



THE WORLD BANK

UNLEASHING CENTRAL AMERICA'S GROWTH POTENTIAL



Honduras

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List of Acronyms and Abbreviations

BTI	Bertelsmann Stiftung's Transformation Index
CAGR	Compound Annual Growth Rate
CAPDR	Central America, Panama, and the Dominican Republic
CBOE	Chicago Board Options Exchange
CEPA	Center for European Policy Analysis
CEPAL	Comisión Económica para América Latina y el Caribe (Economic Commission for Latin America and the Caribbean)
CGE	Computable General Equilibrium
CICIES	Comisión Internacional Contra la Impunidad en El Salvador (International Commission Against Impunity in El Salvador)
CICIG	Comisión Internacional contra la Impunidad en Guatemala (International Commission against Impunity in Guatemala)
COG	Country's Opportunity Gain
COI	Complexity Outlook Index
DVA	Domestic Value Added
EAI	Economic Activity Indicator
EAP	East Asia and Pacific
ECA	Europe and Central Asia
ECI	Economic Complexity Index
EMDE	Emerging and Developing Economies
ENIF	Estrategias Nacionales de Inclusión Financiera (National Financial Inclusion Strategy)
EPU	Economic Policy Uncertainty
FDI	Foreign Direct Investment
FVA	Foreign Value Added
GDP	Gross Domestic Product
GVC	Global Value Chain
HIC	High-Income Countries
ICEFI	Instituto Centroamericano de Estudios Fiscales (Central American Institute of Fiscal Studies)
ICT	Information and Communications Technology
IDB	Inter-American Development Bank
IEI	Infrastructure Efficiency Index

IHSS	Instituto Hondurense de Seguro Social (Honduran Social Security Institute)
ILO	International Labour Organization
IMF	International Monetary Fund
IRF	Impulse-Response Function
LAC	Latin America and the Caribbean
LAC-UMC	Latin America and the Caribbean Upper Middle Income Countries
LAC-HIC	Latin America and the Caribbean High Income Countries
LMI	Low and Middle Income
LTGM	Long Term Growth Model
LTGM-PC	Long Term Growth Model Public Capital extension
MACCIH	Misión de Apoyo Contra la Corrupción y la Impunidad en Honduras (Mission to Support the Fight Against Corruption and Impunity in Honduras)
MDG	Millennium Development Goal
NEC	Not Elsewhere Classified
OAS	Organization of American States
OECD	Organisation for Economic Co-Operation and Development
PCI	Product Complexity Index
PWT	Penn World Tables
RCA	Revealed Comparative Advantage
R&D	Research and Development
SCD	Systematic Country Diagnostic
SDG	Sustainable Development Goal
TFA	Trade Facilitation Agreement
TFP	Total Factor Productivity
UNCTAD	United Nations Commission on Trade and Development
USAID	United States Agency for International Development
VAT	Value Added Tax
WASH	Water Supply, Sanitation, and Hygiene
WDI	World Development Indicators
WEO	World Economic Outlook
WGI	Worldwide Governance Indicators
WIPO	World Intellectual Property Organization
WoRLD	World Revenue Longitudinal Data
WTO	World Trade Organization

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1. Introduction*

Despite advances in the growth reform agenda in the last decade, Honduras remains the second-poorest country in Central America, with one of the lowest growth rates in income per capita. In recent years, Honduras has made substantial progress in supporting macroeconomic stability and growth, including stabilizing non-financial public sector government debt, reducing the fiscal deficit, and, consequently, improving macroeconomic sustainability. Advances in economic diversification, trade liberalization, and a deep-water port development on the Northern Coast have also supported expansion in the tradable sector and accelerated job creation. However, these important developments have not compensated for decades of sluggish growth rooted in weak institutional capacity, widespread corruption, crime, high informality, and vulnerability to natural disasters and disease outbreaks. As a result, Honduras continues to perform poorly on many indicators relative to other Central American countries. Nearly one in six Hondurans live on less than US\$ 1.9 per day and income inequality remains among the highest in the world, while per capita income growth averaged 1.2 percent since 1960.

The objective of this study is to investigate the drivers and constraints of growth and productivity in Honduras and explore areas with high growth potential. Drawing on the historical growth experience of Honduras and employing a range of analytical tools, this chapter aims to provide an in-depth analysis of the drivers and constraints of the country's economic growth. The chapter first takes stock of the historical growth and macro performance of the country, before moving to the growth accounting exercise to understand the past drivers of the country's growth. In the same vein, the subsequent section analyzes aggregate trends in productivity—that is, the engine of the long-term growth—and its link with the process of structural transformation. The study then uses a cross-country benchmarking and regression analysis based on the growth diagnostic developed by Hausmann et al. (2005) to find the binding constraints to growth. Finally, the analysis concludes with the link between growth, diversification, and exports.

The value added of this study is to provide an in-depth analysis of the drivers and constraints of Honduras's growth using a wide range of analytical tools. The analysis employs several quantitative methods to provide an objective assessment of the drivers and constraints of growth in Honduras, including the long-term growth model (LTGM), computable general equilibrium model (CGE), growth diagnostics and product space analyses. The novelty of this study is to employ the same framework, analytical tools and data to conduct a parallel analysis for each Central American country to allow for a meaningful cross-country comparison. Therefore, given the wide breadth of the study, in terms of the methodologies used, themes analyzed and countries covered, it does not envisage to deep dive into each driver and constraint of growth and provide granular policy recommendations. The core objective of this study is to inform the policy makers and other interested parties about the country's strengths and weaknesses for its growth, and to establish the analytical basis for a subsequent investigation of specific areas.

Using these tools, the chapter finds that boosting growth and reducing poverty requires raising productivity growth and stepping up investment. Results using LTGM show that closing the gaps with Honduras's aspirational peers in five determinants of TFP by 2035 could increase TFP on average by 1.9 percentage points relative to the baseline.¹ Second, an extension of the LTGM shows that increasing investment, particularly public investment, would accelerate growth on average by nearly 1 percent.

* For all reports of "Unleashing Central America's Growth Potential" analytical body of work and the appendix, please see www.worldbank.org/BoostCentralAmerica.

According to the growth diagnostics methodology, this chapter finds that the areas preventing faster growth are: (i) corruption; (ii) security; (iii) property rights; (iv) innovative activities; and (v) access of small firms to finance. Despite efforts to reduce corruption, it remains high and widespread, presenting a significant constraint to doing business. Crime and violence are rampant, imposing an immense cost on businesses and society and impeding both domestic and foreign investment. Honduras continues to be one of the most violent countries in the world, despite continuous government efforts to fight violence and crime. Lack of security has eroded human and social capital, causing mass migration, increasing the cost of doing business, and reducing investment. The government has carried out reforms to strengthen land tenure, but most private land is either untitled or has improper land rights, which constrains access to mortgages and business operations. Honduras has the lowest levels of research and development (R&D), innovation, and patent applications in comparison to similar economies, and access of small firms to bank loans has historically been a significant constraint in the country, despite the high credit supply.

Tackling the identified growth constraints can help Honduras in the transition from an exporter of low-complexity products to an economy with higher share complex products. The composition of Honduras's exports has been diversifying over the last two decades, with the share of apparel products declining significantly and that of more complex products, such as material manufacturing and machinery and vehicles, increasing. Honduras's export basket is now more diversified, which is a welcome development, but it is still highly concentrated in traditional agricultural commodities and low-value, low-complexity manufactures—both close to final consumers. By exporting and engaging in value chains, countries can reduce their dependence on commodities, tourism, and remittances as well as increase their productivity as a result of competition. Honduras currently has untapped opportunities to increase the quality of products in which the country already has comparative advantages. Based on its current export capabilities and combining a feasible and strategic approach, diversification into foodstuff, plastic and rubbers, and chemical and allied industries seems the most promising. Other alternatives for diversification are services such as tourism, ICT, and other business services.

This chapter has identified several key areas in which Honduras lags its comparator and aspirational countries, but which could help boost productivity and growth over the medium to long term. They include:

- ▶ **Improving transparency, accountability, and rule of law.** Corruption increases uncertainty and the cost of doing business, depresses productive investment, and decreases government revenues. While the Honduran government has taken important steps to tackle corruption, further reforms to increase transparency and control corruption are needed to promote economic performance and development.² This would also help start developing comparative advantages in the production of high-quality products.
- ▶ **Reducing crime and violence.** Given the transnational nature of the organized crime and violence in Honduras and the weak institutional environment of the country, significant efforts are needed both at the country and regional level to tackle the issue. A necessary first step is to increase the opportunity cost of crime.
- ▶ **Creating an enabling environment for innovation.** Promoting innovation and R&D requires large sustained investments in human capital, digital infrastructure, and technology transfer, as well as national science policies.
- ▶ **Improving the rule of law to better protect property rights and reduce expropriation risk.** The lack of clear property rights generates misallocation since the producers with access to finance are those that have land titles. Property rights also affect resource allocation by shaping the incentives of individuals to carry out productive activities, undertake investment, and exploit gains from trade.

- ▶ **Increasing the access of finance to small firms.** Access of small firms to bank loans has historically been a significant constraint in the country, despite the high credit supply. This is attributed largely to the high cost of collateral that is not within the reach of small- and medium-size enterprises.
- ▶ **Coordinating with the private sector to identify missing public goods and design mechanism to provide them.** For those products that are produced within the country but are close enough to Honduras's capabilities, sectoral dialogue could be a solution to facilitate the emergence of new industrial clusters.



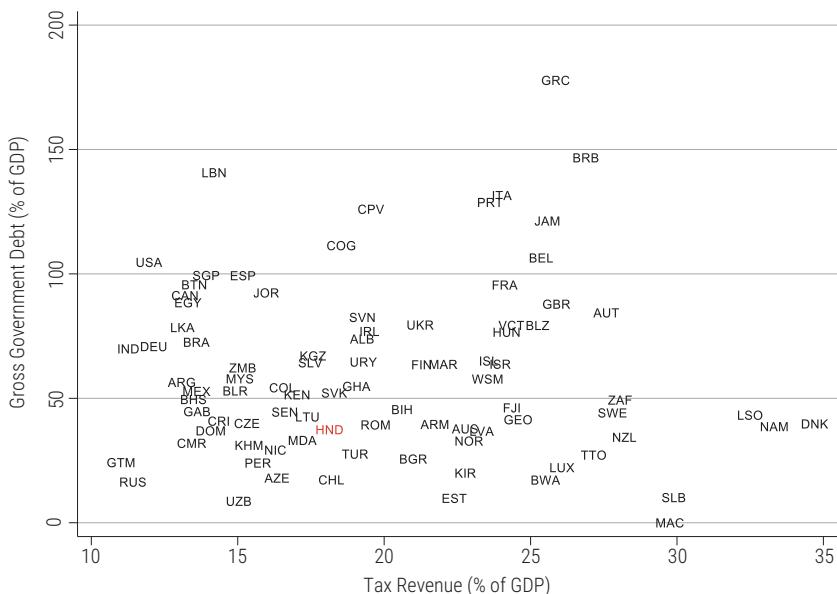
2. Macroeconomic and Growth Performance: Historical Context

Honduras is one of the smallest economies in Central America, with a stable macroeconomic environment and growth performance during the last decade. Although it is the second-smallest economy in Central America after Nicaragua, with a GDP of 21.3 billion dollars, it has the second largest population, after Guatemala, with 9.6 million people in 2018.³ GDP shares of agriculture and industry value added have decreased from 24 and 31 percent in the 1990s to 13 and 27 percent in 2018, respectively.⁴ The macroeconomic stability of the country has improved significantly over the past three decades. Inflation declined from above 30 percent in the 1990s to 4.3 percent in 2018, following a series of laws passed in the 1990s to strengthen the autonomy and independence of the Central Bank.⁵ The volatility of the GDP per capita growth rate averaged around 2.6 percent throughout the 1980s–2000s—lower than the average of its aspirational peers (Armenia, Chile, Latvia, Lithuania, Morocco, Panama, and Peru)⁶, but higher than the Central American average—before decreasing substantially in 2010–2017 to 0.63 percent, which was third-lowest among the Central American economies.⁷

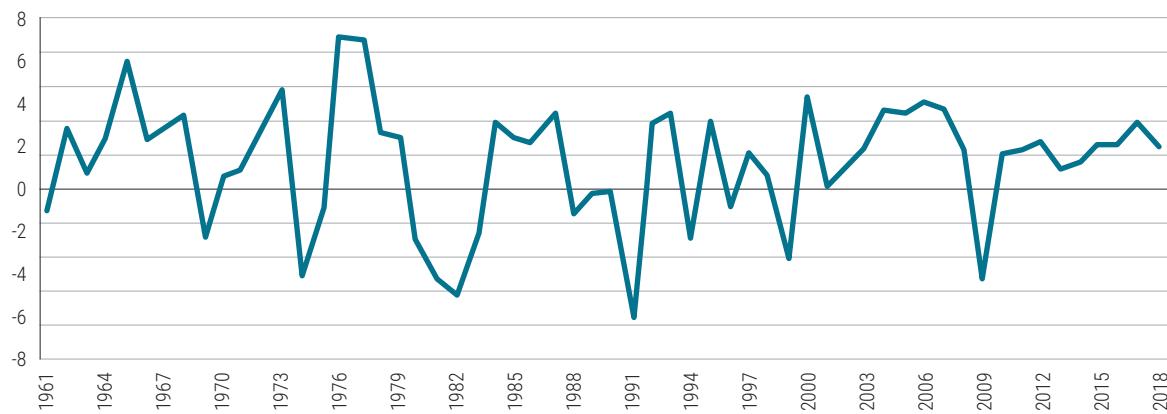
Significant progress in macroeconomic stability since the 1990s helped reduce government's debt. Public debt declined substantially after reaching its peak level of 136 percent of GDP in 1990, and stands slightly above 40 percent of GDP as of 2018.⁸ Stable macroeconomic conditions and a proven record of compliance with the Fiscal Responsibility Law, which has helped maintain consistently low public deficit levels, have contributed to reduce Honduras's risk of debt distress.⁹ According to the Debt Sustainability Analysis (DSA) of the International Monetary Fund (IMF) in 2019, Honduras has improved from a moderate to low risk of debt distress both for public external debt and overall debt. Furthermore, Honduras's debt-carrying capacity was upgraded from medium to strong. In 2016, Honduras had the highest tax revenue in Central America (at 17.3 percent of GDP) and its government gross debt was lower than Central America's average (at 37.4 percent of GDP compared with 39 percent of Central America) (Figure 1).¹⁰ Fiscal measures such as the VAT rate hike, changes in tax administration, and anti-money laundering legislation contributed to a further increase in tax revenues in the post-crisis period since 2013.

Progress in economic diversification and trade liberalization has curbed the negative effects of natural disasters. While trade liberalization boosted growth, the lack of diversification often exposed its exports to fluctuations in agricultural commodity prices during the 1960s and 1970s. Natural disasters have restricted GDP growth, as most of the population is exposed to extreme weather events (such as Hurricane Fifi in 1974). Average annual losses due to natural disasters have amounted to 2.5 percent of GDP between 1994 and 2013.¹¹ Export diversification initiatives have supported GDP growth, such as establishing the Puerto Cortes free trade zone in the late 1970s and export processing zones in the late 1980s. Trade liberalization accelerated with the integration to the World Trade Organization (WTO) in the 1990s and the free trade agreement between Central American countries and the U.S. (CAFTA-DR) in 2004, reinforcing diversification and supporting economic activity in Honduras.¹²

Honduras's GDP per capita has barely improved since the 1960s, compared to its peers. Vulnerability to natural disasters, combined with weak institutional capacity and high corruption, has constrained the growth

Figure 1. Honduras's government debt vs tax revenue, 2016

Source: World Development Indicators (WDI) and Madison Tables.

Figure 2. GDP per capita growth of Honduras (%)

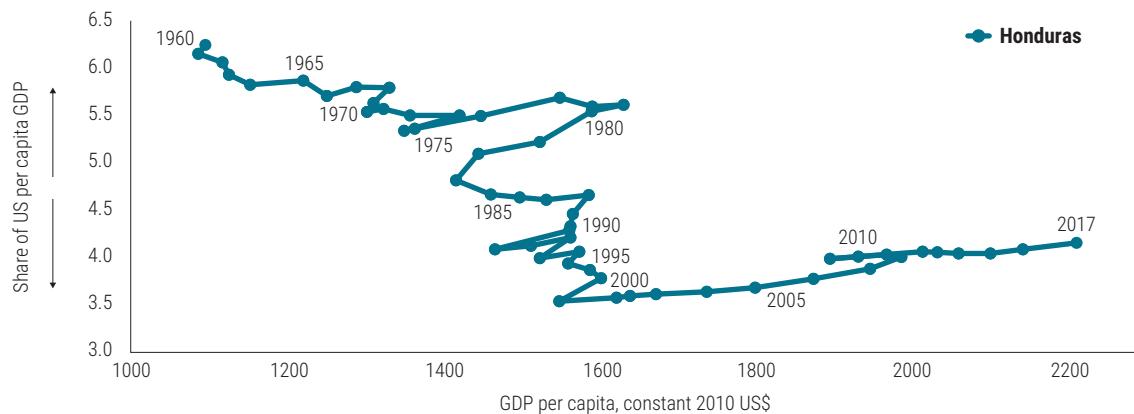
Source: World Development Indicators (WDI) and Madison Tables.

in per capita income levels. Volatile growth rates from the 1960s to the 2000s held back income levels, with a -0.06 percent growth rate of per capita GDP in the 1990s. Improved macroeconomic stability, reduced inflation, and continued diversification efforts in the 2000s raised the growth rate of per capita GDP to around 1.90 in the 2000s, lifting the real GDP per capita slightly until the global financial crisis (Figures 2 through 4). The pace of progress, however, remained too slow to make any significant shift in the country's per capita income. It has increased only by US\$ 625 over the past three decades, and has remained one of the lowest in Central America.¹³ From 1960 to 2017, Honduras's real GDP per capita decreased continuously, with a few brief interruptions, from 6.3 percent to 4.2 percent of U.S. real GDP per capita (Figure 4).

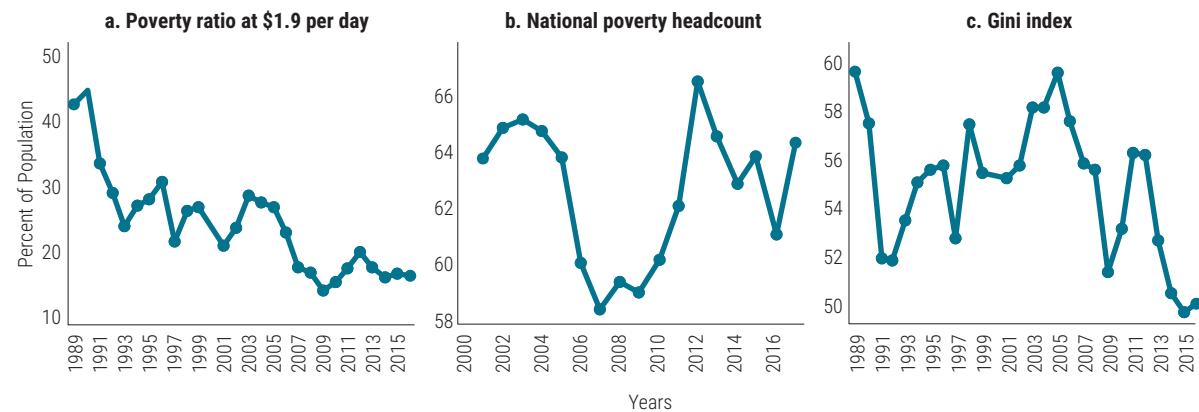
Poverty and inequality have remained considerably high, despite progress over the past three decades. While extreme poverty has declined steadily, to below 20 percent since 1990, the national poverty rate showed mixed progress between 2000 and 2017 and has remained above 60 percent. Income inequality, measured as the Gini coefficient, has declined significantly in the last two decades, however it still remains above 50 percent as of 2017—the highest among Central American countries (Figure 5). The dependence on agriculture, high informality (75.6 percent in 2017), high migration (7 percent of the Honduran population lives in the United States), and violence are some of the constraints on poverty reduction.^{14,15} Despite a significant reduction in crime rates in the last decade, Honduras is still among the most violent countries in the world.

Figure 3. GDP per capita growth by decade (%)

Source: World Development Indicators (WDI) and Madison Tables.

Figure 4. Honduras's per capita GDP relative to U.S.

Source: World Development Indicators (WDI) and Madison Tables.

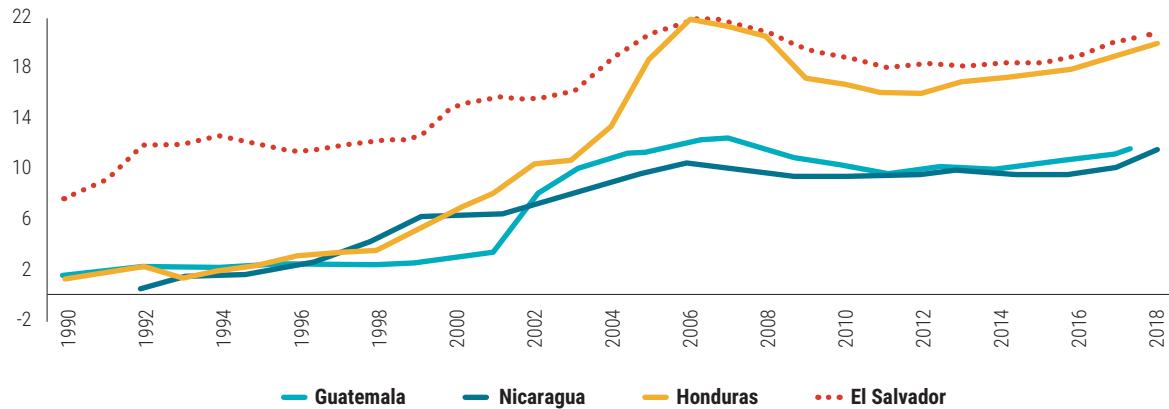
Figure 5. Poverty and inequality indicators of Honduras

Source: WDI.

Remittances in Honduras are the second-highest in Central America and play a key role in the economy. Remittances have increased significantly since the 1990s, and as of 2017 have exceeded 18 percent of GDP, the highest in Central America and among the top fifteen globally. High crime rates, slow growth, and natural disasters have triggered extensive emigration trends from Honduras over the past three decades, with an accelerated pace following Hurricane Mitch in 1998 (Figure 6). While large-scale remittances support economic activity in Honduras, these raise the cost of labor and expose Honduras's economy to fluctuations in foreign labor markets.¹⁶ In addition, the out-migration shrinks the domestic labor force. On the positive side, rising remittances over the past three decades, predominantly from the United States, have helped offset current account deficits,

which have been historically vulnerable to global commodity prices (especially coffee and bananas) due to the lack of diversification.

Figure 6. Remittances inflows (% of GDP)

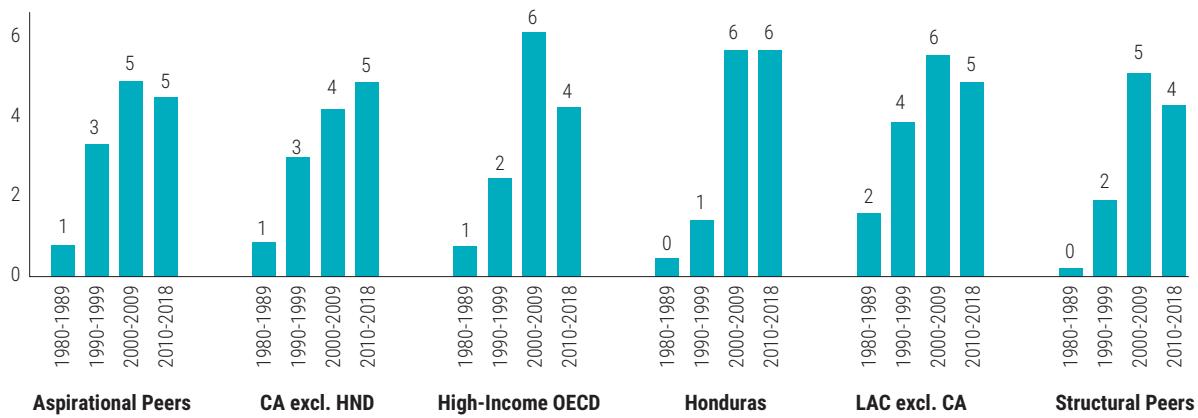


Source: Authors' computations using data from WDI and World Economic Outlook (WEO).

Note: Aspirational peers of Honduras are Armenia, Chile, Latvia, Lithuania, Morocco, Panama, and Peru; and structural peers are El Salvador, Georgia, Moldova, Nicaragua, and Senegal.

Foreign Direct Investment (FDI) inflows to Honduras surged over the past two decades, from 1 percent in the 1990s to 6 percent of GDP from 2000 to 2018 (Figure 7). In 2018, Honduras had the second largest FDI inflows in Central America at 5.7 percent of GDP, following Panama (10 percent).¹⁷ In 2018, Honduras received the largest FDI inflows from North America (37.6 percent of total FDI inflows) followed by the rest of Latin America (35.8 percent of inflows). The *maquila* sector received the largest FDI inflows in 2018 (US\$ 222.6 million, constituting 36 percent of total FDI inflows); followed by services (24 percent); manufacturing (17 percent); transport, storage, and telecommunication (16 percent); and trade, restaurants, and hotels (15 percent).¹⁸ The FDI inflows into all these sectors increased substantially from 2017, except for manufacturing, which registered a significant decrease.¹⁹ Empirical evidence from cross-country studies shows that FDI inflows promote growth and development as well as increase the productivity of local firms.²⁰ However, further empirical research is needed to evaluate the effects of FDI on Honduras's economy.

Figure 7. Net FDI inflows (% of GDP)



Source: Authors' computations using data from WDI and World Economic Outlook (WEO).

Note: Aspirational peers of Honduras are Armenia, Chile, Latvia, Lithuania, Morocco, Panama, and Peru; and structural peers are El Salvador, Georgia, Moldova, Nicaragua, and Senegal.



3. Drivers of Growth: Growth and Development Accounting

The analysis of the role of factor accumulation and productivity in economic growth, a method known as growth accounting, helps understand Honduras's recent economic history of stagnation.²¹ Economic theory indicates that countries grow by accumulating factors of production, such as capital and labor, and by increasing the efficiency in their use.²² International experience suggests that at low levels of development, countries are able to increase their production by increasing the use of their factors. However, given the existence of diminishing returns on capital accumulation, sustainable long-term growth comes from improving efficiency in the use of factors. By identifying the factors that drove economic growth in the past, growth accounting sheds light on areas of the economy that could be strengthened to foster economic growth in the long run.

In the past 50 years, Honduras has grown by accumulating physical capital and increasing labor participation, with negative or negligible contributions from productivity. Deconstructing GDP growth shows that growth was due to increased labor and capital, while total factor productivity (TFP) had a negative or negligible contribution in most years. In the period 1971–2017, labor was the main contributor to growth, at 2.4 percent per year, whereas capital accumulation contributed 1.3 percent of GDP growth per year. Like other countries in the region, human capital has played a secondary role, enhancing GDP growth by only 0.7 percent per year. Overall, from 1971 to 2017, adjusted labor (number of working people and human capital) accounted for 83 percent of total growth, and capital accumulation contributed around 36 percent of the total growth in this period (Figure 8).²³

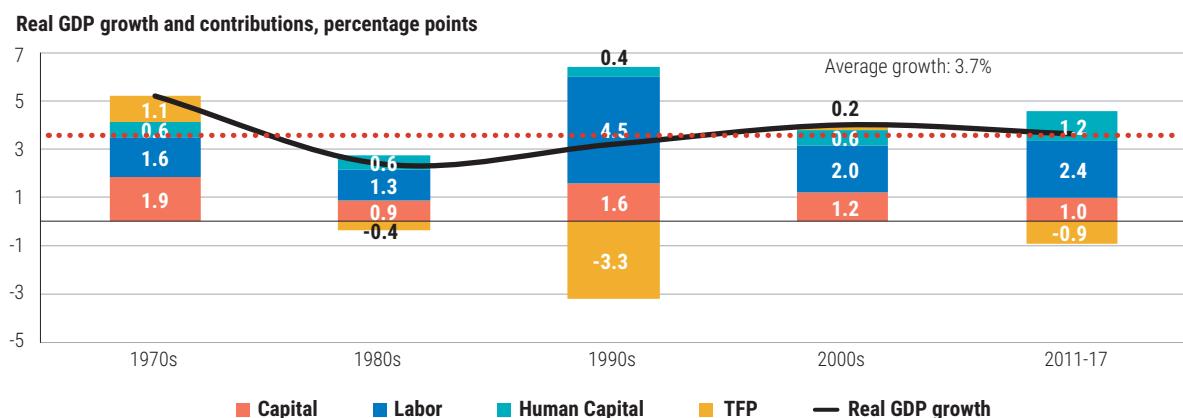
In the period 1990–2017 in Honduras, the contribution of capital accumulation to growth was slightly higher relative to its peers and was mostly driven by private investment. Since 2000, aggregate investment comprised on average 25 percent of GDP, higher than Latin America and the Caribbean (LAC), structural, and Organisation for Economic Co-Operation and Development (OECD) peer countries, and even higher than aspirational peers, in which aggregate investment averaged 24 percent during the same time span. Private investment as a share of GDP averaged 21 percent between 2000 and 2017, whereas the average public investment rate was around 4 percent of GDP (Figure 9). During the commodity “super cycle” in the 2000s, private investment swelled to 30 percent of GDP, but it fell significantly in the 2008 financial crisis and has remained at around 19 percent of GDP since then. On the other hand, public investment has tended to be less cyclical throughout the period: From 2000 to 2017, investment was financed with both local savings, at around 19 percent of GDP, and FDI, which contributed on average almost 6 percent of GDP. FDI inflows played a major role in Honduras's growth since the 2000s, driven by large investments in telecommunication infrastructure and the maquila sector.²⁴

Sluggish TFP growth has not helped Honduras close the per capita GDP gap with rich countries. The growth of TFP declined on average 0.6 percent between 1970 and 2017, with significant fluctuations over time.²⁵ After a positive contribution during the 1970s, TFP growth contributed negatively during the 1980s and 1990s. Political uncertainty marked those years due to the return to civil rule, the civil war in neighboring Nicaragua in the 1980s, and important market reforms during the 1990s. The significant reduction in the growth of TFP during the 1990s was mostly offset by labor accumulation growth because of the increase in the share of the

working age population (Figure 8). At the beginning of this century, with the boom in commodity prices, the TFP grew at an annual rate of 0.2 percent. However, this success was short-lasting, and TFP growth returned to negative ground. Following the methodology in Caselli (2016), if Honduras reached a level of TFP equal to that of the United States, given its actual levels of capital, labor, and education, the level of output per worker would be 3.5 times the current level. This counterfactual provides a clear indication of the benefits of increasing productivity.

Low TFP is reflected in Honduras's labor productivity, which only outpaced LAC and structural peers. Labor productivity is a measure closely linked to TFP, and it is calculated as value added per worker.²⁶ Between 1992 and 2018, value added per worker in Honduras grew less than its aspirational peers, OECD countries, and Central American peers (Figure 10). Labor productivity in Honduras declined significantly during the financial crisis (2008–09) and has stagnated since then, while Central American, aspirational, OECD, and structural peer countries continued to experience increasing labor productivity. After the financial crisis, the gap in labor productivity between Honduras and OECD countries increased slightly, from 6 percent to 7 percent, while the aspirational peers have closed the gap by one percentage point.

Figure 8. Growth decomposition, 1951–2017: average (%) per year

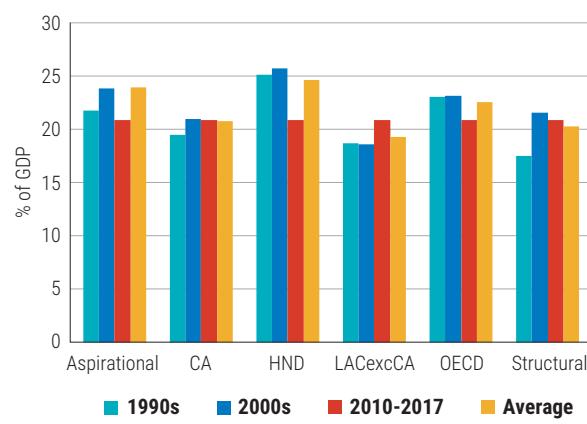


Source: World Bank staff using data from Penn World Tables 9.1.

Increasing public investment would have a strong positive effect on growth and poverty in Honduras, though the overall poverty rate would still remain high.²⁷ Boosting public investment is important for Honduras, primarily because it is quite low, at 4 percent of GDP, which is around the 25th percentile among low and middle income (LMI) countries. Based on simulations using a LTGM that is based on the Solow-Swan growth model and includes investment, TFP, human capital, and demographics, an increase in public investment to the 75th percentile of LMI countries (9 percent of GDP) would boost growth over 2020–30 by 0.55 percentage points.²⁸ Increasing public investment to the 90th percentile (12 percent of GDP) would increase growth by 0.8 percentage points (Figure 11).²⁹ The effects on poverty

of increasing public investment are also significant: in the proposed scenarios, poverty would drop between 2 and 4 percentage points by 2030. The poverty rate of \$5.5/day is still expected to be very high in all scenarios—at around 52 percent by 2030 in the baseline scenario—so these large drops in poverty would amount to 3–7 percent of the baseline poverty rate at that time. The poverty rate is still high in 2030 in part because of high current poverty rates (almost 60 percent), but also because the baseline economic growth of 1.5–2 percent per capita only dents poverty slightly.

Figure 9. Investment as a share of GDP, 1990–2017



Source: World Bank staff using WDI.

Figure 10. Labor productivity over time, 1991–2017 (1991=100)

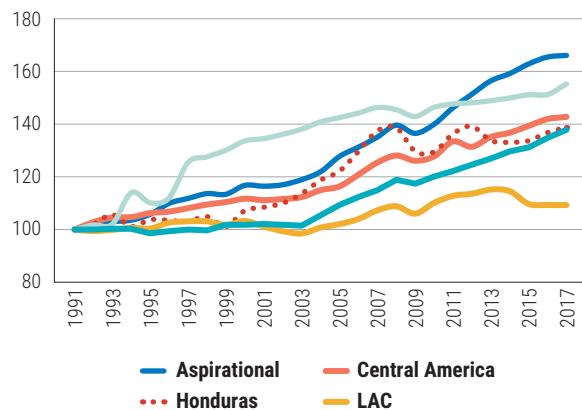
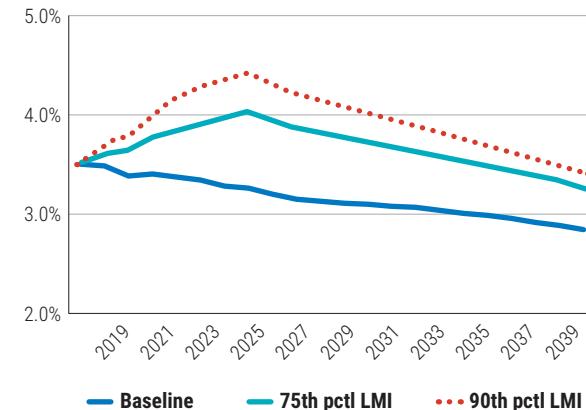


Figure 11. Real GDP growth rate under different scenarios of public investment



Source: World Bank staff using data from WDI and estimates using Loayza and Pennings (2018).

3.1. How would reforming the drivers of TFP affect growth?

To boost TFP growth, reforms in innovation, education, market efficiency, infrastructure, and institutions are needed. As widely cited in both the theoretical and empirical literature, TFP—also referred to as technical progress—is the main driver of the long-term growth rate of an economy.³⁰ Here an extended LTGM, drawing on the latest available data,³¹ is used to quantify how an increase in the determinants of TFP, which include innovation, education, market efficiency, infrastructure, and institutions,³² affects the long-term growth rate of Honduras. In each of these five indicators, Honduras underperforms its aspirational peers and the United States (see Appendix III for details).³³ This points out the need for reforms in these areas to promote the country's long-term growth.

The goal of the strong reform scenario is to reach the levels of Honduras's aspirational peers in each determinant of TFP by 2035. To implement these reforms, it is assumed that each TFP determinant increases linearly, so that the country reaches the target by 2035 (Table 1). This scenario generates a path of TFP that follows an inverted U-shape, rising to a maximum of 1.9 percent growth by 2029, and then declining gradually over time. On average, the growth rate of TFP between 2020 and 2035 is 1.9 percent per year, which is almost 1.4 percentage points higher than in the baseline scenario (0.5 percent).³⁴ Figure 12 shows that the evolution of per capita GDP (left panel) and the poverty rate at \$5.5 per day (right panel). Annual GDP per capita growth would be on average 1.3 percentage points higher than the baseline and the poverty rate could be 1.5 percentage points lower than the baseline after five years. By 2035, the poverty rate could be as low as 39 percent, which is 10 percentage points lower than the baseline.

Table 1. TFP reform scenario

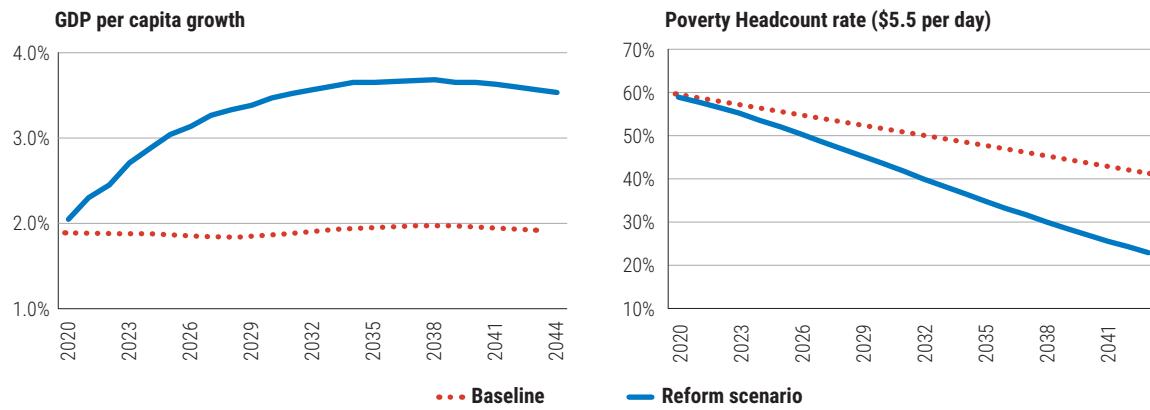
Determinant	HND	Aspirational peers	Target Year
Innovation	1.8	9.1	2035
Education	31.2	55.1	2035
Efficiency	44.7	71.7	2035
Infrastructure	40.2	49.2	2035
Institutions	27.9	48.5	2035

Source: World Bank staff elaboration.

The above evidence suggests that Honduras needs to raise TFP growth to boost GDP per capita and sustain poverty reduction. Honduras's growth has been mainly driven by factor accumulation (labor and capital) and, to a lesser extent, by human capital accumulation. In recent years physical capital accumulation has been the main driver of growth, as a result of the large increases in infrastructure. However, the main factor dragging growth is the decline in the efficiency of the economy or TFP. Raising productivity growth is key to boost Honduras's growth rates of income per capita and to sustain poverty reduction over time. In the past decades the country has been unable to experience sustained TFP growth, which indicates the necessity to implement

reforms consistently over time to generate a significant change in TFP. The experience from Asian countries shows that maintaining TFP growth over time is possible, but requires political will to remove constraints and distortions affecting markets.³⁵ Given that Honduras lags behind its aspirational peers in all the determinants of TFP, efforts to close the gap in the short run will be important to reach higher TFP growth. As discussed in more details in section 4 below, improving the financial system, promoting innovation and business environment through better security, control of corruption, and stronger property rights would help Honduras step up its productivity and growth. Before moving to the analysis of key areas constraining growth in Honduras, the next section investigates the determinants of the TFP dynamics in the country.

Figure 12. GDP per capita and poverty simulations under reform scenarios



Source: World Bank staff elaboration based on Kim and Loayza 2019.



4. Aggregate Trends in Productivity and Structural Transformation

4.1. Employment composition and structural change

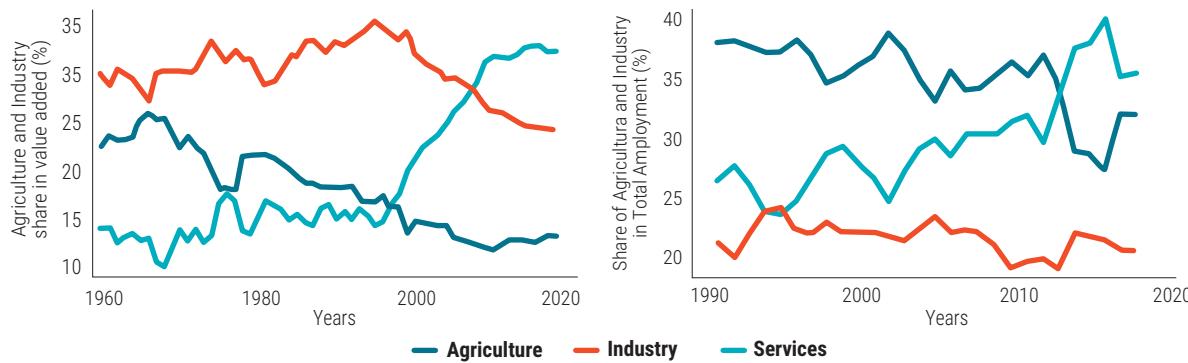
As countries develop, they move resources away from agriculture to industry and services. This process is known as structural transformation.³⁶ The structural transformation literature established that as an economy grows, the following patterns emerge:

1. The employment share and nominal value-added share in agriculture declines.
2. The employment share and nominal value-added share in services rises.
3. Industry follows a hump-shaped path: The employment share and the value-added share of industry rise at early stages of development, eventually reach a peak, then decline as the economy grows.

Honduras's economic expansion was accompanied by a shift in its sectoral composition. Figure 13 displays the evolution of nominal sectoral shares of GDP for agriculture, industry, and services. Agriculture's share of GDP (top-left panel) steadily declined from about 25 percent in the late 1960s to around 12 percent in 2010, remaining near that level in recent years. The manufacturing share (top-right panel) followed the standard hump-shape path, rising from about 30 percent in the early 1960s to nearly 35 percent in the late 1990s, before declining sharply thereafter to its current level of 25 percent. After hovering around 47 percent for most the 1980s and 1990s, the share of services in GDP substantially increased during the 2000s, stabilizing at around 62 percent in recent years.

Honduras also experienced a significant change in the structure of employment across sectors. In 1991, more than 37 percent of workers were employed in agriculture, about 37 percent in services, and 21 percent in the industrial sector. By 2018, the employment share of agriculture shrank to 32 percent, while that of services increased to 53 percent, as employment shifted mainly from the former to the latter. By contrast, the share of workers employed in the industrial sector does not show a clear upward or downward trend in the last thirty years, with its current value slightly above the levels seen in the early 1990s (Figure 13). The reallocation of Honduras's workers away from agriculture to services and, to a lesser extent, manufacturing is consistent with a long tradition in development economics in which poor countries undergo a process of structural change, where labor reallocates from traditional, low-productivity sectors of the economy toward modern, high-productivity sectors to achieve higher levels of aggregate productivity.

Figure 13. Structural transformation in Honduras: Value added share and employment share in agriculture, industry, and services



Source: World Bank staff elaboration using data from WDI.

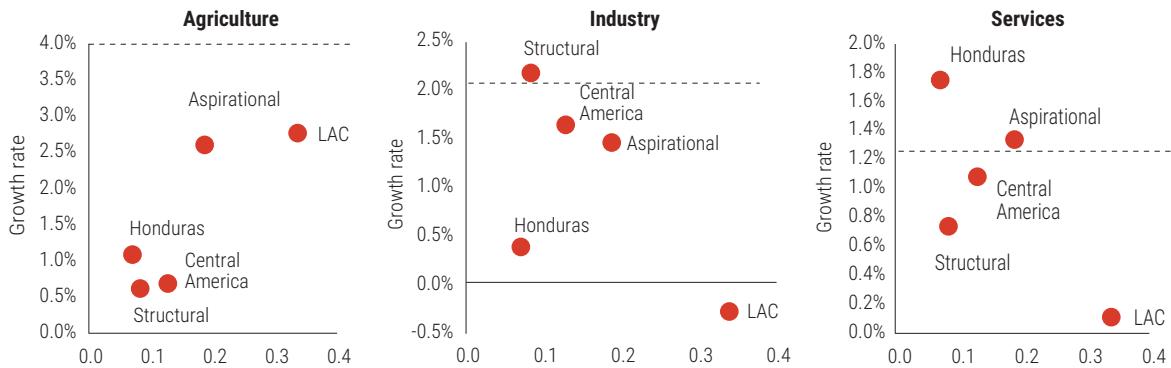
Note: Value added, constant 2010 US\$.

Source: World Bank staff elaboration using data from WDI.

4.2. Sectoral labor productivity growth and structural transformation

Honduras's labor productivity growth performance relative to its peers varies across sectors. The process of structural change is characterized, among other things, by differences in the pattern of productivity growth across sectors and countries.³⁷ Figure 14 depicts the relationship between average labor productivity growth in each sector and aggregate labor productivity growth for 1991 for Honduras and a set of its peers, together with a dotted blue line representing labor productivity growth for OECD countries. Between 1991 and 2017, agricultural labor productivity grew, on average, 1.1 percent per year, a pace significantly below that of OECD, aspirational peers, and LAC, but slightly above those of structural peers and Central America. Despite having the lowest initial level of aggregate labor productivity, industrial labor productivity growth in Honduras was lower than in OECD countries and most of its peers, with the exception of LAC countries. In the case of services, Honduras outperformed all its peers, as well as OECD countries. The low levels of sectoral productivity growth are the source of the lack of labor productivity convergence with rich countries previously documented.

Figure 14. Sectoral labor productivity growth



Source: World Bank staff elaboration using data from WDI.

Honduras still has growth-enhancing reallocation possibilities that could be exploited. Empirical evidence shows that there tend to be large differences in productivity at the firm level within sectors (Hsieh and Klenow 2009, Busso and Madrigal 2013), and between sectors (Rodrik and McMillan 2011). In addition, these gaps tend to be larger in developing countries than in advanced economies, indicating the presence of distortions affecting the allocation of resources between sectors and reducing aggregate productivity. However, large productivity gaps across sectors could potentially increase aggregate productivity if workers reallocate from a sector with low productivity to a sector with high productivity. The relative labor productivity gap between agriculture in 2017 (the least productive sector) and the most productive sectors is large: the financial intermediation, real estate, and business activities sector was 14.4 times more productive than agriculture; transport, storage, and communications was 7.7 times more productive; and utilities was 7.6 times more productive.

Box I. Drivers of premature deindustrialization in Honduras since 1995

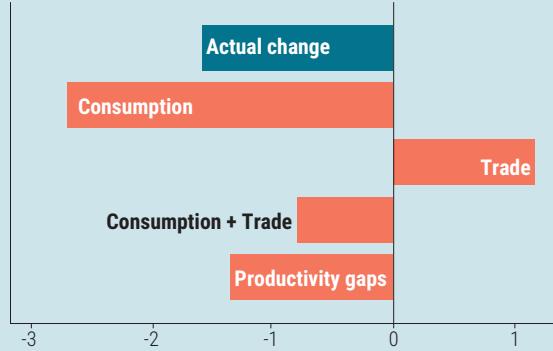
Deindustrialization has captured the attention of academics due to systematic differences in the paths followed by today's developed countries, in contrast to today's developing countries. Rodrik (2016) points out that the reallocation of resources from industry into services is starting for today's developing countries at lower levels of development and at lower peaks than evidenced by developed nations. This *premature deindustrialization*, in general, is a policymaking concern, as industrialization is often considered to be an engine of growth. This view contends that robust industrial growth is essential for developing countries to catch up with the developed world, and premature deindustrialization strips an economy of one of the fundamental drivers of growth (Rodrik 2012).

In a background paper for this report, Sinha (2019a) investigates the relative strength of different forces in shaping the behavior in industrial employment in the region using a model that links the production in one sector to the production of other sectors and countries. In this model, employment in a sector is affected by three channels: i) domestic consumption; ii) net exports; and iii) labor market distortions restricting the flow of labor between sectors. While the first two forces increase sectoral employment, the third one contracts it. These distortions are important to account for the difference in the value added and the employment share of a sector as seen in the data.³⁸

In Honduras, the industrial share of employment contracted by 1.6 percentage points between 1995 and 2016. To understand how much each channel contributed to the actual change in employment, the model is used to perform the following counterfactual: what would be the industrial employment share in 2016 if all variables were kept fixed at the initial year of analysis, except for the variable that corresponds to the channel of interest? Figure I provides the results of this exercise. In most countries, changes in the distortions (productivity gap) affecting labor mobility were the principal channel driving down the industrial base. While the productivity gap exerts a contractionary force in Honduras, its impact is mild compared to the impact of changes in domestic consumption observed in the data. The latter alone implied a decline of 2.7 percentage points in industrial employment. In contrast, changes in productivity gaps implied a drop of 1.3 percentage points. In line with results obtained in neighboring countries, shifts in trading patterns (export channel) did attenuate the impact of other channels.

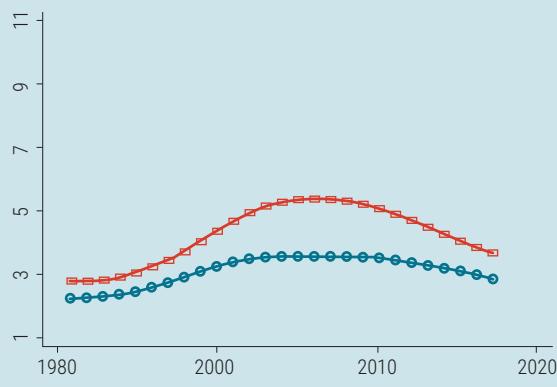
When compared to its neighbors, and based on model estimates, Honduras has an intermediate level of labor market distortions in both the industry and services sectors. Like most economies, the services sector experiences larger distortions relative to industry, and the economy faces higher barriers in hiring labor in recent years than at the beginning of the 1990s (Figure II). The eliminations of these distortions that weakened structural change imply an output gain of 2 percent, well below the average gains for the region.

Figure I: Decomposition of changes in employment share



Source: Sinha (2019a). Note: The blue bar represents the actual change in employment shares. The pink bars depict the counterfactual change in employment shares when the variables pertaining to a factor are changed, keeping all the other variables fixed at the initial levels

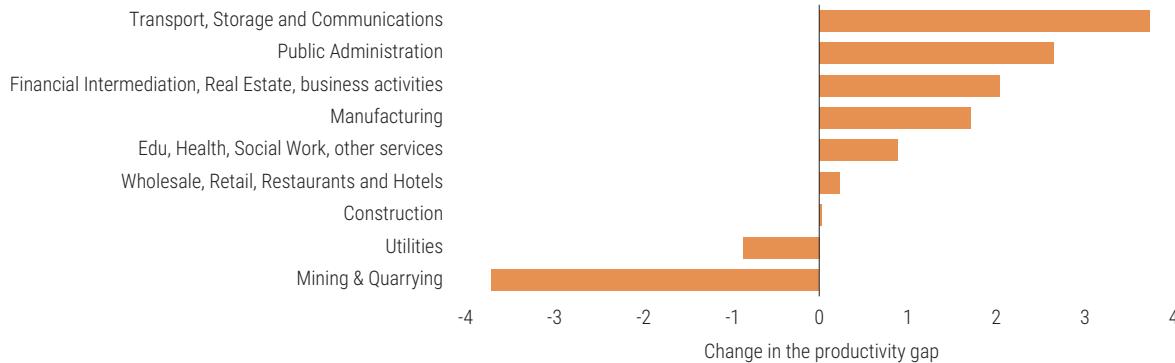
Figure II: Estimates of labor market distortion



Source: Sinha (2019a). Note: Circles (●) and squares (□) denote the labor market distortions in industry and services, respectively. An increase in the value of the distortion in a given sector means that it is costly to workers to reallocate from agriculture to that sector.

Productivity growth in Honduras is uneven across sectors, particularly as related to agriculture. Between 1991 and 2017, the productivity gap relative to agriculture increased in some sectors and decreased in others (Figure 15). For example, sectors like utilities and mining closed the productivity gap with agriculture (0.9 and 3.7 percentage points reduction in the gap, respectively), which is desirable from a structural change point of view. However, most of the sectors increased the gaps, indicating that there are still opportunities for a reallocation of resources out of agriculture. It is important to highlight the fact that in developing countries labor markets are segmented, which implies that there are distortions preventing the mobility of workers between sectors. Box 1 in this chapter shows that removing those barriers in Honduras translates into important output gains. The next section examines the contribution of structural transformation to aggregate labor productivity.

Figure 15. Change in the sectoral productivity gap relative to agriculture, 1991–2017



Source: World Bank staff elaboration using WDI.

4.3. The contribution of structural change to growth

Changes in GDP per capita (or value added per capita) can come from four sources: (i) demographic changes, (ii) changes in labor force participation and employment levels, (iii) changes in sectoral productivity (within-sector component), and (iv) the reallocation of labor across sectors (between-sectors component). This last component is typically known in the literature as structural change or structural transformation. Furthermore, the structural transformation component can be decomposed into a “static” and a “dynamic” component. While the “static” measures whether workers move to sectors with above-average productivity, the “dynamic” component measures whether productivity growth is higher in sectors with an increase in employment.

Honduras exhibited a similar average annual growth in value added per capita in each of the last two decades, as a decline in labor productivity in recent years was offset by a rise in labor force participation. After averaging 1.1 percent per year in the 1990s, per capita GDP growth stepped up to an annual average of almost 2 percent in the following two decades. Figure 16 presents a decomposition of per capita GDP growth into the sources described in the paragraph above. In the period 1991–2017, the main drivers of growth were a rise in the share of the working-age population and an increase in labor productivity, contributing 54 percent and 36 percent of the total change in GDP per capita, respectively. Rises in the share of the working-age population contributed significantly to growth in all sub-periods: about 56 percent in the 1990s, 50 percent in the 2000s, and 52 percent in 2011–2017. Labor productivity growth was an important contributor in the 1990s (34 percent) and the 2000s (52 percent), but it became a drag on growth in 2011–2017. Changes in the participation rate had negligible effects on GDP growth in the period 1991–2010, but then became the main source of growth (69 percent) in the period 2011–2017. Finally, per capita GDP growth was little affected by changes in the employment rate throughout the period under study.

Labor productivity increased in the period 1991–2010, but has declined in recent years, largely reflecting the evolution of within-sector productivity. Figure 17 decomposes the evolution of average annual labor productivity growth into within- and between-sector components (reallocation). The contribution of the within-sector component increased from 0.12 of a percentage point in the 1990s to over 1 percentage point in the

2000s, largely explaining the rise in labor productivity growth in the second period. The reallocation of workers was the main driver of labor productivity growth in the 1990s but contributed negatively in the 2000s. In recent years, labor productivity declined, as significant losses in within-sector productivity subtracted close to 1.5 percentage points from labor productivity growth.

In the period 2011–2017, the reallocation of workers across sectors contributed significantly to labor productivity growth, partially offsetting the negative impact of within-sector productivity losses in this period. Further decomposing the reallocation of workers into static and dynamic components as discussed above, Figure 17 shows that the former added 1.5 percentage points to labor productivity growth, while the latter subtracted 0.5 of a percentage point.

The modest labor productivity gains from the structural change in the period 1991–2017 reflected a rise in the employment share of the three most productive sectors in the economy. Figure 18 shows changes in employment shares and the relative productivity of sectors, measured as the log of the ratio between sectoral productivity and average productivity from 1991–2017. Positive structural change occurs when (i) workers move to relatively high-productivity sectors or (ii) when workers move out of relatively low-productivity sectors. In the case of Honduras, the employment share of some sectors with below-average productivity (such as agriculture and education and health) declined, while that of the three most productive sectors (financial intermediation and real estate; transport, storage and communications; and utilities) increased, leading to a rise in aggregate productivity.

A decline in the employment share of agriculture has led to overall productivity gains in Honduras, but these gains were partially offset by a rise in the share of low-productivity services. Figure 18 shows that labor reallocated away from low productivity sectors, such as agriculture and education and health, contributing to labor productivity growth. However, the decline in the employment share of these sectors was largely counterbalanced by a rise in the employment share of wholesale, retail, restaurants, and hotels—one of the least productive sectors in the economy. As a result, the gains from structural change in the period 1991–2017 were only modest.

Figure 16. Value added per capita decomposition

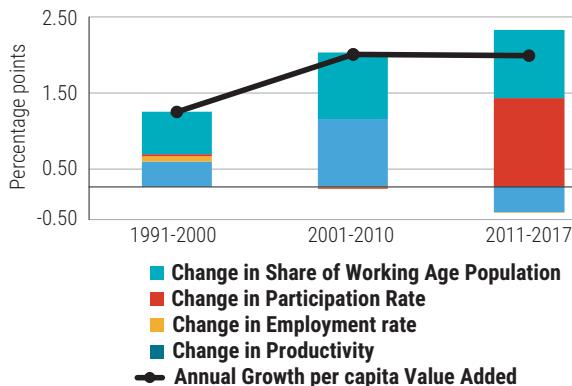


Figure 17. Decomposition of annual growth of labor productivity

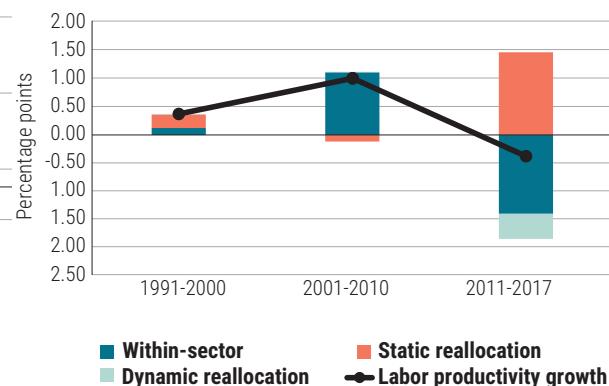
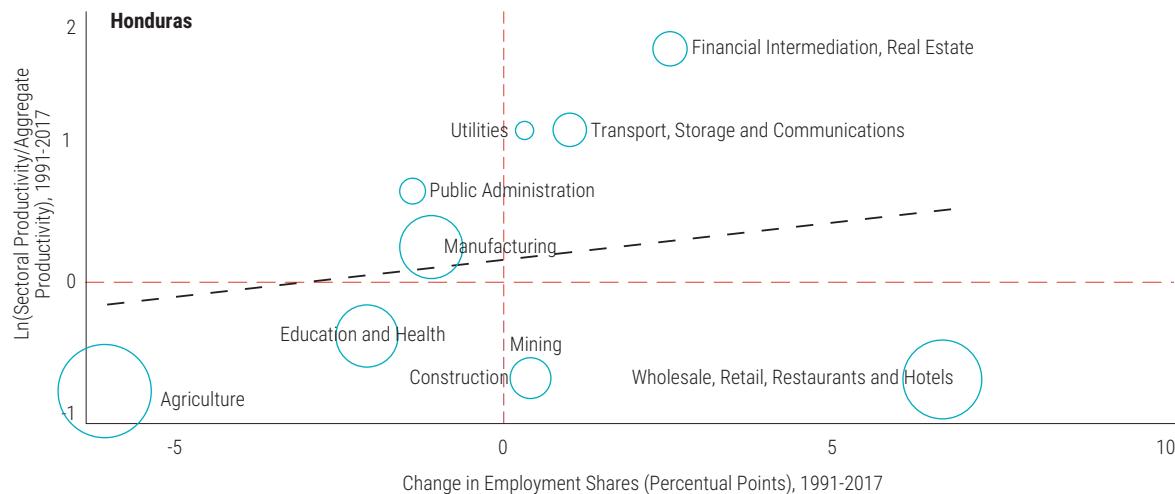
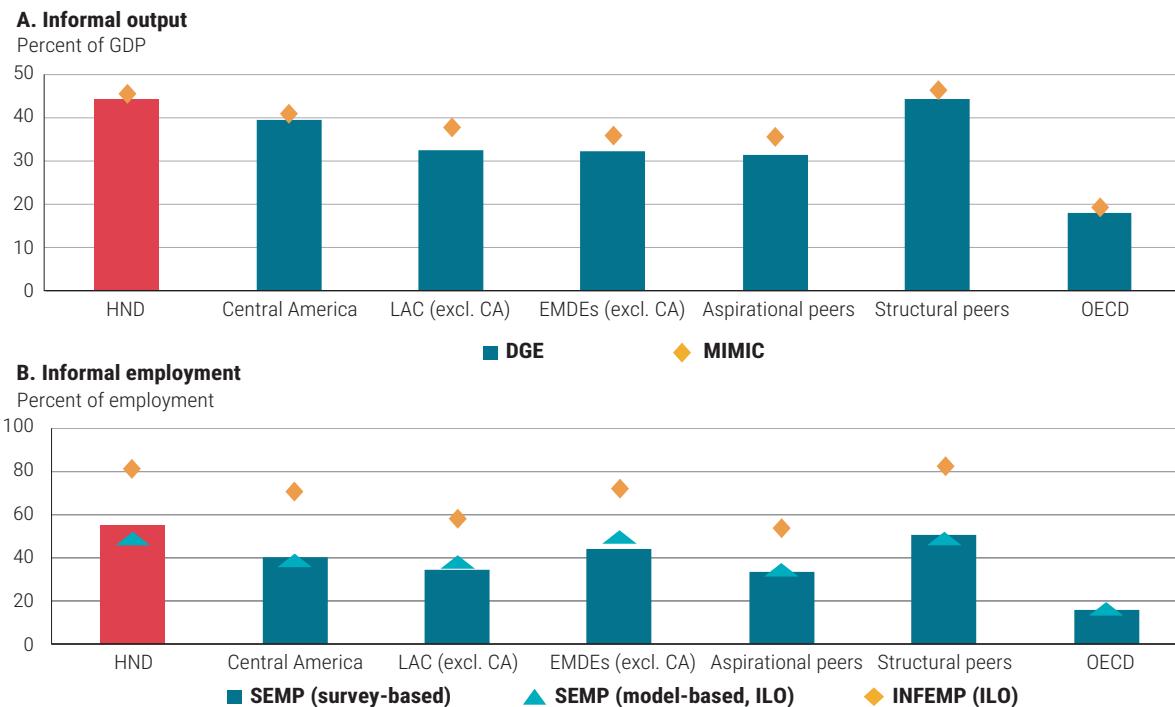


Figure 18. Change in average employment share and deviation from average labor productivity, ratio

Source: World Bank staff using United Nations and ILO data.

Honduras also has a large informal sector, in which most workers have far lower productivity. In 2016, the informal sector in Honduras produced about 45 percent of GDP and accounted for 80 percent of total employment, out of which nearly half is self-employment (48–55 percent of total employment; see Figure 19).³⁹ After 1990, the informal sector in Honduras experienced a declining trend in terms of output, while its share of self-employment rose (See regional chapter.) This has resulted in a decline in the ratio of informal labor productivity over total labor productivity, suggesting that workers in the informal sector are becoming, on average, increasingly less productive than their counterparts in the formal sector in Honduras.⁴⁰ In order for Honduras to reduce the share of informality to the levels of OECD or its aspirational peers, it needs to increase formal output by 10–25 percentage points of GDP and formal employment by 14–39 percentage points of employment (Figure 19).

Figure 19. Informality in Honduras

Source: Elgin et al. (2019), ILO, World Bank (2019b).

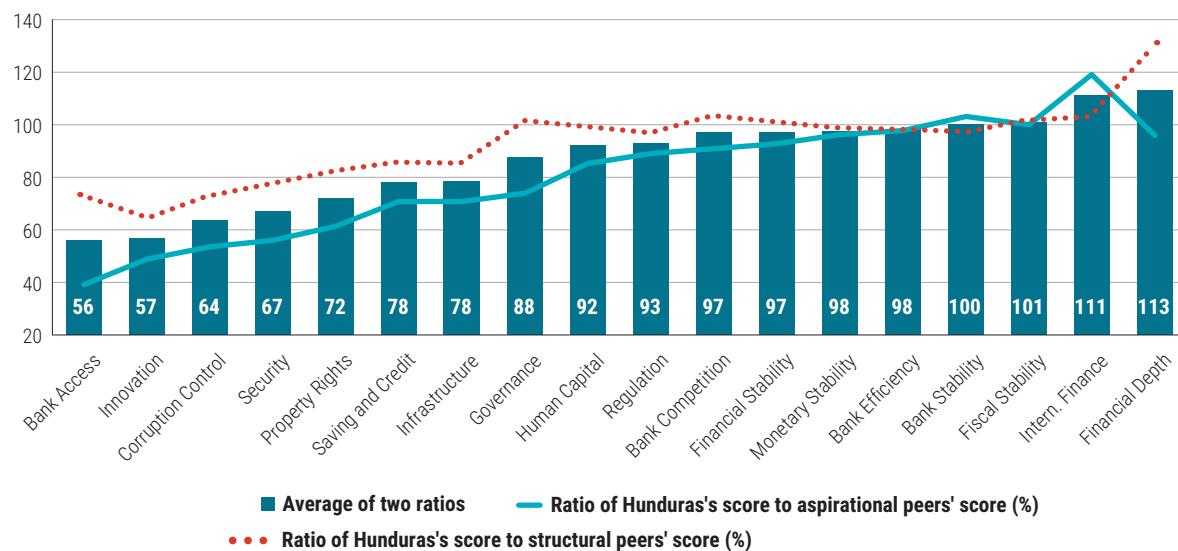
Notes: DGE (MIMIC) = DGE (MIMIC)-based estimates on informal output as a percent of official GDP. SEMP (INFEMP) = self-employment (informal employment) as a percent of total employment. Data are from the latest year available (2016 for DGE, MIMIC, and model-based SEMP estimates).



5. Growth Diagnostics Analysis

Drawing on the growth diagnostics analysis of Hausmann et al. (2005), this section aims to identify the binding constraints to Honduras's growth. The analysis is carried out in two steps: In the first step, 18 areas of Honduras's economy are assessed, using 138 indicators from 2000 to 2018, to identify the areas where the country has a poorer performance than its structural peers (El Salvador, Georgia, Moldova, Nicaragua, and Senegal) and aspirational peers (Armenia, Chile, Latvia, Lithuania, Morocco, Panama, and Peru).⁴¹ Each indicator is first standardized to range from 0 to 100, with higher values referring to favorable outcomes, which are then averaged to create aggregate indexes proxying the performance of each area. In the second step, the relationship between the economic performance of the country and the five areas where the country has a weaker performance is analyzed using panel data fixed effects analysis. Figure 20 presents the scores of all 18 areas of Honduras's economy relative to its structural and aspirational peers, as well as the averages of these scores. Based on the average scores, Honduras has the lowest relative values in innovation, control of corruption, security, property rights, and finance, specifically, bank access and savings and credit. The remainder of this section analyzes these indicators in depth and evaluates whether and to what extent they constrain the growth performance of the country.

Figure 20. Growth diagnostics indicators of Honduras relative to its structural and aspirational peers



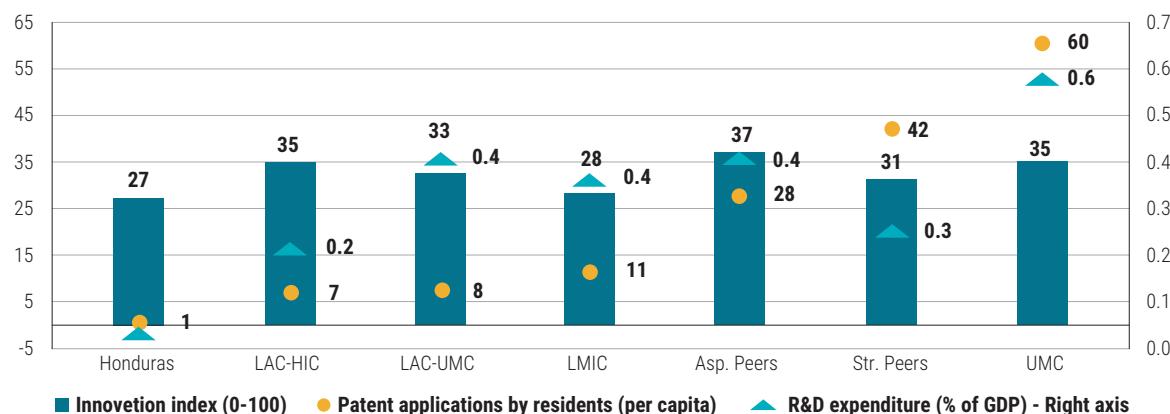
Source: See Table 5.1 in Appendix V for the source and definition of these indicators as well as for the methodology used to compute them.

5.1. Innovation

Honduras's overall performance in innovation and R&D lags far behind its peers. During 2011–2017, the number of patent applications by residents of Honduras per million people was close to zero, its innovation score was 27 out of 100, and R&D expenditure was 0.04 percent of GDP—the lowest among its aspirational, structural, and regional peers (Figure 21). Honduras's R&D and innovation indexes are also the lowest in Central America, where a region with low innovation, except for Panama and Costa Rica.⁴² Moreover, Honduras's

innovation index has decreased, from 28 in 2011 to 22 in 2018 (Figure 22), as well as its R&D expenditure, from 0.04 in 2000 to 0.01 in 2015, while its patent applications have been stagnating at around one application per million people.⁴³ These figures point to the weak innovation capacity of the country, which has only been worsening since 2015.

Figure 21. Innovation indicators, 2000–2018

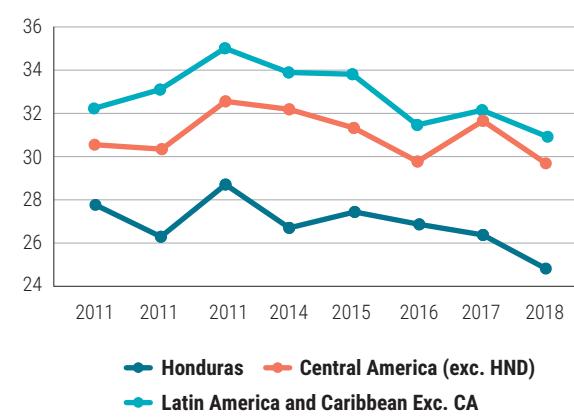


Source: Authors' computation using data from World Bank Group and World Economic Forum (WEF).

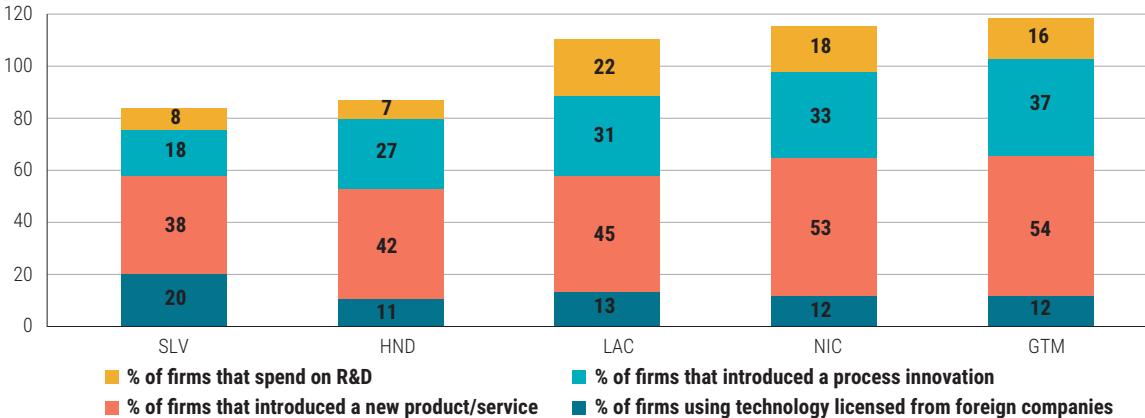
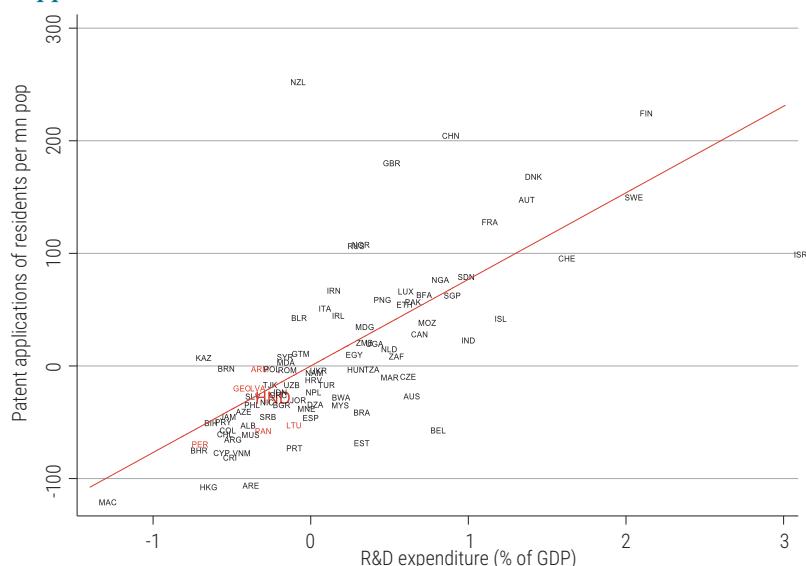
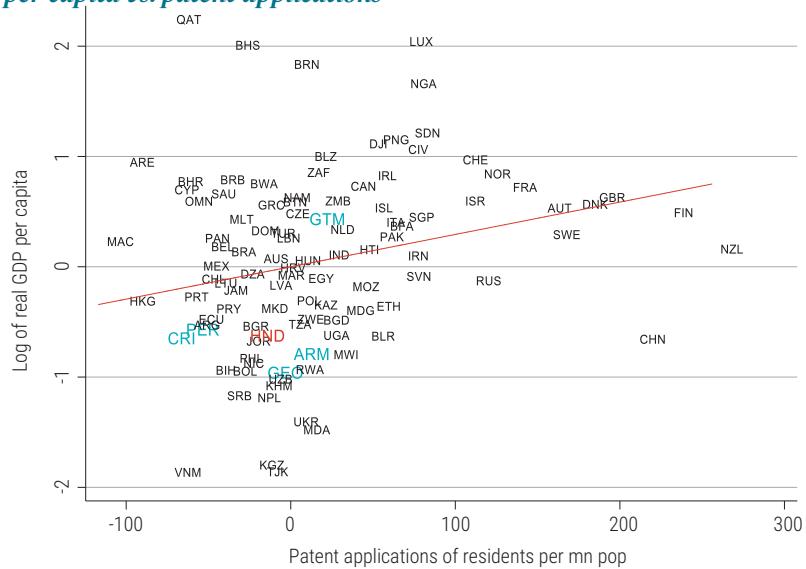
Honduras's firm-level innovation indicators are also among the lowest, compared to its regional peers (Figure 23). According to the Enterprise Surveys conducted in 2016 covering nationally representative private firms in Honduras, 42 percent of firms indicated that they introduced a new product or service during the three years preceding 2016, and 27 percent of firms introduced a process innovation, compared to the regional averages of 45 percent and 31 percent, respectively. Similarly, in Honduras, only 7 percent of firms stated that they invest in R&D, while 11 percent stated they used a technology licensed from foreign companies—the lowest compared to regional peers.

The association of real GDP per capita with patent applications and R&D is positive and significant. Fixed-effects panel data analyses show that a one-unit increase in patent applications per million people is associated with a 0.07 percent increase in Honduras's real GDP per capita; however, the analyses do not reveal a significant relationship between R&D and patent applications.⁴⁴ Cross-country regression analyses indicate a positive correlation among GDP per capita, patent applications, and R&D for the full sample (Figures 24 and 25). The figures also show that, based on cross-country data, Honduras's patent applications are on par with their estimated level given the country's level of R&D investment as a share of GDP. Nevertheless, the country's real GDP per capita is way below its estimated level given its number of patent applications, implying that the association between real GDP per capita and innovative activities may not be as strong in Honduras as in other countries. Overall, these findings suggest that Honduras's innovation could be a binding constraint for the country's economic performance, given the significant association between its patent applications and real GDP per capita and the fact that its innovation level is among the lowest globally.

Figure 22. Innovation index (0–100)



Source: Authors' computation using data from World Bank Group and World Economic Forum (WEF).

Figure 23. Firm-level innovation indicators in 2016**Figure 24. Patent applications vs. R&D****Figure 25. GDP per capita vs. patent applications**

Source: Enterprise Surveys, WDI, and other sources shown in Table 5.1 in the appendix. Enterprise Surveys for Honduras, El Salvador, Guatemala, and Nicaragua are from 2016. Latin America average is computed using the latest Enterprise Surveys data for each country. Figures 23 and 24 are from cross-country regression analyses of real GDP per capita (log) after controlling for investment, labor, and human capital, and correcting for heteroscedasticity using data from 129 countries.

Promoting innovation and R&D requires large sustained investments in human capital, digital infrastructure, and technology transfer, as well as national science policies. This is particularly critical for Honduras, given its poorer performance in LAC in all these areas.⁴⁵ Even though infrastructure and human capital indicators of Honduras are not analyzed in this exercise, as they are not among the top five lowest indicators (as can be seen in Figure 20), Honduras performs lower in these indicators as well, particularly in infrastructure. It has the lowest international bandwidth per internet users in Central America, at 22 kb/s, compared to Guatemala (with 27), El Salvador (50), and Costa Rica (48) in 2016.⁴⁶ In terms of human capital, according to the results of a computable general equilibrium analysis that uses the latest data, increasing the share of skilled workers to half of the share of skilled workers in high-income countries (that is, 27 percent of the labor force) would increase Honduras's GDP by 11.9 percent by 2030.⁴⁷

5.2. Corruption

Notwithstanding the steady increase in the efforts of the country to control corruption, Honduras still has higher corruption levels than many of its comparators. Honduras's composite index of control of corruption—computed as the average of the corruption indexes from 2000–2018 of the World Bank, Transparency International, and the Heritage Foundation—is the lowest compared to the averages of all country groups presented in Figure 26. During the same period, its score of freedom from corruption was 25 out of 100, compared to 59 in high-income LAC countries and 44 in its aspirational peers (Figure 26). Over the last two decades, the composite index of control of corruption has improved by 10 percentage points, from 17.4 in 2000 to 27.3 in 2018, with a slight decrease to 25.7 in 2018. Despite this improvement, Honduras still has higher corruption levels in 2018 (thus lower control of corruption), than many of the comparator economies, including its structural peers (Figure 27).

Corruption is a binding constraint for Honduras's growth. According to the fixed-effects analysis, a one-percentage point increase in the control of corruption index of Honduras is associated with a 2.3 percent increase in its growth rate.⁴⁸ Similarly, a cross-country regression analysis of the log of real GDP per capita on the control of corruption index and other key determinants of per capita GDP shows that a one percentage point increase in the composite corruption control index (that is, the average of the standardized three corruption indexes shown in Figure 26) is associated with a 0.02 percent increase in per capita GDP (Figure 28). As seen in the figure, Honduras's real GDP per capita is close to its estimated level given the level of its composite corruption control index and other indicators included in the analysis. These results suggest that corruption is likely to be a constraint for Honduras's growth, given the significant positive relationship between the corruption control index and real GDP growth, and the fact that the corruption level in Honduras is much higher than in comparator economies.

Firm-level surveys provide further support for the finding that corruption is a constraint for economic growth in Honduras. According to the Enterprise Surveys of the World Bank carried out in 2016, corruption is a much higher obstacle to businesses in Honduras than in many other countries in Central America and LAC, and it seems to be more concentrated. In 2016, 65 percent of Honduran firms identified corruption as a major obstacle to their businesses, and 52 percent identified partiality of courts as a major obstacle, which are among the highest rates in Honduras's peer group (Figure 29). Bribe incidence is also much higher in Honduras (9 percent) than in other Central American countries, except Costa Rica, which has the same rate as Honduras (Figure 30). Obtaining construction permits and connecting to electricity are the areas showing the highest bribe incidence in Honduras. Specifically, 22 percent of the Honduran firms experienced a bribe request when obtaining a construction permit, which is the highest among comparator groups (Figure 30). Similarly, 7 percent of Honduran firms experienced a bribe request when connecting to electricity, higher than all comparator economies, except Panama and Europe and Central Asia (ECA) (Figure 29).

Corruption is detrimental to both private and public sector performance, and historical evidence shows that investing in anti-corruption policies promotes growth. Corruption increases uncertainty and the cost of doing business, depresses productive investment, and decreases government revenues, limiting the public sector's ability to provide adequate levels of public goods and services. Many transmission channels of corruption have a “feedback loop” exacerbating its negative effects: for example, high tax rates create further opportunities for corruption, which in turn leads to more regulation.⁴⁹ Singapore and Hong Kong introduced stringent

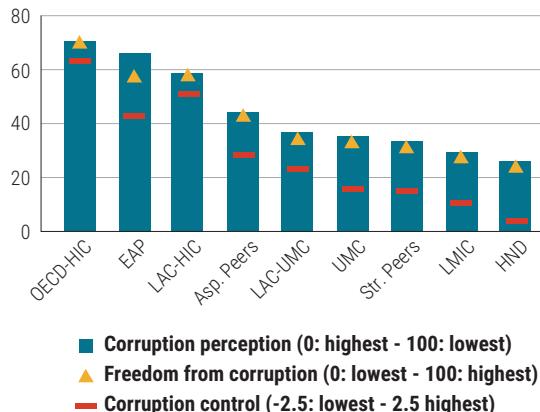
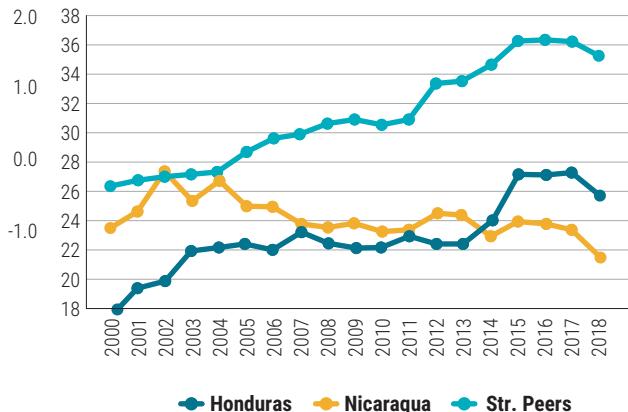
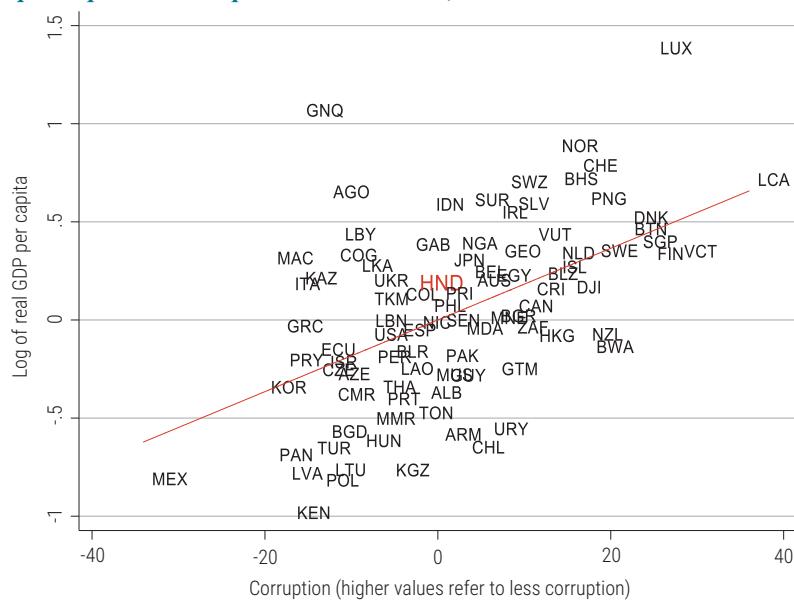
Figure 26. Control of corruption, 2000–18**Figure 27. Control of corruption over time****Figure 28. GDP per capita vs corruption control index, 2000–2018**

Figure 29. Percentage of firms identifying corruption and courts as major constraints, 2016

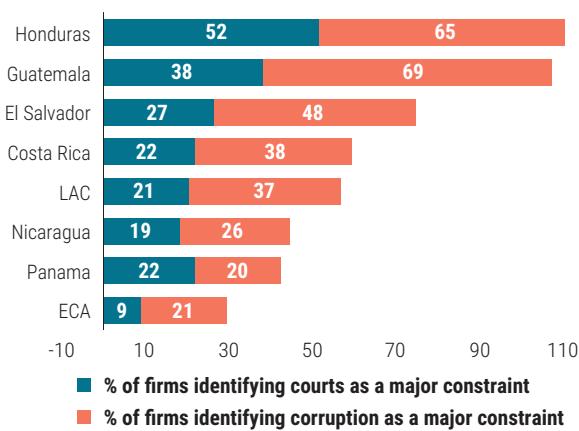
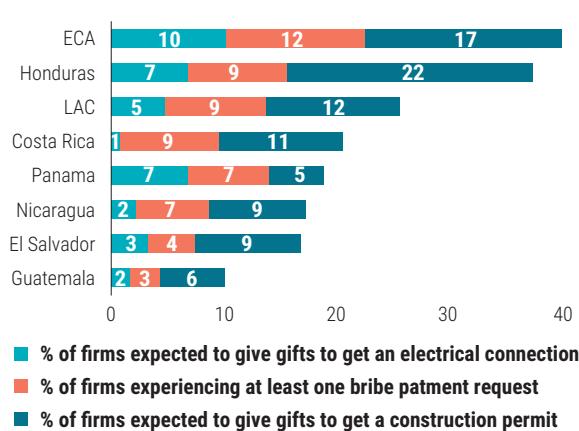


Figure 30. Total and transaction-specific bribery incidence, 2016



Source: Enterprise Surveys Global Data.

5.3. Security

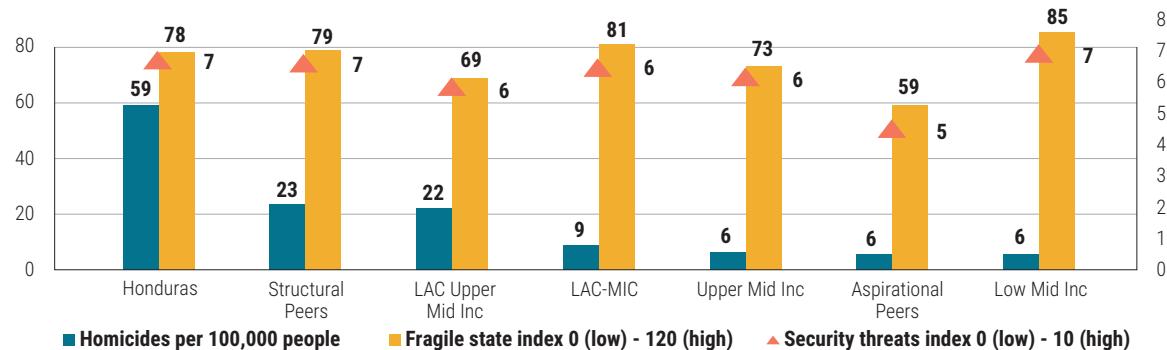
Honduras is one of the most violent countries in the world, despite the significant decrease in its homicide rate during the recent years. With an average of 59 homicides per 100,000 people during 2000–2017, Honduras's homicide rate is the highest among its comparator groups and 2.5 times higher than the second-highest group, its structural peers (Figure 31). Fund for Peace, an American non-profit research institution founded in 1957, gives Honduras an average score of 79 (out of 120) in its fragile state index for the 2007–2018 period—worse than its aspirational peers, LAC, and other LMI countries—and a score of 7 for security threats, on par with its structural peers and other LMI countries. Continuous efforts of the Honduran government to fight violence and crime have reduced the homicide rate from a peak of 85 in 2011 to 42 in 2017 (Figure 32). However, in 2017, the country still had the third-highest homicide rate in the world, after El Salvador (with 62) and Jamaica (57), and well above those of Guatemala (26) and Nicaragua (7) (Figure 32).

The widening reach of crime in Honduras has been eroding its human and social capital. The majority of the homicide perpetrators and victims in Honduras are young males, aged 20–24, whose involvement in crime is driven by, among other things, high youth unemployment and underemployment, and the involvement of transnational crime groups in organized crimes in the country.⁵⁴ Since 2016, in addition to homicide, other types of crime have been on the rise, including robberies (77.8 robberies per 100,000 people), domestic violence (29.4 per 100,000 people), and theft (21.9 per 100,000 people), causing mass migration out of the country and draining its human and social capital.⁵⁵

High crime rates are increasing the cost of doing business and reducing investment in Honduras and are binding constraints to growth. In 2016, firms in Honduras incurred the highest losses, compared to other countries, due to theft and vandalism (making up 7.2 percent of their annual sales) and paid the highest share of their annual sales for security, at 4.5 percent (Figure 33).⁵⁶ Furthermore, among the countries in the analysis, Honduras's firms rank third, after El Salvador and Guatemala, on security-related costs for their businesses. Specifically, in 2016, 64 percent of Honduran firms paid for security, 28 percent experienced losses due to theft and vandalism, and 30 percent identified theft and vandalism as a major obstacle to their businesses. These statistics are on par with LAC's averages, but well above the averages of ECA (Figure 34). Crime activities in Honduras, led mainly by transnational gangs (called *maras*), impose direct costs, such as those mentioned above, as well as indirect costs, such as higher insurance premiums and lower human capital, for both domestic and foreign businesses.⁵⁷ Fixed effects regression analysis show that a one index point increase in the security threat is associated with a 0.03 percent decrease in real GDP per capita, suggesting that policies reducing crime and violence are likely to promote the economic performance of the country. Given the transnational nature of the organized

crime and violence in Honduras and the weak institutional environment of the country, significant efforts are needed both at the country and regional level to tackle the issue and strengthen institutions.⁵⁸

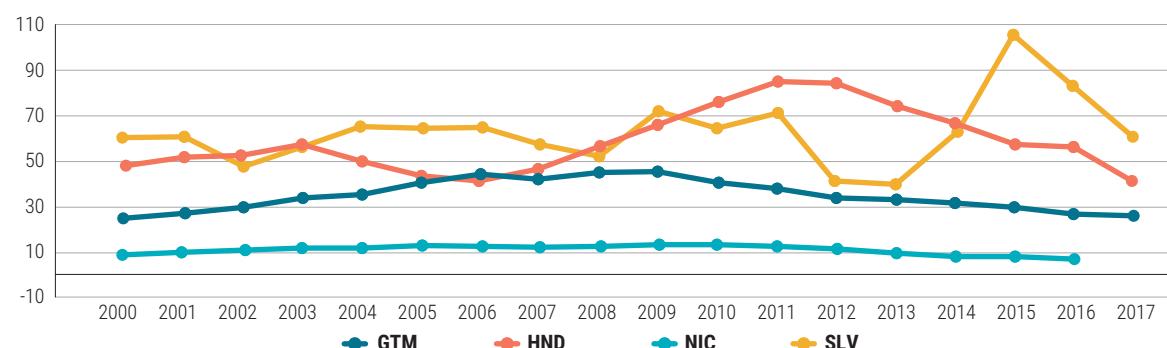
Figure 31. Security in Honduras vis à vis comparators over 2000–2018*



Source: Authors' computation using data from World Bank, United Nations, and Fund for Peace.

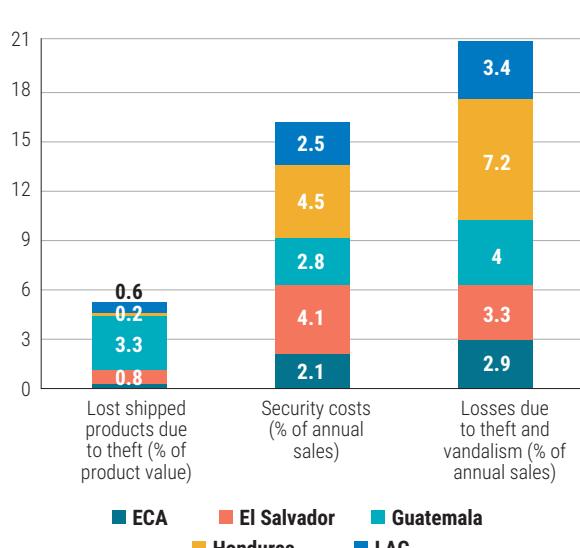
*Note: This period varies across indicators. Fragile state and security threat are available for the period 2007–2018; homicide rate is available for 2000–2017.

Figure 32. Homicide rate over time



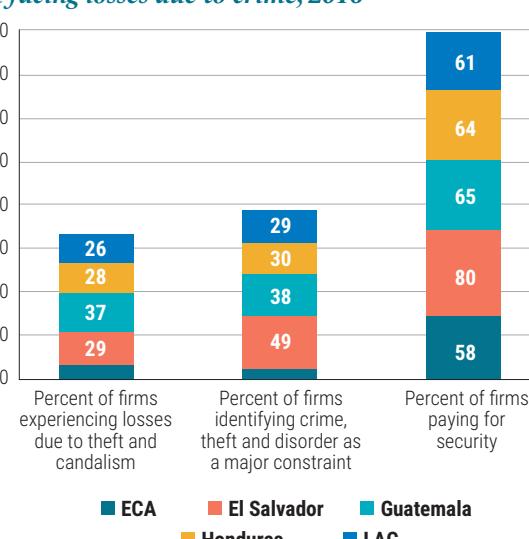
Source: World Bank.

Figure 33. Cost of crime at the firm level, 2016



Source: See Enterprise Surveys and Table 5.1 in the annex. Figure 33 is from the cross-sectional regression analysis of real GDP per capita with respect to number of thefts per 100,000 people after controlling for investment, human capital, labor participation, income category, and regions. N: 107 countries over 2007–2016.

Figure 34. Percentage of firms paying for security and facing losses due to crime, 2016

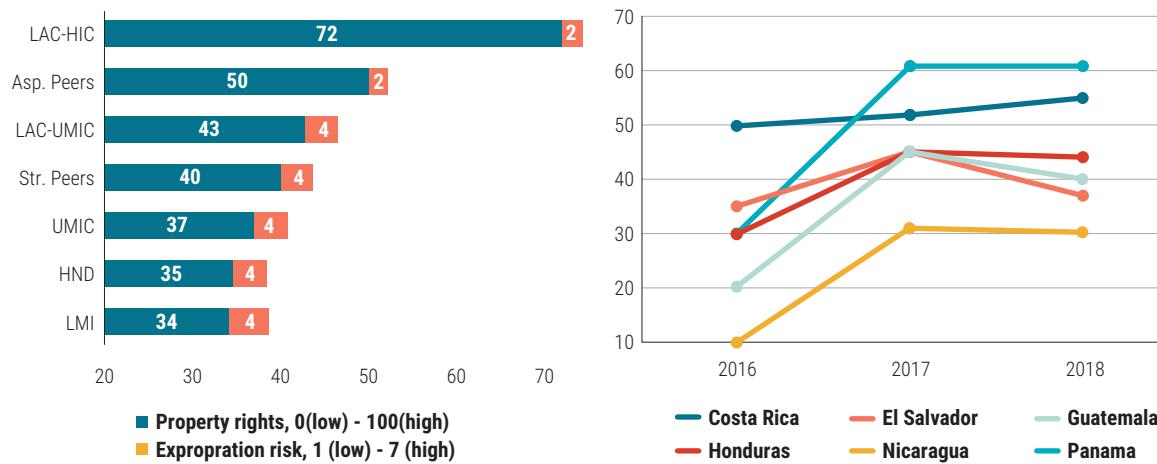


5.4. Property rights

Most of Honduras's private land is not registered and the efficiency and quality of its land administration lag behind many of its peers. Approximately 80 percent of the private land in rural areas and 30 percent of private land in urban areas are either untitled or improperly titled.⁵⁹ This unclear land tenure makes mortgages and other forms of credit difficult to obtain and creates conflicts over land. The slow judicial system in resolving land disputes further reduces the incentives for private investment. Honduras ranked 101 out 190 countries in the “registering property” indicator of Doing Business 2020, which measures the efficiency and quality of land administration. This is higher than the LAC average of 129, but much lower than El Salvador (79) and Guatemala (89). In the quality of land administration index, Honduras scored 12.5 points out of 30, compared to the LAC average of 12, El Salvador at 14, and Guatemala at 13.5. Honduras has a score of 0 out 8 in the land administration’s geographic coverage of private land, indicating that the majority of the private land in the country has not been registered.⁶⁰

Even though the Honduran government has carried out reforms to strengthen land tenure over the years, property rights still lag behind similar economies. The property rights score measures the degree to which a country’s legal system protects private property rights. Honduras received the second-lowest score of the countries in the analysis, with an average score of 35 out of 100 from 2000–2018, compared to 40 for its structural peers, 50 for aspirational peers, and 72 for LAC high income countries (Figure 35). Honduras also has the highest expropriation risk compared to other countries, with a score of 4 out of 7. The country has improved its property rights in recent years, with an increase in its property rights index score from 30 in 2016 to 44 in 2018, ranking it third in Central America after Panama and Costa Rica. However, compared to some of its regional peers, including Guatemala, Nicaragua, and Panama, the improvement was modest (Figure 36). There has not been a change in its expropriation risk and rule of law scores, which remained at 4 and around -1 out of 2.5, respectively, during 2014–2018.

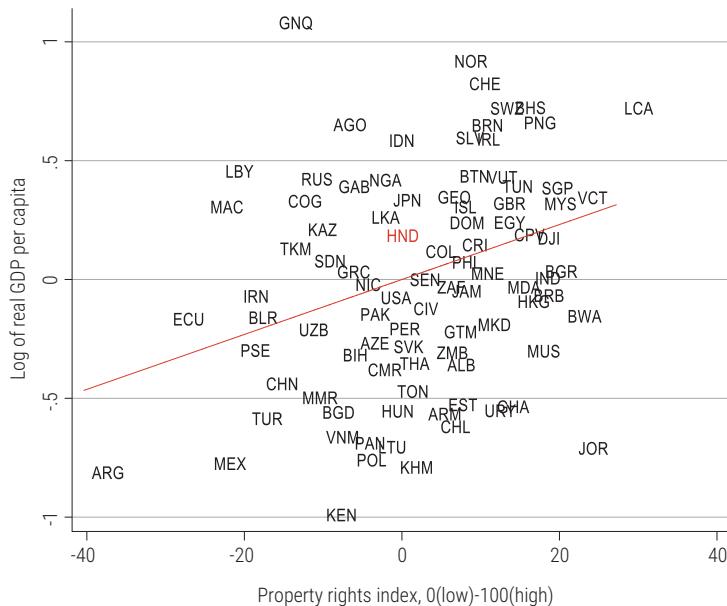
Figure 35. Property rights and expropriation index, Figure 36. Property rights index over time 2000-2018*



Source: Authors' computation using data from Heritage Foundation and Credendo Group.

*Expropriation risk is from 2014–2018.

Stronger property rights are associated with a higher GDP growth rate in Honduras. Findings of fixed effects regression analysis of real GDP growth show that a one percentage point increase in the property rights index is associated with 0.05 percent increase in real GDP growth rate.⁶¹ Furthermore, a cross-sectional regression analysis of GDP per capita shows a strong positive association between the strength of property rights and GDP per capita for the full sample as well as for Honduras (Figure 37). These findings suggest that weak property rights are likely to be a binding constraint for growth in Honduras. Therefore, improving the rule of law to better protect property rights and reduce expropriation risk would boost the growth of the country, by increasing the incentives to invest and reducing the need to invest private resources to protect property.⁶² Property rights also affect resource allocation by shaping the incentives of individuals to carry out productive activities, undertake investment, and exploit gains from trade.

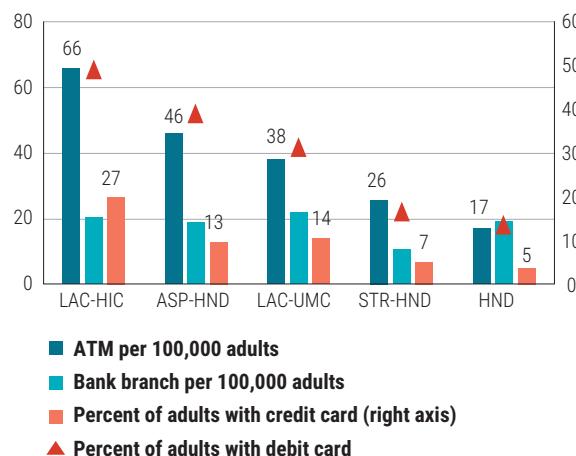
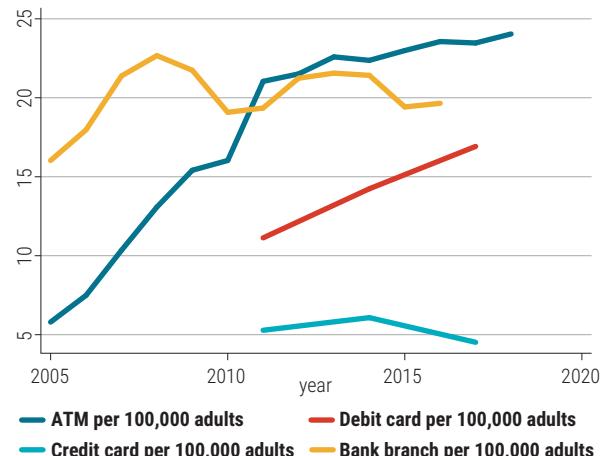
Figure 37. Property rights vs real GDP per capita (log), 2000–2018

Source: Authors' computation using data from Heritage Foundation and Credendo Group.

5.5. Access to finance

5.5.1. Access to banks

Honduras has much lower bank penetration than its peers in three out of four sub-indicators of bank access from 2000 to 2018. With only 17 ATMs per 100,000 adults, Honduras has the lowest numbers of ATMs—compared with 46 and 26 in its aspirational and structural peers, respectively (Figure 38). The number of bank branches, at 20 per 1000,000 adults, is higher than its structural (11) and aspirational (19) peers. However, use of debit cards and credit cards is the lowest among its peers: only 14 percent of adults own a credit card, compared to 17 percent in structural peers and 39 percent in aspirational peers; 5 percent of adults own a debit card, compared to 7 percent in structural peers and 13 percent in aspirational peers. Although ATM numbers and debit card ownership have increased steadily over time, the numbers of bank branches and credit card owners have been stagnating (Figure 39).

Figure 38. Bank penetration indicators from 2000–2018 across countries**Figure 39. Bank penetration indicators of Honduras over time**

Source: Authors' computation using data from World Bank and IMF.

Low access to banking may be a constraint for Honduras's economic performance. Cross country regression analysis shows a positive relationship between access to banking and real GDP per capita for the full sample, as well as for Honduras (Figure 40). Moreover, Honduras's interest rate is among the highest, while its access to banking index is among the lowest (Figure 41), implying that high interest rates may be constraining access to banking and in turn investment in the country.⁶³

Figure 40. Access to banking vs real GDP per capita (log)

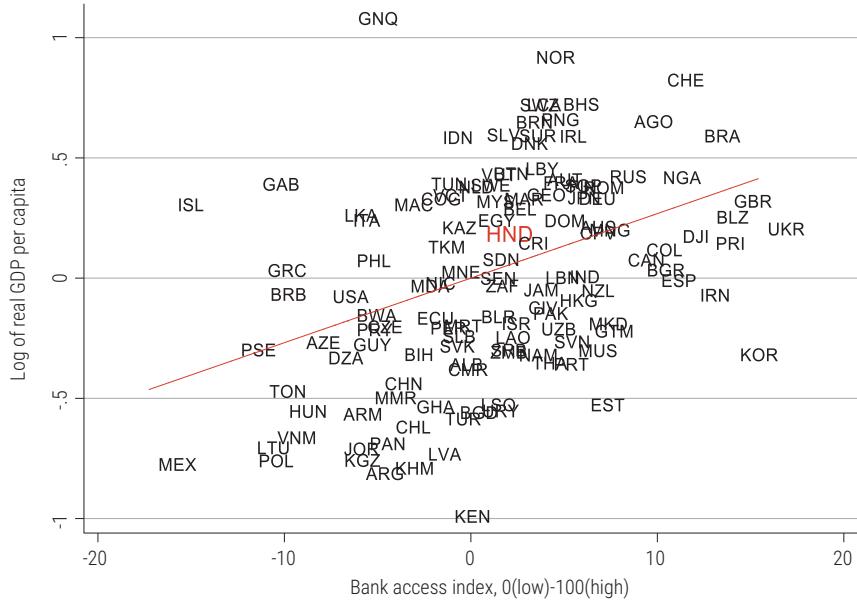
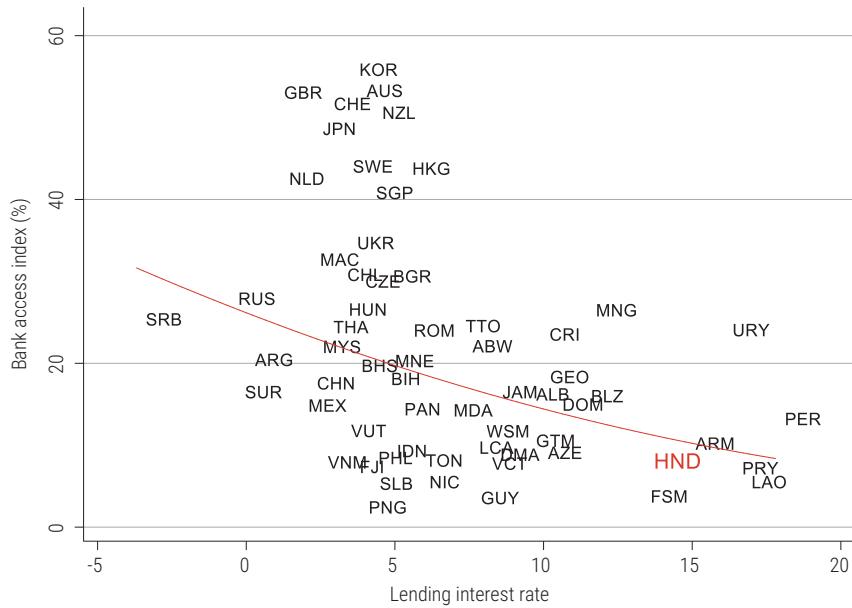


Figure 41. Bank access vs. lending rate, 2000-2018



Source: See Table 5.1 in the Annex. Figure 40 is from the cross-country regression analysis of real GDP per capita (log) with respect to aggregate access to banking index (which ranges between 0 and 100, where higher values refer to better access to banking) after controlling for investment, human capital, labor, income category, and regions, using average data for 129 countries for 2000–18. Figure 41 is a simple scatter plot of access to banking index versus lending rate, using average data over 2000–2018.

5.5.2. Savings and credit

Honduras has high credit penetration for large firms but not for small firms. Honduras has the second-highest bank credit as a percentage of bank deposits, at 102 percent, compared to other country groups presented in Figure 42, following its aspirational peers, with 118 percent. It also has the second-highest bank credit to private sector, at 47 percent of GDP, following its aspirational and regional high-income peers, both with 52 percent,

and third-highest savings rate, at 20 percent, compared to 16 percent in its structural peers and 15 percent in high-income LAC countries. However, when it comes to the access of small firms to bank credit, Honduras performs the worst, with only 24 percent of small firms having access to credit, followed by its regional low-income peers, at 27 percent. Its structural and aspirational peers have 39 percent and 48 percent, respectively.

Access of small firms to bank loans has historically been a significant constraint in the country, despite the high credit supply. This is attributed largely to the high cost of collateral that is not within the reach of small- and medium-size enterprises.⁶⁴ In 2016, 41 percent of national representative firm managers in Honduras stated that access to finance was a major constraint for their businesses, the second highest in Central America after Costa Rica, supporting the above findings that small firms have restricted access to bank finance (Figure 43). This is not surprising, given that Honduras's interest rate is one of the highest in the world (Figure 41). However, despite the higher interest rate, bank credit to the private sector is among the highest, and regression results do not point to a significant relationship between savings and credit and the growth rate of the country. These findings imply that access to credit might be a binding constraint mainly for small firms, low-income populations, and rural producers, given the high interest rates of the country.⁶⁵

Honduran government has taken steps to promote financial inclusion and to implement evidence-based reform policies. To address the financial inclusion gap, the Honduran government launched a National Financial Inclusion Strategy (Estrategias Nacionales de Inclusión Financiera; ENIF) in 2015.⁶⁶ The studies conducted as part of this strategy identified supply-side constraints, such as the scarcity of sector targeted financing, regulatory constraints, and insufficient capacity to expand coverage.⁶⁷ According to Villarreal (2017), demand-side constraints include the lack of financial and fiscal information in the sector, low levels of collateral due to insufficient property titles, low and unstable incomes, and a rural population with little linkages to the rest of the economy. The study recommends increasing the use of telecommunication and creating a complementary infrastructure in the financial architecture that reduces the risks for small and rural producers.

Figure 42. Savings and access to bank credit, 2000-2018

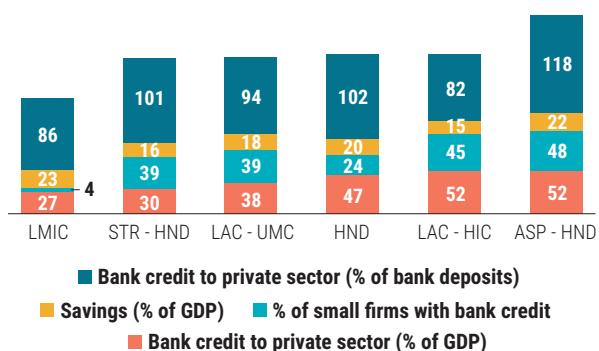
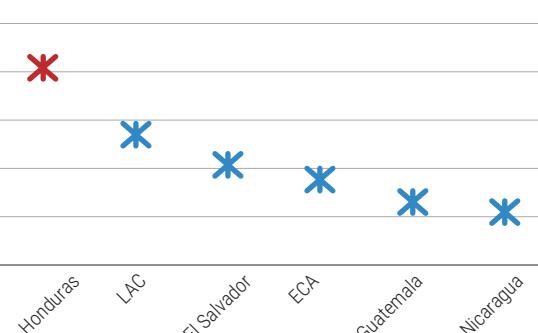


Figure 43. Percent of firms identifying access to finance as a major constraint in 2016



Source: Authors' computation using data from World Bank and IMF and Enterprise Surveys, World Bank.



6. Diversification and Exports

6.1. Why diversification matters to Honduras

Global trends such as slower trade growth, the rising trade in services, and the fragmentation of production and automation pose challenges and opportunities for developing countries. Trade grew dramatically over the past 25 years. Capital flows followed a similar pattern. A wave of structural reforms in the 1990s geared toward trade liberalization and the ascent of China into global markets propelled the rise in global trade flows and a shift in the patterns of production worldwide. More recently, globalization has experienced important transformations. Global trade in goods has slowed and is expected to grow modestly in the future, as growth rates in emerging markets even out and trade in services continues to increase in prominence. The increase in trade in intermediates and the separation of production into tasks has given rise to regional and global value chains (GVCs). Value chains offer LMI countries a path to diversify production and new ways to export tasks, services, and other activities. However, low wages alone will become less of an advantage in low-skill-intensive industries, as machines replace certain tasks, and logistics and infrastructure aimed at increasing connectivity will become more important.

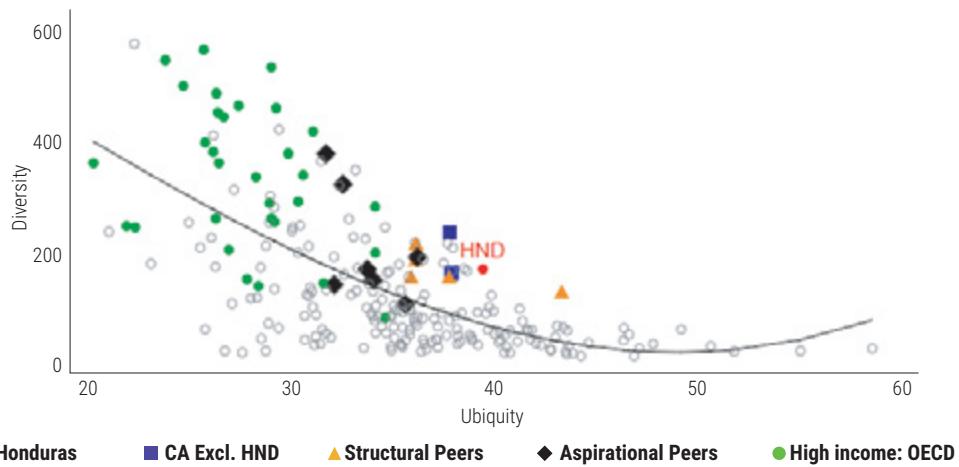
Since Honduras is a small open economy, an export-oriented growth strategy is a sound approach to create job opportunities, generate sustainable growth, and reduce dependence on remittances. In order to import the desired goods, countries need to export. Economic diversification is the shift of production and trade toward a more wide-ranging productive structure, pursued to increase productivity, generate jobs, and foster sustainable growth to reduce poverty.⁶⁸ Trade plays a significant role in economic diversification. The successful East Asian countries' diversification towards the manufacturing sector was accompanied by their integration in the global economy.

Economic diversification would help Honduras create buffers against climate shocks and commodity cycles and create better quality jobs linked to higher productivity growth. The literature provides various benefits of economic diversification (Appendix VI). In the case of Honduras, diversification is critical to achieve sustainable growth for the following two reasons: First, it would help the country create buffers against climate shocks and commodity cycles. Koren and Tenreyro (2007) find that if a developing country with weak financial infrastructure specializes in sectors with high intrinsic volatility, it will tend to suffer greater aggregate volatility.⁶⁹ The study states that if a country's volatility is linked to high exposure to a few high-risk sectors, strengthening the financial institutions and diversifying the economy may be virtuous policy choices. Second, growth decompositions in section 2 showed that past growth was driven by labor and capital accumulation rather than productivity improvements. This growth model is not sustainable in the long run, as the demographic dividend will vanish and its positive contribution to growth will dissipate. Since an export-oriented strategy implies higher competition in the global markets, productivity growth is key for success. In addition, the literature emphasizes the opportunity to create new and better-quality jobs (high-productivity jobs) in the context of the structural transformation that diversification entails.⁷⁰

Honduras is at an intermediate level of diversification, producing goods that many countries are capable of doing. Economic development typically involves a structural transformation where countries evolve from manufacturing poor-country products to producing rich-country goods. It is an empirical regularity that as countries tend to develop, they tend to diversify their productive structures into more complex products. As a result, there should be a negative relationship between the number of products a country effectively exports (diversity) and the average number of countries that export that product (ubiquity).⁷¹ Figure 44 exhibits this

relationship and benchmarks Honduras against its peers. On average, poor countries export few products (low diversity), which are produced and exported by most countries (high ubiquity). Honduras is a country that exports many products as measured by diversity, but given that level, the country underperforms in terms of ubiquity. In general, countries with Honduras's level of diversity on average have lower ubiquity.

Figure 44. Diversification and Ubiquity

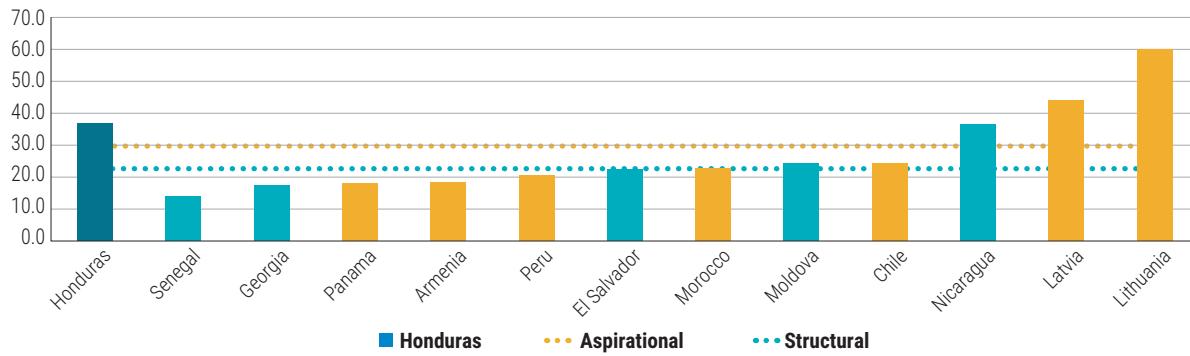


Source: World Bank staff using Atlas of Economic Complexity.

6.2. Diversification of exports would help sustain growth and create jobs

Honduras is more open than other countries at the same level of development, displaying higher export and import shares of GDP than most of its peers (Figure 45). At 37.7 percent, Honduras's merchandise export share of GDP is higher than the average export share among its aspirational (30.3 percent) and structural (23.3 percent) peers. Figure 46 shows that Honduras's trade openness increased substantially from the late 1980s to the late 1990s, reflecting a rise in exports and a surge in imports, and has remained elevated since then. In addition, Honduras's exports of services decreased significantly in the last 20 years, declining from slightly over 10 percent of GDP in the late 1990s to near zero in recent years.

Figure 45. Merchandise exports as a percentage of GDP, average 2016–2018



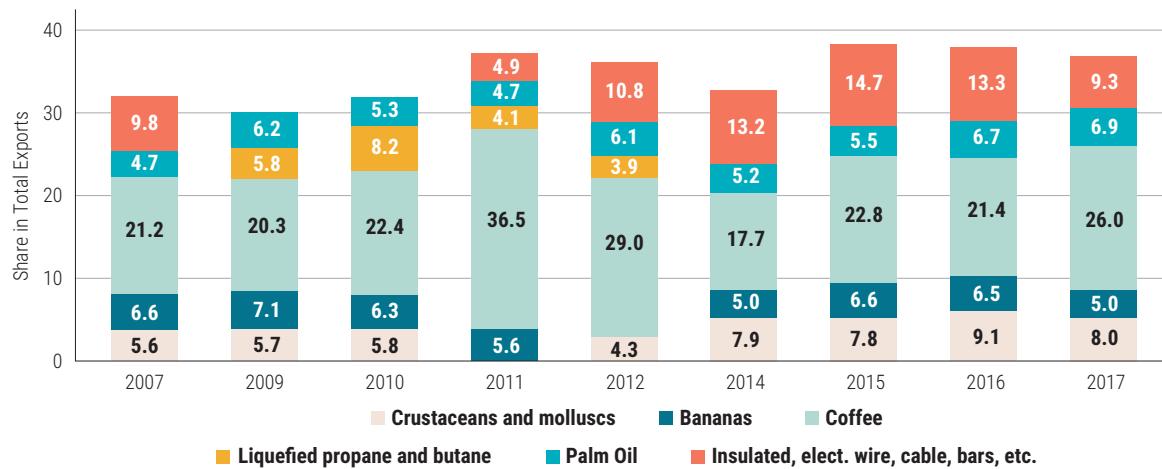
Source: World Bank staff using WDI.

Merchandise exports in Honduras largely comprise low-complexity products, such as apparel and food, while exports of high value-added content remain limited. In 2000, apparel products represented 58.7 percent of total merchandise exports, while low value-added food products, such as coffee, tea, cocoa, spices, and vegetables, accounted for another 21.5 percent. The composition of Honduras's exports improved somewhat in the following two decades, as the share of apparel products declined significantly, while that of more complex products, such as material manufacturing and machinery and vehicles, increased (Figure 47). In addition, Honduras's exports are now more diversified, as 131 new products were introduced since 2000.

Although these are positive developments, Honduras's exports are still highly concentrated in primary products and low value-added and low complexity manufactures such as coffee, bananas, palm oil, and crustaceans and mollusks (Figure 48). Therefore, in order to generate more jobs and jobs of better quality, the country needs to further increase the value-added content of its exports, diversifying the set of goods exported when possible, as well as the set of destinations.

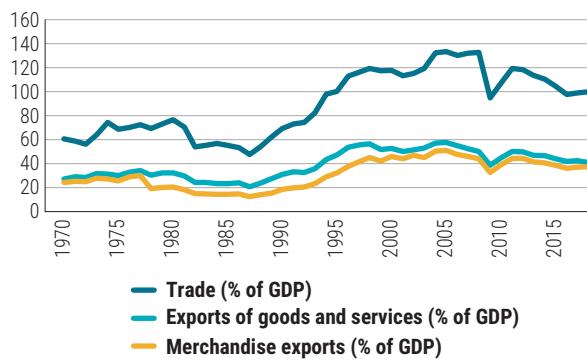
In line with the LAC pattern, the sophistication and technological composition of Honduras's export basket is dominated by primary and resource-based products. The goods that countries produce and how they produce them matter for export-led development. With everything else being equal, goods that embody greater value-added in terms of ingenuity, skills, and technology tend to fetch higher prices in world markets. When countries produce goods that are more sophisticated than their income levels would suggest, they tend to see higher rates of future economic growth.⁷² Figure 49 shows the composition of exports in 2017 according to technological classification. Among all the comparison groups, Honduras by far has the largest share of primary goods, with almost 50 percent of merchandise exports. Over time, Honduras has improved the complexity of the export bundle, but it has not been able to catch up fully with its structural peers (Figure 50).

Figure 48. Honduras's main exports, 2007–2017



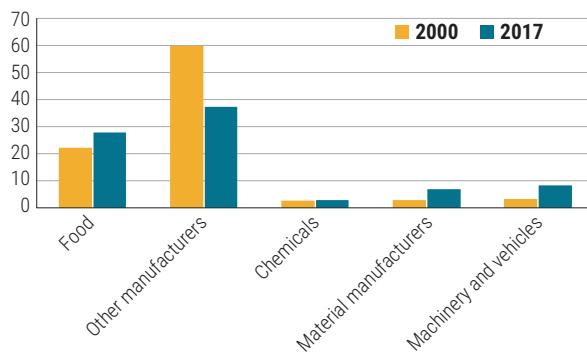
Source: World Bank staff using COMTRADE, SITC2.

Figure 46. Trade, exports of merchandise, and exports of goods and services (% of GDP)

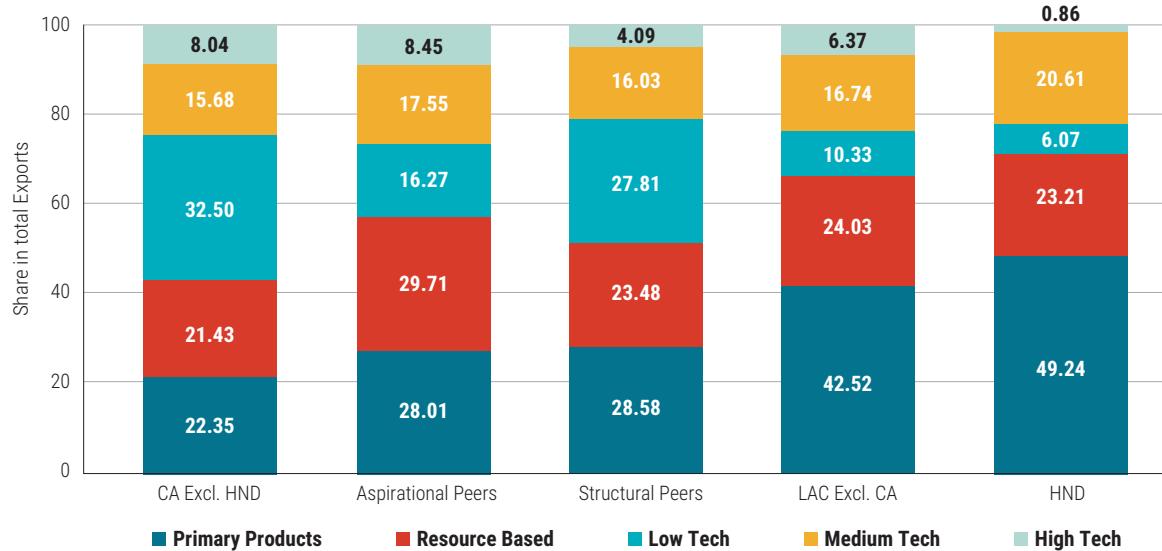


Source: World Bank staff using WDI.

Figure 47. Honduras's export composition, 2000 and 2017



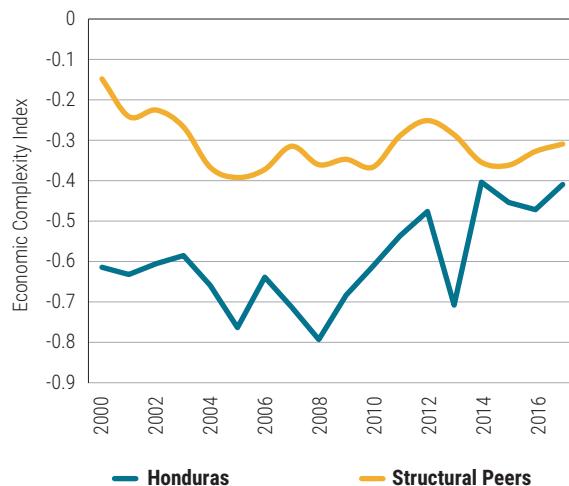
Source: World Bank staff using COMTRADE, SITC2.

Figure 49. Technological content of exports, 2017

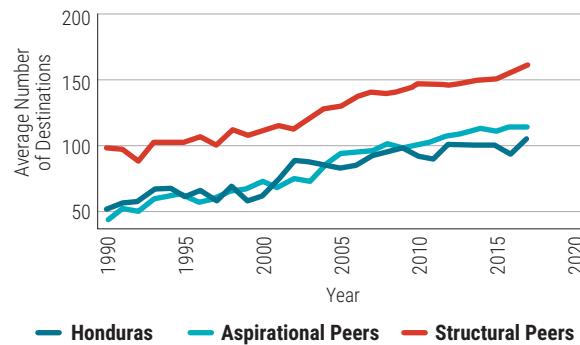
Source: World Bank staff using COMTRADE, SITC2.

Honduras has increased export destinations over time, but since 2008 the openings of new markets have stagnated. Figure 51 shows that since 1990, the total number of Honduras's export destinations has followed an upward trend, similar to the experience of its structural and aspirational peers. The United States has been the main destination for Honduras's products in the last decade (Figure 52), buying nearly 40 percent of Honduras's exports. Other important destinations are El Salvador, Germany, and other OECD countries, each of them importing, respectively, 5.8 percent, 7.9 percent, and 10.6 percent of Honduras's exports in 2017.⁷³ However, unlike the experience of its aspirational and structural peers, the growth in the number of destinations has stagnated since 2008.

Honduras's main exports are concentrated in a small number of destinations. The limited diversification of destinations is pervasive across Honduras's export products. Over 90 percent of Honduras's exports of bananas in 2017 were shipped to the United States, while most of the remainder was shipped to other OECD countries. Other products are also exported to only a few destinations: About 90 percent of Honduras's exports of insulated, electrical, wire, cable, and bars were shipped to the United States, while about 50 percent of coffee exports were imported by the United States and Germany.

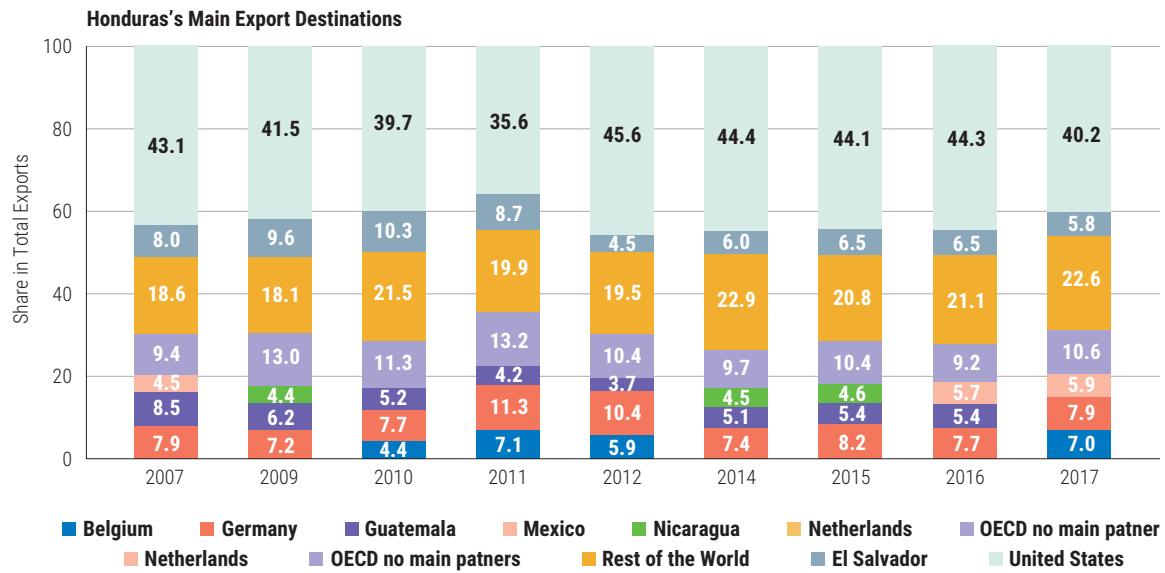
Figure 50. Honduras's sophistication of exports

Source: World Bank staff using COMTRADE, SITC2.

Figure 51. Average number of export destinations

Source: World Bank staff using Atlas of Economic Complexity.

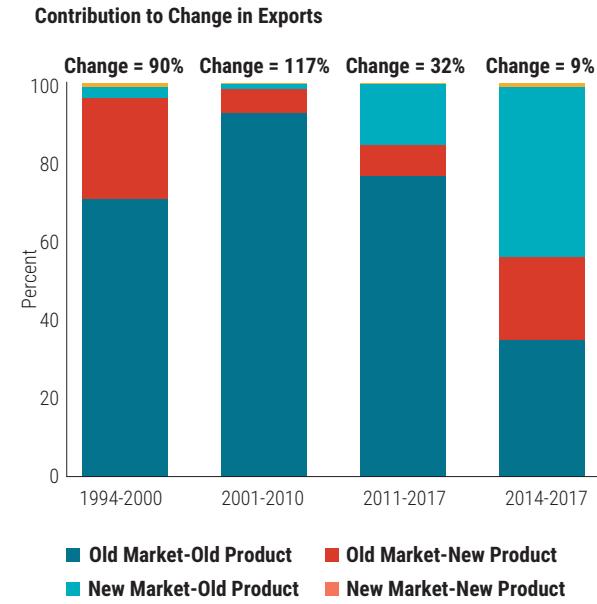
Figure 52. Honduras's main export destinations, 2007–2017



Source: World Bank staff using COMTRADE SITC2 classification.

Export growth in the period 1994–2000 was largely driven by exports of old products to old markets, but starting in 2011, exports were driven by new products sold in new markets. Figure 53 portrays the decomposition of export growth since 1994. As is standard in the literature, export growth can be decomposed into the intensive margin of trade, which refers to the exports of “old products to old markets,” and the extensive margin of trade, which refers to exports of “old products to new markets,” “new products to old markets,” or “new products to new markets.”⁷⁴ Of the 90 percent increase in the volume of exports during the period 1994–2000, the intensive margin of trade explains 70 percent of Honduras’s export growth, while exports of old products to new markets accounted for most of the remaining balance. With the implementation of the CAFTA-DR free trade agreements in 2004, exports experienced a remarkable increase, which again was mainly driven by the intensive margin. For the period 2011–2017, the exports exhibited a different behavior, involving new products and markets. Honduras entered a phase of diversification of destinations, which is reflected in the increase in the exports of old products to new markets and accounted for almost 20 percent of the growth of exports in this period. If only the period 2014–2017 is examined, this contribution is even larger, reaching almost 50 percent of the growth of exports. Another interesting trend since 2014 is the rise of exports of new products to old markets, which accounted for 20 percent of the contribution to export growth.

Figure 53. Honduras's export growth decomposition



Source: World Bank staff using COMTRADE SITC2 classification.

6.3. What are the paths for diversification?

Diversification strategies can take many forms, from adding value to existing exports, to developing new products and services. This section uses several standard trade analytical measures like revealed comparative advantage, export quality, and product space analysis to indicate paths for diversification.

6.3.1. Export quality upgrading

Building on comparative advantages, quality upgrading can boost productivity and support an export-oriented strategy.⁷⁵ A common finding in the literature is that developed countries tend to export and consume higher-quality products than developing countries. Consequently, the ability of developing countries to transition from low-quality to high-quality products is seen as an important step towards export success and, ultimately, economic development.⁷⁶ However, there is substantial heterogeneity in the scope for product differentiation, given that some products are characterized by a larger “quality ladder” than others.⁷⁷ In general, the evidence suggests that the potential for quality upgrading is larger in manufacturing than in agriculture, but there are opportunities in the latter. Examples of products with a “long-ladder” are wine and champagne, two products that have been used extensively in the trade literature, given the existence of objective measures of quality.⁷⁸

Honduras has untapped opportunities to increase the quality of products in which the country already has comparative advantages, such as bananas and insulated, electrical, wire, cable.⁷⁹ The trade literature has relied on unit value price distribution to proxy quality ladders. Figure 54 shows the worldwide maximum and minimum price (normalized to the average price) for the main merchandise exported by Honduras (blue line), together with the minimum, maximum, and average price charged by the country across all destinations (red line).⁸⁰ As discussed, the scope for quality differentiation (blue line) varies across products. In the case of Honduras, bananas and insulated, electrical, wire, cable, and bars present the best opportunities for upgrading, followed by coffee, palm oil, and crustaceans and mollusks. The only product that is close to the “price frontier” is coffee, with minimum potential gains from increasing the quality. However, the prices charged by Honduras for other products (red line) are close to the worldwide minimum, indicating that there are opportunities to increase the quality of production.

Quality upgrading entails strengthening safety and quality regulations and acquiring knowledge about existing differences and evolving trends in the types of products rich countries demand. The inability to comply with international quality standards has been identified as one of the main constraints to achieving quality upgrading.⁸¹ Strengthening safety and quality regulations to move toward international standards could be a first step to improving quality. The literature has found that quality upgrading is associated with the adoption of a new set of business practices more oriented to export markets.⁸² These practices are radically different from those typically used in the domestic market and involve adapting products to foreign demand. The practices also require upgrading production processes and complying with the strict requirements of foreign distributors, with whom long-term relationships should be established to secure up-to-date information about foreign markets.

Improving the institutional framework is key to upgrade the quality of products in the country. Theoretical and empirical evidence suggest that the production of higher-quality varieties of a good typically requires the use of higher-quality inputs, which demand more customization and relationship-specific investments. Accordingly, countries with a more developed institutional framework, including governance, rule of law, and property rights, and a strong contracting environment tend to have a comparative advantage in the production of high-quality products.⁸³ Given that most of the development constraints in Honduras are in part attributable to the poor quality of institutions and weak governance, improvements in these areas could open up opportunities for quality differentiation.

6.3.2. New export opportunities based on current capabilities

Recent research has shown that the process of economic diversification does not occur at random, rather there is path dependence. Changes in the revealed comparative advantage of nations are governed by the pattern of relatedness of products. In general, when countries diversify their export bundles, there is a

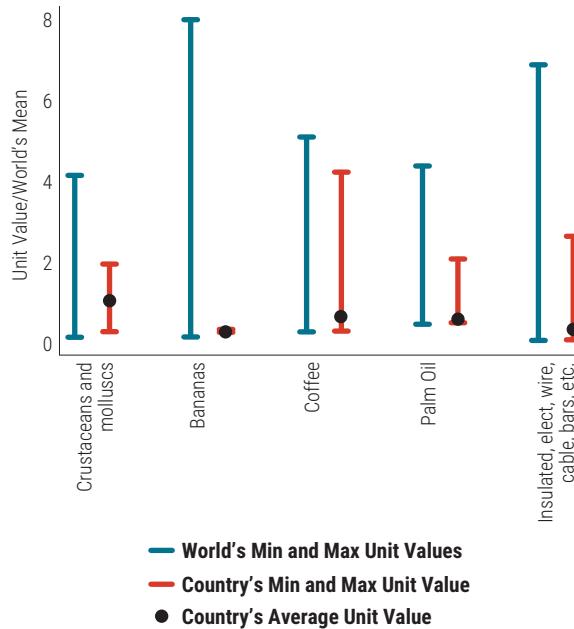
propensity to move from products they are producing to products that are close in terms of production knowledge and capabilities. Empirically, similarity is measured as the likelihood that a pair of products is co-exported. If two goods require roughly the same knowledge and capabilities, this should show up in a higher probability of a country having comparative advantage in both products.⁸⁴ Intuitively, if countries that tend to export wheat also export corn, then a country that starts exporting wheat should be able to diversify toward corn, given that the knowledge to produce them is similar. To graphically represent the connection of similarity across products (a network), the literature developed what is called the product space: two products are connected by links based on their probability of being co-exported by countries.⁸⁵

Products in the same product space differ in complexity and in the opportunities they bring to diversify in the future. Figure 55 shows this network structure for Honduras. The color of each node/product corresponds to a community, which is defined as a set of products that tend to be connected to each other more frequently because they tend to require the same set of knowledge and capabilities to be produced.⁸⁶ Products and their communities differ not only in complexity, but also in how connected they are: the higher the connectivity of a product, the higher the opportunities to diversify to other products. Based on this, the country's opportunity gain (COG) is defined as the value of diversifying to a product that allows a country's export basket to improve connectivity.

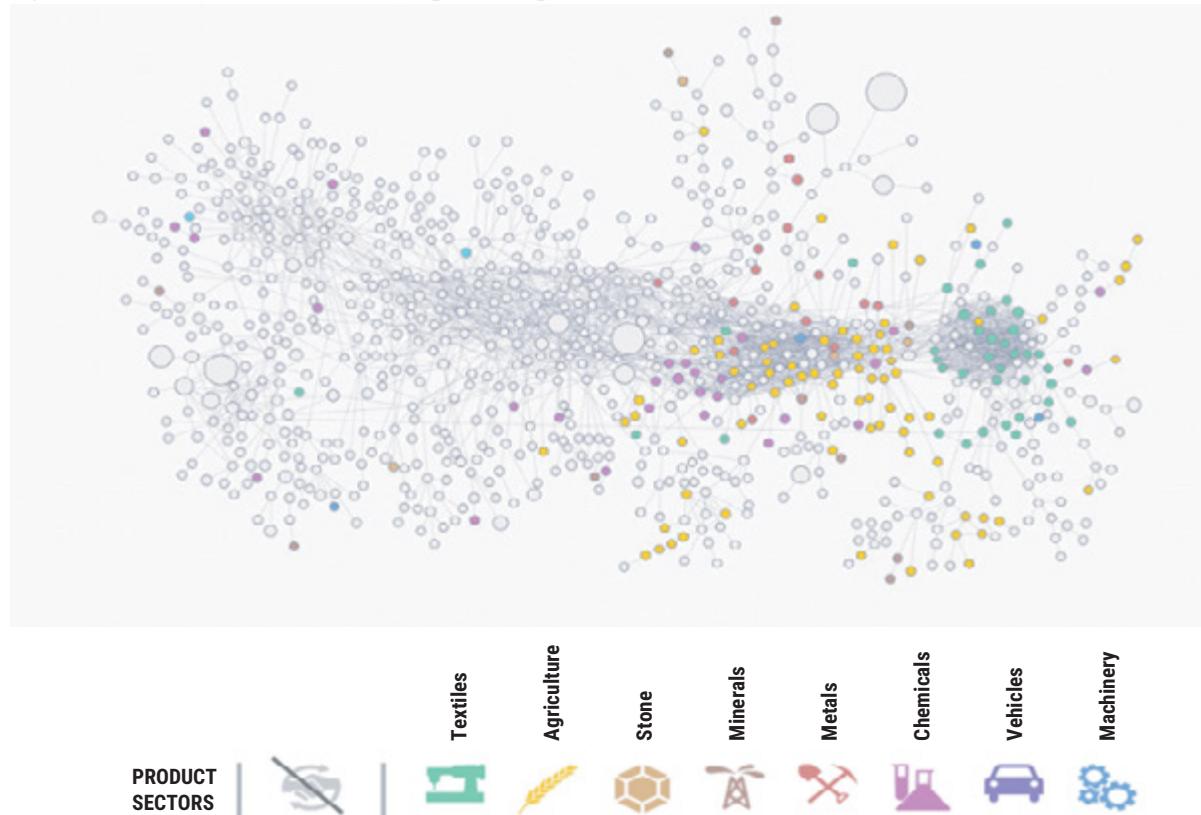
Honduras has started production in larger, more complex, and more connected communities to increase opportunity gains. While the country has a significant presence in many products at the center of the product space, such as agricultural products and textiles (sweaters, pullovers, and t-shirts), key export products such as bananas, plantains, coffee, and palm oil are still close to the periphery of the product space and have low opportunity gains. However, Honduras has made a few inroads into the larger, more complex, and more connected communities such as metals (tubes and pipes of iron and steel) and some well-connected electronics (insulated electrical wire).

Countries can follow different approaches to diversify their economic structure, depending on their complexity and connectivity needs. Figure 56 maps each country in the space of the Economic Complexity Index (ECI) and Complexity Outlook Index (COI).⁸⁷ Countries with low complexity typically have many products that are not at the core of the network and as a result do not have good connectivity. For these countries, the optimal approach would be to diversify into products that provide more opportunities for future diversification. Countries with low complexity but that are well-connected to more complex products might emphasize proximity of products. Countries with high complexity and good connectivity are in the best position to continue raising the average complexity and connectivity without much effort. Finally, countries with good complexity but lacking connectivity should weight equally proximity of the products to diversify and opportunity. Based on these considerations, a diversification strategy for Honduras should consider the trade-offs between distance, complexity, and opportunity value. To do this, two approaches are suggested: feasible diversification and complex diversification.

Figure 54. Quality upgrading opportunities for Honduras



Source: World Bank staff using data from CEPII. HS96 6-digit products.⁹⁹

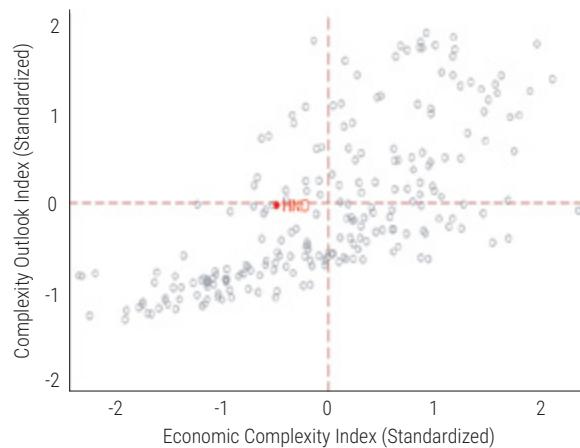
Figure 55. Honduras's location in the product space

Source: World Bank staff, using Atlas of Economic Complexity.

6.3.3. Feasible and Complex Diversification

The feasible diversification strategy emphasizes feasibility rather than opportunities for further diversification. According to this strategy, a country should expand the set of goods it produces by focusing on products that have a higher level of sophistication, and for which the expertise required to produce them is closest to the country's present set of knowledge and production capabilities. This strategy stresses labor-intensive industries that will immediately create jobs. Specifically, the feasible index gives more weight to products that are close to the export basket of the country and gives less weight to the opportunity gain. This index weights closeness by 0.6, while the Product Complexity Index (PCI) and COG have a weight of 0.2 each.⁸⁸ The government's role is to provide incentives for attracting private investment, generate new production capabilities, and provide crucial public goods, such as infrastructure.

Of the 50 most feasible products for diversification, more than 60 percent belong to foodstuffs; chemical and allied industries; metals, stone, glass; and textiles and footwear; but the products belonging to foodstuffs score higher, on average, on the feasible diversification index. Table 2 shows the distribution across sectors of the 50 four-digit harmonized system (HS) products scoring higher on the feasible diversification index (see appendix VII for details), as well as the mean, maximum, and minimum values of the index in each sector. In terms of the number of products, foodstuffs present the highest number of diversification opportunities (11),

Figure 56. Honduras's position in the Complexity-COI space

Source: World Bank staff, using Atlas of Economic Complexity.

followed by chemical and allied industries, metals, stone, and glass (6), and textiles and footwear (6). According to the mean value of the index in the sector, foodstuffs seems to offer the most feasible diversification opportunities, followed by animal and vegetable products.

Combining the information on the number of top-50 products in each sector, and their average feasibility index value, three sectors are revealed as providing better feasible opportunities:⁸⁹ i) foodstuffs; ii) textiles and footwear; and iii) animal and vegetable products. The feasible analysis identified opportunities within foodstuffs in the subsector “articles of miscellaneous edible preparations,” such as sauces and seasonings, food preparations not elsewhere classified (N.E.C.), coffee extracts, and ice cream. Within the textiles and footwear sector, the opportunities exist in the subsector “footwear, gaiters and the like, parts of such articles,” for example, leather footwear, parts of footwear, and other footwear. Finally, in the animal and vegetable sector, diversification is more likely in articles of dairy products, birds’ eggs, natural honey, and edible products such as eggs in shell and cheese. These products are closely related to the country’s current comparative advantages.

The complex strategy emphasizes the development of more complex products that provide greater opportunities for further diversification (larger strategic value). The products identified by this strategy may require production capabilities that are not close to those in the country. This index weights COG by 0.6, while PCI and closeness have a weight of 0.2 each. The sectors identified in this strategy are important to boost economic growth, improve the diversification outlook, and create jobs of higher quality.

Among the 50 products with the largest strategic diversification value, more than 65 percent belong to two sectors: machinery, electrical and transportation; and metals, stone and glass sectors. Table 2 shows the distribution across sectors of the 50 four-digit HS products scoring higher on the complex index (see Appendix VII for details), as well as the mean, maximum, and minimum values of the index in each sector. In terms of the number of products, machinery, electrical, and transportation presents the highest number of complex diversification opportunities (20), followed by metals, stone, and glass (13), and chemical and allied industries (7). According to the mean value of the index in each sector, the machinery, electrical, and transportation sector seems to also offer the diversification opportunities with the largest strategic value.

After combining the information on the number of top-50 products in each sector and their average strategic value, three sectors emerge as providing better strategic opportunities:⁹⁰ i) machinery, electrical, and transportation; ii) metals, stone, and glass; and iii) chemical and allied industries. The complexity analysis identified opportunities within machinery, electrical, and transportation mainly in the subsector “boilers, machinery, nuclear reactors, and mechanics appliance” (for example, machines N.E.C.; calendaring or other rolling machines, other than for metals or glass; and machining centers for working metal). Within the metals, stone, and glass sector, the opportunities are in the subsector “tools, implement, cutlery, spoon & fork, of base metal” (for example, interchangeable tools for hand tools; knives and blades for machines; articles for utensils, of cermet, etc.). Finally, in the chemicals and allied industries sector, diversification is more likely in the subsector “organic chemicals and miscellaneous chemical products” (such as prepared culture media for micro-organisms; phenols, phenol-alcohols; esters of other inorganic acids of nonmetals; etc.).

Table 2. Main sectors of the top 50 products for export diversification using the feasible approach

Sectors	Feasible Diversification Index	
	Numbers of products	Mean
Animal and Vegetable Products	5	0.57
Chemical and Allied Industries	7	0.52
Foodstuffs	11	0.57
Machinery, Electrical, Transportation	1	0.42
Metals, Stone, Glass	6	0.52
Mineral Products	1	0.51
Miscellaneous	4	0.48
Plastics and Rubbers	5	0.56
Textiles and Footwear	6	0.57
Wood	4	0.51

Source: World Bank staff using COMTRADE and Observatory of Economic Complexity.

In conclusion, three sectors emerge as having a good balance between feasible and strategic opportunities for diversification: i) foodstuffs; ii) plastic and rubbers; and iii) chemical and allied industries sectors. Although the sectors offering the highest feasible diversification opportunities do not present large strategic diversification opportunities, by combining the results of these analyses, three sectors were identified as providing the best overall diversification opportunities. The foodstuffs sector shows the best feasible opportunity, although it does not align with the complex approach and therefore does not provide the best strategic opportunities. On the other hand, the plastic and rubbers sector and the chemical and allied industries sector provide feasible diversification opportunities, while also providing relatively good complexity and opportunities for further diversification. In fact, the chemical and allied industries sector ranks as one of the highest on the complex diversification index, indicating great potential for future diversification and adding complexity to the export basket. In addition, the machinery, electrical, and transportation sector has the potential to become one of the top sectors in Honduras in the long run, as it provides the best complex diversification opportunity.

The capabilities to achieve some of these products within the feasible and complex approach require government involvement to build capacity and incubate new industries. To venture into the production of some of these products, it is not enough to just provide more education or improve infrastructure. The process of diversification requires the emergence of industries that in most cases are not currently available. In fact, these industries may require inputs or know-how that is not currently within the country. Given that some the industries do not exist in the country, there is little incentive for workers to acquire the necessary skills to operate in these industries. The government could ease this problem by providing incentives to the private sector and creating an enabling environment to nurture the new sectors.

For products close to current capabilities, sectoral dialogue could be a solution, but for products far from current capabilities there must be a new and specialized approach. In particular, dialogue could lead to the identification of the necessary missing public goods and ways to provide them. However, for products far from existing capabilities, specialized institutions such as a public venture could be set up to fund new business models and initiatives that could trigger significant future entries into the market. The fund would give the government access to those ideas, analyze the obstacles they face, and inform public policy, so that the requisite public inputs could be provided if deemed reasonable.⁹¹ Some successful examples of these type of institutions are the *Fundación Chile* and the *Industrial Development Corporation in South Africa*.

New technologies and changing globalization patterns provide challenges and opportunities for export-led manufacturing strategies. In order to take full advantage of these opportunities and to mitigate some of the costs associated with these changes, countries need to embrace three areas: competitiveness, capabilities, and connectedness. *Competitiveness* addresses the shift from low wages as the main incentive to produce in developing countries to broader considerations of the business environment in determining low unit labor costs. *Capabilities* address the need for workers and firms to strengthen their ability to adopt and use new technologies. In addition, it requires the necessary infrastructure and regulations to support the spread of new technologies. Finally, *connectedness* relates to the importance of access to inputs and output market. Key elements to progress in this area are improvements in logistics, reductions in tariffs and nontariff barriers, and the reduction of restrictions in services, particularly trade restrictions.⁹²

Table 3. Main sectors of the top-50 products for export diversification using the Complex Approach

Sectors	Complex Diversification Index	
	Numbers of products	Mean
Chemical and Allied Industries	7	0.90
Machinery, Electrical, Transportation	20	0.93
Metals, Stone, Glass	13	0.84
Miscellaneous	6	0.91
Plastics and Rubbers	3	0.90
Textiles and Footwear	1	0.74

Source: World Bank staff using COMTRADE and Observatory of Economic Complexity.

Honduras needs to strengthen its capabilities and competitiveness. Countries can be mapped in each of the three areas to identify where they need to improve. Figure 57 illustrates such mapping. Competitiveness is constructed by combining different indicators such as ease of doing business and the rule of law. Capabilities to support technology diffusion and innovation combine dimensions such as ICT use and tertiary school enrollment. Finally, connectedness to markets combines dimensions such as logistics performance, restrictions on trade in manufactured goods, and restrictions on trade in professional services. Based on these measures, Honduras is considered to have low levels of capabilities to adopt new technologies and low competitiveness. Consequently, improving in these areas could have large payoffs. Tackling the constraints identified in section 4 could have significant returns in strengthening the competitiveness of the country.

6.3.4. Services provide opportunities for trade and domestic linkage

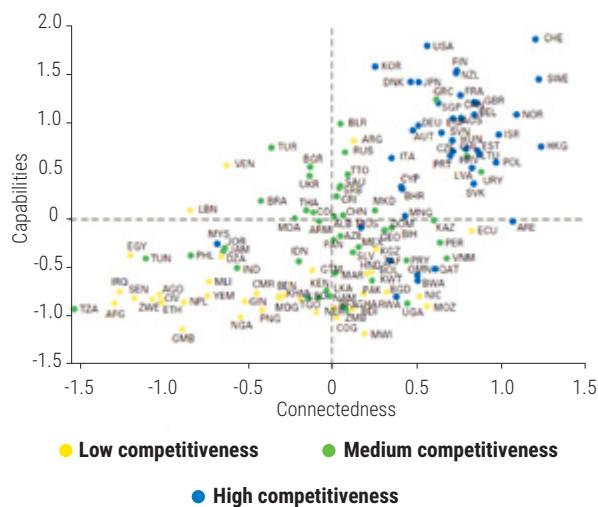
Exports of services have become an area of great potential for job creation and growth in developing countries. Two characteristics that made manufacturing the preferred sector for growth in the past were the element of facing competitive pressures that would force firms to improve efficiency to survive, and the possibility of expanding demand by exporting to global markets. Today, the old view of services being non-tradable, with low scale and low productivity, is being challenged by the disruption of ICT. The evolution of the internet, digitalization, and electronic storage are allowing a rapid increase in cross-border trade in services, which is an opportunity for developing countries to sustain services-led growth. The increasing prevalence of productivity-enhancing characteristics in services, including in LMI countries, expands the range of activities that will likely have positive spillovers for development.⁹³

Honduras's exports of services are in line with what it is expected, opening the door for improvements and growth.

The performance of service exports as a share of GDP are in line with the expected level given Honduras's per capita income level (Figure 58). In a regional context, Honduras does better than Guatemala in terms of service exports, but it is far from Panama and Costa Rica, the stars of the neighborhood. Ghani and Kharas (2010) show that there is a linear positive relationship between the growth of services and the growth of GDP, indicating that there is a correlation between high growth in services and high growth in GDP. Figure 58 confirms this correlation: While aspirational peers and OECD countries have large exports of services as a share of GDP, low-income countries minimally participate in trade in services.

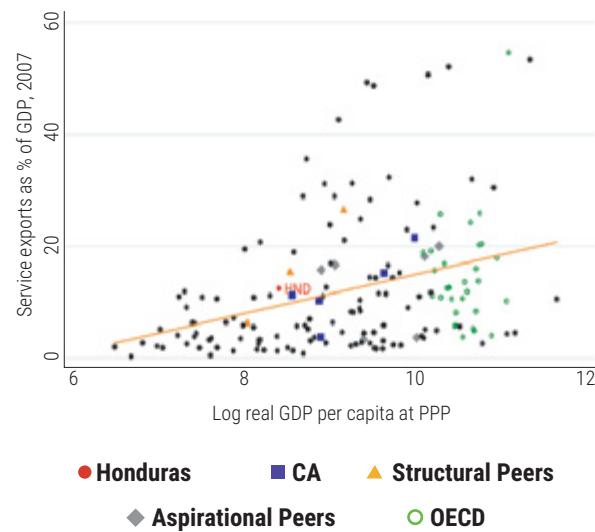
Modern services are consistently gaining as a share of total exports worldwide, and therefore they are becoming a potential source of quality job creation. Developed countries tend to export more complex

Figure 57. Country distribution in the space of competitiveness, capabilities, and connectedness



Source: Hallward-Driemeier and Nayyar (2017).

Figure 58. Exports of services as a share of GDP



Source: World Bank staff using WDI.

services, often called “modern or nontraditional services.”⁹⁴ Among these services, economists typically include ICT, financial and insurance services, and health and other business services, which are mostly professional services (consulting, architecture, and so on). A feature of these services is that in general they involve more high-skilled labor, and this implies that they are important to generate high-wage jobs that allow the absorption of highly-skilled workers. After studying trade in services, Loungani et al. (2017) find that modern services are growing worldwide and present a relevant opportunity for many countries, since they do not require proximity between buyers and supplier. This reduction in trade costs opens the door for developing countries to participate in global markets, since reallocation of services worldwide is each day more of a possibility. However, regulatory barriers continue to slow down trade in these services.⁹⁵

In Honduras, the share of modern services as a percentage of service exports is slowly growing, from 12 percent of service exports in 2000 to 14 percent in 2018. Furthermore, modern services are becoming more relevant in terms of total exports: while in 2010 these types of services represented 3.4 percent of total exports, in 2018 they represent 9.7 percent. However, most exports of services today are traditional service exports such as travel (including tourism), transportation, and construction.

Other business services exports are the fastest source of growth for total service exports in Honduras. This sector includes professional, consulting, technical and trade-related, and research and development services. These services have made important progress as a genuine source of exports, and since the sector requires high-skilled workers, continuing support is desirable. Between 2010 and 2018, other business services exports multiplied by 14, contributing the most to total modern services export growth. Moreover, they now represent more than 5 percent of total service exports, and the sector is rapidly gaining participation in the global economy.

In addition to other business services, ICT and tourism are sectors that present a promising outlook to create more and better jobs. In the same period of 2010–2018, ICT grew close to 8 percent, and maintained its comparative advantage, albeit declining in recent years. Strengthening the ICT sector not only is important as a source of growth, but also because it is a key input for trade integration, private sector development, and public service delivery. Tourism is also a service with good prospects. The country has shown comparative advantages in the past, and exports have grown almost 20 percent in the last 8 years.⁹⁶ This is an important sector because it can create many jobs for low-skilled workers through new opportunities in hotels, restaurants, and entertainment. On the flip side, these types of sectors are less likely to provide much by way of productivity gains. Therefore, a given service subsector is unlikely to provide opportunities for productivity growth and job creation for unskilled people simultaneously.⁹⁷

Better institutions and higher levels of education are complementary sources of comparative advantage in the more complex goods and services. The value-added content or complexity of services is not homogeneous. For instance, professional services are more complex than hotel services. In general, the production of more complex processes implies a larger number of tasks. An economic environment with a well-defined rule of law is associated with comparative advantages in complex services, and as a result with higher exports of complex services. This is because complex services are dependent on good institutions that enforce contracts: better institutions increase the probability that contracts are enforced, and therefore complex services with multiple tasks have a higher probability of being delivered.⁹⁸ Similarly, complex services require high-skilled workers, and therefore the quality of the pool of workers is a key enabler of services trade.



Conclusion

Despite substantial progress made in supporting economic growth, Honduras remains one of the poorest countries in Central America. Honduras has been supporting economic growth by improving macroeconomic stability and advancing economic diversification and trade liberalization over the past decade. Despite these welcome developments, growth has been volatile and modest, and poverty has remained high relative to other Central American countries. Growth has been mainly driven by factor accumulation, while the contribution of TFP has been negligible. Moreover, the structural transformation did not relocate labor to higher productivity sectors. Intermediate diversification and undiversified export destinations limit the country's competitiveness and resilience to external shocks, while large-scale investment and the trade-to-GDP ratio have not yet translated into high rates of growth and poverty reduction. Decades of sluggish growth are rooted in weak institutional capacity, wide-spread corruption, crime, high informality, and vulnerability to natural disasters and disease outbreaks.

Increased diversification, productivity growth, and productive investment could strengthen inclusive growth in Honduras. An export-oriented growth strategy coupled with diversification of goods, services, and destinations is a sound approach to stimulate economic growth, generate jobs, and reduce the dependence on remittances. Strengthening and supporting business services and ICT could help take advantage of emerging global trends such as the rising trade in services, fragmentation of production, and automation. Growth in services could also enable further trade integration, private sector development, and public service delivery. Honduras could improve its long-term growth by boosting TFP growth through reforms in the innovation system, institutions, education and market efficiency. Moreover, further increasing public investment could have a strong positive effect on growth and poverty reduction. The high degree of openness of the economy and foreign investment flows have yet to generate transformational development opportunities and growth-enhancing labor reallocation possibilities in Honduras.

Development goals can be achieved with long-term commitments to reform and prudent governance. International experience shows that a strong level of political will and consensus is essential for implementation of the comprehensive reforms required in Honduras. Given that most of its development constraints are fundamentally attributable to the poor quality of institutions and weak governance, a stronger reform effort is needed to strengthen the rule of law and the judiciary, build capacity for implementation and enforcement, and improve the transparency of government operations. Together with its productive resources, strategic location, and solid industrial base, Honduras can bridge the gap between its performance and potential while achieving high and inclusive growth.

Endnotes

- 1 The five determinants are innovation, education, market efficiency, infrastructure and institutions that are linked to policy choices. This model is an excel-based tool that could be used by policymakers for more detailed counterfactuals if desired.
- 2 Misión de Apoyo contra la Corrupción y la Impunidad en Honduras (MACCIH) <http://www.oas.org/es/sap/dsdme/maccih/new/mision.asp>.
- 3 WDI. GDP is in 2010 constant U.S. dollars. <https://datacatalog.worldbank.org/dataset/world-development-indicators>.
- 4 WDI. <https://datacatalog.worldbank.org/dataset/world-development-indicators>.
- 5 Historical Outline of the Central Bank of Honduras https://www.bch.hn/historia_bch.php.
- 6 See Table 1.2 in Appendix I for the methodology used to compute structural and aspirational peers.
- 7 All figures are computed using the data from WDI. Volatility is measured as the standard deviation of the growth rate of real per capita output. Volatility of per capita GDP growth in other Central American countries during 2010–2017 are as follows: Costa Rica: 0.83 percent; El Salvador: 0.58 percent; Guatemala: 0.60 percent; Nicaragua: 0.76 percent and Panama: 2.31 percent.
- 8 Data sources are Federal Reserve Bank of St. Louis FRED Database and IMF's WEO Database.
- 9 IMF (2019).
- 10 According to the data obtained from WDI, Honduras's average tax revenue share of GDP during 2000–2018 was around 15 percent—higher than countries with similar per capita income such as Senegal, El Salvador, Nicaragua, and Bolivia. <https://datacatalog.worldbank.org/dataset/world-development-indicators>.
- 11 Hernandez et al. (2015).
- 12 Margadant (2016), World Bank (2015b).
- 13 Pino and Flores (2002).
- 14 Informal employment as a percentage of total non-agricultural employment was 75.76% in 2017 (<https://data.worldbank.org/>). Although migration produces a flow of positive remittances that contributes to lowering poverty, it generates an effect of draining the country's human capital stock, which would, in turn, impair the country's ability to achieve more significant economic growth (World Bank 2015a).
- 15 IMF (2018).
- 16 Endo, Hirsch, Rogge, and Borovik (2010). World Bank (2015a).
- 17 WDI. <https://datacatalog.worldbank.org/dataset/world-development-indicators>.
- 18 ECLAC (2019), Central Bank of Honduras (2018), Flujos de Inversión Extranjera Directa; World Bank (2018).
- 19 ECLAC (2019), Central Bank of Honduras (2018), Flujos de Inversión Extranjera Directa; World Bank (2018).
- 20 Alfaro, Chanda, Kalemli-Ozcan, and Sayes (2010); World Bank (2018).
- 21 See Appendix II for a discussion on the concept of productivity, how it is measured, and limitations.
- 22 See Solow (1956).
- 23 World Bank (2015b) Systematic Country Diagnostics indicated that Honduras was in the early stages of the demographic transition and therefore in position to benefit from a young people entering the labor force.
- 24 Both telecommunications and maquila sectors accounted for 53 percent of the total FDI between 2001 and 2013.
- 25 This largely reflects our calculation of TFP as a residual (in line with standard growth accounting methodologies) such that the recent period of growth slowdown and recession appears caused by a negative contribution of productivity, when in fact it was driven by other unobserved factors which are bundled into the TFP residual, such as an increase in spare capacity and inventories.
- 26 See Appendix II for a discussion of different measures of productivity commonly used in the literature.
- 27 Here, it is assumed that the public capital stock generates social benefits in the future. In this sense, investment with low social returns shouldn't be considered. To see more details of the model, see Appendix III.
- 28 The Long Term Growth Model (LTGM) is an Excel-based tool building on the celebrated Solow-Swan growth model, but adapted to include growth and poverty reduction drivers. See Appendix III for more details on the model and the methodology to perform the simulations. All the quantitative results presented in this section are pre-Covid estimates on long-term output.
- 29 One potential concern related to the increase in public infrastructure is corruption. From a policy perspective, a reduction in corruption today will increase the growth dividend from public investment, suggesting the need to “invest in investing” – building the institutional capacity in public investment management systems to reduce corruption. These improvements in institutional capacity will have a greater effect on growth the higher the rate of public investment (Devadas and Pennings 2018 WPS8604). A reduction in corruption can be modelled in the LTGM-Public Capital in principle but is hard to calibrate in practice. More technically, LTGM-Public Capital, the level of corruption in public investment projects doesn't affect growth so long as it is constant (has always been the same in the past). This reason is that past corruption reduces the current effective public capital to output ratio and increases the marginal product of public capital. In other words, high levels of past corruption mean that the current level of the public capital stock is overstated, and the country is in even greater need of public capital. This almost exactly offsets the reduced effectiveness of new public investment due to current corruption (the offset is exact if the production function is Cobb-Douglas). This surprising result, which is very robust, comes from Berg et al (2015) (IMF WP/15/272).
- 30 See for example endogenous growth theories of Romer (1990), Aghion and Howitt (1998).
- 31 Indicators used to conduct the indexes for each of these areas are listed Appendix III and the data used to compute these indicators are available upon request.
- 32 Kim, Loayza, and Meza-Cuadra (2016); Kim and Loayza (2019).
- 33 See www.worldbank.org/BoostCentralAmerica for the appendix.
- 34 See Appendix III for information on the calibration of the baseline.

- 35 Buera and Shin (2013).
- 36 Structural transformation typically holds for developed and developing countries. See the flagship “Economic transformation and Future of Work in LAC” 2019. Also, see Kutznets (1973) and Herrendorf, Rogerson, and Valentini (2014).
- 37 See Duarte and Restuccia (2010, 2018) and Herrendorf, Rogerson, and Valentini (2014).
- 38 See Buera and Kaboski (2009). Obstacles to migration reduce labor flows from the agricultural to services and industry (see Restuccia et al 2008).
- 39 A. Bars show the simple averages of Dynamic General Equilibrium (DGE)-based estimates for corresponding country groups, with diamonds showing the simple averages of Multiple Indicators Multiple Causes (MIMIC)-based estimates for corresponding country groups. B. Bars show the simple averages of survey-based estimates on self-employment for corresponding country groups, with diamonds showing the simple averages of model-based estimates of self-employment (ILO) and triangles showing the simple averages of informal employment (ILO).
- 40 Please see Loayza (2018) for details on the meaning of the ratio of informal labor productivity over total labor productivity.
- 41 See Appendix I for full list of indicators and for the methodology used to determine the structural and aspirational peers of the country.
- 42 WDI.
- 43 WDI.
- 44 Results are obtained from the fixed effects regression analysis of real GDP per capita (log) with respect to patent applications of residents per million people, country dummies and their interaction terms, after controlling for investment, human capital and labor and taking into account heteroskedasticity and cross-country correlations across error terms. The coefficient reported in the text is obtained from the first derivative of GDP per capita with respect to patent applications indicator. Similarly, the results the relationship between patent applications and R&D is obtained from the fixed effects analysis of patent applications of residents per million people with respect to R&D share of GDP and its interaction term with country dummies after controlling for the above-mentioned indicators and potential issues.
- 45 See the related indicators of WDI as well as Figure 20.
- 46 WDI.
- 47 Data is obtained from ILO and WDI. Estimates are based on simulations using the dynamic GTAP (GDyn) computable general equilibrium model. Changes in volumes reported relative to the baseline scenario in 2030.
- 48 These results are obtained from the fixed effects regression analysis of real GDP growth with respect to control of corruption index, country dummies, and interaction terms between them, controlling also for GDP per capita, investment, labor, human capital, and year dummies. Data cover 2065 observations from 129 countries for the period of 2000–2018.
- 49 Williams and Castellanos (2020); OECD (2015); Shleifer and Vishny (1993); Banerjee (1997); Aidt (2016).
- 50 OECD (2015).
- 51 IMF (2018).
- 52 IMF (2017).
- 53 IMF (2018); Hernandez et al. (2015); UNDP (2006); and OECD (2015).
- 54 World Bank (2019a) PCN Violence Prevention in LCR (2019). Crime is highly concentrated in the Atlántida, Yoro, and Cortes departments. In cities, 40% of murders in 2015 were in Tegucigalpa, San Pedro Sula and Le Ceiba.
- 55 Inkpen (2019), WDI, Woods (2010).
- 56 Jaitman et al. (2015). This includes public costs in anticipation of crimes such as crime prevention and police forces, and private costs such as private security, alarms, and fences (in total, 1.5% of GDP). Also inclusive is cost as a consequence of crime such as homicides and assaults, robbery, and health expenditures (2% of GDP). Finally, the costs incurred in response to crime, for example, the judicial system, police, prosecution, defense, and prisons, among others (1% of GDP).
- 57 Williams and Castellanos (2020), USAID (2006).
- 58 Williams and Castellanos (2020, World Bank (2015b).
- 59 Global Property Guide. <https://www.globalpropertyguide.com/Latin-America/Honduras/property-rights-index>.
- 60 World Bank (2019c). Quality of land administration index of Doing Business measures the extent to which land administration covers all private land in the country, its transparency and reliability, the quality of its dispute resolution and whether it gives equal access to property.
- 61 These results are obtained from the fixed effects regression analysis of real GDP growth with respect to property rights index, country dummies, and interaction terms between them, after controlling also for GDP per capita, investment, labor, human capital, and year dummies. Data cover 2134 observations from 124 countries for the period of 2000–2018.
- 62 Besley and Ghatak (2010).
- 63 The fixed effects regression analysis did not reveal a significant association between bank penetration and GDP per capita or growth rate of GDP. However, given the very high interest rate and cross-sectional correlation between interest rate and access to banking as well as between access to banking and real GDP per capital, access to banking is likely to be a constraint for investment in the country.
- 64 USAID (2006).
- 65 Villarreal (2017).
- 66 Villarreal (2017).
- 67 National Commission of Banks and Insurances and Inter-American Development Bank (CNBS/IDB). 2015.
- 68 OECD/WTO (2019).
- 69 It can limit a country's ability to defend itself against economic fluctuations.
- 70 OECD/WTO (2019).
- 71 Diversity measures the number of products a country effectively exports. By effectively, we mean the number of products for which the country has revealed a comparative advantage as measure by the Balassa index (Balassa, 1965). Ubiquity refers to the number of countries that effectively export a product. Behind this measure lies the assumption that countries only export those products for which they have the required knowledge. See Appendix VII for a formal definition of these concepts.
- 72 See Lall (2000) and Hausmann et al. (2011).
- 73 The countries included in the OECD that are not main destinations varies each year according to the countries that are main destinations.
- 74 Old products are defined as those exported at least twice in the previous five years from the beginning of the period. Similarly, old markets are comprised of all partners to which the home country exported at least two out of the last five years, starting from the beginning of the period. Therefore, the products and markets classified as old vary depending on the period analyzed. For example, old products in the period 2001–2005 are those exported at least twice in the years 1997–2001. In the period 2006–2010, the corresponding old products are those exported at least twice in the years from 2002 to 2006, and so on.

- 75 See Henn et al. (2017).
- 76 See Khandelwal (2010).
- 77 The difference between the maximum and minimum quality of a given product is called “length of the quality ladder.” See Khandelwal (2010).
- 78 See Crozet et al. (2012).
- 79 As it is standard in a large part of the literature, we will proxy quality with unit values. See Schott (2004), Hummels and Klenow (2005), and Khandelwal (2010).
- 80 Here we are using a weighted average, where the weights are given by the export value for a given unit price relative to the value of exports of an HS96 product.
- 81 OECD/WTO (2019).
- 82 Artopoulos, Friel, and Hallak (2013).
- 83 See Levchenko (2007), Hallak and Schott (2010), and Essaji and Fujiwara (2012).
- 84 See Hausmann and Klinger (2007).
- 85 Technically, the product space is a network that formalizes the idea of relatedness between products traded in the global economy.
- 86 Notice that this concept is different from the idea of input-output linkages. Here two products could be integrated in a value chain but be part of two different communities, given that the stock of knowledge and capabilities to produce them are different.
- 87 The COI is a measure of how many complex products are near a country’s current set of capabilities. It captures the ease of diversification for a country, where a high COI reflects an abundance of nearby complex products with similar capabilities to the ones the country is using.
- 88 For more details on the construction of these indexes, please refer to Appendix VII.
- 89 These sectors were selected based on an index that combines the number of products and mean value of the feasible index (normalized series). For more details on the construction of these indexes, please refer to Appendix VII.
- 90 This follows a similar methodology to the one used to construct the feasible index. More details on the construction of these indexes, please refer to Appendix VII.
- 91 Hausmann et al. (2010).
- 92 Hallward-Driemeir and Nayyar (2017).
- 93 See Ghani and Kharas (2010).
- 94 See Anand et al. (2012) and Duarte and Restuccia (2019).
- 95 See Hallward-Driemeir and Nayyar (2017).
- 96 A country has revealed comparative advantage if the RCA indicator is greater than one. In 2018 the indicator is 0.93, but we consider that the country is still competitive in tourism.
- 97 See Hallward-Driemeir and Nayyar (2017).
- 98 Costinot (2009).
- 99 To reduce the influence of measurement error and outliers, we “winsorized” the unit prices for each HS6 product by keeping the values between the 3rd and 97th percentile.

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