Central America Social Expenditures and Institutional Review

Nicaragua

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Education Global Practice
Health, Nutrition and Population Global Practice
Social Protection and Labor Global Practice
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Acronyms

ADePT	World Bank's Software Platform for Automated Economic Analysis
AIDS	Acquired Immune Deficiency Syndrome
ALMP	Active Labor Market Program
CCT	Conditional Cash Transfer
CNU	National Council of Universities (*Consejo Nacional de Universidades*)
DEA	Data Envelope Analysis
ECD	Early Childhood Development
ECLAC	United Nations Economic Commission for Latin America and the Caribbean
EDSTATS	World Bank Education Statistics Database
EHPM	Multipurpose Household Survey (*Encuesta de Hogares de Propositos Multiples*)
EMNV	Living Standards Measurement Study (*Encuesta sobre Medicion de Niveles de Vida*)
ENAHO	National Household Survey (*Encuesta Nacional de Hogares*)
ENDESA	Demographic and Health Survey (*Encuesta Nicaragüense de Demografía y Salud*)
ENSDIA	Adolescent Sexual and Reproductive Health Strategy (*Estrategia de Salud y Desarrollo Integral para Adolescentes*)
GDP	Gross Domestic Product
HIV	Human immunodeficiency virus
ICEFI	Central American Institute for Fiscal Studies (*Instituto Centroamericano de Estudios Fiscales*)
IDB	Inter-American Development Bank
IMF	International Monetary Fund
INATEC	National Technological Institute (*Instituto Nacional Tecnológico*)
INIDE	National Institute of Information Development (*Instituto Nacional de Información de Desarrollo)*
INSS	Nicaraguan Social Security (*Instituto Nicaragüense de Seguridad Social*)
LAC	Latin American and the Caribbean
MARENA	Environmental National Agency (*Ministerio del Ambiente y Los Recursos Naturales*)
MDG	Millennium Development Goal
MIFAN	Ministry of the Family (*Ministerio de la Familia, Adolescencia, y Niñez*)
MINED	Ministry of Education (*Ministerio de Educación*)
MINJUVE	Ministry of Youth (*Ministerio de Juventud*)
MINSA	Ministry of Health (*Ministerio de Salud*)
MITRAB	Ministry of Labor (*Ministerio del Trabajo*)
MOSAFC	Family and Community Health Care Model (*Modelo de Salud Familiar y Comunitario*)
NCD	Non-communicable disease
NSPP	National Social Protection Policy
n.e.c.	not elsewhere classified
OECD	Organisation for Economic Co-operation and Development
PPP	Purchasing Power Parity

PSE	Public Sector Efficiency
PSP	Public Sector Performance
RACCN	North Caribbean Coast Autonomous Region (*Región Autonoma de la Costa Caribe Norte*)
RACCS	South Caribbean Coast Autonomous Region (*Región Autonoma de la Costa Caribe Sur*)
SEAR	Autonomous Regional Education Subsystem (*Subsistema de Educación Autonómica Regional*)
SERCE	Second Regional Comparative and Explanatory Study
SETEC	Technical Secretariat of Citizen Power (*Secretaria Técnica del Poderl Ciudadano*)
SIGRUN	Presidential Monitoring and Evaluation System (*Sistema del Gobierno de Reconciliación y Unidad Nacional*)
SILAIS	Local System for Integral Health Care (*Sistema Local de Atención Integral en Salud*)
SINAPRED	National System for Disaster Prevention, Mitigation, and Attention (*Sistema Nacional de Prevencion de Desastres*)
SNBS	National System of Social Welfare (*Superintendencia Nacional de Bienes Estatales*)
SPL	Social Protection and Labor
SSEIR	Social Sector Expenditure and Institutional Review
TERCE	Third Regional Comparative and Explanatory Study
UNFPA	United Nations Population Fund
US	United States
USAID	United States Agency for International Development
WDI	World Development Indicators
WFP	World Food Program

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I. Executive Summary

Overall: Despite strong outcomes across all social sectors, social spending in Nicaragua needs to achieve efficiency gains in order to be sustainable. The recent deterioration of fiscal accounts underlines the need for improved planning and monitoring of social spending.

Nicaragua has had decent economic growth in the past decade, which has contributed to substantial poverty reduction (the largest in Central America), as well as improvements in human development indicators. From 2001 to 2014, Nicaragua's gross domestic product (GDP) growth averaged 3.4 percent, which helped poverty decline from 48 percent in 2005 to 30 percent in 2014. Importantly, Nicaragua has made improvements over the last fifteen years across almost all human development indicators, and at a much faster rate than regional and comparator countries. For instance, in education, Nicaragua increased enrollment and completion rates across all levels, almost catching up with the Central American and Latin American and Caribbean (LAC) averages. Similar improvements were seen in most health and social protection and labor (SPL) indicators, though challenges remain regarding improving assisted deliveries and reducing inequality and unemployment.

Many of these positive trends in human development indicators can be associated with the increasing fiscal efforts towards improving social sector spending. As a share of GDP, social public spending increased by a third between 2007 and 2014, highlighting an enormous fiscal effort (from 10 percent in 2007, compared to 13.5 percent in 2014). During this period, social public spending increased for all sectors, though health spending accounts for the largest share. As of 2014, social spending in Nicaragua is almost at the Central America average of 13.9 percent, though it is still among the lowest in the LAC region in per capita terms.

Fiscal accounts have deteriorated recently, which may pose some challenges to the sustainability of current levels of financing for social sector expenditures. While the overall fiscal situation in Nicaragua is better than most Central American countries, the consolidated public sector deficit widened to 2 percent in 2014 after grants (and estimated at 2.7 percent of GDP in 2015). This was largely due to a decline in loans provided to the private sector in concessional terms originating from the oil subsidies from Venezuela and the recent deterioration in the fiscal balance of state-owned enterprises. The deterioration of fiscal accounts will likely limit the possibilities for further increases in social sector spending, and may require cuts in order to ensure fiscal sustainability in the coming years.

Better planning and monitoring of social spending are needed to improve Nicaragua's budget management. While Nicaragua has a medium-term development plan, the use of results-oriented budget formulation is still in its early stages. There is space to improve and expand current efforts of planning and budgeting for results beyond a few ministries (health and education) to all

social sectors. Greater transparency in budget execution would allow room for more efficient spending, as historically, only approved budgets are made available to policymakers and the public, as opposed to information on the use of funds and results achieved. While information on annual budget execution for capital expenses can be easily tracked, tracking of recurrent expenditures is extremely difficult.

Education: Low and inefficient public spending in education, coupled with outdated legal and institutional frameworks and high dropout rates present are significant barriers to increasing enrollment and providing quality education.

Although almost stable as a percentage of GDP, public education spending in Nicaragua has increased in real terms but is still heavily biased towards tertiary education, where efficiency gains can still be achieved. In real terms, public spending on education increased steadily between 2007 and 2014. Also during this period, education spending as a percentage of GDP was largely stable around 4 percent. Overall, per capita education spending averaged 7,112 *cordobas* (US$246) in 2014, of which 30 percent went to tertiary education. Moving forward, the country has opportunities to rebalance its education spending by reallocating spending into basic education, while also ensuring more efficient spending at the tertiary level (where access is still disproportionally from the higher income groups). Ongoing progress in improving the efficiency of basic education spending is an encouraging sign. Recent increases, have been driven mainly by the increase in basic education attainment.

Despite gains in basic education attainment, completion rates are still low when compared with peer countries. Furthermore, learning outcomes continue to be among the lowest in Central America. Policies implemented since 2008 have contributed to improved access and retention in basic education (grades 1 to 9), as well as to increased educational attainment of the population as a whole. However, completion rates for both primary and secondary school remain quite low in comparison to other Central American countries. Dropouts especially at late primary and lower secondary may be related to the prevalence of over age students, whose population has grown due to high repetition rates. Secondary school dropouts are likely driven by a lack of interest in school and/or by economic reasons. In addition, secondary school might not be sufficiently attractive for students due to an outdate curricula and the lack of technical and vocational education options. Despite having the most equitably distributed learning outcomes, in Central America, Nicaragua has some of the lowest Third Regional Comparative and Explanatory Study (TERCE) results in the LAC region.

Large inequalities remain with respect to access to both secondary education and higher education, with the former disproportionately affecting populations in rural areas and the Caribbean Coast and the latter restricted to smaller share of better of students. Primary school public expenditure is fairly progressive, while public tertiary education expenditure is highly regressive. There are large gaps in access to secondary and post-secondary education across

income groups. For example, access to education is particularly low in the Caribbean Coast, where the majority of Afro-descendants and indigenous communities live. In rural areas, entrance to the formal education system usually takes place when children are older, and access to secondary education is lower compared to urban areas. Despite being behind peers in learning outcomes, the correlation between learning outcomes and income in Nicaragua is among the lowest in the region, suggesting that the system is reasonably efficient in providing equal opportunities. In addition, the learning gap between private and public schools is also small, becoming almost negligible for public schools in urban and rural areas. However, there are large disparities in learning outcomes across regions of the country.

In moving forward, the Government of Nicaragua could consider the following recommendations in the education sector:

Short term:

- Prioritize increasing the completion of basic education (grades 1 to 9) through a combination of "supply side" and "demand side" policies;
- Prioritize spending, particularly for access to preschool and secondary education in rural areas (i.e. school infrastructure, learning materials), in order to reduce the number of dropouts, help close the learning gaps, and improve access for those in more remote areas;
- Foster more cost effective "demand side" policies (increasing the immediate returns of schooling or the student's effort), such as the development of a comprehensive strategy to make secondary education (including pedagogies and curriculum) more attractive for young teenagers;
- Undertake a more rigorous assessment/diagnostic on the causes of dropouts in lower secondary and consider coupling it with more comprehensive packages to address them (building on existing measures);
- Enhance current reforms in teacher policy through effective professional development and incentive programs;
- Revise the duration/ curriculum/ formats of teacher training to prioritize the improvement of mastery of contents, classroom management and developing strategies for keeping students engaged; and
- Consider increasing teacher wages as a mechanism to strengthen performance and increase accountability and monitoring and evaluation of educational results/performance; low incentives and poor career development opportunities of the community preschool teachers should be treated as a priority.

Medium-term:

- Make the curriculum for basic education more relevant;
- Revise the basic education curriculum to consolidate selected programs and strategies already being implemented by the Government, to ensure coordination across education levels, and to facilitate the adaptation of contents to the needs of different groups;

- Conduct a thorough assessment of the existing legal framework and revise it (as needed) to ensure that the institutional framework supports the current educational strategies;
- Reinforce the coordination and collaboration of education actors across all levels of the system; and
- Increase access to public educational information supporting all actors/ players to contribute effectively towards the improvement of the national education system.

Health: Progress in key areas such as child and maternal mortality, but lowest per capita health spending in Central America, as well as institutional and governance challenges limit coverage and quality of services.

While Nicaragua's public spending on health has increased, it still remains low, suggesting the need to improve efficiency of spending due to existing fiscal constraints. In Nicaragua, both public spending on health as a share of GDP and as a share of total public social sector spending have increased. However, per capita public spending on health in real terms has remained the same from 2007 to 2014. By this measure, it remains among the lowest of Central America and LAC countries, and tends to be lower than countries with similar incomes/characteristics. In addition, while the Ministry of Health (*Ministerio de Salud*, MINSA) has a lower per capita expenditure compared to other major health institutions in Nicaragua, it covers an estimated 76 percent of the population. Given the country's existing fiscal envelope, the Government could consider increasing available funds for the health sector by: (i) introducing new public policies to generate revenues for the health sector, such as taxation of sweetened drinks, and reviewing and strengthening the implementation of existing policies, such as tobacco taxation; and (ii) improving public spending efficiency in the health sector by promoting greater intra- and inter-institutional coordination between MINSA and the Nicaraguan Social Security (*Instituto Nicaragüense de Seguridad Social*, INSS). In addition, MINSA could improve the use of budgeting allocations based on results achieved at the main hospitals and reference hospitals in the country.

The relatively balanced spending on hospitals and primary care programs (45 percent and 43 percent, respectively), coupled with the strong leadership of MINSA , has contributed to improved outcomes, but some challenges remain. In particular, child and maternal mortality rates and chronic malnutrition have decreased, while life expectancy has increased. However, challenges remain with regard to certain outcomes and in closing coverage gaps. Nicaragua needs to continue to address maternal mortality and to pay close attention to the incidence of transmissible diseases, such as the human immunodeficiency virus (HIV), and the increasing threat of non-communicable diseases (NCDs). While out of pocket spending as a share of total health spending has decreased on average, the Government needs to continue to reduce disparities in access to services between urban and rural areas and across income quintiles.

While progress has been made in ensuring strong institutional and governance of critical interventions, challenges remain. To date, MINSA has demonstrated the ability to successfully

deliver critical health services rooted firmly at the community level through the Family and Community Health Care Model (*Modelo de Salud Familiar y Comunitario,* MOSAFC). However, despite advances and achievements, a few aspects related to quality of care continue to present challenges, including the need to: (i) perform systematic reviews of health results to ensure the effectiveness of the health care system and the functioning of the health network; (ii) improve efficiency by ensuring the optimal use of available resources to yield maximum benefits or results; and (iii) ensure that the health system is sufficiently responsive to adjust the provision of services to serve people with different cultural beliefs.

Multi-sectoral efforts and policy changes are also needed to address some existing health sector challenges. Such efforts require high level mandate, strategies and sufficient budget to implement. For example, first, the inter-sectoral collaboration between the Ministry of Education (*Ministerio de Educación,* MINED), the Ministry of the Family (*Ministerio de la Familia, Adolescencia, y Niñez,* MIFAN) and the Ministry of Youth (*Ministerio de Juventud,* MINJUVE) through the implementation of the Adolescent Sexual and Reproductive Health Strategy (*Estrategia de Salud y Desarrollo Integral para Adolescentes,* ENSDIA) needs to evolve to include developing integrated programs to prevent and address the effects of adolescent pregnancy. Second, the health sector is investing in assessing and managing hospital waste in Managua's hospitals, which has fostered a dialogue on non-hazardous waste management and the disposal of hazardous waste. However, more action on the part of the municipalities and the Environmental National Agency (*Ministerio del Ambiente y Los Recursos Naturales,* MARENA) is needed to ensure the proper management of hazardous waste, particularly in public disposal places with a high potential for population exposure. Third, the health sector could take a leadership role in strengthening and incentivizing a multi-sectoral response to chronic diseases and trauma. While there is a need to continue to proactively address these challenges through health-specific interventions, interventions from other sectors would be essential to effectively implement public policies that address NCD and trauma/violence related risk factors and delay or prevent the cases.

In moving forward, the Government of Nicaragua could consider the following recommendations in the health sector:

Short term:

- Evaluate the 10 year implementation experience MOSAFC, particularly with regard to the functioning of the health care network and quality of care;
- Strengthen MINSA's capacity to regulate the drug supply chain and access to drugs, and improve drug availability particularly at the primary care level;
- Include a budget line in MINSA for the maintenance, prevention and repair of medical and non-medical equipment; and
- Introduce new public policies to generate revenues for the health sector, such as taxation of sweetened drinks, and review and strengthen the implementation of existing policies, such as tobacco taxation.

Medium-term:

- Develop, cost, and implement a coordinated strategy to address risk factors and improve provision of preventive and curative services for chronic diseases and trauma cases in all municipalities, led by MINSA;
- Prepare and implement a master plan to strengthen pharmaceutical management and develop an integrated public policy on medicines;
- Improve inter-institutional coordination between MINSA and INSS, including integrating the prevention and promotion practices put in place by MINSA and reviewing cross subsidies perceived by the provisional institutions working for INSS; and
- Improve the use of results-based budgeting allocations to main and reference hospitals in the country (MINSA).

Social Protection: There is need for increased spending in social assistance interventions, better coordination among implementing agencies, and revised targeting to ensure decent coverage of programs among the poorest.

Though spending in SPL has increased in recent years, mainly due to social security spending, Nicaragua still trails other countries in Central America and LAC. SPL spending as a share of GDP grew from 2.4 percent of GDP in 2007 to 4.4 percent in 2014. Recent increases in social security spending are largely due to the implementation of a pension reform to introduce a reduced proportional age pension. Efforts to increase social assistance also took place, mainly in terms of subsidies. However, compared to other countries in Central America, Nicaragua's SPL spending in social assistance is the lowest. This is partly explained by the lack of explicit budget allocation to the National System of Social Welfare (*Superintendencia Nacional de Bienes Estatales*, SNBS). In addition, as opposed to its neighbors, Nicaragua does not allocate resources to cash transfer programs, though it is the country that spends the most in active labor market programs (ALMPs) in Central America.

While social security coverage has increased, Nicaragua is still one of the countries with the lowest contributions to the social security system in LAC and sustainability issues remain. The share of employees contributing to the social security system has increased from 18 percent in 2001 to 26 percent in 2014. While this is greater than those in Guatemala and Honduras, Nicaragua's share of contributing employees are still very low compared to other countries in LAC. Correspondingly, the share of the elderly that benefit from social security has increased from less than 10 percent in 2001 to 24 percent in 2014, although participation among the poor it is barely 6 percent. In 2014, after a wide multi-sectoral dialogue and consensus among employees, employers and unions, the Government undertook a reform of the pay-as-you-go system to address fiscal sustainability issues. However, it failed to deliver results due to policy changes. Consequently, the INSS is projected to start running persistent deficits by 2017, and the reserve fund is expected to be depleted by 2024. In this context, it is critical to undertake measures to guarantee pension system sustainability, and consider the potential extension of social pensions to those currently without assistance, namely the poor.

In addition to social security, social assistance has also expanded through subsidies and social care programs. Moving forward, it is critical to understand their cost-effectiveness and impact of such programs. In recent years, Nicaragua has expanded the coverage of social assistance and social care services, through flagship programs, such as *Merienda Escolar*, *Mochila Escolar*, and *Programa Amor*. In general, these programs have decent coverage in rural areas, among extreme poor, and among those in the lowest quintile. However, targeting accuracy could be improved, as around 50 percent of social assistance beneficiaries do not belong to the poorest two quintiles of the consumption distribution due to the universal nature of many of these flagship programs. In addition, while preliminary data suggests that these programs have had an impact on poverty among beneficiaries, no proper cost-benefit analysis or impact evaluation has been carried out, making it difficult to ascertain the true level of impact or understand potential opportunities for improvements. Improving effectiveness of social assistance and social care interventions call for investing in monitoring and evaluation. For instance, it would be important to complete the impact evaluation assessment of *Programa Amor* soon in order to document its achievements and inform potential adjustments.

In contrast to the majority of countries in the region, Nicaragua does not currently have a national cash transfer program. However, lessons from the highly impactful *Red de Protección Social* could be broadly incorporated into the design of social protection policies. In addition, having strengthened the supply-side of providing basic services, it may be a good time to reconsider transforming some untargeted/regressive subsidies into social cash transfer interventions and ALMPs and employability strategies to explicitly target the poorest.

With respect to the relatively high unemployment rate, Nicaragua has made important efforts into expanding its ALMPs. Nicaragua spends more than any other country in Central America on ALMPs, or approximately 0.5 percent of its GDP. The key ALMPs are *Usura Cero*, which provides access to credit, in-kind transfers, and training programs for women, and services provided by the National Technological Institute (*Instituto Nacional Tecnológico*, INATEC). Most of these programs target the youth (who are prone to high unemployment) and those typically employed in the informal sector or self-employed, or support agricultural production.

However, a thorough revision of the appropriateness, financing source, and profiling of ALMPs participants is due. In reality, few of the vulnerable groups benefit from this type of interventions, which highlights the need for an explicit and dedicated focus on reaching vulnerable groups. Data for 2014 shows that only 7 percent of the unemployed had taken a training course in the last year, and that most beneficiaries belong to the upper well-being levels. One possibility to consider is combining provision of training, cash transfers, and entrepreneurship promotions into a "poverty-graduation" model. Organizations such as BRAC have shown success in using this type

of approach to help transition populations out of extreme poverty effective in lifting out of extreme poverty a large proportion of population (Banerjee et al, 2015).

Despite a major shift in vision in terms of Social Protection policy since 2007, fragmentation remains an important challenge. Since the early 2000s, there have been a number of SPL policy shifts in Nicaragua. Key milestones achieved include the enactment of the National Social Protection Policy (NSPP) in 2003 and the design of the Solidarity System for Development in 2006. However, in light of limited results in terms of poverty reduction, the SPL policy formulation and vision took an important turn in 2007 with the incoming Administration. This policy focused on the restitution of rights of poor families, centered on an overarching commitment to the common good, social equity and shared responsibility for the development of the Nicaraguan families. To support this new approach, SNBS constituted and coordinated by the Secretary of the Council of Communication and Citizenship for Social Development (*Secretaría del Consejo de Comunicación y Ciudadanía para el Desarrollo Social*) and with the participation of all ministries working in social development and welfare programs. Still, fragmentation remains a challenge, since the institutions that comprise the SNBS are very large and heterogeneous, which may hamper policy planning and efficiency. This calls for a potential revision of the operating framework and mechanisms for the implementation of the SNBS, as well as a consolidation of interventions among fewer implementing agencies, since isolated interventions have limited potential of impacting in poverty reduction and create substantial fiscal pressure.

Efforts to improve coordination at the local level should also be strengthened. Finalizing and digitalizing the mapping of actors with the sector could help improve coordination. The operation of a multi-sectoral system, such as the SNBS, necessitates a high level of dynamism and the ability to quickly respond to the needs of the population. This requires, among other things, a record of institutional actors (with their location and inventory of available services). Building from this, close inter-agency coordination, participation, and communication strategies could enable an effective system of referral and counter-referral to meet the different demands of the community. To this end, current efforts underway at MIFAN could be completed and implemented in other line ministries. In addition, and to maximize the impact of the programs of the SNBS, it would be important to prioritize care in communities with the highest incidence of extreme poverty, the highest exposure to natural disasters, and unmet basic needs (in both rural and urban areas). Finally, the multi-sectoral approach for the integral delivery of services to selected population (such as children, youth or the elderly) should be systematized and developed further.

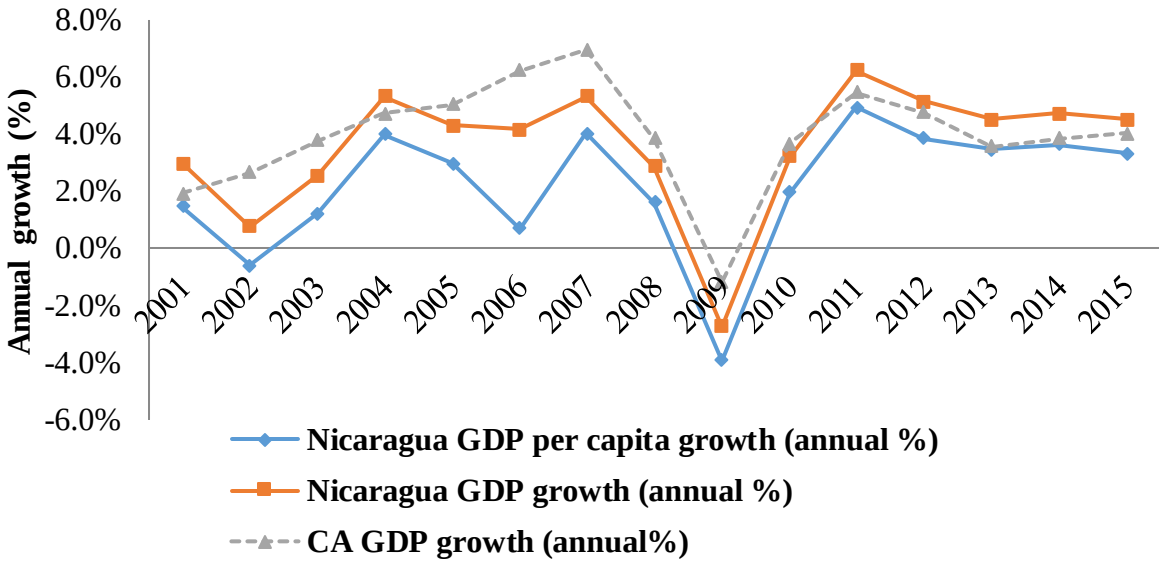
Finally, more needs to be done to improve monitoring and evaluation and accountability mechanisms of social protection programs. Monitoring efforts and use of analysis to make decisions based on statistics is still lacking, highlighting an important area of focus to improve quality and efficiency in the decision making processes. In contrast to other countries in Central America and LAC, Nicaragua has not yet developed a unique registry of beneficiaries across

implementing institutions that can allow better coordination of interventions and strengthen its the focus on the poor, though efforts have started in MIFAN. Finalizing this effort will be critical, as will updating the 2005 poverty map with the 2014 Living Standards Measurement Study (*Encuesta sobre Medicion de Niveles de Vida*, EMNV). Finally, Government policies also reflect the need for improved controls and implement social audits, which are considered a pillar of participatory governance. However, these still need to be implemented on a broader scale and publicly disseminated.

II. Context

Nicaragua's economic growth over the past fifteen years has been moderate, with a slight acceleration over the past five years. From 2001 to 2015, Nicaragua's GDP growth averaged 3.6 percent, slightly below the Central American average of 3.9 percent for the same period (Figure 1). Nicaragua was one of the countries most affected by global food, fuel, and financial crisis in the LAC region (along with El Salvador and Honduras). In 2009, GDP declined by 2.4 percent. However, thereafter GDP growth increased, averaging 4.7 percent over the 2010 to 2015 period, slightly surpassing the LAC region average of 4.2 percent.

Figure 1: GDP Growth in Nicaragua and Central America, 2001-2015

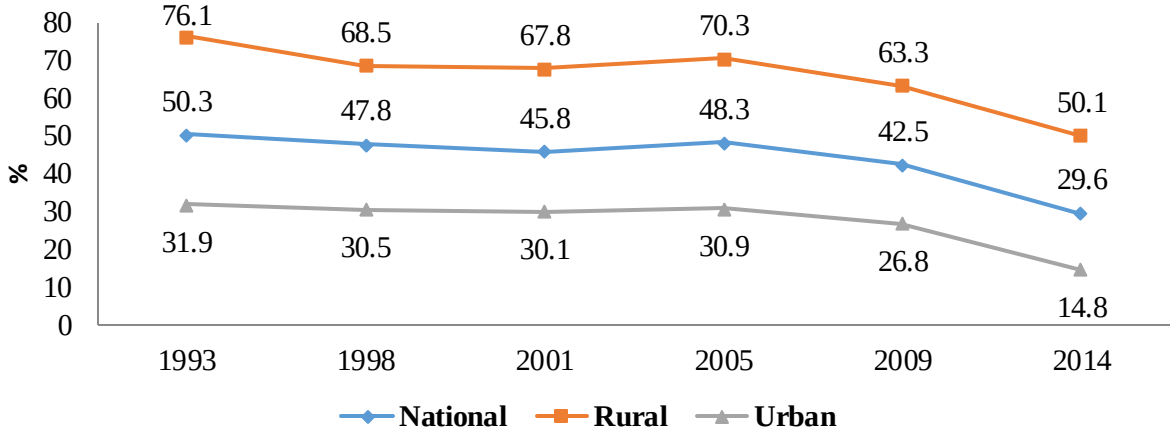


Source: IMF, World Economic Outlook Database, June 2016

By 2014, this economic growth had contributed to the most substantial poverty reduction in Central America and slowed the growth of inequality in Nicaragua. Nicaragua was one of the poorest countries in the LAC region in the 1990s. In 1993, half of the population was living below the national poverty line, while in rural areas poverty rates reached over 75 percent. Poverty remained relatively stagnant until 2005, when it started to decline faster than in previous years. Between 2005 and 2014, the poverty headcount declined from 48 to 30 percent (Figure 2). This

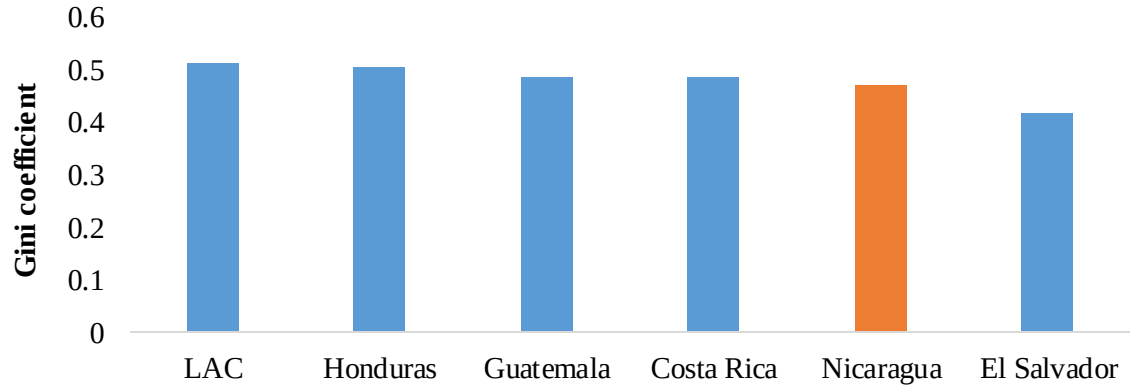
reduction was seen in rural and urban areas alike. Rural poverty showed a significant decline from 70 to 50 percent, while urban poverty was cut in half, declining from 31 to 15 percent. Despite the significant progress made in reducing poverty, inequality slightly increased during this period, as Nicaragua's Gini coefficient grew from 45.7 in 2009 to 47.1 in 2014. Importantly, inequality in Nicaragua grew at a slower rate than all other Central American countries apart from El Salvador (Figure 3).[1]

Figure 2: Poverty Headcount, 1993-2014 (official poverty rates)



Source: World Bank LAC Equity Lab.

Figure 3: Inequality in Central America, circa 2014 (Gini coefficient)



Source: World Bank LAC Equity Lab.

In addition to the important progress made in reducing poverty, Nicaragua also saw improvements in a number of human development indicators. Table 1 compares trends in key education, health and SPL indicators with three comparator groups: i) the top 7 economies in the LAC region;[2] ii) the Central America region (excluding Nicaragua); and iii) a set of 6 countries

[1] World Bank Equity Lab.
[2] Argentina, Brazil, Chile, Colombia, Ecuador, México, and Peru.

around the world that can be considered "comparator countries" based on certain criteria.[3] While LAC and Central American countries broadly have better indicators, Nicaragua has made improvements across almost all human development indicators over the last fifteen years, and at a much faster rate than regional and comparator countries. For instance, in education, Nicaragua increased enrollment and completion rates across all levels, almost catching up with the LAC and Central American averages. In health, good progress was made on almost all indicators, except for the average share of assisted deliveries, which decreased during the 2007-2014 period compared to 2000-2016. In SPL, Nicaragua showed important improvements in employment and female labor force participation, though unemployment rates increased slightly during this period. As will be seen in the following sections, many of these positive trends in human development indicators can be associated with Nicaragua's efforts to both increase and improve efficiency of social sector spending.

Table 1: Selected Human Development Indicators, Nicaragua, LAC, Central America, and Closest Income/Population Comparators, 2000-2014

Indicator Name	Nicaragua		LAC 7		Rest of CA		Comparator Countries	
	2000-2006	**2007-2014**	2000-2006	**2007-2014**	2000-2006	**2007-2014**	2000-2006	**2007-2014**
Education								
School enrollment, preprimary (% gross)	37.9	**57.9**	66.4	**91.3**	52.5	**63.7**	31.9	**33.5**
School enrollment, primary (% gross)	116.2	**123.8**	113.4	**110.0**	112.2	**113.6**	92.3	**100.1**
School enrollment, secondary (% gross)	62.0	**73.7**	79.6	**91.2**	63.4	**76.3**	75.8	**74.6**
School enrollment, tertiary (% gross)	17.2		37.6	**50.8**	28.1	**32.9**	28.7	**27.8**
Primary completion rate, total (%)	74.6	**82.5**	99.1	**102.9**	85.6	**95.6**	84.0	**87.9**
Pupil-teacher ratio, primary	34.8	**30.0**	24.7	**22.8**	29.5	**24.7**	28.2	**26.1**
Secondary completion, age 25+	20.7	**24.9**	36.0	**41.8**	24.7	**28.3**	14.5	**16.7**
Health								
Pregnant women with prenatal care (%)	85.5	**92.5**	93.7	**96.4**	88.0	**94.6**	88.2	**95.9**
Undernourishment (% of pop)	27.6	**19.7**	10.3	**8.0**	15.3	**12.3**	13.9	**12.2**
Immunization, measles (% 12-23m)	93.6	**99.0**	95.2	**94.3**	93.5	**91.6**	83.1	**83.6**

[3] A group of appropriate international comparators ("comparator countries") for Nicaragua was defined based on five criteria: GDP per capita, GDP (size of the economy), population (total), population density, and percentage of population in rural areas. The comparators include: Cote d'Ivoire, Georgia, Honduras, Macedonia, Papua Nueva Guinea, and Paraguay.

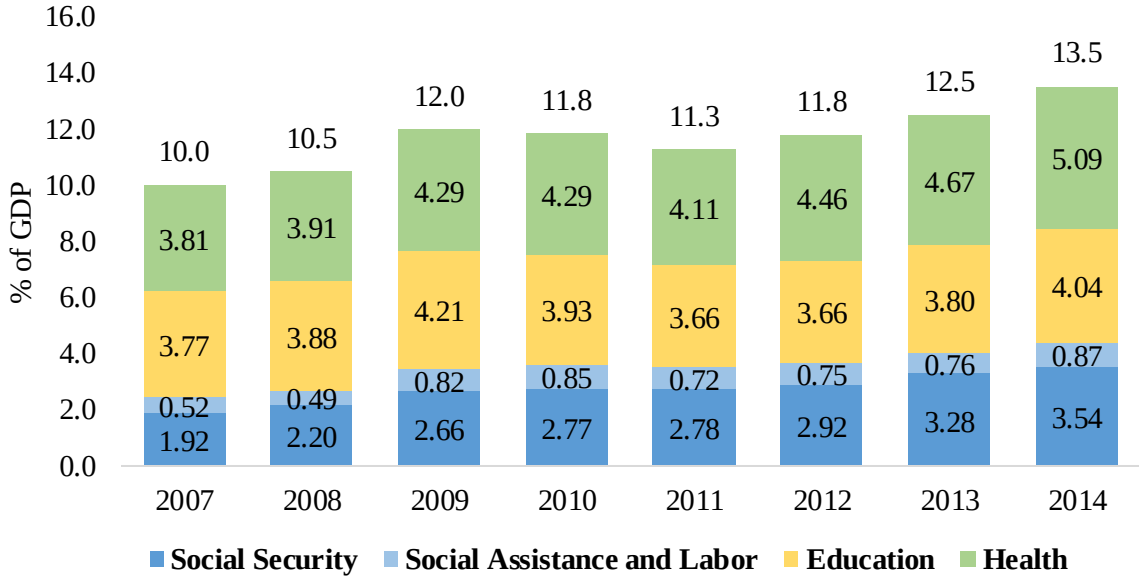
Improved sanitation facilities (% of pop)	57.5	**65.1**	79.2	**84.2**	70.0	**75.6**	60.3	**63.5**
Improved water source (% of pop)	80.7	**85.2**	90.1	**92.7**	87.9	**92.0**	77.9	**82.6**
Hospital beds (per 1,000 people)	0.9	**0.9**	1.8	**2.0**	1.4	**1.1**	3.3	**2.1**
Births attended by skilled health staff (% of total)	89.7	**78.6**	93.3	**94.9**	81.9	**86.9**	79.7	**93.6**
Social Protection and Labor								
Employment to population, 15+ (%)	57.1	**58.7**	58.5	**61.6**	58.4	**60.7**	58.4	**59.0**
Labor force participation, female (%)	41.4	**46.4**	49.3	**53.2**	43.3	**46.5**	52.1	**53.2**
Unemployment, total (%)	6.2	**6.5**	8.9	**6.7**	6.3	**5.1**	11.0	**10.4**
GINI index	41.8	**45.7**	53.8	**49.8**	53.2	**50.2**	47.1	**48.3**
Poverty headcount ratio, rural (%)	70.3	**56.7**	69.4	**52.8**	64.7	**49.6**	62.4	**45.7**
Poverty headcount ratio, urban (%)	30.9	**20.8**	39.6	**23.3**	45.5	**38.4**	48.2	**32.9**

Source: World Bank Development Indicators (2014).

III. Recent Trends in Social Public Spending in Guatemala

Nicaragua's social public spending as a share of GDP increased from 10 to 23.5 percent between 2007 and 2014 (Figure 4). Growth over this period highlights the enormous fiscal effort made by the Government to increase investments in all social sectors, with social security increasing proportionally the most (84 percent), followed by social assistance (67 percent). Health spending accounted for the largest share of both GDP and all social public spending, reaching 5.1 percent and 38 percent, respectively. Over the 2007 to 2014 period, the largest increases in social public spending as share of GDP happened over two one-year periods. In 2009, it increased from 10.5 to 12 percent, which was largely explained by the decline in GDP rather than increase in absolute spending. In 2014, spending increased from 12.5 to 13.5 percent, which was particularly remarkable because it was a year in which GDP grew by 3.4 percent.

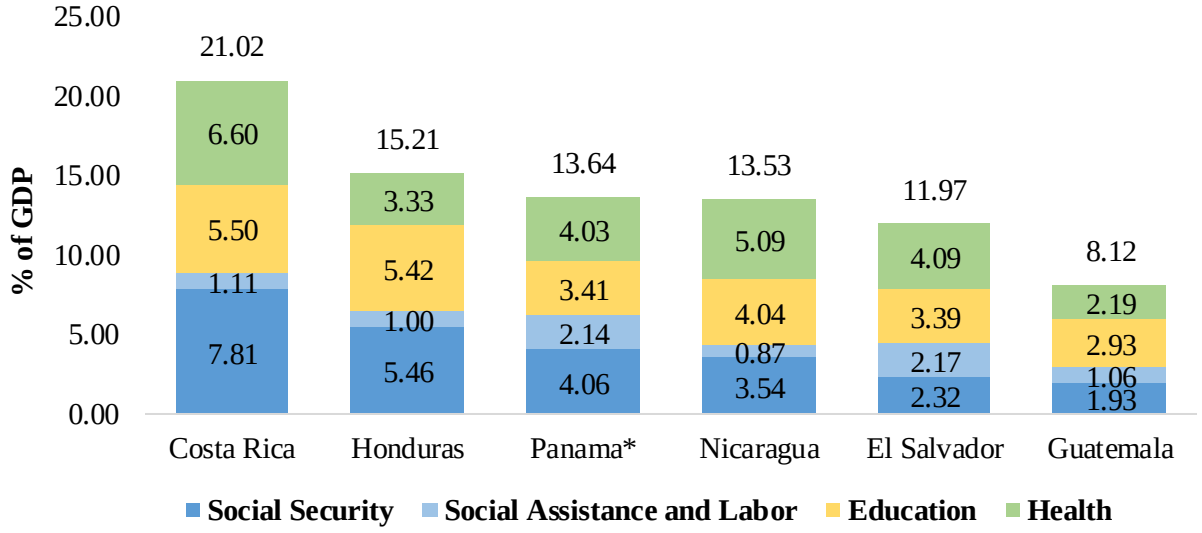
Figure 4: Social Public Spending as a % of GDP, 2007-2014



Source: World Bank SSEIR / ICEFI social public spending database.

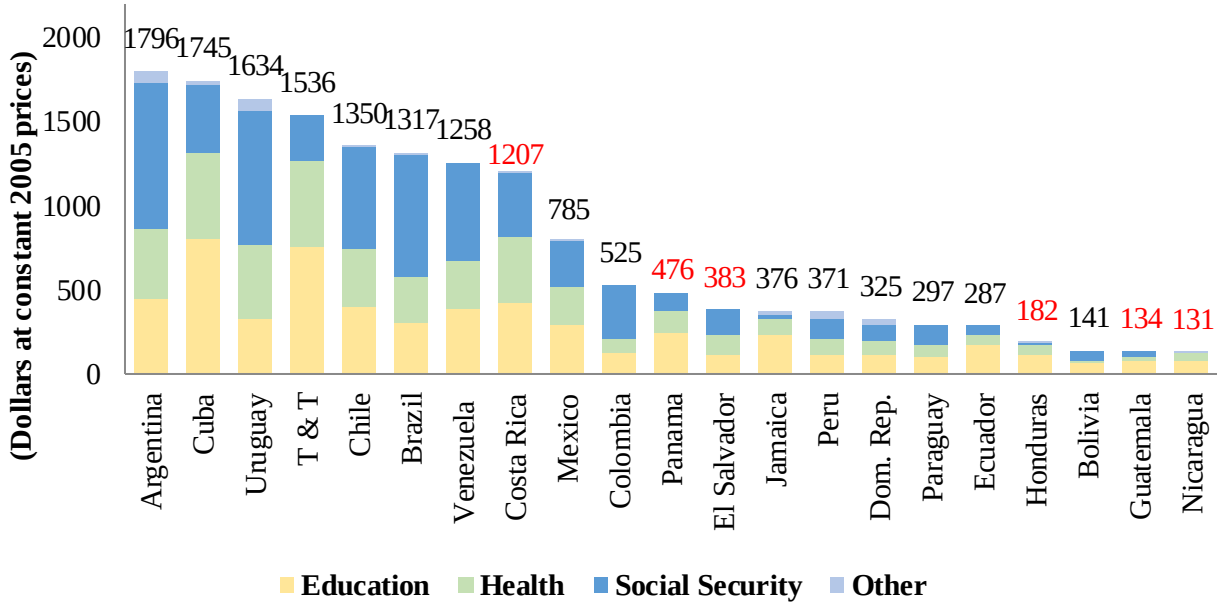
While Nicaragua's social spending as a percent of GDP is close to the average for Central America, in per capita terms it is among the lowest in LAC. Nicaragua spends 13.5 percent as a share of GDP, putting it behind Costa Rica and Honduras and close behind Panama (Figure 5). In terms of sectoral breakdown, Nicaragua allocated a larger share of its GDP to health (5.1 percent) than all other countries in the region except for Costa Rica. Despite the recent increase in budget allocation to social assistance and labor programs, Nicaragua's allocations are the lowest in Central America (0.9 percent), while education (4.0 percent) and social security spending (3.5 percent) rank around the average for Central America. However in terms of per capita spending, Nicaragua spends less on social sectors than all countries in LAC with available information except for Bolivia (Figure 6). This is not surprising though, as Nicaragua has one of the lowest GDP per capita in the region.

Figure 5: Social Spending as a % of GDP by country 2014 (%)



Note: *Panama corresponds to 2013
Source: World Bank SSEIR / ICEFI social public spending database.

Figure 6: LAC Social Public Expenditure by Sector, 2013 or latest year available (per capita, US$ at constant 2005 prices)

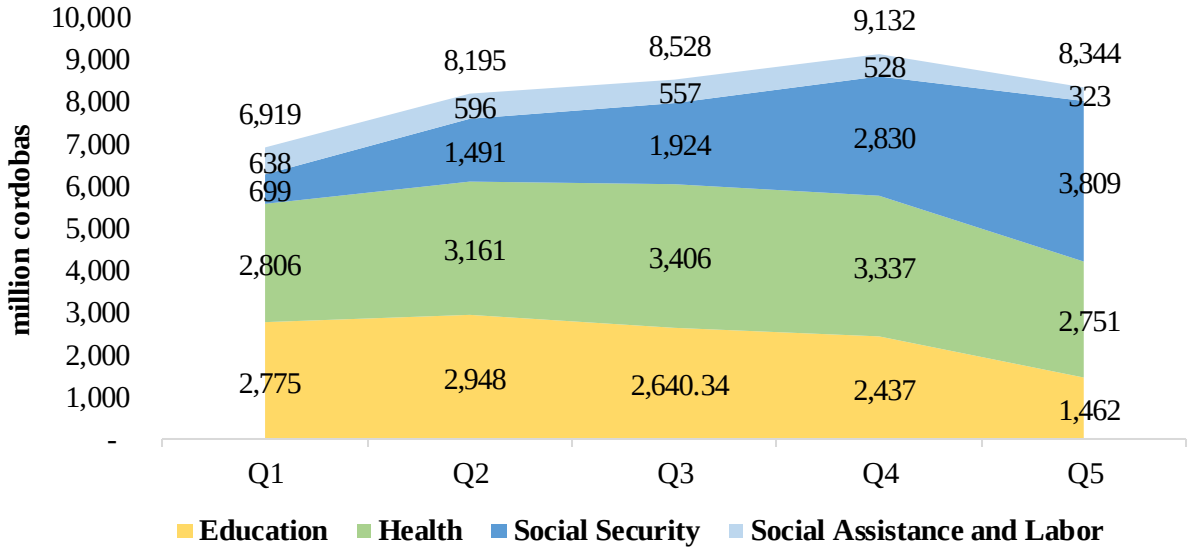


Source: ECLAC.

Overall, Nicaragua's social public spending is not progressive mainly due to social security benefits, since coverage is only meaningful among the upper levels of the income distribution. Figure 7 shows the distribution of social public spending by sectors and quintiles (Q1 being the poorest quintile, Q5 the richest). Public spending on health appears to be mainly allocated to the first three income quintiles, with a much smaller amount allocated to the richest quintile. The

distribution of education spending follows a similar pattern, although with less variation across income quintiles compared to health. Social assistance and labor interventions (cash transfers, disability benefits, etc.) seems to be mostly allocated to the middle income quintiles, while social security spending appears to be regressive, increasing based on income levels.

Figure 7: Distribution of social public spending, 2014



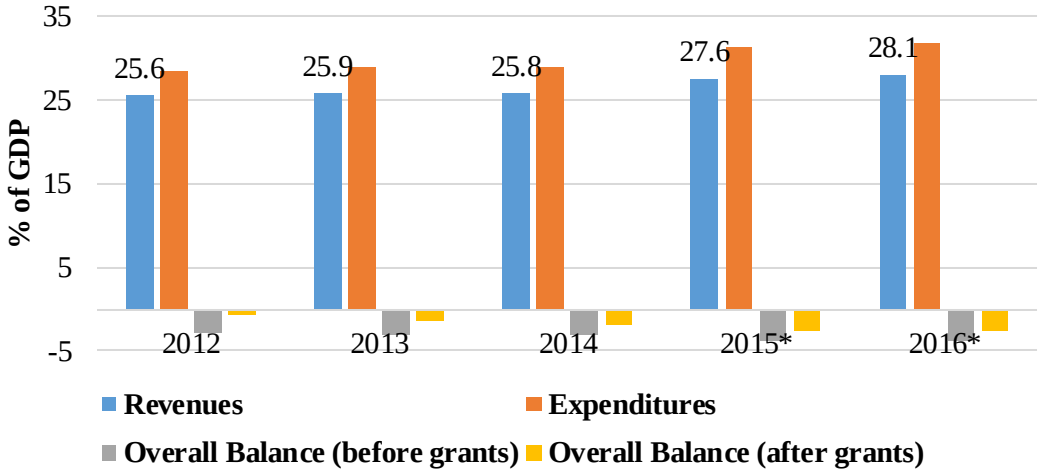
Note: Distribution of spending was calculated based on the distribution of beneficiaries per sector. For education, we considered the distribution of public students enrolled in each level of education by income quintile. For health, we considered the distribution of the utilization of public health providers by income quintiles. For social security, we considered the distribution of pension beneficiaries by income quintiles and, for social assistance, the distribution of social assistance beneficiaries.

Source: World Bank SSEIR / ICEFI social public spending database

Fiscal accounts have deteriorated recently, which may pose some challenges to maintaining current levels of social sector expenditures. While the overall fiscal situation in Nicaragua is better than most Central American countries, the consolidated public sector deficit widened to 2 percent in 2014 after grants (and estimated at 2.7 percent of GDP in 2015). This was largely due to a decline in concessional loans provided to the private sector from Venezuelan oil subsidies and the recent deterioration of the fiscal balance of state-owned enterprises.[4] The International Monetary Fund's (IMF) latest projections are also worrisome, with the fiscal deficit potentially accounting for 2.5 percent of GDP in 2016. The increase in the deficit is mostly due to an increase in spending (in particular, capital spending) beyond the increase in revenues (Figure 8). The deterioration of fiscal accounts will likely limit the possibilities for further increases in social sector spending and, more likely, result in a need for cuts in spending in order to achieve fiscal sustainability in the coming years.

[4] IMF Article IV (2015).

Figure 8: Central Government Overall Balance, 2012-2016



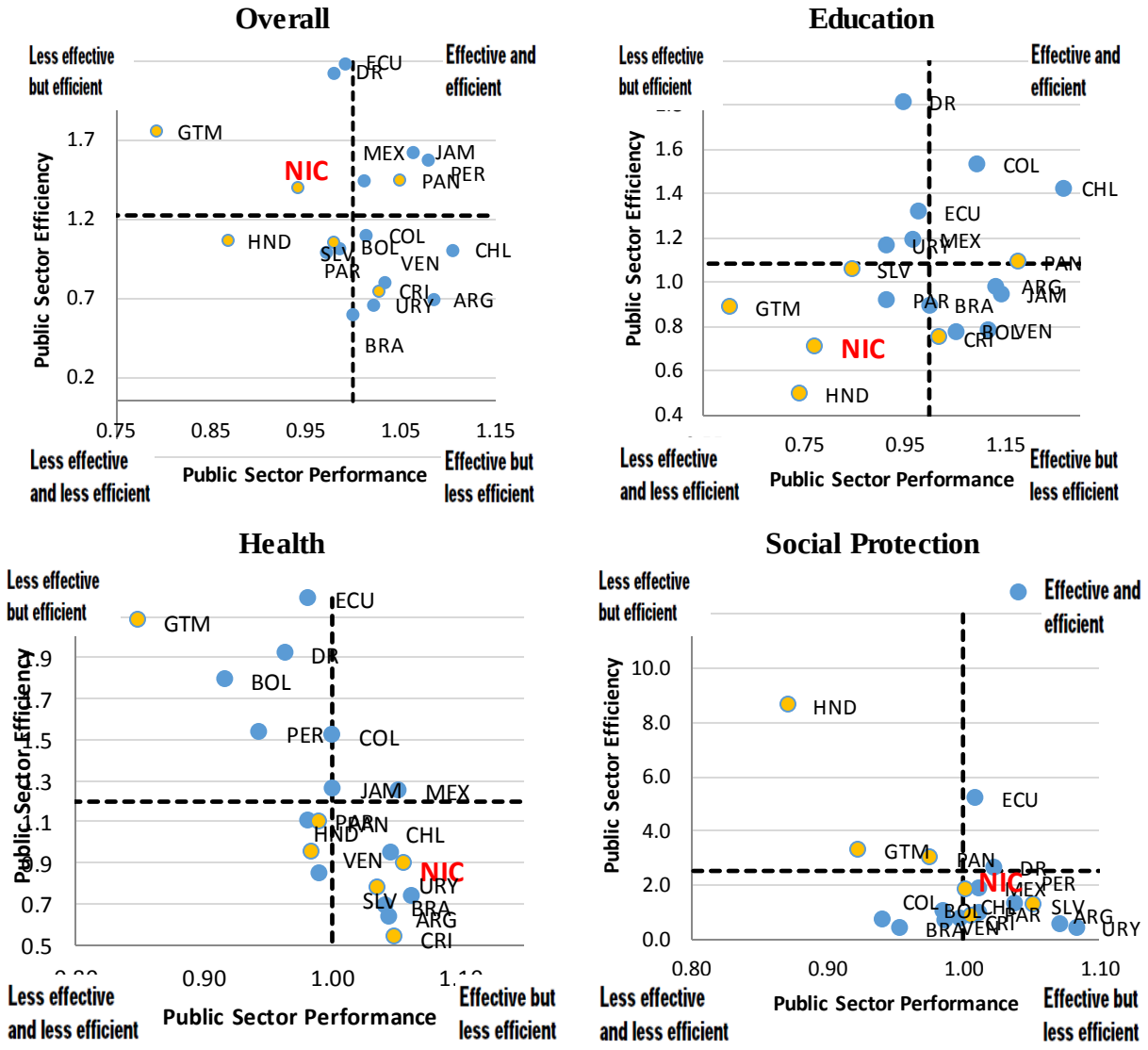
Source: IMF Article IV, 2015. * Estimated at December, 2015.

Better planning and monitoring of social spending are critical to improving Nicaragua's budget management. While Nicaragua has a medium-term development plan elaborated by the Technical Secretariat of Citizen Power (*Secretaria Técnica del Poderl Ciudadano*, SETEC), the links to results-oriented budget formulation are not yet strongly developed. A few ministries (health, education) have made progress in improving planning and budgeting for results, for example by using performance-linked indicators. However, such efforts could be improved and/or expanded to all social sectors to improve the targeting, efficiency, and impact of social spending. While monitoring and evaluation norms are in place, a strong system should be put in place that can provide feedback to the public management process that can be externally assessed. Transparency in budget execution also has room for improvement. Although the annually approved budget is largely available to the public and information regarding budget execution for capital expenses can be easily tracked, this is not the case for current expenditures.

While efficient, Nicaragua's public social public spending is less effective compared to other LAC countries. Figure 9 shows a comparison between the levels of Public Sector Performance (PSP) and Public Sector Efficiency (PSE) in Nicaragua and other LAC countries. The PSP is a composite indicator based on socioeconomic variables that are assumed to be the output of public policies. This indicator summarizes the effectiveness of public spending in improving social outcomes. The PSE indicator then relates PSP scores to the total public spending in these sectors. It represents the "public value" per public dollar spent. The overall assumption behind the assessment of public sector performance and efficiency employing PSP and PSE indicators is that the observed outcome indicators are solely the result of public spending policies (Box 1 provides additional information on the PSP and PSE analyses). Based on this analysis, Nicaragua's public spending was found to be efficient ("value" per dollar spent) in all sectors, but was not considered effective (in improving outcomes) compared to other LAC countries. This means that Nicaragua

is among the countries with lower results in terms of social indicators[5] without taking into consideration the costs incurred to achieve them. However, this also means that Nicaragua gets a higher return (improvement in social indicators) per dollar of social public spending compared to other countries.

Figure 9: Public Sector Performance and Efficiency in Nicaragua and LAC, circa 2014



Source: World Bank SSEIR team's, authors' calculations using ECLAC and WDI databases.

[5] Indicators used to measure results per sector were: education (adult literacy rate, population 15+ years, both sexes in %; percentage of population age 25+ with completed secondary schooling), health (maternal mortality ratio, national estimate per 100,000 live births; measles as % of children aged 12-23 months) and social protection and labor (GINI index; poverty headcount ratio at $1.90 a day 2007 PPP).

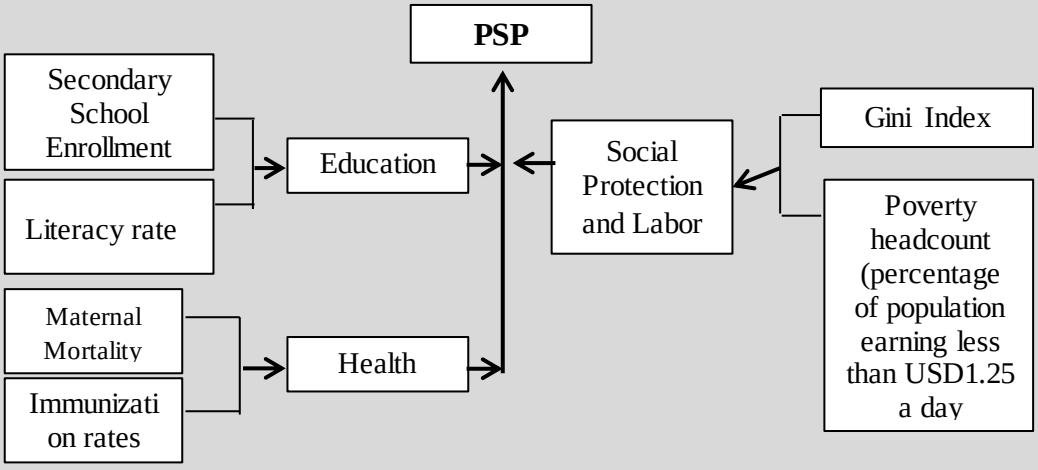
Box 1: Public Sector Performance and Public Sector Efficiency Indicators

We analyzed the relationship between social outcomes and spending using the PSP and PSE approaches developed by Afonso, Schuknecht, and Tanzi (2005, 2010).[6]

PSP is measured by constructing composite indicators based on observable social variables that are assumed to be the output of pursued social public policies. Specifically, the PSP for country $i = 1, \dots, m$ with $j = 1,2,3$ social sectors (education, health and social protection and labor) is determined by:

$$PSP_i = \sum_{j=1}^{n} PSP_{ij};\ i = 1, \dots n;\ \ with\ PSP_{ij} = f(I_k), k = 1, \dots, r. \qquad (1)$$

where $f(I_k)$ is a function of k observable social indicators (for education, we take gross secondary enrollment and literacy rate; for health, we take maternal mortality and immunization rates; and for social protection and labor, we use inequality (measured by the Gini coefficient) and extreme poverty headcount (percentage of population earning less than US$1.25 a day). To obtain PSP indicators, we assign equal weights to each sub-indicator, computed as the average of the corresponding outcome indicators, each one of them normalized by its sample mean. The PSP indicator for each country is then obtained by averaging the values of all sub-indicators. Resulting PSP scores are then related to the average value of one of the normalized output indicators. Hence, countries with PSP scores in excess of one are seen as good performers, as opposed to countries with PSP values below the mean.



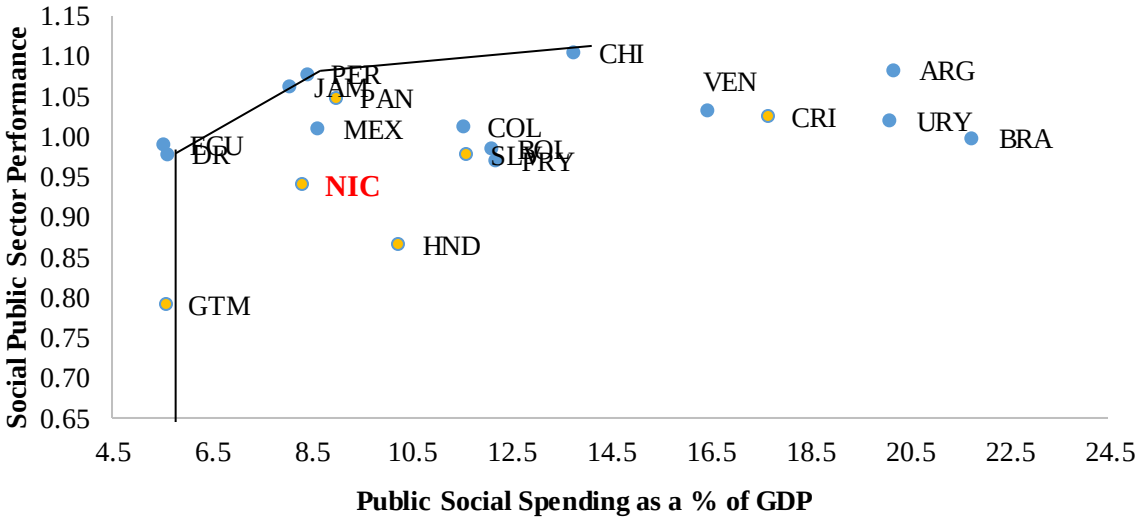
PSE relates PSP scores to their cost in terms of public spending. PSE weights public sector performance in each social sector by the amount of relevant public expenditure that is used to achieve such performance. To compute PSE scores, public spending in each sector is normalized across countries, taking the average value of one for each of the expenditure categories (EXP_{ij}j). This is, for each country $i = 1, \dots, m$ with $j = 1,2,3$ social sectors, the PSE is defined by:

$$PSE_i = \sum_{j=1}^{n} \frac{PSP_{ij}}{EXP_{ij}}; \qquad (2)$$

[6] The methodology follows Afonso, Schuknecht, and Tanzi (2005, 2010) for OECD countries, replicated later on in Afonso, Romero, and Monsalve (2013) for LAC.

A LAC production possibility frontier analysis shows that it is possible for Nicaragua to improve its performance with the same level of spending. Figure 10 shows the production possibility frontier for total social public spending for LAC, applying the data envelope analysis (DEA) using the PSP scores as an output and social-public spending-to-GDP ratios as an input. Our results show that the efficiency frontier is essentially defined by Ecuador, Peru and Chile. Nicaragua is far away from the efficiency frontier and could potentially increase its performance by 13 percent with the same level of spending. The analysis in the next chapters highlights concrete ways in which Nicaragua could achieve such efficiency gains and improve the quality of outcomes in a wide set of areas across the three social sectors.

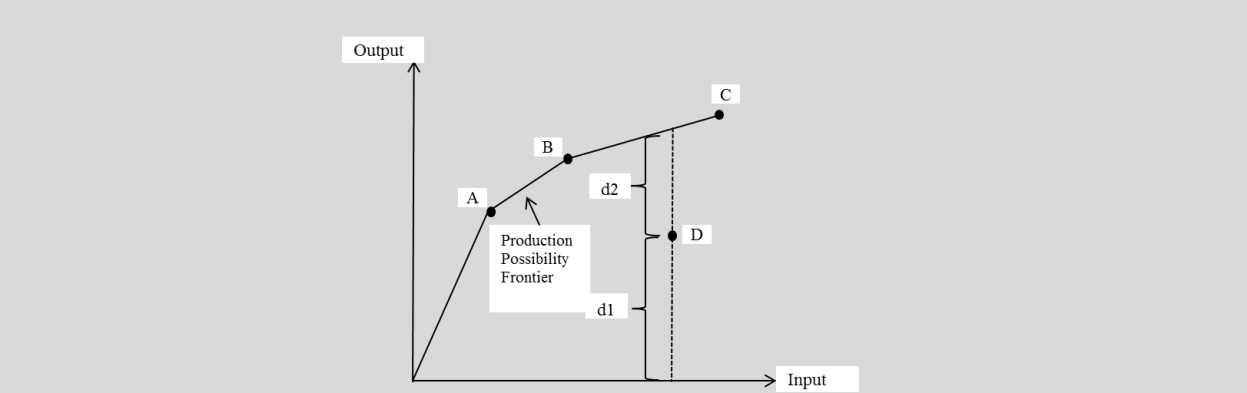
Figure 10: Production Possibility Frontier (DEA) for Total Social Public Spending, LAC, 2014



Source: World Bank SSEIR team's, authors' calculations using ECLAC and WDI databases.

Box 2: DEA Methodology

The DEA methodology, developed by Farrell (1957), assumes the existence of a convex production frontier to construct an envelope around the set of observations. DEA compares each unit with all other units, and identifies those units that are operating inefficiently compared with other units' actual operating results. DEA presents two approaches: 1) the input-oriented shows by how much input quantity can be proportionally reduced without changing the output quantities; 2) the output-oriented assesses how much output quantities can be proportionally increased without changing the input quantities used. Efficiency for each unit can be measured by computing the distance to the theoretical efficiency frontier (or compared to the best practice units). DEA provides an efficiency rating that is generally denominated between zero and 1, which will interchangeably be referred to as an efficiency percentage between the range of zero and 100 percent. The best practice units are relatively efficient and are identified by a DEA efficiency rating of $\theta = 1$. The inefficient units are identified by an efficiency rating of less than 1 ($\theta < 1$). The figure below illustrates the single input single output DEA production possibility frontier. Countries A, B and C are efficient with output scores equal to 1. On the other hand, country D is not efficient, since its score [d2/(d1+d2)] is below unity.



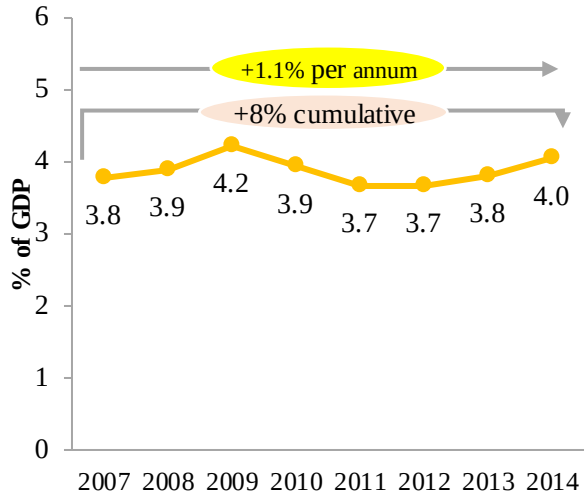
IV. Performance and Challenges in Education

IV.1 Recent Evolution of Education Public Spending

As a percentage of GDP, public spending in education in Nicaragua has been relatively stable in recent years. Between 2007 and 2009, spending as a percent of GDP grew from 3.8 percent to 4.2 percent. It then declined slightly to 3.7 percent in 2011/12, before increasing slightly to 4 percent in 2014 (Figure 11). By this metric, education spending remains low in comparison to other countries in Central America (Figure 13). However, in real terms, public spending on education has been steadily increasing over the same period, with an average of 4.7 percent growth per annum, for a cumulative increase of 33.2 percent (Figure 12). Importantly, the share of total education spending financed with national resources also increased over this period.[7] In real terms, education spending in Nicaragua is already above some Central American countries (Guatemala, El Salvador, Panama), and even some South American countries (Peru, Ecuador). Even though the latter generally have even larger tax bases, Nicaragua's comparative position is a sign that the education sector is already at a reasonable spending level.

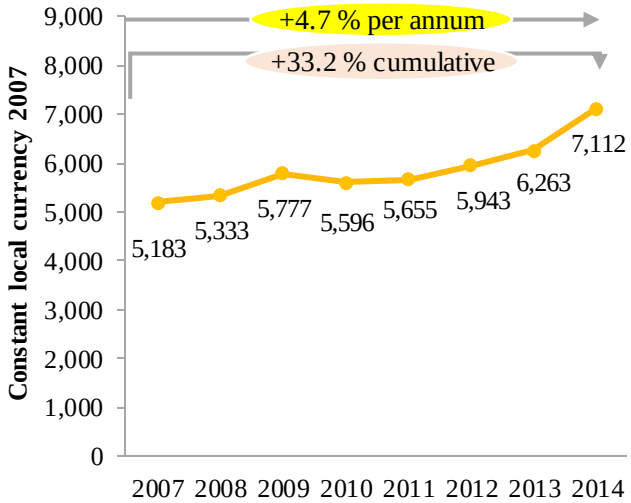
[7] While external resources accounted for 17 percent of MINED budget in 2008, this declined to 5 percent in 2014.

Figure 11: Public Spending on Education as a % of GDP, 2007-2014



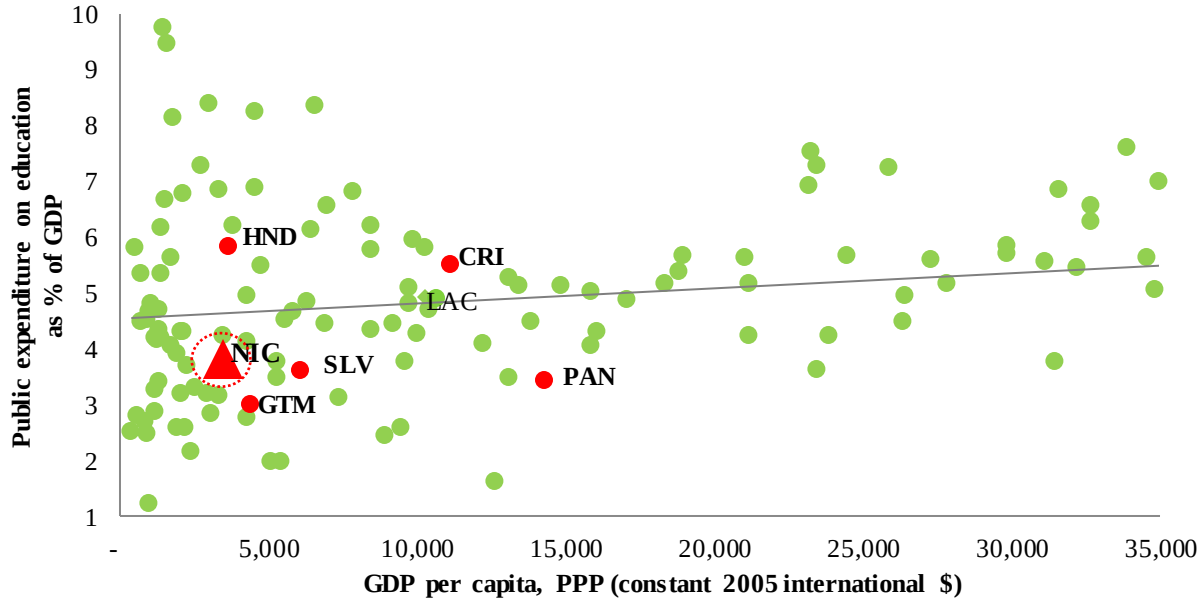
Source: World Bank / ICEFI social spending database

Figure 12: Public Spending on Education in real terms, 2007-2014



Source: World Bank / ICEFI social spending database

Figure 13: Public Spending on Education vs. GDP per capita (circa 2012)



Source: World Bank SSEIR / ICEFI social spending database for Central America. EdStats for the rest of the countries. 2010 figure for Organization for Economic Co-operation and Development members.

As a percent of total government expenditure, education spending has declined since 2009. Table 2 shows that education expenditures as a percentage of total government expenditure declined significantly, by 1.3 percentage points between 2007 and 2014, from 17.1 to 15.8 percent, respectively.[8] A large part of this decline is explained by the reduction in the share of government

[8] The education expenditures reported in this chapter do not include the spending of INATEC in technical secondary and tertiary education.

funds allocated to higher education, which declined from 5.4 percent in 2007 to 4.6 percent in 2014. The portion dedicated to basic education (preschool, primary and secondary) has oscillated between a maximum of 10.1 percent in 2007-2008 and a minimum of 8.7 percent in 2012. Since 2012, it has recovered slightly and stood at 9.9 percent in 2014. Overall, the total education expenditure was affected by the fiscal adjustment following the 2009 crisis. In recent months, the Government has begun to replace declining external resources, but there remains space to devote additional national resources to education in the future.

Table 2: Education Expenditure as a Percentage of Total Government Expenditure, 2007-2014

	2007	2008	2009	2010	2011	2012	2013	2014
Education expenditure as % of Government expenditure	17.1	17.1	17.7	16.7	15.9	15.4	15.6	15.8
Basic Education (preschool, primary, secondary)	10.1	10.1	9.6	9.3	8.9	8.7	8.8	9.9
Higher Education	5.4	5.0	5.3	5.3	5.0	4.9	4.8	4.6
Other Expenditures	1.6	2.0	2.8	2.0	2.0	1.8	2.0	1.3

Source: World Bank SSEIR / ICEFI social spending database. Note: Other includes other education management and other expenses that are not assigned to other categories.

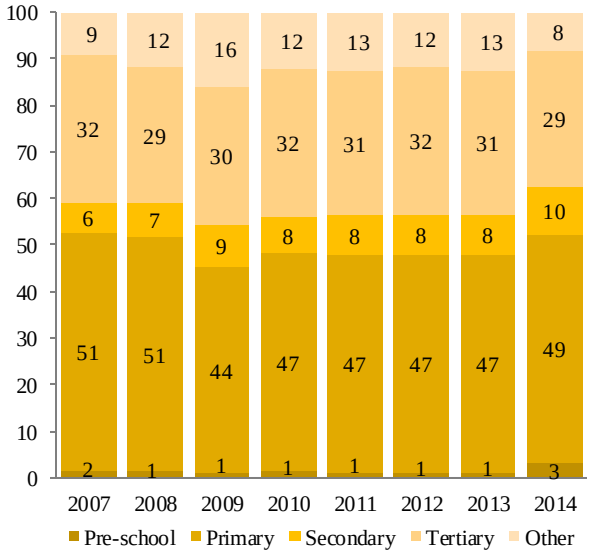
The composition of public spending in education has been reasonably stable, but is somewhat biased towards tertiary education. As Figure 14 shows, tertiary education represented around 30 percent of public education expenditure between 2007 and 2014, while secondary education accounted for an average of 8 percent over this period.[9] Relative to other Central American countries, public spending on tertiary education in 2014 was quite high (29 percent), while shares of spending allocated to preschool and secondary school are lower in Nicaragua than most other countries (Figure 15). The share of spending dedicated to higher education is even more impressive, as higher education enrollment only accounts for 8 percent of total enrollments, while about 70 percent of public per student spending goes to tertiary education (this is not reported, but can be seen from Figures 16 and 17). Furthermore, the large difference in spending in primary versus secondary levels is likely partly overstated due to official imputation of (mainly personnel) expenditures in preschool and secondary compared to primary expenditures. The latter currently accounts for 49 percent of the overall budget.[10] In 2014, MINED expenditures accounted for 2.8

[9] Through the report we use "Basic education" as equivalent to "*Educación Básica y Media*", which according to Nicaraguan Law goes from preschool to upper secondary (grade 11). In the Nicaraguan system, "*Educacion básica*" comprehends up to grade 9 (up to lower secondary) and "*Educación media*", grades 10 and 11 (Upper secondary).

[10] González, Carballo, Abea, Rivera y Madriz (2015) show that the difference between primary and secondary spending is likely incorrectly estimated in the official budget. Between 2010 and 2013, the official figures for personnel expenditure, in primary are between 5.8 and 6.1 times the corresponding figures for secondary. Since student teacher ratios are similar at the two levels and teacher wages are also similar across the two levels, the authors argue that personnel expenditure is likely not much higher than the difference in enrollments during the same period. Under this assumption, in 2013, the share of primary spending would be approximately 37 percent, while secondary would

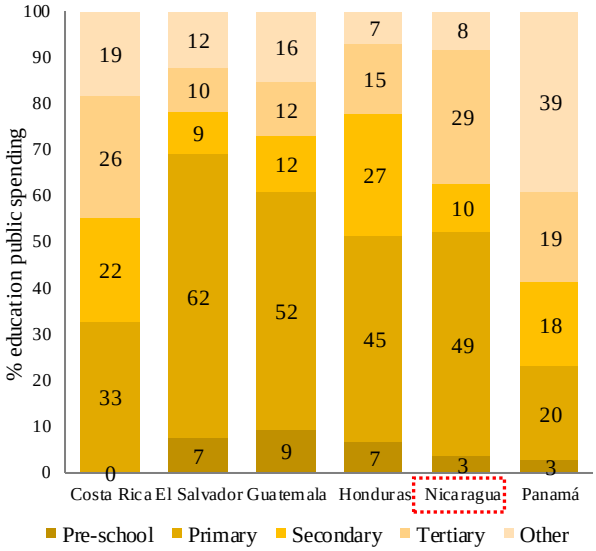
percent of GDP, while National Council of Universities (*Consejo Nacional de Universidades*, CNU), which includes a select group of 10 public and Catholic institutions, represented 1.2 percent of GDP.[11]

Figure 14. Nicaragua Public Spending by Educational Level (%), 2007-2014



Source: World Bank SSEIR / ICEFI social spending database.

Figure 15. Central American Public Spending by Education Levels (%), 2014



Source: World Bank SSEIR / ICEFI social spending database.

Between 2008 and 2013, the per student spending increased annually by 6.1 percent for primary education, while spending was more stable for preschool and increased steadily for secondary school (until 2013). Figure 16 shows that part of the reason for the increase in per student sending in primary education has been the decrease in primary enrollment, which is partly explained by the decline in the pre-school aged population, as well as the greater efficiency of the overall system at this level. Meanwhile, Figure 17 shows that, between 2008 and 2013, per student expenditure in preschool has been more or less stable, although it increased dramatically in 2014 (by 229 percent).[12] Over the same period, per student expenditures in secondary education showed a slight increase in 2009, followed by more steady increases through 2013 and then a larger 31

be approximately 13 percent and formal preschool 3 percent. In this case, the estimates for secondary education spending would be more in line with the numbers of the whole CA region, although both primary and secondary in Nicaragua would still be at a disadvantage relatively to the spending in tertiary education. These are of course inferences and all our analysis is, instead, based on the data analyzed and consolidated by ICEFI. Furthermore, our main recommendations of a spending is heavily biased towards tertiary education would remain unchanged.

[11] In this report, expenditure with INATEC (public institute leading training and technical education) is accounted in the spending for social protection and labor policies. This exercise is consistent with the accounting in other social sector expenditure reviews for other countries of the Central America region. For the period 2010-2013, expenditure by INATEC was estimated between 0.19 percent and 0.42 percent of GDP (MHCP, 2015).

[12] This is largely the result of a greater investment in preschool infrastructure, textbooks and teacher training, partly financed with World Bank support.

percent increase between 2013 and 2014. Overall, the 70.1 percent increase in per student expenditure in secondary education between 2008 and 2014 shows an increasing policy priority for investing in this level of education. The increase in expenditures at both preschool and secondary levels is mostly explained by additional funds allocated for school infrastructure since 2014 (MINED, 2015).

Figure 16. Public Enrollment by Level, 2008-2014

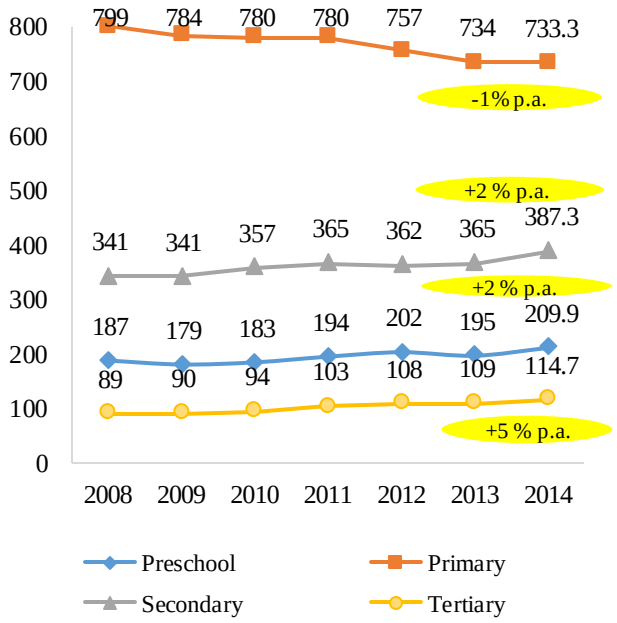
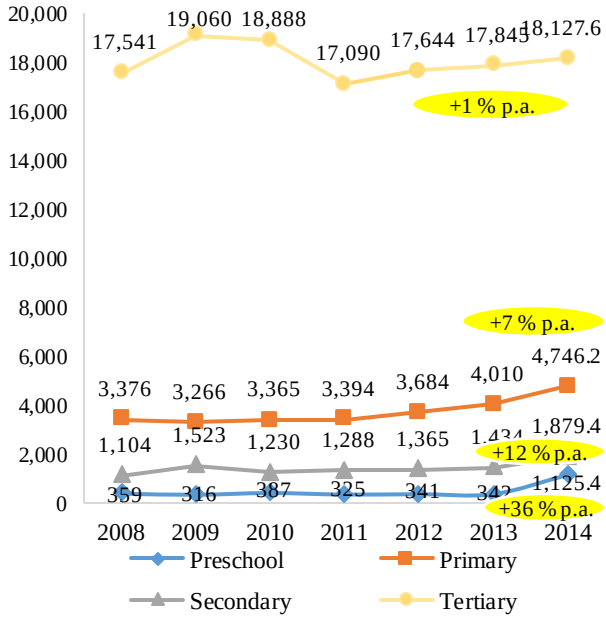


Figure 17. Per Student Spending in Basic Education, 2008-2014



*p.a. = per annum
Source: Enrollment Statistics Department MINED; Expenditure World Bank SSEIR / ICEFI social spending database.

As a percent of GDP, primary education spending is above the average of comparator countries, however it is below the average for peer countries for per student spending (Figures 18 and 19). The lower levels of per student spending in primary education reflects that Nicaragua has more students in primary school compared to the total population than countries with similar levels of GDP. This is not surprising, particularly given its relatively young population.

Figure 18. Primary Public Expenditure as a % of GDP vs. GDP per capita, circa 2012

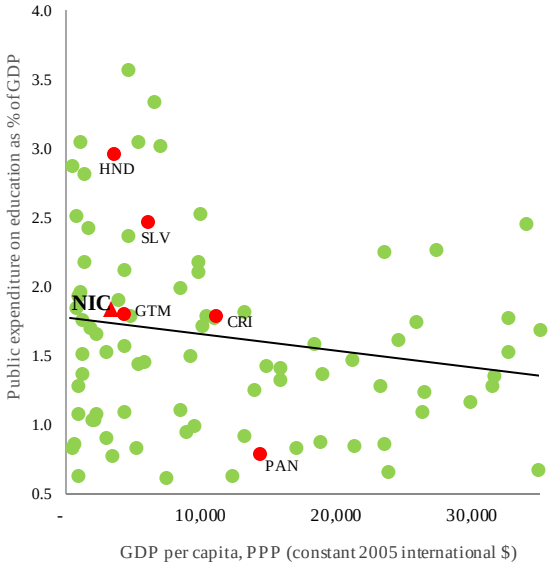
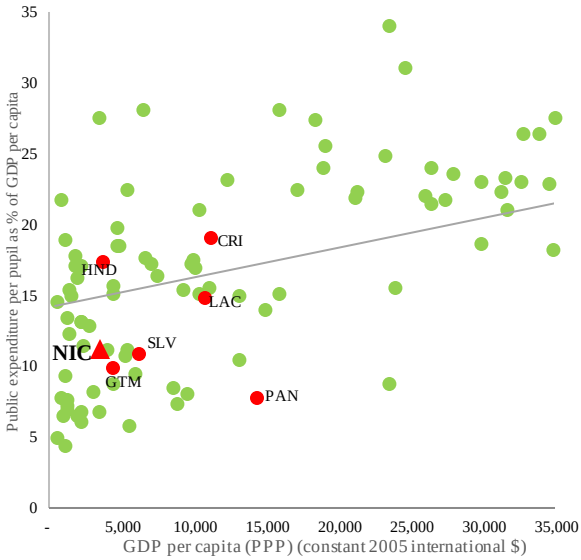


Figure 19. Primary Public Expenditure per student as a % of GDP per capita vs per capita GDP, circa 2012



Source: World Bank SSEIR / ICEFI social spending database for Central America. EdStats for the rest of the countries. 2010 figure for OECD members.

In contrast, secondary education spending as percent of GDP is still quite low in comparison to other countries. Figures 20 and 21 show secondary education spending as percent of GDP and per student spending for several countries. In both figures, it is clear that Nicaragua spends less on secondary education than comparator countries. However, this gap is likely due to the fact that expenditures on secondary education are likely under-estimated in official MINED data. Adjusted figures would somewhat rebalance this spending, making it closer to 17 percent and placing Nicaragua above the LAC average and well above spending levels seen in El Salvador, Panama and Guatemala, although still below the adjusted linear regression line.

Figure 20. Secondary Public Expenditure as a % of GDP vs GDP per capita, circa 2012

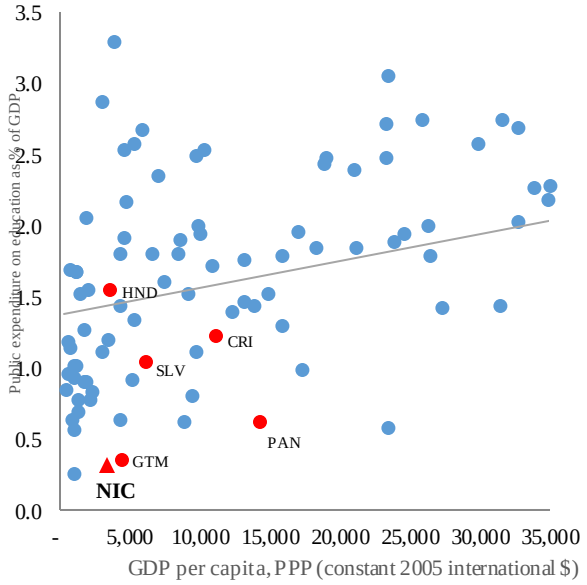
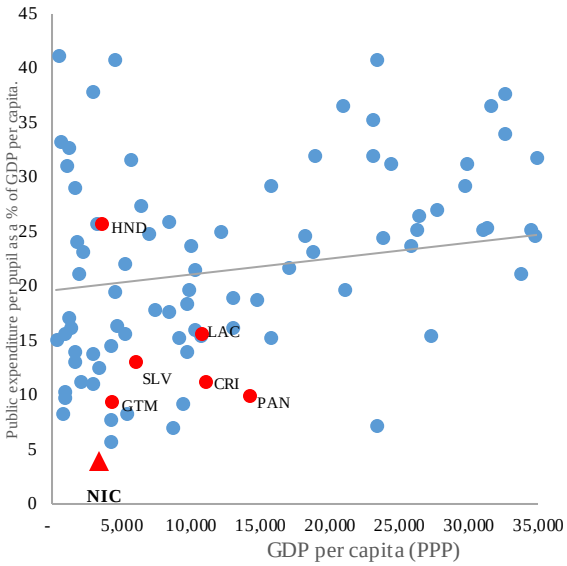


Figure 21. Secondary Public Expenditure per student as a % of GDP per capita and GDP per capita (PPP), circa 2012



Source: World Bank SSEIR / ICEFI social spending database for Central America. EdStats for the rest of the countries. 2010 figure for OECD members.

Tertiary education spending as percent of GDP is well above the average of peer countries, however gross enrollment in tertiary education in Nicaragua is lower than that of other countries with similar income levels (Figures 22 and 23). This reflects Nicaragua's sectoral bias towards higher education, which benefits from a special provision in the National Constitution. The Constitution stipulates that tertiary education spending for those universities that are a part of the CNU should account for 6 percent of total government expenditures for education.[13]

[13] There are also a large number of unregulated private institutions funded by tuition and fees. Section 1.4 includes a more detailed institutional discussion of the sector.

Figure 22. Tertiary Public Expenditure as % of GDP vs GDP per capita, 2012

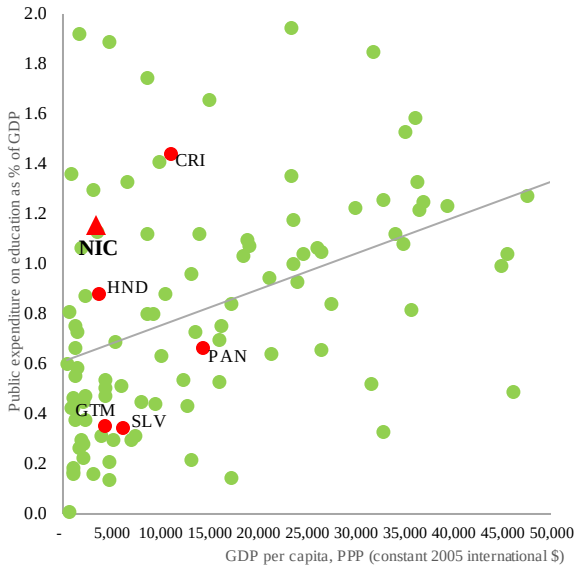
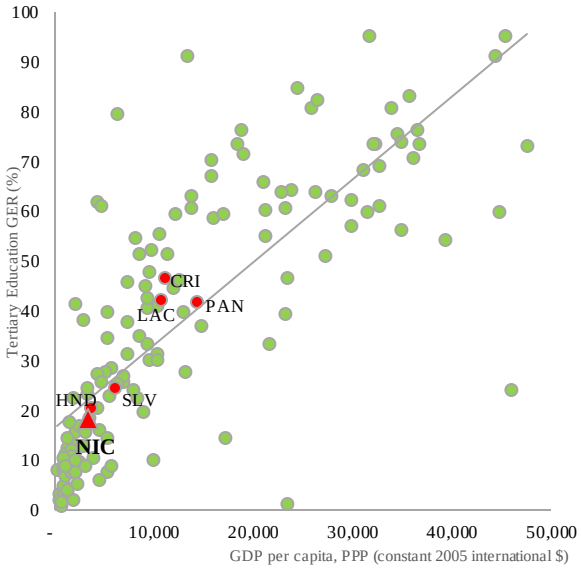


Figure 23. Tertiary Education, Gross Enrollment Rate (%) vs GDP per capita, 2012



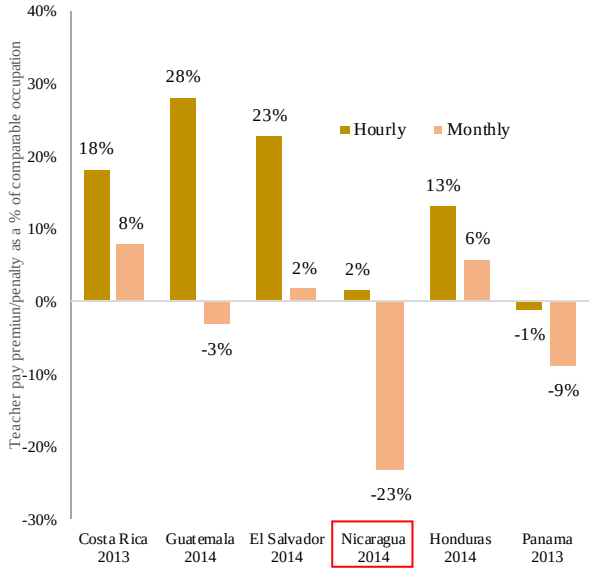
Source: World Bank SSEIR / ICEFI social spending database for Central America. EdStats for the rest of the countries. 2010 figure for OECD members.

As of 2013, personnel expenditures in basic education (from preschool to upper secondary) represented 72 percent of MINED's budget. While this share is in line with other countries (not reported), there is anecdotal evidence that other personnel expenses (for teacher salaries) are reported under a different category. This category represents approximately 5 percent of MINED's budget and includes: i) subsidies to private schools, which are used to pay teacher salaries; and, ii) community teachers in charge of community preschools who are not formally recognized as MINED staff. It is unclear how this would affect the overall share of the budget going to personnel expenditures and whether it would place estimates substantially above the previously cited 72 percent.

Teacher pay in Nicaragua does not seem to be competitive and tends to be less dispersed relative to other professions in the country. Figure 24 shows that total monthly wages for teachers in Nicaragua are lower than for other professions by an average of 23 percent for 2014. However, hourly wages are almost in line with earnings of other professions (there is a 2 percent hourly wage premium).[14] Figure 25 shows that teachers' earnings vary less (smaller dispersion) than wages in other professions, suggesting that there are fewer incentives for high performance. This could potentially discourage skilled teachers who would benefit from more competitive pay schemes.

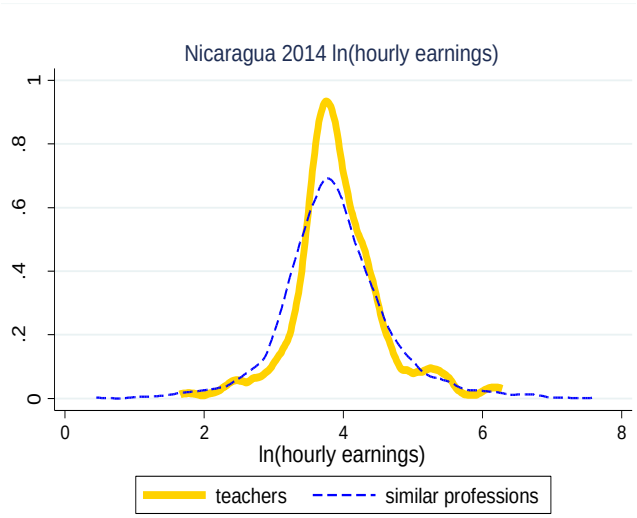
[14] This figure, however, should be cautiously interpreted as the total hours of work *de facto* worked by teachers may differ from the ones reported in the survey data which simply capture the hours at school.

Figure 24. Teacher Wage Premium, Central America, circa 2014



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations and labor market data for 10 LAC countries, in Bruns et al., Building Better Teachers in Latin America and the Caribbean (World Bank, 2015).

Figure 25. Teacher Hourly Wages, Nicaragua, 2014



Source: EMNV 2014. Analysis conducted by SSEIR team. Methods used based on Bruns & Luque (2014), Great Teachers.

On average, Nicaragua has a higher student to teacher ratio than other countries with similar income levels (including Honduras, Guatemala and El Salvador), but as the school-age populations are beginning to shrink, student to teacher ratios will likely decrease, with all else staying constant. Figures 26 and 27 report the student to teacher ratios for primary and secondary education in Nicaragua and other countries. Both figures show that most Central American countries tend to have lower student to teacher ratios than Nicaragua for both primary and secondary school. Moving forward, there is pressure for further reductions in student to teacher ratios. Since 2005, the school aged population has been steadily declining and population projections in Figure 28 show that this is likely to continue in the future.[15] For example, between 2005 and 2020, the number of individuals aged 0-19 years old will decline by 99,051 (3.7 percent) and the share of this population group will decline from 45.2 percent to 39.6 percent. Furthermore, in 2050, this age group will have declined even further, by an additional 484,368 (18.8 percent), leaving this population's share of the total population at 26.4 percent.[16] This decline presents an

[15] Source of population projections is the National Institute of Information Development (INIDE): *Nicaragua: Estimaciones y proyecciones de población nacional* 1950-2050. Revision 2007.

[16] Nevertheless, doubts remain on the exact figure of the school age population's decline, since the precision of 2005 Census figures has been questioned and the new Census is overdue. With regard to the population aged 5-19, the decrease between 2005 and 2020 will be 77,098 or -3.8 percent, or a 4.3 points decline in their share of the population (INIDE, 2015).

opportunity to focus education spending on policies and programs that sustain learning.[17] Even though the country faces important challenges on the infrastructure side, recent evidence (e.g., Glewwe and Muralidharan, 2016) supports the view that many expensive "standard" school input policies are often not very effective in improving outcomes, though some specific inputs (which are often less expensive) are. For example, interventions that focus on improved pedagogy, especially supplemental instruction to children lagging behind grade level competencies, are particularly effective, as are interventions that improve school governance and teacher accountability. These types of interventions could be important areas for Nicaragua to focus on in order to increase the cost-effectiveness of public spending in education.

Figure 26. Primary Student/Teacher Ratio in relation to GDP per capita, 2012

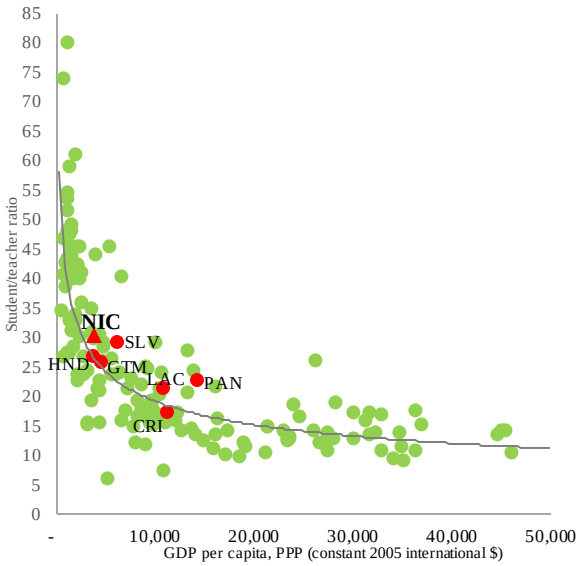
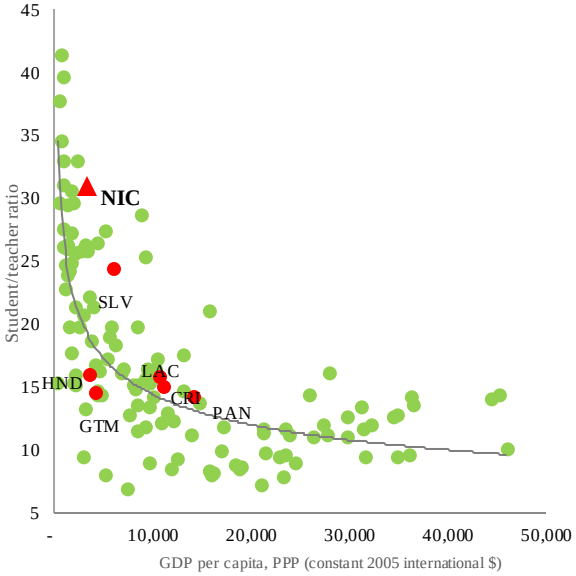


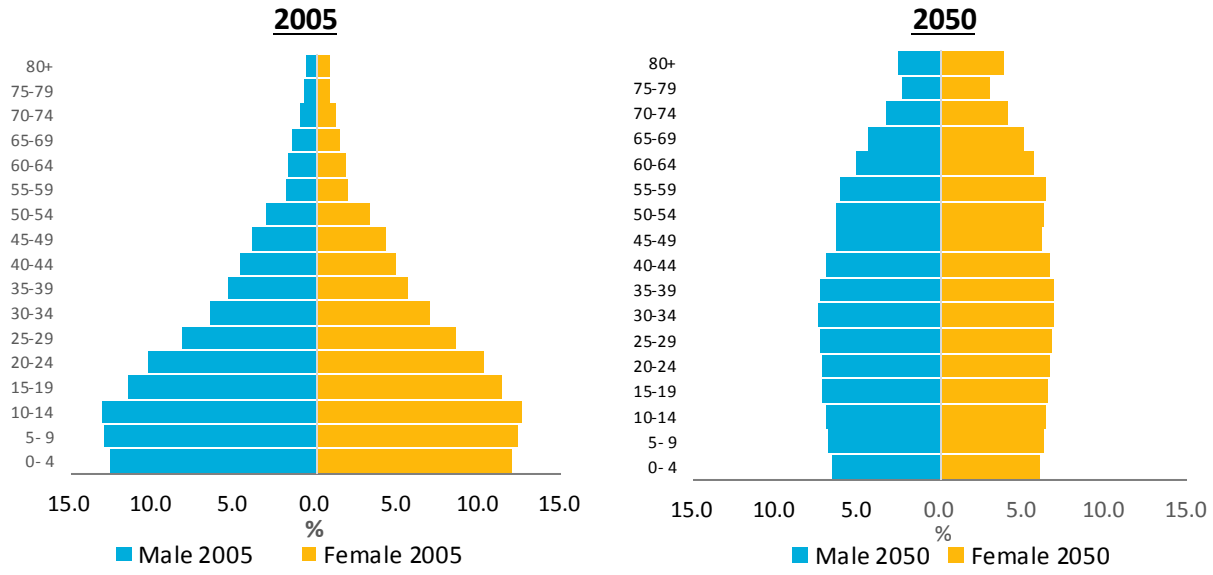
Figure 27. Secondary Student/Teacher Ratio in relation to GDP per capita, 2012



Source: World Bank SSEIR / ICEFI social spending database for Central America. EdStats for the rest of the countries. 2010 figure for (OECD) members.

[17] Nevertheless, as discussed further below, the challenge for increasing net enrollment in preschool and secondary education remains very important.

Figure 28. Nicaragua Population Pyramids, 2005 and 2050



Source: Nicaraguan National Institute of Statistics, 2007.

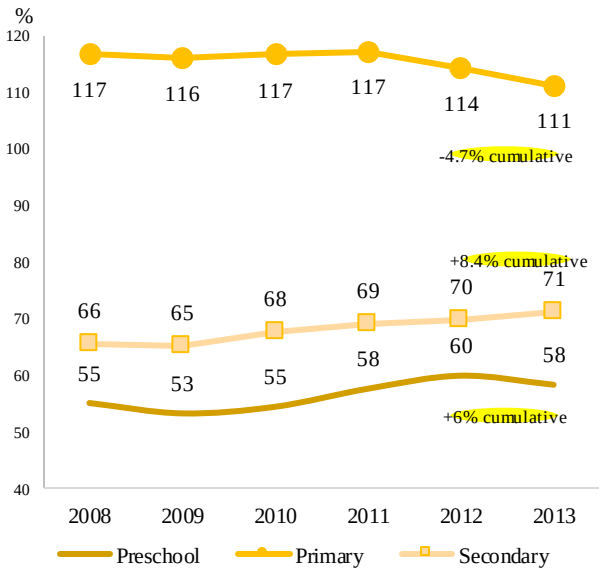
IV.2 Education Outcomes and Challenges

Coverage is already almost universal in primary education and is slightly increasing at the secondary level, but overall it is still low by international standards. Figure 29 shows that there has been a decline in gross enrollment of 6 percentage points between 2008 (117 percent) and 2013 (111 percent) in primary education. Together with an almost stable net enrollment in primary education until 2012 (Figure 30), this suggests an increasing efficiency in primary education system. However, between 2008 and 2013, the three percent decline in net enrollment in primary education, from 92 percent to 89 percent, may be a matter of concern.[18] Between 2008 and 2013, the trend in gross and net secondary enrollment was more positive than in primary enrollment, with an increase of 5 percent and 6 percent in gross and net enrollment rates, respectively. This implies that the expansion of secondary school enrollment is mainly due to the increased number of adolescents in the proper age range for attending this level of education. In fact, the number of

[18] This fall could be also related with inaccurate population projections since the most recent Census is rather old (2005).

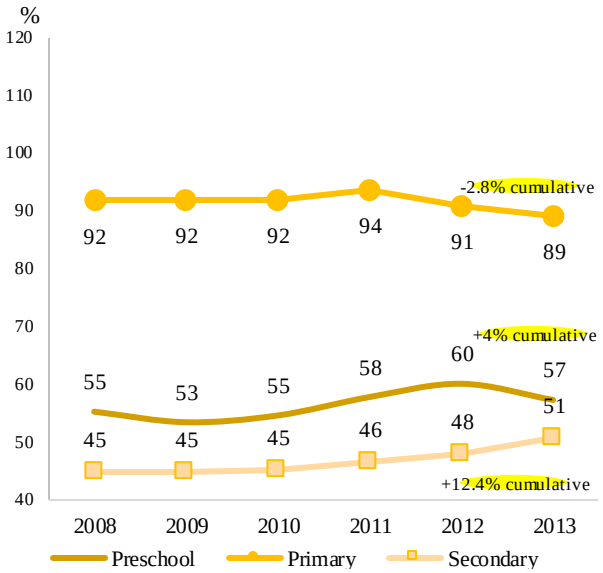
over age students has been stable or has slightly declined (for a detailed discussion see also MINED, 2016).[19]

Figure 29. Gross Enrollment (%) by level, 2008-2013



Source: World Bank based on MINED data base, 2014.

Figure 30. Net Enrollment (%) by level, 2008-2013



Source: World Bank based on MINED data base, 2014.

Primary net enrollment and secondary gross enrollment are in line with other countries with similar GDP per capita. However, net enrollment in secondary school is well below the average for similar countries in Central America. Figures 31 and 32 report the net enrollment rates in several countries (circa 2012), while Figure 33 shows an international comparison of secondary gross enrollment, against country GDP. According to these figures, gross secondary enrollment in Nicaragua tends to be in line with the one for countries with similar income levels, similar to other Central American countries (such as El Salvador, Panama, and Guatemala). However, net enrollment in secondary education is below selected Central American countries and the average for the LAC region. This difference suggests that despite having a similar coverage level, there is still a high level over age students in the system, meaning that many secondary school aged children (11 to 16) are currently enrolled in primary education (as detailed below in section 1.2.).

[19] MINED, 2016: "*Análisis del sector educativo 2016*". The difference between the net and the net adjusted rate in secondary corresponds to adolescents 12-16 years old who remain in primary. The net adjusted rate for secondary increased from 73.6 percent in 2008 to 76.1 percent in 2013, and 81.8 percent in 2015. The share of adolescents that remained in primary has declined from representing 64 percent of adolescents in the school system in 2008 to 49 percent in 2013. The latter is a clear illustration of the progress in the efficiency of the education system.

Figure 31. Primary Net Enrollment (%), circa 2012

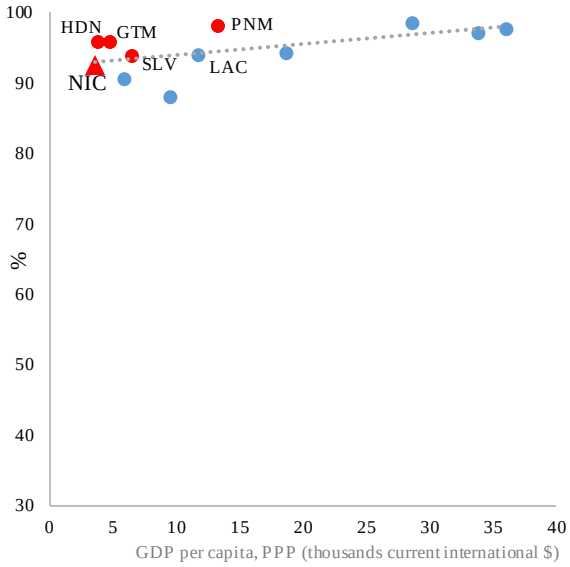
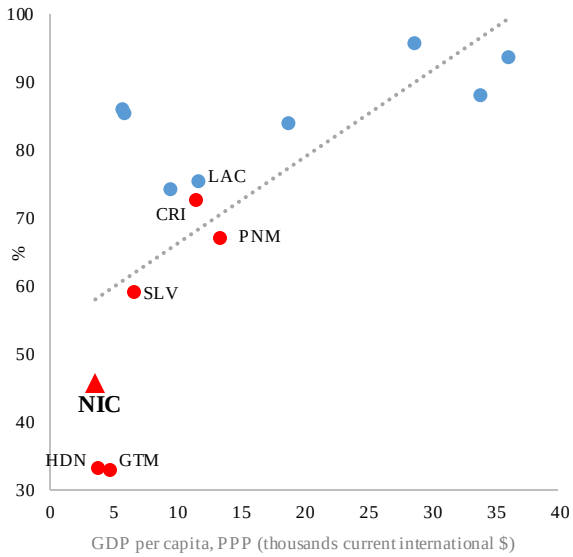
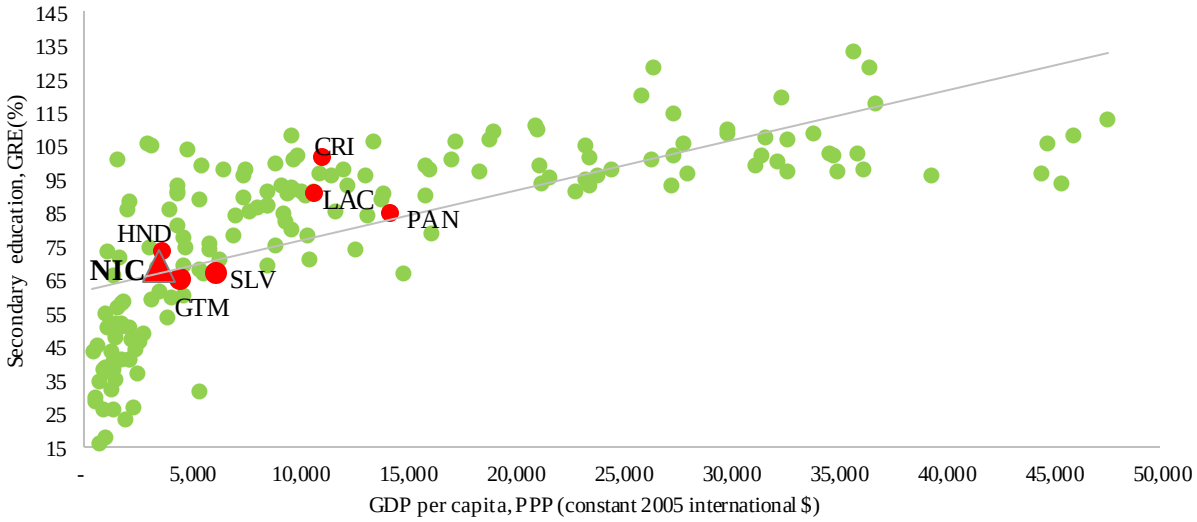


Figure 32. Secondary Net Enrollment (%), circa 2012



Source: World Bank SSEIR / ICEFI social spending database for Central America. EdStats for the rest of the countries. 2010 figure for OECD members.

Figure 33. Secondary Gross Enrollment (%) vs GDP per capita, circa 2012



Source: World Bank SSEIR / ICEFI social spending database for Central America. EdStats for the rest of the countries. 2010 figure for OECD members.

Despite the fact that there are two tracks for upper secondary education, technical and vocational education are limited. Almost all enrollment follows the main academic, or general track (*secundaria diversificada*), which typically prepares students for university. As Figure 34 shows, only 4 percent of all upper secondary students nationwide actually enroll in technical education (*bachillerato tecnico*). Moreover, as shown in Figure 35, the biggest share of enrollment at the upper secondary level in technical and vocational education is in public institutions (MINED,

2016).[20] Low enrollment for these courses suggests that quality, relevance, and attractiveness to students are likely a challenge.

Figure 34: Upper Secondary Enrollments by modality, 2014 (%)

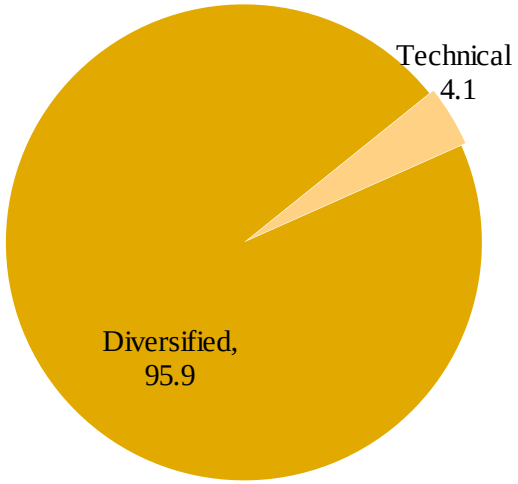
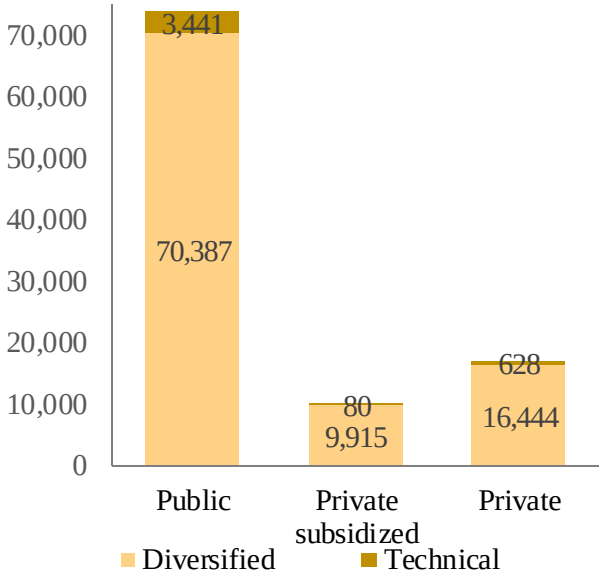


Figure 35: Upper secondary Enrollments by type of institution and modality, 2014

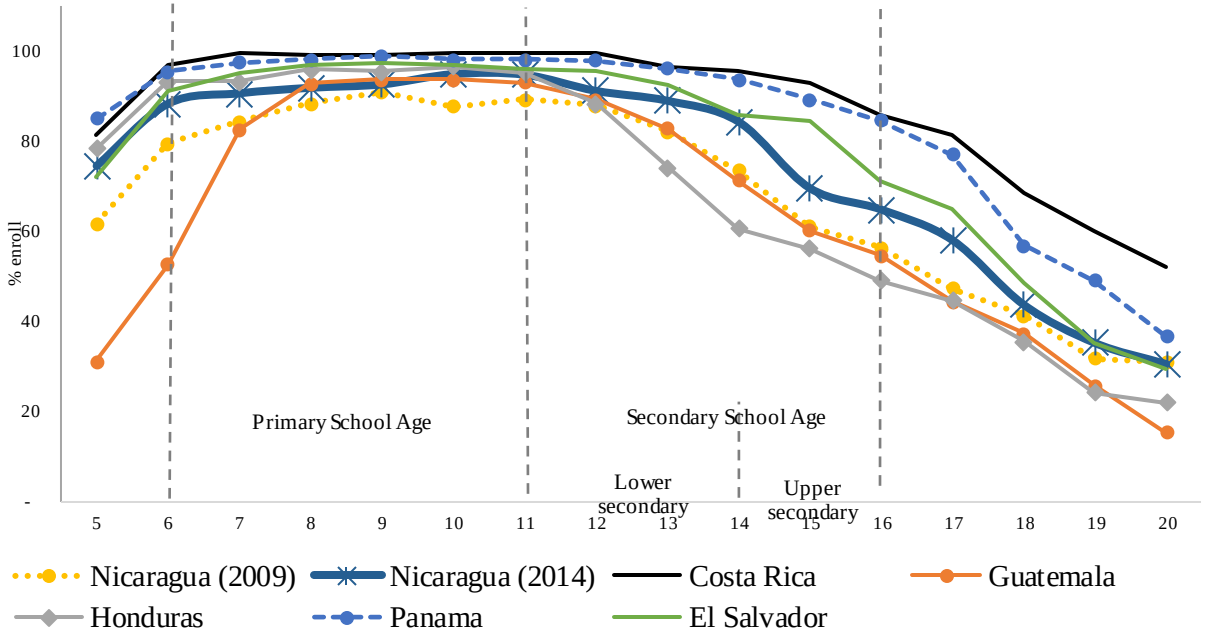


Source: World Bank SSEIR using MINED and INATEC information.

Enrollment falls quickly starting around age 11, the appropriate age for completing primary school, while the decline is particularly steep around age 14, the appropriate age for beginning upper secondary school. Figure 36 shows the percentage of children enrolled in school by age across Central America, including contrasting data for Nicaragua between 2009 and 2014. This data shows a large increase in school enrollment in Nicaragua, especially for children 5-6 years old and adolescents 13-17 years old between 2009 and 2014. In 2014, Nicaragua showed a sharp decline in school enrollment starting at age 14, which is accentuated in older age groups. Enrollments for ideal ages of basic education students are still 2 to 5 points below those already achieved by El Salvador. The gap between Nicaragua and Costa Rica is also significant, reaching between 5 and 9 points for ideal ages of basic education, increasing at age 14 to 11 points, and further accelerating at age 15 when it reaches 23 points and remains stable thereafter.

[20] According to INATEC statistics, there are circa 3,500 students participating in technical education modalities similar to *Bachillerato Tecnico*, but this could not be confirmed trough available official education statistics.

Figure 36. School Enrollment by age, Central America



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Education Module).

Despite improvements in the attainment of basic education, primary and secondary (lower and upper) completion remain quite low in Nicaragua. Figure 37 and 38 show the evolution of primary and secondary (lower and upper) attainment for different age groups using household surveys from 2005 and 2014.[21] Some facts are worth noting: (i) the sustained increase in attainment between the consecutive age groups shows Nicaragua's efforts over the last half century to promote more schooling across generations; and (ii) there were significant improvements in graduation rates from the regular system for all age groups (and especially for the younger cohorts) between 2005 and 2014. The only exception is the dramatic improvement in completion of primary education for the 55-64 age group. Furthermore, the data shows that in spite of the progress, today there are still important completion gaps: (i) completion of primary education is well below 100 percent even for the youngest cohorts, and today 1 out of 4 young people have not completed six grades of primary education; and (ii) completion of secondary school is still extremely low, as only 2 out of 5 people aged 20-24 years old completed this level. Finally, it is worth noting that the significant increase in the completion of primary and secondary education may also partly

[21] As age groups reported include 10 year intervals. For instance, the figure for age group 25-34 in 2005 corresponds more or less to age group 35-44 in 2014.

reflect the strong investments in adult education programs for individuals aged 15 or older made by MINED since 2008.[22,23]

Figure 37. Primary Completed by age group, 2005 - 2014

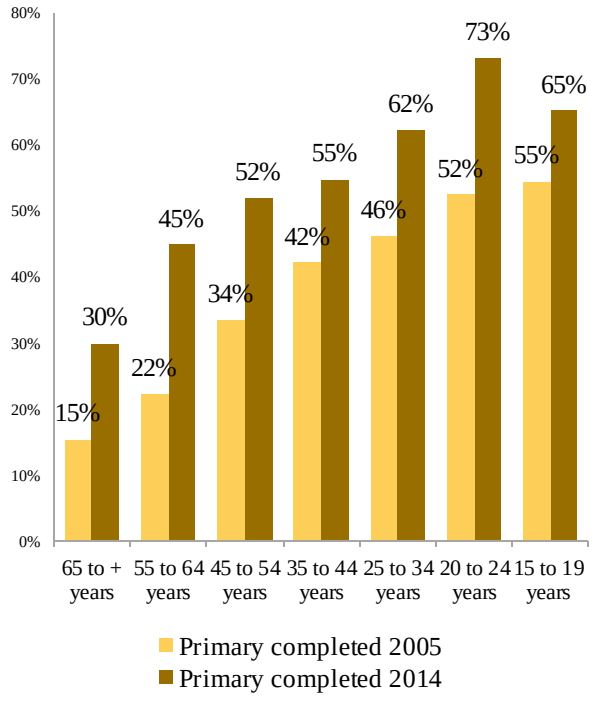
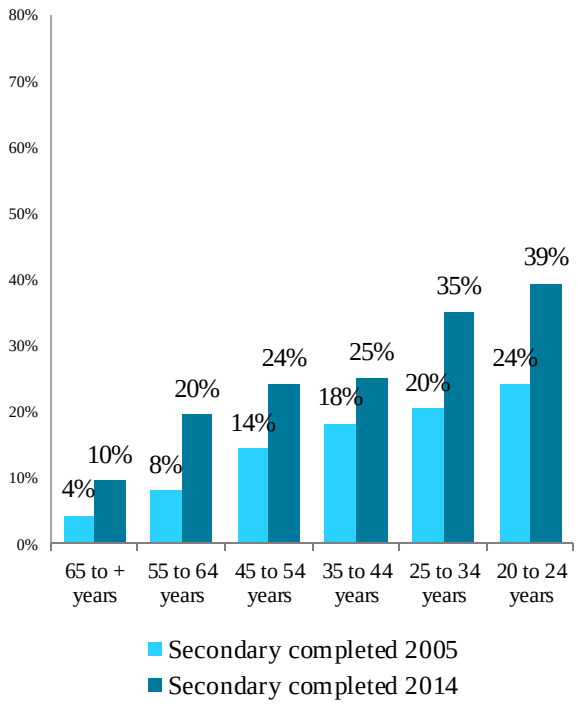


Figure 38. Secondary Completed by age group 2005 - 2014



Source: World Bank SSEIR using household surveys in 2005 and 2014.

Since 2008, the internal efficiency of Nicaragua's basic education system has been steadily improving. A closer look at the various indicators of internal efficiency of the basic education system illustrates this improvement. Figures 39, 40 and 41 show the retention, repetition and survival rates for the basic education system between 2008 and 2013.[24] This data shows that retention rates increased by 3.2 percent at the primary level and 1.9 percent at secondary level, while repetition rates declined from 11.1 percent to 6.3 percent in primary school and from 7.9 percent to 5.1 percent in secondary school. Similarly, survival rates have increased for each grade, but are especially high for sixth grade. In 2013, the probability of finishing sixth grade once

[22] Other options are migration and measurement error.

[23] Some well-known programs include for primary education: "Alfabetización, Nivelación", "Ya Puedo Leer y Escribir" y "Yo Si Puedo Seguir". For secondary, there is also "secundaria nocturna", "bachillerato por madurez, II ciclo, Sandino II y Secundaria a Distancia. Consistent with the success of these programs the illiteracy rate changed from 20.5 percent in 2005 to 14.6 percent in 2014.

[24] Retention rate (or intra annual retention) is defined as the relation between the number of students enrolled at the beginning of the school year and number of students enrolled at the end of the school year in the same grade. Repetition rate is the relation between the number of repeaters in the school year (t+1) and the number of students enrolled in a school year (t). Survival rate is the percentage of a cohort of students who enter the first grade of primary education and who are expected to reach the last grade, regardless of repetition (UNESCO, 2005).

enrolled in first grade reached 63 percent, up from 53 percent in 2008. This is a sharp boost over a short period of time. The sustained improvement of internal efficiency indicators, coupled with selected new policies to reinforce this positive trend, are likely to continue to deliver results in the coming years.

Figure 39. Basic Education Retention Rates, 2008-2013

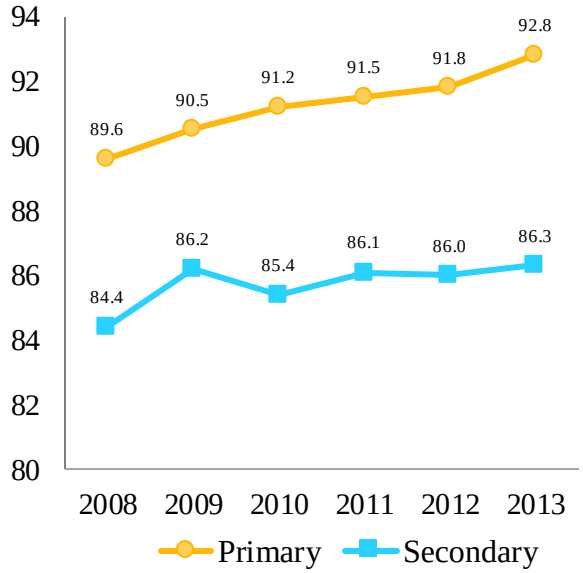
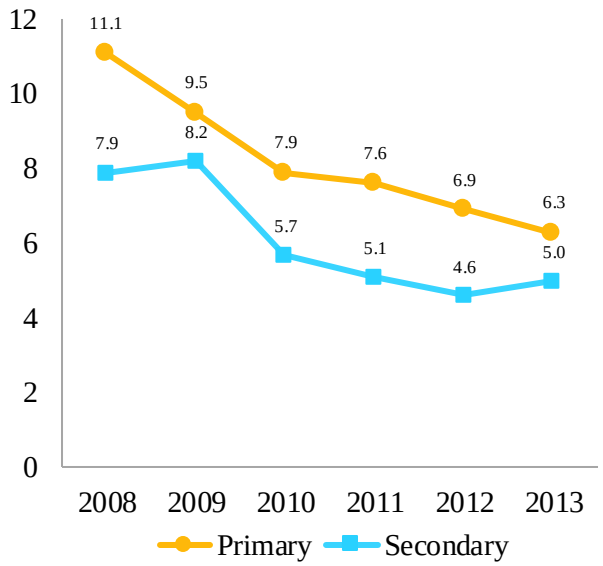
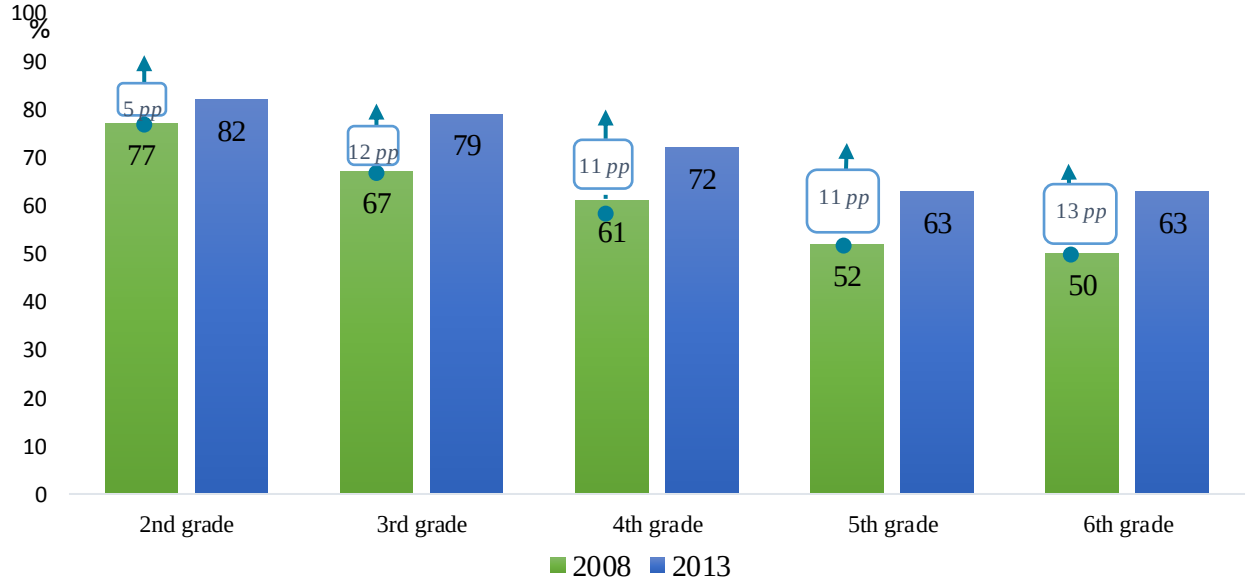


Figure 40. Basic Education Repetition Rates, 2008-2013



Source: World Bank SSEIR team using MINED (2008-2013).

Figure 41. Basic Education Survival Rates, 2008 vs 2013



Source: World Bank SSEIR team using MINED data 2008-2013.

Several programs and policies have likely contributed to these efficiency improvements, and those focused on the delivery of school kits and school meals may have had some impact. Although increasing evidence suggests that traditional supply-side programs are not cost-effective in improving learning in low income settings (Gluwwe and Muralidharan, 2016), some anecdotal evidence suggests that, in Nicaragua, school kits and school meals have increased the incentives of parents to send children to school and have contributed to improved performance. The rationale is that healthier and better equipped/dressed children are more "ready" and likely to learn in school, and hence, such interventions could lower repetition and increase survival rates throughout the system. The evidence presented in Figures 42 and 43 shows that the programs have been mainly targeted to the poorest and, as of 2014, have reached important program coverage (see Barahona et al, 2014).[25] Even though a rigorous impact evaluation has not been undertaken for these interventions, anecdotal evidence suggest that these two programs may have contributed to improving the internal efficiency of the education system, especially among the poorest.[26]

Figure 42: Social Programs Coverage (preschool and primary), 2009 & 2014

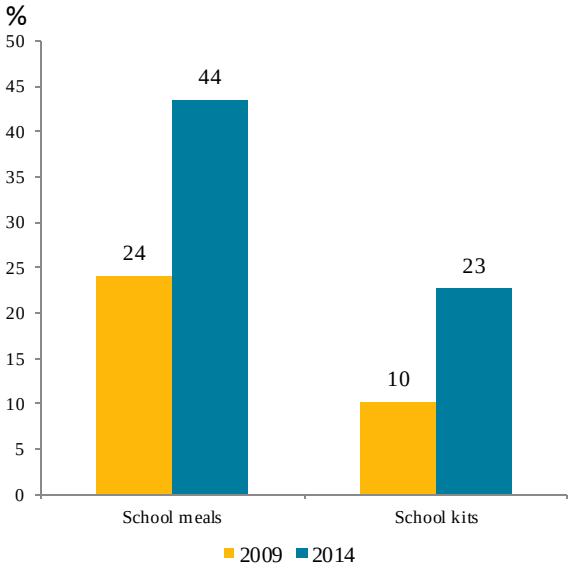
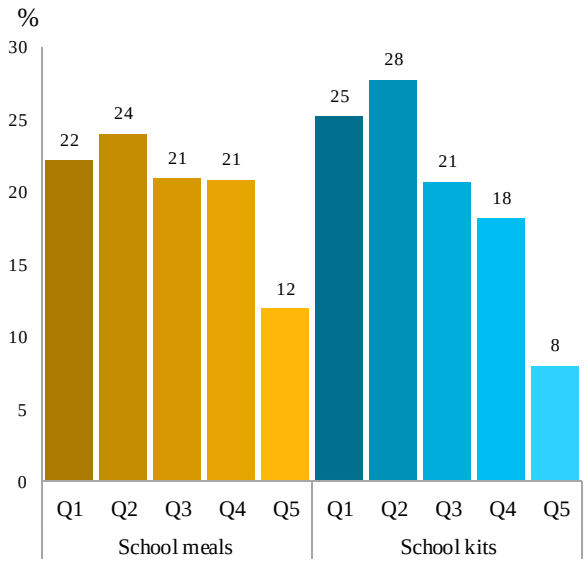


Figure 43: Social Programs incidence by quintiles, 2014



Source: World Bank SSEIR using EMNV 2009 2014.

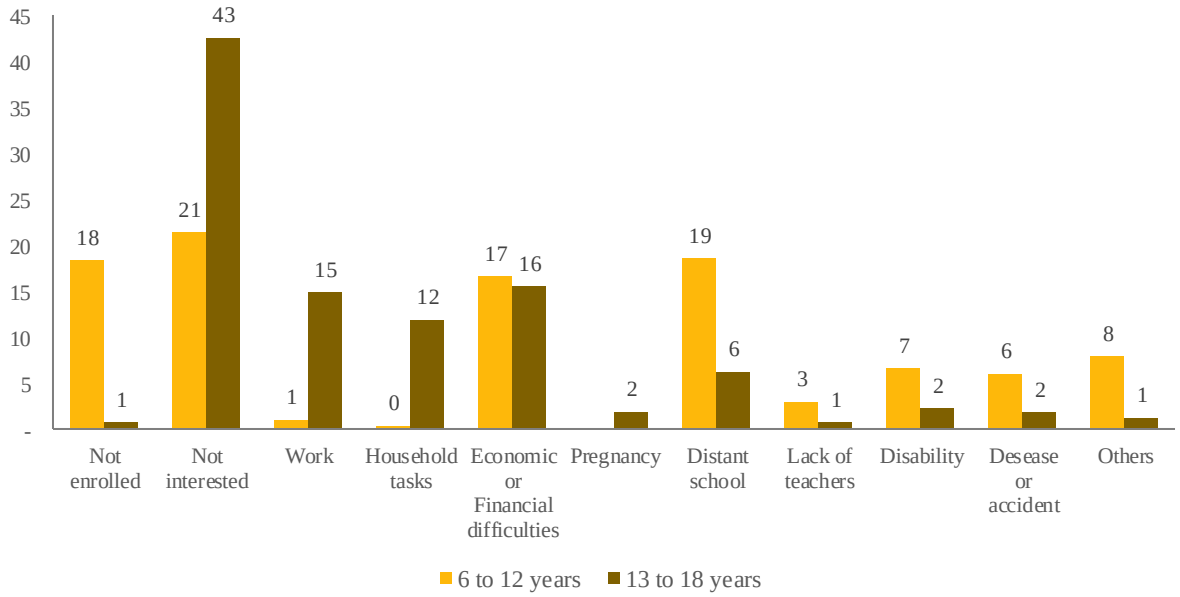
School dropout rates in primary and secondary school are strongly correlated with a student's lack of interest, as well as with the distance to the school. Figure 44 shows the main reasons for dropping out of formal school for children 6-12 years and 13-18 years old. This data suggests that school dropouts for those up to 12 years old is related to both demand and supply-

[25] These are the two main social programs for education sector. For more information, please see Barahona et al (2013).

[26] Even though there is no impact evaluation anecdotal evidence suggests significant impacts of these programs among the poorest families of Nicaragua especially because they reduce the cost of attending school as parents to not get enough financial resources to buy them clothes, shoes and educational materials.

side challenges. For example, remoteness of the school is an important factor for non-attendance for 19 percent of younger students. For the older cohort, the main reason for not attending is skewed more towards demand-side factors, including a lack of interest (43 percent) and financial or economic difficulties (16 percent), and the need to work (mainly outside the house for males and in household tasks for women).

Figure 44: Reasons for Not Attending School, children aged 6 to 18 years, 2014



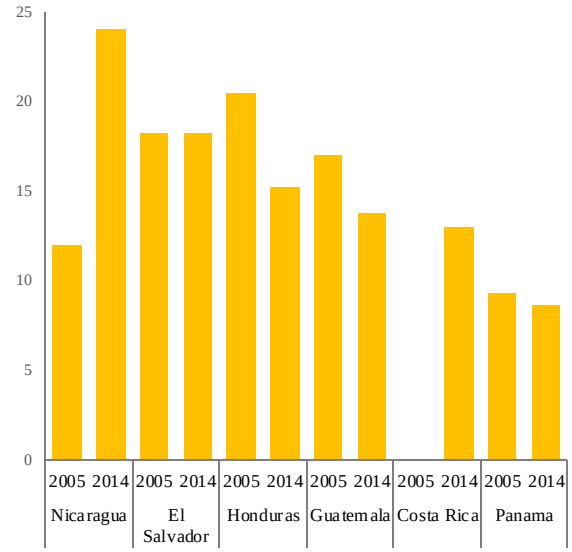
Source: World Bank SSEIR, authors' calculations using standardized ADePT software (Education Module).

High desertion rates from secondary school are also likely driven by the stigma associated with being an over age student, which accumulates from the early grades of primary through grade repetition. Figure 45 shows that, in 2014, Nicaragua had the largest rate of over age students in Central America.[27] As of 2014, 24 percent of the primary students in Nicaragua were over age, compared to 18.2 percent for El Salvador. Figure 46 unpacks this over age phenomena across primary grades and shows that the share of over age children in Nicaragua declines across grades, being highest for the first grade. Between 2008 and 2013, the average repetition and dropout rates also fall across grades (not reported). On average, repetition and dropouts rates for first grade are 15 percent and 16 percent, respectively. These averages decline steadily in out years, with repetition rates falling to 10 percent in second grade and 2 percent in sixth grade, while dropouts decline form 9 percent in second grade to 5 percent in sixth grade (MINED, 2016).[28]

[27] Over age rate for first grade is the share of students who are enrolled in first grade and who are older than 7 years old.

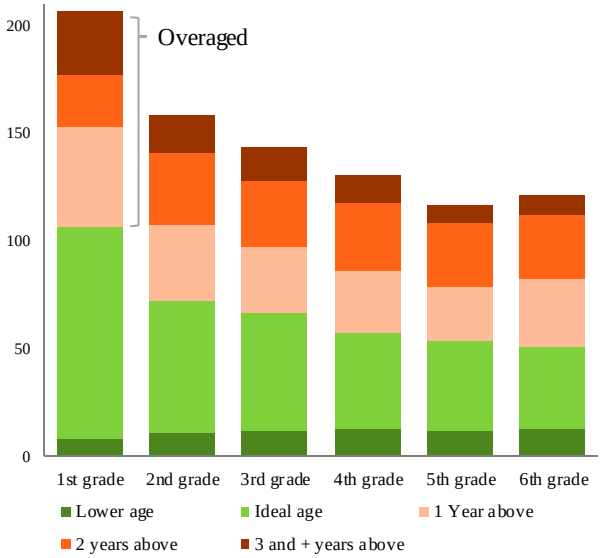
[28] Analisis del Sector Educativo. MINED, 2016.

Figure 45: Over Age Rate, Central America, 2005-2014



Source: Estado de la Region Quinto Informe: El dilema estratégico de la educación en Centroamérica, 2015.
Note: Over age rate = Proportion of students who are enrolled in an education level who are outside the official age range for that level.

Figure 46: Primary Enrollment by age group (in thousands), 2013



Source: World Bank SSEIR using data from MINED.

To date, Government policies have mostly tackled supply-side challenges to dropouts in order to facilitate access, enrollment, and retention. The main policy actions that have been taken include: (i) allocating the best primary teachers to first grade, where the largest dropout and repetition rates are still observed; and, (ii) eliminating repetition in first and second grades. Box 3 discusses this policy strategy, entitled *Estrategia del Primer y Segundo Grado*. In addition, promoting the completion of fifth and sixth grade in multi-grade schools (Box 5) and supporting the implementation of a new alternative for secondary schools in rural areas (Box 6) are also critical aspects of the Government's policy efforts.

Box 3: Nicaragua learning Strategy with emphasis on Childhood Development in the first and second grades

Enrollment statistics for first and second grades reveal that a high percentage of first grade students do not pass on to second grade. For instance, between 1999 and 2012, approximately 26 percent of children enrolled in these grades did not pass to the next grade (MINED, 2016). This fact has been identified as a policy priority at MINED. Today, the Government is eager to improve repetition and incentivize students to complete primary school.

In order to broadly tackle the issue of primary school desertion and specifically improve the repetition and retention in first and second grades, the Government began implementing a new strategy, entitled *Learning Strategy with Emphasis on Childhood Development in First and Second Grades*, in 2015.

The main objectives of this strategy are to reduce first and second grade dropout through: i) leading a curriculum reform and designing and printing new textbooks for students and teachers (based on the new curriculum) for both grades; ii) assessing and revising the current distribution of multi-grade classes at the national level to increase the number of first grade classes that are not shared with other grades and limiting the combination of students from first through third grades for those classes that remain multi-grade; iii) revising the teacher selection process to ensure, particularly for first grade, that those chosen have strong teaching aptitudes; iv) strengthening teacher training through the reform and standardization of teaching methods nationwide, with a strong emphasis on the synthetic analytic phonics instruction for reading skills; and, v) introducing new learning assessments.

Evidence suggests that important advancements have been made on all of these fronts, especially in the training of teachers, creation of new curriculum, and distribution of new textbooks.

Source: Authors using "Estrategia de Aprendizaje con Enfoque de Desarrollo Infantil en Primero y Segundo Grado de Educación Primaria." MINED, August 2014.

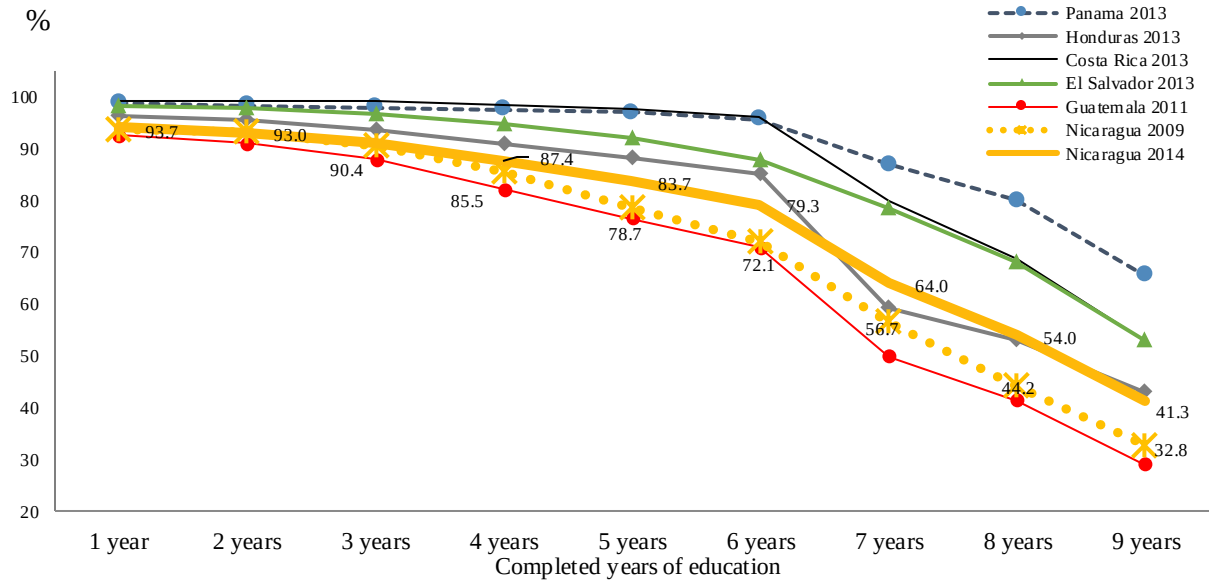
Moving forward, more attention could be given to implementing more comprehensive strategies, including both demand and supply-side policies to reduce dropouts. Furthermore, strengthening vocational alternatives in upper secondary education and labor market relevance of lower secondary might also be considered. In recognition of the fact that several reasons for desertion are demand-side driven, it would be important for policies to foster more cost-effective demand-side policies moving forward, such as increasing the immediate returns of schooling or the student's effort. In addition, it could also be valuable to consider other supply-side policies to complement demand-side efforts (see Glewwe and Muralidharan, 2016). From the interventions discussed and recommended by Almeida, Fitzsimons and Rogers (2015) for the LAC region, it is likely that a combination of improved school governance, greater teacher accountability, community involvement, and interventions focused on improved pedagogies (supplemented by a relevant and attractive curriculum at secondary level) could be a promising route for Nicaragua, both to reduce dropouts as well as to improve pertinence and quality.[29] The possibility of installing early warning systems, with different pedagogical, socioeconomic, and psychological supports depending on the diagnosis, are being also considered in Nicaragua. Regardless of the interventions, it would be important for the Government to be willing to test the impact of more diverse and comprehensive packages of reforms that simultaneously address supply and demand-side challenges.

In sum, although Nicaragua's overall level educational attainment is improving quickly, it is still low in comparison to other countries in Central America and has resulted in generating a labor force that remains highly unskilled. Figure 47 shows that Nicaragua's five year attainment rates for individuals aged 15-19 years old have increased by 5 percent between 2009

[29] Evidence suggests that school-based management appears to reduce dropout in lower secondary, whether because of better monitoring of performance by parents improves quality or because greater involvement spurs more household support for staying in school.

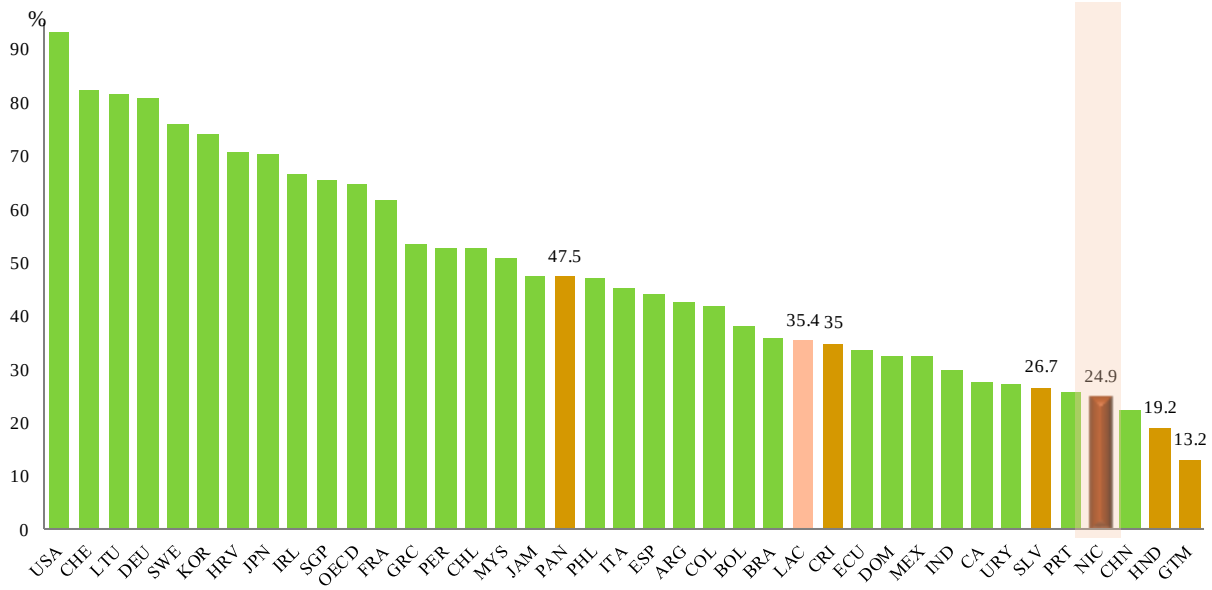
and 2014 (EMNV, 2009 and 2014). Similarly, the improvement for 6 and 7 year attainment rates is above 7 percent, while for 8 and 9 years of attainment there is an increase of over 8.5 percent. However, in comparison to Central America, Nicaragua's completion rates are still low, lagging behind El Salvador and even slightly behind Honduras for the primary level. While attainment of up to 4 years of schooling for those aged 15-19 years old is quite high, there is a steady decline in for additional years of schooling. On average, only 41 percent of this age cohort actually completes the full basic education, or a total of 9 years of education. This pattern still implies ample potential demand for adult education among the youth. Even though the trends are moving in the right direction, progress is slow and it will take time to translate policy changes into real and significant improvements in the education of the workforce. Figure 48 shows that the education level of the Nicaraguan labor force remains low in comparison to other countries, below the averages for both El Salvador and Central America as a whole, but above Honduras and Guatemala.

Figure 47: Central American Attainment Rates, Individuals aged 15 to 19 years, circa (2014)



Source: World Bank SSEIR using EMNV 2009 2014.

Figure 48: Individuals 25+ having Completed at least Secondary School around the world, circa 2013

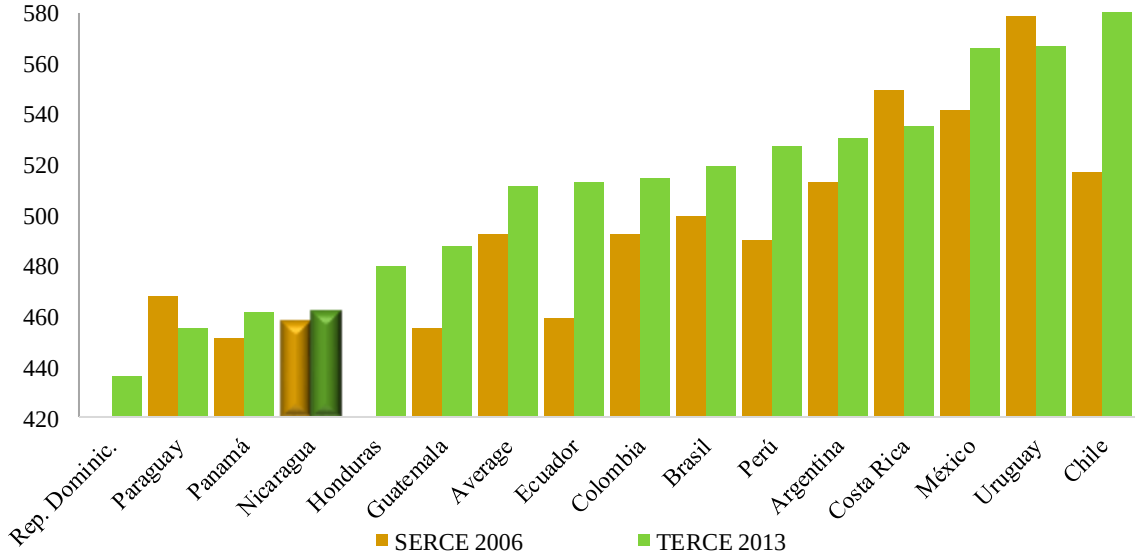


Source: SSEIR team using EdStats.

Regarding learning outcomes, Nicaragua has one of the lowest regional results in LAC, though it is slowly improving.[30] Figure 49 reports the results of the Second Regional Comparative and Explanatory Study (SERCE) and TERCE for various LAC countries. It shows that TERCE results on student learning in Nicaragua are below those for students in Honduras and Guatemala. However, it is also true that these countries have a smaller fraction of the population attending the sixth grade, so there could be a positive bias in student quality. Finally, the results on learning for Nicaragua are above those in Panama, Paraguay and Dominican Republic. This trend of a general, but rather small improvement in student learning during the period is confirmed by the trend in national student assessments for fourth, sixth, and ninth grades (*Evaluacion Nacional del Aprendizaje de los Estudiantes*, 2009-2010). This is most likely driven by the fact that most of the education policies in recent years have included a stronger focus on access and completion of primary school, rather than on improved learning.

[30] TERCE database (collected by UNESCO) is a large- scale study of learning achievements applied in 2013. TERCE assesses the performance of students in third and sixth grades primary school in Mathematics, Reading and Writing (Language), plus Natural Sciences in the case of sixth grade. The main objective of TERCE is to measure the quality of education in the region and orient decision-making in education policy. SERCE was collected in 2006.

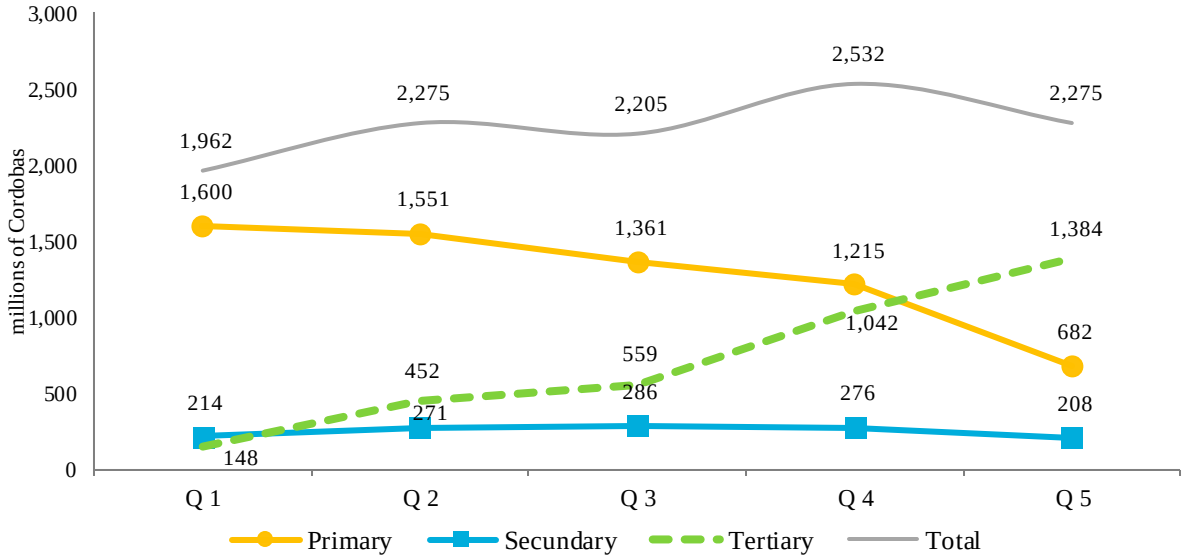
Figure 49: SERCE - TERCE Comparative results on 6th grade, Mathematics (2006 - 2013)



Source: UNESCO / LLECE.

In Nicaragua, primary school public expenditure is fairly progressive, while public tertiary education expenditure is highly regressive. Figure 50 shows the incidence of public education spending in Nicaragua by consumption quintile. According to this data, while the first quintile receives 3 times the spending on primary education of the fifth quintile, the fifth quintile receives 5 times more than the first quintile on tertiary education resources. In addition, secondary education expenditure is moderately progressive. Overall, total education expenditure is more or less neutral from the distributional point of view, with all income quintiles receiving similar amounts, with only a mild advantage in the fifth quintile over the first. This pattern is mostly attributable to the number of children in each quintile (which favors the progressiveness of spending in primary and secondary) and the inequities in access (which creates a regressive spending pattern in secondary and, especially, tertiary education).

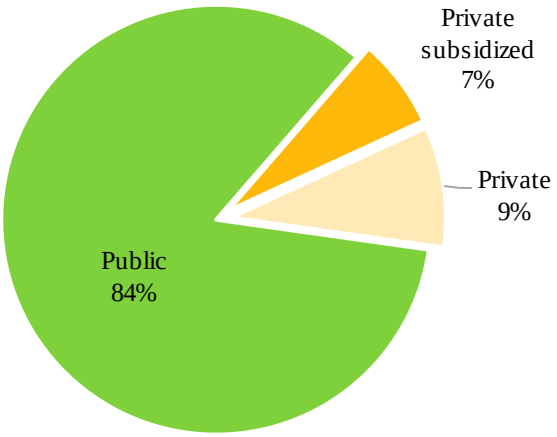
Figure 50: Public Education Spending by Consumption Quintile, 2014



Source: SSEIR Analysis (2015) using ICEFI (2016) financial data and EMNV (2014) consumption quintiles and enrollment by educational level.

Most students enrolled in basic education are in public schools, while only 9 percent attend private schools and 7 percent attend private subsidized schools. As illustrated in Figure 51, as of 2014, almost 85 percent of the students enrolled in first through eleventh grades nationwide were enrolled in public institutions, with another 7 percent in schools that received a public subsidy for teacher salaries. In rural areas, the share of public primary education enrollment is 94 percent (not reported) (MINED, 2016).

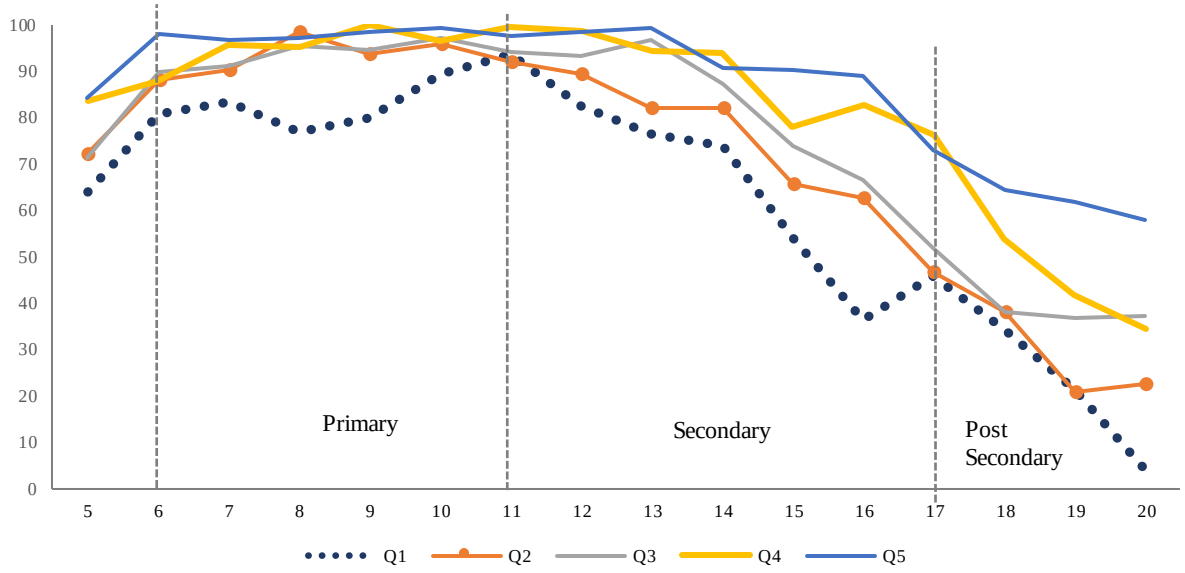
Figure 51: Total Enrollment in Basic Education (all grades), by type of school (%), 2014



Source: World Bank SSEIR using MINED data base.

There are large gaps in access to secondary and post-secondary education across income groups. Figure 52 presents net enrollment rates by income quintiles. It is interesting to note that most quintiles have reached nearly 90 percent net enrollment in primary school. This is true except for the first quintile, in which more than 20 percent of children are out of school. This non-participation rate is approximately the same as on the Caribbean Coast. The enrollment gap widens at the secondary level, with net enrollment of the richest quintile at 154 percent above the poorest, and with large differences between all quintiles. It is worth noting that the low 31.5 percent net enrollment rate of the first quintile in secondary does not mean that the rest are out of school. In fact, 33.5 percent are still in primary, and 35 percent have dropped out. Gaps rise considerably in post-secondary, with 39.3 percent of the richest quintile participating in higher education, compared to just 2.9 percent of the poorest quintile. A very small proportion of children and youth from the first three quintiles attain post-secondary education, demonstrating the highly regressive nature of Government subsidies at this level of education.

Figure 52: Net Enrollment by Quintile, 2014

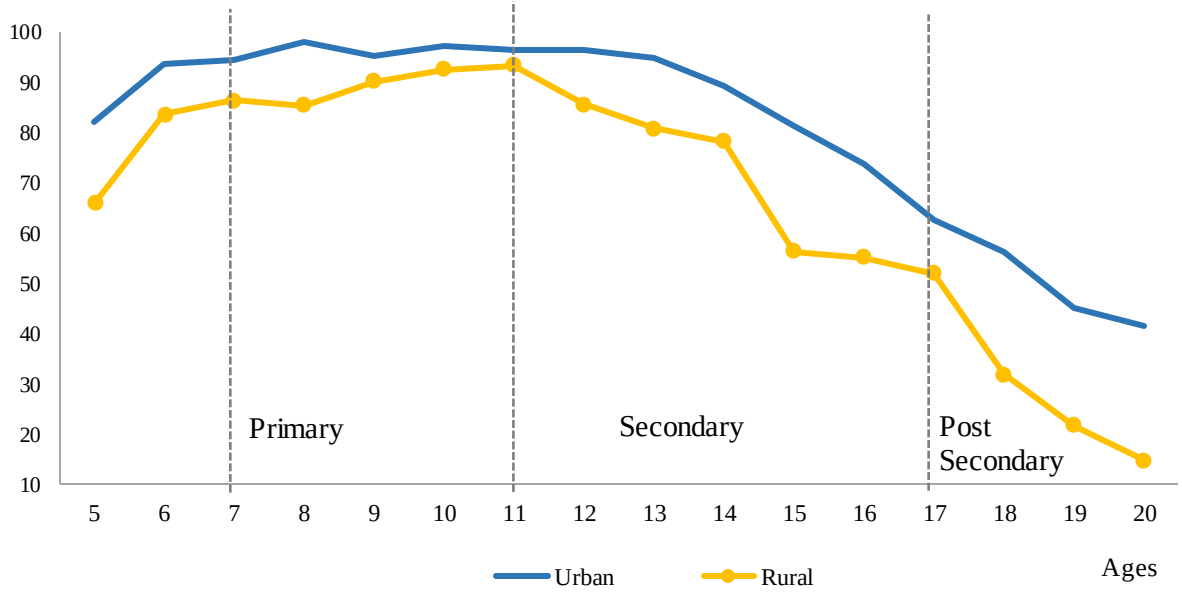


Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Education Module).

In rural areas, entrance to the education system is later and access to secondary education is lower than in urban areas. Figure 53 reports the level of participation across age ranges for both rural and urban populations. This data shows that enrollment rates across all levels of education are higher for urban populations than those living in rural areas. It also shows that the enrollment gaps across urban and rural areas is more pronounced for higher education levels, such as secondary and post-secondary education. The smallest rural enrollment gap is seen between the ages 9 and 11. While the difference in enrollment between 5 and 8 years old is likely a reflection of poor rural households delaying entrance to school, the difference from 12 years of age onwards

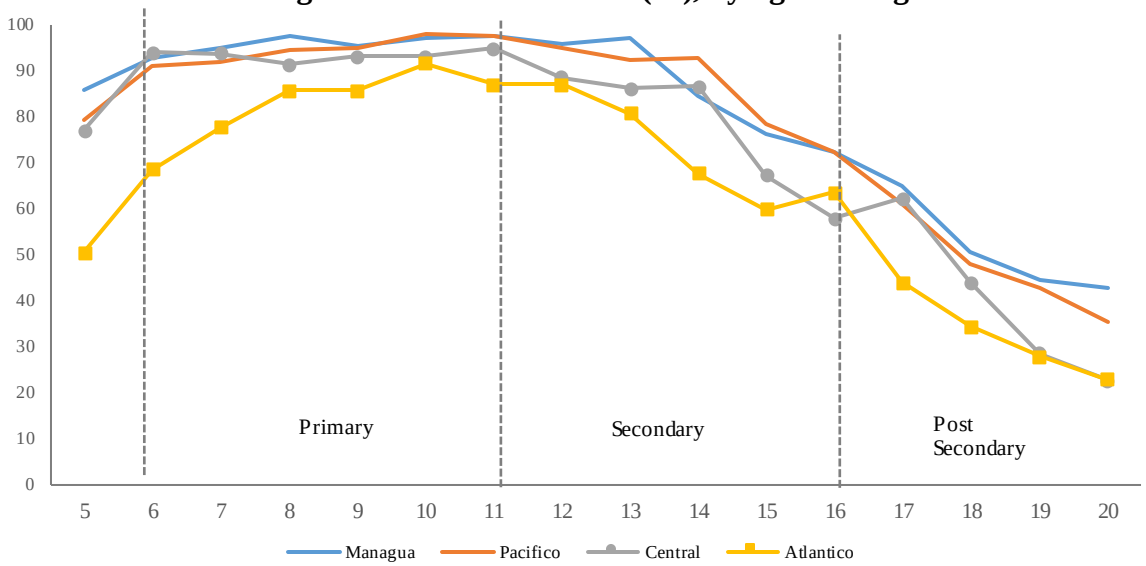
reflects higher dropout rates, likely due to failure to progress through the educational system and a result of restricted access to secondary education opportunities. Slightly less than half of rural adolescents aged 15-17 years old have abandoned their education.

Figure 53. Nicaragua Enrollment by area (%), ages 5-20, 2014



Access to education is particularly low on the Caribbean Coast, where Afro-descendants and indigenous communities live. Figure 54 shows that net enrollment is lower on the Caribbean Coast for all age groups, and with a considerably low proportion of students aged 5 to 8 years of age participating in the system. Late entrance to the education system is related to both cultural aspects (i.e. lack of interest in preschool education by the indigenous and rural communities) and low preschool supply (MINED, 2016). In addition, high dropouts are related to geographical and climate obstacles that exist in isolated communities with extremely low accessibility during the winter/rainy season.

Figure 54: Net Enrollment (%), by age and region



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Education Module).

Most children living in rural areas attend community preschools where learning conditions tend to be of lower quality than public schools. In Nicaragua, there are two main types of preschools: i) formal preschools, led by a teacher hired by MINED and functioning in public buildings (generally primary schools); and, ii) community preschools, led by teachers catalogued as "volunteers" (*educadoras comunitarias*), who receive a small payment from the state (*aporte voluntario*). The *educadoras comunitarias* are, in most cases, young girls from the communities who work as volunteers, but lack formal pedagogical training and who may not even have completed their secondary education. As of 2009, most children living in rural areas attended community preschools (Figure 55). In general, these community preschools neither adhere to quality standards, nor are they formal supervised by MINED. They function on private properties, usually from religious organizations, or in unused houses borrowed by community members with minimal security standards. School furniture tends to be provided by community members and learning materials are not systematically provided by State.[31] Figure shows the difference in the average monthly salary of a formal basic education teacher and the earnings of community preschool teachers.[32]

[31] Currently, MINED is providing learning materials packages to all preschools nationwide containing i) small school supplies (e.g., pencils, water color paints, scissors, markers, notebooks); and ii) educational materials (abacus, geometric shapes, numbers; dominos, puzzles, plastic balls, cloth dolls, storybooks, musical instruments, etc.). However, this is financed with external funds and will be discontinued in 2017.

[32] In the national education budget preschool teachers wages in community schools is not considered a wages, but rather "aid".

Figure 55: Preschool Enrollment by Type, state vs community preschool, 2009.

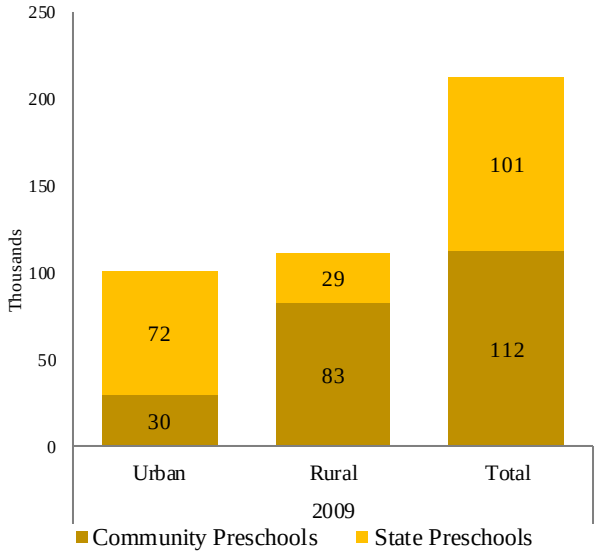
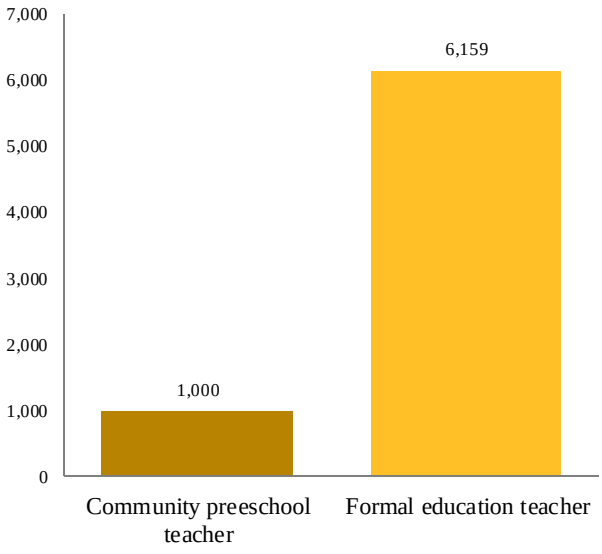


Figure 56: Teacher Salaries by Level (national currency, 2014)



Source: World Bank SSEIR using MINED information; 2009.

The new Quality Model for Preschool Education is a recent policy effort to improve access to and quality of preschools. Since 2011, with the launch of the Education Sector Strategy Plan 2011-2015 (MINED, 2012), the Government started an important effort to increase access to formal schools in rural areas, with new preschool classrooms in rural primary public schools. Additionally, it also launched the Quality Model for Preschool Education, which is anchored in two important principals (Box 4). First, it is aimed at setting the same quality standards for both formal and community preschools. Second, it follows a strong community-centric approach, involving parents and local authorities in preschool activities, such as the preparation of school meals.

Box 4: Quality Model for Preschool Education (Modelo de Calidad para Preescolar)

In order to improve preschool quality, the Government has been implementing a new quality model for preschool education since 2013. Today, the model includes several dimensions, including: i) development, design and implementation of new curriculum and learning instruments for pre-school; ii) promotion and incentivizing teacher participation in pre-service training to obtain a teacher certificate; iii) development and piloting of new quality standards for preschool infrastructure; iv) delivery of learning materials to preschools nationwide (puzzles, musical instruments, small supplies, etc.); and iv) development of an early childhood development (ECD) monitoring and evaluation system. To-date, over 20 percent of the non-graduated community teachers have already participated in pre-service training and now hold a teacher certificate.

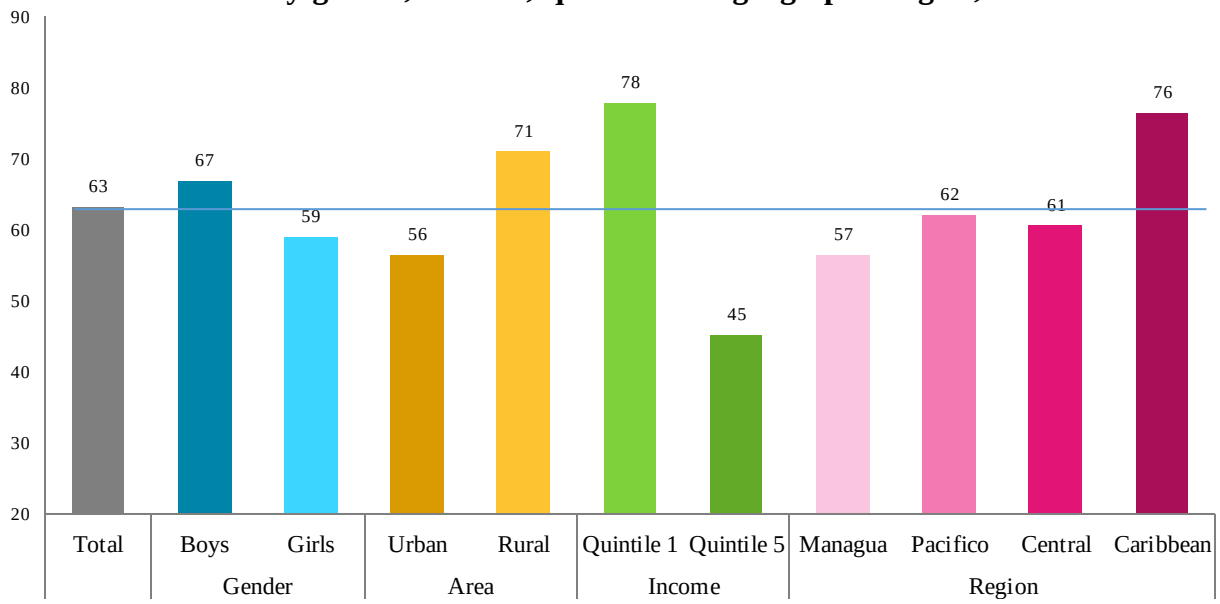
Although this new quality model has been an important milestone in the Nicaraguan education sector, the implementation of this new model is still incipient. Furthermore, its expansion presents important challenges. First, it is important to consolidate the legal and institutional framework, as well as the funds

(mainly for scholarships) for both pre-service and in-service teacher training, especially for community teachers (*educadoras comunitarias*). Second, it is important to obtain sufficient national financing for preschool infrastructure, as well as the requisite learning materials. Finally, there are multiple challenges related to the adaptation of this model on the Caribbean Coast, including cultural and institutional specificities, such as learning materials prepared in the native languages.

Source: Authors using MINED "*Modelo de Calidad para Preescolar*" 2015.

Over age students in primary education are predominantly those from the poorest quintiles and are disproportionally male and from rural areas. Figure 57 reports the share of children enrolled in primary education that are over age for the adequate grade. It shows, for instance, that 67 percent of the boys in primary school are over aged, while girls reach 59 percent. Furthermore, approximately 71 percent of the children enrolled in rural areas are over age, compared to 56 percent in urban areas. It is interesting to note that 45 percent of the children from the upper income quintile are also over age, which is almost half of the share of over age students in the poorest quintile (71 percent). Within the poorest quintile, approximately 4 out of every 5 children lag behind in primary school.

Figure 57: Primary Over Age Children (%), by gender, location, quintiles and geographic region, 2014



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Education Module).

In rural areas, most primary schools are multi-grade schools, which poses a challenge for improving learning and education quality. Multi-grade primary schools function in rural or semirural areas, combining more than one grade under the same teacher. These schools currently represent 70 percent of schools nationwide and account for 33 percent of national primary enrollment (MINED, 2016). Thus, they and are an important component of the Nicaraguan basic

education system. As discussed in Box 5, multi-grade schools are a priority for the Government and will be at the center of the new education sector strategy for 2016-2021.

Box 5: Multi-grade and "Incomplete" Primary Schools

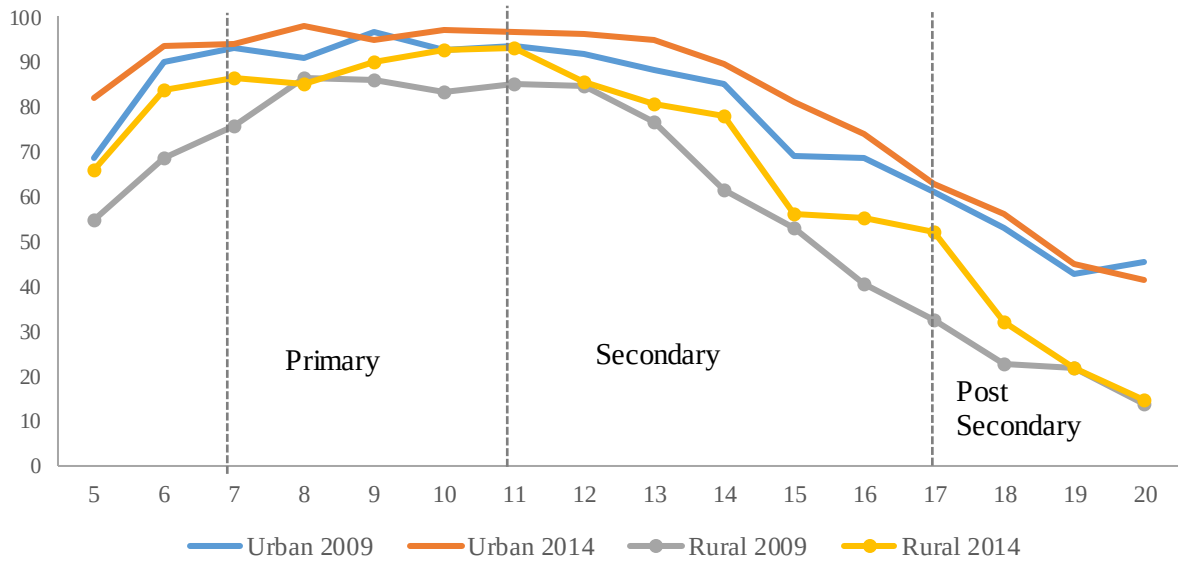
Multi-grade schools were mainly present in rural areas due to the dispersion of the population, the lack of teachers and/or the lack of infrastructure. In multi-grade schools two or more grades are assigned to only one teacher. These schools present challenging conditions for teacher and students (i.e. a small classroom for many students learning different contents at the same time.). Additionally, multi-grade schools favors the existence of what are called "incomplete schools," which only offer first through third grade, third to fifth grade, or fourth to sixth grades. Despite being a solution for very small communities, this division creates challenges to continuity of learning and results in higher levels of dropouts, especially when the schools are far away from each other (i.e. a student finishes first grade and has to move to another community school to attend third grade).

Since 2012, under the new Education Sector Strategy 2011-2015, the Government has supported improving the quality of the multi-grade schools through setting quality standards, strengthening teacher training, and investing in school infrastructure. To date, a number of improvements have been made, including: (i) implementation of a pre-service teacher training program that offers scholarships for those students willing to teach in their communities of origin; (ii) setting new quality standards, regarding the exact school grades that can be combined in multi-grade schools.

Source: Authors using MINED's *Analisis del Sector Educativo* 2016.

In rural areas, demand for secondary education is growing and will be a critical gap to be filled in the years ahead. With the improvements in access to and efficiency of primary education in recent years, pressure is growing for increased access to lower secondary education, especially in rural areas. Figure 58 shows the increased enrollment for secondary education between 2009 and 2014 across urban and rural areas. While overall enrollment is higher in urban areas, rural areas have seen a faster improvement in, particularly for students aged 13 to 17 (upper secondary). In order to improve the gains in lower secondary enrollment, the Government has been implementing the *Secundaria a Distancia en el Campo* initiative since 2014, which is targeted at increasing access to lower secondary education for rural populations (Box 6).

Figure 58: Nicaragua Enrolment (%), ages 5-20 by area, 2009 and 2014



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Education Module).

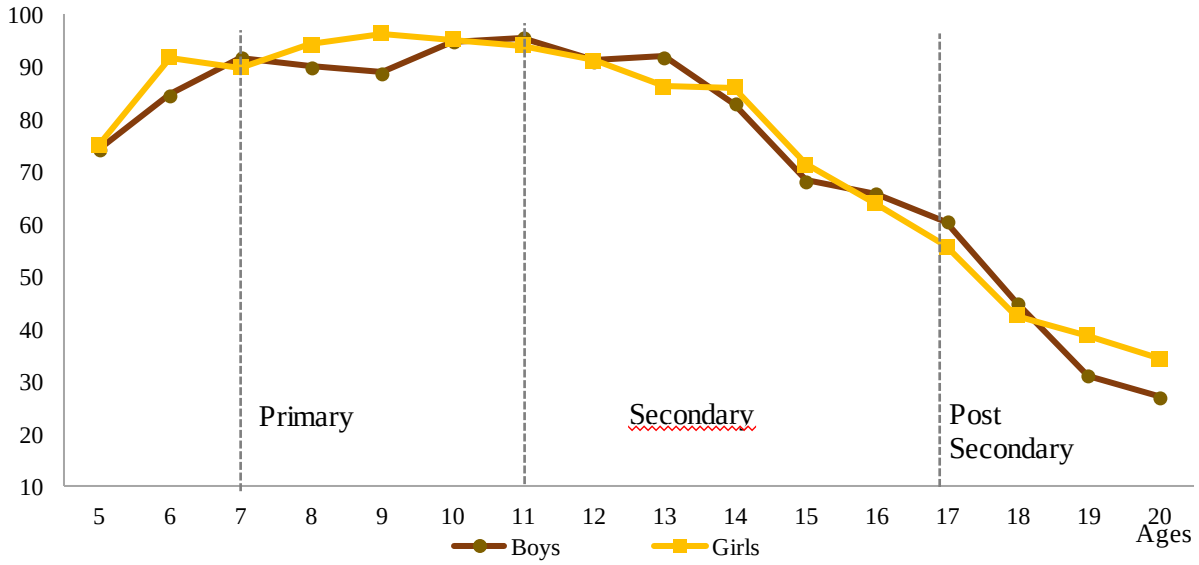
Box 6: Program Secundaria a Distancia in rural areas

Secundaria a Distancia en el Campo is a national program that has been under implemented since 2014 and which is focused on increasing access to lower secondary education (grades 7 through 9) in rural areas. It was designed as a weekend educational option for students from isolated rural areas who have completed primary but do not have a secondary school in their community. It included the designation of new secondary teachers, an adapted curriculum and learning materials, and new school infrastructure (basically, a new classroom in existing primary schools). To date, about 400 new secondary classrooms have been completed for seventh and eighth grades. Through this modality, an increase in lower secondary enrollment and completion rates in rural areas is expected. However, quality seems to be an issue due to the reduced number of hours in the classroom and the lack of a clear curricular framework. A deeper analysis is needed to better assess the success of this approach.

Source: Authors using MINED's *Analisis del Sector Educativo* 2016

The level of enrollment and participation of females and males does not differ significantly in Nicaragua. Figure 59 reports the share of enrollment for ages 5-20 by gender, computed using national surveys (EMNV, 2014). The results show that, across all ages, enrollment for both genders are reasonably close. There are some exceptions at various age intervals (ages 6, 8-9 and 19-20), where female enrollment is higher by around 7 percentage points. Conversely, around age 13, enrollments for males are higher. When looking at the reasons for dropping out of school, there are some differences across genders (not reported). For example, females tend to be more affected by the remoteness of schools, as it is related to higher levels of criminal and sexual violence.

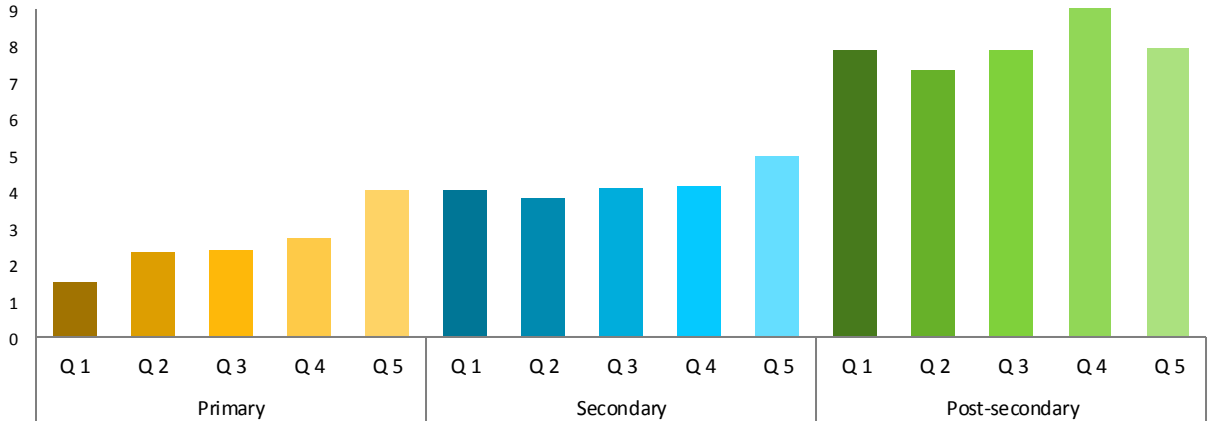
Figure 59. Nicaragua Enrolment (%), ages 5-20 by gender, 2014



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Education Module).

Education expenditure represents a similar proportion of household income in each quintile in secondary (4 percent) and post-secondary (8 percent) education, but is lower for low income households at the primary level (Figure 60). More importantly, as a proportion of their income, poor households spend much less on primary schooling than households in the wealthiest quintile. However, expenditures for secondary schooling are comparable across quintiles, probably as a consequence of a large portion of students from higher income quintiles attending private schools.

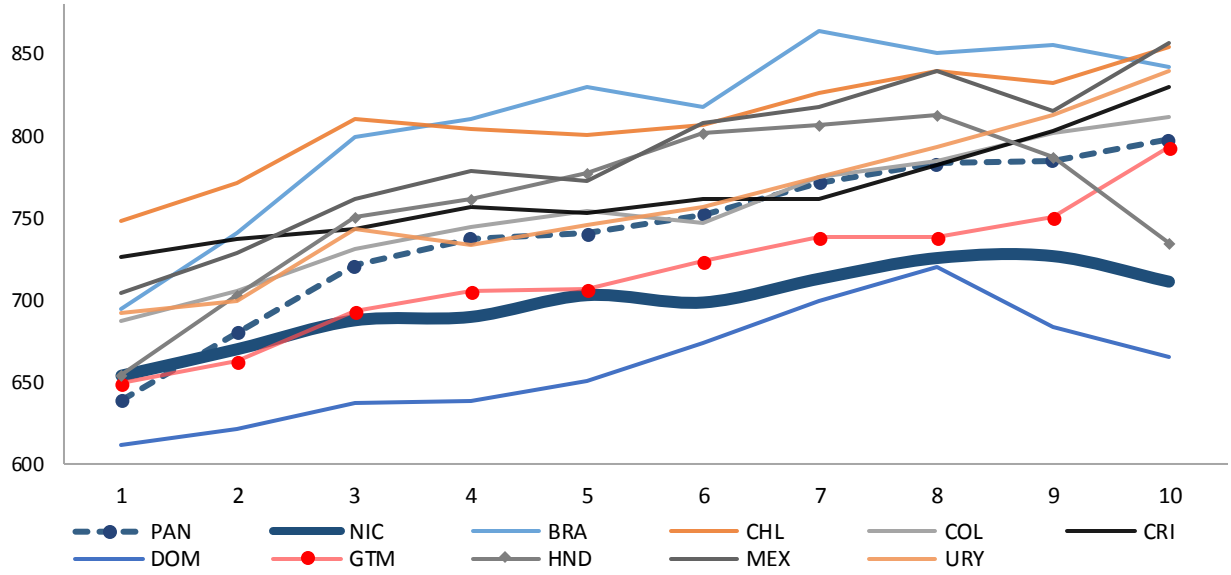
Figure 60. Education share of Household Expenditure (%)



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Education Module).

Despite being behind several LAC peers in learning outcomes, the correlation across learning and income groups is the lowest in Nicaragua than in several other LAC countries. Figure 61 depicts the relationship between TERCE reading scores and income quintiles across LAC. While learning outcomes for the first decile are similar to or higher than other Central American countries (except Costa Rica), in higher income deciles, the other countries generally tend to improve faster than Nicaragua. As a consequence, Nicaragua has relatively low results and a more equal distribution of reading scores across income deciles than other countries in the LAC region.

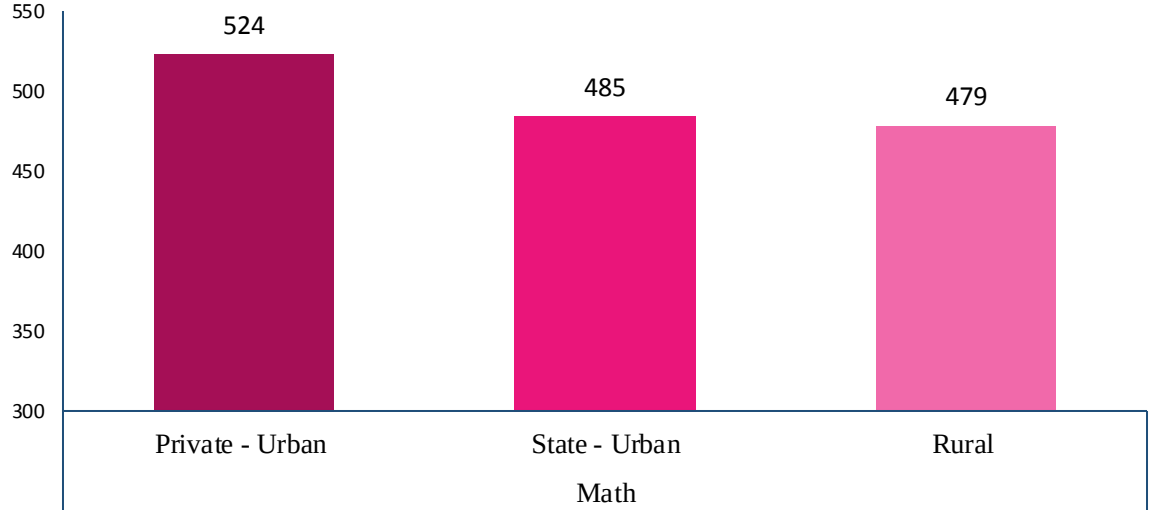
Figure 61. Associations between TERCE Reading Scores (6th grade) and Income Deciles



Source: World Bank SSEIR team's analysis using SERCE and TERCE results.

Similarly, the gap in learning results between private and public schools is small and becomes almost negligible between urban and rural public schools. While, on average, learning results in private urban schools are better than those in public urban schools, the difference is not significant and may reflect mostly socioeconomic differences (Figure 62). More importantly, the differences in educational attainment between public rural and urban schools is negligible. Furthermore, girls in Nicaragua perform better in language, while boys perform better in math, but the difference is stronger and more significant in the former (Figures 63 and 64).

Figure 62. TERCE – Learning results 3° grade - Average by school type



*In rural areas, enrollment in public school represents 94% of total enrollment
Source: World Bank SSEIR team's analysis using SERCE and TERCE results

Figure 63. TERCE Learning Results, Math, 6th grade

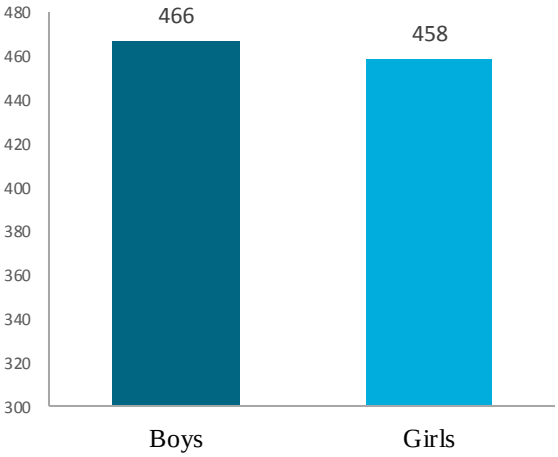
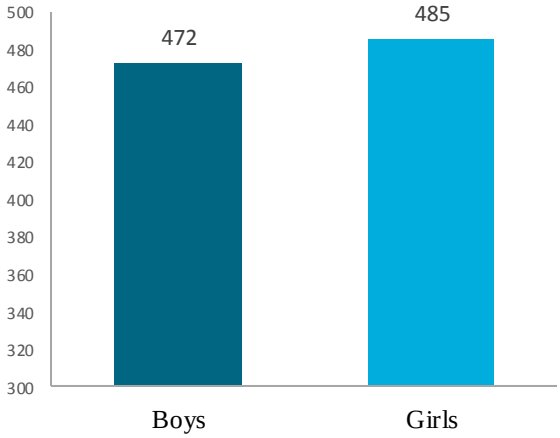


Figure 64. TERCE Learning Results, Spanish, 6th grade

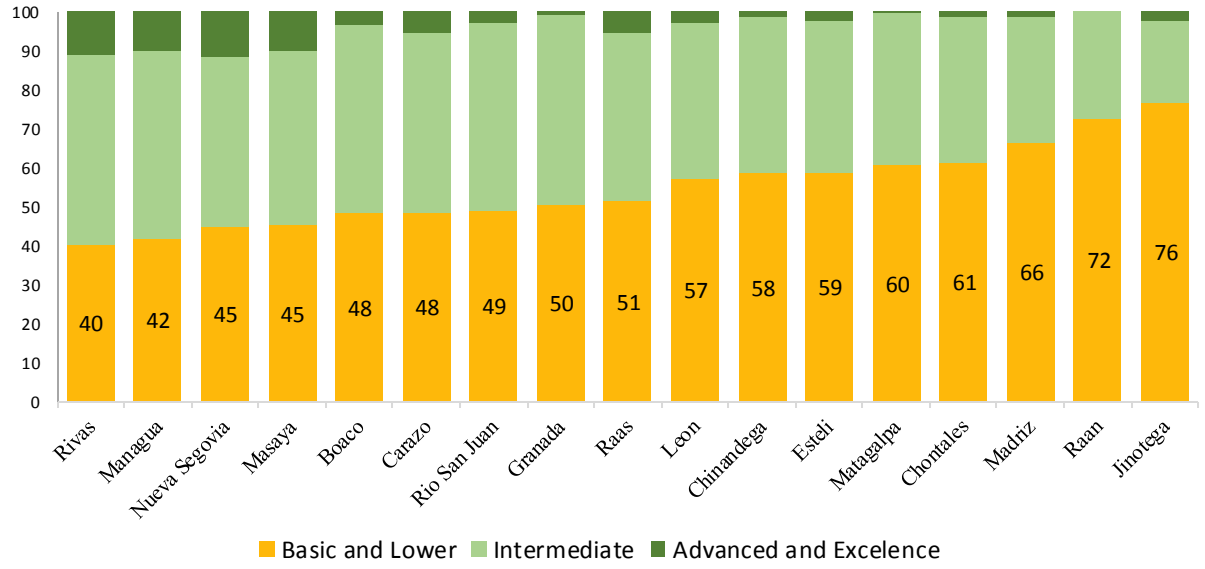


Source: World Bank SSEIR team's analysis using SERCE and TERCE results.

There are also large disparities in learning outcomes across geographic regions of the country. Congruent with the low results in SERCE and TERCE, performance at an advanced or excellent level was reached by only 10 percent of students in only 4 out of 17 Departments. Figure 65 highlights this difference in performance across regions, with lower results in Madriz, the North Caribbean Coast Autonomous Region (*Región Autonoma de la Costa Caribe Norte*, RACCN), and Jinotega. In these regions, at least 2 out 3 children are below a basic level of performance, compared to only 2 out of 5 children in Managua and Rivas. Still, the later proportion is high, and a matter of concern. Two other departments, Carazo and South Caribbean Coast Autonomous

Region (*Región Autonoma de la Costa Caribe Sur,* RACCS), report only 1 out of 20 children performing below a basic level, while the rest almost do not have students attaining that level. Unfortunately, National tests are only available for 2009 and 2010, meaning that geographical differences in results cannot be traced further back (a test was performed in 2015, but results are not yet available).

Figure 65. Math results 6th grade by achievement level and department, %



Source: World Bank SSEIR team's analysis using SERCE and TERCE results.

IV. 3 Institutional Arrangements

The General Law of Education (2006) and its subsequent reforms establish the general guidelines of the educational system in Nicaragua (Table 3).[33] The education system is composed of five sub-systems: i) Basic and Secondary Education and teacher preparation; ii) Technical and Vocational Education and Training; iii) Higher Education; iv) Autonomous Regional Education Subsystem of the Caribbean Coast (*Subsistema de Educación Autonómica Regional*, SEAR); and, v) Out-of-school Education. The basic and secondary education sub-systems is the largest sub-system and is administered by MINED. Box 7 briefly describes the main features of the National Education System in Nicaragua.[34] The Law mandates that the public system is free at all levels, but mandatory only at the primary level. The sub-system also includes

[33] The discussion in this section heavily relies on a background paper prepared for this report on the institutional and governance arrangements in the education sector in Nicaragua. See Blackwell (2014).
[34] "Educación Básica y Media", according to Nicaraguan Law, goes from preschool to upper secondary (grade 11). In the Nicaraguan system, "Educacion básica" comprehends up to grade 9 (up to lower secondary) and "Educación media", grades 10 and 11 (Upper secondary).

various modalities for adult education, including literacy programs, part-time and distance primary schooling, and accelerated basic secondary schooling.

Table 3: The Nicaraguan National Education System

Education Supply	Lead Institution	Level	Ages	Content
Basic Education	Ministry of Education	Preschool	3 to 5	I, II, and III levels
		Primary (Mandatory)	6 to 11	Grade 1 to 6
		Lower Secondary	12 to 14	Grades 7 to 9
		Upper Secondary (Bachelor and Technical education)	15 to 16	Grades 10 to 11
		Second Chance	15+	Primary, secondary, and technical
Tertiary Education	INATEC	Upper Secondary	15 to 16	Grades 10 and 11
		Technical Education	16+	
	National University Council	Tertiary	17+	Variable

Source: Authors based on National Education Law 582 and MINED´s Analysis of the Education Sector, 2016.

The legal framework and institutional leadership of the education system is still fragmented with a disperse set of regulatory frameworks and actors. The legal framework of the education sector is composed of more than 40 different legal instruments, which are relevant for different sub-systems. Often the different sub-systems change and are rearranged as they become political priorities of different governments. The various education sector laws have established seven different institutions as governing bodies of the different sub-systems, including: (i) MINED; (ii) INATEC; (iii) the CNU; (iv) the National Council of University Presidents; (v) the RACCS and the RACCN. The sub-system of technical and vocational education and training is managed by INATEC and is primarily financed by a 2 percent payroll levy (in the formal economy). The sub-system of higher education, managed by the CNU, is composed of five public national universities, which offer tuition free of charge, and 68 private institutions. The sub-system of out-of-school education is officially part of the sector, but has no concrete institutional expression or governance structure. All of these institutions have their own interests and their own unique bureaucratic structure.

Box 7: Education and the National Law

Education is a constitutional right in Nicaragua. The Constitution affirms that all Nicaraguans have a right to education and culture, which is to be provided free of charge by the State. Access to education should be equal for all Nicaraguans, and indigenous peoples and other ethnic communities have a right to learn in their native language.

The Constitution also includes special provisions to ensure autonomy and state funding for higher education. For example, it states that universities and centers of higher technical education enjoy

administrative, organic, financial and academic autonomy. These institutions are, by law, to be financed by the State through annual contributions equivalent to 6 percent of the national budget.

The political division of the country includes two geographically large, but sparsely populated autonomous regions bordering the Caribbean Coast, the RACCN and the RACCS. These areas are largely inhabited by indigenous and afro descent populations,[35] containing 5 distinct indigenous and afro-descendent communities (Creole, Miskito, Sumus, Mayagna and Garifuna). These communities each have native languages other than Spanish.

In this context of institutional dispersion, historical efforts to articulate the education sector sub-systems have not been successful. While the General Law of Education was approved in 2006, it has not truly been implemented since January 2007, when the Sandinista Government took power. For example, article 56 of the Law established the National Council of Education as the superior body of Education system.[36] However, the Council never become operative. Additionally, the National Human Development Plan 2010-2014, declared an intention to articulate the key sub-systems, and various structures had been created to foster dialogue among these sub-systems. However, progress has been very slow, especially with regard to system-wide strategic planning.

In the last two years, a number of ad hoc initiatives have achieved been successful in fostering inter-institutional collaboration on selected activities. For example, MINED and INATEC are collaborating to provide technical training in agriculture, while INATEC and CNU are working to identify instructor training needs and to make it possible for graduates of technical programs at the secondary level to enroll in university programs. Finally, MINED and CNU are working to diagnose and improve normal school performance. Despite generally centralized decision-making (within the Office of the Presidency), the Government seems to be unwilling to impose structural change in the sector's institutional framework.

The lack of solid legal framework and clear leadership, and the continued internal contradictions between centralized management and dispersed institutional authority have weakened the Government's ability to address major challenges in the education sector. In the basic and secondary sub-system, MINED combines managerial centralization with an effort to engage local stakeholders in program delivery and, to a lesser extent, program planning and monitoring. Almost all purchases and hiring take place at the central level, with less than 2 percent of the sub-system budget managed by the Ministry's departmental and municipal field offices. At the same time, education councils have been established at the municipal level, municipal governments are encouraged to assist in infrastructure maintenance, and local parent and citizen

[35] These regions occupy more than 50 percent of the national territory and their population represents almost 9 percent of the national one. Censo Nacional INIDE, 2005.

[36] Article 58 defines the Council's Executive Committee as the President of the Republic, the highest authorities of the educational sub-systems, representatives of the National Assembly and the Autonomous Regional Councils, and representatives of teachers and private universities.

groups collaborate on a number of activities.[37] In addition, members of the youth movement of the Sandinista party take part in literacy and post-literacy programs.[38] Moving forward, the Government is considering expanding citizen engagement to include the local identification of specific educational needs and the contextualization of the curriculum. Despite their legal empowerment, autonomous governments in charge of the SEAR do not have the resources to carry out their formal duties. Currently, the SEAR is under the responsibility of the *Regional Education Secretariats* of the RACCN and the RACCS. However, due to lack of human and financial resources, MINED is in a de facto leadership position in these regions. The role of these regional Secretariats is limited to the curricular development and management of parts of the basic and secondary sub-systems in their respective territories.

Education for work at upper secondary and post-secondary levels is characterized by fragmentation of providers, with limited coordination, teachers with reduced practical experience and a curriculum that is irrelevant and/or disconnected from market needs. Fourteen public institutions and dozens of private organizations are engaged in the delivery of some aspect of vocational training and professional education, without an existing national policy or regulatory framework to guide them (see Blackwell, 2014). There is also no coordinated planning between the basic and secondary sub-system and the vocational training and professional education system and there is a lack of clarity and consistency regarding alternative ways to integrate and further harmonize the educational programs in one sub-system to another. Finally, the curriculum of most vocational training and professional education courses is of only limited relevance and is disconnected from the needs of the labor market. Blackwell (2014) highlights that this is partially a result of the low number and low quality of vocational training and professional education teachers.

Even though teacher policy remains a top priority for reform, there is a lack of clear vision for reform and institutional leadership. The Government has identified education quality as the overall sector priority, with improving teacher quality is at the center. Table 4 summarizes the main institutional actors and characteristics for the pre-service and in-service teacher training in Nicaragua today. In 2015, a joint CNU–MINED commission was been established to carry out a national assessment of the quality of teacher training. The objective of this commission was to identify the main curricular, administrative and financial challenges faced by the Teacher Training schools (*escuelas normales*). These schools tend to be over-crowded with a large number of pre-service and professional training activities for preschool and primary teachers. However, a national teacher quality model to ensure recruitment of quality candidates and preparation and support of strong teachers is still missing (for a discussion see Bruns et al, 2015).

[37] These activities include the preparation of lunch in school or contacting parents of truant students before they become system dropouts.

[38] Examples include verifying enrollment data, and volunteering for teaching posts in isolated multi-grade classrooms.

Table 4: Teacher Training – Main Institutional Actors & Characteristics

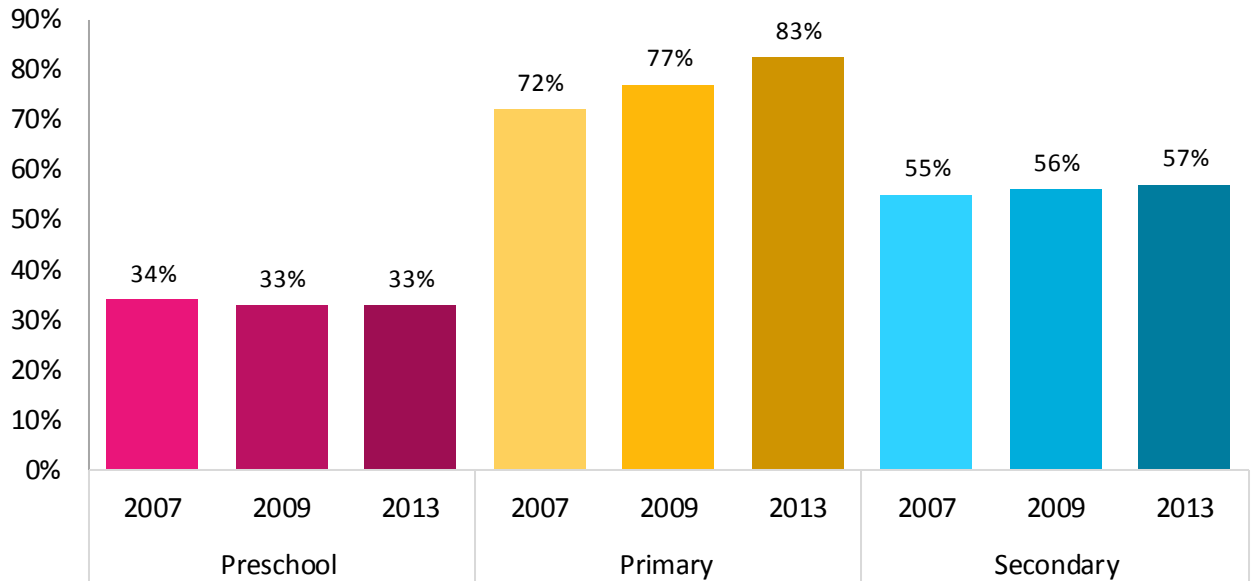
			Pre-school	Primary	Secondary
Initial training and certification	Student selection	Academic requirement	Basic education (9th grade) and complete secondary (11th grade)		Open to interested high school graduates
	Academic training	Institutions in charge	8 public normal schools (*escuelas normales)* managed by MINED; and 3 private schools		Education Faculties and National Autonomous Universities of Nicaragua (León and Managua); Catholic University; National Autonomous University of the Caribbean Coast of Nicaragua
		Modality	Primarily weekend and post-school year sessions	Primarily 3 years, full-time, usually in residential	Either full-time or weekend sessions
	Classroom practice		In service	14 practice schools	Practice teaching schools for full-time students
In-service training	Monthly peer group sessions to review classroom experience and prepare lesson plans		Organized by General Directorate of Teacher Training in MINED, MINED territorial delegations and school cluster directors		
	Multiple short courses and workshops		Pre-school Directorate, MINED	General Directorate of Primary Education, MINED	General Directorate of Primary Education, MINED
	Program development for training school directors		General Directorate of Teacher Training, MINED		

Source: Authors using National Education Law 382 and *Analisis del Sector Educativo 2016*.

Basic education teachers still lack solid pre-service education. For preschool, this is related to the lack of an initial training system, the high cost of participation, and reduced financial incentives. Figure 66 shows that there is still quite a high level of both preschool (70 percent) and secondary school teachers (42 percent) that have not formally graduated from any higher education course (MINED, 2016). Furthermore, MINED had only developed a national curriculum for preschool teacher training in 2015. Since then, there has been an intense nationwide campaign to support teachers in acquiring additional skills. However, many preschool community teachers, do not comply with the minimum educational requisites for receiving this "initial" training (70

percent). In addition, the costs of pre-service training (e.g., transport, allowance) are rather high when compared to the relatively low compensation of community teachers.

Figure 66: Teachers that Hold a Teacher Certificate (%),* by education level, 2009-2013



*Teacher certificates are provided after an official certification process provided by a public or private habilitated institution: Teacher training schools (*escuelas normales*) for preschool and primary teachers, and Universities for Secondary teachers.

Up-take of pre-service training for secondary teachers is also an issue, mainly due to the high direct costs of training and the lack of financial incentives. Currently, 58 percent of secondary school teachers lack a degree in education, though many are university graduates in other disciplines (MINED, 2016). Pre-service training is free at four faculties of education of public universities for those high school graduates who wish to become secondary school teachers.[39] However, this is insufficient to fulfill the national demand and there are also high direct costs of participating (travel, lodging, meals and other). Universities also offer distance learning and flexible course options for teachers that would like to obtain a graduate certificate.[40] However, program up-take is rather low due to the lack of incentives for teachers to actually graduate.

In-service training for basic education teachers tends to be fragmented and not well articulated. Nationwide, more than 80 percent of teachers participate in more than one month of training annually (MINED, 2016). Yet evidence on the cost-effectiveness of these courses is almost non-existent. In-service training modules and workshops are frequently prepared by

[39] Two faculties are located in Managua, one in the western part of the Pacific region, and one on the Caribbean Coast.
[40] Currently, with external funding, MINED is offering a scholarship for those teachers that are participating in the 3 years professionalization courses.

MINED directorates covering pre-school, primary and secondary schooling. They are implemented in coordination with the General Directorate of Teacher Training and its territorial delegations. In addition, in each school cluster throughout the country participates in monthly peer group sessions held to review classroom experience, prepare plans for the following month, and receive training in specific topics chosen by MINED.

Moving forward, one of the most important areas for reform is the duration/curriculum/format of teacher training to make it more modern and relevant. Like in many other countries in LAC, improving teachers' classroom practices is a clear policy priority in Nicaragua (Bruns et al. 2015). The difficulty is of course the heterogeneity of the challenges. Improving in-service teacher training programs will have a clear role to play. Currently, most of the teacher, training programs are short, the curriculum is rather theoretical, and there is no focus on classroom management skills. Selected examples of concrete areas for improvement (as discussed in Bruns et al, 2015) include improving mastery of content, improving classroom management, developing strategies for keeping students engaged, and fostering peer collaboration (across and within schools).

Even though the Government has recognized some of these challenges, it is still unclear whether and how they will be addressed in the years ahead. The possibility of developing an effective teacher policy is threatened by the lack of an integrated institutional mechanism for coordinating student recruitment for teacher training and other human resource policies within MINED, INATEC, and the CNU. Working groups of university professors and students from some of the education faculties of the institutions members of the CNU are currently engaged in development and implementation of strategies to strengthen teacher training in both traditional and vocational and professional schools.

Overall, the education sector also faces difficulties in gathering basic information/data on education inputs and outputs, which presents another challenge for better inter-institutional coordination. There is no sector-wide plan for the systematic and consistent collection of data, and the mechanisms for identifying, analyzing and making use of critical educational information for policymaking purposes are not only uncoordinated, but also tend to be undefined within each institution. Furthermore, the statistics departments of MINED, INATEC, and the CNU are weak and lack capacity to collect, organize, analyze, and disseminate information. They are not in regular communication and regularly fail to collaborate with one another on critical matters.

Once more, there is no education management and information system to support decision making and public information mechanisms. Statistical information for the education sector is extremely limited and controlled by the Office of the Presidency, which only shares limited data to the institutions that lead each sub-system. National and international student assessments have

been regularly carried out since 2008, but their results are not being publicly disseminated.[41] Finally, information about overall education sector performance is limited and access tends also to be restricted, thereby constraining both analysis and transparency/accountability. Some of these issues have already been identified as critical areas of focus important by the Government and selected efforts are underway to coordinate and enhance systematic and consistent data collection (such as software that have been adapted to process statistical data and produce regular reports), though more could be done.

V. Performance and Challenges in Health

V.1 Recent Evolution of Health Public Spending

Since 2007, shares of public spending in the health sector in Nicaragua have increased both as a percent of GDP and as a share of total social spending. From 2007 to 2014, total public spending in health's share of GDP increased from 3.81 to 5.1 percent, representing a 34 percent increase (Figure 67), placing the country's share just below Costa Rica among Central American countries (Figure 68). This increase was also reflected in the public spending on health share of total social spending, which increased by 36 percent (from 38 percent in 2007 to 52 percent in 2013), making Nicaragua's health share of public social spending the highest in Central America (Figure 69).

Figure 67: Nicaragua Health Spending, % of GDP

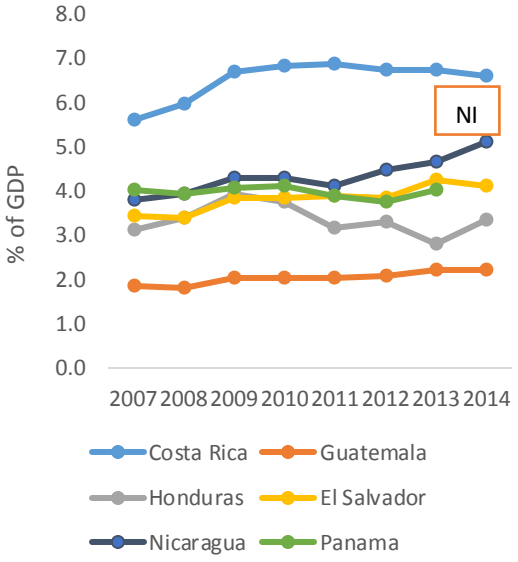
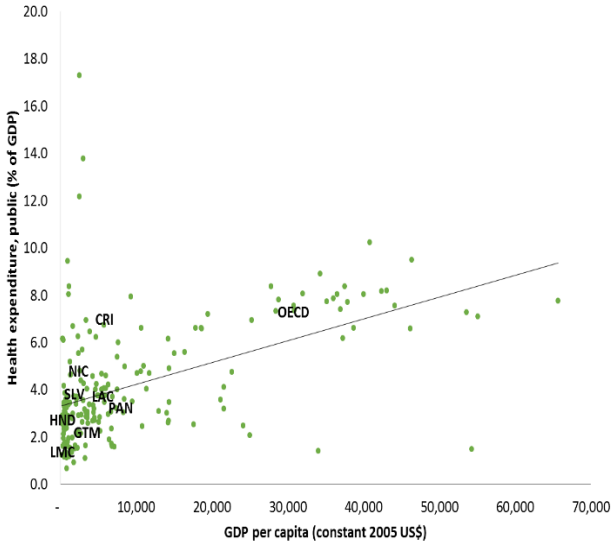


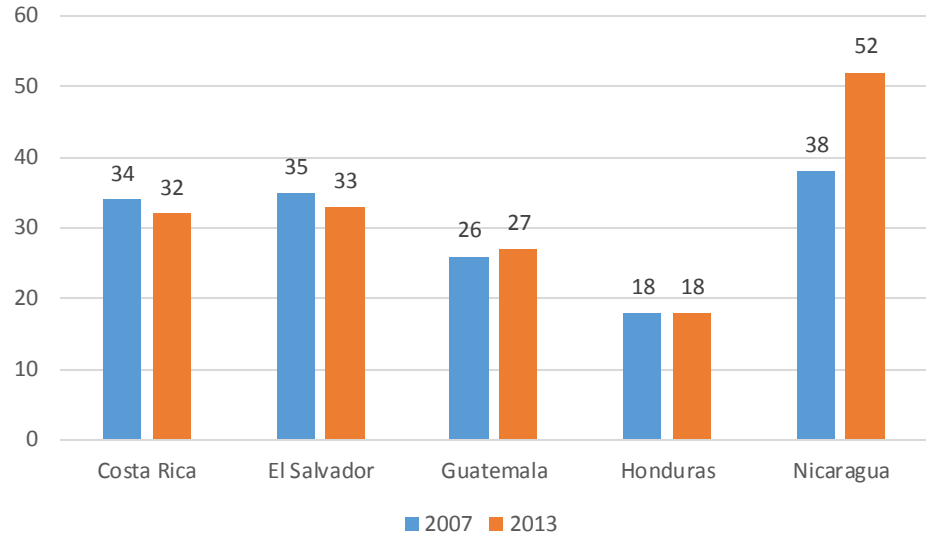
Figure 68: Health Public Spending as a share of GDP



Source: World Bank / ICEFI social spending database.

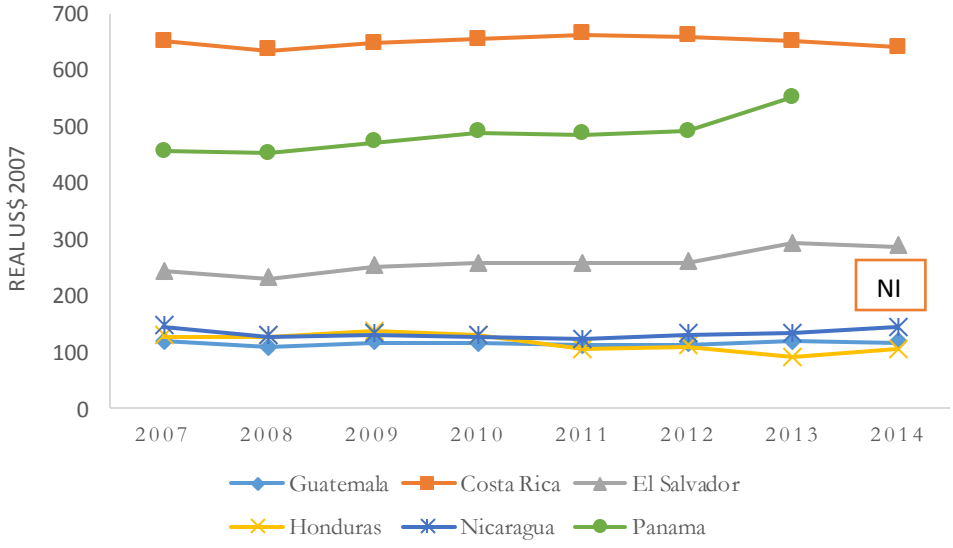
[41] SERCE 2006 and TERCE 2013 were implemented with support from UNESCO/LLECE. National student assessment for 3rd, 6th and 9th grades were implemented in 2009, 2010 and 2015.

Figure 69: Share of Health in Public Social Spending (%), Nicaragua and other Central American Countries, 2007 and 2013



Despite these achievements, Nicaragua's per capita spending in real terms remained low, with numbers closer to Guatemala and Honduras. In constant 2007 US dollars, it remained the same, at US$145, from 2007 to 2014, with fluctuations in between. Over this period, Nicaragua alternated with Honduras and Guatemala in having the lowest real per capita public spending on health in Central America (Figure 70).

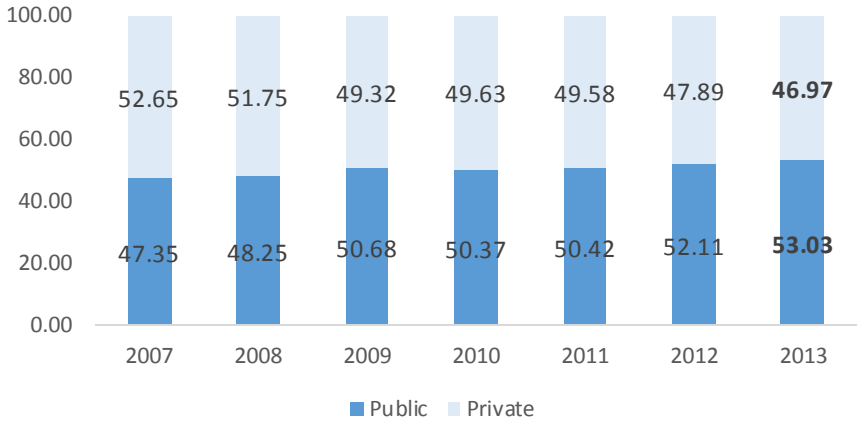
Figure 70: Per capita Public Spending in Health (Real US$ 2007)



Source: World Bank SSEIR / ICEFI social spending database.

From 2007 to 2013, Nicaragua's public share of total health spending increased from 47 to 53 percent. As a result, the private share of total health spending decreased from 56 percent to 47 percent (Figure 71). In 2013, Nicaragua's private share of total health spending (47 percent) was lower than the averages for LAC (52 percent) and Central America (58 percent).

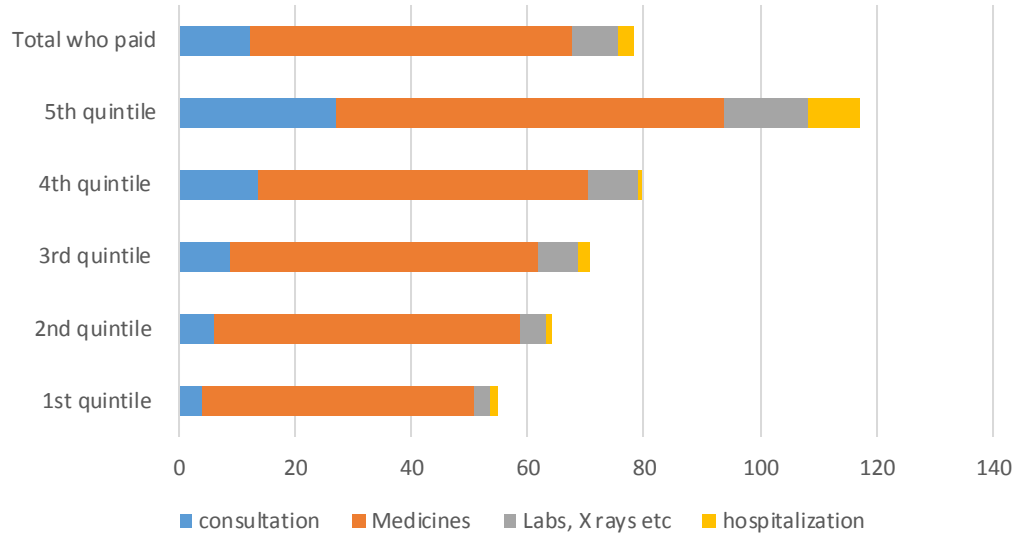
Figure 71: Share of Public and Private Expenditure in Health, Nicaragua, 2007-2013



Source: WDI

The increase in public spending on health contributed to the decrease in household spending's share of total health expenditures, although the latter remains significant in Nicaragua. The out of pocket spending share of total health expenditures declined by 11 percent, from 53 percent in 2007 to 47 percent in 2013. Of the households that incurred out of pocket expenditures in 2014, over 55 percent of them paid for medicines. In addition, a lower percentage of households in the lowest income quintile incurred any health related expenditure of any type (Figure 72). This is partly a result of increased coverage by the Social Security's Sickness Program and partly due to the Government's policy of providing free access to health services in public health facilities.

Figure 72: Households that paid for consultations, medicines, laboratory and hospitalization (%) by income quintile, Nicaragua 2014

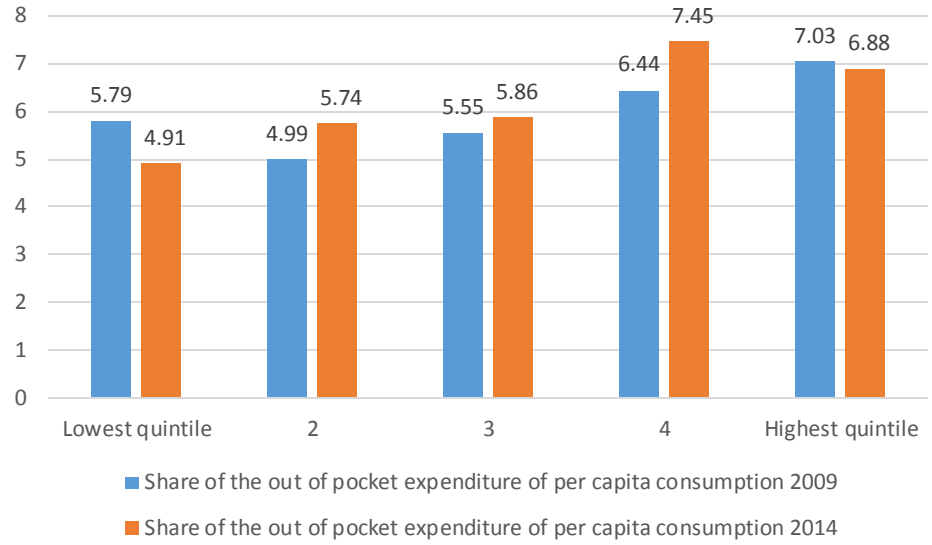


Source: Nicaragua Household (NI HH) survey 2014.

However, out of pocket health spending shares of per capita consumption increased for the second and third income quintiles by around one percent although it slightly declined for the highest income quintile (Figure 73). At the same time, the share of catastrophic expenditures[42] declined for four of the income quintiles, with the poorest income quintile experiencing the largest decrease. However, the percentage of poor households (second income quintile) that had catastrophic expenditures comprising at least 30 percent of their budget share increased (Figure 74), suggesting that health system reforms (e.g. free care in public facilities) still need to benefit a larger segment of the poor.

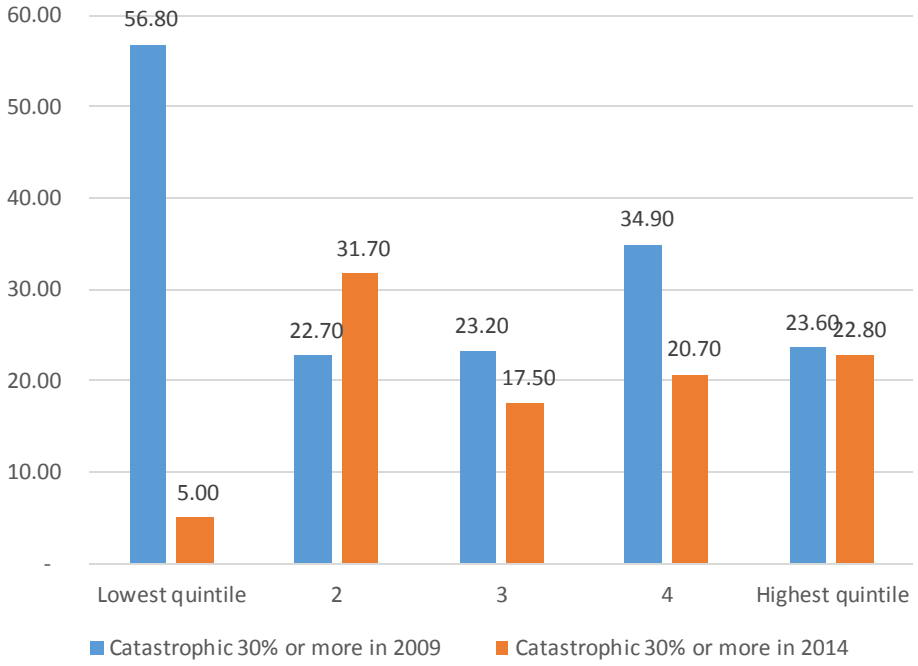
[42] Measured as 30 percent threshold budget share.

Figure 73: Share of Out of Pocket Health Expenditure of Per Capita Consumption, Nicaragua, 2009-2014



Source: NI HH survey 2014.

Figure 74: Impact on the Reduction of Catastrophic Expenditures, 2009-2014

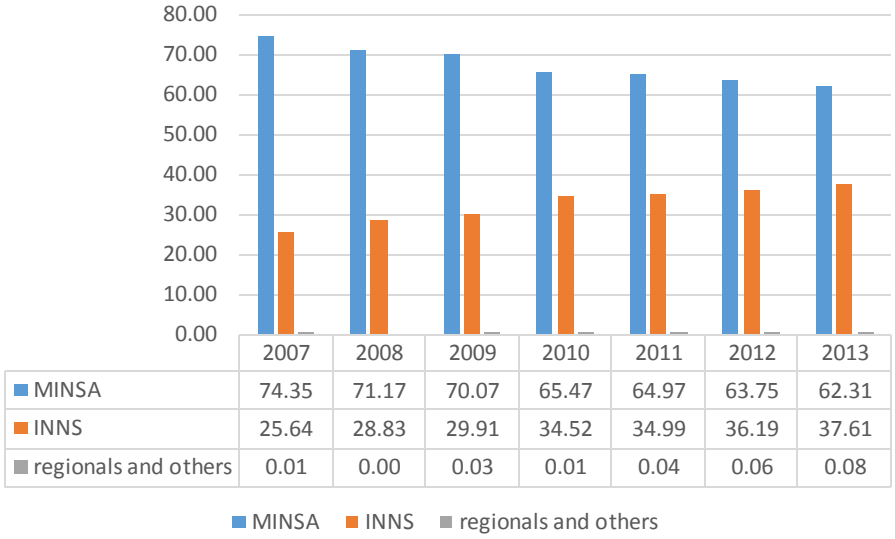


Source: NI HH survey 2014.

Among public sector institutions in the health sector, MINSA is the main provider of services and accounts for the largest share of public spending on health. MINSA covers approximately 76 percent of the population, while the Sickness and Maternity Program of the INSS and the Armed Forces and Police cover 22 percent and less than one percent, respectively. The other one percent

is covered by private insurance. MINSA also accounts for the largest share of public health spending, although its share has decreased from 74 percent in 2007 to 62 percent in 2013. The INSS has the second largest share, which increased from 26 percent in 2007 to 37 percent in 2013 (Figure 75). Regions accounted for the remaining 1 percent in 2013.[43]

Figure 75: Trends of public expenditure composition social assistance and social health insurance. Nicaragua 2007-2013



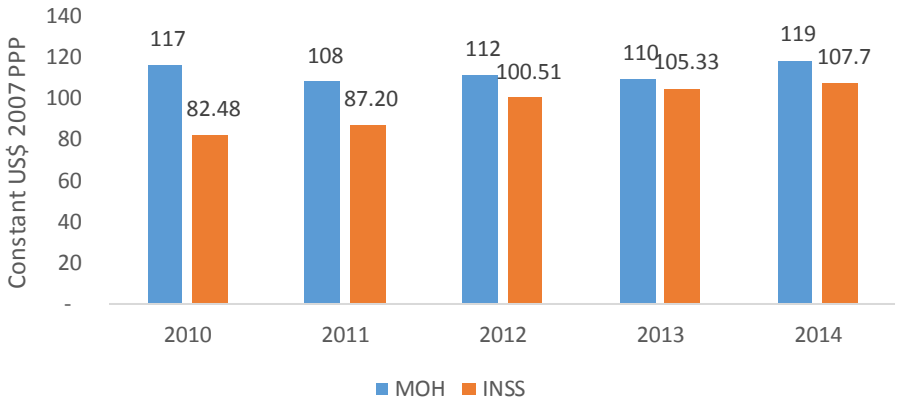
	2007	2008	2009	2010	2011	2012	2013
MINSA	74.35	71.17	70.07	65.47	64.97	63.75	62.31
INNS	25.64	28.83	29.91	34.52	34.99	36.19	37.61
regionals and others	0.01	0.00	0.03	0.01	0.04	0.06	0.08

Source: World Bank SSEIR / ICEFI social spending database.

Although the INSS covers a much smaller share of the population, its per capita spending is greater than MINSA's. The INSS covers approximately one third of the population covered by MINSA. While the difference in per capita spending between the two institutions has decreased between 2010 and 2014, INSS's remains higher than that of MINSA (Figure 76).

[43] Aside from the institutions that produce health care services as primary or secondary economic activity under the General Government, the Regional Government of the Atlantic Region also plays a role. Law No. 28 supports the Region's autonomy and capability to manage funds for the production of social services, in coordination with MINSA in the case of health services (*Reglamento a la Ley no. 28 " Estatuto de Autonomia de las Regiones de la Costa Atlantica de Nicaragua. Decreto A.N. No. 3584. Aprobado el 9 de Julio de 2003. Publicado en La Gaceta, Diario Oficial No. 186*).

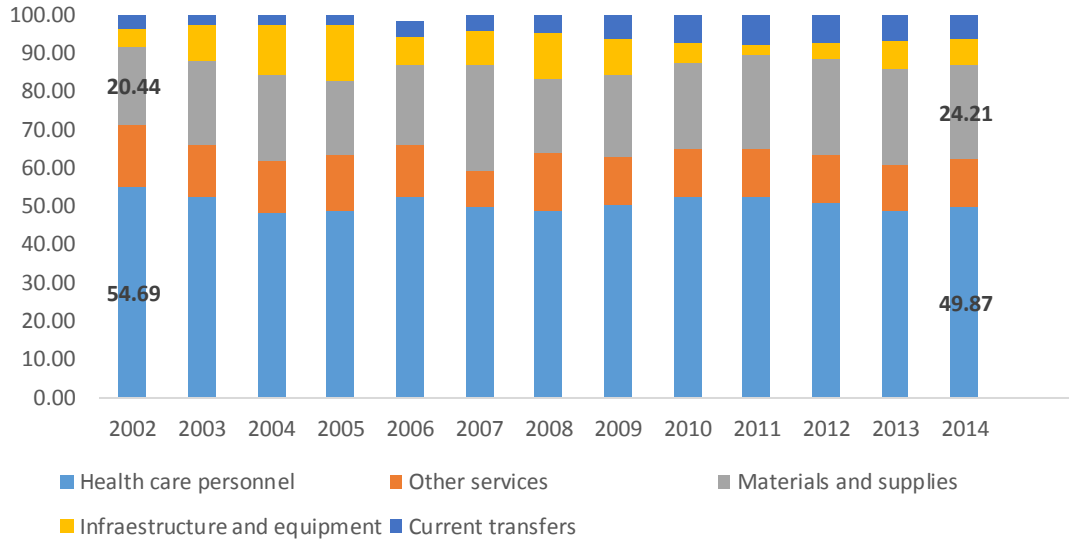
Figure 76: Per Capita Spending, MINSA and INSS



Source: World Bank SSEIR / ICEFI social spending database

Salaries comprise the largest share of MINSA's public spending, followed by non-personnel services and medicines. In 2002, approximately 54 percent of MINSA's spending on health was for salaries, while 17 percent was for non-personnel services and another 11 percent was for medicines (Figure 77). In 2014, MINSA allocated a smaller share of its budget to personnel (50 percent), which is lower than the shares allocated to salaries by other Central American countries and lower than the average share allocated by middle income countries (52.5 percent) (Figure 78). During the same year, MINSA increased the budget share for medicines to 14 percent, reflecting the Government's efforts to reduce out of pocket expenditures, and increased the allocation for the centralized purchase of essential medicines.[44] This budget change also reflects the Government's commitment to increasing the availability of contraceptives as part of MOSAFC (Box 8).

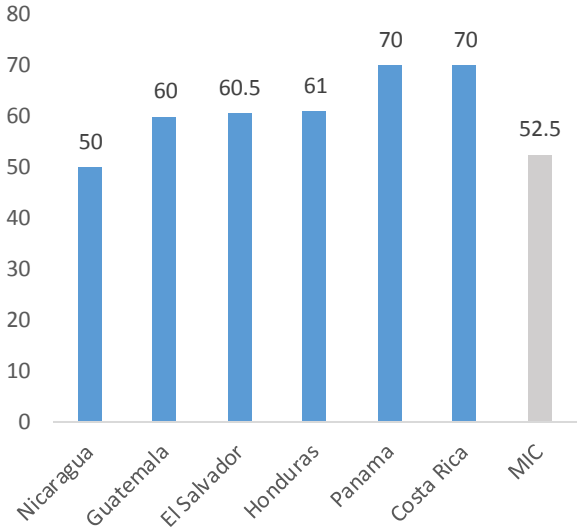
Figure 77: MINSA Expenditures by Economic Classification. Nicaragua 2002-2014



[44] MINSA 2015. Report PRPSIEP157 e-SIGFA.

Source: MINSA. Report PRPSIEP157 e-SIGFA.

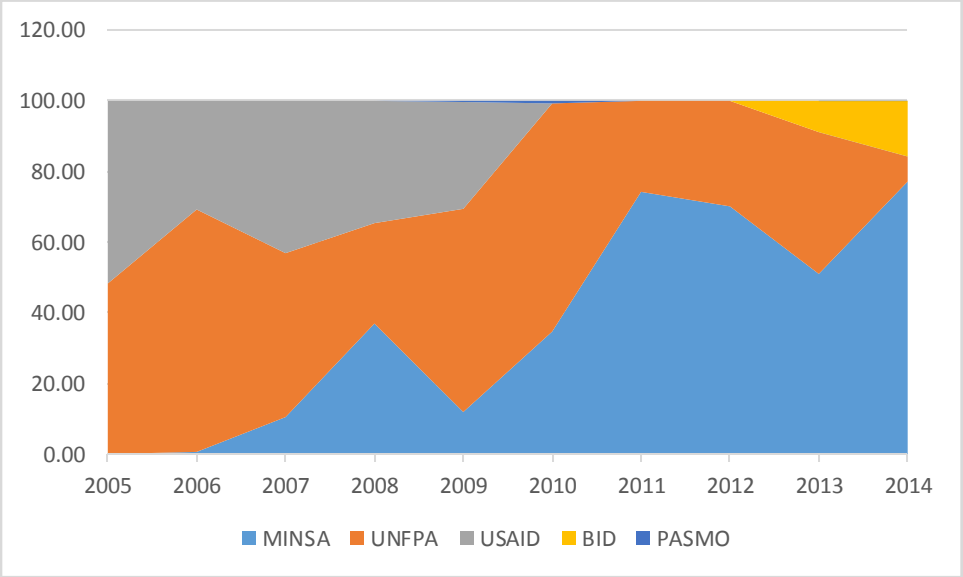
Figure 78: Share of Salaries in Public Spending on Spending on Health: Central America and Middle Income Countries



Source: MOH-MHCP- GUA 2014, HND 2011, SLV 2012, Note: HND, GT, ES, NI are shares of MOH spending and PAN and CR are shares of total public spending on health (2010); MIC share from Clements et al (2010).

Box 8: Government's Commitment to Reproductive Health

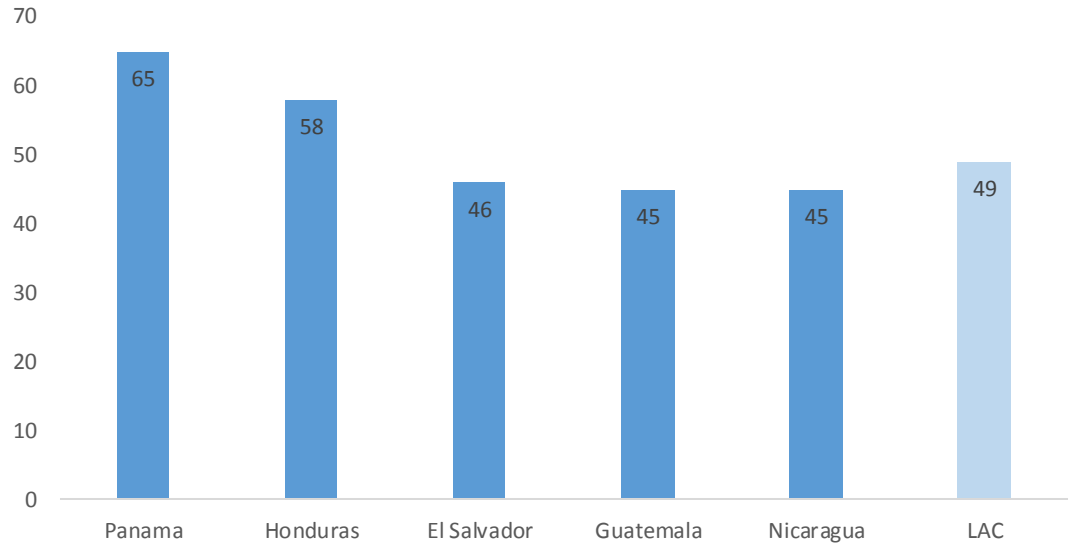
The Government's budget allocation to purchase contraceptives over the last 10 years reflects a sustained commitment to reproductive health. Since 2006, the Government has progressively incorporated purchase of contraceptives into its budget, covering the amount previously financed by donors. MINSA's share of the total budget for the procurement of contraceptive methods increased from 0.60 percent in 2006 to 77.16 percent in 2014.



Source: MINSA. 2015

In terms of programs, MINSA's budget appears to be fairly equally distributed between hospitals and primary health care services. Although hospitals accounted for the largest share of Nicaragua's budget for programs at 45 percent, it is lower than the 49 percent LAC average (Figure 79). Nicaragua's share of spending on hospitals is just slightly higher than its allocations to primary care (43 percent), while it allocates 11 percent to administrative services and coordination at the Central and Local levels (MINSA, 2015 and ICEFI). This budget distribution reflects the MOSAFC principles, which include the Government's commitment to shifting towards more efficient and effective budgeting practices. Specifically, the Government has been changing the way it allocates funds to the main hospitals in the country, moving from an historical budget allocation to a results based budget allocation, in an effort to create more responsibility for budget implementation. The effort implies not only providing additional training for the hospital directors, but also a change from traditional fiscal programing of budget allocations.

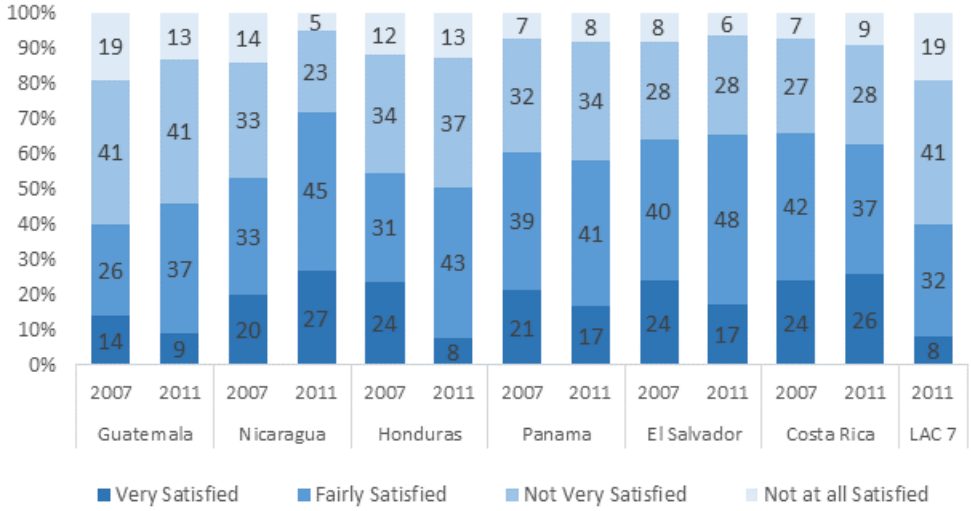
Figure 79: Share of Hospitals in Public Health, Nicaragua relative to other CA countries and LAC Average



Source: World Bank SSEIR / ICEFI social spending database. CR disaggregated spending not available.

The share of the population that reports that it is 'very satisfied' or 'fairly satisfied' with public hospitals in Nicaragua is higher than several Central American countries and a subset of LAC. As hospitals comprise the largest share of public health spending among health programs, user satisfaction with hospitals is an important indicator of quality. From 2007 to 2011, overall satisfaction with hospitals (Figure 80) significantly increased from 53 percent to 72 percent in Nicaragua, which is mostly explained by the free provision of service, testing, and medications.

Figure 80: Hospital Satisfaction in Central America and LAC, 2007 and 2011



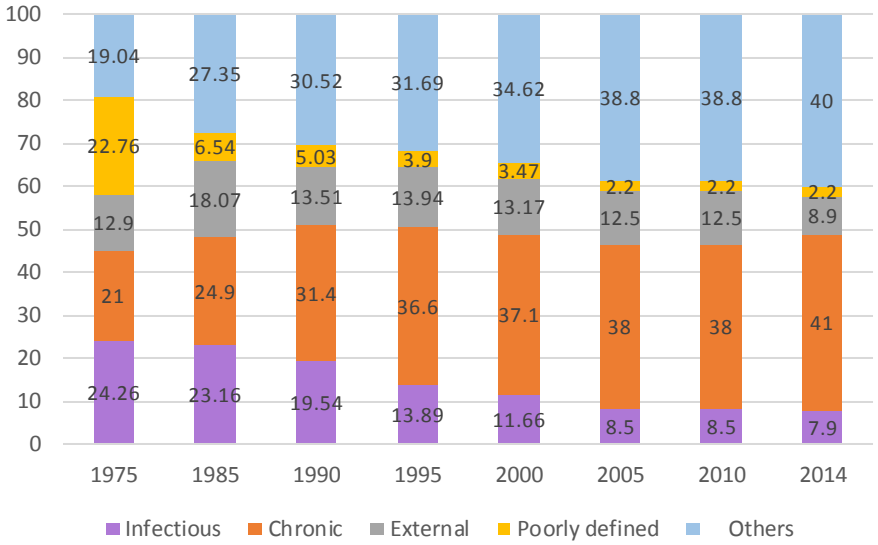
Source: Latinobarometro. 2007 and 2011.

V.2 Health Outcomes and Challenges

Nicaragua faces a triple burden of disease. While there remains an unfinished agenda related to communicable diseases, malnutrition, and sexual reproductive health, the overall burden of disease is shifting toward increased chronic diseases and external causes (including violence and injury), with an increasing number of deaths related to chronic vascular diseases, tumors, and major traumas. Life expectancy has increased from an average of 70.8 over the 2000-2005 period to 74.5 for 2010-2015, and the country's epidemiological profile reflects the characteristics of increasing urbanization, modernization of lifestyles, and aging populations, as chronic diseases have overtaken infectious diseases as the major causes of death and mortality by external causes is increasing.

The trends in mortality rates from 1975 to 2014 show a 16 percent decline in mortality due to infectious diseases and a 20 percent increase in chronic disease mortality, while external causes slightly decreased but remained higher than mortality due to infectious diseases. The decline in mortality from infectious diseases was driven by the progress made in reducing maternal and child mortality rates. Conversely, the increase in chronic disease mortality is explained by the increase in circulatory system related diseases (hypertension, cerebrovascular disease and ischemic heart diseases) and tumor-related deaths. Trauma mortality was due to accidents and violence (Figure 81).

Figure 81: The Burden of Disease in Nicaragua, (change from 1975-2014)



Source: MINSA, National Statistics Office. 2015.

V.2.1 Achievements and challenges in Maternal and Child Health

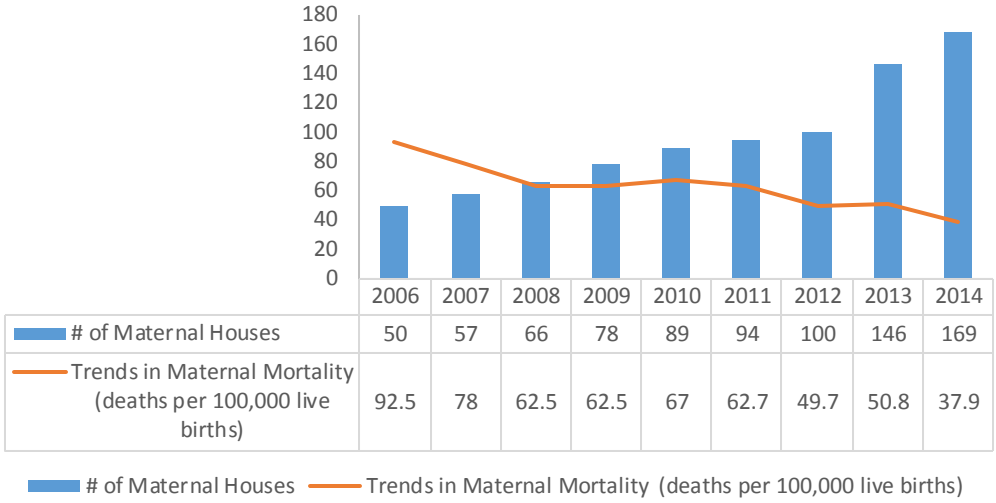
Progress towards reducing the maternal mortality rate, Millennium Development Goal (MDG) 5,[45] was rather slow until 2012. As of 2009, there were still as many as 62.5 maternal deaths per 100,000 live births (Figure 82). An in depth analysis of maternal mortality showed that non-obstetric and indirect causes played an important role in reducing maternal mortality. MDG-related efforts included improving institutional births, providing immediate post-delivery check-ups, and implementing a 'maternal houses' strategy to provide women from rural areas a place to stay to ensure safe and assisted delivery and post-natal care,[46] among others. With these efforts, Nicaragua's national average of institutional birth deliveries reached 75 percent in 2012, including a significant increase in the coverage rate for the lowest income quintile from 32 percent in 1998 to 65 percent in 2011-2012 (Table 5). Institutional delivery coverage rates ranged from 49 percent to 100 percent among Local System for Integral Health Care (*Sistema Local de Atención Integral en Salud*, SILAIS) over the same 2011-2012 period. The national average for post-delivery checkups reached 82 percent in 2012, ranging from 30 to 95 percent across SILAIS. The number of maternal houses increased from 100 in 201 to 169 in 2014, providing 40,192 women a place to stay prior to giving birth. This has combined with other measures for improving the quality of

[45] Nicaragua's goal is to reduce maternal deaths from 190 per 100,000 live births in 1990 to 40 per 100,000 live births by 2015.

[46] The maternal houses strategy complements institutional delivery and it is important for women's birth plans. It includes a short stay prior to and post-delivery. The Birth Plan is agreed between the parents to be and community leaders and includes details such as the possible use of maternal houses, transportation plan, a support network to care for the children left at home, and possible emergency scenarios. In 2014 alone MINSA identified 46,536 birth plans.

care[47] to contribute to reducing of the maternal mortality rate to 37.9 per 100,000 live births in 2014. Nonetheless, challenges related to quality of care and inefficiencies persist in the system, such as the high incidence of cesarean sections.

Figure 82: Maternal Mortality and Maternal houses in Nicaragua 2006-2014



	2006	2007	2008	2009	2010	2011	2012	2013	2014
# of Maternal Houses	50	57	66	78	89	94	100	146	169
Trends in Maternal Mortality (deaths per 100,000 live births)	92.5	78	62.5	62.5	67	62.7	49.7	50.8	37.9

Source: MINSA, 2015.

Table 5: Hospital deliveries in the public sector (% of all birth), Nicaragua 1998-2012

	1998	2001	2006/07	2011/12
National Average	61	60	63	75
Q. Lowest	32	29	41	65
Q. Middle	75	76	80	81
Q. Highest	78	71	58	67

Source: ENDESA 1998, 2001, 2006/2007, 2011/2012.

Despite the progress made in reducing maternal mortality, maternal mortality rates remain high in a number of areas. For example, several SILAIS still have high maternal mortality rates, namely Boaco (78.5 per 100,000 live births), Jinotega (55.9 per 100,000 live births) and RACCS (160 per 100,000 live births).

While adolescent pregnancy has decreased, it remains a large contributor to elevated maternal mortality rates and continues to be a challenge with widespread social and economic implications. The rate of pregnancy among girls 10 to 19 years of age decreased from 25.9 percent in 2006-2007 to 24.4 percent in 2011-2012,[48] but remained at a high level. Many

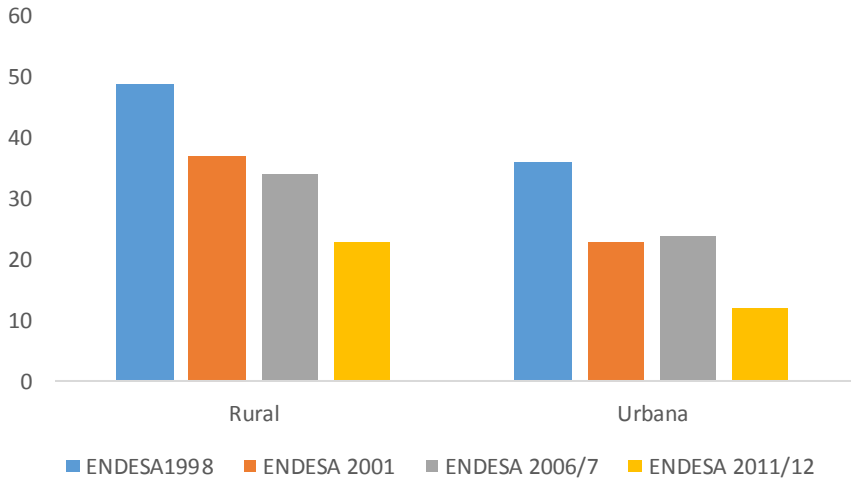
[47] Other strategies include training at all levels of care including midwives and community leaders for a prompt response and support.

[48] Latest available data from the National Demographic and Health survey (ENDESA) which has nationally representative data. All other available data are only administrative data from MINSA. MINSA data cannot be compared over the years because MINSA recently started collecting data from all health centers.

young girls either drop out of school and become pregnant or drop out of school due to pregnancy and face a vicious cycle of poverty. The national issue of adolescent pregnancy prompted MINSA to support the preparation and implementation of the National Strategy for Integral Health and Development of Adolescents 2012-2015, which calls for: (i) more efficient access to and delivery of health care services to young mothers; (ii) an increase in the number of maternal houses in areas with dispersed rural populations; (iii) a multi-sector response from MINED, MIFAN and MINJUVE; and, (iv) carrying out training of trainers for teachers from fifth to twelfth grade, among others.

Nicaragua's infant mortality rate has decreased but remains higher in rural areas than urban areas. Data from the 2012 demographic and health survey (*Encuesta Nicaragüense de Demografía y Salud*, ENDESA) shows that Nicaragua's under-five mortality rate declined from 42 to 17 per 1,000 live births between 1998 and 2011-2012 (Figure 83). This is partly due to an overall decrease in adolescent pregnancy, as well as an increase in the share of babies born to adolescent mothers that were delivered in health facilities from 74 percent in 2007 to 94 percent in 2014. However, despite all efforts, mortality rates in rural areas remain more than 10 points higher than those in urban settings, confirming the need for inter-sectoral interventions such as improving access to potable water to further reduce child mortality. For example, in 2014, 60 percent of the rural population lacked access to potable water.

Figure 83: Under 5 mortality rate in Nicaragua 1998- 2011/12



Source: ENDESA 1998, 2001, 2006/2007, 2011/2012.

The nutritional status of Nicaraguans reflects the current epidemiological transition and is a large source of concern because of increasing national overweight and obesity rates. Data from the ENDESA household survey shows improvements in chronic malnutrition and total under-nutrition among children under 5 years of age. From 1998 to 2011-2012, chronic malnutrition decreased by 8 percentage points and total undernutrition decreased by 15 percentage points (Table

6). However, Nicaragua is now reporting a different type of malnutrition: increasing rates of overweight and obesity, particularly among children and women of reproductive age. The prevalence of overweight[49] among boys and girls under 20 years of age is 14.8 and 23.4 percent, respectively. Overweight prevalence was much higher among men and women over 20 years of age, at 43 and 67.6 percent, respectively.[50] Both overweight and obesity pose considerable risks for the development of metabolic and cardiovascular diseases that have high economic and social costs for society.

Table 6: Total and chronic malnutrition in children under 5, Nicaragua 1998-2011/2012

	1998	2001	2006/07	2011/12
Chronic	13	9	6	5
Total	32	26	22	17

Source: ENDESA 1998, 2001, 2006/07, 2011/12.

V.2.2 Achievements and Challenges in Infectious and Non-Communicable Diseases

Despite infectious disease control efforts, Nicaragua faces a wave of new infectious diseases. During 2014, the epidemiological behavior of infectious diseases was moderate and had a tendency to decrease, with the exception of the newly introduced chikungunya virus disease, which had epidemic-like behavior (Table 7). A new threat, the Zika virus, emerged in 2015. By 2016, the behavior of the *Aedes* vectors and the reported, suspected, and confirmed cases led the Government to believe that 2016 would be an epidemic year with negative consequences for the health of the population. While dengue, chikungunya and now Zika are expected to appear in most SILAIS, malaria is mostly present in Bilwi, Las Minas, RACCS, Jinotega and Chinandega, which account for the 96 percent increase in reported positive cases.

Table 7: Suspected and confirmed cases of vector transmitted diseases in Nicaragua (2014)

	Chikungunya	Dengue	Malaria	Leptospirosis
Suspected cases	6,000	35,432	n/a	890
Confirmed cases	1,700	1,932	993	156

Source: MINSA. 2015.

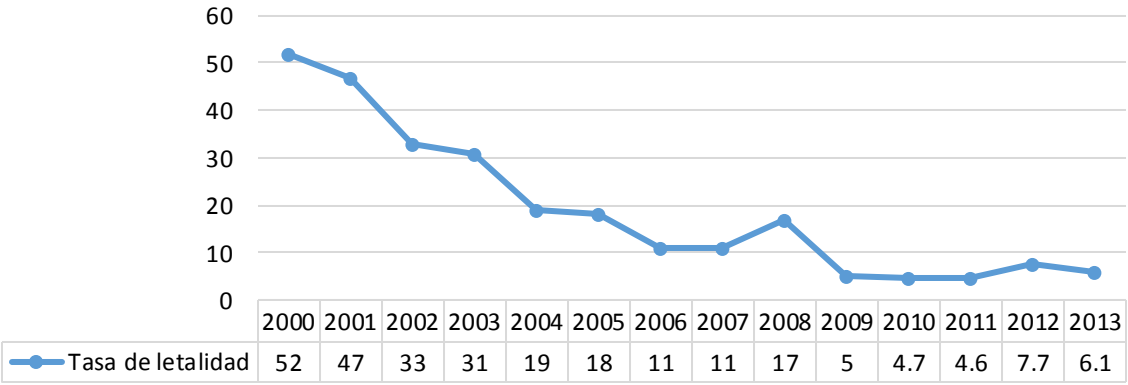
Progress towards halting and beginning to reverse the spread of HIV, MDG 6, has been mixed, with more progress made in reducing mortality than in stopping the spread of the virus. Nicaragua reports important advances in the care for people affected by HIV, with the HIV/AIDS related death rate having declined dramatically since 2000 (Figure 84). HIV mortality

[49] Overweight is defined as having a body mass index (BMI) ≥25 to <30 kg/m2 in adults aged > 18 years. In children classification based on the International Obesity Task Force (IOTF) definition.

[50] Global, regional, and national prevalence of overweight and obesity in children and adults during 1980–2013: a systematic analysis for the Global Burden of Disease Study 2013. Murray et al. 2014.

is not among the first ten causes of death in Nicaragua, as is the case in Honduras, Guatemala and Panama.[51] Despite efforts to provide treatment and improve adherence to Anti-Retroviral Therapy, the incidence of HIV is rapidly increasing, from 4.1 new cases per 100,000 in 2011 to 19.9 per 100,000 in 2013. 69.9 percent of new HIV infections occur among 30-35 year olds, followed by 20.7 percent among 20-27 year old and 9 percent among 15 to 19 year olds. (UNICEF, 2013). In this context, renewed efforts are needed to ensure sustainable investments to prevent HIV/AIDS in Nicaragua.

Figure 84: Mortality due to HIV/AIDS (in deaths per 100,000), 2000-2013



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Tasa de letalidad	52	47	33	31	19	18	11	11	17	5	4.7	4.6	7.7	6.1

Source: MINSA, 2013.

V.2.3 Access to Health Insurance

In 2014, over 76 percent of the population reported not having any type of health insurance and mostly relying on the public health services network. Over 60 percent of the population reported not having any insurance, ranging from 90 percent in the lowest income quintile to 64 percent in the highest income quintile. As noted above, the social health insurance of the INSS covers around 22 percent of the population. Affiliation with the INSS, as expected, is highest in the highest income quintile (34 percent) and lowest in the poorest income quintile (9 percent). Box 9 provides more information about the INSS. Less than one percent of the population is insured by the Military/Police insurance, while one percent is covered by private insurance (Table 8).

Table 8: Health Insurance status by quintile of the population. Nicaragua, 2014

Quintiles	INSS	Private	INSS & Private	Military / Police	None	Total
Q1	8.53	0.78	0.02	0.17	90.50	100.00
Q2	17.80	0.92	0.05	0.15	81.08	100.00
Q3	23.82	0.90	0.03	0.53	74.72	100.00
Q4	28.10	0.70	0.09	0.60	70.52	100.00
Q5	33.83	1.30	0.09	0.61	64.17	100.00

[51] La situación de la epidemia del VIH/SIDA en Centroamérica, (CONCA SIDA, 2007).

Total	22.41	0.92	0.05	0.41	76.21	100.00

Source: LSMS 2014.

Box 9: The Sickness and maternity program of the national social security system managed by the INSS

The current social health insurance system covers formal employees from the public and private sectors. Voluntary coverage is offered for the self-employed, clergy, and employers and workers previously covered by the Social Health Insurance. Temporary agricultural workers, the military and police personnel are not included.

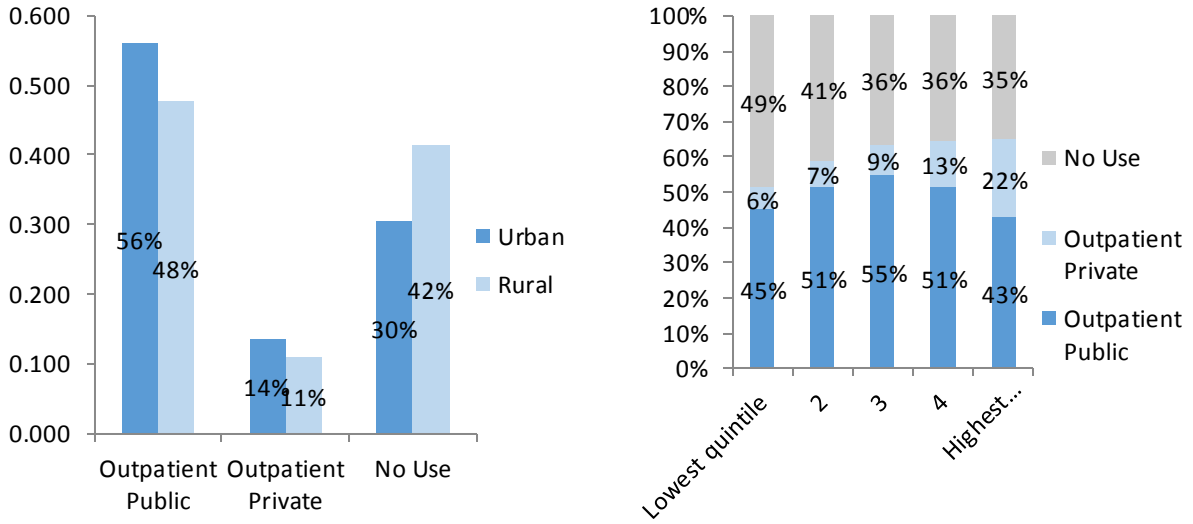
In 2014, 735,014 workers across 30,108 enterprises were actively insured. Of the 30,108 enterprises, 92 percent provide integral social security coverage, while 8 percent provide only old age, pension and professional risks insurance (workmen compensation). In 2014, around 89 percent of the active beneficiaries (658,808; around 10 percent of the total population) were covered by the health insurance program (sickness and maternity program) as part of the integral social security regime. Around 95 percent the active beneficiaries of the health insurance program belonged to the compulsory system. The number of active insured from a voluntary affiliation program (32,045) represented around five percent of the population covered by the health insurance program (0.5 percent of the total population of the country). During the 2010-2014 period, the number of economically active population and their beneficiaries contributing under the social health insurance scheme managed by the INSS increased from 9 to 11 percent of the total population. The number of beneficiaries increased from 21 percent of the population in 2010, to an estimated 27 percent in 2014* (to 1.6 million). Contributions grew faster than the number of beneficiaries.

*Estimation based on 2014 population that includes the potential family members benefited by the program, it differs from the MIC household survey results.

V.2.4 Health Care Utilization

In 2014, the share of the population that reported an illness was slightly higher in rural areas (51 percent) than in urban areas (48 percent), while utilization rates of both public and private facilities were higher in urban areas. In particular, 56 percent of urban dwellers used outpatient public services, compared to 48 percent of rural dwellers. In addition, a larger percentage of urban dwellers (14 percent) used outpatient private services compared with rural dwellers (11 percent), although the difference was smaller. On the other hand, there was a larger difference in the utilization rates between the lowest income quintile (51 percent) and the highest income quintile (65 percent), and utilization rates of public outpatient services were greater among the lower income quintiles (Figure 85).

Figure 85: Utilization of Health Services by Urban and Rural Areas and by Income Quintile, Nicaragua, 2014



Source: NI HH Survey 2014.

In the 2014 ENDESA, no one reported paying for consultation in public sector facilities, although expenses were reported for seeking care in private facilities and for medications. Approximately 12 percent of the population paid for consultations in the private sector and 55.4 percent reported paying for medications. Consultations paid for by lower income quintiles took place in private facilities, which also include healers. While the payment for consultations is lower in the lower income quintiles, payment for medications is an important share of expenditures for all income quintiles. The average payment for consultations was 275 cordobas (US$9.50), with a difference between the lowest and highest income quintiles of over 50 percent. The average payment for medications was 336 cordobas (US$11.60), with a fourfold difference between the highest and lowest income quintiles. This indicates that access to medicines is an issue faced by people seeking care in publicly provided health services. The 2014 ENDESA also reported that 70 percent of survey participants did not pay for laboratory, x-rays or other support testing. Among the 30 percent who paid for the testing, over 40 percent were in the highest income quintile, but still over 15 percent from the first and second income quintiles also paid for these services.

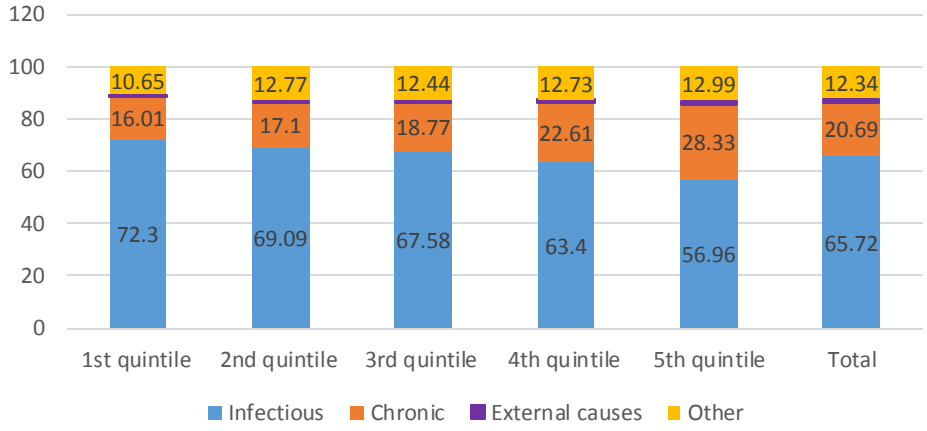
MINSA has doubled the use of publicly provided health services in recent years. The number of primary health care consultations increased from 8.5 million in 2006 to 16.7 million in 2013. Over the same period, hospital-based consultations rose by 125 percent (from 1.3 million in 2006 to 3.1 million in 2013), while hospital discharges increased by 46 percent, and surgeries performed rose by 120 percent.[52] As a result of the inclusive elements of the Nicaragua health care model, utilization of health care services grew for the poorest quintile of the population from 41 percent

[52] MINSA administrative data, March 2015.

in 2006 to 65 percent in 2013.[53] However, the increased provision of health care services has also increased medical waste production. This issue is discussed in the institutional and governance section.

Consultations for infectious and chronic diseases and external causes among those who reported being ill in the last month during the 2014 ENDESA reveal the changing epidemiological profile of the country by income group. Among the sick who sought care, most consulted for infectious diseases (65.72 percent). This was particularly high in the lowest income quintile. At the same time, chronic diseases and external causes accounted for higher shares of consultations for the highest income quintile (Figure 86). These results may indicate a lack of follow up of chronic diseases that require constant supervision, such as diabetes and hypertension in the lower income quintile.

Figure 86: Consultations among those who reported sick by group of disease and quintile of income. Nicaragua 2014.



Source: NI HH survey.

V.3 Institutional Arrangements

The Nicaraguan health system is composed of public and private institutions that interconnect with each other in the provision of health care services. The provision of health care in the public sector is shared by MINSA, the INSS, and the Armed Forces and Police. These institutions directly provide health care services (MINSA, Armed Forces and Police) and finance the purchase of health care from private providers (INSS). MINSA and the INSS operate very differently. For example, the value of the services provided by MINSA are the costs incurred in the production and delivery of health care related goods and services through the Government network of health care service facilities and ambulatory units and teams. On the other hand, INSS

[53] ENDESA 1998, 2001, 2006/07 and 2011/12.

expenditures on health care related services correspond to the cost of purchasing health care related goods and services from private providers, mainly at pre-negotiated or quasi-market prices.[54] These providers may charge additional co-payment for services, whereas services provided at MINSA facilities are free of charge or at non-significant prices.[55] The General Health Law (*Ley General de Salud No. 423*) published in 2002 mandates the provision of free health care for vulnerable populations, with an emphasis on maternal and child health care programs, as well as provision of health care services for senior and disabled citizens.

The provision of different health care packages through MINSA and INSS results in households seeking care from both public and private providers to cover service gaps. As a result, the public system effectively subsidizes private providers and private insurers by absorbing the catastrophic expenditure of both sub-systems and providing care to the population that needs more sophisticated treatments.

Since 2007, provision of health care under MINSA has been based on the MOSAFC. The MOSAFC covers preventive health care and community participation, in addition to the provision of curative care under the Integral Health Care Model. Under MOSAFC, the entire population is covered, free of charge, with health services appropriately oriented to individuals, families, and households. MOSAFC operates at the community level with health teams dedicated to a specific geographic sector with a defined population base. These Family and Community Health Teams are responsible for the provision of basic health care services, with basic medical equipment, medicines, and goods at their disposal. In addition, this model relies on the 18 SILAIS to coordinate the municipal networks in their jurisdiction. MOSAFC is considered the operationalization of the health plan presented in article No. 105 of the Nicaraguan Constitution, outlining a path to achieving equity in the health sector by providing comprehensive, free, quality health care guided by the principle of universality, solidary and equity. The Government defined 12 steps in the implementation of the MOSAFC,[56] reflecting the important role of community participation, definition of responsibilities, integration of the health network, and the need for monitoring and evaluation of the model.

The distribution of the health facility network and the lack of readiness of equipment and supplies present some challenges in providing quality access to all areas. The health network is comprised of 1,374 health facilities, of which 84 percent are family health posts (Figure 87). Twenty seven hospitals located mostly in Managua are responsible for the more complex health

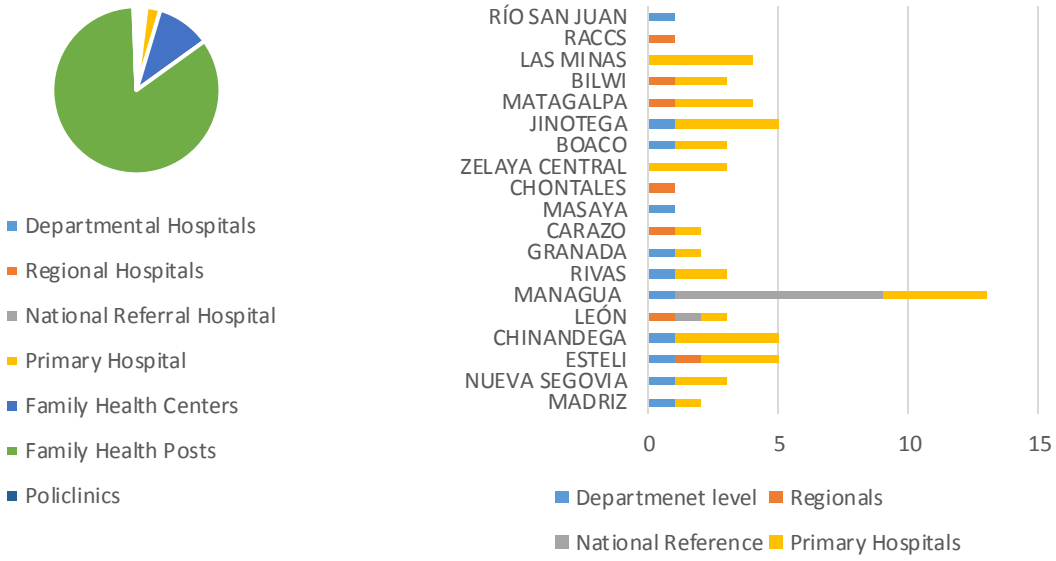
[54] Some hospital services are contracted from public sector institutions, from the Ministry of Defense.

[55] The different valuation of the goods and services provided by MINSA and those purchased by INSS's SHI scheme is a major limitation for adding-up and/or comparing the real value of public expenditures throughout these institutions.

[56] MINSA, 2007. Marco Conceptual del Modelo Familiar y Comunitario MOSAFC. Managua, Nicaragua. http://www.paho.org/nic/index.php?option=com_docman&task=doc_view&gid=230&Itemid=235.

care, while 37 primary hospitals provide less complex health care. In addition, 6,619 *casas bases*[57] support the actions of the health posts and brigades[58] visiting smaller towns. The disproportionate distribution of health facilities, particularly with regard to Managua and the rest of the SILAIS creates challenges in providing services. In addition, delays in opportune maintenance, repair and repositioning of equipment and infrastructure is a major bottleneck in delivering good quality health care services. Despite the creation of the Center for Maintenance of Medical Equipment in 1992[59] as a decentralized entity with administrative capabilities assigned to MINSA, the Center does not have an assigned budget line, meaning that it has to financially compete with other MINSA priorities. Ensuring better equipment maintenance is not yet part of MINSA's institutional culture.

Figure 87. MINSA Health Facilities by Type. Nicaragua 2015



Source: MINSA 2015.

From 2005 to 2015, the number of human resources working in the sector increased by 32 percent, though staffing gaps remain. Although this increase in personnel, comprised largely by medical staff, has allowed the country to move closer to international health standards, Nicaragua's ratio of 16 health workers to 10,000 inhabitants still falls below the WHO standard of 25 per 10,000 inhabitants. Under MOSAFC, the number of medical doctors in the public sector doubled from 2,717 in 2005 to 5,794 2015, while the number of nurses grew from 2,228 to 4,726, representing at least a 50 percent increase for both groups during this period. These increases resulted in improved ratios: from 4.98 to 9.32 physicians per 10,000 population and from 4.09 to 7.60 nurses

[57] *Casas Bases* are identified households or community houses where health personnel could provide care, health meetings, or simply coordinate for national public health campaigns such as vaccination and vector control.
[58] Brigades are health staff organized to visit homes or houses defined as casas basses to provide care or follow up.
[59] National Decree No. 19-92.

per 10,000 population, which are both closer to the recommended international standards. The increase in health technicians during the same period was lower (27 percent), while the increase in dentists' was very low (5 percent), resulting in a ratio of only 0.42 dentists per 10,000 inhabitants in 2015. Dentists now account for the largest gap in health human resources in the Nicaraguan public health sector. Coverage outreach is complemented with the organized activities of the Family and Community Health Teams,[60] which are in charge of household follow-ups, particularly for maternal and child care. The *Modelo de Atención de Salud Intercultural de Región Autonoma Atlántico Norte* and the *Modelo de Atención de Salud Intercultural de Región Autonoma del Atlantico Sur*[61] are the most active of these efforts to provide services to the highly dispersed population in the northern and southern parts of the Atlantic Coast.

Table 9: Number of MINSA staff by profession in Nicaragua: 2005 and 2015

	2005	2015	% change
MD in Social Service	288	986	70.79
MD Specialist and Sub specialist	962	2077	53.68
MD General practice	1,141	1,915	40.42
MD Residence	326	816	60.05
	2,717	**5,794**	**53.11**
Nurses in Social Service		468	100.00
Nurses Specialist	358	1,827	80.41
Nurses General practice	1,233	1,864	33.85
Nurses with coordination functions	637	567	-12.35
	2,228	**4,726**	**52.86**
Nurse assistants	4,066	3,944	-3.09
Health technicians	**3240**	**4,448**	**27.16**
Dentist	246	259	5.02
	246	**259**	**5.02**
Administrative and general services	9,231	12,951	28.72
	9,231	**12,951**	**28.72**

Source: MINSA. Nicaragua 2005-2015.

The increase in health care staff and production of health care services have also resulted in an increase in the production of medical waste. The public health sector is progressively investing in the training, equipment, and management of health waste within health facilities. However, the increase in production of services, in particular the more sophisticated management of cancer treatments and auxiliary methods of diagnostics, require more care in the management of medical waste. Much more needs to be done in terms of protecting and training health personnel

[60] The Family and Community Health Teams are comprised by the health personnel at the health facility and the community leaders. The visits are part of their way to reach, capture, and follow up with the target population.

[61] The *Modelo de Atención de Salud Intercultural de Región Autonoma Atlántico Norte* and the *Modelo de Atención de Salud Intercultural de Región Autonoma del Atlantico Sur* are the ESAF of the Atlantic coast. These teams started implementation in 2015 in order to respond to the need for medical, support staff and community outreach work in their respective locations.

in managing waste and ensuring the use of proper technology for the disposal and the implementation of waste management plans for reference hospitals. Increased participation from municipalities and MARENA are needed for the proper management of hazardous waste in public disposal places.

Finally, after ten years of implementation of the MOSAFC model, an evaluation of its effectiveness and efficiency and the functioning of the health network is needed. The Government prepares and follows multi-annual Strategic Plans[62] to define priorities and establish goals and presents annual progress reports (*Informe de Gestion Anual*) summarizing advances made in relation to these goals. These reports focus on annual health results and outline challenges, opportunities, and resources needed. However, the reports do not assess health network performance, the efficiency of public health interventions, the efficiency of use of funds and other resources, or the role and extent of community participation, among others. Given the country's financial situation and the limited budget assigned to health, it would be important for MINSA to undertake an in-depth review and identify ways to optimize the use of available resources to yield maximum benefits.

VI. Performance and Challenges in Social Protection and Labor

VI.1 Recent Evolution of Social Protection and Labor Public Spending

Public spending in SPL has grown significantly in the past years both in real per capita terms and as a share of GDP. SPL spending as a share of GDP grew by 9 percent on average per year, rising from 2.4 percent of GDP in 2007 to 4.4 percent in 2014 (Figure 88). This annual growth was far above the rest of Central American countries, with El Salvador trailing slightly behind at 6 percent, Costa Rica and Guatemala both averaging 3 percent, and Honduras and Panama showing an average decline of 1 percent. In per capita terms, Nicaragua's SPL spending also grew US$93 in 2007 to US$124 (in 2007 PPP dollars) in 2014. However, it is still quite low compared to the Central American average of US$416 (Figure 89). The SPL sector in Nicaragua accounted for 33 percent of social spending in 2014 compared to 24 percent in 2007.

[62] Five years.

Figure 88: SPL spending as a share of GDP by countries

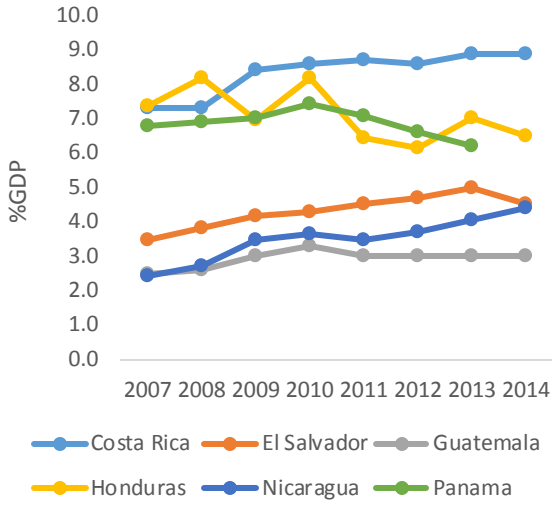
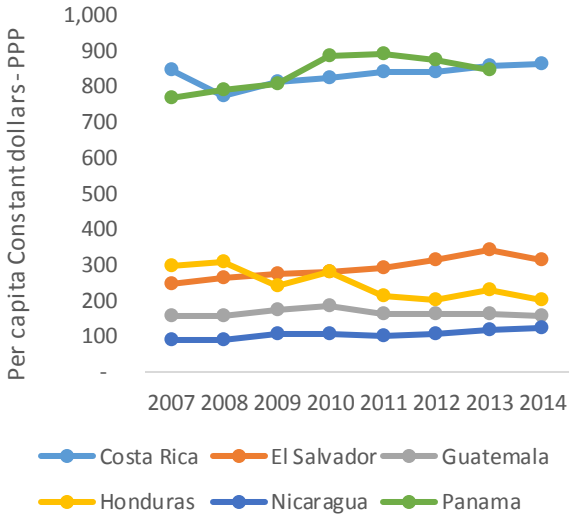


Figure 89: SPL spending per capita constant dollars PPP by countries



Source: World Bank SSEIR/ICEFI Social Spending Database.

A key explanation of SPL spending growth over this period was the increase in both social security and social assistance allocations. The SPL system in Nicaragua is composed of both contributive programs (pensions) and non-contributive programs (social assistance, labor market programs, and subsides). Social security spending has increased in recent years, from 1.9 percent of GDP in 2007 to 3.5 percent in 2014 (Figure 90). This increase is mainly due to a pension reform that introduced a reduced proportional age pension pursuant to Decree No. 28 of 2013. Similarly, social assistance spending has also increased, representing almost twice the spending in 2007 in real terms and growing from 0.5 percent of GDP in 2007 to 0.9 percent in 2014. However, Nicaragua's SPL spending in social assistance is the lowest in Central America, while it is near the average for social security specifically (Figure 91). Taken as a whole, SPL spending is relatively low in regional terms, only surpassing Guatemala in Central America.

Figure 90: Public Spending on SPL as a % of GDP (%)

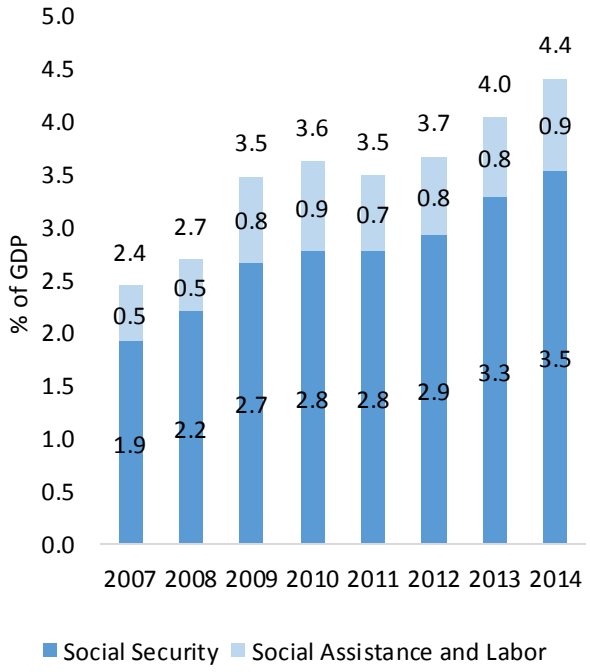
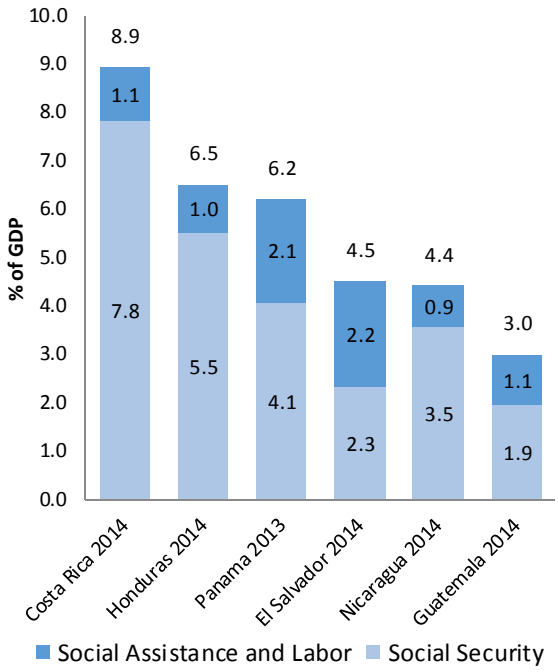


Figure 91: Public Spending on SPL as a % of GDP by countries



Source: World Bank SSEIR/ICEFI Social Spending Database.

Social security accounts for 80 percent of total SPL spending. The social security sector is administered by the INSS. Total spending in social security has been increasing since 1994 at a rate of 9 percent per year, while the total number of beneficiaries increased by 4 percent per year over the same period, reaching 194 thousand people by 2014 (Figure 92). Most of the spending is allocated to ordinary pensions with an upward trend over time, reaching 90 percent of total security spending. The share of social security spending on war victims and other special regime has declined over time to 9 percent and 1 percent in 2014, respectively, compared to 20 percent and 10.7 percent in 1994, respectively (Figure 93).

Figure 92: Social Security spending and beneficiaries

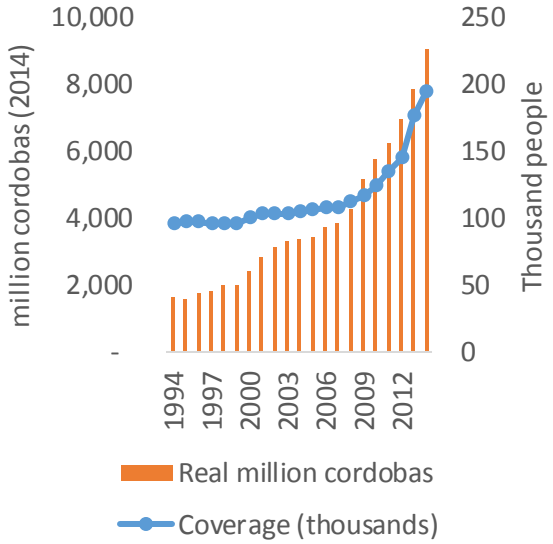
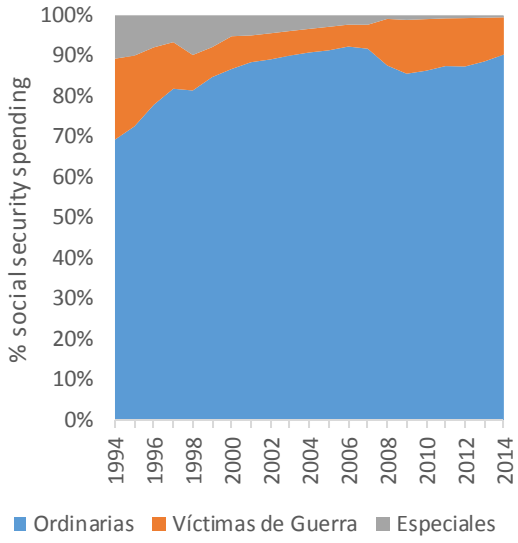


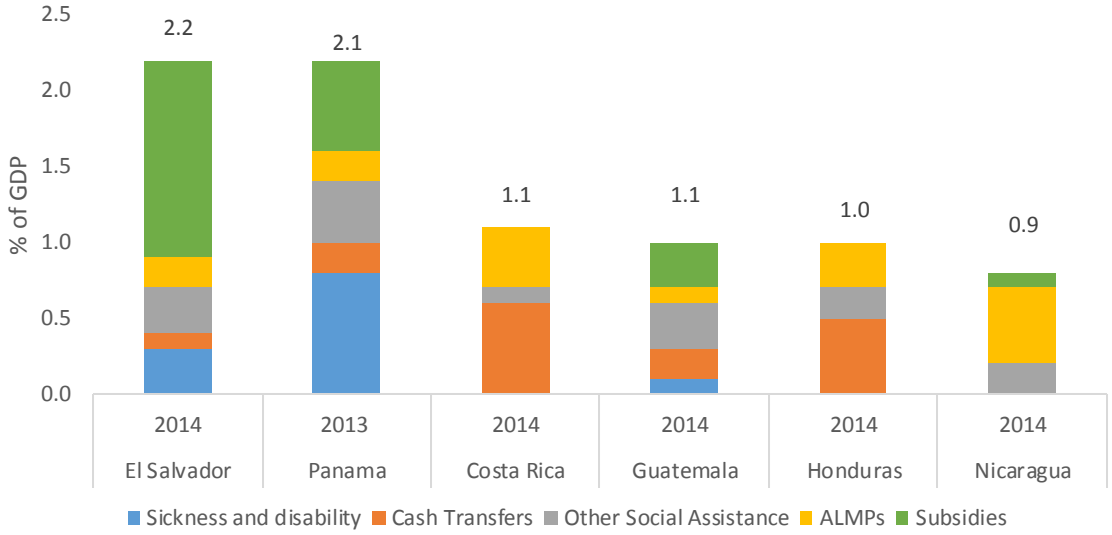
Figure 93: Social Security spending by main categories



Source: Datos administrativos del INSS, Anuario Estadístico 2014.

Despite accounting for just 20 percent of SPL spending, social assistance has increased in importance in recent years. The SNBS coordinates a set of multi-sectoral social assistance programs, including *Programa Amor*, a social care program for children, youth and the elderly with a life-cycle approach, as well as disaster prevention, mitigation, and attention programs run by the National System for Disaster Prevention, Mitigation, and Attention (*Sistema Nacional de Prevencion de Desastres*, SINAPRED). Spending on social assistance increased as a share of GDP from 0.5 percent in 2007 to 0.9 percent in 2014. Despite this increase, Nicaragua's social assistance spending is still the lowest in Central America (Figure 94), while also trailing behind the LAC and world averages of 1.3 and 1.6 percent of GDP (average for 2010-2014), respectively. Unlike its neighbors, Nicaragua does not allocate resources to cash transfer programs and is the country that spends the most on ALMPs in the region.

Figure 94: Social Assistance Spending as a % of GDP, 2014 (circa)



Source: World Bank SSEIR/ICEFI Social Spending Database.

Untargeted subsidies and ALMPs explain the majority of the increase in social assistance and labor spending in the last few years. As a share of GDP, ALMPs increased from 0.3 percent of GDP in 2007 to 0.53 percent of GDP in 2014 and account for the largest share of social assistance spending. In the last few years, ALMP spending averaged 60 percent of social assistance and labor spending, followed by family and children (20 percent) and subsidies (13 percent) (Figure 95). Among Central American countries, Nicaragua has the highest share of public spending on ALMPs followed by Costa Rica (0.4 percent), Honduras (0.3 percent), El Salvador and Panama (0.2 percent each) and Guatemala (0.1 percent). The increase in ALMPs spending is due to an increase in coverage of training programs for young people and employees (who contribute 2 percent of their payroll salary for INATEC funding), and the launch of mobile courses for people with limited economic resources from semi-urban and rural areas of the country. Subsidy allocations increased by 28 percent per year from 0.02 percent of GDP in 2007 to 0.12 percent of GDP in 2014. Subsidy benefits include energy and water consumption for retirees, as well as energy consumption subsidies for economically vulnerable settlements, which were launched in 2009 (Figure 96). Moreover, still very few resources are directly allocated to families and children reflecting the same trend of the amount spent on untargeted subsidies.

Figure 95: Social assistance spending by components as a % of social assistance spending

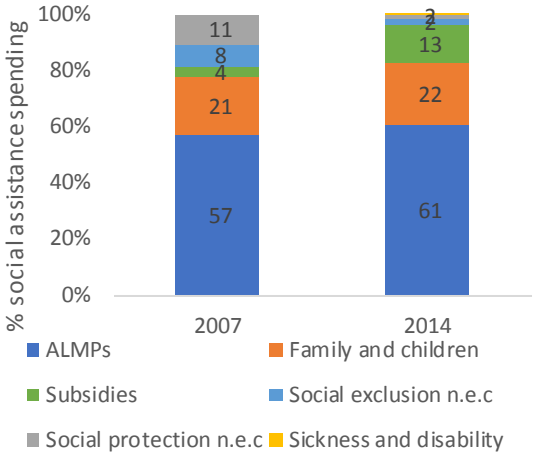
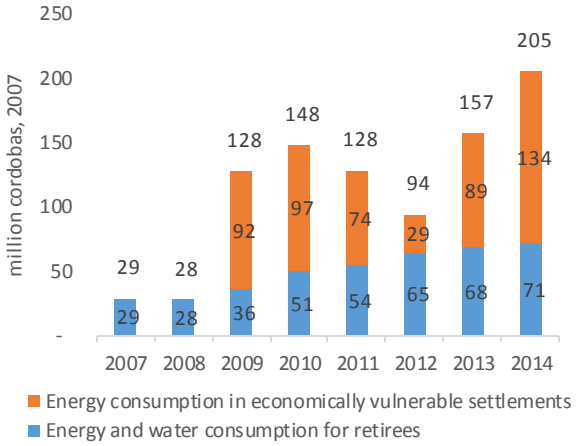


Figure 96: Spending on subsidies by components



Source: World Bank SSEIR/ICEFI Social Spending Database.

VI.2 Social Protection and Labor Outcomes and Challenges

VI.2.1 Social Security

The social security system is administered by INSS and provides benefits for old-age, disability, illness, death, maternity and occupational risk. As previously noted, Nicaragua has both contributory and non-contributory pension regimes. The contributory general regime works as a pay-as-you-go system. In order to finance the system, employers contribute 6 percent of the employee's salary, while employees contribute 4 percent.[63] The non-contributory pension system assists people living in extreme poverty, the military or war victims. A reform was approved on December 20, 2013 to address the sustainability of the pay-as-you-go pension system, which included a phase-in increase in the employers' contributions from 7 percent prior to 2014 to 10 percent by 2017,[64] though employee contributions remained unaltered at 4 percent. In addition, old age and disability pension benefits for those making over two minimum wages was reduced under this reform. As a result of these changes, revenue and expenditures improved. However, this was countered by an increase in expenditure due to the introduction of a reduced pension in 2013 and a legislated increase in these pensions in 2015. As referenced above, Decree No. 28 effectively extended pension coverage to INSS members who had between 250 and 749 weeks of contributions, compared to the minimum of 750 weeks of contributions previously required to be eligible for an old age pension. Table 10 shows a breakdown of the main social insurance programs, including description, target population, expenditures and coverage.

[63] ECLAC (2013).

[64] The detailed phased increase plan follows the following incremental increases: from 7 percent to 8 percent by 01/01/2014; 9 percent by 01/01/2015; 9.5 percent by 01/01/2016; and finally reaching 10 percent by 01/01/2017.

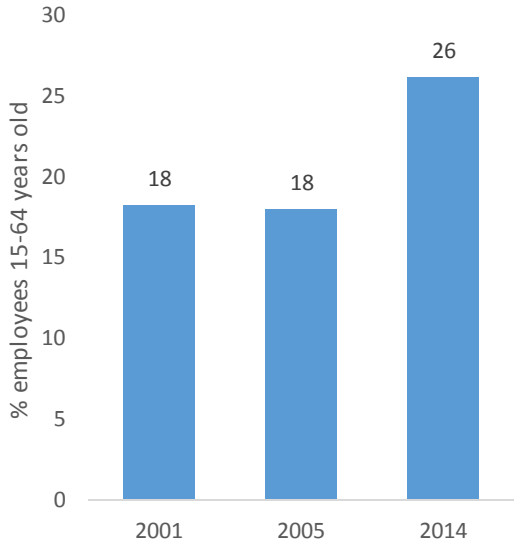
Table 10: Main social insurance programs

Main Social Insurance Programs	Description	Target Population	Spending (% of GDP)		Beneficiaries	
			2007 (circa)	2014 (circa)	2007 (circa)	2014 (circa)
Pensión por Vejez	Old age pension	Those who has completed 60 years of age and 750 weeks of contributions.	1.05%	1.77%	45,440	91,293
Pensión por Viudez, Orfandad y otros sobrevivientes dependientes	Survivors pension	Widow, orphans or dependents of the deceased insured.	0.15%	0.22%	20,064	26,832
Invalidez Parcial o Total	Disability pension	Partial or total disability benefits, independent of age nor contributions made.	0.22%	0.25%	10,731	12,108
Riesgo Profesional o Laboral	Occupational injuries	Loss or disability pension insurance, upon accidents or occupational diseases diagnosed by a licensed occupational physician.	0.08%	0.11%		
Enfermedad y accidente común	Sickness / injury leave		0.05%	0.07%	38,974	74,857
Subsidios por maternidad	Maternity / Paternity benefits		0.04%	0.04%	14,669	18,860
Subsidios de funeral	Life insurance / Funeral grants		0.00%	0.00%	1,706	2,933
Medios auxiliares, exámenes visuales, lentes, trabajos dentales y préstamos	Other social insurance		0.02%	0.03%	17,225	78,677

Source: World Bank SSEIR, authors' calculations using SSEIR/ICEFI Social Spending Database, and LAC SP database.

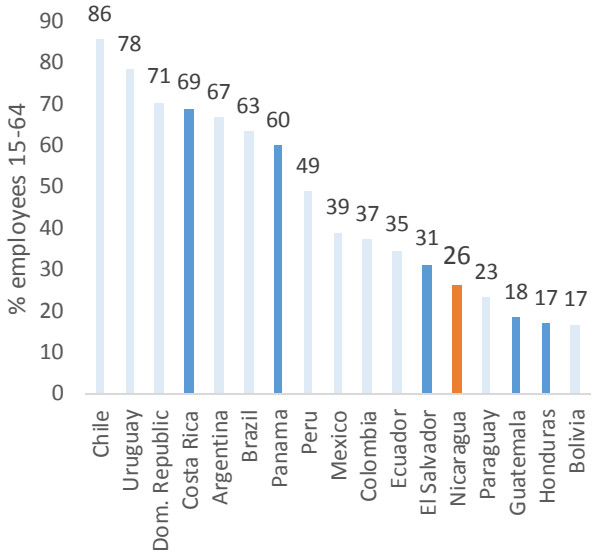
While overall social security coverage has increased, Nicaragua still has one of the lowest contributions to the system in LAC. The share of employees 15-64 years old contributing to the system has increased by 43 percent in the last few years, growing from 18 percent in 2001 to 26 percent in 2014 (Figure 97). Despite this positive trend, social security coverage is low compared to other countries in LAC, though remains higher than Guatemala and Honduras in Central America. While barely 26 percent of employees contribute to the system in Nicaragua, the contribution rates for Costa Rica and Panama were 69 and 60 percent, respectively (Figure 98).

Figure 97: Social security coverage 2001-2014



Source: Household Surveys.

Figure 98: Share of workers contributing to SS by countries (2014, circa)



Source: World Bank LAC Equity Lab.

The share of elderly covered by pensions is on the rise, yet still around 80 percent of the poorest elderly do not have access. The share of the elderly that benefit from social security increased from less than 10 percent in 2001 to 24 percent in 2014 (Figure 99). However, pension coverage did not increase at the same pace for all consumption quintiles. The poorest quintiles have not benefited as much as the richest, as the increase in coverage has been registered mainly in the top quintiles of the distribution. Pension coverage among the rich in 2014 was more than twice the coverage in 2001 (38 percent compared to 14 percent), a phenomenon associated with the informality of the labor market. Among the poorest quintiles, there has been a modest increase in the past few years, but barely 6 percent of the poorest receive pension benefits. In addition, compared to its neighbors, Nicaragua has one of the lowest access to pensions among the elderly and the second highest access gap between the poor and the rich (only below Honduras) (Figure 100). The country has less than half the coverage of Panama (68 percent) and Costa Rica (65 percent). Therefore, the elderly poor in Nicaragua are less protected than Panama, Costa Rica, and El Salvador. Coverage among the elderly poor could be increased by strengthening the non-contributory pension's scheme.

Figure 99: Pension coverage 2001-2014 (consumption quintiles) % elderly

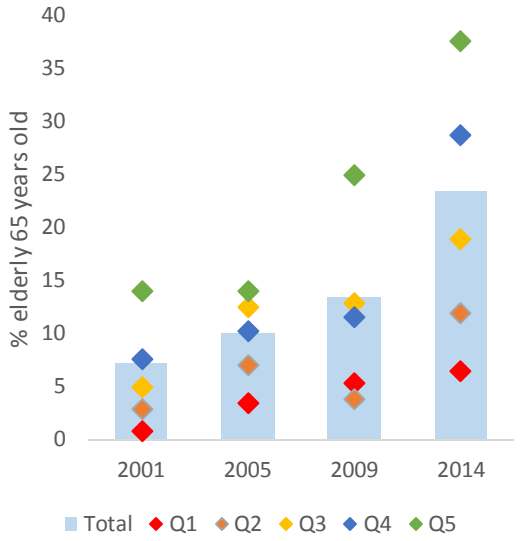
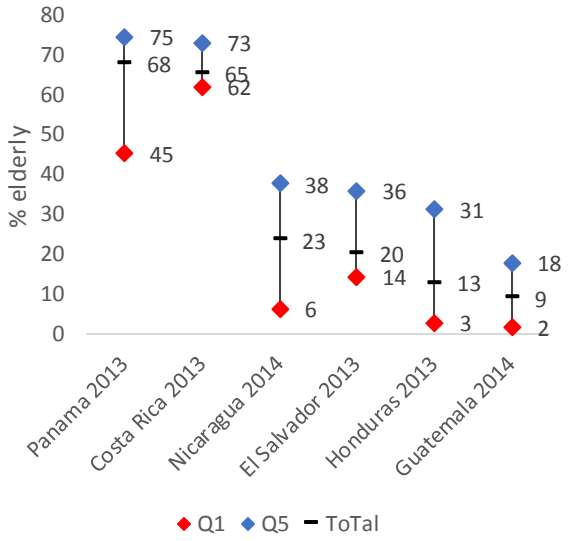


Figure 100: SS coverage of elderly total and by quintiles (%)



Source: World Bank SSEIR team's analysis of household surveys.

The replacement rate of the contributory system is high, and there are serious concerns related to its sustainability. The replacement rate is currently 100 percent for minimum wage workers, declining to 80 percent for the highest wage workers if they have contributed the minimum of 15 years. In 2014, after a wide multi-sectoral dialogue and consensus among employees, employers and unions, the Government undertook a reform of the pay-as-you-go system to address its fiscal sustainability. As discussed, the reform included a phased-in increase in employer contributions and linking pension increases to increases in the average wage. It was calibrated to extend the sustainability of INSS to 2031. While revenue has improved, this has been outweighed by increased expenditure due to a legislated increase in these pensions in 2015, and the introduction of a "reduced" pension granted to individuals with 5-14 years of contributions. At the same time, the investment returns of the reserve fund have been low. On current trends, the INSS is projected to start running persistent deficits by 2017, and the reserve fund is expected to be depleted by 2024.[65] In the Financial and Economic Program (2014-2018), the Government agreed to ensure that the investment plan for the INSS resources would be aligned with the principles of the financial plan and the regulations for these investments would be aligned with best international practices. To-date, the Government has adopted the necessary reforms to extend the sustainability of the pay-as-you-go system, but there is room for additional parametric reforms over the medium-term.

[65] IMF (2015), Article IV Consultations.

VI.2.2 Social Assistance and Social Care Services

During the past few years, Nicaragua has expanded the coverage of social assistance and social care services. Unlike several countries in the region, Nicaragua does not have cash transfer programs, though it used to have one called the *Red de Protección Social*, which was discontinued in 2007 (Box 10). Instead, it has a number of other social assistance programs, such as social care services, family and child benefits, school feeding, education benefits, and housing and emergency benefits, among others.[66] Programs are both universal, as well as targeted to the poor and vulnerable.[67] Social assistance programs include around 46 programs managed by 22 institutions that provide support mainly for children, women, the elderly and disabled. In terms of coverage, *Merienda Escolar, Mochila Escolar, and Programa Amor* stand out in terms of coverage and budget. Most of the programs are small compared to the risk population (World Bank, 2009). Table 11 shows a breakdown of the main social assistance programs, including description, target population, expenditures and coverage.

[66] The government implemented the Social Protection Network (*Red de Protección Social*) during the period 2002-2006, which included a conditional cash transfer program for people living in extreme poverty, with corresponsibilities in the areas of health and education. With the elections in 2007 the *Red de Protección Social* was discontinued.
[67] Some programs such as *Usura Cero*, *Hambre Cero*, *Plan Techo* have specific eligibility rules targeting in this way in specific population.

Table 11: Main Social Assistance and social care services

Main Social Assistance Programs	Description	Target Population	Beneficiaries		Spending	
			2007	2013	2007	2013
Social Assistance						
Pensiones de Víctimas de Guerra y Especiales	Social Pension	Miners working aftermath of exploitation of mines, servants of the country, members of the defense army of national sovereignty and circus workers.	22,345	34,919	0.12%	0.29%
Merienda Escolar	School feeding	Children enrolled in primary and preschool across the country.	845,992	1,050,000	0.11%	0.19%
Mochila Escolar	Education benefits	Children enrolled in primary school, in poor communities and extreme poverty	50,000	300,000	0.09%	0.15%
Plan Techo	Housing Benefits	Families with incomes between 2 and 3 times the minimum wage.	1,951	.	0.23%	0.13%
Servicios educativos a grupos vulnerables	Education benefits	Children and adolescents in situations of social or economic risk.	.	.	0.16%	0.11%
Ordenamiento de la Propiedad	Other SSN	Poor or extreme poor regions	10,422	11,790	0.08%	0.10%
Infraestructura y equipos escolares para comunidades pobres	Education benefits	poor or extremely poor communities	600	3,148	0.39%	0.09%
Agua y saneamiento urbano y rural	Other SSN	poor or extremely poor communities, especially in rural areas			0.05%	0.08%
Comunicación, prevención y promoción de la salud	Special benefits	Solidarity social promoters		40,000	0.01%	0.06%
Agua y saneamiento e infraestructura social rural	Other SSN	poor or extremely poor communities, especially in rural areas			0.23%	0.06%
Infraestructura social en áreas rurales	Other SSN		447,245		0.05%	0.03%
Operaciones Humanitarias	Emergency benefit	All families			0.05%	0.03%
SINAPRED	Emergency benefit	Families and communities at risk from natural disasters.			0.33%	0.02%
Defensa Civil	Emergency benefit	Population			0.01%	0.01%
Social Care Services						
Programa Amor	Care for children (total)	Children under 6 years	107,312	300,000	0.03%	0.15%
Sistema Penitenciario Nacional	Prisoners' counseling services	Persons deprived of liberty	6,000	8,400	0.08%	0.10%
Educación Especial e Inclusiva	Mother and child care and counseling services	Children from 3 to 17 years with a disability, or presumption of having it.	3,245	3,150	0.02%	0.02%
Atención y Protección Integral a Niñez y Adolescencia	Children's day care services	Children under 6 years			0.00%	0.01%
Programa de Becas Familiares para niños y adolescentes en riesgo	Family grants for children and youth at risk	Families with children and youth at risk 6-13 years old		19,000		0.02%

Source: World Bank SSEIR, authors' calculations using SSEIR/ICEFI Social Spending Database, and LAC SP database.

Box 10: The experience of Nicaragua with Cash Transfer Programs

Unlike other countries in Central America and more than 60 countries in the world, Nicaragua does not have a large conditional cash transfer (CCT) or unconditional cash transfer in place, though it has recently introduced a small scaled cash transfer program for families with children and youth at risk. However, it used to have one of the earliest CCTs in the world, which was active from 2000 to 2006 and called the *Red de Protección Social*. This program was discontinued following the 2007 presidential elections and the subsequent change in Administration focus in terms of social assistance and social care.

The *Red de Protección Social* targeted poor households with children aged 7–13 enrolled in primary school grades 1–4, as well as children 0-5 years old receiving health care services. It was implemented by the Emergency Social Investment Fund and over the span of its lifetime, it reached 36,000 households. The program has been thoroughly evaluated and is frequently cited in the social safety net international literature as the CCT with the highest impact in terms of poverty reduction and increase in consumption levels and in use of services. For instance, it was estimated that thanks to the program: (i) beneficiary poverty incidence was reduced by 5 percentage points (from a baseline of 90 percent); (ii) per capita consumption increased from 21 to 29 percent; (iii) enrollment among 7-13 year old children increased by 12.8 percentage points (from a baseline of 72 percent); and (iv) the likelihood that children aged 0-3 years old were weighted at health center every six month increased by 13.1 percentage points (from a baseline of 55.4 percent).

Although the *Red de Protección Social* closed in 2007, MIFAN launched *Programa Amor* in 2008. Under this program, MIFAN implements the Children and Youth at Risk Program that targets families with children and youth at risk with a maximum age of 18 years. This Program introduced a "family grants" component in 2011 and started providing services in 2013 to 19,000 families with children and youth at risk. The latter aimed to improve extremely poor families' basic conditions of welfare and social well-being through the delivery of an array of services that included: (i) informative services about the available social programs; (ii) community-based workshop modules aimed at promoting human capital formation within the family, avoiding risky behaviors, and improving parental knowledge and families use of social services; (iii) professional one-on-one family counseling services to provide more intensive support to at-risk families and to prepare and implement a family improvement plan; and (iv) family grants. The family grants were added as a compliment to the other above mentioned services, which are regularly provided in the rest of the country through the Program. They were delivered to families in selected localities with children under 13 years of age who were working or otherwise not participating in the education system, and to adults (parents) who regularly attend community-based workshops. An impact evaluation is programmed for 2017.

Source: Fiszbein and Shady (2009) and Maluccion and Flores (2005).

In general, social assistance programs have more coverage in rural areas, especially among the extreme poor. Coverage is also higher in the most regions of the country with the most vulnerable populations, including in the Central and Atlantic regions where the poverty rates are 44 and 39 percent, respectively, compared to 12 percent in Managua and 18 percent in the Pacific region. Around 70 percent of the population of Nicaragua is covered by at least one of the Government's social assistance interventions, particularly given programs aimed at universal coverage of their target population groups, like *Merienda Escolar, Mochila Escolar,* and *Programa Amor* (Table 12). However, coverage of other social programs is still very low and a substantial number of the poor and extremely poor populations are not covered. *Merienda Escolar*, the school feeding program, has the largest coverage of all social assistance programs, reaching

49.8 percent in 2014, and 65.6 of the poorest consumption quintile. Similarly, *Programa Amor* benefits 44 percent of the total population and 64.1 percent of the extreme poor, while *Mochila Escolar* provides services to 22.6 percent of the total population and around 30 percent of the extreme poor. Finally, *Paquete Alimentario Solidario*, a supplemental feeding program covers 6.9 percent of total population and 11.4 percent of the lowest quintile. Outside of these four interventions, other programs are quite small and none of them cover more than six percent of the population.

Table 12: Coverage of main social assistance programs

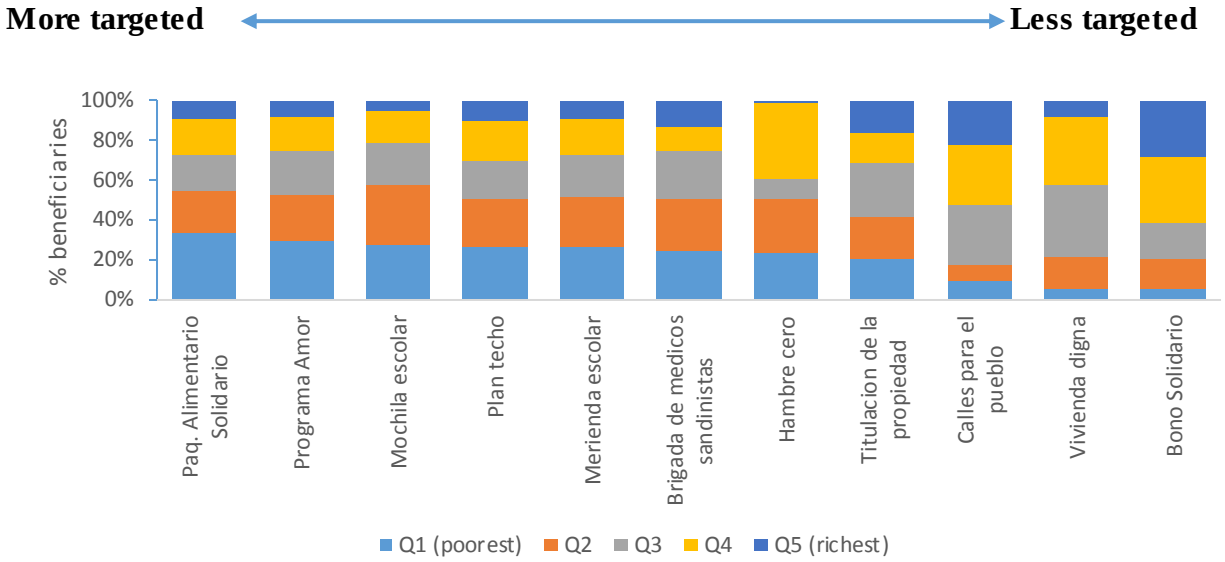
		Area of residence		Poverty Status			Quintiles of per capita consumption				
	Total	**Urban**	**Rural**	**XP**	**MP**	**NP**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**
All social assistance	**72.3**	**66.8**	**79.9**	**86.2**	**86.0**	**66.5**	**87.4**	**81.5**	**76.1**	**72.3**	**44.1**
Merienda escolar	49.8	43.1	59.1	66.3	66.2	42.9	65.6	62.9	51.9	46.2	22.3
Programa Amor	44.0	38.8	51.2	64.7	59.0	37.0	64.1	50.7	48.4	37.4	19.5
Mochila escolar	22.6	18.3	28.5	29.5	34.5	18.2	31.3	33.3	24.5	17.4	6.6
Paquete Alimentario Solidario	6.9	5.8	8.4	14.4	8.7	5.5	11.4	7.3	6.1	6.5	3.2
Plan techo	5.6	6.0	5.1	8.6	6.5	5.0	7.4	6.6	5.5	5.7	2.8
Brigada de medicos sandinistas	3.0	2.1	4.1	1.7	4.3	2.7	3.6	4.0	3.5	1.9	1.9
Bono Solidario	4.2	5.8	1.9	0.0	2.9	5.0	1.0	3.3	3.9	6.9	5.9
Titulacion de la propiedad	1.8	2.2	1.4	1.6	1.9	1.8	1.9	1.9	2.5	1.4	1.5
Calles para el pueblo	1.8	2.1	1.5	1.7	0.3	2.3	0.8	0.7	2.8	2.8	2.1
Hambre cero	1.1	0.2	2.4	1.7	1.0	1.0	1.3	1.5	0.6	2.1	0.1
Operacion milagro	0.5	0.7	0.3	0.0	0.1	0.7	0.1	0.2	0.5	1.2	0.6
Vivienda digna	0.4	0.6	0.0	0.0	0.3	0.4	0.1	0.3	0.7	0.6	0.1
Resolucion Alterna de Conflicto	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1
Operacion sonrisa	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1

Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Social Protection Module).

Coverage among the poor could be enhanced by improving targeting accuracy. Around 50 percent of social assistance beneficiaries do not belong to the poorest two quintiles of the consumption distribution (Figure 101). The low "targeting accuracy" of these interventions is expected given that most of these programs aim for universal coverage of a specific group, such as school-aged children. Most of beneficiaries do not belong to the poorest quintiles, with the exception of *Merienda Escolar, Programa Amor, Mochila Escolar, and Paquete Alimentario Solidario*, which have been gradually increasing their coverage of the poorest but still do not reach more than 80 percent of the poor. In comparison, CCT programs in both Panama and Guatemala have reached a targeting of more than 80 percent of the poorest quintiles (Panama 82 percent; Guatemala 85 percent). In order to increase the coverage of the poor and vulnerable population

and improve effectiveness of policy interventions targeting of Nicaraguan social assistance programs could be improved.

Figure 101: Distribution of beneficiaries of main social assistance programs, 2014 (% population)

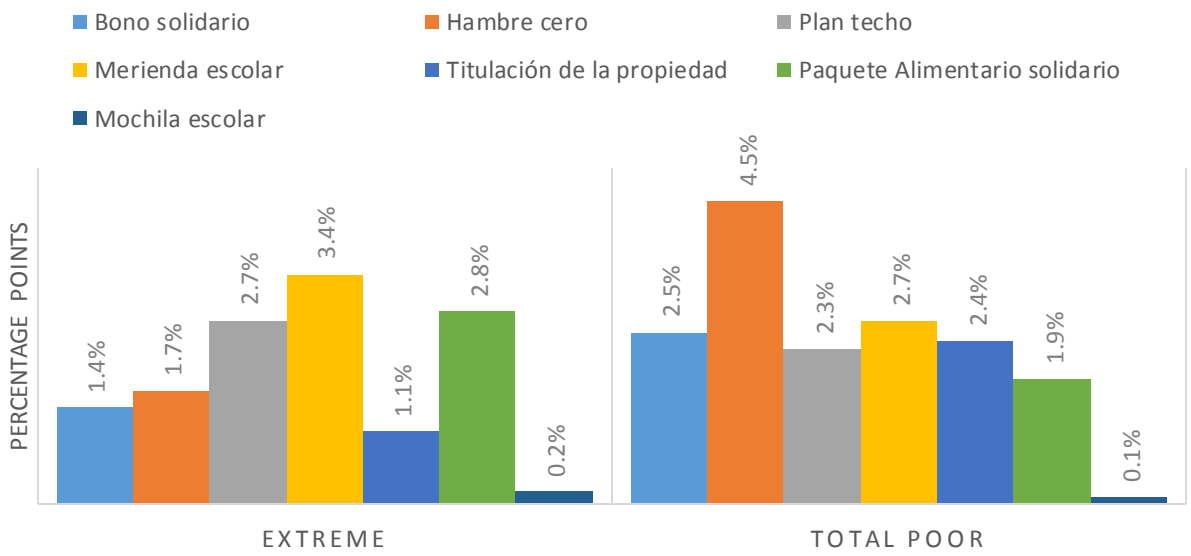


Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Social Protection Module).

Still, preliminary estimates suggest that Nicaraguan social assistance interventions have had an impact on poverty among beneficiaries. Using 2014 household survey data, national poverty lines, and consumption aggregates, estimations of the impact of social assistance interventions on poverty were carried out.[68] At the national level, the programs seem to have little impact on poverty since coverage is limited. The exception was the school feeding program (*Merienda Escolar*), which seemed to reduce extreme poverty by two percentage points and total poverty by one percentage point. But when compared only among program beneficiaries, these interventions have an important impact in both extreme and total poverty (Figure 102). Among the extreme poor, *Merienda Escolar* had the highest contribution to reducing poverty at 3.4 percent, followed by the *Paquete Alimentario Solidario* and the housing program, *Plan Techo*, at almost 3 percent each, and finally the *Hambre Cero* program at 1.7 a percent reduction. Among the total poor, the *Hambre Cero* program is associated with a 4.5 percent reduction in poverty, while the other programs contributed to an average decrease of between 2 and 3 percentage points.

[68] The impact of *Programa Amor* in poverty could not be estimated due to data limitations.

Figure 102: Social assistance programs: Impact in poverty among beneficiaries, 2014

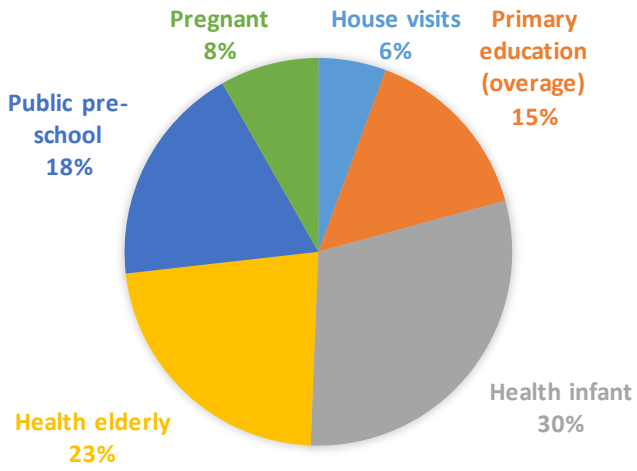


Source: World Bank SSEIR team's analysis of household surveys, authors' calculations.

***Programa Amor* is the main social welfare program in Nicaragua, covering 44 percent of Nicaraguans through its different multi-sectoral interventions.** *Programa Amor* is a component of SNBS and is coordinated by the Ministry of Communication and Citizenship Council for Social Development. Its main objective is to ensure the right of children to live a dignified and happy childhood.[69] The main interventions within *Programa Amor* include activities such as: family accompaniment visits for selected families; access to a free public education for children under 18 years of age; and provision of free health services for infants, children, pregnant women and the elderly, among others. Although limited in scope, *Programa Amor* has a component that provides cash transfers conditional on the participation of families in community educational workshops. By 2014, *Programa Amor* had reached close to 300,000 children under 5 years of age with early childhood development services, reintegrated close to 21,000 children and youth 7-18 years of age into the education system, and supported the participation of over 8,000 parents in family workshops. The most utilized program component in 2014 was health promotion and provision of health services for children under 6 years of age, followed by health services for those aged 60 and over, access to preschool education, provision of primary education for vulnerable populations, namely overage students, pregnant women, and finally households benefiting from family visits (Figure 103).

[69] This program has the following components: 1) restore the rights of children to live in normal conditions, family and safely in the streets; 2) restore the right to grow up with the love and care of a family; 3) create and enable Child Development Centers for professional care of the sons and daughters of working mothers; 4) restore the right of children to be registered in the Civil Registry; 5) ensure the right to care for specialized children and adolescents with disabilities; 6) ensure the rights of children of migrant Nicaraguans or those deprived of their liberty; 7) restore the right of children to grow and develop without working.

Figure 103: *Programa Amor* program by components, 2014



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations.

The data suggests that there is room to improve access to *Programa Amor* by poor populations. In addition, there are further opportunities to empirically assess the impact of the program. Data from 2014 shows that 52 percent of households benefiting from the *Programa Amor* belong to the two poorest consumption quintiles, while an additional 21.9 percent belong to the third consumption quintile. With 32.6 percent of beneficiaries of the Program from the top two quintiles, the inclusion errors still present a challenge, though are relatively similar when contrasted with other welfare programs in Nicaragua (26.2 percent for *Mochila Escolar* and 32.8 percent for *Merienda Escolar*). Thus, there is still room to improve the poverty focus of *Programa Amor*, since a little less than half of poor families are still not being benefited by it. *Programa Amor* has not yet been evaluated externally, which represents a potentially valuable opportunity to assess its effectiveness and derive policy lessons for Nicaragua, as well as other countries in the region.

The school feeding and school assistance programs are among the most important interventions in the country. The school feeding program (*Merienda Escolar*) is implemented by MINED. The Program benefits more than one million students in preschool, primary and secondary schools. The Program is majority-funded with resources from the Nicaraguan Treasury, with the balance covered by funds from the World Food Program (WFP), the International Coordination Project, and the Inter-American Development Bank (IDB). In 2009, the Program earned international recognition from the WFP as one of the best three interventions of its kind across 70 countries. The merits of this Program are not only due to the scope of its coverage, but also to its organization, transparency and administration of the distribution and delivery of the food. *Mochila Escolar*, is also implemented by MINED, and includes free delivery of books, uniforms, pencils, backpacks and shoes.

Nicaragua also has multiple feeding programs. Food security is one of the priorities of the Government and, since 2007, associated productive agriculture programs have been designed to complement in-kind transfers with the objective of strengthening food production for subsistence or providing locally produced food for populations in need. The food package program (*Paquete Alimentario Nacional*) benefits the elderly, people with disabilities, and those who do not have sufficient income with a basic food basket that includes staples such as rice, sugar, pasta, oil, and beans. The Zero Hunger (*Hambre Cero*) program aims to strengthen the production of food for self-subsistence in rural populations. The Program covers populations living in extreme poverty in rural areas that have a plot of land to work on (one to 10 acres of land in rural or semi-rural areas). The Program includes in-kind food and production allowances, as well as provision of technical assistance to those families whose land is not suitable for raising animals. It also supports the sale of surplus production in the domestic market.[70]

Other social assistance programs include in-kind, cash and emergency benefits. Housing is also another priority of the current Administration. Since 2007, the Government has implemented a *Plan Techo*, a housing program that provides basic inputs to improve housing for the poorest families. This intervention is very important in a country where about 80 percent of the population still lacks adequate housing. In addition, through a special program called *Brigada Medicos Sandinistas*, Ministry of Health sends doctors and auxiliary nurses to assist families by providing medical check-ups to children, the elderly, and pregnant women, and by delivering necessary medicines. Another intervention is *Bono Solidario*, which gives 750 cordobas to public employees and the elderly. Finally, SINAPRED has been established to support preventive educational activities or the attention of the aftermath of natural disasters, such as hurricanes, droughts, floods, volcanic eruptions and earthquakes.

Nicaragua also allocates a significant amount of resources to provision of electricity, water, and public transportation subsidies, though these are highly regressive interventions. Around 0.1 percent of GDP is spent on subsidies to energy consumption and water for retirees, subsidies for the use of urban public transport in the municipality of Managua, and energy subsidies in economically vulnerable neighborhoods. However, since about 50 percent of the extreme poor do not have access to electricity and less than 20 percent of the extreme poor have access to piped water in their houses, they do not benefit from these subsidies (Figure 104). Therefore, the subsidy ends up benefiting primarily non-poor households, those that would likely be able to pay without tariff discounts. The percentage of total households with access to water and electricity that belong to the two poorest quintiles is 36 and 16 percent, respectively (Figure 105). It is important to note that this represents the lower bound estimate of the cost of electricity subsidy, as the bulk of residential subsidies (for households that consume less than 150kilowatt hours/month) is financed

[70] Banco Mundial, 2009: Análisis del gasto público social. Banco Mundial

off-budget through contributions from Petrocaribe (Venezuela). As such, it is difficult to estimate the overall total of households supported (though in 2012 it was estimated to benefit 677,000 households, and at a cost of 0.6% of GDP).[71]

Figure 104: Access to electricity and water by quintiles 2009 and 20014 (% of households)

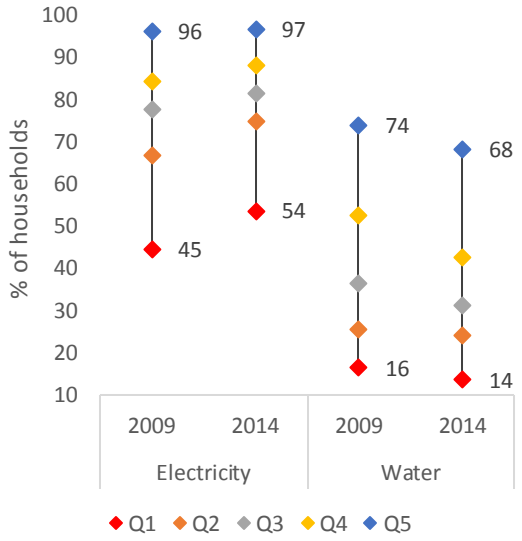
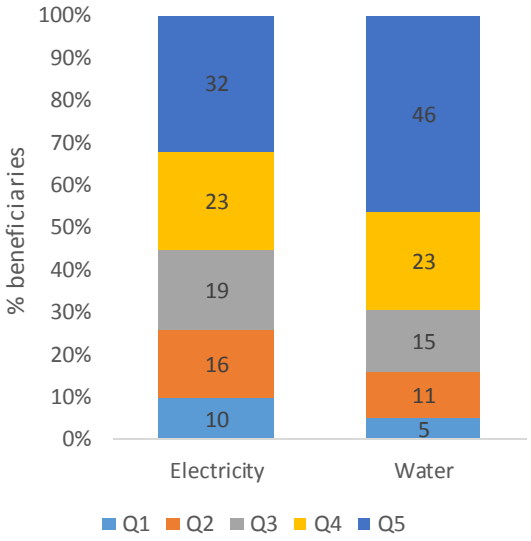


Figure 105: Distribution of electricity and water beneficiaries, 2014



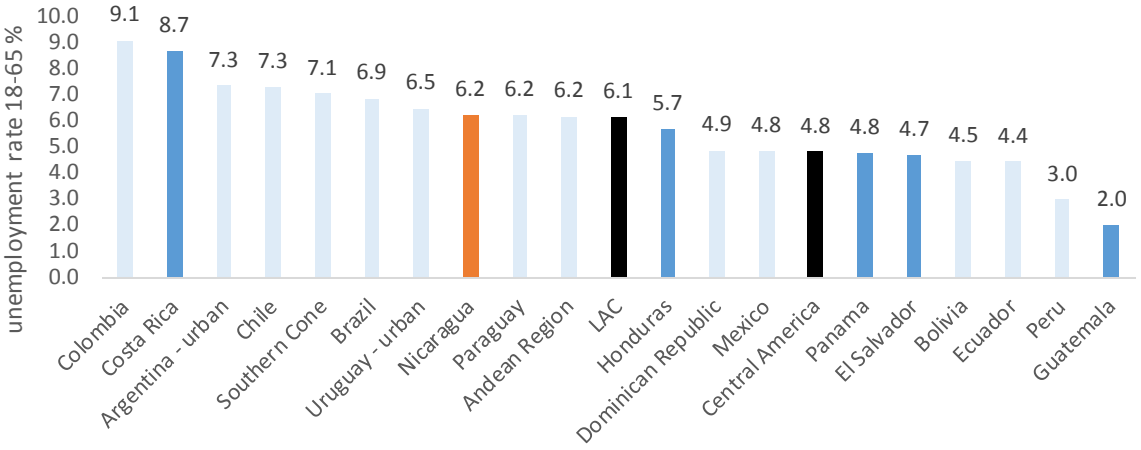
Source: World Bank SSEIR team's analysis of household surveys, authors' calculations.

VI.2.3 Labor Market Indicators and Active Labor Market Policies

The unemployment rate in Nicaragua has decreased in the past few years, but remains among the highest in Central America. In 2014, the unemployment rate among those between 18-65 years of age in Nicaragua was 6.2 percent, the second highest unemployment rate in Central America behind Costa Rica (Figure 106). Nicaragua's unemployment rate is not only above the Central America region (4.8 percent), but is also slightly above the LAC region (6.1 percent). Similar to many other Central American countries, Nicaragua unemployment rate is in single digits. However, it should be noted that one third of the working population is in a situation of underemployment. While the unemployment rate decreased from 13 percent in 1998 to 6.6 percent in 2005,[72] it grew to 7.5 percent in 2009 following the international crisis. However, by 2014 it had decreased below pre-crisis levels to 5.9 percent.

[71] See Di Bella et al (2015), and Zoratti (2013).
[72] ECLAC (2013).

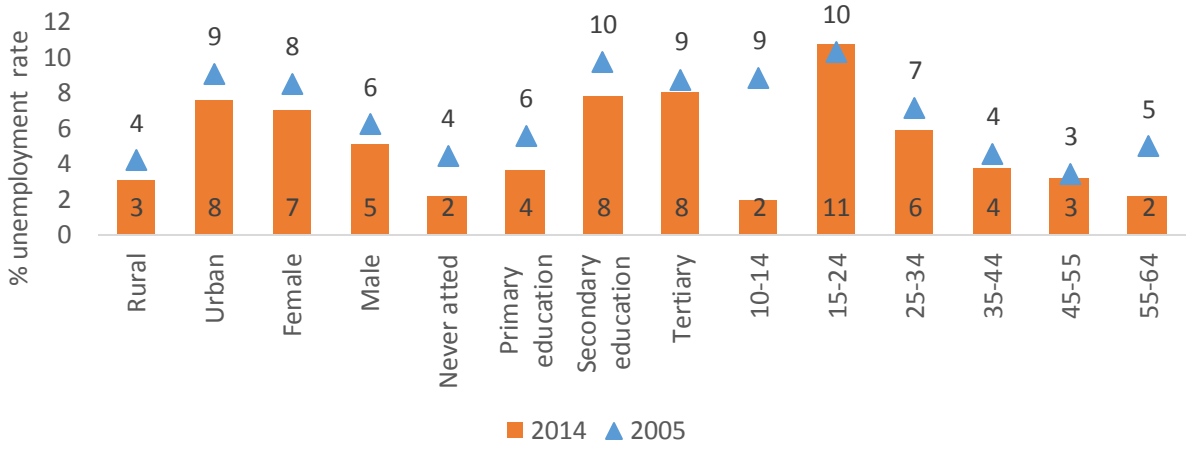
Figure 106: Unemployment rate by countries, 2014



Source: World Bank LAC Equity Lab.

Despite recent improvements to overall unemployment, it remains disproportionally high in urban areas, among the youth, and among those with secondary and tertiary education. Between 2005 and 2014, unemployment rates decreased for all groups except for the youth (15-24 years old). As of 2014, the youth had the highest rate of unemployment in the country, at 11 percent (Figure 107). Similarly, unemployment rates for those with secondary or tertiary education is more than twice of those with no education or primary education. Large gaps also persist between urban and rural areas, as the unemployment rate in urban areas is 8 percent compared to 3 percent in rural areas.

Figure 107: Unemployment rate by different groups, 2005 and 2014



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations.

Wage earnings have increased in the past few years, in particular for the unskilled workers. The continuous increase in the minimum wage has played a positive role in reducing the large wage gaps between skilled and unskilled workers (Figure 108). By law, the minimum wage

increases are negotiated every year in a tripartite commission made by the Government, the private sector, and trade unions. Official increases are approved in the first quarter of each year stipulating the changes for each sector, as well as the timeline for its application. Since 2007, other salary adjustments have been approved by the Government with particular purposes. For example, in October 2008, the Government approved an 18 percent increase in the minimum wage for all employees in the public and private sector (the accumulated inflation in October 2008 was 20.3%). In January 2009, all workers in both the health and education sectors received wage increases of up to 16 percent of their salaries. In February 2010, the minimum wage for all employees increased by 6 percent in the first half, followed by another 6 percent increase in the second half of 2010. On May 1, 2010, the Government announced a 10 percent increase in the salaries of public employees earning less than 5,500 cordobas a month through a "solidarity bonus." In contrast, labor incomes for those with higher education did not grow as much as for the less educated. By economic sectors, the wage gap has also declined since wages have increased more in low productivity sectors such as in primary activities (e.g., agriculture) (Figure 109).

Figure 108: Wage earnings by educational levels relative to the mean 2005-2014

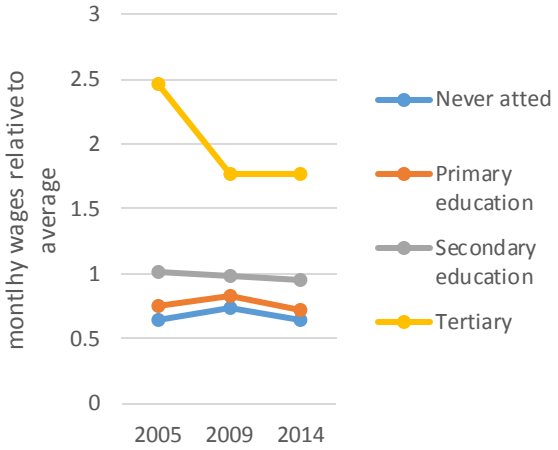
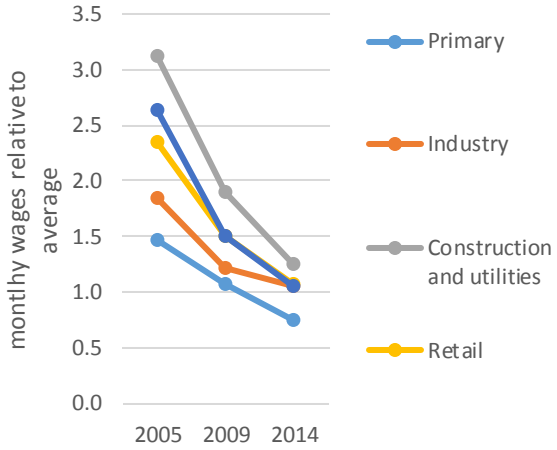


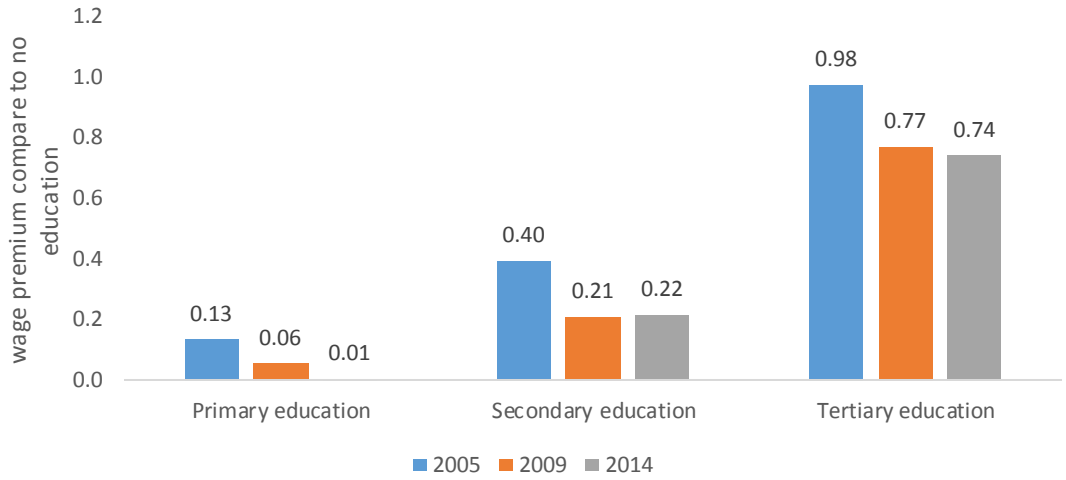
Figure 109: Wage earnings by economic sectors relative to the mean 2005-2014



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations.

Recent salary data reflects a decreasing returns on investment in education. For example, preliminary estimations suggest that returns to education have decreased for all educational levels, in particular for those with tertiary education (Figure 110). This suggests that the skills provided by the formal education sector may not necessarily be those required by the productive sector. It may also be a reflection of the low quality of education. Moreover, compared to other countries in LAC, Nicaragua has the lowest returns to education for all educational levels.

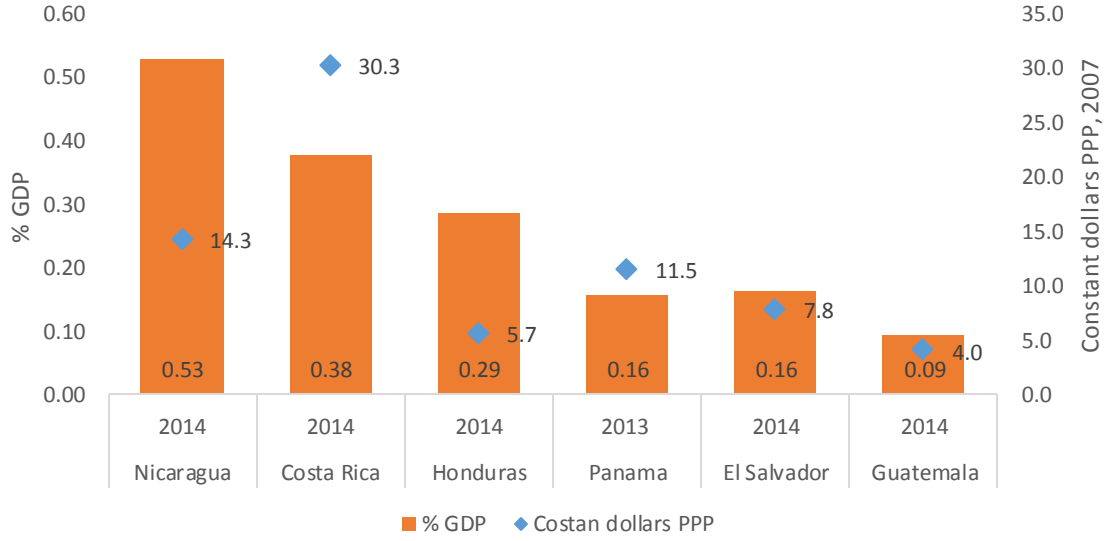
Figure 110: Returns to education 2005-2014



Source: World Bank SSEIR team's analysis of household surveys, authors' calculations.

Nicaragua is by far the country that spends the most resources as a share of GDP on ALMPs in Central America. Nicaragua spends 0.5 percent of GDP on ALMPs, which amounts to US$14.30 per capita. In real terms, this is higher than most Central American countries except for Costa Rica, which spends US$30.30 per capita (Figure 111). The key ALMPs are *Usura Cero*, and services provided by INATEC (Table 13). Most of these programs target the youth, the poor, and entrepreneurs, and support agricultural production. Most of the spending is allocated to training programs provided through INATEC, which account for 95 percent of total spending in ALMPs.

Figure 111: ALMPs spending as a share of GDP and real per capita dollars – PPP 2007



Source: World Bank SSEIR team's analysis of household surveys.

Table 13: Main active labor market programs

Programs	Description	Target population	Beneficiaries	Spending
Capacitación y Formación Técnica - INATEC	Training	Students and mid-level workers, according to the demands and needs of municipalities, productive sectors and national development projects.	213,570	0.5%
Programa Productivo Alimentario	Delivery of a Food Production Package consisting of birds, seeds, plants, tools and materials to care for them, play them.	Impoverished rural families	44,000	0.09%
Desarrollo de las MIPYMES	Startup incentives	Groups or of people associated to constitute or constituted in micro, small or medium enterprise.	735	0.01%
Usura Cero	Microcredit program for women	Women in urban areas	.	0.02%
Fomento de la pequeña y mediana empresa familiar urbana y rural	Startup incentives - Technical assistance	Poor families with productive enterprises	4,164	0.02%
Fomento a la Producción y Comercialización Agrícola de las Familias y Comunidades	Startup incentives - Technical assistance	Poor families with problems of agricultural production	76,519	0.02%
Programa Crisol	Funding and technical assistance small producers families	Small farmers		
Patio saludable	Planting of fruit plants, citrus, vegetables, spices and arbors in the courtyard of the beneficiaries.	Urban and suburban families from the following departments: León, Chinandega, Matagalpa, Jinotega, Chontales, Boaco, Rio San Juan, Rivas, Las Segovias, Estelí, Masaya, Granada, Carazo and Managua	130	

Source: World Bank SSEIR, authors' calculations using SSEIR/ICEFI Social Spending Database, and LAC SP database.

ALMPs have more coverage in urban areas and among the non-poor (Table 14). One of the largest ALMPs is *Usura Cero*, which was created in 2007 and is targeted to families living in extreme poverty in urban areas. It provides access to credit, in-kind transfers, and training programs for women.[73] According to data from 2014, Program coverage in urban areas reached 6.2 percent compared to 2.5 percent in rural areas, but most of the beneficiaries are non-poor. *Programa Crisol* is another ALMP which provides financing to small farmers. Although it covers only a small portion of the population, it is the best targeted program to the poor among the ALMPs and has had tremendous impact on the rural sector, especially small producers of corn, beans, rice, and sorghum in rural areas. The other ALMPs still have a low coverage and most of beneficiaries are non-poor (Figure 112).

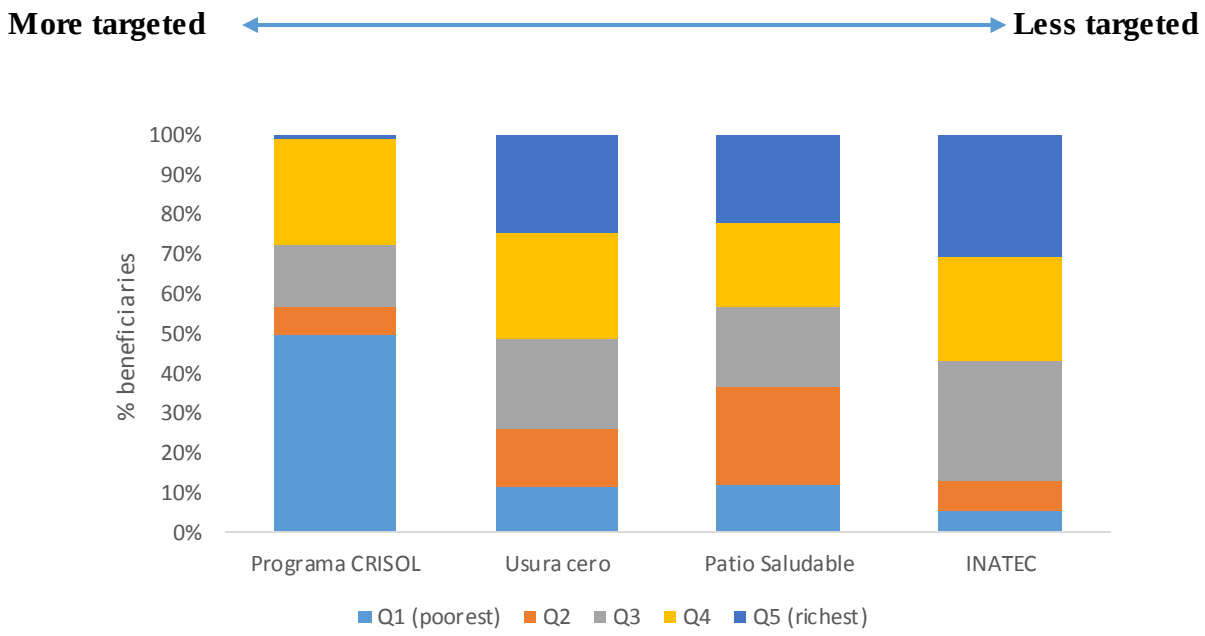
[73] In 2013, the budget of the *Usura Cero* program was 0.02 percent of GDP. These resources have mixed origins, including the national treasury and external funding (donations and credits). In 2009, 27 percent of the funding corresponded to external loans, 7% to external donations and the rest came from State sources, according to the information provided by the Ministry of Finance and Public Credit of Nicaragua.

Table 14: Coverage of Main ALMPs, 2014

		Area of residence		Poverty Status			Quintiles of per capita consumption				
	Total	**Urban**	**Rural**	**XP**	**MP**	**NP**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**
All labor market programs	**7.7**	**9.4**	**5.5**	**4.0**	**5.2**	**8.9**	**5.0**	**6.1**	**8.8**	**9.7**	**9.1**
Usura cero	**4.7**	6.2	2.5	0.6	3.7	5.5	2.7	3.3	5.3	6.3	5.8
Programa CRISOL	**0.5**	0.0	1.1	2.3	0.3	0.4	1.3	0.2	0.4	0.7	0.0
Patio Saludable	**1.9**	2.3	1.4	1.3	1.2	2.2	1.1	2.3	1.9	2.0	2.1
INATEC	**1.0**	1.3	0.5	0.0	0.4	1.3	0.3	0.4	1.5	1.3	1.5

Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Social Protection Module).

Figure 112: Distribution of beneficiaries – Main ALMPs, 2014

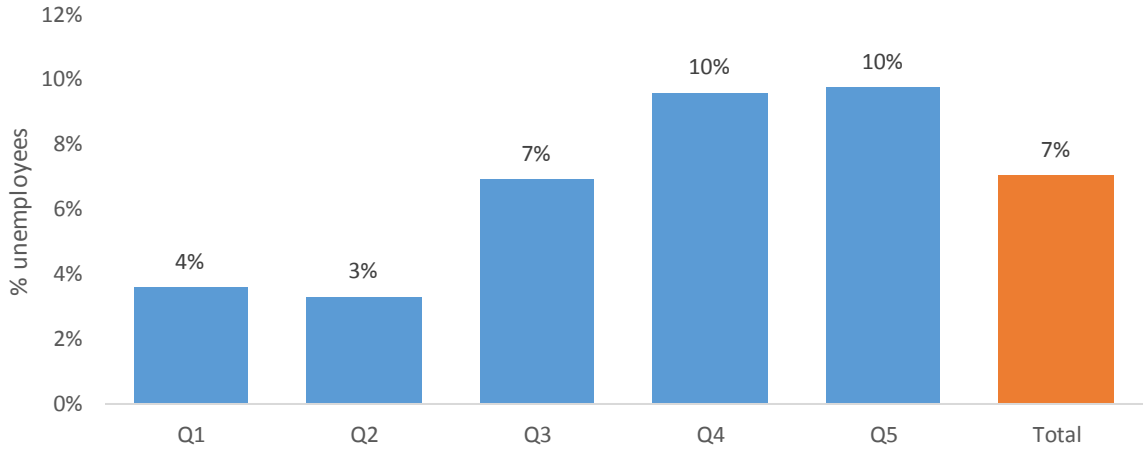


Source: World Bank SSEIR team's analysis of household surveys, authors' calculations using standardized ADePT software (Social Protection Module).

INACTEC accounts for the largest share of spending in ALMPs, providing technical training on a diverse array of topics to both youth and adult populations. ALMPs cover 12 percent of the employed population, in particular from the services and trade sectors. INATEC offers a wide range of courses of shorter duration (60 to 600 hours of classes) aimed at training employees or underemployed adults. The demand for training courses is diverse, spanning different economic sectors, including: services and trade; industry and construction; and agriculture-forestry. Like other similar institutions in the region, INATEC resources come from a two percent business

payroll tax, which allows them to offer courses in 35 technical institutes across the country. In 2013, INATEC provided services to 23,271 full time students in different technical areas and 315,729 part-time courses. However, training programs for the unemployed are limited. Data for 2014 shows that only 7 percent of the unemployed had taken a training course in the last year (Figure 113). In addition, most beneficiaries of such trainings belong to the upper consumption quintiles. It should be noted that from 2007 to 2013, coverage of ALMPs has tripled.

Figure 113: INATEC – coverage of unemployed, 2014 %



Source: World Bank SSEIR team's analysis of household surveys.

Other labor market interventions includes low-cost labor intermediation services and emergency jobs. The Ministry of Labor (*Ministerio del Trabajo,* MITRAB) has established the Public Employment Service, whose function is the promotion of employment and self-employment in order to support re-entry of the unemployed back into the labor market. However, service coverage is still very limited, with just close to 3,000 unemployed having been re-introduced into the labor market in 2014. MITRAB is extending the network of employment services, offering labor information and intermediation through *mesas de empleo* (employment offices) at municipal level, as well as timely guidance to support projects, such as entrepreneurship, helping attract investment and provide technical training, among others.[74] The work for food programs are one mechanism for promoting employment in times of emergency. These types of programs are activated in the event of a crisis and mostly funded by international organizations, namely WFP. Together with the Ministry of Agriculture and Forestry and the National Basic Food Company, these programs have supported a large number of beneficiaries, nearly doubling coverage from 40,785 people in 2008 to 78,030 in 2011.[75]

[74] Flórez, Asencio (2014).
[75] Laguna, J.R. (2012). *Mapeo de programas públicos para enfrentar las crisis*.

VI.3 Institutional Arrangements

Nicaragua's SPL system has existed for more than three decades and has adapted to the different political administrations and their respective social policies. In the 1980s, the social assistance and social security services were provided by one unique institution. In the early 1990s, a series of reforms changed the institutional arrangements, resulting in the division of service provision among a few institutions and leaving the social security services and pensions under the INSS and the social welfare services under a newly created institution, the Nicaraguan Fund for the Children and Family. In 1998, MIFAN was created, and since then it has been the rector of social assistance and care services aiming for the prevention, promotion, and protection of Nicaraguan families. Further reforms to its by-laws were introduced in 2007, adding responsibilities for the restitution of children's rights and changing its name to Ministry of the Family, Children and Youth.

Since the early 2000s, there have been a number of major efforts to understand the causes of poverty in Nicaragua and to develop policies and programs to reduce it, including the implementation of poverty reduction strategies and reforms for the strengthening of the SPL system. The Government enacted the NSPP in 2003, and designed the Solidarity System for Development in 2006. During that period, the NSPP was coordinated by MIFAN. In addition, the Government made significant investments in the development of monitoring and evaluation systems. However, these adjustments did not bear the expected results, as the policy objectives were not fully achieved and the fragmentation of programs made it difficult to have a meaningful impact on poverty reduction during this period.

Later, in 2007, the new Administration ushered in a major shift in vision in terms of Social Protection policy. The result was an increased focus on the restitution of rights of poor families, centered by an overarching commitment to the common good, social equity and shared responsibility for the development of the Nicaraguan families. To support this new approach, the SNBS was constituted, coordinated by the Secretary of the Council of Communication and Citizenship for Social Development (*Secretaría del Consejo de Comunicación y Ciudadanía para el Desarrollo Social*). As opposed to the *Red de Protección Social*, which focused on providing cash transfers to the poor, the main focus of the SNBS was to ensure and strengthen food security, access to social services, civic integration, and social infrastructure. While *Red de Protección Social CCT* was discontinued in 2007, a number of new social programs were established under this new approach, including the previously discussed *Programa Amor*, *Hambre Cero* and *Usura Cero*. These programs supported the vision to restore the rights of children and families and to develop productive capacities among vulnerable groups, in terms of nutrition and through support to sustainable livelihoods, respectively. Implementation of the SNBS was based on: (i) shared responsibility of the families for their own development; (ii) a community organized network of

volunteers; and (iii) inter-agency coordination and operational decentralization, or "municipalization."

The institutions that comprise the SNBS are very large and heterogeneous, which adds a level of complexity to policy planning and creates some efficiency challenges. With the creation of the SNBS, many duplicative program were eliminated through important efforts to consolidate interventions and align international cooperation. Similarly, many institutions have undertaken a thorough process of reform and program revision since 2007. Still, it is clear that the SNBS comprises a large number of institutions and that coordination efforts remain quite challenging. Fragmentation is still a challenge and there is room to improve efficiency and coordination. The institutions participating in the SNBS include: (i) the Secretary of the Council of Communication and Citizenship for Social Development (coordination); (ii) MIFAN; (iii) MINED; (iv) MINSA; (v) INATEC; (vi) MITRAB; (vii) MINJUVE; (vii) the Nicaraguan Institute for Women; (viii) the Nicaraguan Institute of Sports; (ix) the Nicaraguan Institute of Culture; (x) the Institute of Urban and Rural Housing; (xi) the Ministry of the Interior; (xii) the National Police; (xiii) the National Lottery; (xiv) the Ministry of Development Industry and Trade; (xv) Public Sector Rural Agricultural; (xvi) the Ministry of Agriculture and Forestry; (xvii) the Ministry of Economy of the Family, Community, Cooperatives, and Associations; (xviii) the Nicaraguan Company of Basic Food; (xix) the National Forestry Institute; (xx) Institute of Small and Medium Enterprises; (xxi) the Nicaraguan Institute of Cooperatives; (xxii) the Nicaraguan Tourism Institute; (xxiii) the Secretary of the Presidency; (xxiv) the Fund for Emergency Social Investment; (xxv) Nicaraguan Institute of Municipal Development; and, (xxvi) municipal authorities. Finally, the planning and budgeting for results of the whole SNBS is still an underdeveloped area. Multi-sectoral approaches are still planned and budgeted sector by sector, instead of in a coordinated manner supported by a common strategy with defined objectives and multi-annual goals. This is an effort that could also be further developed and supported by a multi-annual budgeting plan.

The SNBS involves implementation at the local level through a social network of volunteers, which is a unique approach in Central America. In 2014, MIFAN rolled out the Family and Community Based Social Welfare Model ("Attention Model"), which promotes inter-sectoral coordination at the local and operational levels with other approaches implemented by other social ministries. It includes a wide network of social promoters (4,080 in 2014), who are voluntary agents that act as links between the community and the service providers for the restitution of their rights, promoting community organization and educational workshops for the promotion of family values. In addition, they participate in different processes, including promotion campaigns, planning and data collection activities for diagnostics and evaluations, and support for the implementation of social programs. Other social ministries such as health and education also have community volunteers. The added value of this social capital in the territories have not yet been evaluated or costed.

The registration of actors and services, and the implementation of an associated referral-counter referral system, represents one of the major challenges for the territorial operation of the SNBS. The operation of a multi-sectoral system such as the SNBS necessitates a dynamic and, at times, rapid response to the needs of the population by the participating institutions. This requires a record of institutional actors and a database of available services and the location of service access points, through which close inter-agency coordination and participation and communication strategies can enable an effective system of referral and counter-referral to meet the varied demands of the communities. To this end, a mapping of actors and opportunities of the SNBS has been prepared by MIFAN with the assistance of the World Bank. It provides information on social services at the department/municipal levels. Further efforts to provide regular updates and prepare regulations of its usage are still needed.

The development of monitoring and evaluation systems and other accountability mechanisms for the existing social protection programs are still in their early stages. Efforts to create a monitoring and evaluation information system for the SNBS began in 2008 with the selection of indicators, the creation of various databases, and the launch of monitoring activities. However, instead of being results-oriented, they were mostly tracking activities and financial/physical execution. At present, the monitoring and evaluation systems and indicators have not yet been consolidated to track performance of the system as a whole. Institutions still individually report progress on their respective goals, as agreed in the National Human Development Plan. These indicators are reported in the Presidential Monitoring and Evaluation System (*Sistema del Gobierno de Reconciliación y Unidad Nacional,* SIGRUN). The SIGRUN has been designed to monitor key indicators across the different sectors of the public ministries and decentralized agencies on a regular basis. It is limited to Governmental use (not available to public). The monitoring and analysis to make decisions based on evidence is still an area in need of improvement in all institutions of the SNBS, reflecting the fragmentation and lack of unified legal framework to regulates the monitoring, evaluation, implementation, and accountability mechanisms for social policies. The interoperability of systems is still not considered in these designs. Contrary to other countries in Central America and LAC, Nicaragua has not yet developed a unique registry of beneficiaries across implementing institutions that can allow for better coordination of interventions and improved targeting of interventions to the poor, though efforts have started recently under MIFAN. Making progress on these efforts is crucial, as is the updating of the 2005 poverty map with the recent data from the 2014 EMNV. Nicaragua also trails behind Central America and LAC in the use of impact evaluations to assess interventions, though IDB has been supporting the evaluation of *Programa Amor* (results not available yet to the public) and the World Bank is supporting process and impact evaluation of the MIFAN's family grants component. However, it is important to recognize that the Government has continued to implement (with support from development partners) periodic census and household surveys that allow the tracking of coverage of the main social interventions. Government policies also reflect the need for a unified social audit scheme, which is conceived as a pillar of participatory governance.

However, this still needs to be implemented. Certain programs, such as the ones implemented by MIFAN, are in the process of being analyzed and efforts to systematize best practices of social auditing and grievance mechanisms is underway, but a regulatory framework for social audit is still not in place.

VII. Conclusion and Policy Recommendations

Nicaragua has had decent economic growth in the past decade, which has contributed to substantial poverty reduction (the largest in Central America), as well as improvements in human development indicators. From 2001 to 2014, Nicaragua's gross domestic product (GDP) growth averaged 3.4 percent, which helped poverty decline from 48 percent in 2005 to 30 percent in 2014. Importantly, Nicaragua has made improvements over the last fifteen years across almost all human development indicators, and at a much faster rate than regional and comparator countries. For instance, in education, Nicaragua increased enrollment and completion rates across all levels, almost catching up with the Central American and Latin American and Caribbean (LAC) averages. Similar improvements were seen in most health and social protection and labor (SPL) indicators, though challenges remain regarding improving assisted deliveries and reducing inequality and unemployment.

Many of these positive trends in human development indicators can be associated with the increasing fiscal efforts towards improving social sector spending. As a share of GDP, social public spending increased by a third between 2007 and 2014, highlighting an enormous fiscal effort (from 10 percent in 2007, compared to 13.5 percent in 2014). During this period, social public spending increased for all sectors, though health spending accounts for the largest share. As of 2014, social spending in Nicaragua is almost at the Central America average of 13.9 percent, though it is still among the lowest in the LAC region in per capita terms.

Fiscal accounts have deteriorated recently, which may pose some challenges to the sustainability of current levels of financing for social sector expenditures. While the overall fiscal situation in Nicaragua is better than most Central American countries, the consolidated public sector deficit widened to 2 percent in 2014 after grants (and estimated at 2.7 percent of GDP in 2015). This was largely due to a decline in loans provided to the private sector in concessional terms originating from the oil subsidies from Venezuela and the recent deterioration in the fiscal balance of state-owned enterprises. The deterioration of fiscal accounts will likely limit the possibilities for further increases in social sector spending, and may require cuts in order to ensure fiscal sustainability in the coming years.

Better planning and monitoring of social spending are needed to improve Nicaragua's budget management. While Nicaragua has a medium-term development plan, the use of results-oriented budget formulation is still in its early stages. There is space to improve and expand current efforts of planning and budgeting for results beyond a few ministries (health and education) to all social sectors. Greater transparency in budget execution would allow room for more efficient spending, as historically, only approved budgets are made available to policymakers and the public, as opposed to information on the use of funds and results achieved. While information on

annual budget execution for capital expenses can be easily tracked, tracking of recurrent expenditures is extremely difficult.

VII.1 Education

Despite several results in improving access, internal efficiency, and attainment in primary education, some internal inefficiencies in the education system (reflected in repetition and overage students) and overall still low investment in basic education have limited the capacity to produce better educational outcomes. Policies implemented since 2008 have contributed to improving access to and retention in primary education, as well as to increasing educational attainment of the population as a whole. However, the volume and distribution of education spending, which is still highly regressive at post-secondary levels, somewhat limits the ability to use education expenditures as a mechanism to promote shared prosperity. Moving ahead, a number of important challenges remain, namely: (i) reducing both late entry into the basic education system and repetition/dropouts in grades 1 through 9; (ii) improving the quality of learning outcomes across the board, which remain quite low (despite being the most equitably distributed in Central America); and, (iii) making upper secondary education sufficiently attractive to teenagers in rural areas, partly through improving relevance and the restructuring of the curriculum. The improvement of teacher quality is also central to improving the quality of the entire educational system. In this respect, the lack of adequate selection mechanisms, the limitations to providing quality teacher training, and the lack of incentives for the best qualified teachers represent obstacles that need to be removed. Finally, weak coordination across different actors, a highly centralized system and low accountability are also affecting the quality of the system as a whole. For example, the numerous changes made by the current Government to the education system since 2008 have yet to be legally formalized or brought together under a single, inclusive education sector strategy with a single information, monitoring and evaluation mechanism.

Strengthening some of the measures already in place to improve basic education completion and learning outcomes, while also adopting a more comprehensive results focused strategy, would likely have a significant impact. In the short term, in order to reduce the number of dropouts, there could be an explicit focus on reducing late-entry into first grade and removing obstacles that hinder continuity throughout basic education. First, this implies continuing the implementation of the Quality Model for Preschool Education, with an emphasis on improving teacher training, as well as preschool infrastructure and facilities in rural areas, particularly on the Caribbean Coast. Second, a review of the progress made should be undertaken and, thereafter, efforts to implement the First and Second Grade Strategy should be evaluated and ultimately strengthened with other policies nationwide in order to reduce dropouts early in the basic education cycle (first and second grades). Third, learning conditions in multi-grade schools (located mostly in rural areas) should continue to be improved, including teacher training, improving school

infrastructure, and using adapted learning instruments. Fourth, at the upper-secondary level, it is also important to strengthen diagnostics on the causes of drop out, as well as to develop a comprehensive strategy to make secondary education more attractive for adolescents. Among other things, this could include new pedagogies, such as use of mentoring and/or a more modern and relevant curriculum (with selected contents adapted to rural areas). Finally, there are clear needs for new budget allocations to improve the quality of school infrastructure, including both the construction of new schools and/or improved infrastructure within existing schools in rural areas, with a particular emphasis on secondary schools.

In the medium term, the basic education curriculum should be revised in order to consolidate the articulation of several ad hoc programs and initiatives that have already been adapted by the Government. Such strategies already under implementation include stressing English as a second language, promoting the use of new technologies, improving education quality (such as through the Quality Model for Preschool Education, the First and Second Grade Strategy, the Multi-grade Strategy, Secondary Distance Education for Rural Areas (*Educación Secundaria a Distancia en el Campo*), and ensuring continuity and proper coordination among education levels. In addition, an improved approach that blends general and technical content would likely increase the relevance of learning for the labor market and reduce the opportunity cost of attending upper secondary education.

Reforms in teacher policies could also support the selection of the best candidates, better equip and incentivize the best performing teachers, and motivate high performance across the entire system. In order to achieve this, several actions are needed. In the short term, it will be important to assess the main challenges facing teachers to manage classrooms and foster learning through in-service observations and evaluations, reaching out to trainers in the teacher training centers, and conducting classroom observation studies/surveys. Second, it will be important to carry out a national review of both the curriculum for pre-service teacher training for basic education, as well as the institutional framework for teacher training. Finally, there is a need to gradually develop and formalize the hiring of community preschool teachers (*educadoras comunitarias*) if and when they are officially certified; when accompanied by adequate skills and qualifications, increased pay will likely incentivize better performance and accountability.

In the medium term, it will be important to improve incentives (financial and non-financial) for teacher career development based on merit, which could be primarily based on in-classroom teacher performance and student learning outcomes. Additionally it will be key to promote the regular use of student learning assessments to improve teacher quality. With regard to teacher selection, it will be important to improve this process by increasing the selectivity for entry to teacher education programs, as well as being more selective in hiring top quality teachers. These efforts should be supported through a combination of financial aid policies with measures to overcome non-financial obstacles of the most vulnerable in order to reduce the opportunity cost

of participating in teacher training. Most importantly, there are also important reforms needed in the basic education teacher training schools (*escuelas normales*). For example, there is a need to improve curriculum, pedagogies, and infrastructure, as well as increase the availability of scholarships for top performing students. To improve secondary teacher quality, the CNU could: (i) increase the resources allocated to teacher training by education faculties (from its autonomous budget); and, (ii) open new courses in selected regions and/or give scholarship to outstanding secondary teachers to complete their graduate degree in education.

Finally, a revision of the current legal, institutional, and managerial framework would facilitate better and more informed decision-making and ultimately improve accountability within the system. Several actions would be needed. Over the short term, it would be important to carry out a national assessment of the main issues and challenges facing the performance of the education system. It would also be important to address the possibility of moving towards a more decentralized management of certain areas (school infrastructure management, planning, monitoring and evaluation, information management, etc.) to MINED's departmental and municipal delegations. Over the medium term, a major challenge of the reform process will be the need to review the education legal framework in order to formally incorporate current policies and programs. Finally, strengthening of the education system should be accompanied by improvements in access to public information that allows for all interested actors to make better informed and planned decisions. Further investments in basic education in the Caribbean Coast can also be promoted by developing more financing mechanisms for the Education Secretariats of the Autonomous Regional Governments.

VII.2 Health

As noted in the health chapter, though Nicaragua's public spending on health has increased recently, it still remains low relative to other countries, as well as in per capita terms. There is a distinct need to improve the efficiency of health spending, particularly in light of current fiscal constraints. For example, MINSA could improve the use of budget allocations based on results achieved at the main hospitals and reference hospitals in the country.

At the same time, the health sector could also benefit from additional resources in order to further expand service coverage and quality. In this regard, the Government could consider: (i) introducing new public policies to generate revenues for the health sector, such as taxation of sweetened drinks, and reviewing and strengthening the implementation of existing policies, such as the tobacco tax; and (ii) improving public spending efficiency in the health sector by promoting greater inter-institutional coordination between MINSA and INSS. In addition, MINSA could improve the use of budget allocations based on results achieved at the main hospitals and reference hospitals in the country.

The relatively balanced spending on hospitals and primary care programs, coupled with the strong leadership of MINSA has contributed to improvements in outcomes, but challenges remain. Some improvements include the decrease in child and maternal mortality rates and chronic malnutrition and the increase in overall life expectancy. However, challenges remain in closing coverage gaps with regard to certain outcomes. For example, Nicaragua needs to continue to address maternal mortality and the increasing threat of NCDs. While shares of out of pocket spending have decreased overall, the Government should continue to work towards reducing disparities in access to, quality of, and cost of services between urban and rural areas and across income quintiles.

While progress has been made in ensuring strong institutional management and governance of critical interventions, quality remains a challenge. To date, MINSA has demonstrated the ability to successfully deliver critical health services rooted firmly at the community level through the implementation of the MOSAFC. However, despite such achievements, a few aspects related to quality of care continue to present challenges. In this context, there is a need to: (i) perform systematic reviews of health results to ensure the effectiveness of the health care system and good functioning of the health network; (ii) improve efficiency by ensuring the optimal use of available resources to yield maximum benefits or results; and (iii) ensure that the health system is sufficiently responsive in both modality and type of service delivery to adequately serve people with different needs and/or cultural beliefs.

Multi-sectoral efforts and policy changes are also needed to address some existing health sector challenges. Such efforts require a high level mandate,[76] strategies, and sufficient budgets to implement. For example, first the inter-sectoral collaboration between MINED, MIFAN and MINJUVE through the implementation of the ENSDIA would need to include the development of integrated programs to prevent and address the effects of adolescent pregnancy. Second, the health sector has invested heavily in assessing and managing hospital waste in Managua's hospitals, which also fostered a dialogue about non-hazardous waste management and the disposal of hazardous waste. However, more action on the part of municipalities and MARENA is needed to ensure the proper management of hazardous waste, particularly in public disposal places with a high potential for population exposure. Third, the health sector could take a leadership role in strengthening and incentivizing a multi-sectoral response to chronic diseases and trauma. While it need to continue to proactively address these challenges through health-specific interventions, interventions from other sectors would be essential to effectively implement public policies that address NCD and trauma/violence related risk factors.

Moving forward, the Government could take into consideration the following short-run recommendations for the health sector: (i) evaluate the 10 year implementation experience of

[76] Ministerial Agreements

MOSAFC, particularly with regard to the functioning of the health care network and quality of care; (ii) strengthen MINSA's capacity to regulate the drug supply chain and access to drugs, and improve drug availability, particularly at the primary care level; (iii) include a budget line in MINSA for the maintenance, prevention and repair of medical and non-medical equipment; and, (iv) introduce new public policies to generate revenues for the health sector, such as taxation of sweetened drinks, and review and strengthen the implementation of existing policies, such as the tobacco tax.

In the medium to long-term, the Government could consider the following: (i) develop, cost, and implement a coordinated strategy to improve provision of preventive and curative services for chronic diseases and trauma cases in all municipalities, led by MINSA; (ii) prepare and implement a master plan to strengthen pharmaceutical management and develop an integrated public policy on medicines; (iii) improve inter-institutional coordination between MINSA and INSS, including integrating prevention and promotion practices put in place by MINSA into the INSS and reviewing cross subsidies perceived by the provisional institutions working for INSS; and (iv) MINSA could improve the use of results based budgeting allocations to the main hospitals and reference hospitals in the country.

VII.3 Social Protection and Labor

Though spending in social protection and labor has increased in recent years, Nicaragua still trails other countries in Central America and LAC. Recent increases in social security spending are largely due to the launch of the reduced proportional age pension, while other increases social assistance came in the form of subsidies. However, compared to other countries in Central America, Nicaragua's SPL spending in social assistance is the lowest. This is partly explained by the lack of explicit budget allocation to SNBS and the fact that Nicaragua does not allocate resources to cash transfer programs. However, it does spends the most in ALMPs in Central America.

While social security coverage has increased, Nicaragua is still one of the countries with the lowest contributions to the social security system in LAC and sustainability issues remain. The share of employees contributing to the social security system has increased since 2001, but remains very low compared to other countries in LAC. In 2014, the Government undertook a reform of the pay-as-you-go pension system to address fiscal sustainability issues, but it failed to deliver results due to policy changes. As noted in the SPL chapter, the INSS is projected to start running persistent deficits by 2017, and the reserve fund is expected to be depleted by 2024. In this context, it is critical to undertake measures to both work to guarantee sustainability of the pension system, and to extend coverage to currently excluded populations, such as the poor.

In addition to social security, social assistance has also expanded through subsidies and social care programs. Moving forward, it is critical to understand their cost-effectiveness and impact of such programs. In recent years, Nicaragua has expanded the coverage of social assistance and social care services, through flagship programs such as *Merienda Escolar*, *Mochila Escolar*, and *Programa Amor*. In general, these programs have decent coverage in rural areas, among extreme poor, and among those in the lowest quintile. However, targeting accuracy could be improved, as around 50 percent of social assistance beneficiaries do not belong to the poorest two quintiles of the consumption distribution due to the universal nature of many of these flagship programs. In addition, while preliminary results suggest that these programs have had an impact on poverty among beneficiaries, no proper cost-benefit analysis or impact evaluation has been carried out, making it is difficult to ascertain the true level of impact or understand opportunities for improvements. Improving effectiveness of social assistance and social care interventions calls for investing in monitoring and evaluation. For instance, it would be important to complete the impact evaluation assessment of *Programa Amor* soon in order document achievements and inform potential adjustments.

In contrast to the majority of countries in the region, Nicaragua does not currently have a national cash transfer program. However, lessons from highly impactful *Red de Protección Social* could be broadly incorporated into the design of future social protection policies. In addition, having strengthened supply-side challenges related to provision of basic services, it may be a good time to reconsider transforming some untargeted/regressive subsidies into social cash transfer interventions and adapting ALMPs and employability strategies to explicitly target the poorest.

With respect to the relatively high unemployment rate, Nicaragua has made important efforts into expanding ALMPs. Nicaragua spends more than any other country in Central America on ALMPs, including *Usura Cero*, which provides access to credit, in-kind transfers, and training programs for women, and services provided by INATEC. Most of these programs target the youth (who are prone to high unemployment) and those typically employed in the informal sector or self-employed,[77] or support agricultural production.

Efforts to improving appropriateness, financing sources, and targeting of ALMPs are critical moving forward. In reality, few of the vulnerable groups benefit from these interventions, which highlights the need for an explicit and dedicated focus on reaching vulnerable groups. For example, Nicaragua could consider combining provision of training and cash transfers with and entrepreneurship promotions into a "poverty-graduation" approach. Organizations such as BRAC have shown success in using this type of approach to help populations transition out of extreme poverty (Banerjee et al, 2015).

[77] With the exception of the employees trained by INATEC and contributing 2% of their salary payroll.

Since the early 2000s, there have been a number of policy shifts and vision in SPL policy in Nicaragua. In 2007, the Ortega Administration shifted the focus of SPL policies on restoring rights to poor families, with a focus on social equity and shared responsibility for development. To support these efforts, the SNBS was constituted, with the coordination of the Secretary of the Council of Communication and Citizenship for Social Development (*Secretaría del Consejo de Comunicación y Ciudadanía para el Desarrollo Social*) and the participation of all ministries working in social development and welfare programs. However, despite a clear vision, the plethora of institutions comprising the SNBS are both large and heterogeneous, resulting in challenges of fragmentation and potentially hampering policy planning and efficient program implementation. In this context, there is a need for a revision of the operating framework and the development of mechanisms to improve implementation of the SNBS, possibly including the consolidation of interventions under fewer implementing agencies.

Efforts to improve coordination at local level should also be strengthened. Finalizing and digitalizing the mapping of actors within the sector could help improve coordination. The operation of a multi-sectoral system, such as the SNBS, necessitates a high level of dynamism and the ability to quickly response to the needs of the population. This requires, among other things, of a record of institutional actors (with their location and inventory of available services). Building from this, close inter-agency coordination, participation, and communication strategies, could enable an effective system of referral and cross-referral to meet the different demands of the community. To this end, current efforts underway at MIFAN could be completed and piloted in other line ministries. In addition, and to maximize the impact of the programs of the SNBS, it would be important to prioritize care in communities with the highest incidence of extreme poverty, the highest exposure to natural disasters, and unmet basic needs (in both rural and urban areas). Finally, the multi-sectoral approach for the integral delivery of services to selected population (such as children, youth or the elderly) should be systematized and developed further.

Finally, more needs to be done to improve monitoring and evaluation and accountability mechanisms of social protection programs. Monitoring efforts and use of analysis to make decisions based on statistics is still lacking, highlighting an important area of focus to improve quality and efficiency in the decision making process. In contrast to other countries in Central America and LAC, Nicaragua has not yet developed a unique registry of beneficiaries across implementing institutions that can allow better coordination of interventions and strengthen the focus on the poor. However, MIFAN is leading efforts to expand such a registry beyond its own projects to include those of other line ministries. Finalizing this effort will be critical, as will updating the 2005 poverty map with the data from the recent EMNV 2014. Finally, Government policies also reflect the need for improved controls and implement social audit, which are considered a pillar of participatory governance. However this still needs to be implemented on a broader scale and publicly disseminated.

Appendices

Appendix 1: Matrix of Short – and Medium-Term Options for Policy Reform

	Short-term options	Medium-term options
Education		
Strengthen measures to foster completion and improve learning in basic education.	• Rebalance spending to support the formalization of certified community preschool teachers ("*Educadoras comunitarias*"); • Improve preschool teacher training and infrastructure (especially in rural areas of the Caribbean Coast) through the implementation of "*Modelo de calidad para preescolar*"; • Support the reduction of school dropouts in grades 1 and 2, by strengthening the nationwide implementation of the "1st and 2nd grade Strategy" ; • Continue improving learning conditions in multigrade schools in rural areas combining teacher training, school infrastructure and adapted learning instruments. • Improve diagnostic on the causes of drop out starting in lower secondary secondary and to develop a comprehensive strategy to make school more *attractive* for teenagers with new pedagogies; mentoring and curricular reform;	• Revise basic education curricula and learning instruments for preschool, primary and secondary to ensure articulation among education levels as well as adapted contents to each rural / urban context. • At the technical upper secondary level, improve the blending of general and technical contents and foster the articulation of technical and tertiary education to increase pertinence of the curricula for the labor market;
Reforms in teacher policies to recruit top students, foster improved performance and increase accountability.	• Improve the diagnostic/assessment of the main challenges for teachers through in-service teacher evaluations, reaching out to trainers in the teacher training centers and conducting classroom observation studies and surveys. • Carry out a national review process of the curricula for pre-service teacher training for basic education as well as the institutional framework for teacher training in the country.	• Improve incentives for teacher career development • Promote a systematic use of student learning assessments to evaluate and improve teacher quality. • Implement selection mechanisms to recruit better teachers by: (a) increasing the selectivity into entry to teacher training schools and (b) make the process of hiring teachers more selective • Increase investment in Teacher Training Pre-employment Schools (infrastructure and student scholarships). • Increase CNU resources allocated for secondary teacher training by education faculties
Revise current legal, institutional and managerial framework to have more informed decision-making and improve	• Promote the managerial decentralization of certain key levers to MINED's departmental and municipal delegations (school infrastructure management; planning, monitoring and evaluation; and information management)	• Review the education legal framework in order to formally incorporate current policies and programs. • Improve access to public information that should allow for all interested actors to contribute effectively toward the improvement of the national education system.

accountability in the system.		• Improve financing mechanisms for the Education Secretariats of the Autonomous Regional Governments, in order to increase investment in basic education in the Caribbean Coast
Health		
Improve service coverage and quality	• Evaluate the 10 year implementation experience of the MOSAFC, particularly with regard to the functioning of the health care network • Strengthen the MINSA's capacity to regulate the drug supply chain and access to drugs, and improve drug availability particularly at the primary care level • Include a budgetary line for the maintenance, prevention and repair of medical and non-medical equipment of the MINSA.	• Continue to improve access to and affordability of medicines, prepare and implement a master plan to strengthen pharmaceutical management and develop an integrated public policy on medicines.
Improve amount and efficient use of available health sector funds	• Introduce new public policies to generate revenues for the health sector such as taxation of sweetened drinks and review and strengthen the implementation of Tobacco taxation.	• Improve coordination within and between MINSA and INSS, including INSS to integrate the prevention and promotion practices put in place by the MINSA • Government to review cross subsidies perceived by the provisional institutions working for INSS. • MINSA to improve the use of results based budgeting allocations to the main hospitals and reference hospitals in the country
Strengthen efforts to address NCDs, trauma, and vector borne diseases		• Develop, cost, and implement a coordinated strategy to improve provision of preventive and curative services for chronic diseases and trauma cases in all municipalities; MINSA could lead this effort.
Social Protection		
Improve sustainability of pension system	• Revise targeting of social pension to ensure it is benefiting those most in need	• Revise sustainability of pay-as-you-go to cover deficit gaps.
Assess effectiveness of social assistance interventions	• Finalize impact evaluation of *Programa Amor*	• Assess feasibility of transforming some in-kind into (conditional or unconditional) cash transfers.
Revise targeting and design of ALMPs	• Pilot a new "graduation model" approach combining training and seed capital • Assess barriers to effective access to ALMPs for vulnerable groups	• Expand "graduation model" if proven successful. • Revise ALMP design and profiling instruments for identification of beneficiaries and responding to market needs.
Revise institutional framework and coordination of SNBS	• Revise operating framework of SNBS • Finalize mapping of actors and supply-side interventions at local level.	• Consolidate into fewer interventions and institutions with mandate over the social protection system. • Refocus interventions in priority areas, considering high incidence of poverty and under-provision of basic services.
Improve M&E of social programs	• Finalize unique registry of beneficiaries of social programs • Update poverty map based on EMNV 2014	• Mainstream series of impact evaluations of social programs • Include social audits as key participatory governance instruments.

Appendix 2: Household Surveys databases– Source and definition of variables

Countries	Period	Household Surveys	Education	Social Protection	Labor	Health
Costa Rica	2007-2014	Encuesta de Hogares de Propositos Multiples (EHPM) 2007-2009. Encuesta Nacional de Hogares (ENAHO) 2010-2014. Encuesta Nacional de Salud en Costa Rica (ENSA-2006). Encuesta de Ingresos y Gastos (ENIGH) 2012-2013.	EHPM, ENAHOs	EHPM, ENAHO	EHPM, ENAHO	ENSA, ENIGH
El Salvador	2007-2013	EHMP 2007-2013	EHPM	EHPM	EHPM	EHPM
Guatemala	2006, 2011	Encuesta nacional de condiciones de vida ENCOVI 2006 and 2011	ENCOVI	ENCOVI	ENCOVI	ENCOVI
Honduras	2007-2013	EPHPM 2007-2013. Demographic and Health Survey (DHS) 2011-2012.	EHPM	EHPM	EHPM	DHS
Nicaragua	2005 2009	EMNV 2005 and 2009	EMNV	EMNV	EMNV	EMNV
Panama	2007-2013	Encuesta de Hogares (ECH) 2007-2009. Encuesta de Mercado laboral (EML) 2010-2013. Encuesta Nacional de Niveles de Vida (ENV) 2008	ECH, EML	ECH, EML	ECH, EML	ENV
Methodology: Classification ensures consistency across countries.						
Education	Classification ensures consistency across educational levels: primary education 6 years and for secondary education 6 years.					
Social Protection	Follows World Bank - Aspire classification.					
Labor	Follows International Labor Organization classification					
Health	Follows ADePT - Health classifications.					
Results: Most tables are produced using the ADePT software - Social Protection, Labor, Education and Health.						

Appendix 3: Social spending databases– Source and definition of variables

Social Spending: Corresponds to budget executed by centralized and decentralized entities.		
Period: 2007-2013		
Coverage: Central government + Subnational level. All public sectors		
Data: Total Spending by levels of government, decentralized entities, funding sources and at some times at program level.		
Classification: Follows IMF classification but with some modification on education and Social Protection.		
Health: includes expenditure on services provided to individual persons and services provided on a collective basis		
CA classification	**IMF Classification**	
Medical products, appliances and equipment	7071	Medical products, appliances and equipment
Outpatient services	7072	Outpatient services
Hospital services	7073	Hospital services
Public health services	7074	Public health services
R & D Health	7075	R & D Health
Health n.e.c	7076	Health n.e.c
Education: includes expenditure on services provided to individual pupils and students and expenditure on services provided on a collective basis. **Breakdown** of education is based upon the level categories of the 1997 International Standard Classification of Education (ISCED-97) of the United Nations Educational, Scientific and Cultural Organization (UNESCO).		
CA classification	**IMF Classification**	
Pre-primary	7091	Pre-primary and primary education
Secondary	7092	Secondary education
Tertiary	7093	Postsecondary nontertiary education
	7094	Tertiary education
Other	7095	Education not definable by level
	7096	Subsidiary services to education
	7097	R&D education
	7098	Eduction n.e.c
Excludes: teacher's pensions. Includes: Scholarships		
Modifications: Excludes the amount spent on training institutions.		
Social Protection: includes expenditure on services and transfers provided to individual persons and households and expenditure on services provided on a collective basis		
CA classification	**IMF Classification**	
Sickness and disability	7101	Sickness and disability
Social Security	7102	Old age
Cash Transfers	7104	Family and children
Other Social Assistance	7107	Social exclusion n.e.c
	7108	R&D Social Protection
	7109	Social protection n.e.c
	7103	Survivors
Active labor Market Programs		Amount spent on training institution + labor affairs
Subsidies		Energy, gas, water.
Modification: Excludes: 7105 Unemployment and 7106 Housing. Includes subsidies and Active labor Market spending.		

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