consejería* for Competitiveness and Innovation. The council should include academics, public servants, and private sector figures of national weight who would engage actively in developing a long-range view, undertaking unimpeachable studies on key issues, defining the country’s priorities for science, technology, and innovation, and, vitally, promoting the innovation and productivity agenda credibly with the public. A subcouncil at the ministerial level, attended by ministers, would be tasked with formulating specific policy.

Focus, specialize, and enhance the capabilities of the NIS institutions within a clear innovation strategy. Colombia needs to clearly articulate a 10-year strategy for its NIS that both defines long-term goals and prioritizes activities to reach those goals. Flowing from this strategy, the country will need to define the roles and limits of relevant government agencies to meet NIS goals and develop a 10-year plan for institutional strengthening. Currently, the system is characterized by fragmentation, overlap, and duplication. The recommendation calls for moving toward a clear division of roles, specialization, and coordination. In this context, one agency would focus on the supply of higher-level human capital and research. Another one, with close connections to private sector, would focus more on the demand side and raising firm capacity for innovation. Yet another one would concentrate and specialize on technical training, with a strong focus on regional and local presence. Finally, the activities of these various specialized agencies could be monitored and reviewed by a central institution, which would have no responsibilities in the implementing programs and activities. In each area, Colombia faces major challenges; hence, narrowing the mission of each, strengthening the capacity of functionaries, revisiting the organizational

structure, staffing them with leaders respected in the relevant fields, and stabilizing the finances are essential steps to their essential roles in the NIS.

Regalias need to become a central element of a national strategy of innovation. The current bottom-up strategy to allocate *regalias* for innovation projects has the advantage of responding to the local needs, as identified by the governors, but it separates the effort from a national strategy to support innovation. A more streamlined menu of programs that have been rigorously evaluated and aligned to this strategy could be offered to the regions—for instance, programs for science education, technological assistance, agricultural extension, and research. These programs could be packaged as modules that regions can draw on, including those with weak administrative capacity, as effective, relevant ways of employing these resources.

Program evaluation needs to become a routine. Programs of innovation, science and technology, training, and support to firms should have an evaluation of impact built into their design. This provides discipline and improves the efficacy of government efforts. A public expenditure review should be undertaken for existing programs to understand where resources are flowing; dominant programs need to be evaluated, and priorities realigned in light of the findings.

Recommendations for improving factor accumulation and reallocation

Develop a plan for regulatory reforms at the subnational level aimed at a “raise to the top.” Implementation of business regulation differs substantially across Colombian cities. A strategy of subnational regulatory reforms could use as examples those cities that have been successful in streamlining policies and procedures and implementing national regulation efficiently. Most of the business regulatory framework is legislated at a national level, with a smaller part, such as local fees and taxation, being within the purview of local state and municipal governments. The similarity in legal frameworks facilitates the

learning process and the application of best practices across the country. The Mexican experience shows the importance of having federal agencies working with subnational governments to promote and assist on the regulatory reform agenda.

Private capital markets require further public support to meet the needs of SMEs and highly innovative start-ups, especially in providing technical assistance and development of an exit strategy for private equity funds. Technical assistance (TA), when delivered in conjunction with private equity, can unlock more investment commitments. However, the small size of Colombian PE funds limits their ability to provide TA. Such twinning is actually the rule in VC in the U.S., where managerial resources often are scarce in young, growing firms; the most innovative entrepreneurs are not necessarily endowed with talents as managers. A major role of VC is the fielding of good managers and managerial expertise.²¹ The Brazilian success in developing PE/VC is largely due to the existence of *Novo Mercado* and *Bovespa Mais*, which provide an exit strategy to PE investors by taking companies public. Similar exit opportunities should be considered in Colombia.

Strengthen the intellectual property regime in ways that are relevant and respond to the needs of Colombian SMEs. Despite some recent improvements, four IP areas would benefit from further advancement. First, the IP regime needs to become integrated in a broader innovation strategy, including other initiatives supporting innovation. Second, the nature of Colombian SMEs limits the role of patents, so other instruments such as trademarks, copyright, protection of traditional knowledge, and geographical indications are especially important and should be given a central role. Third, the IP regime is currently centralized in Bogota, which points to a need to raise awareness among potential users outside the capital. Finally, the limited current use of various IP instruments suggests a large scope for experimenting, with simplification of procedures and provision of incentives for expanding the use of the various instruments.

Recommendations for the demand side

Identifying specific needs and targeting of programs should be a key principle. The heterogeneity of Colombian firms makes it essential to adopt instruments that target the specific needs of different types of potential beneficiaries. This requires two steps: (i) a detailed diagnostic of these needs and (ii) a careful design that responds specifically to them instead of replicating programs previously applied in different types of firms. Programs and interventions could be financed through the *regalias* if designed as modules of best practice that could be modified to local contexts.

Low productivity firms require specific programs that help them to close the productivity gap. Recommendation in key areas include:

- *Technological extension:* Technological extension programs have been used in the U.S., Singapore, Korea, Japan, and other countries to improve the quality of firm management along the dimensions of production, operations, quality control, strategy, logistics, human resource management, the environment, continuous improvement, lean manufacturing, Six Sigma, 5S etc.²² Pending the results of the Inter-governmental Pilot on Technological Extension, scaling-up across Colombia would increase the competitiveness of SMEs and lay the foundations for more innovative firms in the future.
- *Agricultural extension:* A parallel system of extension and research was absolutely critical to stimulating growth and poverty reduction in U.S. rural sectors. Colombia would benefit from bottom-up development of research *cum* extension systems that are linked nationally and offer incentives for continual upgrading of knowledge and human capital and concrete evaluations of coverage and efficacy. Ideally, a well thought out program, coordinated with university upgrading and centers of excellence, would provide an excellent use for funding from *regalias*.²³

- *Targeted programs for micro-entrepreneurs:* In areas where most of the existing firms are micro units, characterized by high degrees of social exclusion and poverty, programs such as technology extension are unlikely to respond to users' needs. It is important to design specific interventions that support "groups" of local entrepreneurs. Currently, the technology extension pilot program is developing a specific intervention for micro enterprises; in addition, Colombia can learn from successful experiences in post-conflict regions targeting re-integration of youth at higher risks of participating in illicit activities.²⁴ These programs have their own specifics and should not be mixed with programs such as technology extension, but they can be useful, especially in the short-term transition toward peace and reduction of inequalities by providing alternatives to illicit activities. However, it is recommended that programs to increase productivity of micro-enterprises (and the self-employed) should be evaluated and compared to alternative programs to facilitate transition into labor markets and obtaining salaried occupations.

To move up the ladder of technology sophistication and managerial capacities, companies require support from specific agencies and programs that facilitate the adoption of newer technologies. Many of these programs have been implemented in the past—but in a fragmented and non-rigorous manner. Many of these programs have never been evaluated. An important step going forward is, to the extent possible, assessing their effectiveness and evaluating the lessons from these programs before designing new ones. Even more important, the uncertainty about the impact of some of these programs increases the importance of designing a rigorous evaluation framework to decide how to better target and improve them to maximize their effectiveness. Recommendation in key areas include:

- *Matching grants programs:* Mature firms in Colombia of between US\$1–US\$10 million score very low in terms of innovation. Globally, 30 percent of such firms innovate

either in process or product; in Colombia, perhaps 12 percent. An ambitious goal could be to perhaps triple the present level to create a critical mass of innovative companies. Matching grants for process and product innovation should be used in conjunction with matching grants for technology transfer, such as technology extension programs.²⁵

- *Technology centers.* Beyond the basic elements of running businesses covered by technological extension, there is a role for institutions that remedy the appropriation externalities of technology transfer, technology development, adaptation, and diffusion more important to industries and to their more sophisticated clients. These are discussed in more details in section on the supply side.
- *Technological transfer offices (TTO).* While the problems of upgrading universities will be discussed below, tightening the linkage between innovation within universities and the private sector often happens through TTOs. These offices can also serve as a place for the private sector to interact with universities and bring together the demand pull and science push. Colombia has had good experience with *TechNova*, a collaborative TTO for more than six universities from Antioquia that started developing capability for contract research in existing companies. Other TTOs perform in a much less effective manner, and there is generally a shortage of evaluation of the effectiveness of TTOs.

For technologically advanced start-ups, the NIS should focus on nurturing an ecosystem that supports these firms through incentives based contracts. Technology intensive start-ups require a combination of entrepreneurial support, seed funding and angel networks, and performance based incubators together. Based on emerging best practices, support for these types of companies should be delinked from the "choice of companies to support" and should focus more on supporting those institutions that create such a microcosm with types of contracts that generate incentives to focus on increasing performance of final beneficiaries, such as ex-post compensation based on

success. This approach would put the burden of identifying appropriate business ideas on experts and financiers rather than on Government, which instead would operate as a “wholesale” supporter. In sum, the existing system requires improving the structure of incentives for incubators and accelerators with a specific focus on rewarding performance ex-post rather than picking winners ex-ante.

A coherent policy to identify clusters with export potential and preparing them for exporting would help reap the benefits from the recent FTAs. Gathering of foreign market information produces important externalities related to consumer preferences, business opportunities, quality and technical requirements, etc. Private firms alone will not provide foreign market information because companies hesitate to incur research and marketing costs that can also benefit competitors. The same applies to pioneer exporters, who make a considerable investment in attempts to open foreign markets, cultivating contacts, establishing distribution chains, and undertaking other costly activities that can be used by their rivals.²⁶ Information asymmetries and spillovers call for the establishment of trade networks as public goods.

More resources could be devoted to export promotion, although the design of the export promotion agency should be carefully considered. A recent World Bank study²⁷ confirmed that export performance improves substantially with investment in export promotion agencies (EPAs). A 10 percent increase in EPA budgets at the mean leads to a 0.6 to 1 percent increase in exports after correcting for selection and endogeneity biases. Colombia’s below-average spending on export promotion suggests that more could be done, particularly in the context of the FTAs. It is not clear that this should be done through a public agency, nor is it clear how effective the interventions of PROEXPORT have been (this is an area where we lack knowledge and going forward evaluation of PROEXPORT is very relevant). As always, the design of the EPA is critical. First, as with all innovation agencies, private-sector participation in the board seems correlated with effectiveness. Second,

the focus should be on services that solve informational failures about the quality of products being exported. Third, export and FDI promotion should be consolidated into a single agency, and the number of EPAs in the country minimized. However, export strategy could be considered in a more dynamic context, coordinating new export leaders jointly with cluster mapping.

In addition to differentiation and targeting, another key principle should be moving toward more horizontal programs and policies. Currently, a large number of programs are “vertical” or “thematic,” requiring choices about sectors or beneficiaries that are highly risky, a process that can be potentially influenced by external lobbies. While at times it is necessary to apply “vertical” instruments (such as in specific pilot programs for sectors with certain needs), such programs should channel the bulk of resources. It is also suggested to merge various “vertical” fragmented programs into larger and more impactful “horizontal” ones that address the needs of more sectors rather than narrowly defined groups of companies.

Recommendations for the supply side

Establish targets for improving the quality of primary and secondary education, with a focus on science and math outcomes. First, quality begins with teachers. Essential components of increasing quality in the classroom includes a more comprehensive teacher reform to recruit the best students into teaching (particularly science and math), incentives and support excellence in the classroom through measurement and accountability, and the upgrading of existing teacher skill. Second, recent evidence suggest that a key driver of improving school outcomes is the managerial capacities of school directors, coupled with appropriate incentives and autonomy. Third, an overall review of learning needs to scale back rote memorization in favor of further development of socio-emotional, 21st century skills, and active pedagogies.

Develop and implement a plan to upgrade universities. Accreditation, progressive upgrading of staff

competencies, curriculum reform, the use of clear evaluation systems, and greater awareness of private sector skills demand are critical for upgrading Colombian universities.

- Accreditation will help define a level of excellence for universities and provide a level of transparency for students choosing careers and institutions. The mandatory Register of Qualified Programs (*Registro de Calidad*) represents an enormous, positive step in quality assurance. Nonetheless, it is inherently a “desk-review” of program quality; the quality assurance system should expand and deepen with additional checks, so that the quality of education can be assured along with the current checks on relevance, content, and organization of instruction provided by the *Registro de Calidad* system. Specifically, (i) external evaluators should scrutinize more thoroughly the readiness of institutions to provide programs for which they apply; (ii) all institutions should present evidence of sound, impartial outcome evaluations and careful monitoring of student progress in existing programs and demonstrate that infrastructure is adequate. In addition, strengthening co-operation between ICFES and CONACES/CNA would allow student assessment information to improve the overall design and operation of the quality assurance system. ICFES should continue improving SABER 11 and SABER PRO tests, enduring comparability across years and their adaptation to different types of institutions and programs, including technical and technological institutions. Revised SABER 11 and SABER PRO exams will enable value-added assessment of tertiary education programs. Value-added measures will also allow judgments on how effectively different institutions have used resources invested by students and the state. Widespread dissemination of rankings of program, such as is done by *U.S. News and World Report* for U.S. universities, would facilitate educational choices by students and hiring choices by firms.
- *Evaluation:* Introduction of clear mechanism to evaluate research output and allocate university funding based on performance criteria, such as those used in other OECD countries (i.e. the UK), could introduce incentives for attracting and retaining high-quality researchers.
- *Avoid Public Sector Crowding Out:* A greater role for the private provision of higher education, including technological education, is desirable, both because competition with accreditation leads to higher quality, and because the private sector has a greater incentive and ability to respond to the individual needs of the private sector firms. A level playing field where public entities are not subsidized to the degree that private supply cannot emerge is essential.
- *Post-doc opportunities:* A stronger post-doctorate program to attract diaspora PhD students would be one strategy to increase staff competency. Colombia spends about 10 percent of what Chile does plugging in returning students. Policy considerations could include a reinsertion bond (*bono de reinsercion*) that would support the process of entering the private sector or university sector for two years.
- *Revised curricula:* The curricula at universities should be reviewed to ensure that there are opportunities for students to engage and develop projects related to real-world problems, with an infused spirit of entrepreneurship, increased connections with the private sector and social challenges, and a corresponding move away from theoretical and rote learning.
- *Ties with private sector:* To support stronger links of universities to the private sector, matching grant-type programs that pair universities, the private sector, and technological consortia can provide both incentives for relevance and exploit synergies in the two sectors. Issues such as relevance of research to the private sector, connections to industry, and attitudes toward entrepreneurship are important. Student entrepreneurship programs, technology transfer offices, and intellectual property policies are all initiatives to create a more innovative culture in universities.

Development Challenge	Recommended Policy Option	Institutions	Timeline
Restructure governance of the National Innovation System	Raise the political attention for the innovation agenda and establish a presidential-level coordinating body to strengthen coordination.	Presidencia, Colciencias, DNP, SENA, MICT, Bancoldex, Inpulsa	ST
	Clarify the role of various institutions, strengthen and specialize them.	Presidencia, Colciencias, DNP, SENA, MICT, Bancoldex, Inpulsa	ST-MT
	Build on the suggested institutional reforms to revise existing programs, streamline them, and avoid duplication.	Presidencia, Colciencias, DNP, SENA, MICT, Bancoldex, Inpulsa	ST-MT
	Revise system of <i>regalias</i> , link it to a national innovation strategy, and use a of pilot-evaluation-scale up approach.	Presidencia, Colciencias, DNP	ST-MT
	Establish regulations for rigorous monitoring and evaluation of government programs.	Presidencia, DNP	ST
Improve incentives for the accumulation and allocation of knowledge	Shift the focus of regulatory reforms to the subnational level.	DNP, MICT, Local Governors	MT
	Increase support for private capital markets, especially through the provision of TA and exit strategies for PE investors.	MHCP, DNP, Bancoldex, Inpulsa	ST
	Pilot, evaluate, and scale up managerial mentoring schemes for young and high-potential start-ups.	DNP, Bancoldex	ST-MT
	Strengthen IP regimes to respond needs of Colombian SMEs.	DNP, MICT	MT
Demand side of innovation: focus on firms performance	Complete, evaluate, and scale up technology-extension program.	DNP, MICT, Inpulsa, SENA	ST-MT
	Design, pilot, evaluate, and scale up programs for micro-entrepreneurs.	DNP, MICT, SENA	ST
	Reform the agricultural extension and integrate it with agriculture research.	MADR	MT
	Design, pilot, and evaluate targeted programs for higher potential and more sophisticated firms such as: <ul style="list-style-type: none"> • Matching grants schemes • Technology centers • Technology transfer offices 	DNP, MICT, Colciencias, Bancoldex, Inpulsa	ST-MT
	Design, pilot, and evaluate targeted programs for exporters and integrate them with other existing programs.	DNP, MICT, Bancoldex, Inpulsa	ST-MT
Supply side of innovation: focus on relevance and quality of knowledge and skills	Establish targets to improve educational quality, with a special focus on science and math outcomes.	MNE	ST
	Develop and implement an upgrade plan for universities that focuses on: (i) accreditation, (ii) evaluation, (iii) revised curricula, (iv) post-doc opportunities, and (v) articulation with private sector.	MNE, Colciencias	MT
	Evaluate current supply of technical skills and revitalize the system of technical and vocational training to align it with needs of private sector.	MNE, SENA	MT

Note: ST = Short term; MT = Medium term.

Consolidate, review incentives, and upgrade research centers. These centers should remedy market failures arising from the transference, adaptation, and diffusion of technology. One first step is to review and consolidate research institutes as well as clarify missions and incentives to raise quality and relevance. Financing will also need to be reviewed in light of international experience. For instance, Finland's VTT features performance contracts and cost sharing where a third comes from the state, a third through matching grants, and a third from the private sector.²⁸

Ensure the supply of technical skills that are high quality and aligned with the needs of industry. Main issues for SENA include: (i) streamlining its organization so that it is more efficient and focuses training where there is a demand; (ii) improving the relevance of courses through a tighter dialogue and feedback from the private sector; (iii) incorporating entrepreneurship training and socio-emotional and higher-order cognitive skills into the teaching methodologies; and (iv) focusing on market failures and filling gaps the private sector will not fill (for example, providing training services in remote zones or in fields where there is demand but private sector does not want to invest).

Endnotes

- 1 This policy note distinguishes between “innovation” and “invention.” Invention usually refers to the first occurrence of an idea, while innovation refers to the first commercialization of the idea. While inventions may occur anywhere (i.e. universities, research centers, etc.), innovations normally occur in commercial firms. To turn an invention into an innovation, a firm normally needs to combine different elements of knowledge, skills, and capabilities (i.e. production knowledge, market knowledge, distribution system, financial resources, etc.).
- 2 Innovation was to have been one of the critical “locomotives” of the previous administration but the agenda lost substantial momentum after the first year.
- 3 For example, similar programs for firm innovation and entrepreneurship are found at least three agencies—Colciencias, SENA, and iNNpulsa.
- 4 For instance, Law 1286 put Colciencias in the role of rector of the innovation sector, while the 2010 Plan de Desarrollo put iNNpulsa more in charge of the firm-related programs and DNP more in charge of oversight.
- 5 María Alejandra Arias and Ana María Ibañez and Andres Zambrano, “Agricultural Production amidst Conflict: The Effects of Shocks, Uncertainty and Governance of Non-State Armed Actors,” Mimeo.
- 6 See article in *The Economist*, October 26 2013.
- 7 Chang-Tai Hsieh and Peter J. Klenow, 2009. “Misallocation and Manufacturing TFP in China and India,” *The Quarterly Journal of Economics*, MIT Press, vol. 124(4), p. 1403–48, November.
- 8 DB indicators are used as proxies for business environment mostly because of data availability. However, it should be stressed that DB indicators are just a subset of those regulations that matter for improving firms productivity and, more specifically, for improving incentives for innovation.
- 9 The debate about the size of education’s contribution to productivity and growth is still open. Hanushek and Woessmann (2012) suggest that considering educational achievement, a more appropriate measure of human capital than school attainment, would solve the “growth puzzle” behind slow growth of Latin American countries. However, recent work by Acemoglu, Robinson and Gallego (2014) and Caselli (2013) using different methodologies suggests that accounting for achievement and educational quality explains only a limited part of Latin American countries’ productivity gap.
- 10 Comité Técnico Mixto de Innovación (2014). *Análisis del Ecosistema de Innovación: Instrumentos de Apoyo a la Innovación (2010-Sept2013)*, Borrador, 15-1-2014, Colciencias.
- 11 Colombia is one of the top reformers in the past decade, according to the 2014 DB report.

- ¹² Eslava and Haltiwanger (2013).
- ¹³ See Sub-national Doing Business data.
- ¹⁴ At the seed/angel phase, for example, *Fundacion Bavaria* has closed only one deal in the past few years. PE at the SME level is similarly thin.
- ¹⁵ For details on this topic, see the OECD's report "National Intellectual Property Systems, Innovation and Economic Development: Perspectives on Colombia and Indonesia," OECD, 2014.
- ¹⁶ According to a World Bank study, PE firms report that half of the firms requesting investments lack coherent financial statements and business plans.
- ¹⁷ In Colombia, about 36 percent of the larger firms are family-owned. Family-owned firms show substantially worse management practices than diffusely owned firms.
- ¹⁸ http://www.sri.com/sites/default/files/publications/imports/21st_century_skills.pdf.
- ¹⁹ Carlos Medina and Jairo Nunez (2005). *The Impact of Public and Private Job Training in Colombia*. IDB Working Paper. Alejandro Gaviria Uribe and Jairo Nunez Mendez (2002). *Evaluating the Impact of SENA on Earnings and Employment*. Document 220, Archivos de Economia, Direccion de Estudios Economicos, DNP.
- ²⁰ Colombian Observatory of Science and Technology.
- ²¹ De Carvalho, Antonio Gledson; Calomiris, Charles W.; Matos, João A. *Venture Capital as Human Resources Management*. *Journal of Economics and Business*, v. 60, p. 223–255, 2008.
- ²² Rigorous evaluations of interventions in India's textile sector using randomly selected firms receiving consulting services related to modern management techniques found rates of returns of 11 percent in one year (compared to a control group) through better quality control, improved efficiency, and reductions in inventory.
- ²³ See Santiago Perry (2012). *El Sistema de Extensión Agropecuaria en Colombia*. Perfetti y Gallego (2009). *Propuesta de una Política Nacional de Asistencia Tecnológica Agropecuaria*. The roots of U.S. progress in agricultural productivity can be found in the land-grant college system started in the 1860s, which supported the establishment of universities with a specific technical and agricultural extension mission. UC Berkeley, UC Davis, the University of Illinois, Cornell, the University of Michigan, University of Wisconsin, and the majority of decent engineering schools in the southern U.S. arose from this program.
- ²⁴ Examples of these programs are discussed in Blattman, Christopher, Nathan Fiala, and Sebastian Martinez. "Generating skilled self-employment in developing countries: Experimental evidence from Uganda," forthcoming, *Quarterly Journal of Economics*. Annan, Jeannie, Christopher Blattman, Eric Green, and Julian Jamison. "Does entrepreneurship empower women? Evidence from Uganda." Annan, Jeannie and Christopher Blattman. "Can swords be turned into ploughshares? Experimental effects of an agricultural program on employment, lawlessness, and armed recruitment."
- ²⁵ Several assessments of these programs suggest that the impact can be very large in specific innovations and in generating a routine for innovation in mid-sized firms.
- ²⁶ The services offered by EPAs can be divided into four broad categories: (i) country image building (advertising, promotional events, but also advocacy); (ii) export support services (exporter training, technical assistance, capacity-building, including regulatory compliance, information on trade finance, logistics, customs, packaging, pricing); (iii) marketing (trade fairs, exporter and importer missions, follow-up services offered by representatives abroad); and (iv) market research and publications (general, sector, and firm level information, such as market surveys, on-line information on export markets, publications encouraging firms to export, importer and exporter contact databases).
- ²⁷ Lederman, Daniel and Olarreaga, Marcelo and Payton, Lucy, 2010. "Export promotion agencies: Do they work?" *Journal of Development Economics*, Elsevier, vol. 91(2), pp. 257–265, March.
- ²⁸ The common tendency to offer majority financing by the state leads to deficient incentives to orient work toward the productive sector. Too much public funding, and such institutes lose their incentives to connect to the private sector. Too little public funding, as is the case of the Crown Research Institutes in New Zealand, and the centers look more like private consulting firms and do not provide the mandated public goods of technological recollection and diffusion.

CHAPTER 11

Moving Toward a Social Protection System



Main Messages

Colombia has expanded the quantity and coverage of social programs over the past decade but Colombians are not efficiently using the Social Protection System (SPS); as programs expand, the Gini remains one of the highest in the region and poverty reduction could have been furthered. However, a slight adjustment in vision and the creation or the enhancement of a few tools to support the system can better get the right program to the right people in an efficient manner.

This note proposes transitioning from Colombia's current collection of social programs to a cohesive and integrated SPS that provides to all Colombians effective protection from income shocks, helps smooth consumption over the life cycle, and promotes greater human development. Such a SPS would be characterized by an *articulated* set of risk management programs that are easily identifiable and accessible by the population, complemented by a series of sub-systems functioning in a similarly articulated and client-focused manner. This approach would aid the eligible to access and utilize benefits in a systematic way to navigate an individualized pathway for overcoming their specific social challenges.

Such a vision can be achieved by creating systems management tools to better connect and allocate access to existing programs. These tools can also be used to manage the supply of programs. By identifying gaps in program coverage of certain risks or populations and by revealing inefficient program overlaps, programs can be created, merged, revised, or eliminated to meet population needs while increasing the efficiency of the overall SPS.

This note reviews the progress achieved to date in creating the SPS, issues facing the key sub-systems of health, labor, social assistance, and social security, and the tools to be developed to move toward an integrated SPS. To this end, the note recommends: (i) upgrading existing SPS management tools to better identify the needs of the population, the supply of programs to meet those needs, and articulation processes to link supply to demand, (ii) developing information systems that provide better access to labor market opportunities and health services and improve management of the labor and health sub-systems, and (iii) creating a new health management model and modernizing financing strategies and tools to reduce administrative fragmentation in the health system and improve health outcomes.

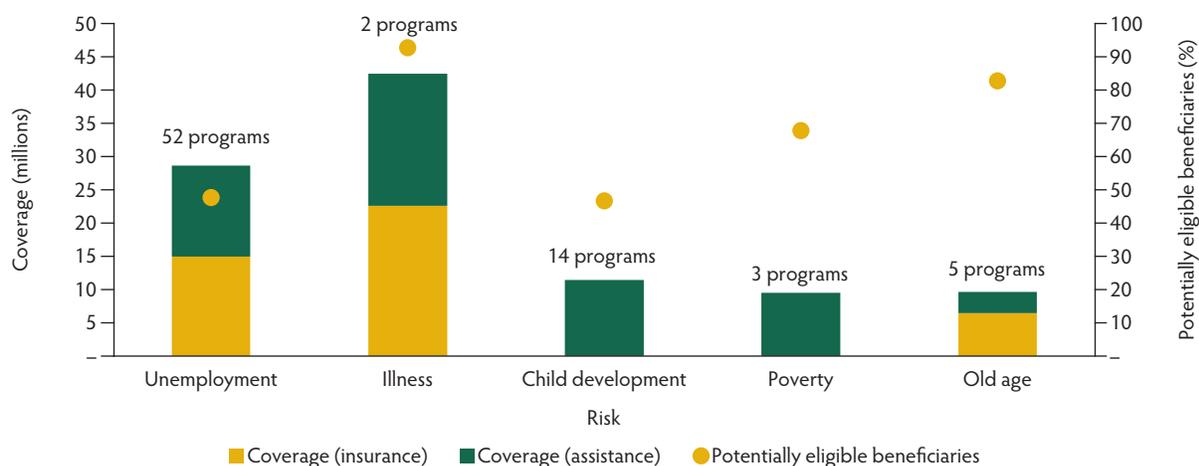
Background: Colombia's Social Protection System—Strengths and Areas for Improvement

Over the past 20 years, Colombia has developed a rich array of social security, social assistance, and labor-market programs to support the needs of vulnerable populations.¹ Approximately 80 national programs are operating to manage a range of social risks and some programs have achieved substantial coverage (Figure 11-1). The contributory social security schemes (“insurance” in Figure 11-1) offer pensions, health insurance, occupational hazard insurance, and a random set of other benefits (via *Cajas de Compensación*, workers’ clubs that provide services ranging from unemployment insurance to sports clubs) to those who pay into the system; these programs are intended to protect against income shocks and help smooth consumption over the life cycle. To reduce poverty and promote greater human development, Colombia has a broad range of social promotion (assistance) interventions, many of which

provide the same service as the contributory system but to a population that does not pay into the system. The objective of these programs is to “graduate” the poor to the contributory social security programs and to protect against shocks. These are rounded out by several labor market interventions that promote employability, provide job training (mostly through the National Training Service known as SENA), and protect workers against economic shocks.

The health insurance program is globally applauded for its universal coverage. The Law 100 of 1993 created the General System of Social Security in Health (*Sistema General de Seguridad Social en Salud*, or SGSSS), which has seen a rapid expansion in coverage, financial protection, and equity over the years. As of December 2013, 43.2 million people were covered by health insurance (approximately 92 percent of the eligible population); nearly half paid through payroll contributions of a household member (Contributory Regime, or RC) and the other half paid through general taxes (Subsidized Regime,

FIGURE 11-1: Colombia's Social Protection System is Fragmented, with Significant Coverage Gaps



Source: SINERGIA; Informe de Gestión 2013, Sector de la Inclusión Social y la Reconciliación, DPS; Informe de Actividades al Congreso 2012–13, Ministerio de Trabajo; Informe de Gestión enero–septiembre 2013, SENA; Informe de Rendición de Cuentas, Gestión 2012–13, Ministerio de Agricultura y Desarrollo Rural; Informe al Congreso 2012–13, Sector de Comercio, Industria y Turismo.

Note 1: Potential beneficiaries in each category are those who are eligible; for unemployment, potential beneficiaries are all the unemployed; for illness, it is the entire population; for child development, it is the share of the population under age 18; for poverty, it is the poor as measured by monetary poverty; and for old age, it is the population over age 65.

Note 2: This figure does not pretend to be exhaustive; it only includes programs reported by three entities and two sectors (see source note).

Note 3: “Coverage” of “unemployment” programs counts beneficiaries of all labor-market related programs; such beneficiaries may be out of the labor force, working, or unemployed. The “potentially eligible beneficiaries, %”, uses as its numerator the total number of beneficiaries of programs that are limited to the unemployed, and as its denominator the number of unemployed.

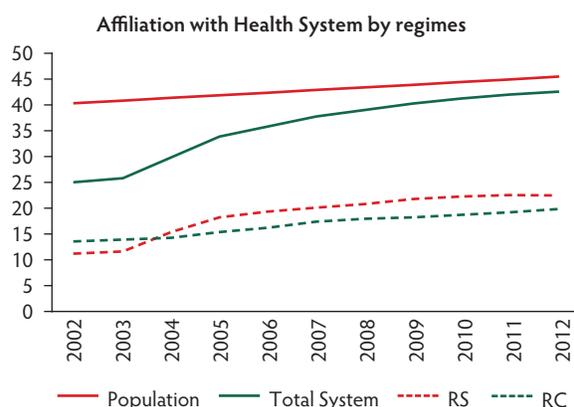
or RS) (Figure 11-2a).² The financial protection of the system is quite effective; out-of-pocket expenses of the population represent 17 percent of total expenditures in health, compared to a regional average of 34 percent (Figure 11-2b).³ Evidence also points toward increased access to services, especially those related to reproductive health. The percentage of pregnant women that had at least four prenatal check-ups grew from 70 percent in 1990 to 90 percent in 2010.⁴ These accomplishments have also helped to increase equity in access and use of health services, especially for those living in rural areas and the poor, and reduced the risk of catastrophic and impoverishing health expenditures in cases of illness.⁵

In response to the 1999 economic crisis, Colombia created the conditional cash transfer (CCT) program called *Familias en Acción*, which has grown into the country's largest social assistance program. It aims to break the intergenerational transmission of poverty by providing more than 2.6 million families with cash transfers when they comply with their co-responsibilities in terms of investments in their children's human capital; in parallel, the Government provides basic health, nutrition, and education services. In 2013, the program was expanded to provide cash transfers to nearly 80,000 high school graduates from *Familias*-eligible households who attend technical or technological

training programs in the SENA and universities (1,753 students). About 35 percent of the poor are covered by the program. Numerous impact evaluations have found that participation in *Familias* improves human capital outcomes of children. A randomized control trial of the program found that primary school attendance of *Familias* beneficiaries increased by nearly 2 percentage points and secondary school attendance increased by nearly 7 percentage points.⁶ Beneficiaries are 4 to 8 percentage points more likely to complete high school (relative to a graduation rate of 50 percent for the control group)⁷ and are more likely to attend a higher education institute than similar youth who were not beneficiaries.⁸ *Familias* beneficiaries are similar to non-beneficiaries in performance on standardized tests.⁹ In terms of health, malnutrition among children less than three years old living in rural areas decreased by 6 percentage points, and a reduction of 4.1 percentage points was measured in urban areas. Children were taller and heavier (by 0.21 standard deviation) by age 9–12.¹⁰ In rural households, the cash transfer reduced income poverty by 5.4 percentage points and extreme poverty by 12.6 percentage points, with a decline in extreme poverty among urban household of 17.1 percentage points.¹¹

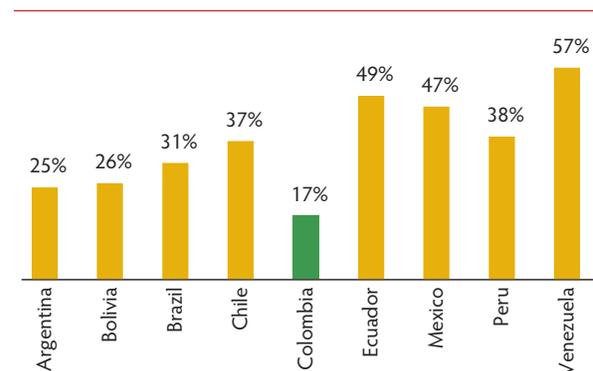
Simultaneously, Colombia has begun to build Systems Management Tools to better deliver social

FIGURE 11-2A: Affiliation with Health System



Source: NHA-WHO 2012.

FIGURE 11-2B: Out-of-Pocket Health Expenditures as % of Health Expenditures, 2012



Source: Minsalud—Fosyga.

programs to those who need them. The SISBEN, a tool to identify and rank the extreme poor with the objective of identifying potential social program beneficiaries, was developed in the mid-1990s and is in its third iteration. It has been used to identify households eligible for poverty-oriented programs, such as the *Familias en Acción*. Law 797 in 2003 (Article 15) established the RUAFA (*Registro Único de Afiliados*), which was intended to serve as a Unified Registry of Beneficiaries, listing the social programs that every Colombian accesses. In 2006, Colombia created the *Red Juntos* Program (now *Red UNIDOS*), a one-stop-shop to help the extreme poor access social programs. Patterned on the *ChileSolidario* model, this program is implemented by more than 10,000 coaches assigned to more than 1.5 million of the “extreme poor,” including displaced families, to help them access social programs that will help them overcome extreme poverty. In 2010, the Social Prosperity Department was created with the objective of unifying all social assistance programs under

one institutional umbrella. A Ministry of Labor and Pensions, with a Vice-Ministry of Employment, raised the focus of labor policy, labor-related social protection programs, and active labor-market programs in the government’s portfolio. Finally, Colombia built a true sub-system, through the *Cero a Siempre* initiative (see Box 11-1).

With the growth in universal health insurance, a large social assistance program, and an increase in the number of social programs, social spending in Colombia is on par with the Latin America region (Figure 11-3). Colombia’s social expenditure as a share of GDP is 9.7 percent, compared to a regional average of 8.3 percent, but far less than the 20 percent in Argentina and Brazil. The steady growth in social expenditure from 3 percent in 1990 to nearly 10 percent two decades later mirrors a growth pattern across the region, although Colombia had one of the largest increase in social expenditures as a share of GDP.

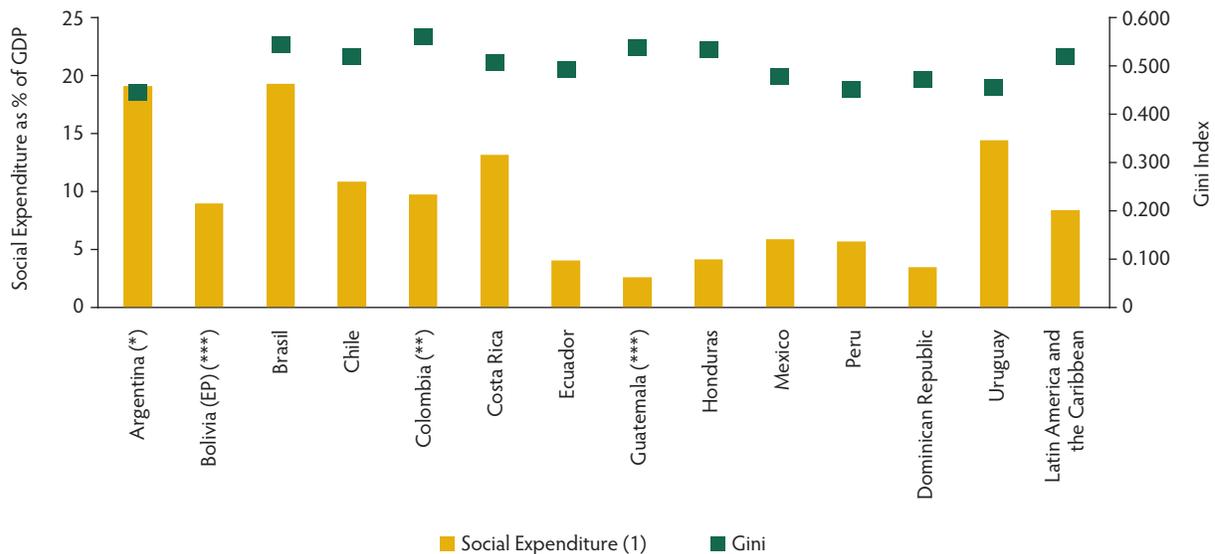
BOX 11-1: Building a Sub-System for Social Protection: *Cero a Siempre*

The *Cero a Siempre* is an Early Child Development strategy that provides comprehensive care for pregnant women and children into early childhood. It differs from a program or ministry because it relies on management tools that are the basis of a sub-system. Key features are:

- i. The initiative coordinates the many programs that serve this population rather than developing and managing its own programs;
- ii. The system administrator developed *articulation processes* among various service providers to deliver the right service at the right time for the beneficiary;
- iii. An Inter-sectorial Committee coordinates actions and articulates entities at the national, departmental, and municipal levels, each actor involved recognizing the central importance of its role and offering its institutional structure, policy actions, resources (monetary and human), and capabilities to ensure the development of each child and pregnant woman;
- iv. Beneficiaries, not institutions, are at the center of the Strategy; it organized existing entities and programs around pregnant women and children; the monitoring system follows the conditions and quality of life of every Colombian child who has been served by any program in the system;
- v. La *Ruta Integral de Atenciones* (RIA) is a reference instrument to guide local authorities and other local actors to design pathways to meet the particular needs of new mothers and children. The RIA recognizes that certain populations have special needs, which does not imply differential care but instead universal care, with a tailored, appropriate approach.

Source: Constanza Liliana Alarcón. Estrategia de Atención Integral a la Primera Infancia: Fundamentos Políticos, Técnicos y de Gestión, Coordinación. Alta Consejería Presidencial para Programas Especiales, Coordinación. Bogotá, Colombia, 2013.

FIGURE 11-3: Social Expenditure and Inequality



Sources: Social Expenditure: http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/Portada.asp; Gini: World Bank. (2013).^a

Note 1: Social expenditure is spending in social assistance, pensions, and health.

Note 2: Gini Data: (*) Argentina and Uruguay only considers urban areas; (**) Source: DANE, Reporte Pobreza, 2012; (***) No data available.

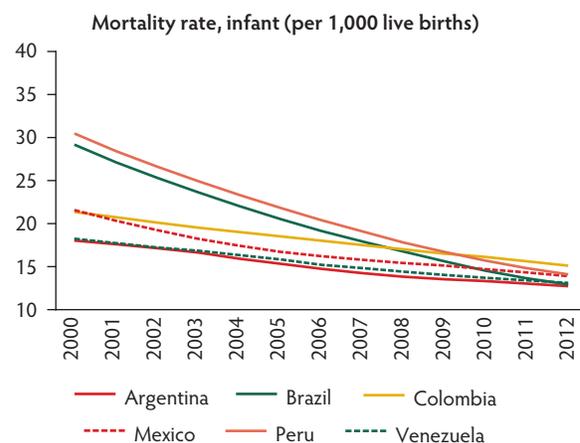
^a World Bank. (2013). —Shifting Gears to Accelerate Shared Prosperity in Latin America and The Caribbean." LCSPP, June 2013.

In spite of the development and expansion of social programs and institutional realignment, the results are not as strong as hoped. Many indicators are positive. Social expenditure increased 50 percent over the past decade, one of the largest rates of growth in the region, and poverty rates and the Gini coefficient fell. However, the record isn't entirely encouraging. The Gini still remains one of the highest in Latin America. Population health outcomes are average—or below average in some cases. Maternal mortality has been stagnant since 2009; infant neonatal mortality (11.2 per 1,000 live births in 2012) is higher than neighboring countries with similar development levels (Figure 11-4); so is the prevalence of diabetes. In addition, the SGSSS is characterized by a worse perception among the population than other health systems (Figure 11-5). As discussed in the Poverty Chapter, *Familias en Acción*, the conditional cash transfer program, was responsible for significant declines in rates of extreme poverty (28 percent) and poverty (19 percent), but declines were much smaller in rural areas, where *Familias* is most prevalent.

Challenges

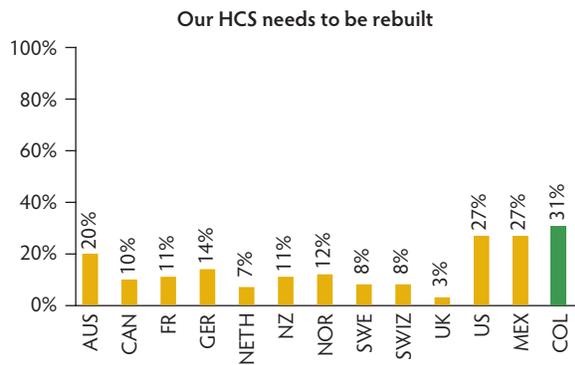
The less-than-hoped-for outcomes can be traced to various factors that create bottlenecks in converting investment to results, including system fragmentation, coverage gaps and overlaps, and information management.

FIGURE 11-4: Infant Neonatal Mortality



Source: WDI-The World Bank.

FIGURE 11-5: Perception of the Health Care System (HCS)



Source: Commonwealth Fund International Health Policy Survey in Eleven Countries (2010); and: Primary Care Surveys-Inter American Development Bank, Colombia and Mexico 2012 (preliminary results).

System fragmentation reduces the effective and efficient use of social protection programs

The SPS is fragmented among many dimensions. First, multiple programs address the same risk (Figure 11-1), partly due to the different programs covering the same risk, funded by different sources (contributory and subsidized) and, in some cases, providing the same benefit. This fragmentation is increasing as Colombia fills coverage gaps by creating subsidized programs that provide the non-contributing population the same benefits as the contributory programs. For example, Colombia is in the process of developing its fifth transfer program to the poor elderly population.

Multiple programs are also a result of different ministries or directorates developing their own programs for sub-sets of the population. For example, multiple entrepreneurship programs target women, extreme poor, rural populations, micro-enterprises, indigenous groups, and youth, all of which provide a combination of skills development, entrepreneurial training, and stipends or loans. They are implemented by the Social Prosperity Department, Ministry of Labor, Ministry of Agriculture, Ministry of Commerce, Ministry of ICT, Colciencias, or

SENA, with each program serving a small number beneficiaries.¹²

System fragmentation leads to an inefficient use of the SPS as a means to manage social risks. This manifests itself in two ways. First, the ad hoc development of programs by many institutions at the national and subnational level does not create a pathway out of the risk. Emerging from poverty, illness, unemployment, or any other risk requires a series of steps that build on each other. If a step is missing, progress out of the risk is interrupted. So while people are benefitting from the programs, they are not necessarily achieving their larger goals. Second, even if the collection of programs did create a path out of the risk, the target populations have limited knowledge of the programs they are eligible for and which programs can best raise their living standards. It is very costly for individuals to collect information from all ministries and secretaries at various levels of government and to identify the set of programs to fill their specific needs. Even if programs could be identified, the transaction costs of applying, receiving notice of eligibility, and obtaining benefits are high.¹³

Administrative fragmentation also creates unnecessary costs and confusion. The two health insurance regimes, the RS and the RC, notwithstanding the unification of their benefit packages (POS), still maintain different sources of financing, follow different methodologies for the calculation of the insurance premium (UPC), use different insurers (EPS), and follow different sets of rules and regulations. This produces costs that could be avoided by an increased harmonization between the two regimes. The decentralization process has introduced additional fragmentation into the SGSSS.¹⁴ Horizontal fragmentation was exacerbated with transfer of the insurance function to multiple EPS, and vertical fragmentation arose when local governments became active in the provision of services and management of the RS.¹⁵

The fragmented health financing system creates significant inefficiencies due to administrative cost, multiple processes, legal decisions, and perverse incentives. The RS is funded by up to 16 different

sources,¹⁶ which include payroll contributions, earmarked levies from general taxes, local revenues from lotteries, and RC solidarity contributions distributed to multiple intermediaries (EPS) who then pay service providers. Due to the heterogeneity of the sources and limited capacity of some actors, RS financial resources do not always reach the providers, jeopardizing the financial stability of the system. Several studies show that the current practices of including risk adjustments in insurance premiums (UPC) are not sufficient to avoid risk-selection by EPS, and the current POS definition leads to the reimbursing of medical procedures that are not cost-effective.¹⁷ In addition, SGSSS complexity creates vulnerabilities related in particular to fraud and corruption in claims processing and beneficiary affiliation, areas of vulnerability that do not exist in integrated public-provision systems.¹⁸

This fragmentation leads to horizontal equity, but it creates potential distortions in the labor market and vertical inequities. Workers in the RC system pay a percentage of their salaries for health insurance, while workers who earn the same amount but are in the RS system pay nothing to access the same POS—this could discourage formal employment.¹⁹

²⁰ Regarding vertical inequities, a pensioner in the *Prima Media* regime and one in the *Ahorro Individual* may pay the same amount into the system but the former may receive a much higher pay-out due to the different structures of the programs. Finally, the system has severe regressivity due to a patching together of benefits over time. For example, while all formal sector employees contribute to pension and contributions are capped, higher earners take a disproportionate amount of the system. In fact, Colombia has one of the most generous top pension contributions in the world.²¹

Insufficient or unbalanced coverage leaves large segments of the population vulnerable to certain risks

In spite of a large number of social programs for various populations, and much overlap, Colombia faces two coverage issues: insufficient coverage of some risks and insufficient coverage of some populations.

In health, the risk of poverty from illness is effectively mitigated by health insurance that covers around 92 percent of the population—but the risk of illness is not well covered. The health insurance model focuses on the provision of individual and specialized health services, rather than wider-reaching public health, prevention, and health promotion activities and addressing health problems at the primary-care level. Evidence shows that health systems with a strong primary care orientation are able to produce better health outcomes and higher levels of satisfaction.²² Expensive, individualized care—for example, a high rate of general hospitalization (9 percent),²³ most of which the evidence suggests was unnecessary,²⁴ or 16 percent of Ministry of Health budget for individualized legal claims for services outside of the POS (*tutelas*)²⁵—distorts expenditure and coverage of the health care system.²⁶ More generalized health prevention and promotion activities are increasingly needed in Colombia, a country facing an aging population and an epidemiological transition characterized by an increase in the burden of diseases related to chronic conditions and non-communicable diseases.²⁷

Labor risks are also insufficiently covered. Programs for the more than 2 million unemployed are limited to job training, largely through SENA, with a smaller number accessing labor intermediation services. Very few benefit from temporary employment, other supports to obtain work or start a small firm, and unemployment insurance.²⁸ Support for the working poor is particularly scarce.²⁹ The quality of these services is questionable as well. Over a nine-month period, for example, only 15.3 percent of SENA graduates who registered with the labor intermediation service obtained jobs in a labor market with 8.5 percent unemployment.

The elderly population is well covered (Figure 11-1), but the benefits are insufficient. While nearly half of the 2.4 million people over age 60 are poor,³⁰ only 30 percent receive pensions, and most of these beneficiaries are not poor.³¹ The rest receive a stipend equal to US\$20–\$35 a month (the minimum pension payment is approximately

US\$300 monthly).³² However, the elderly poor have needs in addition to money, including health-care, housing (25 percent live alone or with another elderly person),³³ nutrition, and psycho-social well-being. Healthcare itself is covered by the health insurance system, but out-of-pocket expenses are substantial.³⁴ With the conversion of PPSAM (*Programa de Protección Social al Adulto Mayor*) and *Juan Luis Londoño de la Cuesta* programs to the cash-transfer program *Colombia Mayor*, 500,000 more people are receiving benefits (for a total of 1,213,500), but the nutrition and psycho-social well-being dimensions are no longer addressed by any program.

By the nature of its work, the rural population is outside the social insurance programs and has not fully benefitted from their rapid growth. In addition to the *Familias en Acción* program, which originally targeted the rural population (until 2011), there are 10 programs solely focused on rural areas, with coverage of 450,000 in a population of more than 11 million. While the RS covers rural areas—for example, 83 percent of the rural population is covered by the RS—it is not clear which of the smaller programs are operating in rural areas. The lack of social support is reflected in rural poverty statistics. While poverty has declined in Colombia over the past decade, only one-quarter of the reduction was due to lower rural poverty. This is not to say that the situation in rural areas has not improved. Poverty rates are down a third over the past decade—to 42.8 percent for the broad measure and 19.1 percent for extreme poverty by 2013. However, the improvement has been much greater in urban areas, where both rates dropped by 50 percent over the same period—to 26.9 percent for poverty and 6.0 percent for extreme poverty.³⁵

Limited information for system functioning

Although social expenditures in Colombia are on par with the Latin America region, improved information collection and management can lead to efficiency gains in various sub-sectors.³⁶

The health sector could better manage information to improve beneficiaries' use of the system and the quality delivery of services. The EPSs can play a larger role in helping Colombians manage their health risks by guiding users toward the most cost-effective health-care services, including illness prevention and health promotion. At a higher level, weak and complex supervision of the health sub-system leads to insufficient oversight. The National Superintendence of Health (SNS) has functions of inspection, surveillance, and control over more than 9,000 providers and insurers across the country,³⁷ but it lacks the financial and human resources to effectively collect information and act on it to improve health care quality.

The labor sub-system, still in its developmental stage two years after the creation of the Ministry of Labor, has severe information gaps that lead to policy and program inefficiencies. Colombia does not have a unified information database about labor market trends. Instead, universities, local chambers of commerce, DANE, Ministry of Health, Ministry of Education, Ministry of Labor, SENA, and local governments collect and monitor selected basic indicators. These efforts are isolated, incomplete for monitoring national trends, and typically updated on an ad-hoc basis. To strengthen the regional labor observatories, the Ministry of Labor instituted the ORMET Network to provide financing and training. However, the country does not have the broader set of procedures and institutional arrangements to convert the current efforts into a consolidated and updated system. This lack of information makes it difficult to create labor policy, direct labor programming, and focus training strategies. Further, it limits the public's ability to make decisions about the types of training they should select and the location of job opportunities.

Similarly, Colombia does not have a robust system to provide information for effective job search. For years, SENA provided the only public labor intermediation service, although only SENA graduates and employers could access it. There are no evaluations to assess how well the system

functioned. Instead, nearly half of Colombians find jobs through word of mouth, leading to inefficient job matches and excess time spent in job search.

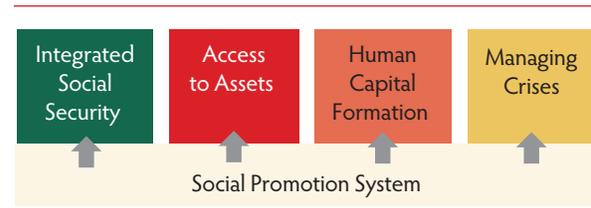
Global Evidence to Move Colombia Toward a True SPS

Transition from a static set of social protection programs to a dynamic SPS

There is a global movement away from social protection programs and toward the SPS concept. A true SPS can be defined as an “articulated collection of social interventions (services, transfers, and benefits delivered through programs) that help people and families throughout their life-cycle to confront the risks that they face.”³⁸ A system management model that coordinates information on the demand and supply of social services can convert a random collection of social interventions and sub-systems into an efficient SPS.

The conceptual framework underlying Colombia’s current SPS is still relevant in this changing model, but the institutional structure needs to be updated. Holzman and Jorgensen (2000)³⁹ propose that an SPS should provide interventions that reduce risks that lead to poverty, mitigate shocks that could lead to poverty, and cope with structural poverty. This conceptual model formed the basis of Colombia’s, as well as many other countries’, SPS.⁴⁰ Figure 11-6 depicts the institutional application of the model in Colombia. Risk prevention is addressed through human capital formation (education and training); risk mitigation is addressed through social security (health, professional risk insurance, pensions), assets (housing, financial inclusion, micro-insurance), and risk management pillars (natural disaster, Internally Displaced Populations – IDPs, emergency employment); and coping is the social promotion. While the conceptual model is still the bedrock of what an SPS should achieve, there is increasing

FIGURE 11-6: Current Vision of the Colombian Social Protection System



Source: Bases del Plan Nacional de Desarrollo 2010–2014 Prosperidad para todos, DNP.

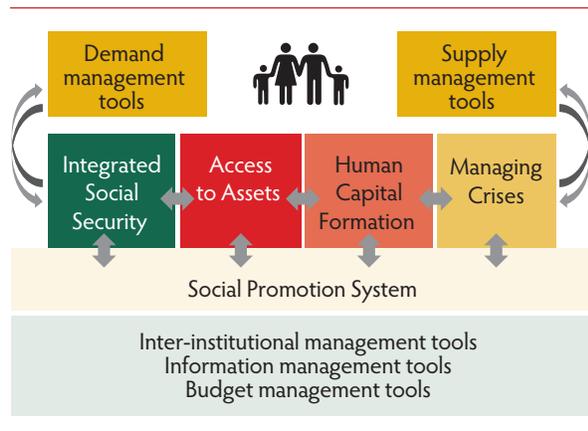
recognition that directly mapping an SPS to these concepts does not produce the expected outcomes since the model (i) leads to system fragmentation since each sub-system is independent,⁴¹ (ii) assumes that individuals are in a single pillar at any time, (iii) assumes a relatively static model that individuals only move up, thereby ignoring negative shocks, (iv) mixes various risks, tools, and actors within a pillar, and (v) loses the beneficiary in a structure driven by financing source and institutional organization. Finally, it does not have the characteristics of a system: articulation, integration, and flexibility.

Instead, there is a movement toward a beneficiary-centered risk management model where the SPS is designed to serve beneficiaries and their heterogeneous set of risks. In this model, the person or family is at the center, with a specific set of risks and goals. Although the programs are the static building blocks of the SPS, the dynamic management tools manage access to and exit from programs as people move through the system, accessing support according to their needs. This model rests on five sets of tools: (i) demand management tools to identify and understand the target population and its needs, (ii) supply management tools to identify the existing supply of program, link beneficiaries to the supply, and give providers incentives to meet the demand, (iii) inter-institutional management processes that are specifically designed and budgeted to create functional inter-institutional collaboration, (iv) information management tools for the system (such as population registry, Unified Registry of Beneficiaries),

which differ from program Management Information Systems, and (v) budget management tools for the system, which differ from those at the program level.⁴² These tools are useful for creating a SPS, but they also build efficiency in the sub-systems and identify and address coverage gaps for certain risks or certain populations.

Figure 11-7 presents an adaptation of the current model that addresses many of the shortfalls by simply introducing systems tools. The family is added to the diagram. The family is linked to the program streams (groups of programs addressing the same risk and, collectively, forming a pathway out of that risk) through demand management tools and supply management tools. Program streams are linked to each other through inter-institutional management processes, information management tools, and system-wide budget management tools. Examining the interior of the streams shows the interconnections among programs as well. Figure 11-7 also allows families to move among streams of programs and to move “backwards” (i.e., from social security to social promotion) because of a shock to the family. The diagram is far from complete, but it is intended to communicate that the proposal is not for a new SPS; instead, it introduces a few tools to make the existing system work more as a system—i.e. interconnected and articulated.

FIGURE 11-7: Colombia's SPS when Applying a Systems Approach



Policy Options to Reduce System Fragmentation, Improve Coverage, and Close Information Gaps

Strengthen SPS tools to overcome inefficiencies created by system fragmentation and to reach uncovered populations

In the long run, Colombia can converge to an interconnected and articulated SPS with a set of risk-focused program streams that are easily identifiable and accessible by the population, complemented by a series of sub-systems similarly functioning in an articulated and client-focused manner. Getting there is perhaps more of a challenge for a middle-income country like Colombia that already has established program tools, compared to a country starting from almost nothing.⁴³ Through planning, building on what is already there, and introducing new tools in a gradual yet high-quality way, Colombia will achieve an SPS and the efficiency gains and improved outcomes that come with it. The following policy options are based on the criteria that they are fundamental pieces of an SPS, and they (or their components) already exist in Colombia and can be strengthened.

Further Develop and Maintain Supply Management Tools. Two tools are recommended: (i) an inventory of social protection programs and (ii) a stronger *Red UNIDOS*. The inventory provides the information for SPS organizers to identify pathways (within program streams) for beneficiaries to manage their risks and to identify gaps in coverage that will prevent graduation. Such an inventory not only includes program names but also information about eligibility criteria, coverage, and program effectiveness. It includes national as well as departmental and local programs. While institutions have a list of their own programs, the challenge involves bringing these together into a single inventory, adding the categories of analysis, and maintaining a team to constantly update it. Given Colombia's constantly evolving set of social programs, this

inventory will require constant curating and regular interaction with various ministries, departments, secretaries, and NGOs.

Strengthen Red UNIDOS, especially in rural zones. Although only focused on the extreme poor, the Red UNIDOS program is the seed of an articulated SPS. It fulfills the function of identifying demand for social services and connecting supply and demand by (i) working with the extreme poor to identify pathways to manage their specific risks and (ii) bringing information about supply to those populations. The model has been highly successful in Chile, and Colombia has room for improvement. UNIDOS would benefit from an external review of its current program, its current articulation and coordinating instruments (*Comisión Intersectorial*, *SIUNIDOS*, and *Mesa de Pobreza*), the completeness of its program inventory, internal management, and coverage of certain populations (rural, elderly) to identify areas for improvement.

Strengthen information management tools, specifically by improving the RUAF to serve as a unified registry of beneficiaries (URB). A URB is a database that includes an entry for all citizens and identifies all the social programs they are currently accessing. It provides adequate and reliable information to individuals and their coaches (such as Red UNIDOS coaches), and program administrators can access full information about who is participating in which social program. Through the inventory of programs, it can also be used to identify those programs that a person is eligible for and is not accessing. The RUAF is the basis of the URB. It includes all people with a birth certificate (*registro de nacimiento*), and for each it identifies the programs the person is affiliated with. However, the RUAF is not functioning as an URB because the information is outdated and the registry is compromised by not having a unique identifying number for each Colombian.⁴⁴ To transform the RUAF to a URB, the next steps include (i) identification of a coordinating agency with a high level of legitimacy and the inter-institutional management tools to make the RUAF effective; (ii) analysis of the extent and nature of the unique identifier problem; (iii) identification of incentives for programs

to regularly report to the system, (iv) adjusting the software that matches program data to the RUAF, ensuring inter-operability; (v) training staff responsible for the reporting process to ensure proper use of the system; and (iv) developing privacy norms so that the information can be confidentially accessed by appropriate users.⁴⁵

*Modify the demand management tool SISBEN III, into a better tool to identify the poor and to minimize type I and type II risks, to be regularly updated and be used by a wide range of programs.*⁴⁶ The SISBEN is a globally recognized tool to identify beneficiaries of social programs. It also provides a profile of the extreme poor that can be used by coaches to develop exit paths and by programs to identify social needs among specific populations. The current SISBEN⁴⁷ index (SISBEN III) has been refined to reduce the possibility of manipulation, minimize errors of inclusion, and allow for incremental precision so that programs can define their own cut-off points for eligibility criteria. In spite of the successes, the SISBEN continues to be a relatively static instrument, only updated when individuals self report new information and only accessible at the central level through DNP. The challenge is to identify an efficient process to make the SISBEN self-updating. An option for a faster updating includes an integrated master data base to follow individuals through their life (rather than the current practice of excluding individuals from the data base if they happen to rise above an extreme poverty line at some times). A sub-set of the SISBEN should be confidentially accessible by key SPS actors, including local governments, to improve supervision of the system. This would need to be developed in conjunction with the URB and with the Red UNIDOS, with an examination of current laws that may hinder this inter-institutional collaboration.

Create inter-institutional management tools to strengthen the articulation process to better collectively address specific social risks. Colombia has dozens of inter-sectorial commissions (*comisiones inter-sectoriales*) with the goal of enhancing cross-sectorial collaboration around social issues. However, many of these are not true processes; usually, they are add-ons

to already busy schedules, largely consisting of meetings. The inter-sectorial collaboration tool underlying an SPS is a process in itself, with an identified technical team, joint goals around collaboration (as opposed to higher-level goals around outcomes), a work program with clear responsibilities and timeline, accountability to highest level decision-makers, and its own budget. The *Cero a Siempre* strategy to manage risks in early childhood was largely a success due to the intense and structured effort around articulation and coordination. These lessons can be useful to others. As a first step, the lessons from the *Cero a Siempre* experience should be shared through a few pilot cross-sectorial efforts, with budget and coaches to support the work.

Build the labor sub-system by creating information for policymaking and program purposes

Articulate and strengthen regional labor observatories to provide consistent information for policy-making and for decision-making. An organizational process to develop a national labor observatory would build on the existing regional bodies. This would require conceptualizing a national observatory's role, defining indicators and outputs, and conceptually and technologically aligning the work of the regional observatories. To start this process, the Ministry of Labor needs to (i) map all the information being produced at national and subnational levels, including variables, frequency of collection, methods of collections, and use of data; (ii) analyze the map to identify commonalities, gaps, and misalignments; (iii) identify software to access useful information; (iv) create protocols on indicators, data collection methods, data analysis methods, and information sharing for the national database (recognizing that local needs may require additional information); (v) identify funding mechanisms to sustain local actors' inputs to the larger system and upgrade their technical skills to collect data, maintain its quality, and meet standardization requirements; and (vi) design and standardize the analysis and outputs (bulletins, regular reports, etc.) of the labor observatory system.

Create an inclusive, full-service employment service. Recognizing the usefulness of such a system for the general population, the Ministry of Labor sponsored legislation to create a Public Employment System that would be guided by the ministry and implemented through the Special Administrative Unit for the Public Employment Service (*Unidad Administrativa Especial del Servicio Público de Empleo*, or UAESPE). The general objective is to provide the population with information about job search and training opportunities. This system is expected to replace the more limited service offered by SENA to its graduates. The UAESPE is in its design phase and needs to define itself, including its mission, who it intends to serve, its range of services, the results it aims to achieve, the actors that will feed into the system, its budget, and its IT systems.

Modernize the health sub-systems by developing a new health care model for Colombia with stronger internal management and control

Create a new health care model for Colombia. The Ministry of Health is developing a new model of health care and service delivery, which would focus on managing the health risks of the population living in a specific geographical area.⁴⁸ To achieve this objective, the model envisages enhancing the coordination between local health administrations (responsible for public health activities) and insurers (responsible for illness prevention and health promotion activities) to improve the capacity of the health delivery network at primary care level.⁴⁹ The new model would need appropriate incentives and a new regulatory approach to ensure that all parts of the SGSSS—insurers (EPS), providers of health services (*Instituciones Prestadoras de Salud*, or IPS), and local authorities—work in a coordinated way.⁵⁰ In particular, the role of the EPS would evolve from the financial management of the resources to the more complex role of managing the health risks of the enrolled population.

Develop more sophisticated and effective tools to manage health financing processes. The structural changes and

recent judicial norms to govern the health system require revising financing mechanisms. Specific steps include: (i) revise the provider payment system used in Colombia to include incentives and performance-related payments, (ii) unify the procedure to calculate the UPC for the RS and RC regimes, (iii) improve the definition of benefits included in the POS to reduce scope for legal claims, and (iv) continue expanding the role of health technology assessment (HTA) and price regulations for pharmaceuticals.

Enhance the regulatory capacity of the Superintendencia de Salud (HS). Although the Law 1438 already defined a new set of functions and attributions for the HS, its capacity should be enhanced to fulfill not only its current mandate but also expanded responsibilities in the future. This would include: (i) a new conceptual framework for inspection, monitoring, and control as outlined in the proposed ordinary

health reform, (ii) upgrading the technical and human capabilities of the HS to deal with the coming changes in terms of risk adjustments for the system, and (iii) estimating the costs of total decentralization of the HS to extend its outreach to all regions of the country.

Conduct public outreach to improve the image of the SGSSS during this period of reform. To make visible the benefits that the insurance model offers in terms of access, coverage, and benefits for Colombians, the Ministry of Health needs to strengthen its communications to address public concerns. This includes: (i) improving the direct communication and interaction with users and communities to increase the sense of ownership, designing and carrying out a multi-media strategy to explain the rights, benefits, and functioning of the system; and (ii) working with insurers and providers to strengthen the transparency policy on contracts, care provision, processes and procedures.

Development challenge	Short-term policy options	Medium-term policy options
Strengthening Social Protection System tools		
Compile complete and accurate information on social protection program supply (supply management tool).	Approve a CONPES to create an inventory of social programs, define their uses, identify their administrators, and define the process to maintain current the inventory.	Develop and implement the processes to create and maintain the inventory of national, departmental, and local social programs. Constantly update the inventory.
Match social program supply to social demand (supply management tool).	Institutional analysis of <i>Red UNIDOS</i> and identification of strategies to strengthen its role within its current institutional parameters.	Institutional reform so that <i>Red UNIDOS</i> can effectively guide the extreme poor through the range of social protection/assistance programs across the entire social protection/assistance system.
Improve social demand information management by creating a unified registry of beneficiaries (information management tools).	(i) Review of the RUAFA to identify the structural limitations to serving as a URB, (ii) identify a rector for the system and train staff to populate the database, and (iii) update software to facilitate uploading data and downloading information.	Develop a protocol and implement incentives to maintain the RUAFA up-to-date and confidentially accessible to a select set of users.
Modify the SISBEN dynamic targeting tool so that it is regularly updated (demand management tool).	Review options to convert the SISBEN to a dynamic information collection system; review laws that limit these options.	Implement a process for a dynamic SISBEN clearly linked with program eligibility criteria, once short term option is achieved.
Articulation among sub-system programs to more efficiently and effectively respond to social demand.	Record the tools, and the process to develop the tools, from the <i>Cero a Siempre</i> model; pilot these tools in two other inter-sectorial initiatives.	Implement operational inter-institutional tools in all cross-sectoral efforts in the social sectors.

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Development challenge	Short-term policy options	Medium-term policy options
Build labor sub-system through improved information		
Improve labor information systems to guide potential workers and labor policy.	Map the labor information being created by various institutions and develop a schematic for a unified labor observatory; develop protocols and software to standardize and upload the regional labor observatories; define the mission, beneficiaries, range of services, and IT system of the UAESPE and the oversight role of the Ministry of Labor.	Implement the tools for a national labor observatory, built on stronger subnational data collection and analysis efforts. Review the UAESPE to identify strengths and areas for improvement to continue moving toward a full-service labor intermediation service.
Develop a new model of health care with stronger internal management and control		
Implement a prevention/promotion health care model to improve coverage and health outcomes and the efficient use of the sub-system resources.	Review the articulation tools between the local health administration and the EPS; review the changes needed for transforming EPS from financiers to health management providers.	Reorganize service networks and estimate demand for remote regions; implement the patient-centered medical home model in large population centers.
Reduce administrative fragmentation through more sophisticated and effective tools to manage health financing.	(i) Analysis and design of pharmaceutical policy and price regulation, (ii) institutionalize the Health Technology Assessment, and (iii) revise the incentives system and accountability mechanisms among the various players in the sector (e.g. EPS, IPS, central and local governments) to improve performance and governance in health management and health information systems.	Further reform of the health financing system toward a pay-for-results system.
Reduce fragmentation through enhanced risk management of the insurance system through changes in risk adjustment mechanisms.	Refine use of data on frequency of health usage from Individual Register of Service Provision (RIPS). Design and test incentives for better performance.	Unify methodology across regimes for insurance premium computation (UPC). Implement a set of pay-per-performance guidelines based on health outcomes of affiliates.
Achieve more efficiency and transparency in the system through improvements in oversight and control capabilities.	Design a new framework of inspection, monitoring, and supervision to move from the traditional compliance based approach toward a risk-based monitoring and supervision system.	Integrate both financial and health risks in the risk-based monitoring and supervision system.
Improve public confidence in the health system through awareness of achievements and rights.	Design of a new communication strategy for the Health System. Implementation and enforcement of a tighter transparency policy.	Increase participation of users and community in policy-making of the system.

Endnotes

- 1 Since the 1990s, Colombia has been building the components of a social protection system. Unlike its neighbors, Colombia did not suffer severe crises during most of the 20th century. In spite of deep civil strife, families took care of each other when experiencing a sudden negative shock to their well-being and programs to reduce poverty were not a part of the overall policy dialogue. This changed with the 1991 Constitution. The 1990s saw Law 100 to create a universal health insurance system, the creation of a registry of the poor via SISBEN. When the 1999 economic crisis hit, Colombia saw that it did not have the basic structure to support those whose incomes were lost or diminished. Shortly thereafter, the social safety net (*Red de Acción Social*) was created through three large cash-transfer programs: *Familias en Acción*, *Jóvenes en Acción*, and *Empleo en Acción*. At the same time, Law 789 defined a social protection system and created a Ministry of Social Protection. The programs and institutions grew and, in 2006, Colombia recognized the need to better coordinate its social protection and social assistance programs to more efficiently and effectively reach the poor. This led to the creation of *Red Juntos*, modeled on the successful Chilean experience (*ChileSolidario*). Social assistance and protection programs continued to expand and multiply in the period.
- 2 SISPRO: Sistema de Información de la Protección Social www.sispro.gov.co/.
- 3 World Bank (2012). *World Development Indicators*. October 2012. The World Bank, Washington DC.
- 4 Profamilia. (2011). *Encuesta Nacional de Demografía y Salud 2010*. Profamilia, Bogotá, Colombia.
- 5 Equity in access was further improved by the sentence T-160 of 2008 of the Constitutional Court that commanded the unification of benefit packages of the RC and RS regimes (Colombia, Corte Constitucional, Sentencia de Tutela No. 760 de 2008).
- 6 Institute for Fiscal Studies, Econometría, and Sistemas Especializados de Información (2006). “Evaluación del Impacto del Programa Familias en Acción—Subsidios Condicionados de la Red de Apoyo Social.” Bogotá, Colombia: National Planning Department.
- 7 Independent Evaluation Group (2011). “Assessing the Long-Term Effects of Conditional Cash Transfers on Human Capital: Evidence from Colombia,” Report No. 59127, The World Bank, Washington DC.
- 8 Camacho, Adriana and Roman Zarate (2013). “Going one Step Beyond with Conditional Cash Transfers: College Outcomes,” LCSHD/World Bank. unpublished.
- 9 IEG 2011, *ibid*.
- 10 Institute for Fiscal Studies, Econometría, and Sistemas Especializados de Información 2006, *ibid*; Institute for Fiscal Studies, Econometría, and Sistemas Especializados de Información (2012). “Impactos de largo plazo del Programa Familias en Acción en municipios de menos de 100 mil habitantes en los aspectos claves del desarrollo del capital humano.” Bogotá, Colombia: National Planning Department.
- 11 Institute for Fiscal Studies, Econometría, and Sistemas Especializados de Información 2006, *ibid*.
- 12 Acosta, Olga Lucia, Nohora Forero Ramírez, and Renata Pardo Pinzón (in process). “Diagnóstico sobre el Sistema de Protección Social Colombiano y las Principales Acciones que se Deben Realizar para su Ajuste y Modernización.” CEPAL, United Nations.
- 13 This is particularly costly for the poor who do not have the tools or training to undertake such an effort and who do not have the experiences to shortcut their understanding of the information they collect. Described by Kahneman (2003). “Maps of Bounded Rationality: Psychology and Economics” *American Economic Review*. 93:5, p. 1449–1475.
- 14 Montenegro, Fernando, and Oscar Bernal (2013). “Colombia Case Study: The Subsidized Regime of Colombia’s National Health Insurance System.” UNICO Studies Series 15. The World Bank, Washington DC; Guerrero, Ramiro, S. Prada, D. Chernichovsky, and J. Urriago (2013). “La doble descentralización en el sector salud: Evaluación y alternativas de política pública.” Centro de Estudios en Protección Social y Economía de la Salud (PROESA) and Universidad Icesi. Cali, Colombia.
- 15 The role of the local government is particularly important in the provision of public health services in

- rural areas, where health providers are predominantly public.
- ¹⁶ Ministerio de Salud y Protección Social (2013). Exposición de motivos del Proyecto de Ley (Senado). “Por el cual se redefine el Sistema General de Seguridad Social en Salud y se dictan otras disposiciones.” Bogota, Colombia.
- ¹⁷ Nuñez, Jairo and J. Zapata (2012). “La Sostenibilidad Financiera del Sistema de Salud Colombiano-Dinámica del gasto y principales retos de cara al futuro.” Fedesarrollo, Bogotá, Colombia; Ruiz F, Uprimny M. (2011); “La salud: entre la reforma estructural y el ajuste regulatorio.” Documento Técnico GPES/1596-11. Asocajas – Cendex, Bogotá, Colombia; Alfonso, E., Riascos, A. and M. Romero (2013). “The Performance of Risk Adjustment Models in Colombia Competitive Health Insurance Market.” Working Paper Quantil 2013-1.
- ¹⁸ Savedoff, W. (2007). “Transparency and corruption in the health sector: A conceptual framework and ideas for action in Latin American and the Caribbean,” Health Technical Note 03/2007, IDB, Washington D.C.; Hussmann K. (2011). *Vulnerabilities to Corruption in the Health Sector: Perspectives from Latin American Sub-Systems for the Poor (with a Special Focus on the Sub-national Level)*. UNDP.
- ¹⁹ Camacho A, Conover E, and Hoyos A. (2013). Effects of Colombia’s Social Protection System on Workers’ Choice between Formal and Informal Employment. *The World Bank Economic Review*, p. 1–23.
- ²⁰ In this regard, the recent fiscal reform (Ley 1607 of 2012) has substituted part of the financing of health, SENA, and ICEBF from employers and employees contributions to general taxation to reduce the disincentive to formality. “Proyecto de Ley No. 1607, exposición de motivos al proyecto de Ley por medio de la cual se expiden normas en material tributaria y se dictan otras disposiciones.” Ministerio de Hacienda y Crédito Público, Bogotá, 2012.
- ²¹ Ministerio de Trabajo (2013). “Nuevo Modelo de Protección para la Vejez,” Presentación a la Mesa de Expertos. October 2013. http://www.min-trabajo.gov.co/component/docman/doc_download/935-presentacion-nuevo-modelo-de-proteccion-par-la-vejez.html.
- ²² Starfield B., Shi L., Macinko J. (2005). “Contribution of Primary Care to Health Systems and Health.” *The Milbank Quarterly*, 83:3, p. 457–502.
- ²³ Derived from the *Encuesta de Calidad de Vida*, 2011.
- ²⁴ Guanais et al. (2012) estimated that the rate of avoidable hospitalizations (i.e., ambulatory care sensitive conditions) for the country is 21 percent, the second highest in LAC. Guanais F.C., Gómez-Suárez R, Pinzón L. (2012). “Primary Care Effectiveness and the Extent of Avoidable Hospitalizations in Latin America and the Caribbean.” SPH Discussion Paper No. IDB-DP-266. Inter-American Development Bank, Washington, DC.
- ²⁵ The monetary value of legal claims (*tutelas y recobros*) for services not included in the benefit package (no-POS) increased from 1.8 percent of the total SGSSS expenditure to 16 percent in 2009. Nuñez, Jairo and J. Zapata (2012). “La Sostenibilidad Financiera del Sistema de Salud Colombiano-Dinámica del gasto y principales retos de cara al futuro.” Fedesarrollo, Bogotá, Colombia.
- ²⁶ The scope for legal claims is related to the fact that the POS was not updated from inception of the new system until 2012 and consequently lagged new technologies for health care and the fact that services are too strictly defined in the POS. This ruling, together with the Law 1428, established a yearly update of the benefit package and set the goal of an “implicit” plan, which should be more flexible and in tune with the epidemiological profile of the population. Ministerio de Salud y Protección Social (2013). Exposición de motivos del Proyecto de Ley (Senado). “Por el cual se redefine el Sistema General de Seguridad Social en Salud y se dictan otras disposiciones.” Bogota, Colombia.
- ²⁷ Montenegro F, Bernal O. 2013. Colombia Case Study: The Subsidized Regime of Colombia’s National Health Insurance System. UNICO Studies Series 15. The World Bank, Washington DC.
- ²⁸ The unemployment insurance program is operated through *Cajas de Compensación*, drawing from its own resources. Approximately 95,000 people receive the benefit each year, largely limited by the small share of formal-sector workers who voluntarily set aside a portion of their retirement account to receive unemployment insurance.

- ²⁹ SENA, Informe de Gestión enero-septiembre de 2013, Bogotá, Diciembre 2013.
- ³⁰ Acosta, *ibid.*
- ³¹ The poorest 20 percent of the population receives, on average, no pensions income while the richest 20 percent received an average of 164,000 Colombian pesos monthly. Similarly, pensions comprise 0.2 percent of household income in the poorest households, compared to 10.3 percent in the wealthiest households. Background Note: Colombia Poverty and Shared Prosperity.
- ³² <http://www.fondodesolidaridadpensional.gov.co/prosperargel/que-es-programa-proteccion-social-adulto-mayor>.
- ³³ Muragarra, Edmundo (2012). “Aging, Poverty and Social Protection in Colombia Evidence and Policy Options.” LCSHS/World Bank. *Unpublished*.
- ³⁴ Muragarra, *ibid.*
- ³⁵ Source: Background Note: Colombia Poverty and Shared Prosperity.
- ³⁶ The General System of Social Security in Health (*Sistema General de Seguridad Social en Salud-SGSSS*) and the emerging Labor Sub-System are discussed here. The efficiency issues in the third sub-system of Social Assistance are encompassed in the above discussion on Fragmentation.
- ³⁷ Nuñez, Jairo and J. Zapata (2012). “La Sostenibilidad Financiera del Sistema de Salud Colombiano-Dinámica del gasto y principales retos de cara al futuro.” Fedesarrollo, Bogotá, Colombia.
- ³⁸ Silva, Veronica (forthcoming). “Notas sobre un Sistema de Protección Social y sus Herramientas de Gestión.” LCSHD/World Bank. *In process*.
- ³⁹ Holzman, Robert and Steen Jorgensen (2000). “Social risk management : a new conceptual framework for social protection and beyond,” Social Protection Discussion Papers 21314, The World Bank.
- ⁴⁰ Ley 789 (2002).
- ⁴¹ Robalino, David, Laura Rawlings, and Ian Walker (2012). “Building Social Protection and Labor Systems,” Social Protection and Labor Discussion Paper #1202. World Bank.
- ⁴² Silva, *ibid.*
- ⁴³ Robalino, *ibid.*
- ⁴⁴ The RUAF was created under Ley 797 2003 (Article 15) as an entity that integrates the social protection sector (*Ministerio de la Protección Social*). It establishes that the inclusion in such registry is mandatory for access to subsidies or publicly funded services and requires a unique identification number according to the existing documents.
- ⁴⁵ Development of the Law 1712, March 2014 (Transparency and Right to Access to Public Information Law).
- ⁴⁶ Camacho, Adriana and Emily Conover (2013). “Effects of Subsidized Health Insurance on Newborn Health in a Developing Country.” *Economic Development and Cultural Change*, 61: 3, p. 633–658.
- ⁴⁷ According to the Law 715 2001, Article 94, the SIS-BEN has to be reviewed every three years.
- ⁴⁸ Recognizing the various situations in terms of health needs, availability of services, and insurers across the country, the MinSalud is developing different models: (i) a model for disperse and indigenous populations; (ii) a model for urban areas characterized by competition in the markets for insurance and provision; and (iii) an intermediate model for areas with limited competition among insurers and provision mainly by public providers.
- ⁴⁹ The MinSalud had proposed to upgrade the Health Management Zones (HMZ). Zone managers would be responsible for organizing and managing the network of service providers to respond to the population’s specific health needs and comply with the benefit plan.
- ⁵⁰ The new regulatory framework would require an increased capacity of the Superintendencia de Salud to monitor insurers and local health authorities.

CHAPTER 12

National and Subnational Public Finances and Governance



Main Messages

Over the past two decades, Colombia has made significant progress on decentralization to promote growth and reduce regional disparities and poverty, but its fiscal and governance framework still has not delivered rapid regional convergence.

Current challenges, however, include suboptimal implementation of the decentralization framework, weak local revenue sources, lack of long-term strategic territorial planning, scarce local and central capacity to manage more decentralized systems, and limited citizen engagement.

This policy note includes a set of main policy recommendations: enhance overall coordination among various levels of government and among key agencies in the central Government; implement an effective incentives framework to reward subnational government performance; improve subnational control, monitoring, and evaluation; revisit the decentralization framework, particularly the roles and responsibilities of departments; and provide sustained technical assistance to improve public sector management and to broaden local revenue sources in subnational governments.

Background

In decentralizing, Colombia has aimed at finding the right balance between central authority and local autonomy, equity in resource distribution, and higher efficiency in public spending. Colombia is a unitary country divided into 32 departments (regional governments) headed by popularly elected governors and departmental assemblies. Composed of locally elected representatives, the assemblies are responsible for, among other things, approving the departments' budgets. In addition, there are just over 1,100 municipalities with elected mayors and municipal councils. According to the IMF, subnational governments (SNGs)¹ collectively account for a large share of public spending in Colombia (8.1 percent of GDP in 2011). Departments and municipalities raise about 3 percent of GDP in tax revenues (Table 12-1), with the remainder² provided by the General Participation System (*Sistema General de Participaciones*, or SGP), central Government transfers, and other funding sources, such as non-tax revenues and royalties on natural resources.³ Small municipalities tend to be poorer than larger ones: while 29 percent of the population at large has one or more unmet basic needs, approximately 46 percent of the inhabitants of municipalities with fewer than 50,000 inhabitants report at least one unmet basic need.⁴ The country as a whole has a keen interest in the decentralization framework and SNGs' efficiency and effectiveness, shaped by the high incidence of poverty

in small municipalities and the extent of resources managed at the local level and their impact on service delivery and national development goals.

Fiscal decentralization has substantially advanced in Colombia over the past two decades. Today, SNGs execute the vast majority of the national budget. Table 12-1 shows this move toward fiscal decentralization; the share of subnational expenditures represented by total government expenditures grew in more than ten points from 1995 to 2009.⁵

The 1991 Constitution transferred responsibilities and resources to municipalities and departments for the delivery of key public services. The transfer system that resulted from the 1991 Constitution focused on financing education, health, and water and sanitation to standardize SNGs' provision of these services across regions. By the mid-1990s, a number of shortcomings in the decentralization framework had become evident. To enhance SNGs' capacities to manage their responsibilities and resources, the 1991 Constitution provided for the certification of SNGs based on their fiscal performance. However, earmarking transfers did not produce the expected improvements in coverage or quality of services, and certification of individual SNGs succumbed to political pressures and became *pro forma* during the late 1990s. In addition, Colombia's economy entered into recession between 1998 and 1999, with growth declining from 0.6 percent in 1998 to -4.3 percent the following year.⁶ This led to a significant drop

TABLE 12-1: Fiscal Decentralization

Year	Total taxes as % of GDP	Subnational taxes as % of GDP	Subnational taxes as % of total taxes	Subnational expenditures as % of total expenditures	Transfers to SNGs as % of GDP
1990	8.2	1.7	20.2	n.a.	n.a.
1995	10.0	1.9	21.0	18.5	3.6
2000	11.7	2.2	19.3	24.9	6.9
2005	15.2	2.8	18.1	29.4	7.3
2010	17.3	2.9	16.8	28.95 ^a	7.8 ^a

Sources: Adapted and updated from Bird (2011) and Sánchez, España and Centeno (2012) and based on data from ECLAC/CEPAL, OECD, *Banco de la República* (http://www.banrep.gov.co/es/series-estadisticas/see_finanzas_publici.htm), and Ministry of Finance and Public Credit (<http://www.minhacienda.gov.co/HomeMinhacienda/politica/fiscal/Estadisticasfiscascales>).

^a Data for 2009.

in current revenues, reducing the resources transferred to SNGs in nominal terms by 23.6 percent in 1998 and 24.6 percent in 1999. Meanwhile, the rapid increase of transfers (Table 12-1) stimulated expenditure growth and debt and diminished the incentives for SNGs to raise their own revenue. Consequently, the country experienced a debt crisis in the late 1990s that even threatened fiscal sustainability at the national level.⁷

Between 1997 and 2003, a second set of reforms was designed to discourage excess spending and borrowing.⁸ In 1999, a new bankruptcy law (Law 550) focused primarily on private corporations but also included provisions for bankruptcy protection procedures for highly indebted SNGs and public enterprises that could not, or chose not to, work out a voluntary rescheduling with their creditors.⁹ Beginning in 2000, the Congress approved reforms geared toward limiting the growth of transfers and imposing strict budget constraints on SNGs through a subnational insolvency framework and spending limits. These rules—collectively referred to as the Fiscal Insolvency Framework (*Esquema de Saneamiento Fiscal*)—also allow the central Government to establish Debt Restructuring Agreements and Fiscal and Financial Performance Agreements with SNGs to improve their organizational and operational capacity and correct fiscal imbalances. In 2001, the SGP established the total amount to be distributed to SNGs at the 2000 level (as a percent of GDP) of the previous general transfers. Thereafter, the share received by SNGs was to be increased annually by 2 percent in real terms until 2005 and then by 2.5 percent up to 2008.

Since 2000, the central Government has been developing indicators and strengthening capacity to properly monitor services delivered by SNGs. Because the national goals for key services set out in previous National Development Plans had not been achieved, a third set of reforms was approved after 2008, authorizing the executive branch to monitor and control SNGs' compliance with the coverage, quality, and continuity goals set out for the key services financed by the transfer system.¹⁰ The new system features a set of risk events

(or thresholds) that may trigger the executive branch's use of preventive or corrective measures. Preventive measures may include “performance plans” between the executive branch and SNGs, which prescribe the specific actions for the SNGs to mitigate or eliminate the risk event.¹¹ Corrective measures include the executive branch's authority to take over SNGs' roles and resources to ensure provision of services that are at risk. This innovative tool aims to strengthen the government's accountability to citizens in the delivery of services, transparency and efficiency in the use of public resources, and coordination of performance between different levels of government to align them with stated national objectives.

The drive toward performance-based transfers has continued through reforms to the royalties system and territorial management. In June 2011, the Congress approved another constitutional reform geared toward introducing results conditions in the royalties system (*Sistema General de Regalías*, or SGR). Created in 1991, the royalty transfer system was based on the revenues of commodities, such as oil, gas, and minerals. While the annual amount of royalties was previously insignificant, it increased substantially over the past two decades with rising commodity prices and production. In 2008, royalties payments amounted to COP 6 trillion (about US\$3 billion, or 1.3 percent of GDP), six times higher than the levels of the 1990s.¹² The new law calls for joint management bodies (*Órganos Colegiados de Administración y Decisión*) between the national Government and SNGs, with the goal of improving the efficiency of the decision-making process relative to the use of royalties, including the possibility of suspending transfers to underperforming SNGs.¹³ The law aims at ensuring that resources are channeled towards relevant, strategic, and viable projects. In 2011, Congress approved the Territorial Management Organic Law (*Ley Orgánica de Ordenamiento Territorial*, or LOOT),¹⁴ which complements the royalty reform by seeking to reduce the risk of investment fragmentation and low-quality projects among SNGs through various associations among municipalities and other territorial entities.¹⁵

Progress

The decentralization process has produced mixed results in terms of promoting growth and reducing regional disparities and poverty. Since 2002, Colombia's strong growth has been accompanied by poverty reduction and substantial job creation, which were expected to have a major impact in terms of inequality and regional convergence. Yet the country's Gini coefficient (0.54 in 2012) is still one of the highest in the region and worldwide, eclipsing that of peers like Peru (0.48 in 2010). This is due to the large and enduring disparities between urban and rural areas and the stark differences in poverty rates among departments (Figure 12-1).¹⁶ In fact, small municipalities (under 10,000 inhabitants) have poverty rates above the national average (45.1 percent versus 27.78 percent), and their pace of poverty reduction has been slower than average (37.1 percent reduction versus 54 percent in large municipalities for 1985–2005).

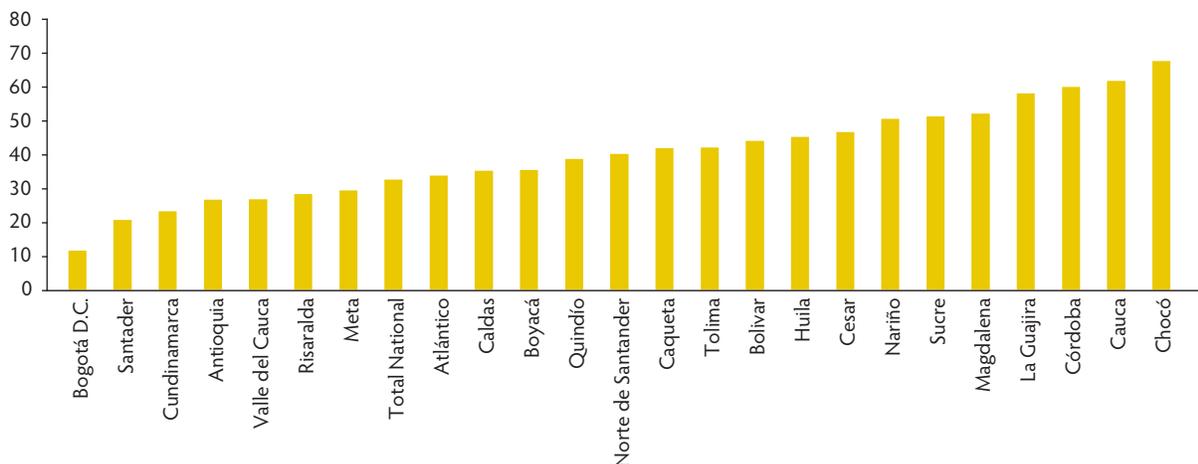
The current fiscal and governance framework for SNGs has not led to rapid regional convergence. Although Colombia has seen steady, but slow, convergence in per capita income levels, the overall

fiscal system (taxes and transfers) shows a limited redistributive capacity, even compared with other countries in Latin America and the Caribbean.¹⁷ The SGP, which provides central Government transfers to the SNGs based on poverty variables (among other factors), has had little impact in reducing differences among departments and municipalities. Similarly, it is unclear whether the comprehensive tax reform recently approved by Congress will do anything to address disparities across regions. By contrast, SGR reform appears to be a step in the right direction. World Bank projections suggest poor departments will grow faster than richer ones under the new framework.¹⁸ In sum, while the new royalties system will help reduce disparities, more efficient execution of SGR resources and bolder reforms are needed to increase the pace of regional convergence.

Critical gaps remain an impediment to regional competitiveness and are closely related to services delivered by SNGs. Educational achievement shows significant regional variance in Colombia: urban departments and cities fare significantly better than rural areas in terms of literacy, absenteeism, and average years of schooling.¹⁹ Moreover, differences in

FIGURE 12-1: Regional Disparities

Incidence of Monetary Poverty by Department in 2012 (%)



Source: DANE—Encuesta Continua de Hogares (2002–2006) and Gran Encuesta Integrada de Hogares (2008–2012).

Note: The incidence of monetary poverty indicates the percentage of people who are classified as poor based on a certain level of consumption; i.e., it allows for the observation of the non-conditional probability that an individual will be poor in a given department.

other key drivers of competitiveness appear to be widening. According to the Economic Commission for Latin America and the Caribbean (ECLAC),²⁰ regional disparities in competitiveness, as measured by levels of economic performance, infrastructure, human capital, and science and technology, have broadened during the past decade. Leading departments have made substantial progress, while those in the middle and at the bottom remain stagnant. This trend poses a challenge for the subnational finance framework because the lagging departments are also more dependent on central Government transfers.

The SGP has contributed to expanding the decentralization process and improving a number of basic services across the country. The SGP fosters better fiscal management by both the central Government and the SNGs, improving the coverage of key services.²¹ As a predictable source of resources for SNGs, the SGP has contributed to better subnational planning and efficiency in the use of resources. However, the increase in the coverage of basic services has not been accompanied by increases in the quality of these services.²² Evaluation reports from the Ministry of Finance and Public Credit (*Ministerio de Hacienda y Crédito Público*, or MHCP), the Comptroller General's Office (CGR), and the National Planning Department (DNP) indicate significant shortcomings in the overall management of resources. The evidence suggests that SNGs lack the capacities, the systems, and the data to properly manage, monitor, control, evaluate, and report on the use of resources affecting service delivery.²³

The new SGR distributes resources more evenly across regions but still faces efficiency and capacity challenges. The new SGR²⁴ has created a framework that is conducive to better regional equity²⁵ and better management of resources. However, there are concerns about the efficiency of the institutional framework for approval of regional investment projects through the regional SGR management bodies which includes direct DNP participation, and about the central Government's capacity to respond to demand and expedite the execution of regional projects. Execution of SGR resources, as monitored by the CGR, continues to

be slow.²⁶ However, relaxing the controls to speed up execution could raise major issues in terms of transparency and accountability in the use of funds. Finally, having separate systems (SGP and SGR) to finance similar regional objectives and projects is costly, inefficient, and subject to unavoidable overlaps (see Box 12-1).

The role of departments in promoting coordinating, and providing support to municipalities is still unclear and is perceived to be weak. With the wave of decentralization reforms that started in 1986 partly transferred to the departments the responsibility for providing critical services, such as health and education; however, this intermediate government layer remained institutionally weak. Colombia's decentralization framework has not granted clear specialized roles to departments in terms of service provision, technical assistance, or supra-municipal and sector approaches. In practice, the framework is based on a bipolar scheme in which the central Government defines policies and municipalities execute them, leaving departments somewhere in between. Uncertainty about the departments' roles and responsibilities has led to frequent clashes with municipalities and undue delays in formalizing the new LOOT-authorized forms of territorial association that the departments either refuse to sponsor or openly oppose. Arguably, this dynamic is also conducive to public investment *atomization*—that is, the widespread use of public funds for small and micro projects with little regional impact. It is evident that small municipalities will benefit from departments' support in such areas as tax administration and service delivery of key regional competencies (e.g., health, education, and local infrastructure maintenance).

As Colombia approaches the end of the internal conflict, SNGs could play a critical role in the transition process. Because the risk of violence is greater in departments or municipalities with weak institutions, building capable and legitimate institutions at the local level is key to breaking Colombia's cycles of violence.²⁷ Strengthening SNG institutions will be critical as the country enters a post-conflict transition. For instance, municipal governments

BOX 12-1: Government's Transfers to SNGs: SGP and SGR

Most of the central Government's transfers to SNGs are channeled through two systems: SGP and SGR.

- The SGP funds are transferred to SNGs pursuant to articles 356 and 357 of the Constitution to finance services under the SNGs' jurisdiction—mainly health, education, and water and sanitation.
- The SGR includes the systems of revenues, transfers, institutions, procedures, and regulations that, according to articles 332, 360, and 361 of the Constitution and Law 1530 of 2012, govern the distribution and transfer to the SNGs of revenues from exploitation of nonrenewable natural resources. The system determines the use, management, execution, control, and objectives of the funds, including regional and inter-generational equity, savings, competitiveness, good governance, and macro-stability.

In 2012, almost COP 34 trillion (US\$18 billion) were made available to SNGs via these two systems, as follows:

Source of financing	Amount in COP (millions)	Amount in US\$ (billions)
SGP	25,951,621	13.7
SGR	7,904,418	4.2

that show willingness to improve their management capacities and start providing better public services will also become more accountable to and trusted by citizens during the transition process. A new virtuous cycle will be set in motion as SNGs' performance—measured by improved delivery of public services—creates higher levels of trust among citizens. While the peace process continues at the national level, departments and municipalities should prepare to face the challenges of the post-conflict transition by building basic administrative and managerial skills and welcoming feedback from citizens throughout the process.²⁸

Challenges

While the new legal and regulatory framework for decentralization is expected to improve SNGs' performance, additional measures are required for better service delivery. In particular, analytic work conducted by the World Bank on decentralization in Colombia shows that the country still faces significant challenges in achieving the high goals the

Government and Congress had in mind when approving the most recent reforms. Before enacting additional reforms in the short to medium term, the country might consider focusing on reaping the benefits of the reforms already passed by making them fully operational and strengthening the institutional capacity of the responsible national and subnational agencies.

The country still shows uneven implementation of the decentralization framework. As Bird highlighted and a recent World Bank study showed,²⁹ SNGs' management and service delivery have had successes and failures, with no clear correlation with size or economic resources. The main reasons include the lack of incentives to promote SNGs' own revenue collections³⁰ and the lack of accountability created by the fact that different levels of government control services' inputs.³¹ The at-best modest impacts on service delivery of greater and better-distributed amounts of resources flowing to the regions has been widely documented. More important, the capacity of SNGs to use, manage, monitor,

control, and report on these resources remains an issue. It appears that Colombia has focused on the decentralization framework's "macro" elements of (particularly on the fiscal "rules of the game") but has made little progress on the "micro" dimension of the institutions in charge of implementing the framework (i.e., the administrative and managerial tools at the three levels of government that should make the fiscal rules operational). Weak local core management areas, such as financial management and procurement, have had a negative effect on the day-to-day use of funds and on the results expected from regional investment projects.

Broadly, Colombia faces two types of challenges: ones related to the decentralization framework and institutional coordination and ones related to the capacity of SNGs. Attention to both is critical for more efficient revenue mobilization and more effective service delivery.

Stronger decentralization framework and better institutional coordination

Challenge #1: Poor coordination between central and regional governments. The interface between the central Government and SNGs centers on coordination and monitoring mechanisms: the Fiscal Insolvency Framework, performance plans, results agreements, and *Contratos Plan*. They provide tools to help SNGs improve their capacities to manage the administration of resources and the delivery of services. Unfortunately, the breadth of programs, funding sources, agency responsibilities, and SNG priorities challenge the central Government's ability to coordinate interventions. For example, demands for information by various central entities often are duplicative, vary in content or timing, and/or reflect arbitrary agency-specific priorities that together add to reporting SNGs' administrative burdens and costs. The departments' competency uncertainties and general institutional weaknesses do not contribute to clarity in roles and coordination across levels of government.

Challenge #2: Distortions to the incentives framework. In many countries, successful fiscal

decentralization hinges largely on the successful application, within a clear legal framework, of a customized mix of incentives and policies, often developed at the local level and piloted, refined, and then replicated nationwide under the close scrutiny of citizens. In Colombia, the incentive structure for improved SNG performance has been distorted by frequent changes in the policy environment; non-conditional central Government transfers, even with poor local revenue efforts; and the limited range of fiscal incentives or disincentives from the central Government to effectively reward or sanction performance. The problem has been exacerbated by a lack of transparency and accountability in many (usually smaller) municipalities and failure to promote citizen participation.³²

Challenge #3: Inconsistent long-term strategic planning and lack of reliable regional performance data. The strategic planning mechanisms of the Government and SNGs are only weakly linked. The available information does not permit expression of sector and regional priorities that would promote the development of long-term planning strategies. The central Government, as part of OECD working groups, has developed important initiatives—including the creation of a territorial management observatory, the generation of better subnational statistics, and work on defining functional associations at the regional level—but it will need to further boost strategic and analytic capacities for improved regional policymaking. Subnational information is scarce and spotty; basic statistics and administrative, financial, and local management data are missing. The last census (2005) is almost 10 years old, and there is no certainty on whether it will be updated in 2015. Overall, lack of data prevents subnational policymaking, program evaluation, and the monitoring of SNGs' performance. For instance, Colombia's decentralization experiences need to be gathered, systematized, and expanded to be more relevant for various types of SNGs, and then potentially replicated nationwide. Local initiatives and preferences should also be tracked as part of exploring the most effective links between

accountability and performance to help increase citizens' participation in the planning process. To ensure the long-term sustainability of improved data collection and dissemination mechanisms, synergies and economies of scale could be explored with academic institutions at the SNG level.

Stronger capacity of SNGs

Challenge #4: Not enough attention to broadening local revenue sources. At 1.5 percent of GDP for 2010, Colombia's property tax collections are now above the average for Latin American countries (0.8 percent of GDP) and slightly below the average for OECD countries (1.8 percent), with Brazil at 1.9 percent and Argentina at 3.0 percent. However, this tax represents only 20 percent of the overall local tax collection,³³ and most municipal tax administration authorities (except those in the large cities) have weak management and controlling capacity. Stronger tax administration remains a core local public management function that needs to be improved in small and medium-sized municipalities, and specific actions coordinated by regional authorities are needed to broaden local revenue sources, with a particular focus on key areas, such as property tax administration.

Challenge #5: Weak local capacity to manage new decentralized systems. Although service coverage has seen significant increases, the improvements have come at very high costs, have not attained the expected results, and have had very uneven impacts among SNGs. Clearly, few SNGs are close to their potential level of performance. Poor capacity in expenditure planning and execution, treasury and accounting, public procurement, internal control and auditing, and human resource management commonly undermines the efficiency of subnational expenditure. The progress the central Government made in reforming its financial management system (by launching the *Sistema Integrado de Información Financiera*) has not been extended to SNGs. Cash management is poor, and payments to service providers are often delayed, affecting service delivery prices.

In addition, SNGs' administrative and financial software systems are generally outdated, require a high degree of manual entry, do not allow for data sharing between management functions (such as budgeting and accounting, for example), and do not permit fluid information sharing with higher levels of government. These issues reduce the efficiency of administrative processes and occupy time that would otherwise be dedicated to program management and attention to citizens. SNGs' weak civil service often prevents the technical continuity of local staff, creating high turnover. Finally, despite improvements in the legal and regulatory framework that governs procurement systems, SNGs lack adequate capacity to manage these systems and often resort to legacy or informal procurement practices.³⁴

Policy Recommendations

As Colombia assesses the new decentralization framework's results, it should focus on developing capacities at the local level, but do it more effectively. Building capacity has been a recurrent theme, but implementation has arguably been less than successful. Learning from the past, the new approach to boosting local capacities should feature these main elements: (i) continuing and sustaining technical assistance using new management and information technology (IT) tools; (ii) implementing an effective incentives framework; (iii) improving coordination among key actors; (iv) enhancing the framework for control, monitoring, and evaluation of the local use of national and local resources; and (v) promoting citizens' participation. The table at the end of this notesummarizes the policy recommendations around thematic objectives and timeframes.

Stronger decentralization framework and better institutional coordination

Policy area #1. Improved coordination among levels of government and key central Government agencies. The three critical levels of government (central, departmental, and municipal) and key central

actors, such as DNP, MHCP, the Ministry of the Interior, and CGR, require closer collaboration and synchronized action. In addition, a number of new organizations³⁵ need additional support to increase their efficiency. Central agencies' information requests to SNGs need to be further streamlined.³⁶ The agencies also need to promote standardized and coordinated approaches to core public management functions and processes like accounting and public financial management as well as procurement rules and standards, all while taking into account the different needs and capacities of each subnational level of government. This requires a review of the territorial distribution of powers and responsibilities, which can serve as the basis for the establishment of strategies for improved intergovernmental coordination. Finally, for better resource allocation and evaluation of subnational funds, the central Government needs to move toward analyzing subnational public programs, regardless of whether the funds involved are recurrent or investment funds and independently of the source of financing (national budget, SGR, SGP).

Policy area #2. Enhanced subnational control and the monitoring and evaluation (M&E) framework. Colombia's current control and monitoring instruments are inefficient, fragmented, conceptually inconsistent, and focused on *ex post* reviews and sanctions. However, SNGs' fragmentation and their lack of data and capacities erect a barrier to monitoring and evaluating their performance. The central Government should emphasize improving and integrating the control and M&E instruments of the agencies directly involved, such as DNP, MHCP, and CGR. If the efficiency and effectiveness of decision-making and expenditure execution at the subnational level are to be improved, procedures need to be harmonized and streamlined. At the same time, institutionalizing evaluation is key to identifying and tracking SNGs' performance. Evaluation will generate regular feedback loops to inform SNGs' management and will strengthen the central Government's role in tracking SNGs' progress.

Policy area #3. Effective implementation of an incentives framework for SNGs. Strong management systems require a clear and explicit incentives framework. Successful subnational management rests on identifying an array of possible incentives, instruments, and metrics for subnational performance, standards of good performance, and documentation and dissemination of good practices. It is critical to define performance indicators and information tools to measure SNGs' management capacity, set out standards and good practices in subnational public management performance, and implement an incentives framework to reward superior or outstanding performance or assist underperformers in achieving sustained performance. Finally, it is critical to make operational the incentives that are already attached to SGP's and SGR's institutional frameworks.

Policy area #4. Through an independent evaluation, review and adjust the decentralization framework, particularly the SGP and the SGR, and the role of the departments. In the first place, the Government should undertake an in-depth analysis of the SGP and SGR to independently determine what is working well and what is not. The findings could lead to changes (operational rather than legal) that increase the system's efficiency, probably by merging the SGP and SGR funds into a single budget, control, and M&E framework. In addition, it would be advisable to review the impact of the current formulas for resource allocation. Finally, the Government should continue working on the clarifying and enhancing the role of the departments, including proposals for a new organic law (*Ley de régimen departamental*). Such proposals should outline the departments' competencies, their role as coordinators/supporters of small municipalities, and their control and M&E functions in the use of the resources, results achieved, and municipal fiscal and management performance. Their potential role as promoters and/or co-implementers of investment projects sponsored by associations of municipalities may become paramount to providing regional cohesiveness and to avoiding atomization of public investment.

BOX 12-2: Technical Assistance to Boost Local Capacities: Specific Elements

Lessons learned point to the need to focus on the development of local capacity to carry out specific core management functions. This work should feature the following elements:

Defining SNG management standards on the basis of normative and standardized concepts of robust subnational management core functions. The design should be guided by Colombia's successful experiences and by international criteria, such as the International Public Sector Accounting Standards (IPSAS) adopted by the specialized Board of the International Federation of Accountants, the principles and guidelines adopted by the International Organization of Supreme Audit Institutions (INTOSAI), and the manuals and guides of the IMF's Government Finance Statistics.

Avoiding discrete interventions and focusing on sustained hand-holding technical support, particularly to small and medium SNGs. As recent work with SNGs has shown, it is critical to provide support gradually and in a sustained and customized fashion. While support at the diagnostic stage is useful, technical assistance during implementation is even more important. This sustained assistance is key and should be provided initially by the central Government and later on by experts from academia and/or the private sector. The central Government should, however, regulate the standards for strong SNG management through periodic assessments (similar to the Public Expenditure and Financial Accountability [PEFA] assessments). In sum, the effort is about using standard tools but applying them in a local context in a sustained and regular fashion.

Adopting a nontraditional approach to capacity-building. While knowledge of core management functions and standards is key to enhancing local capacity, training should be oriented toward developing practical competencies that allow local officials to make decisions and allocate resources more efficiently. Capacity-building efforts have hitherto made little difference at the local level; thus, a new approach focused on addressing municipalities' actual management needs should be developed.

Leveraging new technologies for data generation and use. For example, the use of cloud computing, allowing easier access for users (both SNGs and central Government), will reduce the need for ad hoc local IT solutions, reduce or eliminate the burden of regular reporting, improve the quality of fiscal and financial data, and facilitate SNGs' internal management and service delivery to citizens. It should be aligned with ongoing Government initiatives such as *Vive Digital*, which (among other targets) aims at reaching most SNGs with optic fiber. An explicit agenda on boosting the generation of subnational data is needed to enable SNGs' policymaking and management of investment projects. Carrying out a regular census, institutionalizing the *padrón*, or working on other data sources will remain key challenges.

Reinforcing transparency, control, and accountability through citizens' participation. The central Government recognizes that Colombia's experiences with citizen-sponsored initiatives need to be gathered, systematized, and expanded to be more broadly applicable for different types of SNGs and replicated nationwide. Local initiative and preferences will play a key role in this effort, but the Government should make examples available, facilitate peer learning, identify and publicize successes, explore and reinforce the transmission lines between better accountability and performance, and to the extent possible reward the SNGs that make significant progress. The Government is leading, supporting, and promoting mechanisms to raise citizens' participation in the planning, budgeting, and execution of public

(continued on next page)

BOX 12-2: Technical Assistance to Boost Local Capacities: Specific Elements (*continued*)

investments. However, all these initiatives are being led by different agencies, with different methodologies, and they are not being coordinated to take advantage of synergies. Some SNGs receive support from the *Dirección de Apoyo Fiscal* to prepare a participatory budgeting process, while others receive support from the DNP's Directorate of Royalties to promote citizens' participation in the monitoring of investment projects financed from royalties or other sources. However, the central Government has no coordinated effort or strategy to promote the institutionalization of citizen participation mechanisms at key points in the planning and expenditure chains. This calls for a new strategy to enhance citizen participation and raise levels of accountability. In addition, the Government should continue and broaden current initiatives, including open government or citizens' audits (*auditorias visibles*).

Policy areas	Policy challenges	Short-term policy recommendations	Medium-term policy recommendations
Stronger decentralization framework and better institutional coordination	Poor coordination between central and regional governments Distortions to the incentives framework Inconsistent long-term strategic planning and lack of reliable regional performance data	<ul style="list-style-type: none"> Carry out an in-depth analysis of the SGP and SGR system and review the impact of the current formulas for resource allocation and the regime of tax exemptions. Design proposals and generate a consensus on a new <i>Ley de régimen departamental</i>. Develop an incentives strategy to encourage SNGs to form associations for co-investments and shared service provision. Establish a program to boost central and departmental capacities for long-term strategic territorial planning. Implement an SNG incentives framework to guide regional transfers. Define standards, good practices, performance indicators, and information tools to measure and reward SNGs' performance. 	<ul style="list-style-type: none"> Merge the financing, control, and monitoring and evaluation (M&E) functions of the SGP and SGR systems for improved decision-making and resource management. Enhance the subnational control and M&E framework by integrating the control and M&E instruments of the agencies directly involved. Generate and disseminate better local financial, administrative, and sector data, institutionalizing data sources such as the census, <i>padron</i>, or administrative sources.
Stronger capacity of SNGs	Not enough attention to broadening local revenue sources Weak local capacity to manage new decentralized systems	<ul style="list-style-type: none"> Set up a program coordinated by regional governments to support stronger tax administration of key municipal taxes (e.g., property, industry and commerce), including work with cadaster and property registry. Harmonize local management practices and implement international standards for core management areas (e.g., IPSAS accounting standards, INTOSAI auditing standards). Design an SNG management system and roll it out gradually with sustained technical assistance using new IT tools. 	<ul style="list-style-type: none"> Design supporting mechanisms to help small SNGs enhance local revenue sources. Review the framework regulating SNGs' civil service. Promote and scale up citizen participation initiatives by defining a comprehensive new strategy.

Stronger capacity of SNGs

Policy area #5. Sustained technical assistance to SNGs through new management and IT tools. Capacity-building activities should be focused on solving problems that prevent the adequate delivery of services or the sustained improvement of service outcomes. The Bank's experience using tools such as *MiGestión* and Rapid Assessment and Action Plans³⁷ in selected municipalities has shown the effectiveness of targeted approaches. The new technical assistance delivery approach should aim at (i) creating a coherent and structured supply of capacity-building tools to SNGs,

especially in the core management areas that are key to improving the allocation and use of public resources for service delivery—planning, investment, procurement, financial management, local tax administration, and civil service; and (ii) ensuring technical continuity with low turnover of the technical staff needed for the success of larger, multiyear projects as well as for performance measuring, project M&E, intergovernmental negotiations and outsourcing, and the formation of public-private partnerships, which will likely be more important for SNGs than specific sector skills. (Box 12-2 describes some of the important elements of such technical assistance.)

Endnotes

- ¹ For the purpose of this document, SNGs are the government entities (*Entes Territoriales*) below the central Government—both departments and municipalities (as provided by Article 286 of the 1991 Constitution).
- ² Around 60 percent of the total resources were managed by SNGs for 2000–09, according to the 2012 IDB flagship report “More than Revenue: Taxation as a Development Tool.”
- ³ According to the previous law, royalty resources were distributed only to entities that produced or transported natural resources. Law No. 1530/12 changed the distribution criteria.
- ⁴ DANE (2005 Census). For more details, see the policy background note “Towards Shared Prosperity in Colombia.”
- ⁵ In the region, only federal countries such as Brazil (23.4 percent for 2009) and Argentina (14.7 percent) show higher percentages of subnational taxes as a percentage of GDP. Within the OECD, Spain, a constitutionally non-federal country with a highly decentralized political structure, has undergone a significant process of fiscal decentralization in the past 15 years; the percentage of subnational taxes relative to GDP went from 4.8 in 1995 to 23.7 in 2009.
- ⁶ Colombia's economic crisis of the late 1990s was a result of a combination of internal (real estate market bubble) and external factors (the “Asian tigers”

crisis). In the early 1990s, Colombia carried out a process of financial liberalization. At the same time, a sharp increase in capital inflows caused significant monetary and credit expansion, encouraging increased public and private spending. While private and public savings rates increased, the current account deficit expanded. The demand for non-tradable goods (especially real estate) then expanded, leading to an increase in domestic credit and asset prices as well as a real appreciation of the Colombian peso. Between 1997 and 1999, a reversal of capital flows and deteriorating terms of trade led to a sharp decline in aggregate spending and the elimination of the current account deficit. Output declined more than 4 percent in 1999, and real estate prices fell about 27 percent in real terms. The reversal of capital flows affected the financial system through the reduction in liquidity and the consequent increase in funding costs. The increase in real interest rates, coupled with the decline of real estate prices in real terms, increased the financial burden on households, increasing the number of nonperforming loans and affecting the credit ratings of financial intermediaries. The Colombian debt grew from a little over 200 basis points over treasuries towards the end of 1997 to over 900 points in the third quarter of 1998, affecting the

- balances of both the indebted private sector and government.
- 7 Ministerio de Hacienda y Crédito Público (2009).
 - 8 Specifically, Congress enacted the following laws: Law 358 of 1997 (for the sustainability of subnational debt), Law 617 of 2000 (aimed at racionalizing of national debt) and Law 819 of 2003 (which establishes norms in terms of budgeting and fiscal transparency and responsibility).
 - 9 Del Villar et al. (2013).
 - 10 In 2007, the Congress approved Constitutional Amendment No. 04, which was later regulated by the executive branch (Decree 28 of 2008, Framework to Monitor, Track and Control SGP resources). Both rules approve and implement the “Strategy for Integral Monitoring, Tracing and Control of Expenditures Financed by the SGP.”
 - 11 These performance plans include Debt Restructuring Agreements with MHCP and Development Planning Agreements (*Contratos Plan*) with the National Planning Department (DNP).
 - 12 This contrasts with the evolution of resources transferred to the SNGs under the SGP, which have remained constant since the inception of the system in 2001 (they represented 4.7 percent of GDP in 2002 and 4.3 in 2009).
 - 13 This reform is referred to as “Framework to Monitor, Track and Control Royalties Resources.”
 - 14 Law 1454 of 2011, approved after 20 years of political bargaining.
 - 15 LOOT paves the way for long-term strategic and larger-scale projects by promoting the formation of investment-specific departmental or municipal associations, similar to the single-purpose or multi-purpose associations of SNGs common in Europe. New regional and provincial investment projects will be financed out of two new funds created by the royalties reform: the regional development fund and the compensation fund. The law created the *Comisión de Ordenamiento Territorial*, a technical and advisory body that will propose, supervise, and evaluate the execution of territorial policies. It also introduced the *Contratos Plan*, an intergovernmental coordinating tool that brings together various levels of government to undertake projects that meet national priorities. By February 2012, seven *Contratos Plans* were in place.
 - 16 Thiel index data for 2011 (0.58 nationwide, 0.55 for urban areas, and 0.41 for rural areas) suggest that the country’s high level of inequality is exacerbated by income inequality across regions.
 - 17 “Enhancing Fiscal Capacity to Promote Shared Prosperity Project” (P145605), Project Document; World Bank.
 - 18 Enamorado, López-Calva, and Rodríguez-Castelan (forthcoming) have found evidence that poor departments in Colombia are growing faster than rich ones. They have also found preliminary evidence that the new royalties scheme is succeeding in reducing income disparities across Colombian departments.
 - 19 DANE, 2005 Census.
 - 20 http://www.cepal.org/colombia/noticias/documentosdetrabajo/6/51446/Escalafon_de_la_Competitividad_2012-2013.pdf.
 - 21 Despite issues of attribution, evidence shows that education coverage has increased in terms of enrollment numbers: between 1990 and 2010, net primary school enrollment rose from 71 percent to 88 percent. In health, according to a recent impact evaluation, the SGP has had a positive and significant effect in terms of access to health services and illness prevention, and mortality rates dropped from 28 percent in 1990 to 16 percent in 2010. During the same period, rural population with access to improved water sources rose from 70 percent to 72 percent, and population with access to improved sanitation facilities rose from 68 percent to 78 percent. Source: World Bank Data Bank.
 - 22 Despite the country’s progress on educational indicators, such as expenditures per student, no evidence indicates that increases in SGP resources have had positive impacts on the quality of education. In fact, a 2009 impact evaluation conducted by DNP shows that in tested municipalities, an increase in SGP funds reduced the average score on the national evaluation test by 0.27 percent to 0.33 percent. See Departamento Nacional de Planeación (2010).
 - 23 In addition to the document cited in the preceding note, see Departamento Nacional de Planeación (2003), Contraloría General de la República (2009), and Ministerio de Hacienda y Crédito Público (2009, 2011).
 - 24 See Constitutional Amendment No. 5 of 2011, Law 1530 of 2012.

- ²⁵ See Enamorado, López-Calva, and Rodríguez-Castelan (forthcoming).
- ²⁶ Despite some discrepancies between CGR and DNP about the figures and categories, evidence strongly suggest that the royalties resources of 2012 and 2013 are not being executed as expected, and the implementation of regional investment projects continues to lag.
- ²⁷ See *World Development Report 2011: Conflict, Security and Development*, World Bank.
- ²⁸ See “Triangles of (Dis)trust” in Arizti et al. (2010).
- ²⁹ See Bird (2011) and World Bank (2009a).
- ³⁰ Although SNGs’ revenues have increased, no evidence supports the idea that the gains have been due to a tax effort beyond the positive economic cycle.
- ³¹ Liu, L., Del Villar, A., et al. This note takes into account the conclusions from studies conducted on the political economy context of decentralization in Colombia: Rojas, F., Bird, R., and Del Villar, A.; and Mosqueira, E., and Webb, S.
- ³² The role of the central Government in providing positive incentives and fostering inter-institutional coordination has also been identified in Samad, Lozano-Gracia, and Panman (2012) as an opportunity for improving performance in SNGs.
- ³³ See Corbacho, Fretes, and Lora (2012).
- ³⁴ For instance, the recently established procurement agency (*Colombia Compra Eficiente*) noted that lack of integration between its procurement systems and those of SNGs blocks validation of contracting data. The agency still has to benchmark nationwide procurement practices, analyze local practices, catalogue lessons learned, and develop system interfaces with SNGs.
- ³⁵ The LOOT and the royalties reform created organizations to enhance the effectiveness and efficiency of SNGs’ funds—for example, the Territorial Management Commission and the Órganos Colegiados de Administración y Decisión.
- ³⁶ The implementation of the *Formulario Unico Territorial* (FUT), a single format for SNG reporting to MHCP, has been acknowledged as an improvement, but municipalities still dedicate large amounts of time to responding to countless and overlapping requests from central agencies.
- ³⁷ *MiGestión* is a tool created to assess the strength of core public management processes and functions in small municipalities and guide an improvement program of specific actions in line with international standards, such as PEFA. A Rapid Assessment and Action Plan is an exercise the Bank carries out for subnational governments to identify public management improvements in different functional areas that can affect fiscal performance and service delivery. The methodology is problem-driven, results-oriented, and focused on quick gains. It has been successfully applied in Colombian municipalities, including Barranquilla, Cali, and Cartagena.

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