

PANAMA SYSTEMATIC COUNTRY DIAGNOSTIC



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Abbreviations and Acronyms

AAC	Civil Aviation Authority, <i>Autoridad Aeronáutica Civil</i>
AD	Afro-descendant
CEDLAS	Center of Distributive, Labor and Social Studies, <i>Centro de Estudios Distributivos, Laborales y Sociales</i>
CICYT	Inter-ministerial Council for Science, Technology, and Innovation, <i>Comisión Interministerial de Ciencia Tecnología e Innovación</i>
CONAGUA	National Water Council, <i>Consejo Nacional del Agua</i>
CSS	Social Security Fund, <i>Caja de Seguro Social</i>
DRM	Disaster risk management
ERCE	Regional Comparative and Explanatory Study, <i>Estudio Regional Comparativo y Explicativo</i>
FATF	Financial Action Task Force
FDI	Foreign direct investment
FTZ	Free trade zone
GCO	General Comptroller's Office
GEI	Global Entrepreneurship Index
GHG	Greenhouse gas
HCI	Human Capital Index
ICT	Information and communications technology
IDAAN	National Water and Sanitation Utility, <i>Instituto de Acueductos y Alcantarillados Nacionales</i>
IFC	International Finance Corporation
INEC	National Institute of Statistics and Census, <i>Instituto Nacional de Estadística y Censo</i>
LAC	Latin America and the Caribbean
MiAmbiente	Ministry of Environment, <i>Ministerio de Ambiente</i>
MINGOB	Ministry of Government, <i>Ministerio de Gobierno</i>

MPO	Macro-Poverty Outlook
MSMEs	Micro, small, and medium-sized enterprises
PASE-U	Social Assistance Program for Universal Education, <i>Programa de Asistencia Social Educativa Universal</i>
PDIP	Integral Development Plan of Indigenous Peoples, <i>Plan de Desarrollo Integral de Pueblos Indígenas de Panamá</i>
PISA	Program for International Student Assessment
PPPs	Public-private partnerships
PS	Panama Solidarity, <i>Panama Solidario</i>
R&D	Research and development
SCD	Systematic Country Diagnostic
SEDLAC	Socio-Economic Database for Latin America and the Caribbean
SENACYT	Science, Technology, and Innovation National Secretariat, <i>Secretaría Nacional de Ciencia, Tecnología e Innovación</i>
SINAP	National Protected Areas System
SINAPROC	National Civil Protection System, <i>Sistema Nacional de Protección Civil</i>
TFP	Total factor productivity
WDI	World Development Indicators

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1. Executive Summary

This Systematic Country Diagnostic (SCD) Update assesses the evolution of Panama's development challenges and policy priorities since the publication of the SCD in 2015. During the last eight years, Panama has experienced three major changes in its economic and social landscape: (i) economic growth, though still high, has structurally slowed down, affecting job creation and employment quality; (ii) human capital formation has not improved substantially, and the country is struggling to address the significant deterioration in education and health indicators that occurred due to the COVID-19 pandemic; and (iii) the government has demonstrated an increasingly acute awareness of the country's vulnerability to climate change. In addition, Panama's income per capita had the highest level of convergence within the region, reflecting its strong economic performance over the last three decades. However, the country's remarkable gains in per capita income have not been accompanied by a commensurate improvement in economic inclusion and institutional quality. In this context, the SCD Update begins by providing an overview of Panama's recent growth dynamics and poverty trends, before analyzing the country's development challenges and discussing key policy priorities for achieving sustainable, inclusive, and resilient growth.

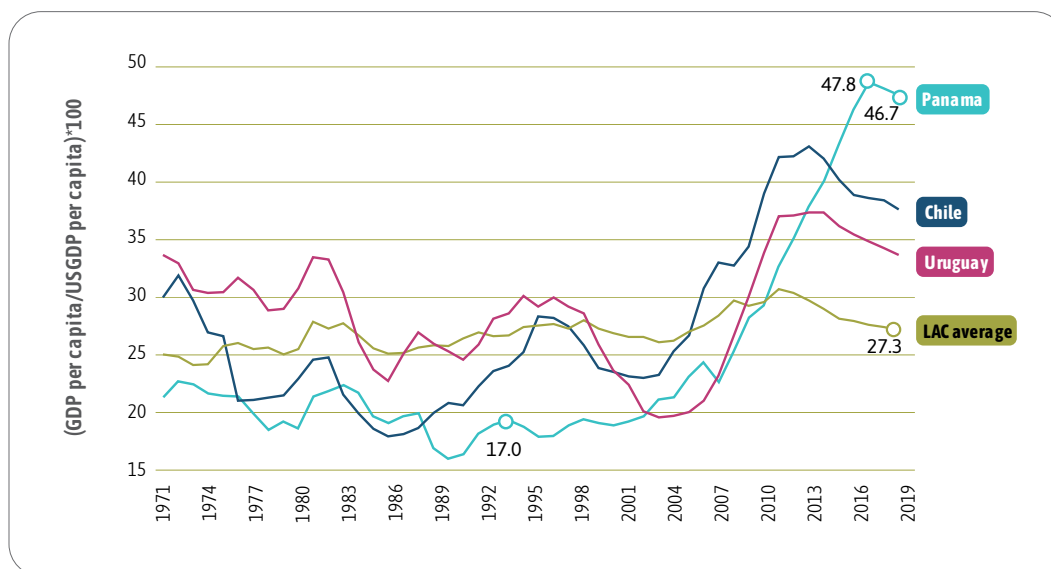
1.1. Drivers of Growth and Poverty Reduction

Panama has experienced remarkable economic growth and poverty reduction over the last three decades, but important challenges persist. Its GDP growth rate averaged 5.8 percent between 1990 and 2019, with per capita GDP rising from 17.0 percent to 47.6 percent of the level of the United States (Figure 1).¹² Meanwhile the country's headcount poverty rate fell from 50.2 to 12.1 percent in the same period, and the share of vulnerable households declined as the middle class expanded (Figure 2).² However, average GDP growth has slowed since 2015, falling from 7.8 percent in 2010–2014 to 4.6 percent in 2015–2019. Due to its highly open economy and the large



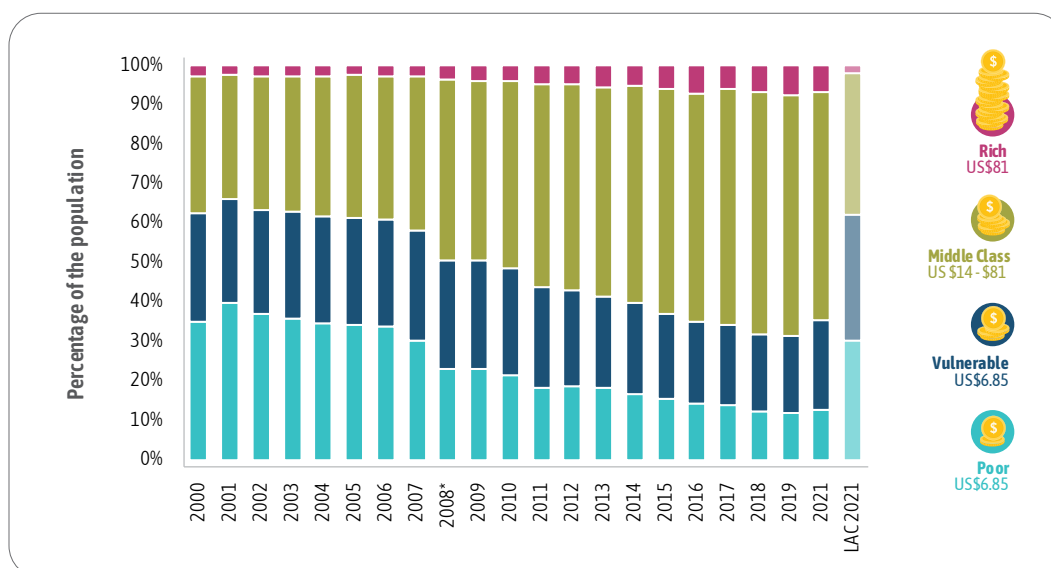
share of services in GDP, Panama experienced one of the sharpest economic contractions in the world during the COVID-19 pandemic. In addition, persistent challenges related to human capital formation, market competition, and entrepreneurship threaten the country's long-term growth trajectory. Still, despite its rapid growth, Panama's net greenhouse gas (GHG) emissions have remained negative due to the country's vast forest in the Darien area.

Figure 1. Panama has achieved the greatest degree of per capita income convergence with the United States of any country in Latin America & the Caribbean.



Source: World Bank Staff computations based on GDP per capita data in 2017 PPP from PWT.

Figure 2. Panama's rapid growth has sharply reduced poverty while expanding the middle class.



Source: Socio-Economic Database for Latin America and the Caribbean (SEDLAC), Centro de Estudios Distributivos, Laborales y Sociales (CEDLAS), and the World Bank.

Note: Household income includes imputed rent since 2008. Due to the pandemic, Panama did not collect the household data in 2020.

Despite strong poverty reduction, Panama remains one of the most economically unequal countries worldwide. Multiple factors contribute to inequality, including the deep deprivation of households in indigenous regions (*comarcas*), weaknesses in public sector institutions (e.g., inadequate evidence-based policy), low level of revenue mobilization (which impedes fiscal redistribution), and constraints in institutions managing social and infrastructure programs.

Panama's success has been driven by:

- **An outward-looking economic model centered on the Panama Canal and associated activities, the Colon Free Trade Zone (FTZ), construction, finance, and tourism.** This approach has transformed the country into an international hub for trade, transportation, and logistics. The Panama Canal handles about 6 percent of global trade,³ while the Colon FTZ is the world's second largest FTZ and accounted for about 36 percent of exports and 5.3 percent of GDP in 2015–2019.⁴
- **Consistently high rates of private and public investment in both existing and emerging sectors.**⁵ Private investment increased from 34.4 percent of GDP in 2008–13 to 41.1 percent in 2014–19, with foreign direct investment (FDI) inflows amounting to 8.6 and 8.3 percent of GDP over the two periods, respectively.⁶ Robust investment has spurred the growth of tourism, commerce, finance, real estate, and the country's nascent agribusiness sector, in addition to port and logistics activities.⁷ Moreover, public investment averaged 7.4 percent in 2008–19, driven by megaprojects such as the expansion of the Panama Canal and the construction of Tocumen Airport. Between 2008 and 2017, Panama experienced one of the highest rates of capital accumulation worldwide, and the construction sector's share in GDP rose from 5.0 percent in 2006 to 16.7 percent in 2017, before declining in recent years.⁷
- **A well-established and credible macroeconomic policy framework, coupled with political stability following the restoration of democracy in 1989.** Panama has traditionally had low levels of public debt and inflation as well as a low fiscal deficit.⁸ Dollarization has been in place since 1904 and has anchored fiscal policy, helping to keep inflation and sovereign risk ratings low.⁹ These policies have reduced the cost of capital for both the public and private sector. Panama is one of only five countries in Latin America and the Caribbean (LAC), along with Chile, Peru, Mexico, and Uruguay, with an investment-grade sovereign risk rating, and its spread was just 5.2 in 2021.¹⁰

Sustained growth has led to exceptional rates of employment creation, yielding a steep decline in poverty and broad-based gains in living standards.¹¹ Between 1991 and 2019, over 1.2 million new jobs were created in a country with a population of just 4.3 million, which almost tripled the number of employed workers. Population growth more than doubled the size of the working-age population (aged 15 and older) from 1.5 million in 1991 to 3.1 million in 2019, but a dynamic private sector fully absorbed the influx of new workers, with the employment rate rising from 48 to 63 percent over the same period. While the male labor-force participation rate remained broadly unchanged at about 80 percent, the female labor-force participation rate expanded rapidly from 34.1 to 55.5 percent

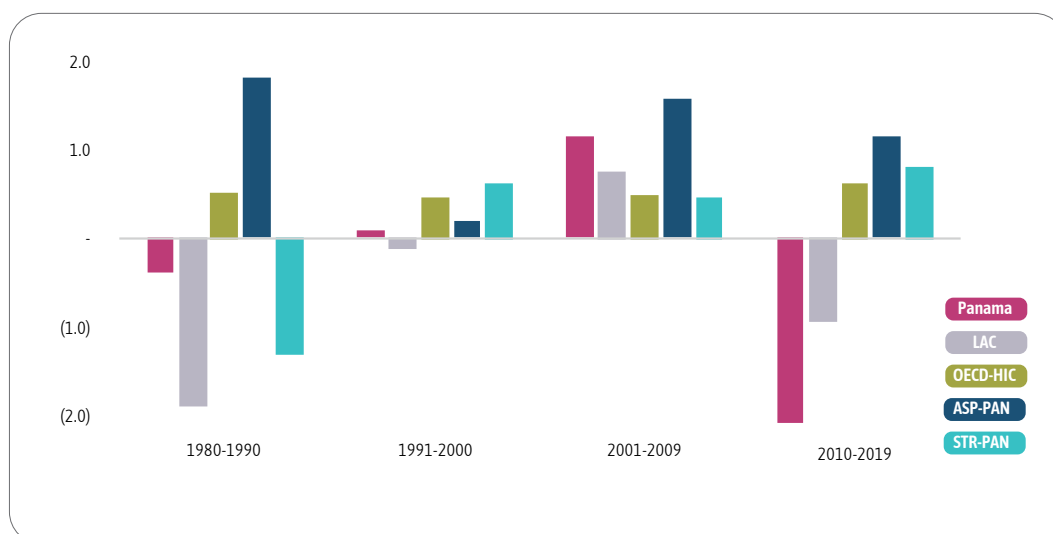
in 1991–2019. Favorable conditions for private-sector growth, including ample credit access (albeit mainly for large firms) and the creation of government-supported special economic zones,¹² provided stable, well-paying jobs. While employment grew the fastest in construction, retail and other services became the single largest sector and employed a large share of workers in the bottom 40 percent of the income distribution who were transitioning out of the primary sector. Although Panama has attracted numerous highly skilled workers from overseas, particularly in recent years, migration has played a limited role in the expansion of the labor force. Economic growth and increased labor income have driven poverty reduction in Panama.

Despite these impressive gains, low job quality has limited progress in reducing inequality, and labor-market constraints have prevented certain groups from fully benefitting from Panama's recent growth. One-third of the jobs created in the last 30 years were in the informal sector, and this rate rose sharply during 2013–2019, with three-fourths of new jobs being informal.¹³ Panama's high informality contributes to wide gaps in labor income, particularly in the *comarcas*, which were home to 6.5 percent of the population in 2019.¹⁴ While 50 percent of Panamanian workers are in the informal sector, this share rises to 80 percent for workers in the bottom 40 percent of the income distribution. On average, informal workers earn less than half of what formal workers earn. In addition, as Panama's urbanization rate rose from 55 percent in 1991 to 70 percent in 2019, a significant urban-rural disparity in labor earnings persisted, due in part to the (relative) remoteness of the remaining rural households.¹⁵ Agricultural workers receive one-fourth of the average labor earnings of urban workers, and many of the rural jobs created in recent decades have been of low quality. In the *comarcas*, 43.8 percent of workers are unpaid,¹⁶ up 14 percentage points since 2001.¹⁷ These deep disparities in labor earnings make Panama one of the most economically unequal countries in the region, and structural barriers in the labor market and beyond contribute to high poverty rates among certain groups, especially in the *comarcas*, where the poverty rate remains extremely high at 70 percent.

1.2. Panama's Slowing Convergence

The completion of infrastructure megaprojects, combined with declining FDI and exports, has slowed the growth of Panama's economy since the second half of the 2010s.¹⁸ The share of construction in GDP has declined since 2017, and the sector's contribution to growth fell to close to zero in 2019, indicating diminishing returns to construction projects. FDI inflows also fell, dropping from 10 percent of GDP in 2014 to 6 percent in 2019, as foreign investment in the transportation and financial sectors decreased.¹⁹ In addition, re-exports from the Colon FTZ fell from 36 percent of GDP in 2012 to 13 percent in 2019, largely due to reduced demand from Venezuela, Colombia, and other countries in LAC. Goods exports, excluding re-exports from the Colon FTZ, improved from 3.9 percent of GDP in 2016 to 6.5 percent in 2019.²⁰ Panama cannot sustain an economic model based on the accumulation of capital and labor indefinitely, given that diminishing returns will limit growth as output levels increase. Instead, sustainable long-term growth will require greater efficiency in the use of productive factors—i.e., gains in total factor productivity (TFP). However, TFP growth has been historically anemic and turned negative during 2010–2019 (Figure 3).

Figure 3. For decades, Panama's total-factor productivity growth has been either low or negative.



Source: PWT and WDI.

Note: ASP-PAN: Panama's aspirational peers, which include Estonia, Hong Kong SAR, China, the Republic of Korea, Lithuania, Singapore, Taiwan, China, and the United Arab Emirates; STR-PAN: Panama's structural peers, which include Bulgaria, Costa Rica, Croatia, the Dominican Republic, and Uruguay.

As economic growth slowed, the labor market began to weaken, compromising efforts to reduce poverty and vulnerability while hindering the expansion of the middle class.²¹

Overall job creation decelerated, as the annual growth rate of the employed population fell from 3.5 percent during 2008–2012 to 2.5 percent during 2013–2019. Employment growth in the construction sector, a major source of job creation, slowed from 7.0 percent in 2008–2012 to 0.6 percent in 2013–2019. As a result, the share of self-employed workers rose, while the share of salaried workers declined. In 2019, the informality rate reached 49.5 percent, its highest level in 15 years, while the unemployment rate hit 6.6 percent, another 15-year high.²² During the years leading up to the COVID-19 pandemic in 2020, real labor earnings in sectors that had previously driven poverty reduction and the growth of the middle class, including construction, transportation and logistics, and retail and wholesale, started to plateau. Although poverty reduction continued over this period, driven by improvements in rural areas,²³ the Panamanian labor market lacked the dynamism to quickly recoup the income and employment losses caused by the pandemic without relying heavily on social assistance programs.

Despite its robust growth, Panama's key social and economic indicators are low relative to those of its income peers. With a Gini coefficient of 0.509 in 2021, Panama remains one of the most unequal countries in LAC, with deep territorial, ethnic, and vertical disparities. Education outcomes are comparable to those of lower-middle-income economies, mainly due to the insufficient coverage and quality of public investment in education.²⁴ Indicators of innovation and entrepreneurial capacity also lag those of upper-middle-income economies, reflecting inadequate workforce skills, low levels of private investment in research and development (R&D), limited access to finance among micro,

small, and medium-sized enterprises (MSMEs), and an insufficient supply of physical and digital infrastructure. In addition, Panama's public institutions suffer from weaknesses in public service delivery, limited evidence-based policies due to the scarcity of and limited access to data, and low levels of transparency and revenue mobilization. The country also faces significant challenges from climate change, including risks generated by the increasing frequency and severity of natural disasters, the forced relocation of coastal communities due to rising sea levels, and sustainability concerns related to water management, deforestation, and mining.

Panama's response to the COVID-19 pandemic was generally strong, but the crisis highlighted the country's structural challenges. During the pandemic, the country's GDP growth contracted by 17.9 percent, and unemployment increased to 18.5 percent.²⁵ The government responded to the crisis by investing in digital infrastructure, particularly in health, education, and social protection.²⁶ The authorities established a robust emergency cash-transfer program, *Panama Solidario* (PS), which helped mitigate the pandemic's impact on poverty and inequality.²⁷ However, structural inequalities—including low rates of internet coverage and limited digital literacy in rural areas—limited the effectiveness of some of the government's pandemic-response initiatives. Educational outcomes deteriorated, threatening students' future productivity and income levels. Under immense pressure, the health sector struggled to deliver essential services, especially in remote rural areas. The pandemic also highlighted weaknesses in public institutions and data-driven policymaking, such as the lack of a national social registry for emergency cash-transfer programs. The crisis severely affected the labor market, with especially negative consequences for low-skilled and female workers, leading to greater inequality, poverty, and food insecurity.

Panama experienced an unprecedented economic decline during the pandemic, and wide fiscal deficits drove a sharp increase in the public debt stock. Mounting debt-service payments have substantially reduced the available fiscal space. Although the fiscal deficit narrowed and the public debt stock decreased in 2021 and 2022, both remained above pre-pandemic levels. Meanwhile, the ongoing recovery has increased demand for public investment and services as the government strives to rebuild a sustainable, inclusive, and resilient economy. While the country's tax revenues are among the lowest in the world, largely due to weaknesses in tax administration and regulatory frameworks, it has considerable potential to mobilize additional tax revenue to finance productivity-enhancing investments.

Climate change presents a significant threat to the country's socioeconomic development. Panama is among the countries most vulnerable to climate-related hazards, and crucial economic assets and sectors, such as the Panama Canal, rely on the responsible and sustainable management of natural resources. Changing climatic conditions pose a particular serious threat to the most vulnerable groups, as they are more likely to be exposed to natural hazards given that their livelihoods often heavily depend on agriculture. Indigenous peoples in coastal regions are already being severely affected by climate change. For example, members of the Guna ethnic group are being relocated due to rising sea levels. Forest management, ecotourism, and sustainable agriculture

will be important sectors to continue improving the living standards of the rural poor in an environmentally sustainable manner. The government has taken important steps to promote environmental sustainability and resilience through several initiatives to manage forests, biodiversity, and water, among others.²⁸

1.3. The SCD Update Framework

This SCD Update builds on the analysis and policy priorities presented in the 2015 SCD for Panama. The 2015 SCD highlighted the country's rapid and inclusive growth, discussed in detail the areas that needed attention, and identified five priorities for the country to sustain its performance (Table 1). While most of the priorities of the 2015 SCD remain relevant, the rapidly evolving external and domestic environment has substantially altered Panama's economic context and reshaped its development challenges. In addition, Russia's invasion of Ukraine disrupted the global wheat and oil supply, and tensions between the United States and China have cast doubt on the expected future growth of the Panama Canal's activities. Climate change and rapidly rising domestic demand for fresh water also threaten the operations of the Panama Canal, underscoring the critical importance of implementing climate adaptation policies related to the canal and other sectors, as well as introducing cost recovery policies for the water sector.²⁹ Informed by the latest data and extensive consultations with domestic and international stakeholders, the SCD Update assesses and, to the extent needed, reframes the development challenges and recommendations set forth in the 2015 SCD.

Most of the key priorities identified in the 2015 SCD remain relevant, with some exceptions. The 2015 SCD highlighted education, the inclusion of indigenous peoples, the protection of water resources, improvements in the energy supply, and gains in public sector efficiency as key priority areas to promote sustainable growth. The SCD Update analysis commends the implementation of energy sector reforms, which have attracted investments to address the country's energy bottlenecks.³⁰ In addition to education, which was identified as a priority in the 2015 SCD, it also finds that human capital, including public health and social safety nets, deserves utmost attention by the Panamanian authorities as well as institutions for innovation, entrepreneurship, and R&D (Table 1). These priorities are crucial to increase Panama's productivity and avoid the 'middle-income trap.' Like the 2015 SCD, the SCD Update continues to emphasize the urgent development priority of addressing economic and social exclusion of indigenous peoples, rural communities, and women, among other vulnerable groups. Finally, the SCD Update fully recognizes Panama's vulnerability to climate change, including the need to not only sustainably manage its water resources and forests but also increase the resilience of households, firms, and public sector's assets to natural disasters—an area with numerous data and analytical gaps. In the appendix, Table A4 presents detailed policy recommendations under each priority area, Table A5 describes progress made since the publication of the 2015 SCD, and Table A6 identifies priority knowledge gaps.

The SCD Update used several methods to inform its proposed policy priorities. A benchmarking exercise was used to estimate the productivity gap between Panama

and structural and aspirational peers using comprehensive macro level data. Moreover, an analysis of microdata shed light on the specific drivers of poverty, vulnerability, and inequality, although a full-fledge analysis of the relevant data will be performed in the context of a new Poverty Assessment. Key data sources for benchmarking and analysis included household and labor force surveys, administrative data on health and education, firm-level surveys, and phone surveys conducted during the pandemic. Armed with the relevant data, in-depth consultations were held with both key Panamanian stakeholders and World Bank experts from all Global Practices.³¹

The remainder of the SCD Update is organized into four sections. Section 2 describes Panama’s current macroeconomic and poverty context, while Section 3 analyzes the country’s key developmental challenges as it strives to achieve sustainable, inclusive, and resilience convergence with high-income economies. Finally, Section 4 presents policy priorities, recommendations, and high-level outcomes.

Table 1. Priority Policy Areas Identified in the 2015 SCD and SCD Update

	2015 SCD	2023 SCD Update
Priority areas	• Education • Inclusion • Energy • Water • Public sector efficiency	• Human capital • Innovation and entrepreneurial capacity of firms and quality of jobs • Inclusion • Resilience and environmental sustainability • Public institutions, with a focus on accountability, evidence-based policy, service delivery, and revenue mobilization

Note: Tables A2a-A2b in the appendix include the findings of benchmarking analyses using different methodologies and data.

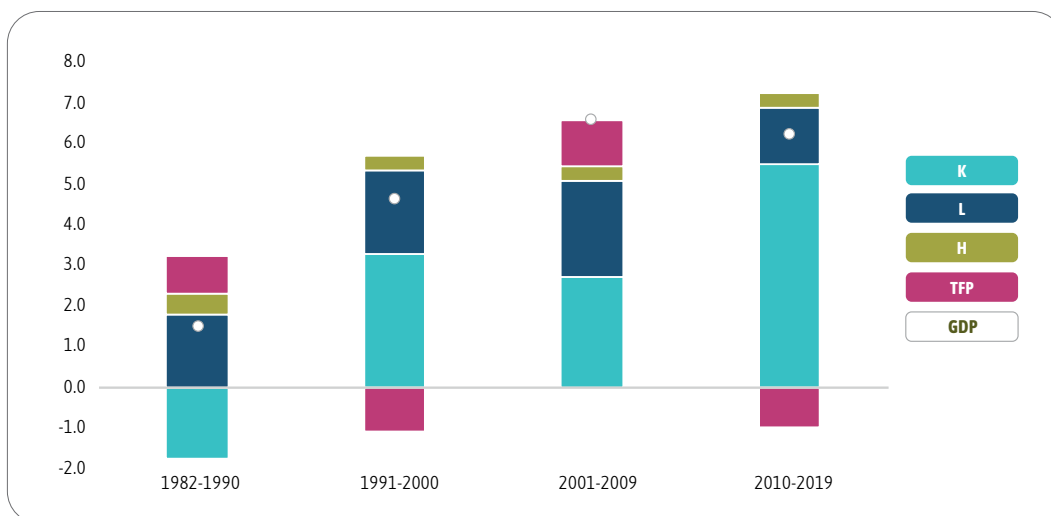
2. Growth and Poverty Context

Over the last several decades, Panama's growth has been driven by the accumulation of capital and labor, with low total factor productivity (TFP) growth. Due to its developmental challenges in human capital and innovation capacity, Panama's economic model utilizes high levels of capital and labor but relatively limited technology and workforce skills (Figure 4). However, since the mid-2010s, several factors have begun undermining the effectiveness of this model, reducing average economic growth in 2010–2019. The construction sector's contribution to growth waned during 2016–2019, reaching zero in 2019, and its share in GDP began to decrease in 2018 following the conclusion of efforts to expand the Panama Canal and other megaprojects. Similar trends are evident in other key sectors, such as finance, manufacturing, commerce and real estate, suggesting broad-based diminishing returns to factor accumulation. Meanwhile, Panama's rising per capita income has increased labor costs,³² weakening its competitiveness in low value-added production.

In addition to low TFP growth rates, overall labor productivity has increased tepidly over the last two decades (Figure 5). Weak TFP growth is driven by structural issues, including the slow growth of human capital, limited entrepreneurial and innovation capacity among micro, small, and medium-sized enterprises (MSMEs), and high rates of informality. Panama's education indicators are closer to those of lower-middle-income countries than to those of upper-middle and high-income economies. Students in Panama learn less than their counterparts in other countries, limiting their contributions to the economy and their potential income as adults.³³ The average adult in Panama receives 10.7 years of education, but this drops to 6.4 years when adjusted for the knowledge acquired.³⁴ In addition, about half the labor force is informal, and many workers are employed in low-productivity MSMEs. Several of these issues represent longstanding developmental challenges for Panama, and they are especially acute in rural areas and the *comarcas*. These challenges must be addressed if the country is to transition to a higher value-added economic model based on sustained productivity growth.



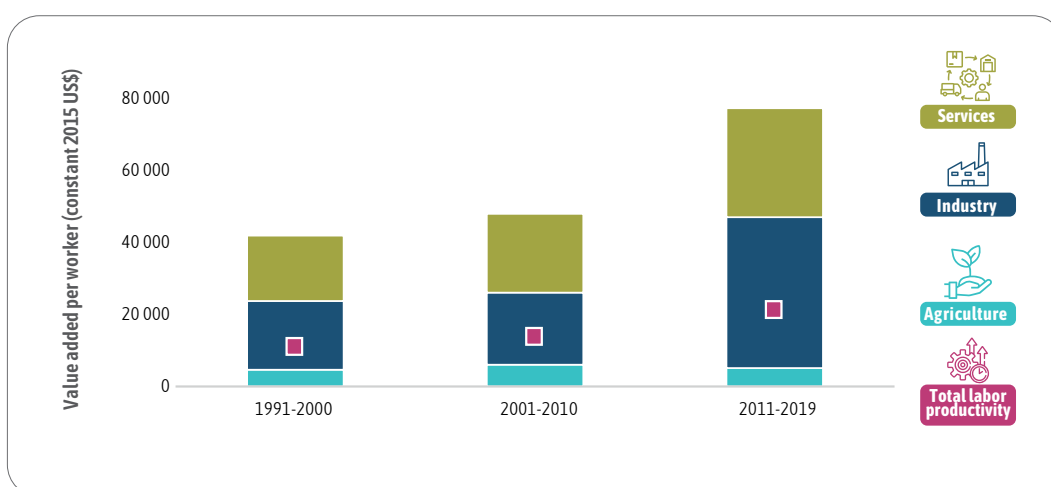
Figure 4. The contributions of TFP and human capital to growth have been very low or negative.



Source: PWT.

Note: The Figure shows the contribution of capital (K), labor (L), human capital (H), and TFP to real GDP growth (in 2017 PPP).

Figure 5. High capital accumulation boosted labor productivity in industry during 2011-2019; however, services showed modest gains, while agriculture declined.



Source: WDI.

Note: Industry includes construction. Total labor productivity is measured by dividing total value added of all sectors by total employment.

Gains in rural labor income allowed Panama to continue reducing poverty despite its macroeconomic slowdown, but significant pockets of poverty and vulnerability remain.

The country's growth has remained pro-poor: between 2013 and 2019, income among households in the bottom 40 percent of the distribution grew by 5.0 percent, significantly exceeding the national average of 4.6 percent. However, poverty dynamics were different in rural and urban areas.³⁵ In the first half of the 2010s, the urban poverty rate declined to about 5 percent, driven by a rise in labor income, and it has since remained at around that level. Meanwhile, labor income growth in rural areas started to accelerate in the second half of the 2010s, driving poverty reduction, especially in the *comarcas*. While the poverty rate fell by about 15 percentage points in the *comarcas* during this period, it remains very high at 70 percent.³⁶ Rising employment and earnings in the agriculture sector were the main driver of economic growth in rural areas.³⁷

Despite significant progress in poverty reduction over the last decades, Panama remains one of the most unequal countries in Latin America and the Caribbean (LAC).

Its Gini index fell from 56.6 in 2000 to 49.8 in 2019, driven by a narrowing but wide gap in labor income. Recent evidence suggests that this was due in part to a decline in returns to education over the last two decades, reflecting the lower quality of higher education, a growing mismatch between educational curricula and the requirements of the labor market, and a shift in demand from skilled to unskilled workers due to an expansion of labor-intensive sectors.³⁸ Still, Panama's Gini index remained among the highest in the region in 2019—surpassed only by that of Brazil and Colombia—and well above the levels of structural and aspirational peers.³⁹ The causes of income inequality in Panama are explored in Section 3.2.

Lack of productive assets, unequal access to labor markets and basic services, and limited social support prevent people from escaping poverty and vulnerability.⁴⁰

Poor and vulnerable households in Panama are characterized by very low levels of human capital. Heads of poor households have an average of just 5.8 years of completed education, just over half the middle-class average of 10.4 years. The school enrollment rate among poor adolescents aged 12–18 is just 77.6 percent, much lower than 93 percent among their middle-class peers. Insecure land tenure remains a serious challenge for indigenous peoples,⁴¹ and indicators of financial inclusion are the weakest among poor and rural households.⁴² In addition to limited access to electricity, water, and sanitation, only 55 percent of poor households have access to roads, and just 58 percent have internet access, which constrains their ability to find high-quality jobs.⁴³ Consequently, the poor face higher rates of unemployment (11 percent) and informality (92 percent), and their labor income is seven times lower than that of the middle class. While social protection programs have played a significant role in reducing poverty in Panama, their coverage and adequacy remain low.⁴⁴ In 2019, the Opportunity Network (*Red de Oportunidades*) program reached only 20 percent of households in the bottom income quintile, while transfers from the program represented an average of just 10 percent of the beneficiaries' total income.⁴⁵

The income of poor and vulnerable households is especially susceptible to shocks.

Between 2019 and 2021, workers with low levels of education suffered a disproportionate 81 percent of all job losses during the pandemic. In 2022, the fallout from Russia's invasion of Ukraine drove up global fuel and food prices, which hit lower-income households the hardest. Lower-income households are also more vulnerable to climate shocks, and their capacity to adapt is often limited. About 19 percent of the poor report having been affected by natural hazards in the last 12 months, higher than 8 percent of the middle class.⁴⁶

Changing climatic conditions and physical damage from floods and hurricanes pose an especially serious threat to the ability of poor rural households to generate income, secure food, and build human capital.⁴⁷

Agriculture accounts for two-thirds of labor income in the comarcas, much higher than less than half in other rural areas.⁴⁸ Communities in the comarcas are especially dependent on agriculture because they tend to be located far away from the country's growth corridors, and workers in these areas often lack the skills needed for jobs in other sectors.⁴⁹ Indigenous peoples, especially those in coastal and agricultural regions, face additional challenges.⁵⁰ For example, members of the Guna ethnic group are being relocated from their ancestral islands to the mainland due to rising sea levels and other climate hazards.

Panama needs to address key development challenges if it is to maintain strong, inclusive, and resilient growth.

Key priorities include investing in human capital, improving vital public institutions, increasing access to quality jobs and basic services, expanding physical and digital infrastructure, and upgrading the entrepreneurial and innovation capacity of firms and workers. In addition, climate change poses serious economic, social, and environmental challenges, and climate resilience must be at the center of the government's policy agenda. The following section examines how policymakers can promote sustainable, inclusive, and resilient convergence with high-income economies.

3.

Development Challenges to Promote Sustainable, Inclusive, and Resilient Convergence

3.1. Productivity

Panama's current model will not sustain the country's growth indefinitely, as diminishing returns to capital and labor accumulation are already noticeable. Although the country became a high-income economy in 2018, driven by the shipping and logistics sector developed around the Panama Canal, megaprojects, the Colon Free Trade Zone (FTZ), and finance and tourism, its economic model is based on factor accumulation. Meanwhile, indicators of human capital, social development, and institutional quality are closer to those of upper-middle-income countries than high-income countries. In some cases, Panama even underperforms middle-income countries. Promoting the growth of TFP and labor productivity across all sectors will be vital for the country to transition to a sustainable and equitable growth path. To achieve this, Panama will need to boost the productivity of capital and labor, enter higher value-added production segments, and strengthen environmental sustainability and resilience to natural disasters.

3.1.1. Human Capital

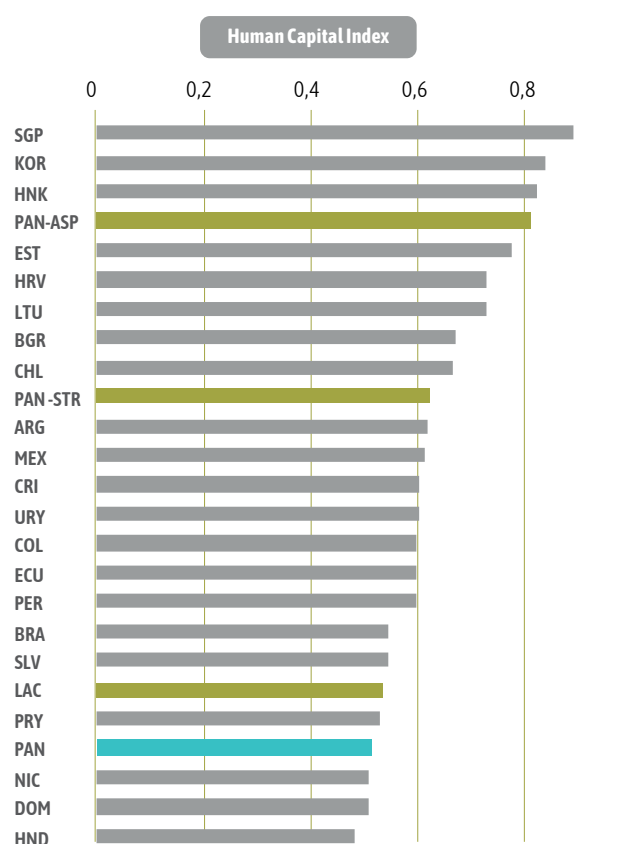
Panama's human-capital indicators remain low by regional and international standards. Healthy and well-educated individuals tend to enjoy better employment prospects, higher productivity and future earnings, and greater civic agency and overall wellbeing. Similarly, a healthy and well-educated society leads to a more productive, innovative, and cohesive labor force.⁵¹ In 2020, Panama's Human Capital Index (HCI) score was just 0.50, indicating that children born in the country today are expected to achieve only 50 percent of their potential lifetime productivity. This score is below the average of high-income countries, structural and aspirational peers, LAC, and even lower-middle-income countries such as El Salvador (Figure 6). The poor quality of the country's education



system undermines the accumulation of human capital (Figure 7). Although Panama's health indicators are relatively strong by regional standards, they lag those of structural and aspirational peers, and significant disparities are evident across the country. The pandemic further eroded Panama's human capital: public schools closed for two years, resulting in substantial learning losses,⁵² and the crisis placed enormous pressure on the health system, exacerbating service gaps in remote areas.

Weak educational attainment and high dropout rates continue to hinder the development of labor skills. Despite recent improvements in school infrastructure and primary education coverage, educational attainment and workforce skills indicators remain inadequate and uneven. Only 58 percent of Panamanians between the ages of 25 and 64 have completed secondary education, far below the high-income Organisation for Economic Co-operation and Development (OECD) average of 83 percent.⁵³ Expanding secondary education and restructuring conditional cash transfers to adequately incentivize school enrollment and retention will be crucial to develop a highly skilled workforce. Secondary enrollment rates have not improved over the past few decades, and even though returns to education have increased in recent years, the system continues to fail at retaining students throughout the entire education cycle.⁵⁴ Significant inequalities are evident even among the youngest age groups: only 63 percent of pre-primary-age children are enrolled in education, far below the average of LAC and high-income countries.⁵⁵

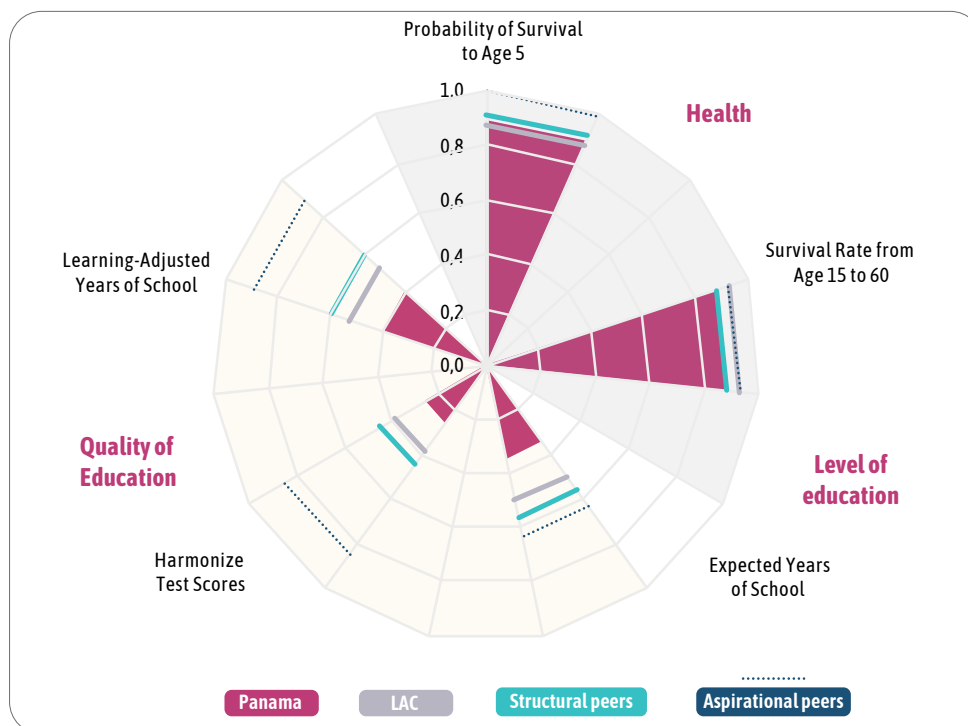
Figure 6. Panama's Human Capital Index is low by international standards...



Source: World Bank Human Capital Project 2020.

Note: Index ranges from 0 (low) to 1 (high). Data were collected in 2018. Figure shows LAC countries and aspirational and structural peers of Panama.

Figure 7. ...and the country's education system faces severe challenges in terms of enrollment, retention, and learning outcomes.



Source: World Bank Human Capital Project 2020.

Note: Index ranges from 0 (low) to 1 (high). Data were collected in 2018.

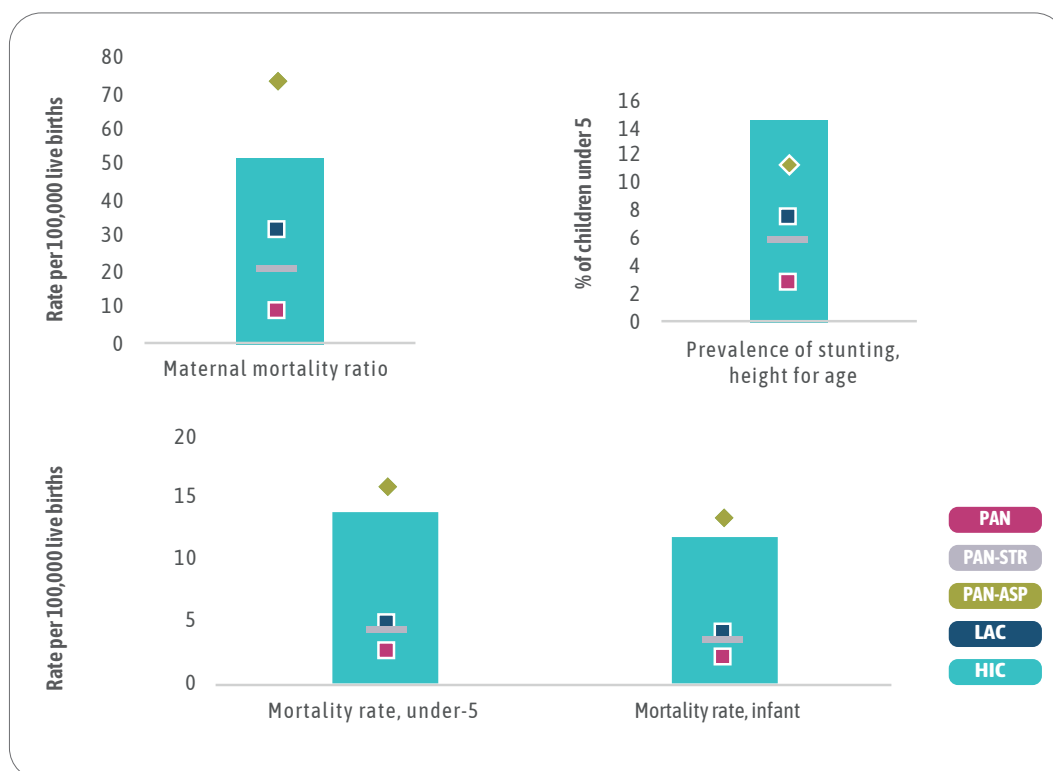
Standardized test scores are alarmingly low, especially among ethnic minorities. Students in primary and secondary school perform poorly on international standardized tests such as the Program for International Student Assessment (PISA) and the Regional Comparative and Explanatory Study (*Estudio Regional Comparativo y Explicativo, ERCE*).⁵⁶ According to the 2019 ERCE, 59 percent of third graders do not meet the minimum reading standards, and 68 percent fail to meet minimum standards in math, far above the LAC average of 44 and 48 percent, respectively. Education quality worsens in secondary school, where 83 and 97 percent of sixth graders do not achieve the minimum learning outcomes in reading and math, respectively, the second-poorest performance in the region. The 2018 PISA evaluation showed few gains since the 2009 evaluation, with more than 70 percent of 15-year-olds failing to reach the basic-level proficiency in reading, math, and science, much higher than the average of 25 percent in high-income OECD countries. Deficiencies in education are even worse in the *comarcas*.⁵⁷ On the 2018 CRECER national assessment, more than 75 percent of third graders in the *comarcas* had low or very low math scores.⁵⁸ Moreover, according to the 2018 PISA results, the gap in reading comprehension is wide between those who speak indigenous languages and those who speak other languages at home: the disparity in the average score is approximately 80 points, which is equivalent to nearly three years of schooling, according to the OECD.⁵⁹

An outdated K-12 curriculum hinders student learning and competitiveness. The development, dissemination, and implementation of relevant, inclusive, and effective pedagogical materials underpinned by clear educational objectives is essential to improve teaching and learning, but Panama has been slow to update its K-12 curriculum.⁶⁰ The revised curriculum should be more flexible for secondary students, incorporate more digital tools, and consider cultural differences across *comarcas*. The current curriculum does not establish minimum learning outcomes or skills goals for each subject, nor does it promote a results-driven culture to evaluate student and teacher performance. Addressing these shortcomings will be crucial to enhance education quality and prepare students to succeed in the modern workforce.⁶¹

Panama's education system suffers from chronic underinvestment. Over the past decade, the government has spent an average of just 3 percent of GDP on education, far below the LAC average of 4.5 percent and the high-income-country average of 4.8 percent. Underinvestment has contributed to disparities in education outcomes among different groups.⁶² Local socioeconomic indicators are a key predictor of student performance, highlighting the consequences of unequally distributed investments.⁶³ Compared to their urban counterparts, students from rural households attend schools with poorer infrastructure and fewer learning materials, and they travel longer distances to and from school. These factors contribute to higher dropout rates and weaker learning outcomes among rural students.⁶⁴ There are also challenges in terms of the quality of education, as Panamanian students perform worse on international standardized tests than their counterparts in countries with similar levels of per capita education spending, such as Jordan and Montenegro.⁶⁵

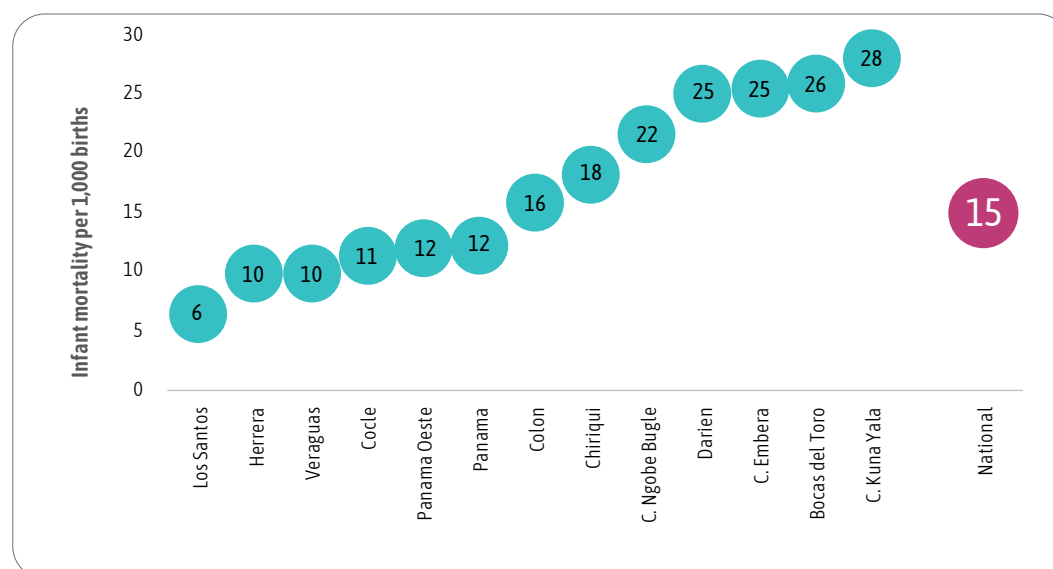
Poor health outcomes in disadvantaged regions slow the accumulation of human capital. While overall health outcomes are relatively strong by regional standards, Panama lags its structural and aspirational peers (Figure 8). Moreover, there are significant regional disparities in access to and quality of health care services, particularly between urban and rural areas, as well as between *comarcas* and the rest of the country. Panama's national life expectancy is 78 years, but it is only 70 years in indigenous regions. Infant mortality and stunting rates are also higher in the *comarcas* as well as in the high-poverty rural regions of Darien and Bocas del Toro (Figure 9).⁶⁶

Figure 8. Panama's health indicators lag those of aspirational and structural peers.



Source: WDI.

Figure 9. Comarcas and poorer provinces have significantly low health outcomes.



Source: Anuarios Estadísticos MINSA 2019.

The health sector suffers from information gaps that result in inefficient budget allocations, which in turn hinder efforts to improve health outcomes. The fragmentation of Panama's health information systems prevents a timely analysis of the impact of health spending. For example, not all health care facilities have implemented the Electronic Health Information System⁶⁷ due to inadequate staff capacity, unreliable electricity, and limited digital connectivity, while the Statistical Health Records System continues to rely on paper-based reporting in key areas.⁶⁸ The lack of systematic monitoring of health outcomes across regions hampers the government's efforts to deliver quality services nationwide.⁶⁹ Although public and private health spending in Panama exceeds the levels of regional comparators, the allocation of public resources is guided solely by historical budgets, creating few incentives to increase the efficiency, efficacy, and quality of health services.⁷⁰

3.1.2. Employment, Entrepreneurship, and Innovation

Panama's entrepreneurship, innovation, and job-quality indicators lag those of upper-middle-income and high-income countries. As the country approaches the end of its construction boom and labor costs in all sectors rise, increasing value addition through entrepreneurship and innovation will be vital for Panama to remain competitive. In 2019, Panama ranked 76th out of 137 countries in the Global Entrepreneurship and Development Institute's (2020) Global Entrepreneurship Index (GEI), with a score of 25.5 out of 100, lower than Chile and Uruguay's ranking of 19th (score of 58.3) and 60th (30.1), respectively. Among the GEI sub-indicators, Panama had the lowest score in technology absorption (10.5), followed by startup opportunity (17.8), process innovation (17.9), and risk capital (18.5).⁷¹ Several factors contribute to Panama's lower-than-expected entrepreneurial and innovation capacity in relation to its income level, including inadequate education quality, insufficient financial support for aspiring entrepreneurs and MSMEs, limited availability of private funding for research, and a weak policy framework that does not adequately support entrepreneurial activities.⁷²

While Panama's productive capacity, as measured by the United Nations Conference on Trade and Development's (UNCTAD) Productive Capacity Index, is above the LAC average, it lags that of other comparators.⁷³ The country improved its productive capacity score from 52.6 in 2019 to 53 in 2022, but it is still lower than the average of OECD and regional comparators such as Chile and Uruguay. Among the eight sub-indicators of the Productive Capacity Index, Panama scores higher than all peers on transport and all but OECD countries on structural change. By contrast, it scores lower than many of its peers on human capital, ICT, natural capital, and institutions. Furthermore, state interventions and barriers to entrepreneurship are fairly limited in Panama, but obstacles to trade and investment make it less competitive in product markets than the average of OECD and aspirational peers, although the country's competitiveness remains above the average of LAC and structural peers.⁷⁴ While the rate of new business formation in Panama increased substantially in 2022, this may indicate a lack of employment opportunities in the post-pandemic economy rather than an improving environment for entrepreneurship.⁷⁵

A persistent mismatch between educational outcomes and labor market needs is one of the key factors behind Panama's low levels of entrepreneurship, innovation, and productivity. Higher-quality jobs are associated with greater productivity, poverty reduction, and sustained growth,⁷⁶ but poor and vulnerable workers depend on low-paying jobs that offer no social benefits. Almost half of formal firms in Panama report having difficulty finding workers with the skills they need, higher than an average of 38 percent in OECD countries. In 2019, Panama ranked 66th out of 141 economies in the World Economic Forum's Global Competitiveness Index, which measures the drivers of productivity.⁷⁷ It ranked slightly above the LAC average, but well below the regional leader Chile and below Uruguay, Colombia, Costa Rica, and Peru. Panama performed the weakest on indicators of labor force skills (rank of 88th), including the difficulty of finding skilled employees (118th), limited access to digital skills (117th), and a lack of on-the-job training (92nd). Investment in workforce skills could facilitate innovation and growth, as skilled workers are more able to leverage new technologies and adapt to changing work requirements. Education, training, and innovation are complementary, as are capital investment and labor skills. In the modern workforce, a diverse range of cognitive, socioemotional, and technical skills is increasingly crucial to increase productivity and competitiveness.⁷⁸

Informality and labor market frictions contribute to inequality and hinder productivity and entrepreneurship. After declining from 77.5 percent in 1989 to 41.9 percent in 2012, the informality rate has steadily increased.⁷⁹ In 2019, almost half of the workforce was informal, and their average wage was less than half that of formal workers. Informality contributes to inequality in Panama, which has one of the widest labor-income gaps in the region.⁸⁰ Panama scores poorly on the Global Competitiveness Index ranking for the health of the labor market (92nd), reflecting a gap between wages and productivity (124th), regulatory constraints on hiring and firing workers (118th), and rigid wage determination (103rd). An OECD report found that informality is likely driven by inflexible regulations on hiring temporary workers.⁸¹ Although minimum wages appear to be only partially binding in Panama, they may represent an important cost to formalization, as over half of informal workers earn less than the average minimum wage.⁸² There is, however, evidence that minimum wages are more binding for microenterprises, with over 30 percent citing labor regulations as the main reason for increasing wages.⁸³

Panama's economic dynamism is hindered by limited entrepreneurial capacity among individuals and firms. Although there are examples of outstanding performance, the country's overall entrepreneurial capacity, as measured by the GEI, lags that of peers. In 2019, Panama ranked 76th out of 137 countries on the GEI, with a score of 25.5/100, far behind the regional leader Chile, which ranked 19th with a score of 58.3.⁸⁴ Among the three pillars of the GEI, Panama's lowest score was on entrepreneurial abilities (18.7/100), followed by entrepreneurial aspirations (21.6) and entrepreneurial attitudes (36.2). Out of 14 sub-indicators, the country scored lowest on technology absorption, process innovation, opportunity startup, risk capital, product innovation, internationalization, cultural support, and human capital.⁸⁵ Nevertheless, Panama's ranking on the Global Entrepreneurship Monitor's National Entrepreneurship Context Index improved significantly from 44th to 34th out of 51 economies between 2019 and 2022, but it

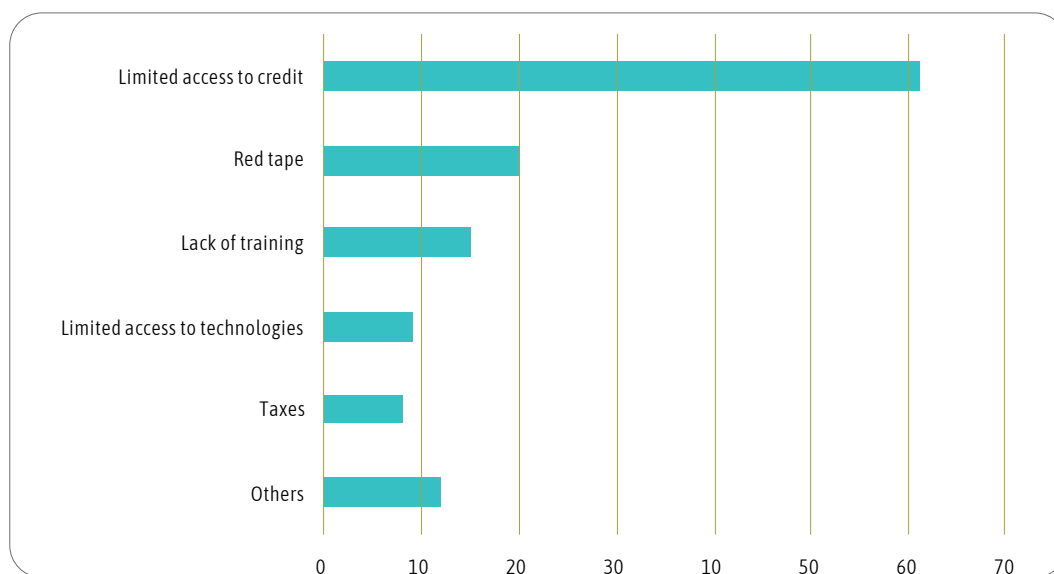
continues to lag comparator countries such as Colombia, Chile, and Uruguay.⁸⁶ Among the 13 sub-indicators on the National Entrepreneurship Context Index 2022, Panama had the lowest scores on entrepreneurial education (2.6 out of 10), government policy support (3.0), entrepreneurial finance (3.1), ease of access to entrepreneurial finance (3.6), and research and development (R&D) spending (3.7), while it had the highest scores on physical infrastructure (6.5), social and cultural norms (5.5), and commercial and professional infrastructure (5.4).⁸⁷

Barriers to financing for MSMEs and aspiring entrepreneurs negatively affect entrepreneurship, productivity, and inclusion. Seventy-five percent of workers in the bottom 40 percent of the income distribution are self-employed or work in firms with fewer than five employees.⁸⁸ MSMEs represent an estimated 95.7 percent of all firms in Panama, yet 61 percent of small businesses report having limited access to credit (Figure 10).⁸⁹ Important credit constraints include lack of collateral, complex application processes, and insufficient banking services targeting MSMEs.⁹⁰ Moreover, only 10 percent of individuals over the age of 15 report borrowing money from formal financial institutions, lower than an average of 30 percent in LAC and 56 percent in high-income countries. Notably, medium and large firms do not report facing significant credit constraints.⁹¹ Limited financial penetration may help to explain why small firms have experienced minimal productivity gains over time (Figure 11). While workers in large firms saw their labor incomes increase at an annual rate of 4.3 percent between 2015 and 2019, the labor income of self-employed individuals ticked up by just 0.2 percent.⁹²

Agriculture, tourism, and other services have the potential to enhance inclusion by creating high-quality jobs, but these sectors have yet to reach their potential. According to a World Bank report, approximately 80 percent of Panama's food producers are small family farmers, who face challenges related to low productivity and vulnerability to climate-related shocks.⁹³ The expansion of agriculture into forested areas was largely responsible for the loss of 121,619 hectares of forest cover between 2006 and 2019. Deforestation undermines the potential for ecotourism, which has not been fully developed despite the significant contribution of business tourism to GDP.⁹⁴ In addition, retail, tourism, hotels, restaurants, and other services have low levels of productivity, with minimal gains observed over the last decade.⁹⁵ Jobs in these low-productivity sectors tend to be informal and low-paying, which contributes to inequality.⁹⁶

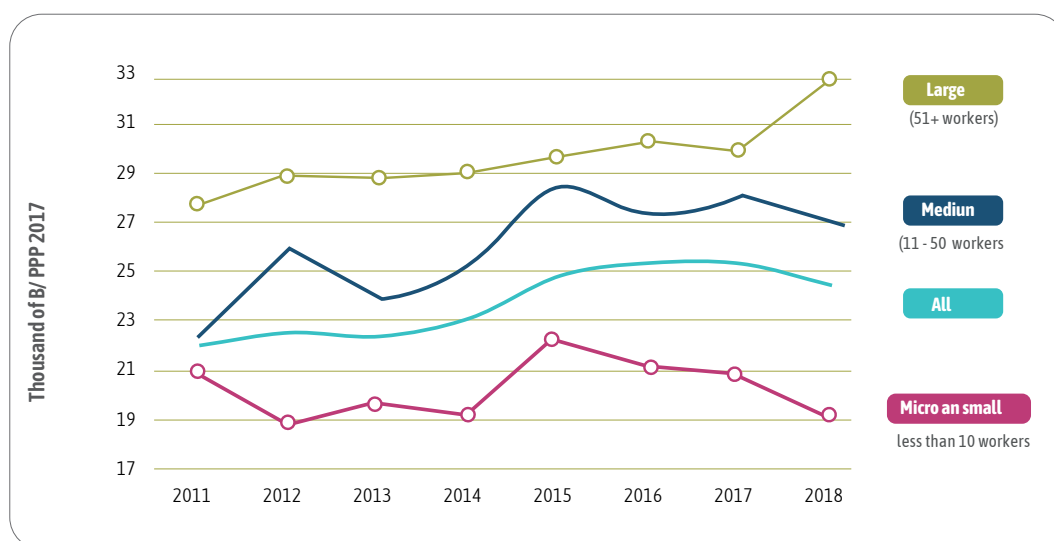
Investment in R&D and innovation rates are far below what Panama's income level would predict. The country has the lowest level of R&D investment and the second lowest innovation rate among peers (Figure 12). Investment in R&D fell from 0.4 percent of GDP in 2000 to 0.1 percent in 2013, and it remained anemic at 0.2 percent in 2017. By contrast, the level of R&D investment in upper-middle-income countries rose from 0.5 to 0.7 percent of GDP over the same period. Panama also performs poorly on the number of patent applications per capita, which increased from 2.4 per million people in 2013 to 5.1 in 2020, far below the average of 83 for middle-income countries (Figure 13). In 2020, the country ranked 73rd out of 131 economies in the World Economic Forum's Global Innovation Index, 45th out of 49 high-income economies, and 8th out of 18 economies in LAC.

Figure 10. The most common barriers faced by informal MSMEs are limited access to credit...



Source: AMPYME 2021.

Figure 11. and stagnant productivity growth.



Source: Encuesta a Empresas no Financieras EENF – INEC.

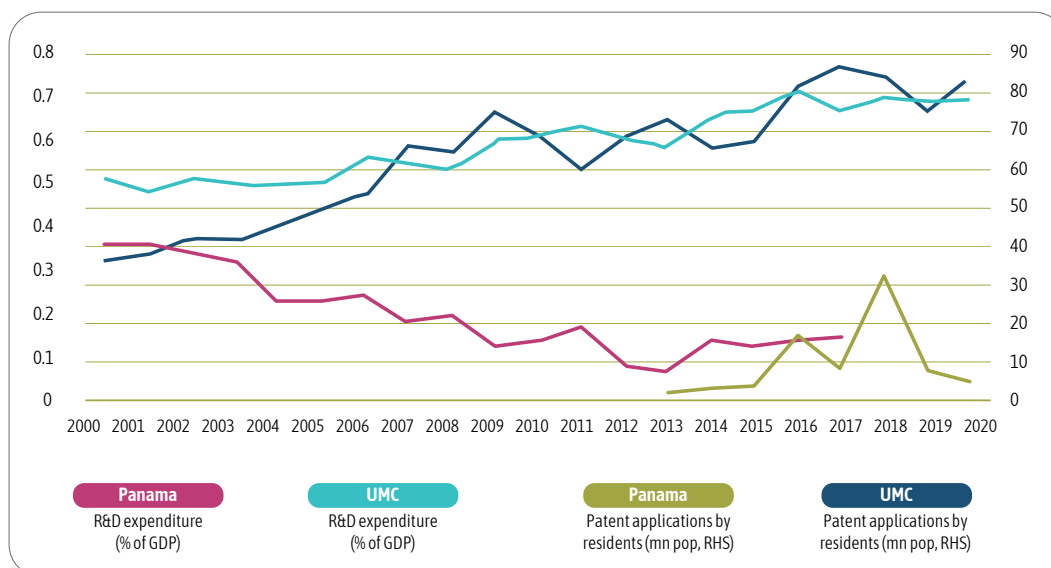
Figure 12. Panama's innovation and R&D investment levels lag those of comparators.



Source: WDI and WIPO.

Note: Averages over 2000–2021.

Figure 13. R&D investment in Panama has declined steadily since 2000, widening the gap with peers.



Source: WDI.

Panama's science, technology, and innovation policy framework remains weak despite the government's recent efforts to strengthen it. The level of R&D investment in Panama, most of which is publicly funded, is among the lowest in the world. Too few researchers and resources are available to undertake research projects, and connections among academia, industry, social institutions, and the government are weak due to the lack of a comprehensive, well-coordinated, and visionary national innovation policy.⁹⁷ Coordination among science, technology, and innovation-related institutions suffers from a lack of clearly defined responsibilities and strong leadership capable of aligning institutions around a common set of objectives.

3.1.3. Infrastructure and Connectivity

A productive economy requires well-developed physical infrastructure and digital connectivity, as they enable the fast and affordable transportation of goods and services as well as the transmission of information. Although Panama has experienced a significant level of infrastructure investment over the past three decades and boasts world-class airports and seaports, some of its road and railway systems are not on par with those of high-income countries.⁹⁸ Secondary and rural roads are especially limited, adversely affecting the productivity of a large share of the population, who face difficulties in transporting their products to markets. In 2019, only 44 percent of Panama's rural population had access to paved roads—which falls to a mere 10.4 percent in the *comarcas*⁹⁹—well below the average of most peers. While some of these challenges relate to new roads, the existing secondary and rural roads network is also poorly maintained, mainly due to lack of local resources (or fee-raising policies).

The weak regulatory framework and low technical and human resource capacity have undermined major economic gains in air transportation and other service sectors. Panama lacks a ministry dedicated to transportation, and the Civil Aviation Authority (*Autoridad Aeronáutica Civil*, AAC) is responsible for a wide range of functions, including policymaking, technical regulation, air navigation service provision, airport operations (for smaller airfields), and accident investigation. The AAC lacks the capacity to perform its responsibilities effectively. For instance, the International Civil Aviation Organization has ranked the AAC's accident investigation capabilities among the lowest in LAC. The last Civil Aviation Organization audit in 2017 presented a thorough assessment of the sector's technical regulations, and it showed that Panama underperformed the global average in seven out of eight categories and lagged regional peers.¹⁰⁰ Equally important to improving capacity building is the need to split air transportation responsibilities among different institutions to avoid conflicts of interests.

Digital connectivity has improved significantly in the last decade, but Panama continues to score below the OECD average on all connectivity indicators and below the LAC average on some indicators.¹⁰¹ Although Panama exceeds the LAC average for the number of active mobile broadband subscriptions per 100 inhabitants (79 versus 74), its 3G network coverage is in line with the average (95 percent). Still, the number of fixed broadband subscriptions per 100 people is below the LAC average (10.8 versus 13.9), as is the country's fixed broadband speed (4 Mbit/s versus 5.1). While the use of e-government,

e-commerce, and other digital services has increased considerably over the past decade, Panama's performance in these areas remains below the LAC and OECD average. The high cost of delivering fixed and mobile broadband services in rural and remote areas, where one-third of the population resides, has prevented the country from achieving the widespread adoption of high-speed internet connections.¹⁰² In 2019, 77.1 percent of urban households had internet access, much higher than only 39.8 percent of rural households.¹⁰³

Cybersecurity must be strengthened to fully leverage the benefits of digital connectivity and increase productivity. Cybercrime and cyberattacks are growing in scale, sophistication, and cost, resulting in significant financial losses for public and private organizations.¹⁰⁴ The COVID-19 pandemic exacerbated cyber risks and vulnerabilities. On the 2020 Global Cybersecurity Index, Panama ranked 103rd out of 181 countries, behind the Dominican Republic and Chile. However, the government has taken steps to strengthen cybersecurity, creating a National Cybersecurity Strategy and establishing a Cybersecurity Incident Response Team to coordinate responses to cyber threats.

3.1.4. Key Institutions to Improve Productivity

Rule of law in Panama is undermined by deficiencies in accountability and public service delivery, constraining productivity growth. Weak accountability, limited information sharing and evidenced-based policymaking, high rates of corruption, and a weak judiciary undermine the integrity of the public sector. Meanwhile, inefficiencies in tax administration reduce fiscal revenue, limiting the government's ability to implement productivity-enhancing reforms and investments. Although Panama's public-spending-to-GDP ratio is one of the lowest among structural and aspirational peers, the public sector's share in employment is among the highest, indicating the importance of government spending to the country's economic performance.¹⁰⁵

The regulatory framework for accountability is outdated and needs to be modernized. The General Comptroller's Office (GCO) plays a critical role in ensuring public sector accountability, but its main legislation dates from 1941, and subsequent laws that expanded the scope of its responsibilities may have also undermined its capacity to monitor key risks. For instance, Law 22 of 1976 introduced the need for the GCO to co-sign all central government payments subject to ex ante controls, in addition to fully administering the central government's payroll system. The GCO is also responsible for both internal and external controls of all government processes, regulates the public sector accounting system, and directly administers the country's census and compiles its statistics. The biggest modernization challenge facing the GCO is how to introduce risk-based methods to implement internal and external controls, which could, in theory, be performed ex ante.

The government has long struggled to control corruption. Over the past five years, Panama's scores on most Worldwide Governance Indicators have improved or remained stable. However, its score on control of corruption fell from 35 out of 100 during 2008–2014 to 30 during 2015–2019, well below average of both LAC (40.6) and high-income OECD countries (72.9).¹⁰⁶ In Transparency International's 2019 Global Corruption Barometer,

51 percent of respondents reported that most government officials are corrupt, and 49 percent said the same about most judges and magistrates. Both shares are above LAC averages (48 percent and 42 percent, respectively). Similarly, Panama's score on rule of law indicators in the World Justice Project has deteriorated slightly since 2015 and is among the lowest worldwide.¹⁰⁷

The judiciary faces multiple challenges. In 2023, Panama scored 51.5 out of 100 on the Heritage Foundation's Judicial Effectiveness Index, lagging the regional average (54) as well as other high-income LAC economies such as Chile (88.7) and Uruguay (80.6). Despite a relatively high degree of statutory independence, the judicial appointment process is opaque, and insufficient funding for training undermines judicial independence. The 2021 Human Rights Report highlighted that while Panama has criminal penalties for corruption, its judicial system lacks credibility and is widely perceived as susceptible to influence from the executive branch, as well as from powerful individuals and businesses, resulting in biased rulings.¹⁰⁸ Moreover, the regulations safeguarding judicial independence are not effectively implemented due to the adoption of the Accusatory Penal System in 2011, which allows judges to be dismissed without cause or appeal.

Financial sector regulation and supervision in Panama, while advanced, requires significant strengthening to ensure financial stability. The financial sector is one of the leading sectors in Panama (also in the region), with assets equivalent to about 210 percent of GDP in June 2022. Government deposits in Banco Nacional de Panama, which in turn are deposited in foreign banks, serve as international reserves in the absence of a central bank. More broadly, the institutional arrangement for the financial sector suffers from shortcomings related to recovery and resolution, crisis management, and financial sector safety nets (e.g., the country has no industry-financed deposit insurance system to protect savers and prevent a financial panic during a crisis). Furthermore, the country is at a nascent stage of mitigating the impact of climate change on the financial sector. Finally, the digital payments system is underdeveloped due to: (i) weak institutional arrangements (i.e., no law on regulation/supervision or oversight of the payment systems); (ii) limited settlement risk management; (iii) no interoperability of peer-to-peer payments and insufficient access points; (iv) limited product development; (v) lack of a comprehensive financial consumer protection framework; and (vi) minimal digital government payments, which are a key driver of financial inclusion.

Access to financial services, including digital payments, falls well behind the LAC average, diminishing the economic participation of households and MSMEs. According to Findex, only 45 percent of adults had an account at a financial institution or with a mobile money provider in 2021 (which has been stagnant since 2017), below the LAC average of 74 percent. Account ownership is even lower for women (43 percent in 2021) as well as the poorest (32 percent) and rural (37 percent) households.¹⁰⁹ The low level of access to financial services is inevitably impacted by the underdeveloped payment systems. In addition, 29 percent of adults report borrowing money, but only 10 percent do so from a formal financial institution or mobile money provider. Furthermore, 7 percent of adults own a credit card (compared to an average of 28 percent in LAC), while only 18 percent made a digital in-store merchant payment in 2021.

Persistent challenges with financial transparency led to Panama's inclusion on the Financial Action Task Force (FATF) grey list in 2019 and the European Union's tax-haven blacklist in 2020. In 2023, Panama successfully exited the FATF's grey list, following a firm policy effort of the Panamanian authorities to introduce a registry of Final Beneficiaries, a key recommendation emerging from the Anti-money Laundry and Combating the Financing of Terrorism Risk Evaluation. However, the country remains on the European Union's list of non-cooperative jurisdictions for tax purposes, as it was deemed only partially compliant with the international standard on the automatic exchange of information on request (EoIR) and still has foreign source income exemption regime that is considered harmful. Thus, Panama continues to face an important reform agenda regarding international transparency and information exchange.

Panama has one of the lowest levels of tax revenue globally,¹¹⁰ which limits the government's ability to spend in areas that promote productivity and inclusive development. Weak tax administration, numerous exemptions, and high rates of tax evasion greatly increase collection costs while lowering total tax revenues. In 2019, Panama's tax revenues amounted to 8.7 percent of GDP, far below the average of 13.5 percent for LAC and 15.5 percent for OECD countries. Moreover, tax revenues steadily declined from 10.4 percent of GDP in 2016 to 7.5 percent in 2021.¹¹¹ Forgone revenues from evasion of the corporate income tax, personal income tax, and value-added tax amount to 8.2, 0.5, and 1.8 percent of GDP, respectively.¹¹² In addition, tax-collection expenditure was equal to 3.1 percent of GDP in 2019, well above the LAC average of 2.2 percent,¹¹³ and consumed 34.3 percent of tax revenue, the third-largest share in the LAC region.¹¹⁴ While the government offsets its low tax revenues with income from the Panama Canal, greater fiscal resources are vital to improve productivity and promote inclusive development, especially given its limited fiscal space in the wake of the pandemic and the country's increasing demand for education, health care, and infrastructure.

3.2. Social Exclusion and Inequality

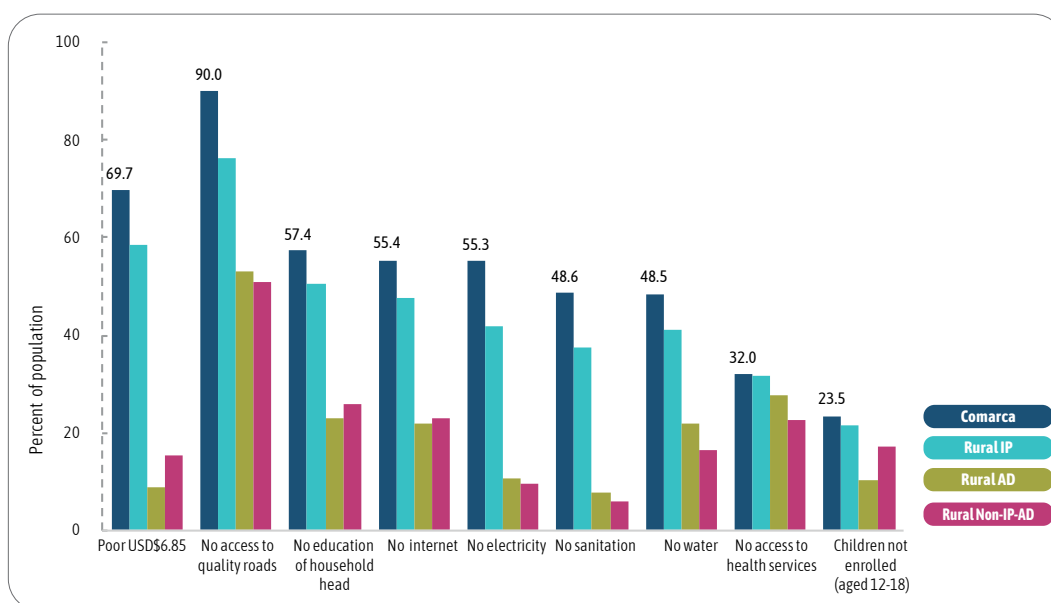
3.2.1. Vertical and Horizontal Inequalities

Panama's persistent income inequality is due in part to unequal labor earnings, which in turn reflects both the unequal distribution of skills and the sectoral allocation of labor. Labor income ranges from 42 percent of total income for households in the bottom quintile to 71 percent for households in the richest quintile. In 2019, the poorest quintile earned only 1.2 percent of total labor income, while the richest quintile earned 32.7 percent. Most individuals in the bottom quintile have a primary education or less (88.9 percent), while most individuals in the top quintile have secondary (38.7 percent) or tertiary qualifications (30.6 percent). Labor earnings increase steeply with education: the labor income of someone with a tertiary education is, on average, 6.5 times higher than that of someone with less than a primary education. Moreover, 70 percent of workers in the bottom quintile work in agriculture, which offers the lowest average compensation of any sector.

Substantial regional and ethnic disparities exacerbate socioeconomic exclusion and inequality, and Panama has some of the region's most extreme ethnicity-based inequality indicators. Indigenous people, particularly the 424,330 living in the *comarcas* and other rural areas, perform worse than other groups across a range of monetary and nonmonetary indicators of wellbeing.¹¹⁵ Monetary poverty rates reach an alarming 70 percent in the *comarcas*,¹¹⁶ which have the worst average indicators for education and access to basic services like water, sanitation, and electricity (Figure 16).¹¹⁷ Communities in the *comarcas* have limited physical and digital infrastructure, with 90 percent of households lacking access to quality roads and 55 percent having no internet access. Extreme weather events are negatively and more frequently affecting the livelihoods of people living in lagging regions: about 19 percent of poor households report being affected by a climate disaster, much higher than 8 percent of their middle-class counterparts.¹¹⁸ Indigenous people living in urban areas also experience significant more deprivation than other groups. The poverty rate among the 207,191 indigenous people living in urban areas is 15 percent, about three times the aggregate urban poverty rate. In addition, 29 percent of urban indigenous people lack access to in-home sanitation, and one in four has no access to water (Figure 17). Among the 12 LAC countries with large indigenous populations, Panama's indigenous communities have some of the lowest indicators of access to basic public services.¹¹⁹

Gender disparities also contribute to the country's socioeconomic exclusion, particularly among indigenous women. Despite recent gains, the labor force participation rate remains significantly lower for women (55.5 percent in 2019) than men (79.7 percent). The pandemic reversed a decade of progress in addressing gender disparities, as the 2021 the female labor force participation rate was 8.1 percentage points below its 2019 level and close to the level observed in 2011. Gender gaps in the labor market have negative implications for economic growth. In LAC, economic losses due to the labor force participation gap are an estimated 23.1 percent of GDP per capita.¹²⁰ Indigenous women face particularly acute deprivation. In the *comarcas*, they have the lowest levels of education (4.5 years, compared to 6.0 years for men) and receive the lowest hourly income (equal to 23 percent of the average income for men at the national level). Four out of ten employed indigenous women work without pay.¹²¹ Panama also has one of the highest teenage pregnancy rates in the region at 79.5 births per 1,000 women aged 15–19, higher than an average of 60.3 in LAC and just 11.3 in high-income countries.¹²² Early childbearing or pregnancy can negatively impact women's education and health status, preventing them from capitalizing on their assets and economic opportunities in the labor market and perpetuating the cycle of poverty across generations.¹²³

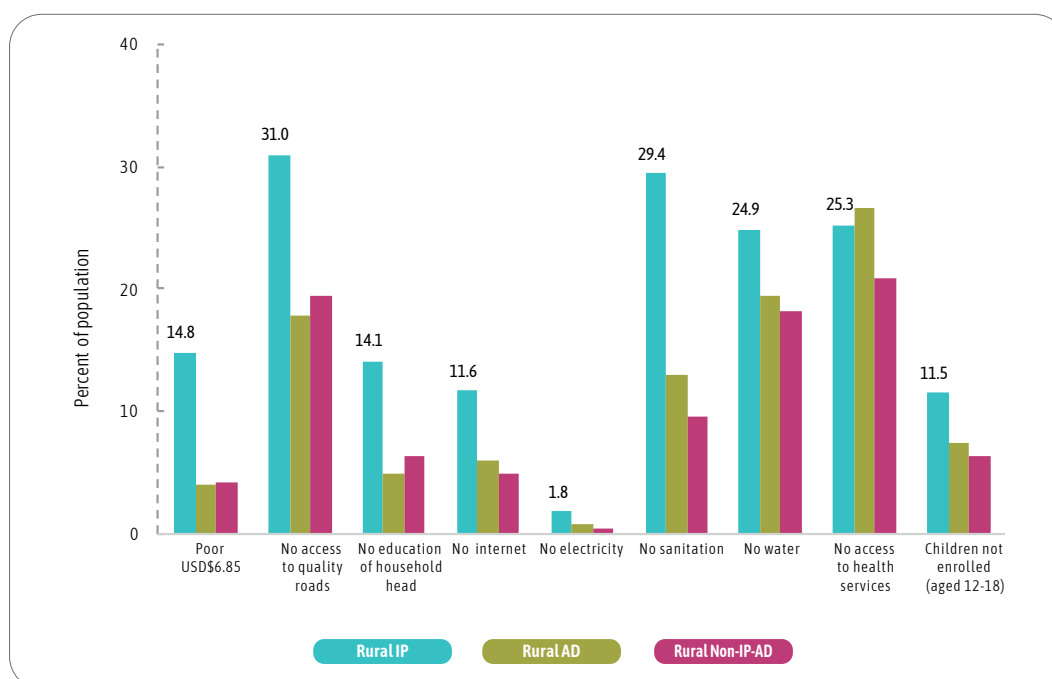
Figure 16. Indigenous peoples in rural areas face high rates of monetary and nonmonetary poverty.



Source: Encuesta de Mercado Laboral 2019 and Encuesta de Propósitos Múltiples 2019.

Note: All indicators are measured as a percentage of the population, except “children not enrolled,” which is the percentage of the population aged 12–18 years.

Figure 17. Indigenous peoples in urban areas also lag other communities on measures of wellbeing.



Source: Encuesta de Mercado Laboral 2019 and Encuesta de Propósitos Múltiples 2019.

Note: All indicators are measured as a percentage of the population, except ‘children not enrolled,’ which is the percentage of the population aged 12–18.

In addition to indigenous peoples and women, other vulnerable groups face social and economic marginalization. Panamanians of African descent (afro-descendants, people with disabilities, and sexual and gender minorities may be especially vulnerable to poverty and deprivation. In addition, Panama is experiencing a significant surge in transit migrants, reaching unprecedented levels and representing substantial challenges for the country. However, information on these groups is limited. Box 2 in the appendix describes these knowledge gaps.

3.2.2. Key Institutions to Improve Inclusion

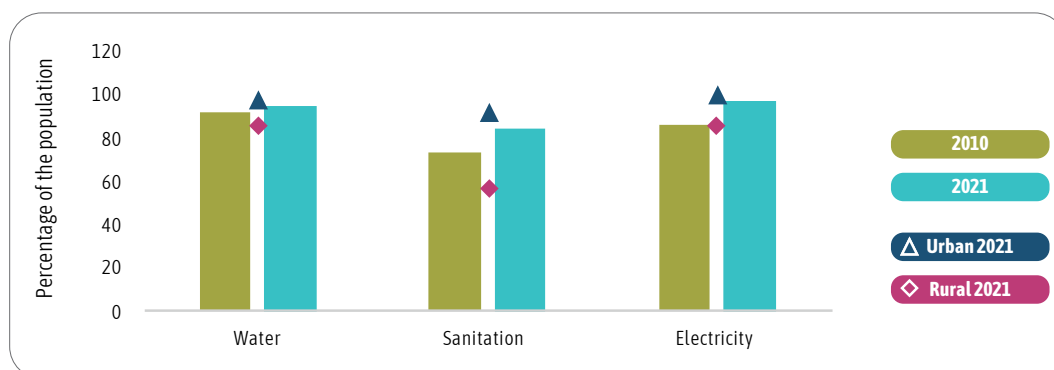
The provision of basic public services has improved over the last decade, but access and quality indicators still vary significantly across the country. Progress has been made in expanding electricity and sanitation services, but access remains below the regional average,¹²⁴ and disparities across areas and socioeconomic groups are substantial and persistent (Figure 18). In some *comarcas*, almost no households have access to electricity. Moreover, sanitation access rates range from less than 50 percent in the *comarcas* to just under 80 percent in Darien and Bocas del Toro and more than 90 percent in other provinces. Despite recent efforts to ensure universal access to electricity, service quality remains low.¹²⁵ High energy prices and frequent shortages during the dry season caused by transmission constraints and issues in the distribution network highlight the need to diversify the energy matrix away from its dependence on hydroelectric power.¹²⁶ The pandemic posed significant challenges for public service delivery, but it also encouraged experimentation with the use of information and communications technologies (ICT) in the health, education, and social protection sectors.

Panama's social protection programs have helped reduce poverty and increase human capital, but their efficiency and effectiveness remain limited. During the pandemic, the government introduced the *Panama Solidario* (PS) program, which covered a large share of Panamanian households. The program is estimated to have prevented a more severe increase in poverty during the pandemic, but better targeting will be necessary to improve the program's efficiency as it continues to support vulnerable households. The government has increased social spending over time, but it remains only slightly above the LAC average.¹²⁷ Moreover, the coverage, targeting, and adequacy of social assistance continues to pose challenges, as a significant share of social benefits goes to households in the middle- and upper-income quintiles (Figure 19). In addition, some lower-income elderly individuals in the *comarcas* are excluded from the government's 120/65 Program, even though some of its benefits reach households in the higher-income quintiles. The targeting of other subsidy programs can also be improved. For instance, the cooking-gas subsidy benefits both rich and poor households alike, and Panama lacks an adaptive social protection system capable of expanding the beneficiary base in response to shocks and crises. Both regular and adaptive social protection systems require a universal registry of potential beneficiaries.

The country's fiscal system does not adequately reduce inequality, and it exacerbates regional disparities in public service provision. The budget for Panama's provinces is 58 times larger than the budget for the *comarcas*, even though the provincial population is only 16 times larger. This funding gap substantially impacts access to basic services.¹²⁸ In addition, the tax system's redistributive power is low, reducing the Gini index by just

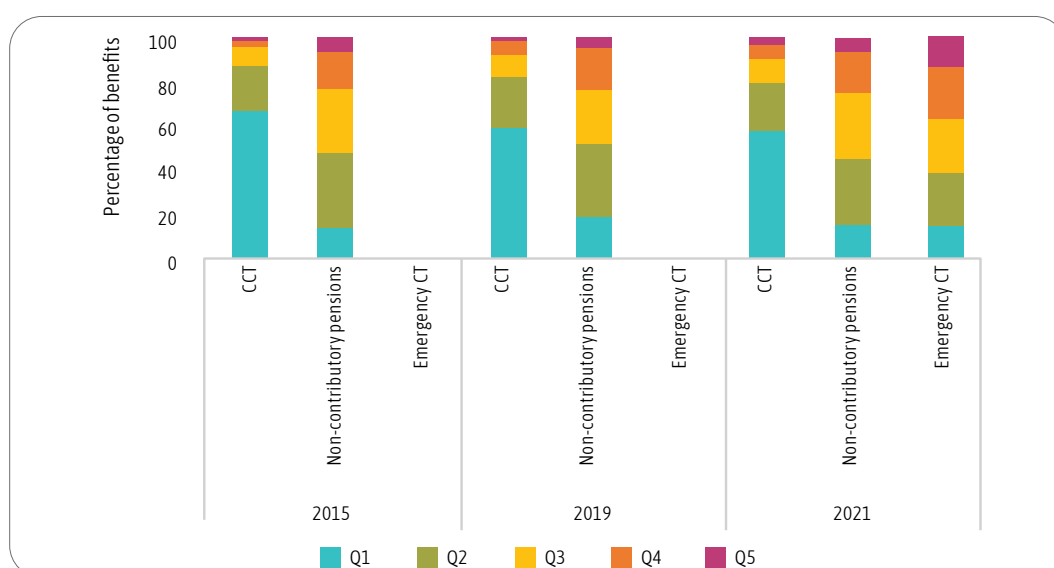
0.021 points, well below the OECD average of 0.16 and slightly below the LAC average of 0.022.¹²⁹ Redistribution occurs primarily through transfers rather than taxes.¹³⁰ Recent evidence shows that average tax rates are similar among people across the income distribution, highlighting the capacity to improve the progressivity of the tax system.

Figure 18. Access to basic services improved between 2010 and 2021, but territorial gaps persist.



Source: WDI and EML2021.

Figure 19. A significant share of the benefits of social programs does not reach the poorest households.



Source: EML2015-2021.

Note: Ranges from Q1 (poorest quintile) to Q5 (richest quintile).

Significant weaknesses in the government's statistical capacity limit evidence-based policymaking. Statistical performance indicators reveal that Panama's national statistical system is less capable and mature than the average of comparator groups.¹³¹ The country's weak statistical capacity is due in part to the limited: (i) availability of resources to generate data;¹³² (ii) openness of available data; and (iii) depth and breadth of available data. Data can play a transformative role in public service delivery and resource prioritization.¹³³ Although the government recognizes the importance of data interoperability and ICT in a modern public administration, it has not fully embraced a culture of data-driven monitoring and evaluation of public services.¹³⁴

3.3. Environmental Sustainability and Vulnerability to Climate Change

Panama is highly vulnerable to climate change, and the increasing frequency and intensity of natural disasters caused by rising temperatures poses significant risks to the country. Average temperatures have risen by 1–3°C since the 1970s.¹³⁵ Meanwhile, the frequency and intensity of El Niño and La Niña events have also increased, leading to severe floods and droughts.¹³⁶ Panama ranks 14th globally on the exposure to multiple hazards based on land area and 35th on mortality risk from these hazards.¹³⁷ The country's major economic assets and sectors, including the Panama Canal, hydroelectricity, tourism, and agriculture, are highly dependent on sustainable water management.¹³⁸ The country represented only 0.04 percent of total global emissions in 2019.¹³⁹ Its net greenhouse gas (GHG) emissions remain negative due to its forests and per capita GHG emissions are below the averages of LAC region and the high-income countries.¹⁴⁰ The energy sector continues to be the largest contributor to GHG emissions, accounting for 63 percent of the total in 2017. Nevertheless, the installed capacity of non-conventional renewable energy sources in the country's electricity matrix reached 18.22 percent in 2022.¹⁴¹ In 2017, transportation contributed 36 percent of total GHG emissions, of which 30 percentage points came from overland transport and 6 percentage points from maritime and riverine transport, while electricity contributed 12 percent of total emissions.¹⁴² It is crucial that the government implements policies that protect Panama's natural resources, population, and economy from the adverse effects of climate change while promoting environmental sustainability.

3.3.1. Water Resources

Panama has the world's 24th largest stock of water per capita, yet it faces important challenges around water sustainability.¹⁴³ These include: (i) inefficient water use and management; (ii) increased pressure on water resources; (iii) the effects of climate change and high temperatures, which in 2019 caused a decrease in the Panama Canal's water level and slowed its activities; and (iv) the pollution of drinking water. The hydroelectric sector uses the largest share of fresh water (23 percent), followed by the transportation sector (1.9 percent). Another 20 percent of the available freshwater is projected to be used by 2050.¹⁴⁴ Nearly half of Panama's water systems (47.5 percent) did not apply tariffs in 2018, far above the levels of regional comparators such as Nicaragua (22.9 percent) and Honduras (4.4 percent).¹⁴⁵ In over 90 percent of the country's water systems, the monthly household tariffs collected were insufficient to cover infrastructure, operations, and maintenance costs.¹⁴⁶

The country's water sustainability challenges stem from deficiencies in water management.¹⁴⁷ Although in principle the National Water and Sanitation Utility (*Instituto de Acueductos y Alcantarillados Nacionales*, IDAAN) covers areas with a population of over 1,500, in practice fewer than half of the *corregimientos* with over 1,500 inhabitants are served by IDAAN.¹⁴⁸ Only half of water users pay tariffs, and the tariff schedule has not been updated since 1982.¹⁴⁹ No new financing programs are available to help fund projects in rural areas. Due to limited budgets, a lack of technical personnel, and inadequate coordination among the authorities in charge of water systems, water projects either do not advance or do not function as intended. Since the basic sanitation program was launched in 2014,¹⁵⁰ only 10 percent of the agreed upon improvements have been

implemented. Many facilities and infrastructure projects cannot be used because either they were constructed without resolving water connections issues or treatment plants were not properly established.¹⁵¹

Pressure on Panama's water resources is steadily increasing. Water consumption has risen substantially over the past decade, while production has been declining since 2016.¹⁵² Low tariffs, high levels of non-revenue water due to inadequate metering and frequent nonpayment, aging infrastructure, increased demand from the Panama Canal following its expansion, increased hydroelectric production, population growth, and high rates of urbanization all contribute to excessive water consumption, making effective water management especially critical.¹⁵³

Water levels are decreasing due to climate change. Panama experienced its most severe drought in 2019, when an El Niño event increased temperatures and reduced rainfall by 20 percent below its historical average, impacting water availability for about half of Panama's population and the Panama Canal.¹⁵⁴ The Panama Canal region has already experienced an increase in average temperatures of about 1.1°C, and this could reach as high as 3.6°C by 2100, reducing surface water and causing extreme droughts.¹⁵⁵

Panama's poor water quality threatens human health, particularly among vulnerable populations and rural communities. The country's water quality ranked 100th out of 180 countries in 2022, the lowest in LAC.¹⁵⁶ The leading causes of water pollution and ecosystem damage include agricultural activities, urbanization, mining, and illegal logging.¹⁵⁷ In 2018, 5.9 percent of the rural population did not have access to clean water, down from 7.9 percent in 2015. Meanwhile, the share of the urban population without access to clean drinking water increased from 1 percent to 2 percent between 2015 and 2018 due to disruptions in residential water services. There are also large disparities in water access among the poor, non-poor, and indigenous populations.¹⁵⁸ In 2018, 80 percent of poor households had access to clean water, lower than 97 percent of non-poor households. In some areas, less than 35 percent of the indigenous population has access to clean water.¹⁵⁹

3.3.2. Vulnerability to Natural Disasters and Environmental Sustainability

Panama is vulnerable to extreme weather events, which are driven by climate change and intensified during the last two decades, affecting thousands of people and causing millions of dollars in damage.¹⁶⁰ About 15 percent of the country's land area and 12.5 percent of its population are vulnerable to two or more natural hazards. Between 1982 and 2008, Panama was struck by 32 natural disasters, resulting in 249 deaths and an estimated US\$86 million in economic damages.¹⁶¹ Four of the country's most intense storms and several of the worst droughts in the last 100 years have occurred in the past decade, underscoring the need to prepare for more extreme weather in the future.¹⁶² Extreme rainfall is the leading cause of flooding, followed by poorly maintained infrastructure, deforestation, and garbage thrown into rivers. In addition to floods, storms and droughts, Panama is also vulnerable to wildfires, earthquakes, landslides, tropical cyclones, tsunamis, and El Niño and La Niña events.

Forests play a key role in reducing GHG emissions in Panama, but the country's forests are under threat.¹⁶³ In 2017, land-use changes and deforestation were the second-largest source of GHG emissions, accounting for 19.6 percent of the total.¹⁶⁴ More than 70 percent of these emissions were caused by forestlands being converted into grassland. The Darien, Panama, and Coclé provinces have the highest rates of forest conversion into grassland and cropland.¹⁶⁵ Although Panama has one of the highest rates of forest cover in Central America at 61 percent,¹⁶⁶ 484,692 hectares were deforested during 2005–2015.¹⁶⁷ Most of its mature forests are in protected areas and indigenous territories, with forests in the *comarcas* accounting for 34 percent of the country's total forest cover. Deforestation is driven by the expansion of farming and cattle ranching as well as illegal logging.¹⁶⁸ Intensive agricultural practices reduce the soil's ability to store water, which increases the risk of flooding.

In 2019, the opening of the Cobre Panama mine, one of the world's largest copper mines, created new environmental challenges. The mining sector's share in GDP rose from 0.1 percent in 2018 to 4.6 percent in 2019. No climate change legislation has been specifically developed for the mining sector, but the Ministry of Environment (*Ministerio de Ambiente*, MiAmbiente) is empowered to implement initiatives to address and counter climate change, which may include adopting new rules for the mining sector.¹⁶⁹ According to a 2019 study by the United Nations,¹⁷⁰ since beginning operations, Cobre Panama has caused significant environmental damage, including the contamination of rivers due to accidents involving vehicles transporting fuel to mine sites and high sediment movement, which has increased water pollution.¹⁷¹ The new contract with Cobre Panama, approved by Parliament on October 20, 2023, was declared unconstitutional by the Constitutional Court on November 28, 2023. The ruling of the Court requires the termination of the contract with Cobre Panama but not necessarily the closure of the mine.¹⁷²

Historically, fossil fuels accounted for roughly two-thirds of Panama's total primary energy supply, but the country's energy mix has been diversified in recent years.¹⁷³ Energy production and consumption accounts for 50.6 percent of GHG emissions, of which 56 percent are generated by transportation, which includes civil aviation and land, maritime, and river transportation.¹⁷⁴ Panama has made considerable investments in renewable energy. In 2020, 28.4 percent of the energy consumed came from renewable sources, slightly less than the LAC average (33.9 percent) but far below the average of regional leaders such as Uruguay (61.1 percent), Brazil (50.1 percent), and Costa Rica (36.4 percent).¹⁷⁵ Although most of the country's renewable energy is hydropower, the introduction of new renewable energy technologies has diversified the energy mix. In 2021, 82 percent of Panama's electricity came from renewable sources such as hydropower, solar, wind, and biomass, surpassing most structural and aspirational peers¹⁷⁶, though still below the levels of Uruguay (85 percent) and Costa Rica (100 percent).¹⁷⁷

3.3.3. Key Institutions to Improve Environmental Sustainability and Climate Change

The deficiencies in the country's water management system identified in the 2015 Systematic Country Diagnostic (SCD) remain unaddressed. Weaknesses in the regulatory framework for water management, including the tariff schedule, have led to serious challenges in the water sector. These include: (i) the duplication of projects due to insufficient coordination among relevant institutions; (ii) suboptimal implementation of projects in rural and remote areas due to the limited decentralization of decision-making power and financial resources; (iii) noncompliance with regulatory codes for infrastructure due to inadequate monitoring and enforcement; (iv) foregone revenues due to outdated tariffs; and (vi) large amounts of non-revenue water due to aging and poorly maintained infrastructure.

While the government created MiAmbiente in 2015 to elevate environmental protection to the ministerial level and has developed various environmental projects, these efforts are insufficient to address the country's environmental challenges.¹⁷⁸ The establishment of MiAmbiente increased the financial and human resources allocated to efforts targeting the environment, and national environmental regulations have been strengthened. MiAmbiente has been empowered by Law No 8 of 2015 to foster initiatives to address and counter climate change in Panama. While the authorities have adopted rules applicable to the mining sector, there is no comprehensive regulatory framework for sustainable mining activities. On April 30, 2021, the government issued Executive Decree No. 135, which called for creating a platform to collect climate-related data and monitor vulnerability to climate change.¹⁷⁹ However, further regulations are needed to strengthen the government's response to climate change and promote decarbonization and adaptation, building on the Paris agreement. Panama has also not adopted a comprehensive framework for promoting energy efficiency.

Despite recent improvements, further efforts are necessary to improve the legal and institutional framework for disaster risk management (DRM). In response to increased disasters, Panama has been shifting its focus from a centralized disaster response to a more comprehensive and inclusive approach to DRM that integrates disaster risk reduction. In 2010, the government approved the Comprehensive Disaster Risk Management National Policy to clarify the DRM responsibilities of line ministries. It also provided a DRM legal framework for the Ministry of Economy and Finance that included a comprehensive disaster risk financing strategy and implementation plan with a diverse array of financing instruments. The government has been reorganizing and strengthening the National Civil Protection System (*Sistema Nacional de Proteccion Civil*, SINAPROC), but further efforts are needed to increase its operational efficiency and DRM capacity.¹⁸⁰

4. Policy Priorities and High-Level Outcomes

4.1. Build Human Capital

Building the country's human capital remains vital to promote inclusive income and productivity growth. The 2015 SCD emphasized the need to prioritize: (i) technical education to better respond to labor market demand; (ii) monitoring and evaluation systems to improve education quality; and (iii) grade-based differentiation of Universal Scholarship (*Beca Universal*) benefits to reduce dropout rates in secondary education.¹⁸¹ The government has made important progress in all three areas. In 2017, the Specialized Higher Technical Institute was established to meet the demand for technical graduates.¹⁸² To improve monitoring, Panama participated in international and national assessments of student learning (PISA, ERCE, and CRECER).¹⁸³ The government also replaced the Beca Universal with the Social Assistance Program for Universal Education (*Programa de Asistencia Social Educativa Universal, PASE-U*), expanding its coverage and differentiating benefits by education level. In addition, Panama is implementing the *Plan Colmena*, a territorial strategy aimed at empowering local communities in the poorest *corregimientos* by strengthening local capacity and increasing community engagement in the delivery of public services, including education. However, low levels of educational attainment, high dropout rates (particularly in secondary education), poor learning outcomes, and skills mismatches continue to pose important challenges.

Improving access to high-quality education should remain a key priority for the government. The education system should update its K-12 curriculum to establish minimum learning goals and foster a results-driven culture for evaluating the performance of students, teachers, and staff. Continue updating the curriculum could help create a more inclusive system that accounts for ethnic differences, offering more flexible and



relevant content and teaching methodologies to boost secondary retention and foster skills development.¹⁸⁴ The government should also evaluate, adapt, and strengthen conditional cash transfer programs, which have been shown to reduce dropout rates in secondary education. In parallel, the authorities should introduce a permanent monitoring and evaluation system to track teacher and student outcomes.¹⁸⁵ Teaching and learning models should be updated to allow for distance learning and other flexible modalities facilitated by technology. The Digital Equity Law¹⁸⁶ offers scope to enable the creation of new educational platforms. However, to achieve its education goals, the government will need to strengthen education financing and focus on improving the quality and equity of service delivery.

Beyond fundamental education reforms, addressing skills mismatches requires coordinated action. The government must strengthen the operation and management of higher education and vocational institutes by enhancing coordination, establishing common standards, and updating curricula to align with evolving private sector needs and emerging technologies.¹⁸⁷ Increased funding, enhanced research institutes, stronger public-private coordination, and revised curricula for K-12 and higher education should be complemented by career guidance during secondary education to better align student choices with labor market needs.

Improving the quality and coverage of health care services will contribute to the development of human capital in underserved areas and marginalized communities. To address disparities in service provision, the government can implement incentives and adopt a results-based resource allocation system.¹⁸⁸ To effectively implement these measures, the authorities must strengthen and standardize procedures for utilizing the Electronic Health Information System, which will require training health care personnel and ensuring access to digital resources in remote areas. The government can also promote the development of traditional medicine in the *comarcas*.¹⁸⁹ As ICT connectivity expands throughout the country, remote health services (telehealth) will become increasingly viable. The authorities can help ensure access to affordable, high-quality medications by bolstering the supply chain through the integration of improved information systems. Establishing a strategic price regulatory framework, streamlining strategic procurement processes, and harmonizing the procurement procedures of the Ministry of Health and the Social Security Fund (CSS) would allow for consolidated procurement while improving the efficiency with which medicines are distributed.¹⁹⁰

Increasing public investment in education and health could accelerate human capital accumulation and improve access to quality services for vulnerable groups. In addition to direct investments in health and education infrastructure, complementary investments in roads, electrification, sanitation, water, and digital services will be crucial to enhance equity and boost workforce productivity. While the COVID-19 pandemic and the economic fallout from Russia's invasion of Ukraine have put additional pressure on the public budget, the public-private partnership law offers an opportunity to co-finance infrastructure projects.

4.2. Increase the Innovation and Entrepreneurial Capacity of Firms and the Quality of Jobs

The government has taken significant steps to boost the country's innovation capacity and promote entrepreneurship, but the national innovation system remains weak. In 2007, the Science, Technology, and Innovation National Secretariat (*Secretaría Nacional de Ciencia, Tecnología e Innovación*, SENACYT) was created to lead science and technology policy, and the Inter-ministerial Council for Science, Technology, and Innovation (*Comisión Interministerial de Ciencia Tecnología e Innovación*, CICYT) was established in 2011 to coordinate and promote science-related policies, plans, and programs in collaboration with ministries across different sectors. In 2015, Panama developed its first 25-year science policy, along with a strategic plan for 2015–2019. More recently, in 2019, the new CICYT for 2019–2024 was formed. SENACYT has developed the National Strategic Plan for Science, Technology and Innovation for 2019–2024, whose approval was recommended by the CICYT.¹⁹¹ In 2017, the government launched the *Panama Emprende y Crece* program to promote MSME productivity, and it enacted a law in 2021 to promote entrepreneurship.¹⁹²

The authorities must address remaining weaknesses in the institutional framework of the national innovation system to promote productivity growth and entrepreneurship.¹⁹³

These weaknesses include: (i) lack of scientific funding, particularly from the private sector; (ii) inadequate coordination across institutions involved in science and technology policy, which causes inefficiencies in balancing strategic objectives, activities, resources, and responsibilities; (iii) insufficient funding and policy support to empower public and private universities to improve education quality, train technical professionals, and conduct research; (iv) constraints on access to finance among aspiring entrepreneurs and MSMEs; and (v) limited coverage, quality, and security of digital services as well as disparities in access to these services across social groups.

Developing digital infrastructure and services should be an integral part of the government's economic and scientific policies. The government aims to promote digital transformation through various initiatives, including two comprehensive strategic plans: (i) the Strategic Plan of the Government 2019–2024¹⁹⁴ and (ii) the Annual Digital Agendas.¹⁹⁵ Both plans highlight the importance of transitioning from partial e-government systems to a fully digital government. Digital policies focus on establishing online processes for government entities, promoting the use of e-signatures, and protecting sensitive data.¹⁹⁶ Although the government and private sector have both made efforts to increase cybersecurity, the country still faces challenges around data protection and cyberattack preparedness.¹⁹⁷

Panama needs a robust and comprehensive legal framework to improve digital infrastructure and services. This includes regulations to promote equal access, accelerate digital public service delivery, and protect citizens and businesses from cyberattacks through public-private partnerships (PPPs), subsidies, and universal service funds. Adopting a unique interoperability platform, strengthening the regulatory framework for data protection, approving laws on cybercrime, and developing a directive for crisis management are all important to strengthen the digital economy.

To develop a strategic vision and effectively mobilize resources to build innovation capacity, the government should consolidate and strengthen institutional and regulatory frameworks for science and technology. Under the leadership of SENACYT, each of the ministries involved in the CICYT should develop a strategic vision for innovation in its respective sector and mobilize the resources necessary to implement that vision. These plans should be developed in close collaboration with academia, the private sector, non-governmental organizations, and other ministries and agencies to ensure their relevance and maximize their impact.

The government must focus on alleviating constraints on employment growth and MSME productivity. The authorities should analyze the impact of labor regulations on the ability of firms to hire temporary workers and the effect of minimum wages on informality and productivity. Increasing the number of workers with higher education can boost productivity, but only if the quality and relevance of education aligns with the needs of the growing economy. Priority should be given to training technicians, engineers, and workers in skilled trades. In addition, investments in vocational education, digital literacy, and on-the-job training can help upskill the existing labor force. Engaging in a dialogue with the private sector can help ensure that graduates possess the necessary skills.¹⁹⁸ In parallel, improving access to credit and simplifying the formalization process for entrepreneurs and MSMEs is vital to productivity growth. Continuing and expanding programs like the Panama Entrepreneurship and Growth 2017–2022 and the National Policy for the Development of Micro, Small, and Medium Enterprises 2017–2022 can contribute to creating a more favorable environment for entrepreneurship and innovation.

Policy reforms should aim to drive growth in sectors that promote economic inclusion among disadvantaged groups. Strengthening the rural territorial development approach¹⁹⁹ can promote sustainable and inclusive socioeconomic development by unlocking opportunities in the agriculture and ecotourism sectors while leveraging synergies with the National Protected Areas System (SINAP) and forest conservation policies.²⁰⁰ Sustainable agriculture can incorporate emerging technologies, climate-smart practices, and digital solutions and offers opportunities both in domestic and international markets.²⁰¹ The nearly 340 agro-industrial companies currently operating in Panama already generate about 32,000 full-time jobs, accounting for 8.5 percent of total employment. The tourism sector is growing, and rural tourism and ecotourism offer significant opportunities for indigenous peoples and Afro-descendants (ADs) to benefit from their land, industries, traditions, and cultures. Further developing logistics and infrastructure connecting urban and rural areas will be necessary to realize the potential of rural tourism and ecotourism. In addition, expanding service exports could drive productivity growth and support the creation of high-quality jobs.²⁰²

To remain competitive, Panama will need to accelerate productivity growth and transition to higher value-added production. The contributions of services and industry to GDP have increased substantially over time, while the contribution of manufacturing and agriculture has decreased.²⁰³ However, structural economic transformation has not been accompanied by sustained improvements in skills and productive capacities, resulting in a less sophisticated production structure, with a rising share of low-complexity goods and services exports.²⁰⁴ Productivity growth will require greater investments in human

capital; digital infrastructure and technologies; innovation and entrepreneurial skills of both individuals and firms; economic diversification; and a transition to more sophisticated forms of production with higher added value. Sectors with untapped potential for more complex production include vegetables and foodstuffs, transportation and logistics, chemicals and plastics, ICT, financial intermediation, insurance, and ecotourism.

4.3. Ensure the Inclusion of Indigenous Communities, Rural Populations, and Women

The adoption of the Integral Development Plan of Indigenous Peoples (Plan de Desarrollo Integral de Pueblos Indígenas de Panamá, PDIPIP) was an important step to promote social and economic inclusion. The PDIPIP is based on a dialogue between the government and indigenous authorities that began in 2012. The plan presents a strategic vision to guide the design of public policies and programs in indigenous communities formed with their active input. The National Indigenous Peoples Council provides a permanent platform for dialogue and institutionalized the coordination between indigenous peoples and the government.²⁰⁵ In 2020, Congress approved Law No. 301, which is aligned with international best practices and has set an important precedent for the region. Key elements of the legislation include: (i) the formal adoption of the PDIPIP; (ii) a framework for the inclusion of all indigenous peoples, both within and outside indigenous territories, in planning and implementing policies and public investments; and (iii) the establishment of a monitoring system to track policy commitments and targets.

Further reforms and increased investment will be necessary to provide economic opportunities, social assistance, infrastructure, and legal rights for indigenous peoples. To enhance the human capital of indigenous peoples, the quality and relevance of educational and health services must be improved in the *comarcas* and other indigenous territories by continuing the implementation of intercultural bilingual curricula and intercultural health protocols.²⁰⁶ The lack of basic services, particularly water and sanitation, is a persistent issue due to challenges in delivering these services in remote and small rural communities, as well as larger inefficiencies in public service delivery. Improving, rehabilitating, building, and maintaining the road system is crucial to connect indigenous communities with markets and services. Implementing a combination of climate adaptation and social protection policies will be vital to reduce poverty, narrow the gap in public services between urban and rural areas, and mitigate the negative welfare effects of natural disasters. Creating opportunities for indigenous peoples to engage in forest management, ecotourism, and sustainable agriculture could raise incomes and improve living standards.²⁰⁷ Establishing and enforcing land rights is vital to the social and economic wellbeing of indigenous peoples. The government must continue strengthening its institutional capacity to implement the PDIPIP and coordinate a dialogue with indigenous authorities.

Panama has made addressing territorial disparities a key element of its national agenda. The top priorities outlined in the Government Strategic Plan 2019–2024 are to reduce poverty and close regional and ethnic gaps in social and economic indicators.²⁰⁸ In 2022, the government launched *Plan Colmena*, which aims to strengthen local capacity and

promote community participation in the delivery of public services. In addition, the Family Farming Law was approved to address urban-rural disparities and help close income, poverty, and gender gaps. The law sets out important measures to strengthen policies and institutions, and it explicitly recognizes the contribution of small farmers to the country's food security and cultural identity.

Increasing access to productive resources and economic opportunities for women, particularly in indigenous communities, is crucial to reduce gender inequalities. Gender disparities hinder the ability of rural women to access public investment programs or secure private financing to improve their productivity and increase their income.²⁰⁹ Fostering gender equality and women's empowerment is essential to achieve the objectives of the PDIPI. The government must ensure that public services address the unique challenges faced by indigenous women, strengthen the capacity of line ministries to incorporate gender into strategic planning and service delivery, and enhance the participation of indigenous women in the decision-making processes of indigenous authorities.

4.4. Promote Environmental Sustainability and Strengthen Resilience to Natural Disasters

The government has taken important steps to improve environmental and water sustainability in line with the recommendations of the 2015 SCD. The creation of MiAmbiente in 2015 was supported by three strategic plans: (i) the Biodiversity Strategy and Action Plan 2018–2050; (ii) the National Environmental Strategy 2021–2050; and (iii) the National Forest Strategy 2050. The government has also undertaken numerous initiatives since 2015 to promote environmental sustainability and strengthen resilience to natural disasters.²¹⁰ In 2015, the High-Level Committee on Water Security was created to prepare the National Water Security Plan 2015–2050. The Panama Canal Authority has implemented incentive programs for environmental protection in the Panama Canal's watershed, including the introduction of a freshwater fee and measures to promote the use of green technology. IDAAN has implemented several initiatives to reduce water leakages and decrease water contamination. The government also began transitioning the energy sector toward a more diverse energy mix that takes full advantage of the country's significant potential for renewable energy.

To address the remaining challenges to improving water quality and sustainability, the government needs to make progress on six key priorities. Despite the government's implementation of various initiatives aimed at addressing water quality and sustainability concerns,²¹¹ the following six areas still require significant attention: (i) investing in upgrading, renewing, and maintaining old water and wastewater infrastructure to improve the storage, delivery, and resilience of the water system; (ii) improving the institutional, administrative, and technical capacity of agencies involved in the management of water resources; (iii) clarifying the responsibilities of different institutions in charge of water systems and promoting practices and technologies that improve water management; (iv) producing timely, reliable, and standardized information on water resources and improving real-time data collection; (v) developing innovative solutions

to increase efficiency, such as water-saving technologies and water recycling and reuse, including investing in smart irrigation systems to increase the efficient use of water for agriculture;²¹² and (vi) reducing gaps in water quality and accessibility, particularly in rural and indigenous communities, by expanding water infrastructure and promoting a more equitable distribution of resources.

To sustainably manage and conserve the country's forests—which play a vital role in managing water resources and offsetting GHG emissions—the government must enforce sustainable forestry practices and promote reforestation and restoration efforts.

Coordinated action will be necessary to reduce the impact of economic activities on forests. Improved monitoring and surveillance tools can help identify areas of deforestation and illegal logging, and the government can do more to raise public awareness regarding the importance of forests and the damage caused by illegal logging. Efforts to prevent deforestation and watershed degradation can also support sustainable agricultural livelihoods in Panama's poorer rural areas. A large share of forest losses during 2012–2019 occurred in the country's poorest and agricultural areas. Through several programs, the government is committed to protect and restore forests.²¹³

To limit the impact of climate change on household welfare, natural resources, and macroeconomic prospects, the government must invest in both adaptation and mitigation measures.

Adaptation measures should focus on making infrastructure more resilient by assessing its vulnerability to disasters, investing in upgrades and maintenance, and developing appropriate land-use plans. Establishing and strengthening early warning systems is crucial to protect lives and livelihoods, and promoting the conservation of natural resources and improving the governance of public institutions are vital to reduce risk and increase the effectiveness of disaster response efforts. SINAPROC's institutional, risk assessment, and monitoring capacity must be improved, and the authorities need to develop emergency response strategies and adopt diversified risk-management instruments. On the mitigation side, Panama can significantly reduce GHG emissions in key sectors such as mining, transportation, and energy by accelerating the transition to renewable energy. Strategic PPPs could help the government meet its climate goals while boosting economic growth, creating employment opportunities, and enhancing welfare. Panama submitted its Nationally Determined Contribution as part of the Paris Agreement in 2020, reaffirming the country's commitment to place sustainability and climate action at the center of its economic and social policies.²¹⁴

Strengthening resilience to natural disasters will require upgrading the country's technical and institutional framework for multi-hazard monitoring networks and early warning systems.²¹⁵

Panama possesses essential components to enhance resilience against natural disasters and has taken significant steps to fortify its resilience, including through its insurance partnership with the Caribbean Catastrophe Risk Insurance Facility and its parametric insurance policy for excess rainfall.²¹⁶ Going forward, the government could benefit from revising existing institutional arrangements to effectively address observed and projected climate trends as well as changes in natural, agricultural, and built environments. Creating a sovereign insurance strategy for disasters would help minimize their fiscal impact, and the government is assessing which sovereign insurance strategy would be optimal for catastrophic coverage in terms of costs/benefits.

Decarbonizing land transportation is critical to meet Panama's emissions-reduction targets. Land transportation is the largest contributor to GHG emissions at the national level, accounting for 30 percent of total emissions and 80 percent of all transport emissions. Panama's efforts to increase renewable energy capacity will have little effect on transportation until the share of electric vehicles in the national fleet becomes significant. In the meantime, improving urban mobility, upgrading and diversifying public transit systems, expanding options for non-motorized transportation, renewing the vehicle fleet, setting more restrictive emission standards, and improving fuel quality could help decarbonize land transportation. The government recently launched several initiatives to promote electric vehicles.²¹⁷

To support the green transition, the government must develop and implement a comprehensive regulatory framework to promote sustainable practices in all sectors.²¹⁸

Particular attention should be devoted to the transportation, energy, manufacturing, and mining sectors, which are the largest contributors to GHG emissions. While Panama has made considerable strides in promoting renewable energy production, it could achieve further gains by: (i) forming new PPPs in renewable energy; (ii) establishing technical and vocational training programs focused on renewable energy; (iii) strengthening regional cooperation in renewable energy; (iv) create a green taxonomy to promote investment in the green and blue economy; (v) investing in R&D for renewable energy technologies; and (vi) mobilizing green financing.

4.5. Cross-Cutting: Strengthen Public Sector Institutions

The authorities have implemented several reforms to address the policy priorities highlighted in the 2015 SCD, which include increasing transparency, strengthening the regulatory framework, and improving the efficiency of public sector management. The government has established an anti-corruption prosecutor's office and a new judicial council to address corruption issues. Since 2018, it has improved the public procurement framework, including through the creation of a mandatory open-source platform, PanamaCompra, which has enhanced the transparency, efficiency, and accountability of budget management. While these measures are important, their impact will ultimately hinge on improvements to the quality and accessibility of budget information, the creation of stronger oversight and enforcement mechanisms to combat corruption, and reforms to enhance accountability in the public sector. For example, Panama's outdated accountability framework should be modernized as part of a broader effort to comply with the International Standards of Supreme Audit Institutions.²¹⁹ Panama exited the FATF's grey list in October 2023, after the completion of all reforms required to boost financial transparency. However, the country remains on the European Union's list of non-cooperative jurisdictions for tax purposes, due to partial compliance on the automatic exchange of information on request and foreign source income exemption regime.

Strengthening the planning, monitoring, and evaluation functions of the Ministry of Economy and Finance and approving pending anti-corruption legislation are vital to improve governance.²²⁰ Since 2018, the authorities have taken several steps to promote transparency and combat corruption, including through the implementation

of PanamaCompra.²²¹ However, lengthy review times in the comptroller's office slow the procurement process and weaken the system's efficiency. Investing in public information systems presents a significant opportunity to increase transparency and efficiency in public services while addressing corruption and bolstering judicial independence. The government should strengthen legal protections, increase transparency in the appointment and removal of judges, and ensure that judges have adequate resources and training. Furthermore, although the Panamanian financial system has demonstrated great stability with a dollarized economy, low inflation, and no banking crisis or balance of payments imbalances,²²² it would benefit from a deposit insurance system to further strengthen its financial stability and protect depositors. Deposit insurance is considered international best practice, even for dollarized economies, to mitigate financial risks during a crisis, promote financial inclusion, and increase consumer confidence. When developing the deposit insurance system, the authorities will need to develop a contingency plan and assess the tradeoffs between the benefits of improved financial stability and the moral hazard risks that the government has pointed out as reasons for not having deposit insurance.²²³

The government needs to strengthen its statistical capacity and promote a culture of evidence-based policymaking. Despite its weaknesses in statistical capacity, Panama has a well-defined legal framework for producing data and compiling statistics.²²⁴ The government recently implemented International Monetary Fund recommendations²²⁵ to develop the National Institute of Statistics and Census (*Instituto Nacional de Estadística y Censo*, INEC) and update the National Statistics Plan,²²⁶ and it has taken steps to modernize the National Statistical Office.²²⁷ Going forward, policymakers should aim to close important data gaps by implementing socioeconomic surveys, censuses, and specialized surveys, improving administrative recordkeeping, and ensuring that vulnerable groups and remote regions are accurately captured in the data. Open access to government data is vital to facilitate research, accountability, and data-driven policymaking. Finally, the government should establish a culture of monitoring and evaluation in strategic areas, including health, education, social inclusion, climate change, and private sector development, to adjust its policies and deliver services more cost-effectively.

Institutional weaknesses in social protection, infrastructure, aviation, and other key sectors must be addressed to increase the effectiveness of public service delivery. The social protection system would benefit from incorporating analytical insights and expanding the use of high-quality program assessments. In addition to improving the regular social protection system, creating an adaptive social protection system would enable the government to swiftly deliver assistance in response to natural disasters and other shocks. The targeting and delivery of social protection programs should be enhanced, especially for the most vulnerable and marginalized groups. The government's efforts to create a national registry of beneficiaries are important and necessary to improve the management of social protection programs, and the Ministry of Social Development is currently evaluating the impact of cash transfers. In infrastructure, strengthening the institutional capacity of local agencies could enhance their ability to contribute to project implementation, while clarifying management responsibilities and increasing coordination among public agencies could improve investment efficiency. In

addition, developing a comprehensive regulatory framework for aviation and increasing the technical and human resources in the sector are vital to ensure safe and effective operations.

The government must increase tax revenues to afford reforms aimed at promoting inclusion and productivity. Due to the role of low taxes in attracting investment, the authorities have been reluctant to raise rates for major taxes. The government, however, requires additional revenues to restore its fiscal space after extensive pandemic-related expenditures and to foster inclusive growth. Policymakers should therefore focus on improving tax and customs collection efficiency and broadening the tax base by reducing exemptions, deductions, and tax expenditures that mainly benefit higher-income households.²²⁸ International Monetary Fund recommendations include reviewing tax exemptions and improving the design of excise taxes, adjusting personal income tax exemptions and deductions, and evaluating corporate income tax incentives. The digital economy also provides opportunities to improve revenue mobilization, and applying value-added taxes to Panama's digital economy could generate up to US\$86 million by 2025.²²⁹ The government has submitted a bill to impose a value-added tax on nonresident digital services platforms, which could significantly increase tax revenue. Additional reforms could make Panama's fiscal system more progressive and pro-poor. In August 2023, the DGI announced that it will regulate digital platforms to establish a level playing field for all companies and increase tax revenues.²³⁰

4.6. High-Level Outcomes

The policy priorities of the SCD Update include promoting sustainable, inclusive, and resilient growth to advance the twin goals of ending extreme poverty and boosting shared prosperity. The priorities are instrumental to achieving three critical high-level outcomes: (i) increasing labor productivity and job quality across sectors by building broad-based human capital, improving access to productive assets and infrastructure, and increasing the innovative and entrepreneurial capacity of firms and individuals; (ii) improving the inclusion of vulnerable groups by increasing the access of indigenous communities, rural populations, and women to labor markets and public services, including well-targeted social protection services; and (iii) increasing environmental sustainability and socioeconomic resilience by improving water management and forestation, enhancing the country's preparedness and response capabilities to natural disasters, and promoting environmental sustainability through a reduction of GHG emissions and greening economic activities. Enhancing the capacity of public institutions is a fundamental priority that intersects with all four policy priorities and aligns with all high-level outcomes.

Table 2. Priorities and High-Level Outcomes

Twin goals: Ending extreme poverty and boosting shared prosperity.			
High-Level Outcomes	1. Increase labor productivity and job quality across all sectors and skill groups. 2. Increase the inclusion of vulnerable populations. 3. Increase environmental sustainability and socioeconomic resilience.		
Policy Priorities	1. Build human capital: Enhance the quality and availability of education and health services. 2. Increase the innovation and entrepreneurial capacity of firms and enhance job quality: Improve business skills; expand access to finance for MSMEs; build digital and physical infrastructure; increase technological uptake; and invest in R&D and technology transfer. 3. Ensure the inclusion of indigenous communities, rural populations, and women: Expand access to labor markets, basic public services, and a well-targeted social protection program. 4. Promote environmental sustainability and strengthen resilience to natural disasters: Improve the management of water and forest resources; enhance disaster preparedness and response capabilities; decrease GHG emissions; and promote the green economy. 5. Cross-cutting: Strengthen public-sector institutions: Promote accountability, evidence-driven policies, effective public service delivery, and revenue mobilization.		
Development Challenges	Weaknesses in Key Institutions		
	Productivity	Social exclusion and inequality	Environmental sustainability and vulnerability to climate

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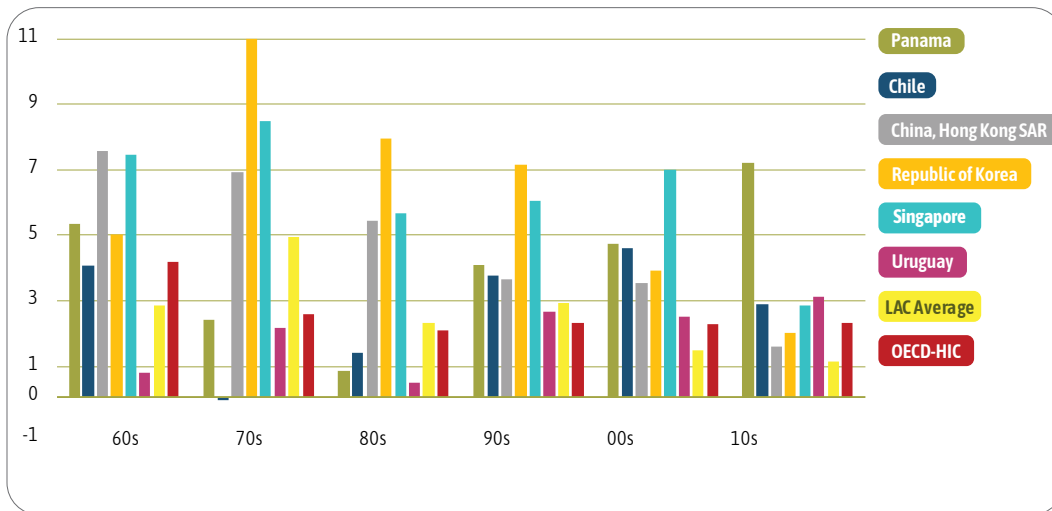
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Appendix I - Figures

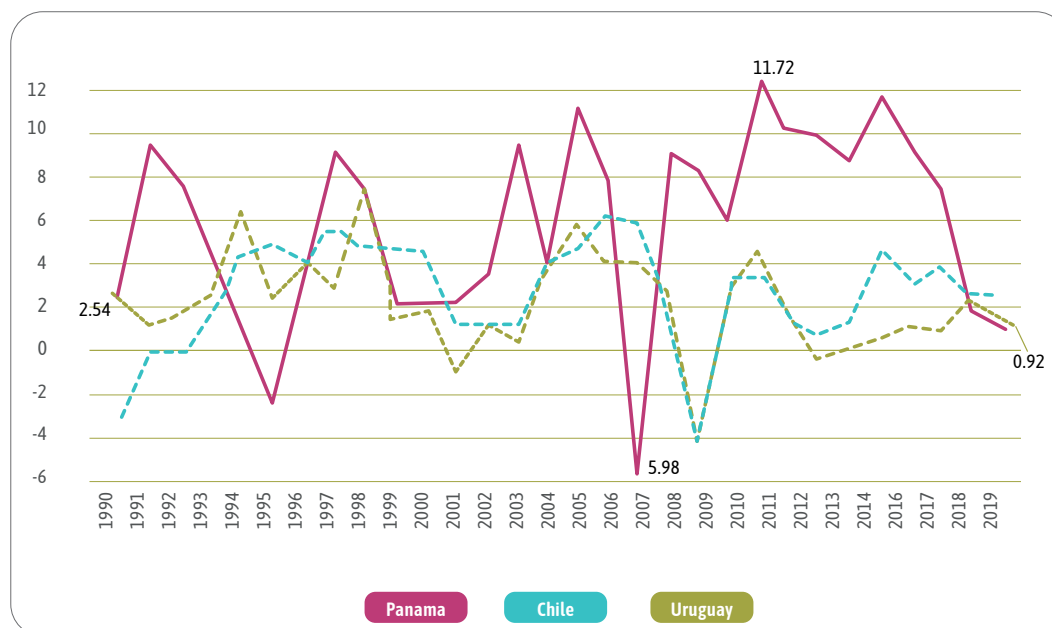
Figure A1a. While Panama's real GDP per capita growth has outperformed most peers since the 1990s...



Source: PWT.

Note: GDP per capita in 2017 PPP.

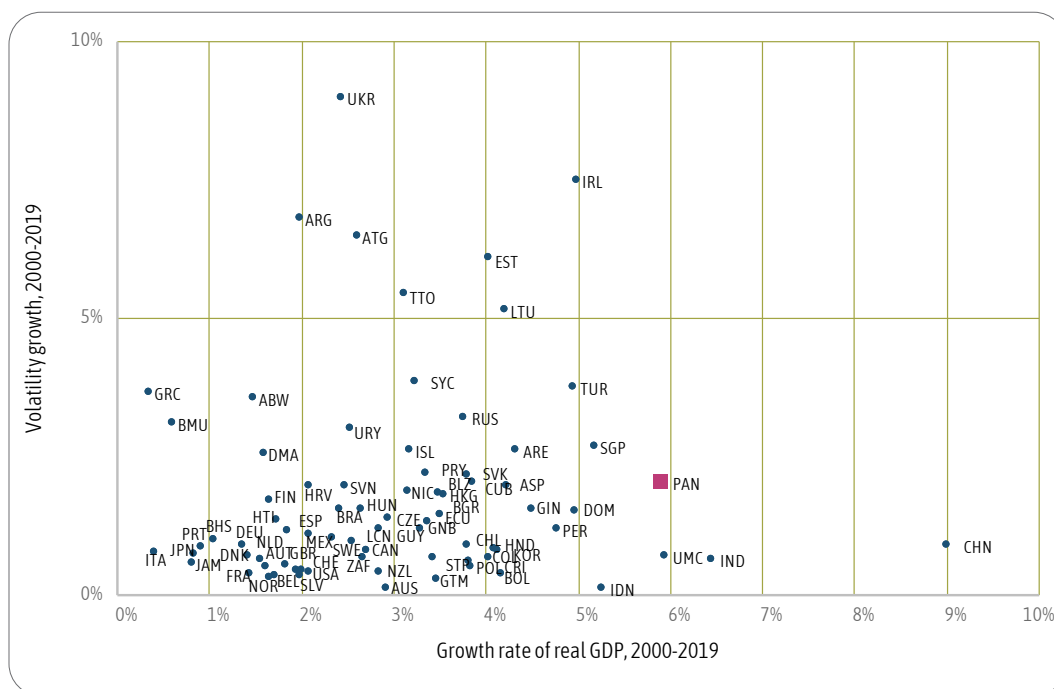
Figure A1b. ... it has been decelerating since 2017.



Source: PWT.

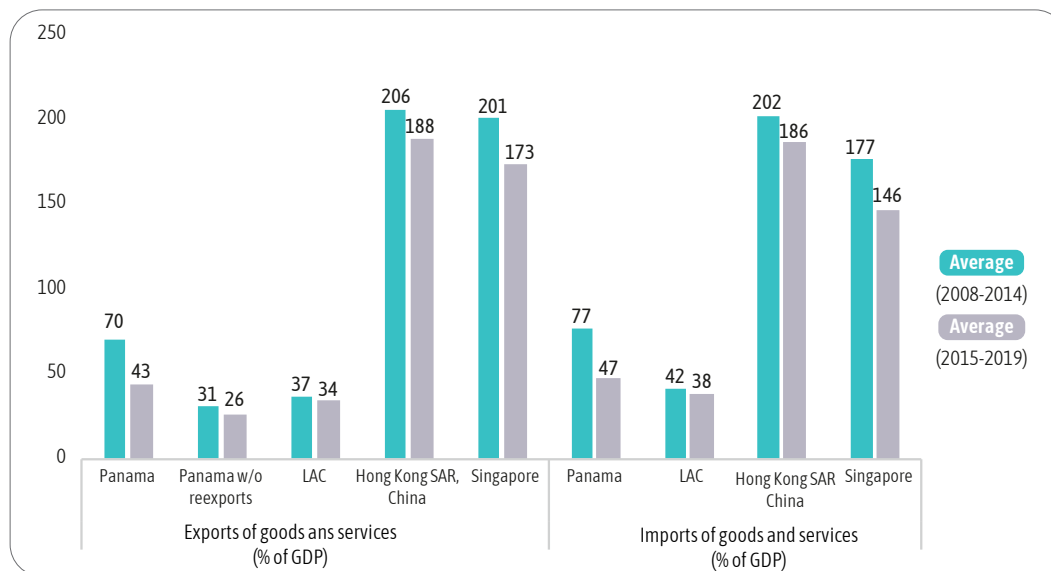
Note: GDP per capita in 2017 PPP.

Figure A2. Panama's growth volatility was among the lowest among peers in 2000–2019.



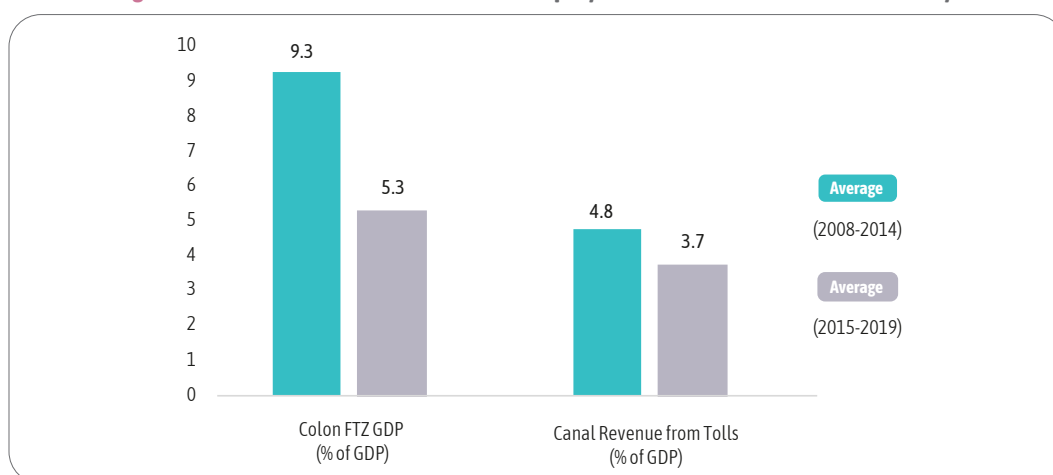
Source: WDI and staff calculations.

Figure A3. Panama's export and import shares of GDP are higher than the LAC average but lag aspirational peers.



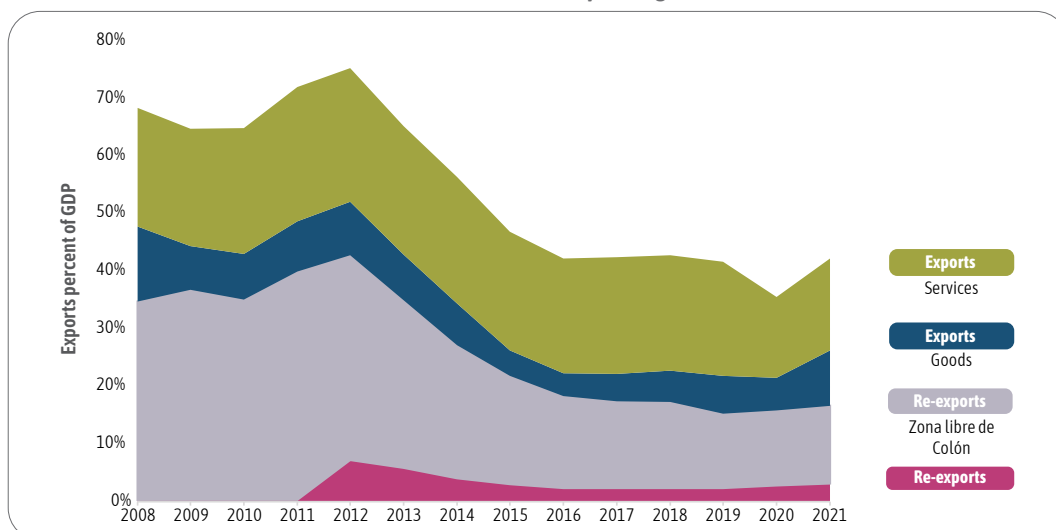
Source: INEC and WDI.

Figure A4. The Colon FTZ and Panama Canal play a crucial role in Panama's economy.



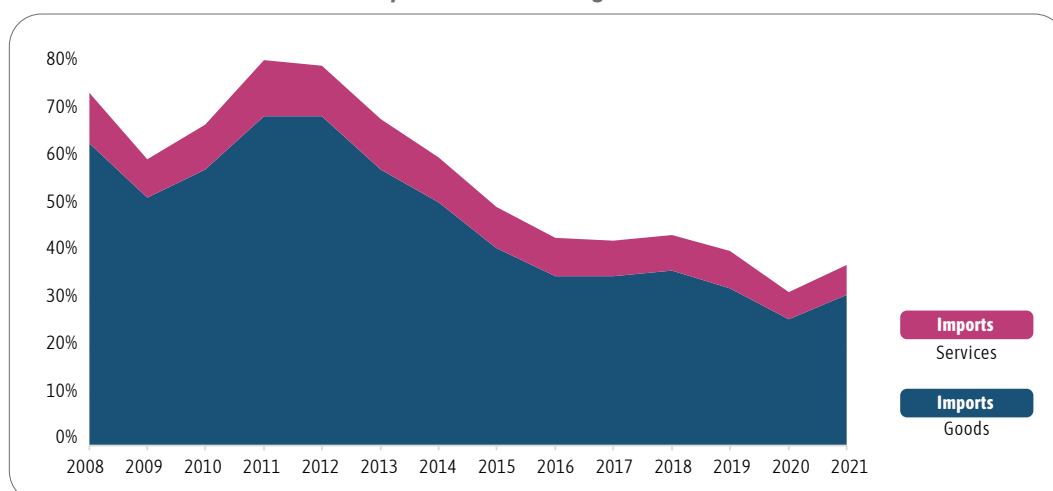
Source: INEC.

Figure A5a. Services exports and Colon FTZ reexports represent the highest shares of Panama's exports, but the latter fell substantially during 2012–2018.



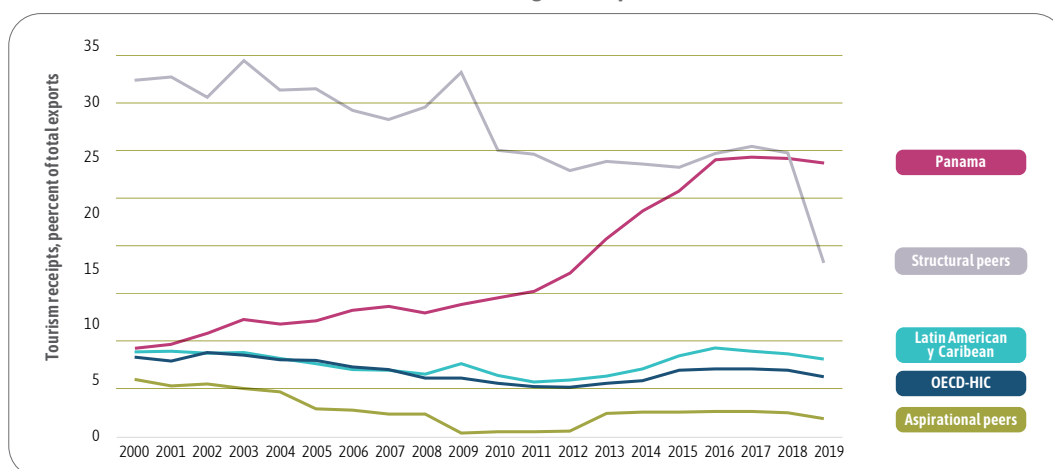
Source: INEC.

Figure A5b. While goods imports represent the highest share of Panama's imports, they have been declining since 2012.



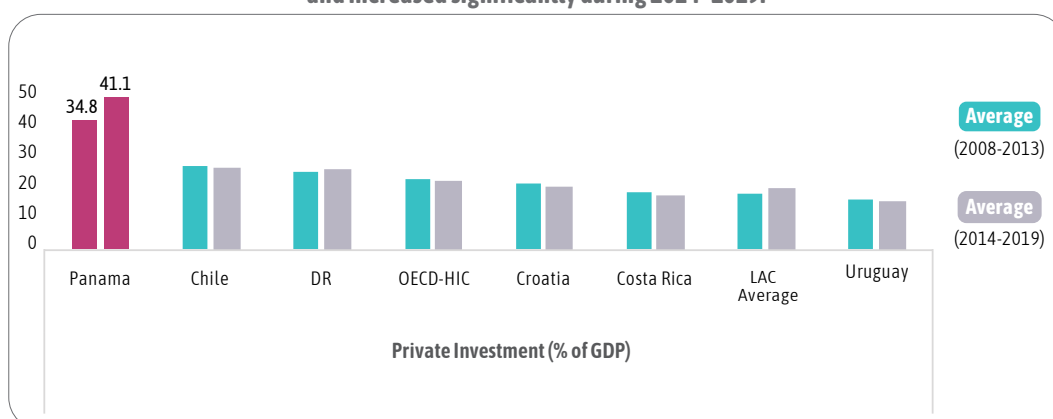
Source: INEC.

Figure A5c. As a share of exports, Panama's tourism receipts are among the highest of peer countries and have been increasing steadily since 2000.



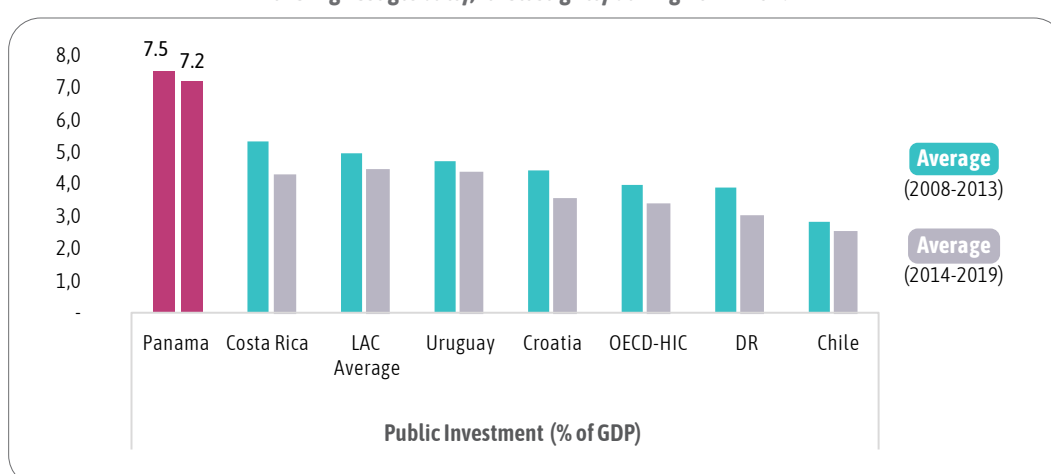
Source: WDI.

Figure A6a. Private investment as a share of GDP is among the highest globally and increased significantly during 2014–2019.



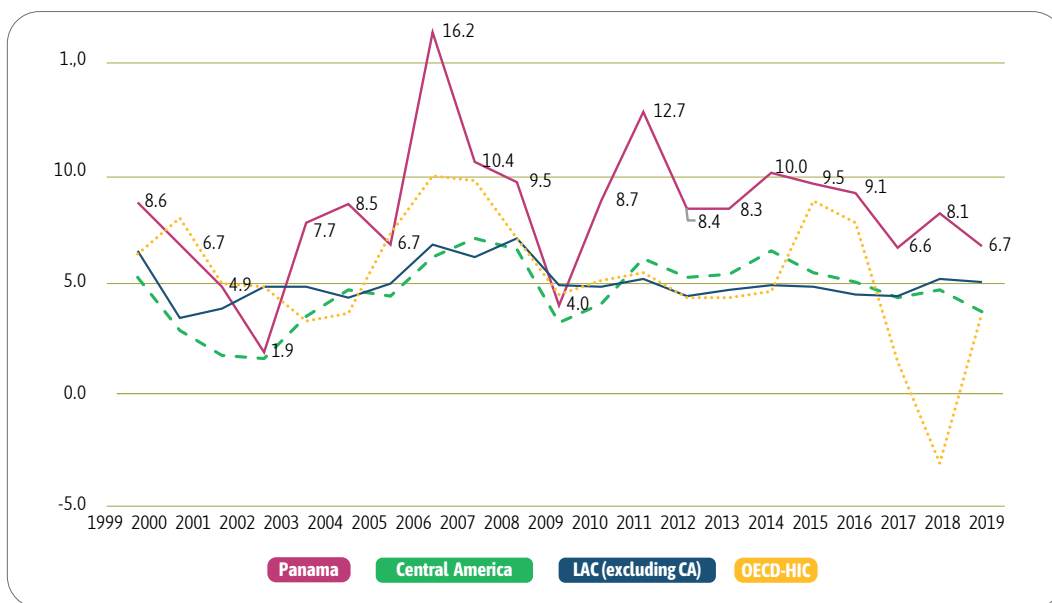
Source: WDI, Macro-Poverty Outlook (MPO), and INEC. Data for Panama are from INEC.

Figure A6b. While public investment as a share of GDP is also among the highest globally, it fell slightly during 2014–2019.



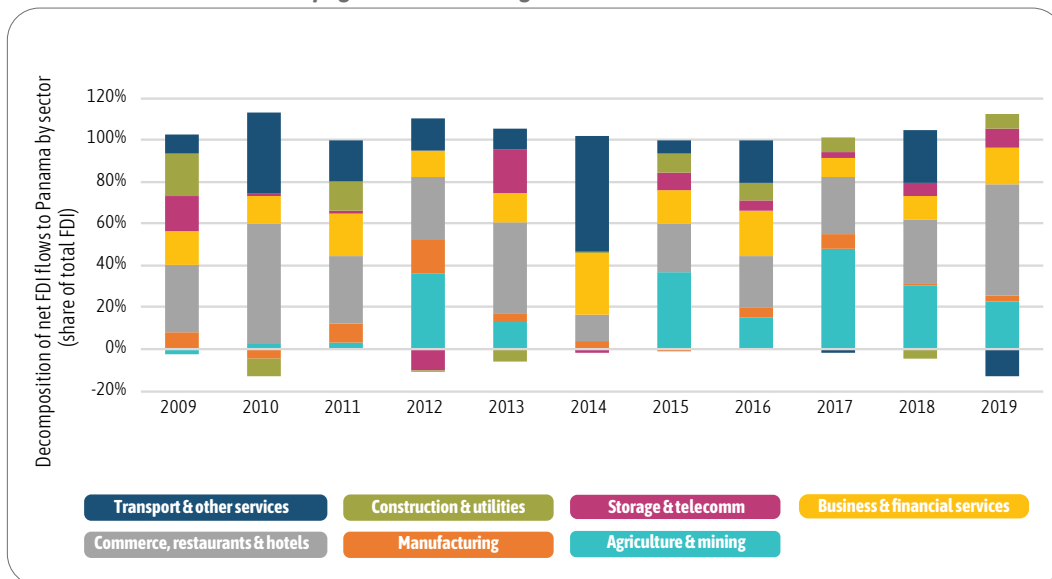
Source: WDI, Macro-Poverty Outlook (MPO), and INEC. Data for Panama are from INEC.

Figure A7a. The country's net FDI inflows as share of GDP were among the highest globally before the COVID-19 pandemic.



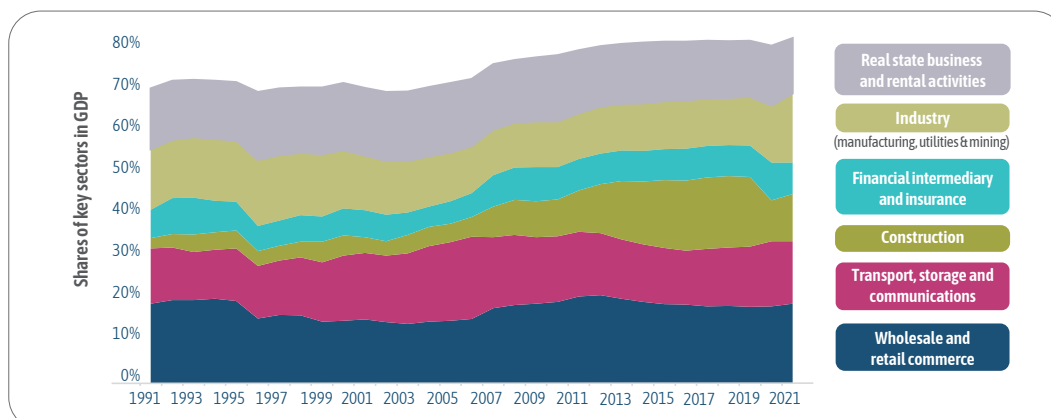
Source: WDI.

Figure A7b. In 2019, FDI inflows consisted of mainly commerce, restaurants, and hotels, followed by agriculture & mining and business & financial services.



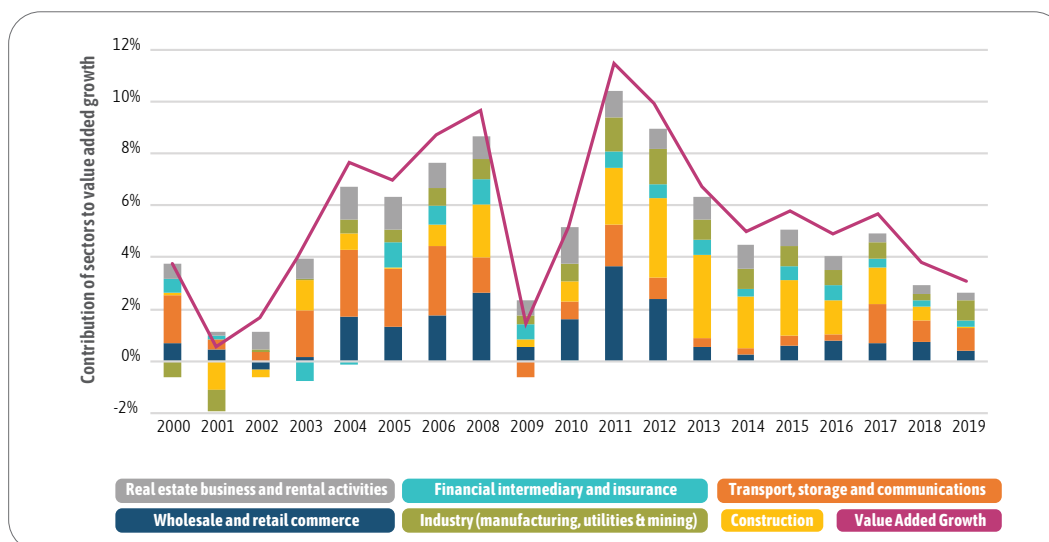
Source: Consejo Monetario Centroamericano.

Figure A8a. During 2014–2019, the wholesale & retail commerce sector represented the biggest share of GDP, followed by construction, real estate, and transport, storage & communications.



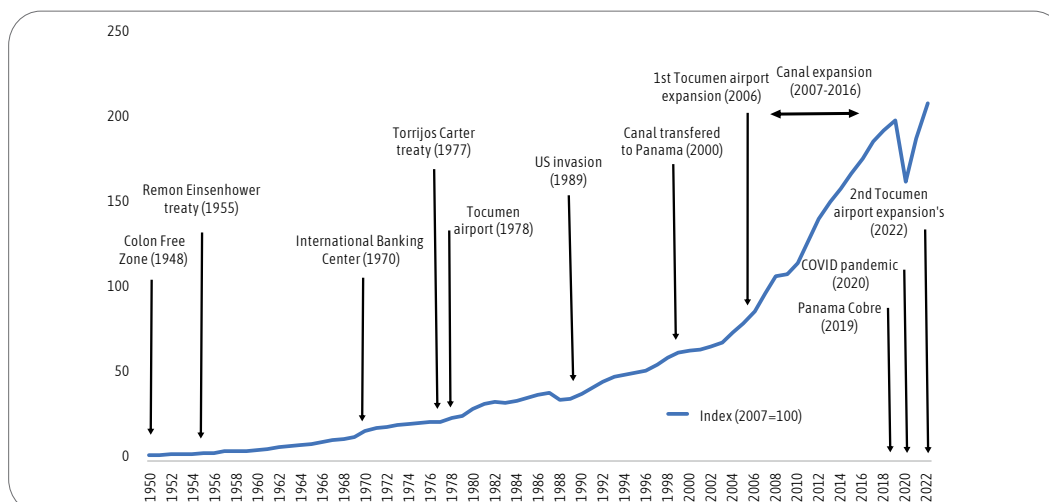
Source: INEC.

Figure A8b. In 2019, transport, storage & communications, and industry were the biggest contributors to value-added growth.



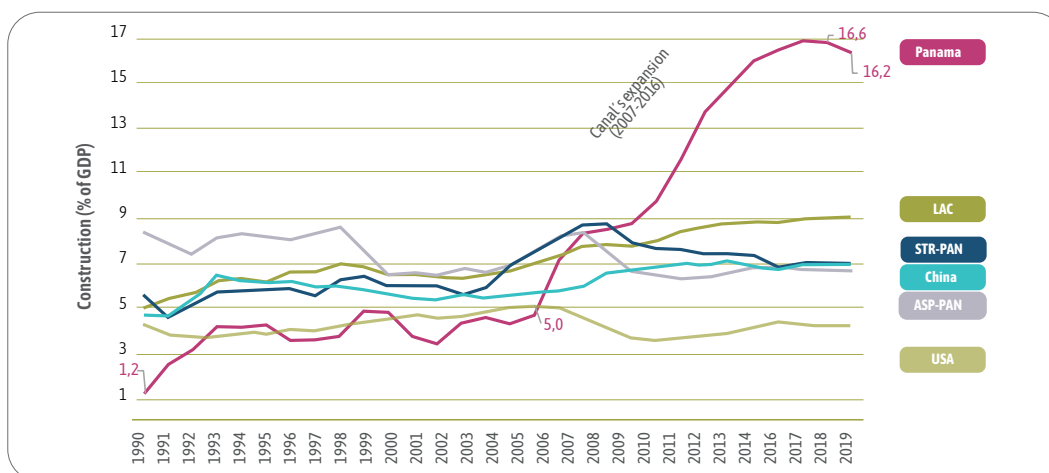
Source: WDI.

Figure A9. Panama's GDP has steadily increased since the transfer of the Panama Canal.



Source: PWT and INEC (after 2019).

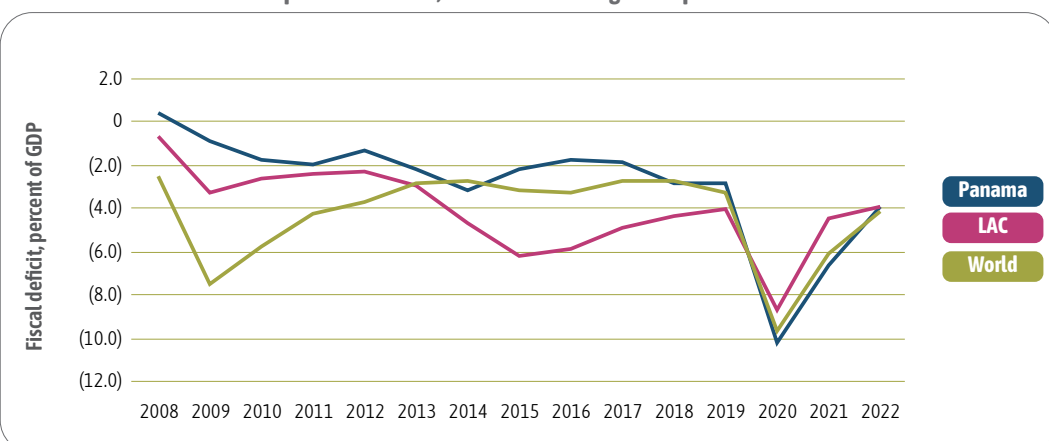
Figure A10. While the share of construction in GDP has increased substantially since 2006, it has been decreasing since 2018.



Source: INEC and Nation Master.

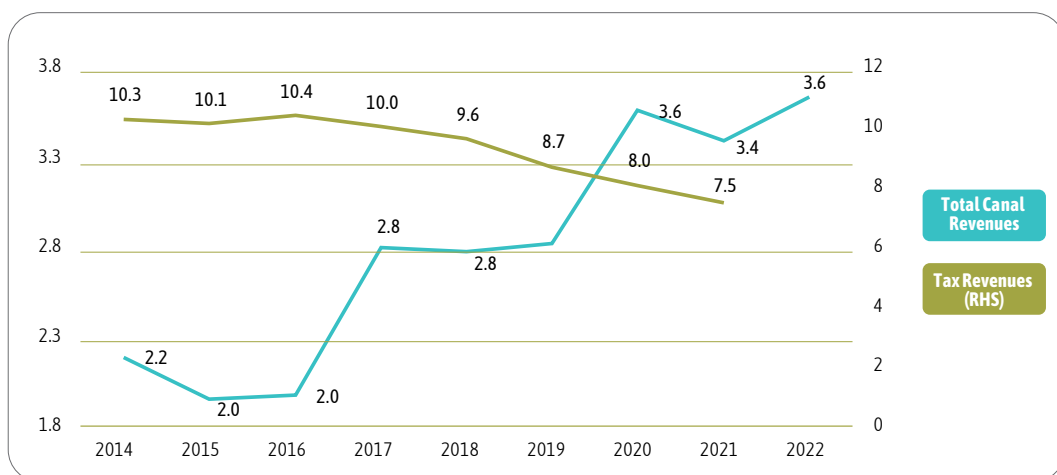
Note: Panama's construction increased 14-fold between 1990 and 2017.

Figure A11a. The fiscal deficit widened from an average of 2.9 percent of GDP in 2008–2019 to 10.2 percent in 2020, before narrowing to 3.9 percent in 2022.



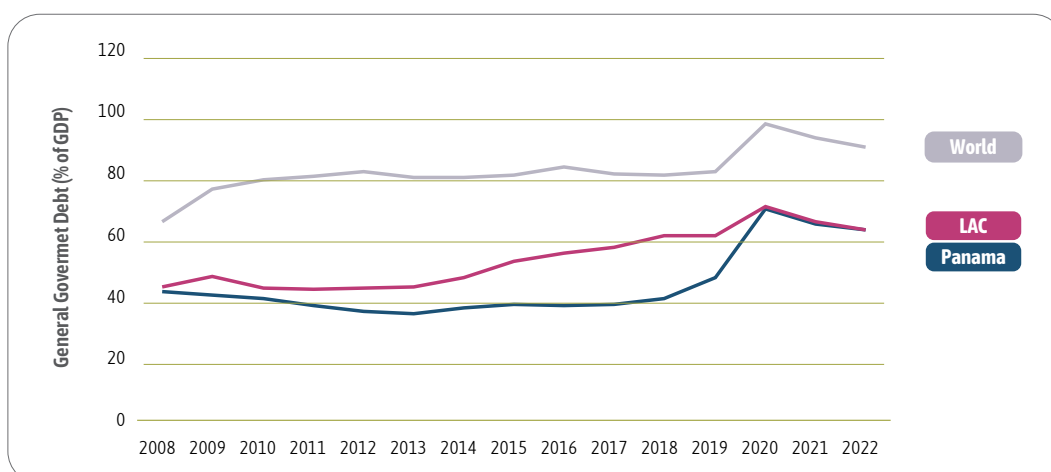
Source: MPO.

Figure A11b. While tax revenues are among the lowest globally, they have been compensated by revenues from the Panama Canal.



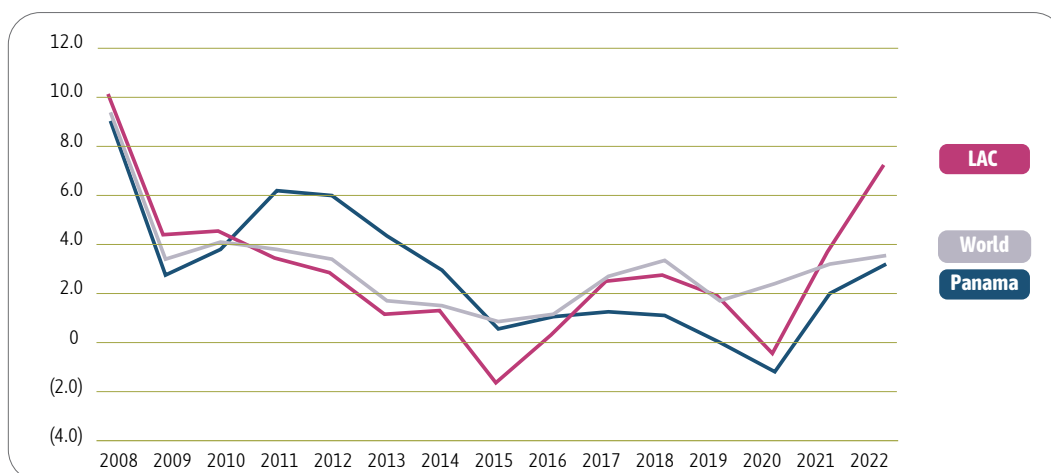
Source: INEC and MPO.

Figure A12a. Public debt has traditionally been low compared to regional and global averages.



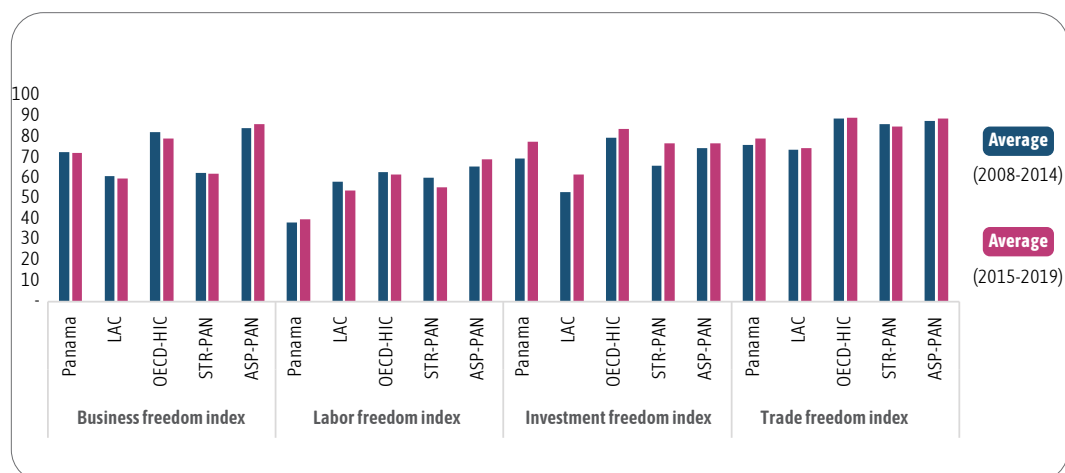
Source: INEC and WDI.

Figure A12b. The inflation rate has also been among the lowest in the region.



Source: INEC and WDI

Figure 13. Panama has a relatively good regulatory business environment, with few exceptions.



Source: The Heritage Foundation.

Figure A14a. Panama created more jobs than comparator economies in the last 30 years.

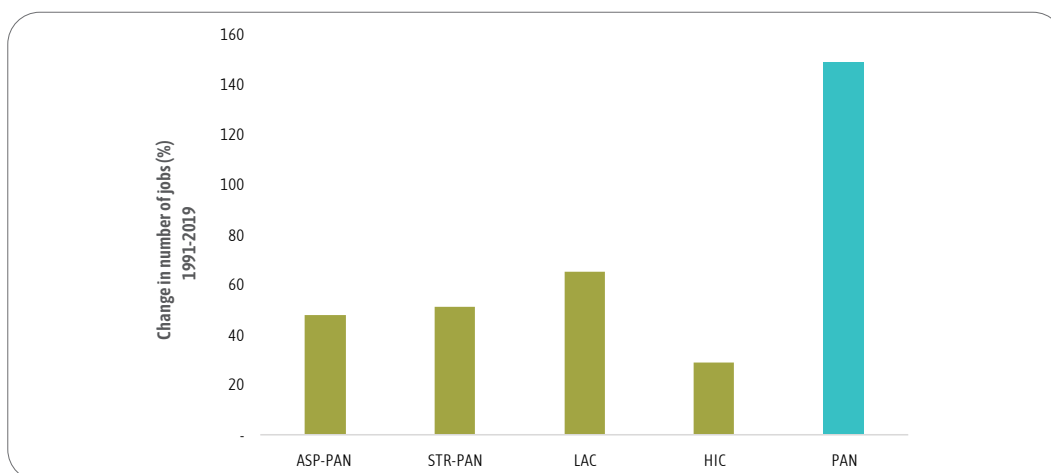


Figure A14b. The working age population grew at a faster rate in Panama than peers during 1991–2019.

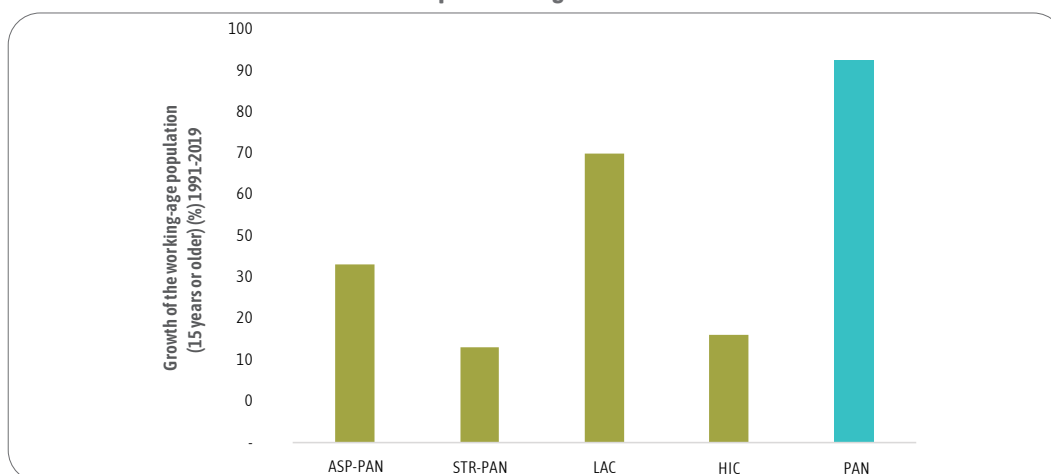
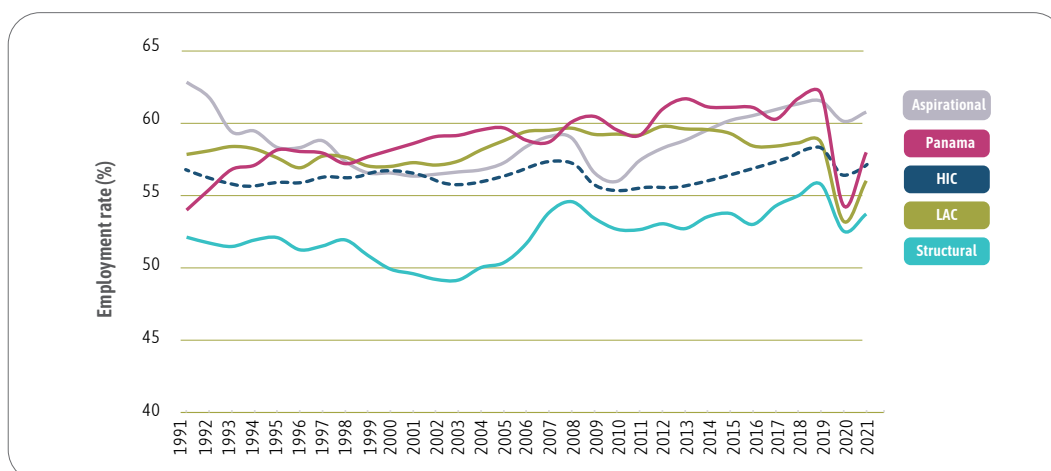


Figure A14c. Panama's labor market was able to absorb the new working age population and increase employment faster than comparator economies.



Source: WDI (a and b); SEDLAC and World Bank (c, d,e,f, g, and h).

Note: Panama's structural peers: Bulgaria, Costa Rica, Dominican Republic, Croatia, and Uruguay; aspirational peers: Estonia, Lithuania, Republic of Korea, Hong Kong SAR, China, and Singapore.

Figure A14d. The share of women joining the labor market increased during the last three decades.

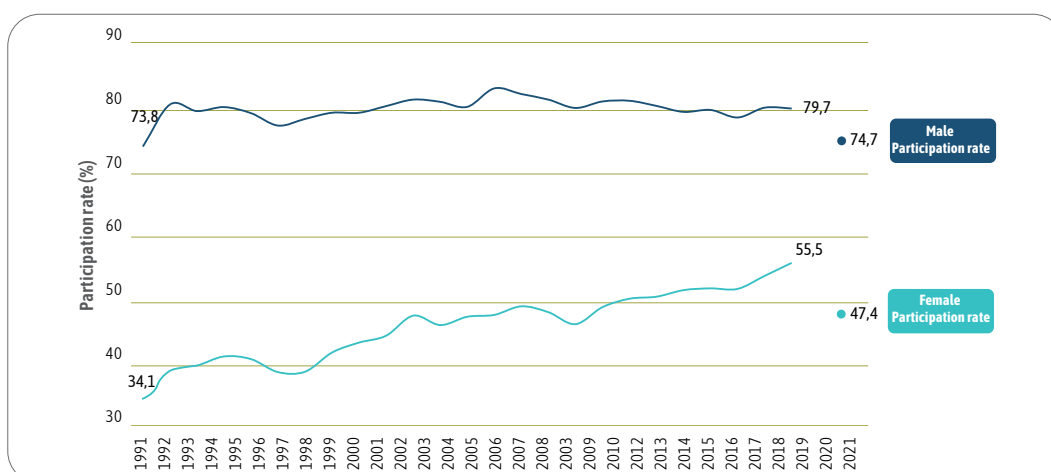


Figure A14e. The sectoral composition of employment changed between 1991 and 2019, as the employment share of agriculture fell, while that of construction, retail & services, banking & professional services, and education & health increased.

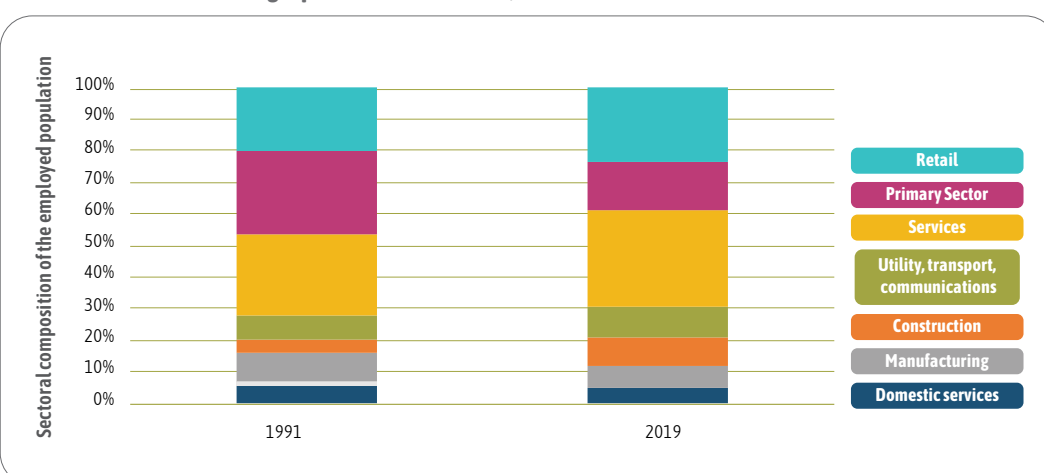
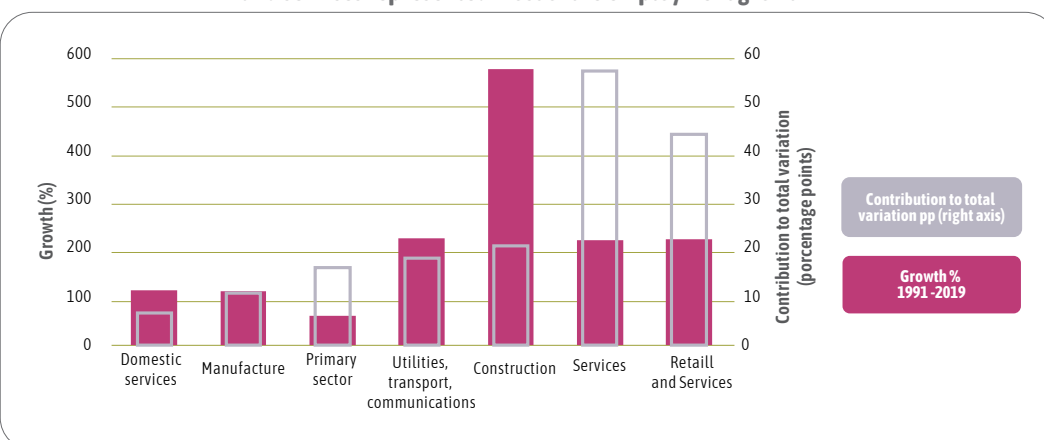


Figure A14f. Construction was the fastest growing sector in 1991–19, while retail and services represented most of the employment growth.



Source: WDI (a and b); SEDLAC and World Bank (c, d, e, f, g, and h).

Note: Panama's structural peers: Bulgaria, Costa Rica, Dominican Republic, Croatia, and Uruguay; aspirational peers: Estonia, Lithuania, Republic of Korea, Hong Kong SAR, China, and Singapore.

Figure A14g. The fastest growing sectors have also benefitted households in the bottom 40 percent, as many have transitioned from agriculture to construction, retail, and services.

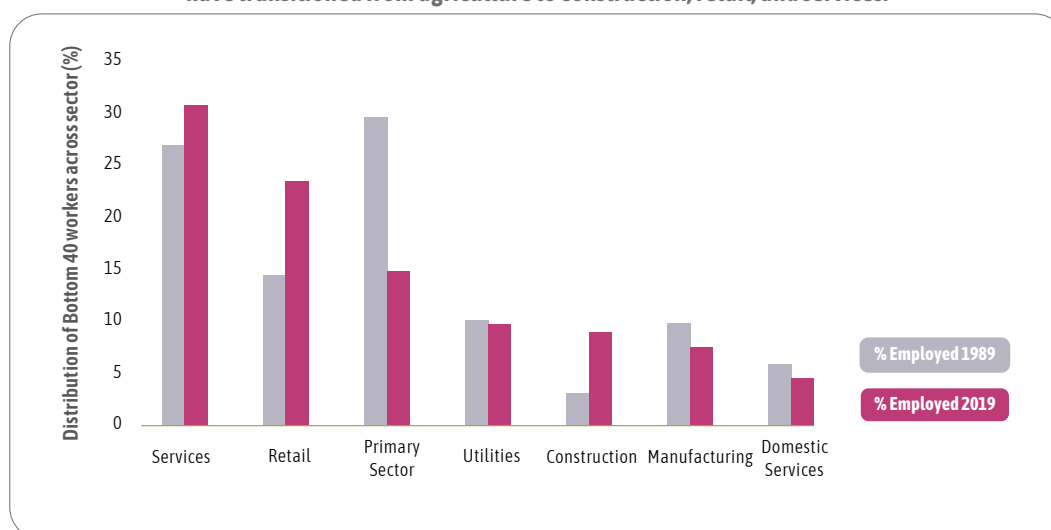
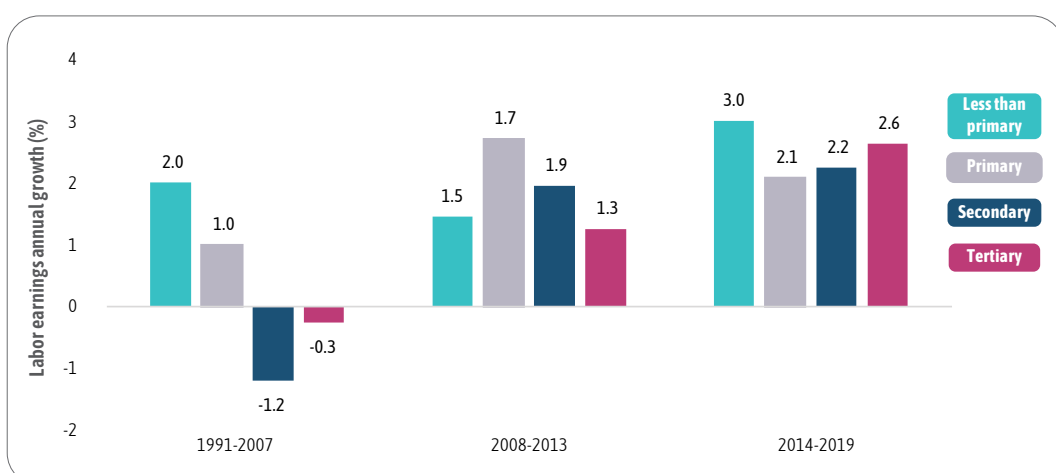


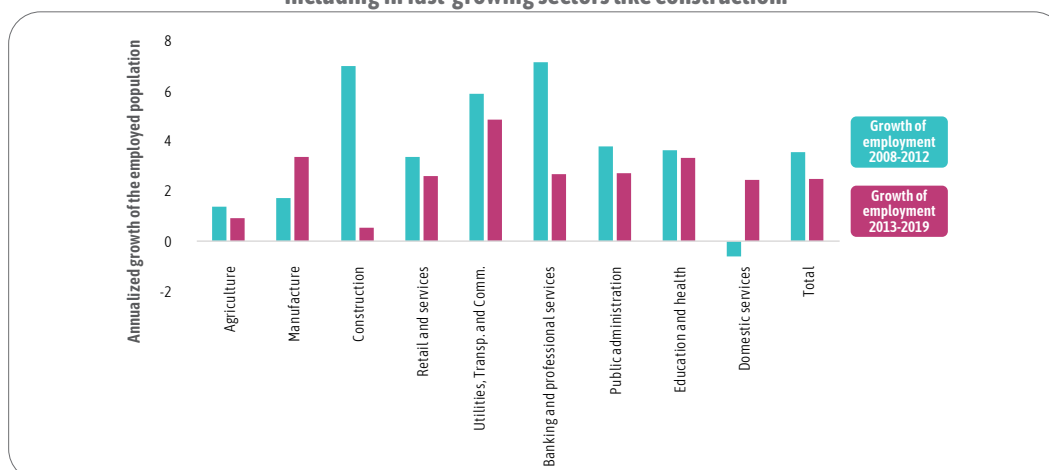
Figure A14h. Labor earnings growth has been positive across the distribution of skills.



Source: WDI (a and b); SEDLAC and World Bank (c, d, e, f, g, and h).

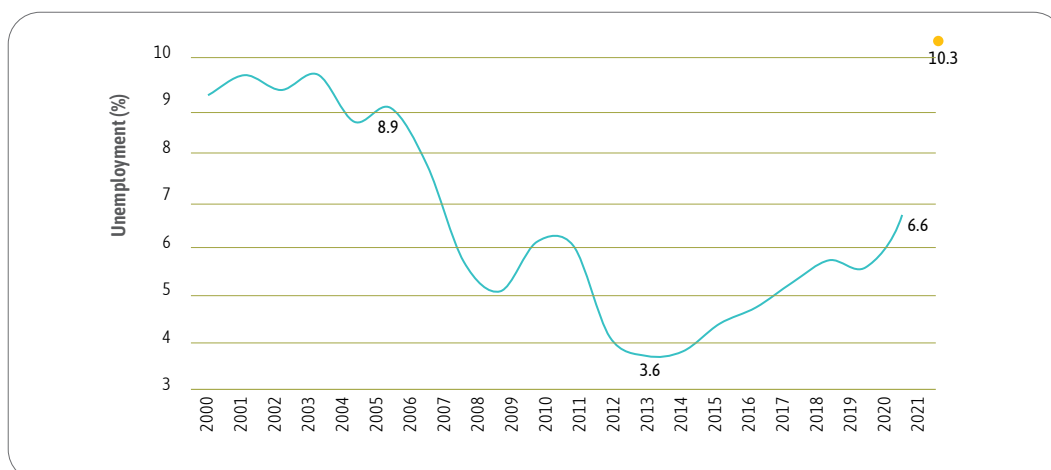
Note: Panama's structural peers: Bulgaria, Costa Rica, Dominican Republic, Croatia, and Uruguay; aspirational peers: Estonia, Lithuania, Republic of Korea, Hong Kong SAR, China, and Singapore.

Figure A15a. Job creation started to slow down in the second half of the 2010s, including in fast-growing sectors like construction.



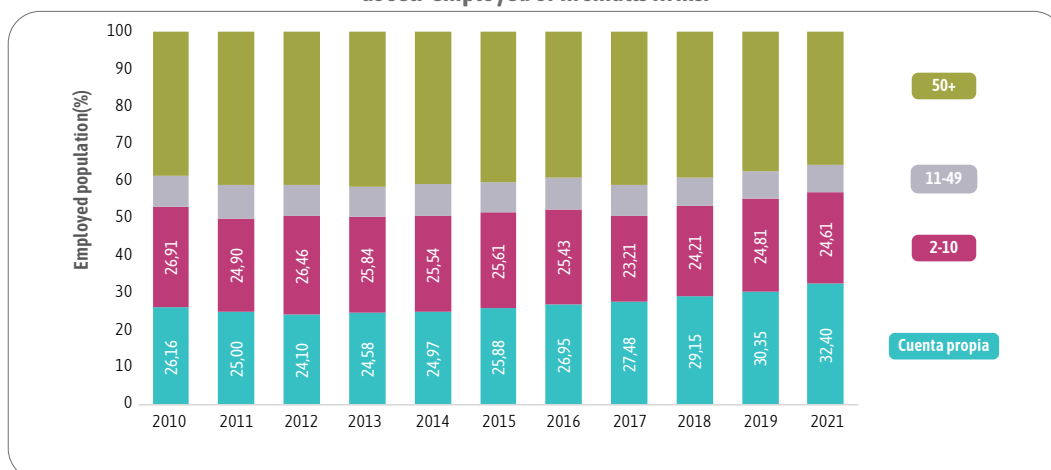
Source: CEDLAS and the World Bank.

Figure A16b. The unemployment rate increased from 3.6 percent in 2012 to 6.6 percent in 2019.



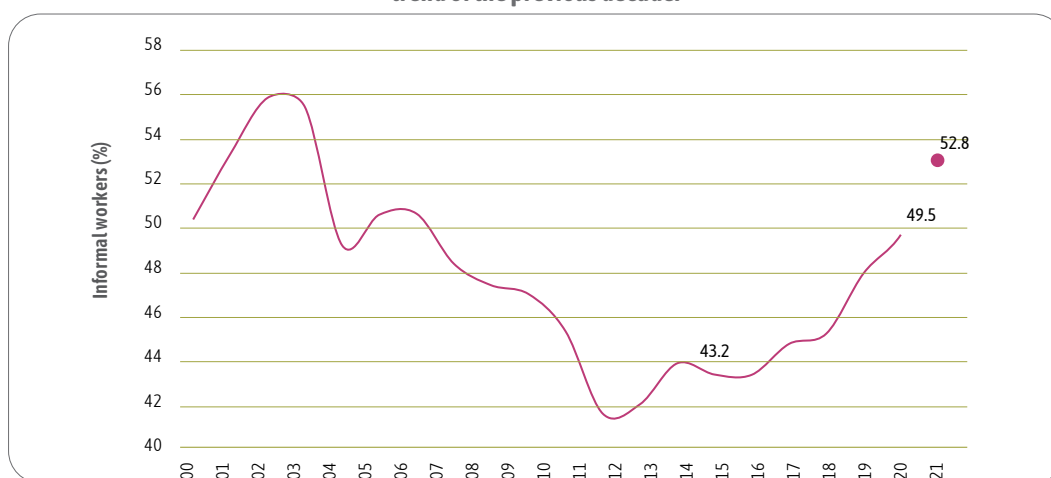
Source: CEDLAS and the World Bank.

Figure A17c. Job quality has started to deteriorate, with more people working as self-employed or in small firms.



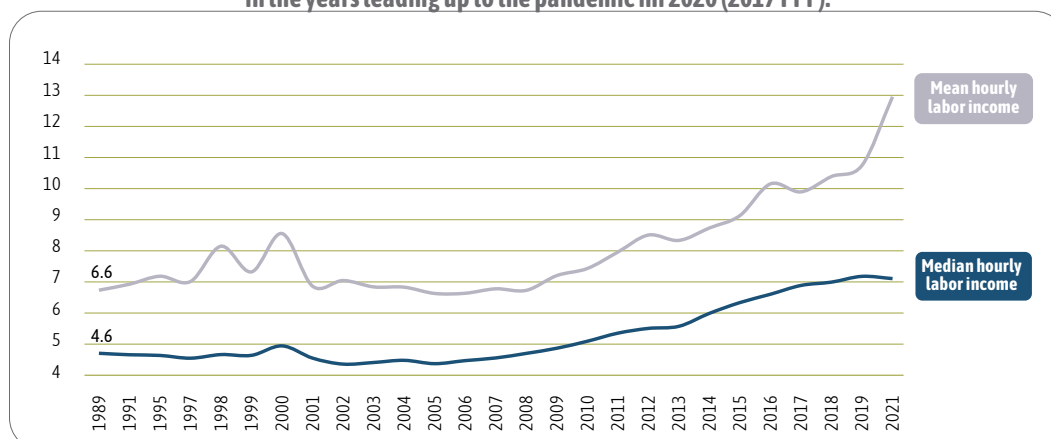
Source: CEDLAS and the World Bank.

Figure A18d. Informality has started to increase, reversing the downward trend of the previous decade.



Source: CEDLAS and the World Bank.

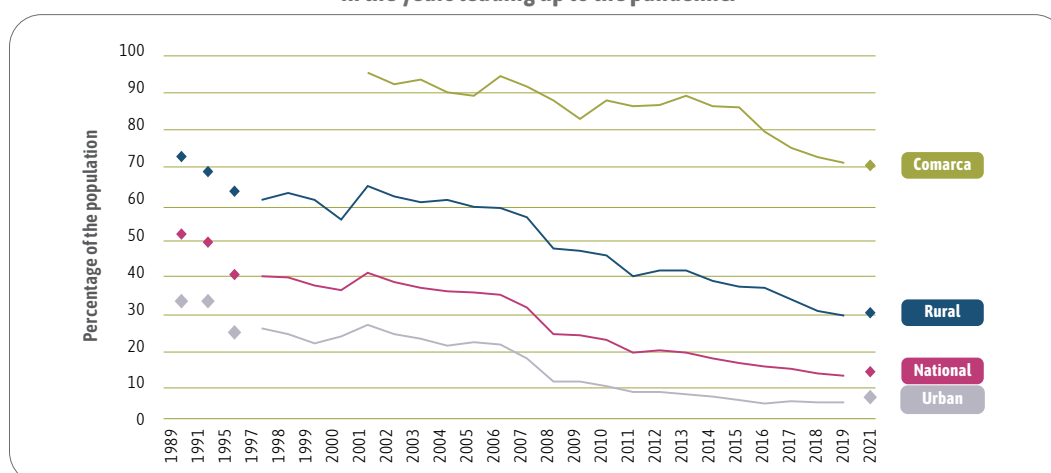
Figure A19. Hourly labor income for the median worker started to plateau in the years leading up to the pandemic in 2020 (2017 PPP).



Source: CEDLAS and the World Bank.

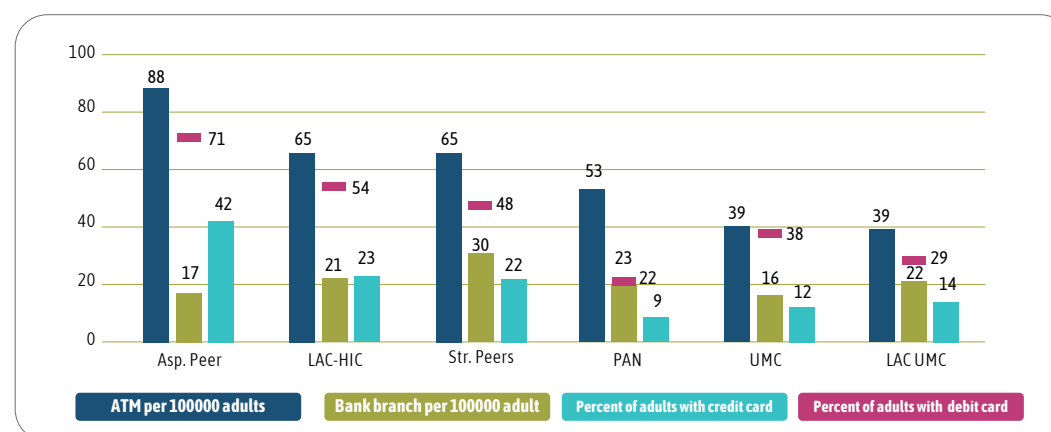
Note: The service sector includes education, health and personal services, banking and professional services, and public administration. Utilities include electricity, gas, water, transport, and communications.

Figure A20. While poverty in urban areas reached about 5 percent in the mid-2010s and has hovered around that level since, poverty reduction in rural areas and indigenous comarcas accelerated in the years leading up to the pandemic.



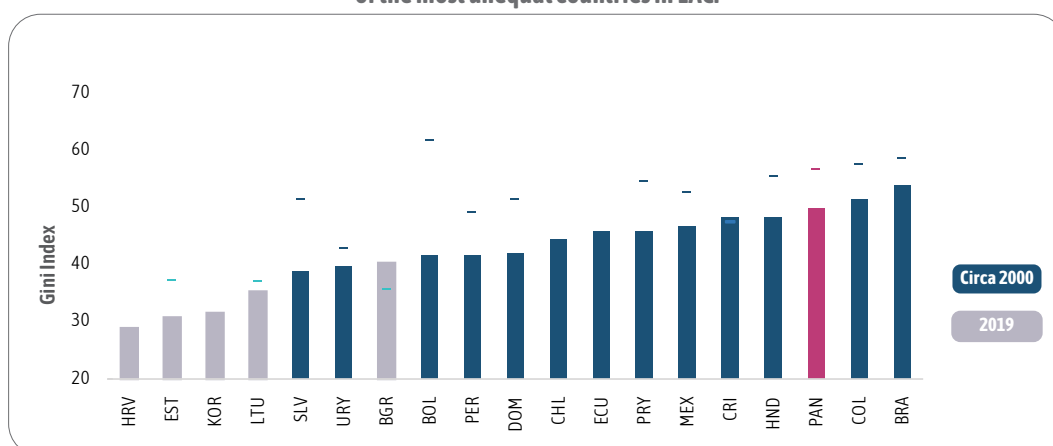
Source: CEDLAS and the World Bank

Figure A21. Access to finance is lower in Panama than in many peers.



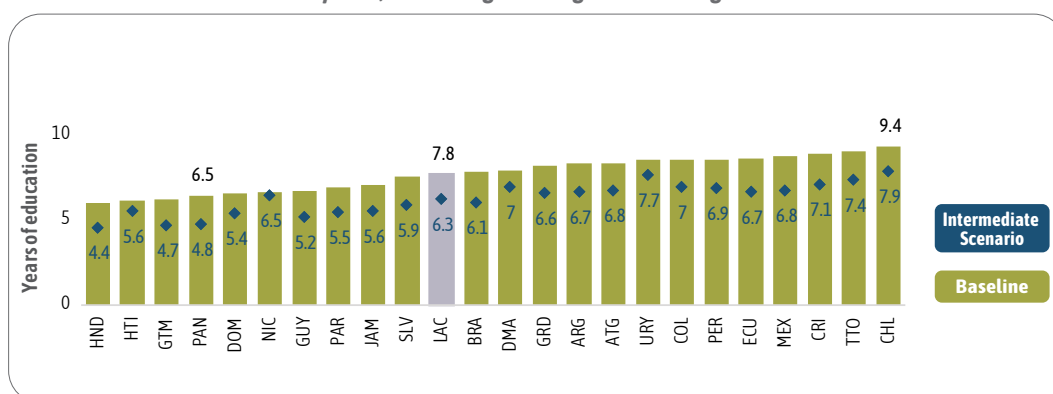
Source: World Bank. 2021. Unleashing Central America's Growth Potential: Panama.

Figure A22. Despite impressive poverty reduction, Panama remains one of the most unequal countries in LAC.



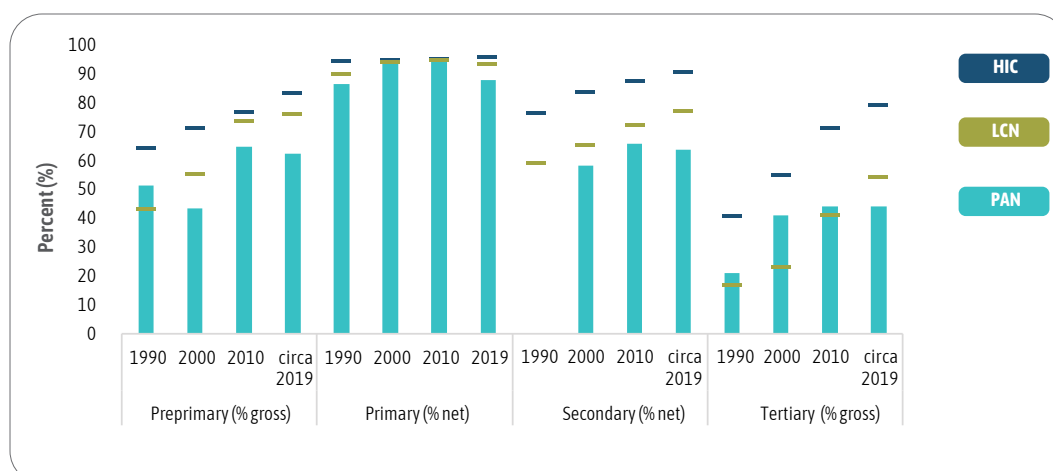
Source: CEDLAS and the World Bank.

Figure A23. School closures brought even further challenges to an already weak education system, increasing learning losses among Panamanians.



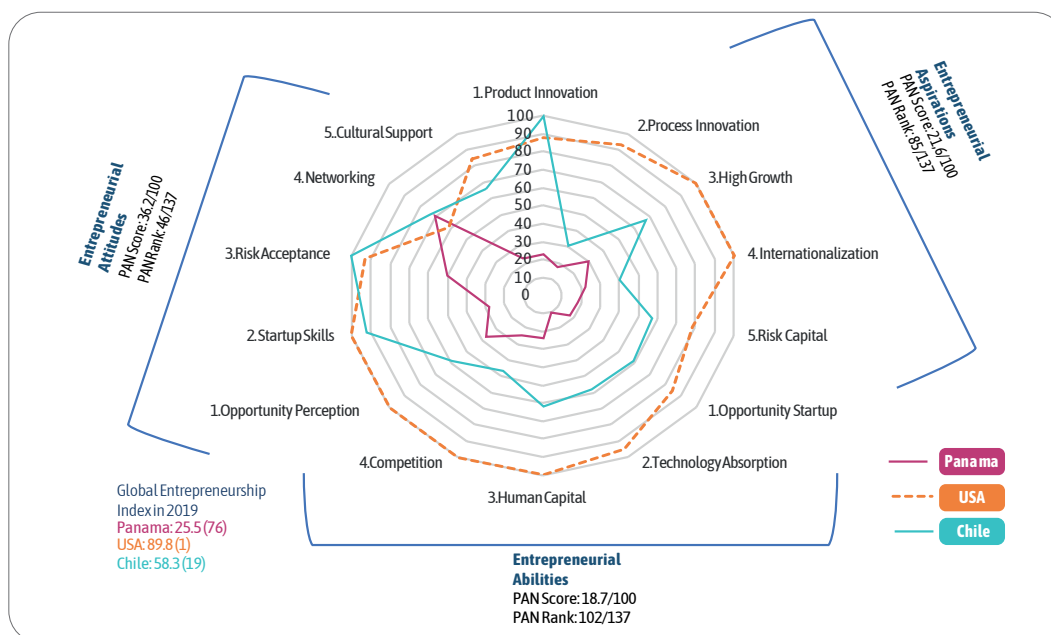
Source: World Bank 2022.

Figure A24. Enrollment rates have shown little improvements in the last decade.



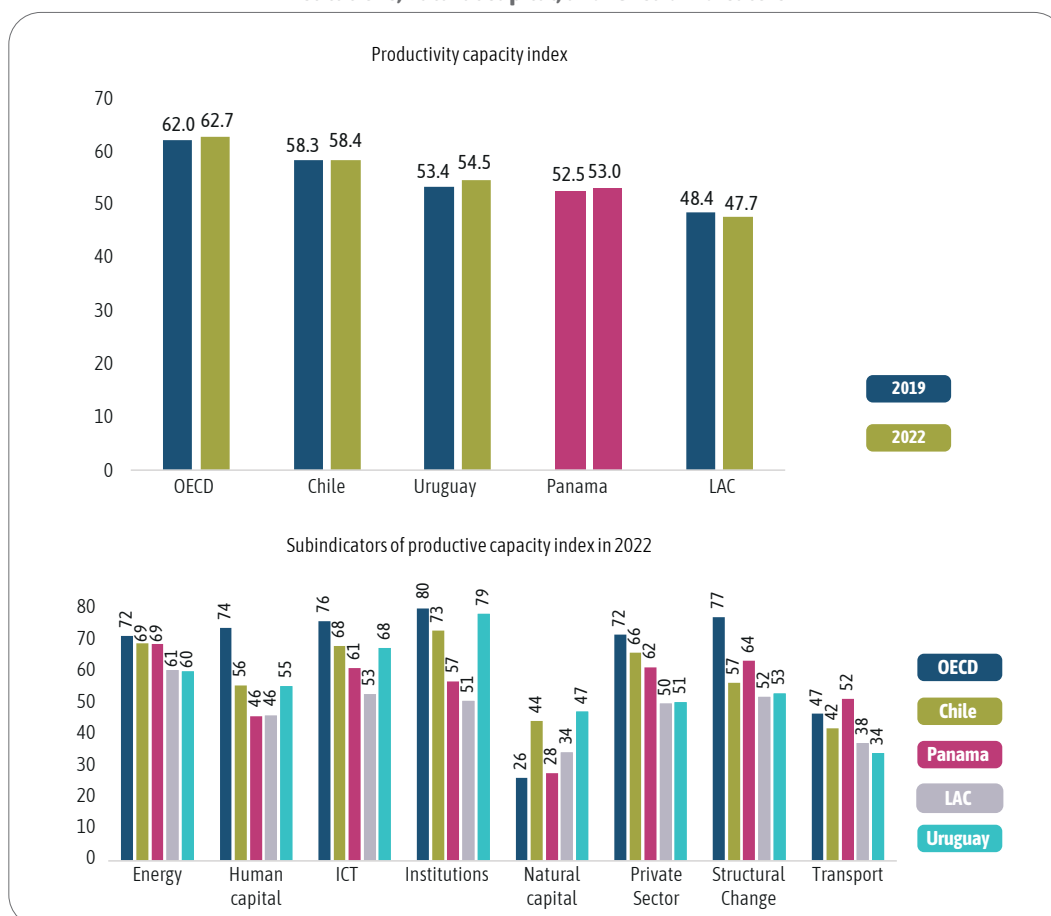
Source: World Development Indicators (WDI).

Figure A25a. Panama performed worse than Chile on the Global Entrepreneurship Index in 2019.



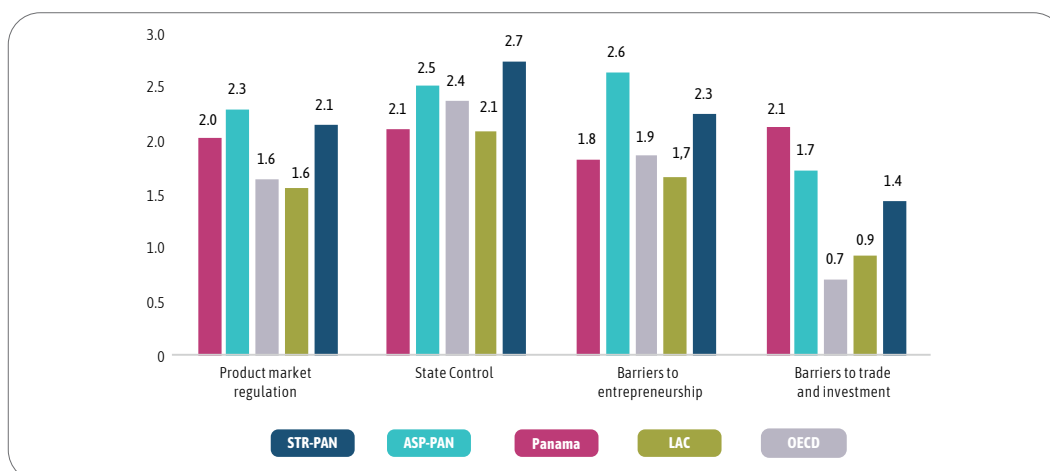
Source: Global Entrepreneurship and Development Institute. 2020. Global Entrepreneur Index 2019.

Figure A25b. While Panama's productive capacity, which improved slightly in 2019-2020, is higher than the LAC average, it is lower than the average of all other comparators, underperforming on the human capital, institutions, natural capital, and ICT sub-indicators.



Source: UNCTAD, Productive Capacities Index.

Figure A25c. In 2016, overall competition in Panama's production markets was higher than the average of LAC and structural peers, but lower than the average of OECD and aspirational peers due to higher barriers to trade and investment.



Source: OECD Product Market Regulation (PMR).

Note: Lower values indicate lower barriers. Latest PMR data for Panama are from 2016

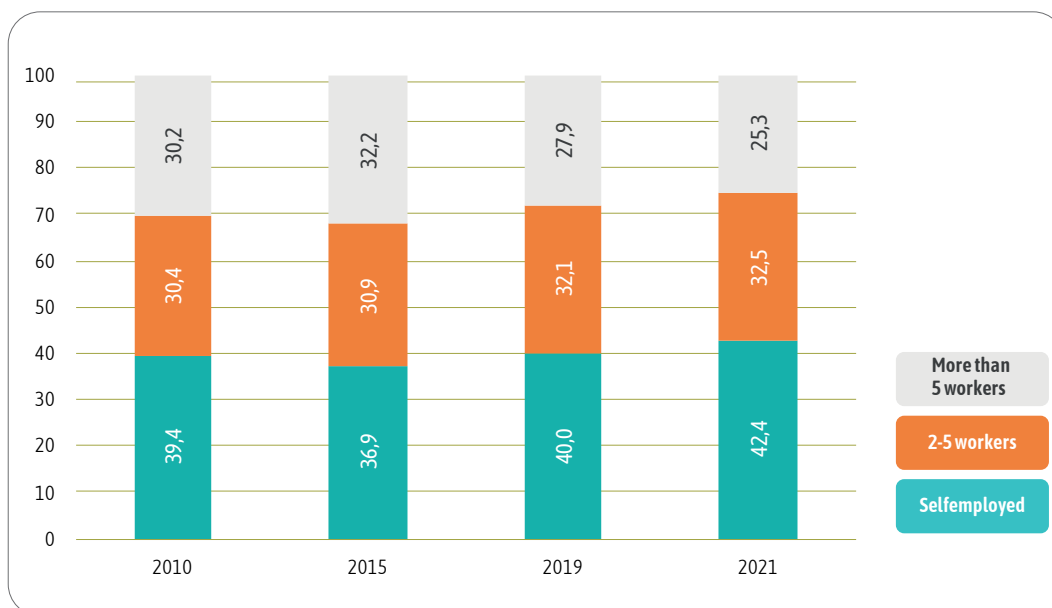
Figure A26. Among the 13 sub-indicators of the 2022 National Entrepreneurship Context Index, Panama scores lower than the average of its income group on entrepreneurial education, government policy support, entrepreneurial finance, ease of access to entrepreneurial finance, and market dynamics.



Source: Global Entrepreneurship Monitor 2023.

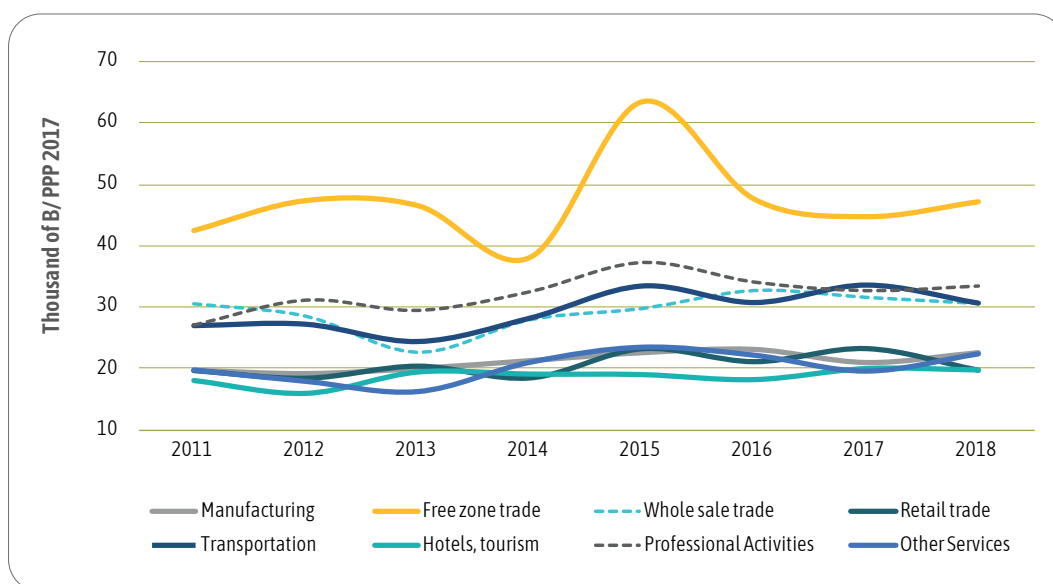
Note: Level B average indicates the benchmark group for Panama, consisting of 16 economies with GDP per capita ranging from US\$20,000 to US\$40,000.

Figure A27a. Most Panamanians in the bottom 40 percent of the income distribution work in small and micro firms.



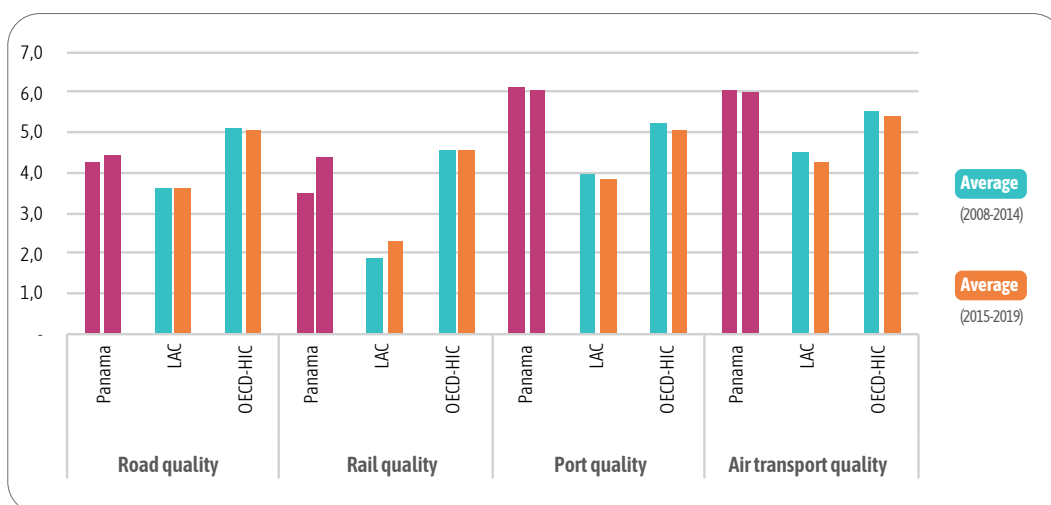
Source: SEDLAC.

Figure A27d. With few exceptions, firms in most economic sectors have experienced limited labor productivity gains.



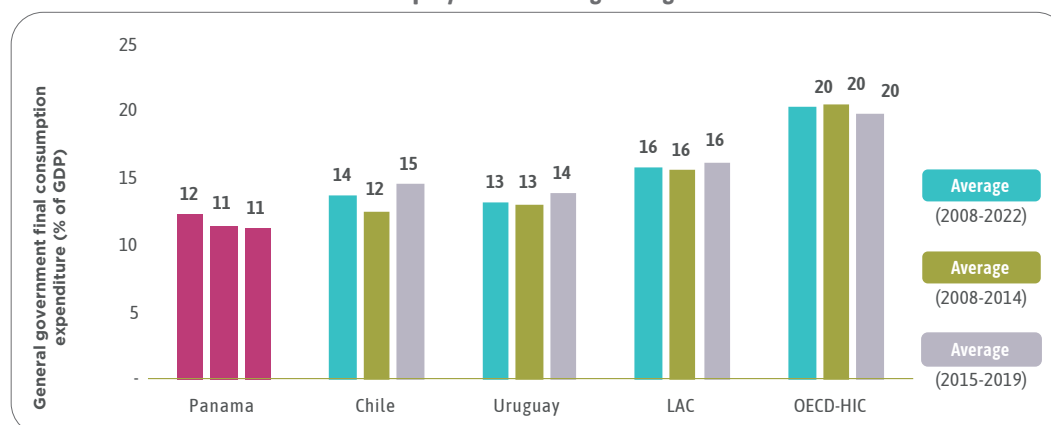
Source: Encuesta a Empresas no Financieras EENF – INEC.

Figure A28. In physical infrastructure, Panama lags peers in terms of the quality of rail and roads.

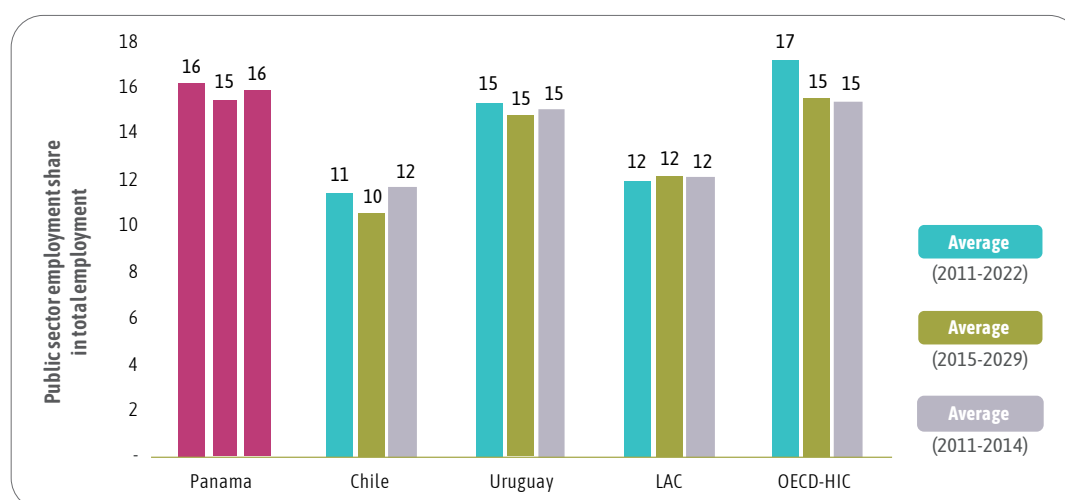


Source: World Economic Forum (WEF).

Figure A29a. The public sector's share of GDP is lower in Panama than in peers, but its share of employment is among the highest.

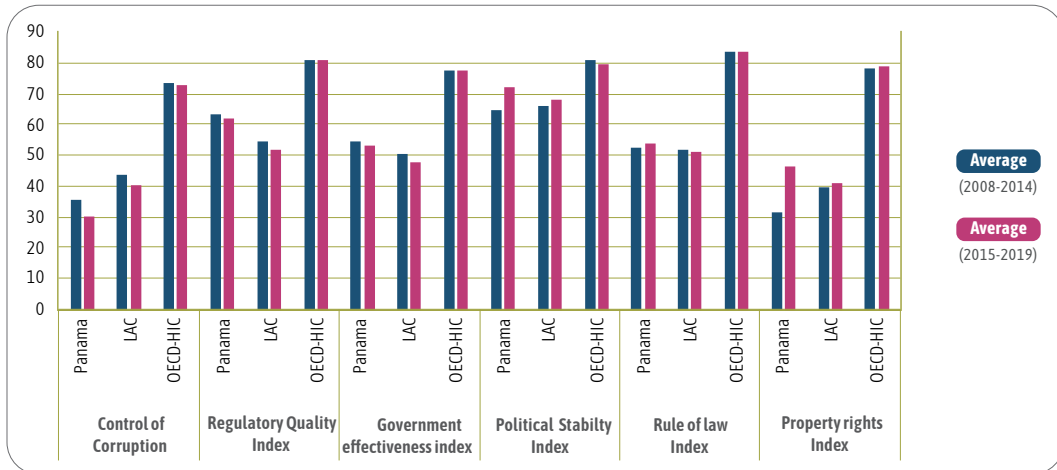


Source: World Bank.



Source: ILO and OECD.

Figure A29b. Panama has the lowest scores among peers on corruption control.



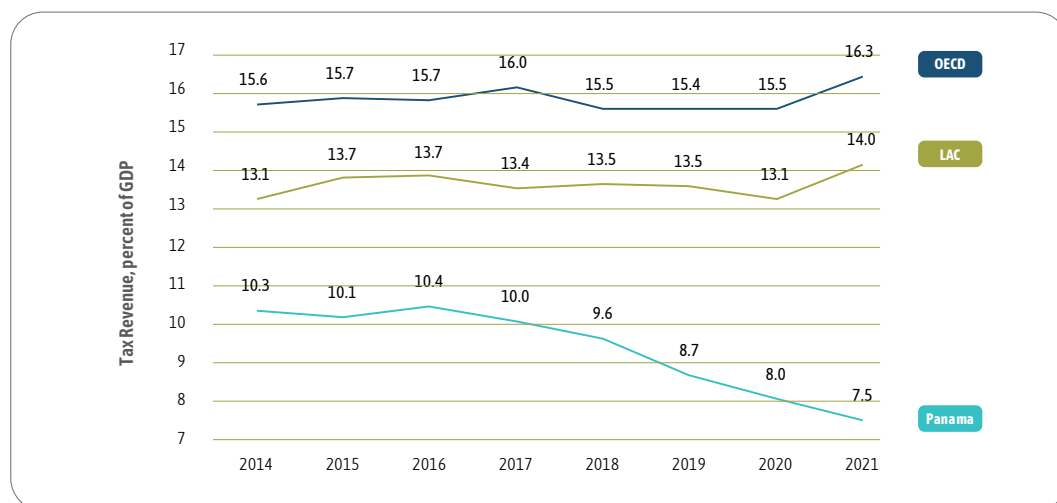
Source: WDI and Heritage Foundation (Property Rights).

Figure A29c. Compared to peers, Panama's score on rule of law is among the lowest.



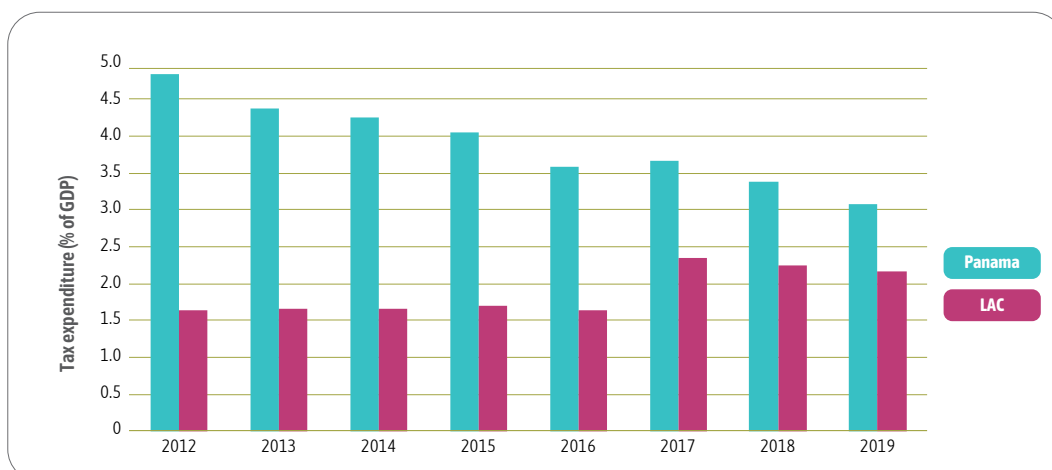
Source: World Justice Project.

Figure A30a. While Panama's tax revenue as share of GDP is among the lowest globally...



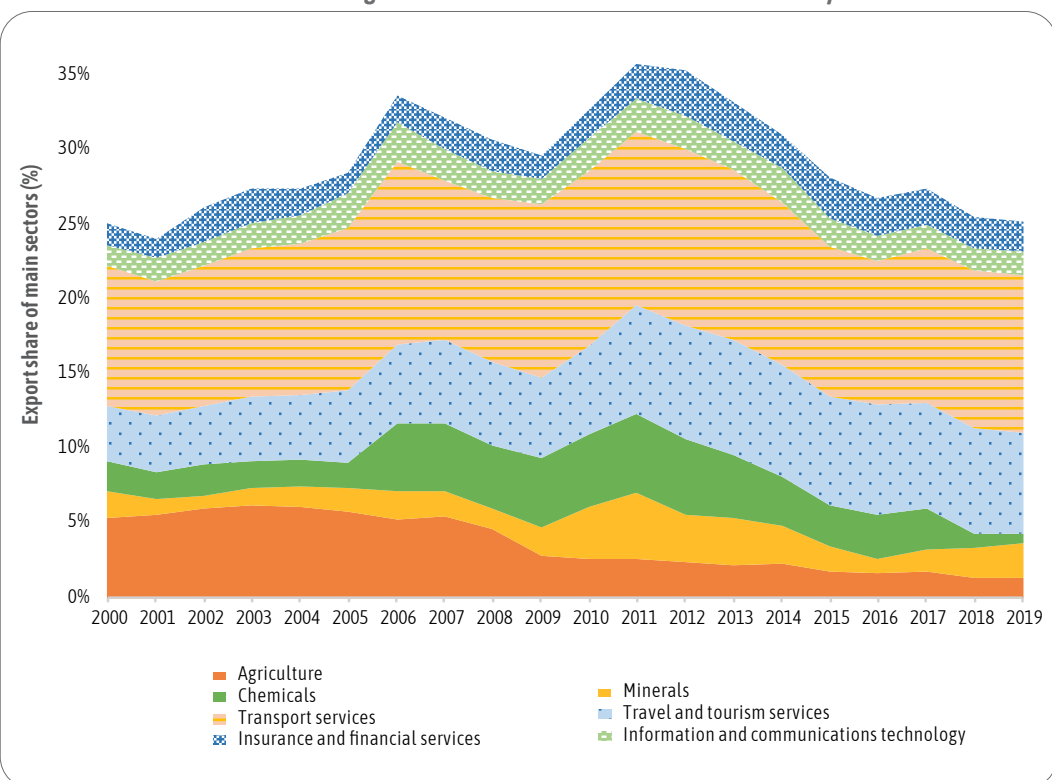
Source: WDI

Figure A30b. ...its tax expenditure as share of GDP is among the highest.



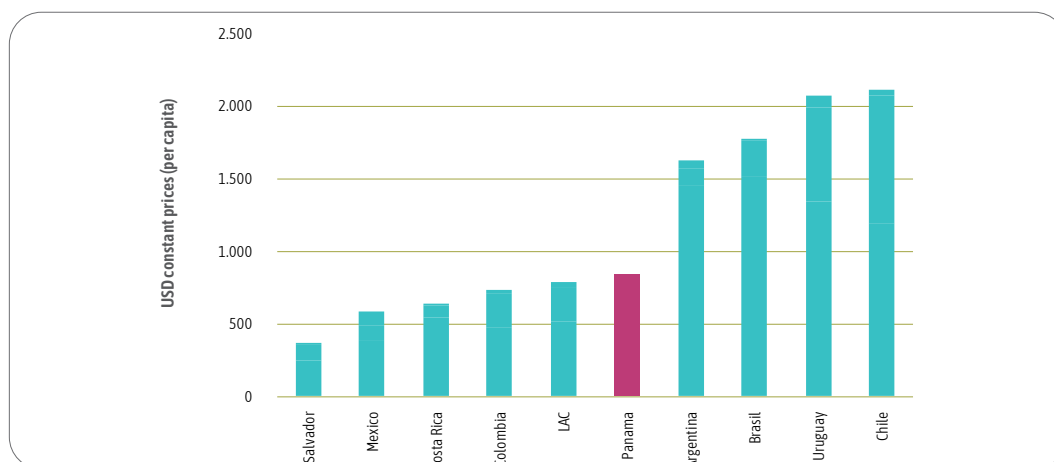
Source: WDI

Figure A31. The share of transport and travel & tourism services in exports have remained high, while the share of agriculture and chemicals have fallen in recent years.



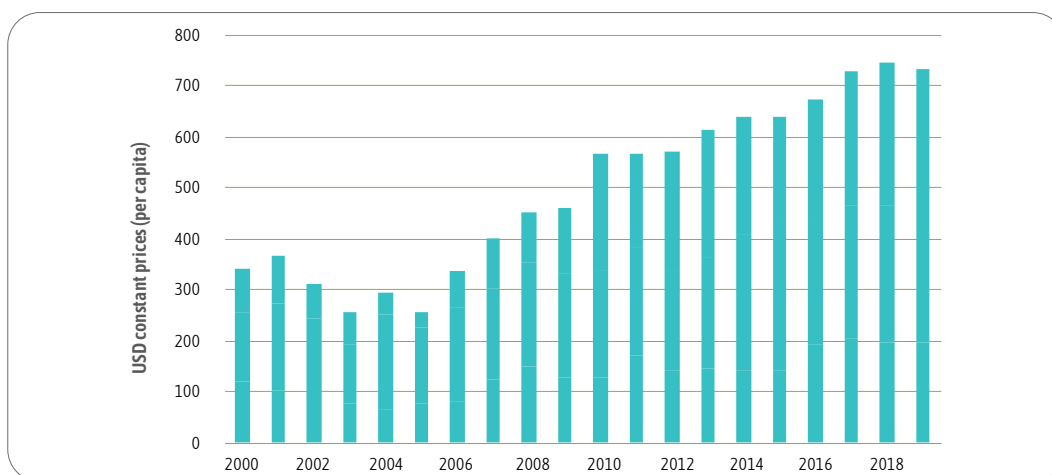
Source: ATLAS.

Figure A32a. Panama's level of social expenditure was close to the regional average in 2019...



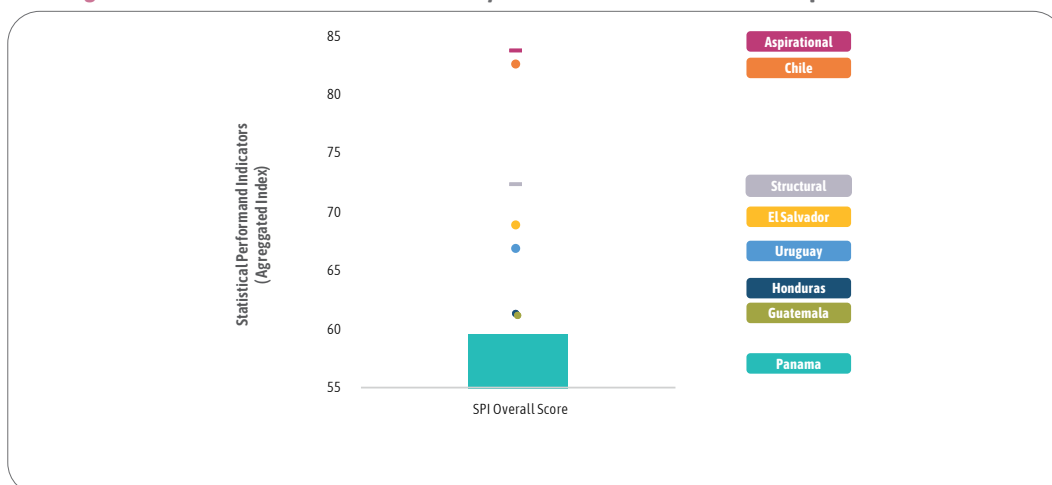
Source: CEPALSTAT, Statistics and Indicators, per capita social public expenditure by sector, http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/Portada.

Figure A32b. ...its tax expenditure as share of GDP is among the highest.



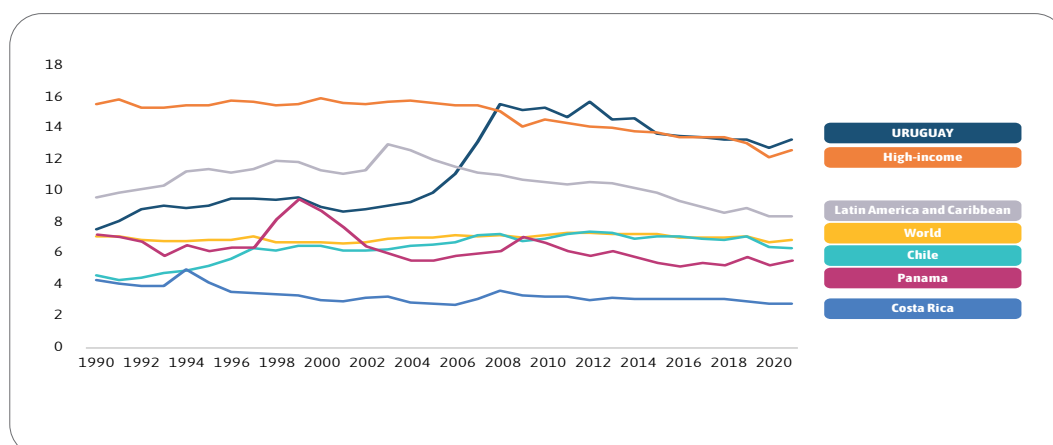
Source: CEPALSTAT, Statistics and Indicators, per capita social public expenditure by sector, http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/Portada.

Figure A33. Panama's national statistical system is weaker than that of comparator economies.



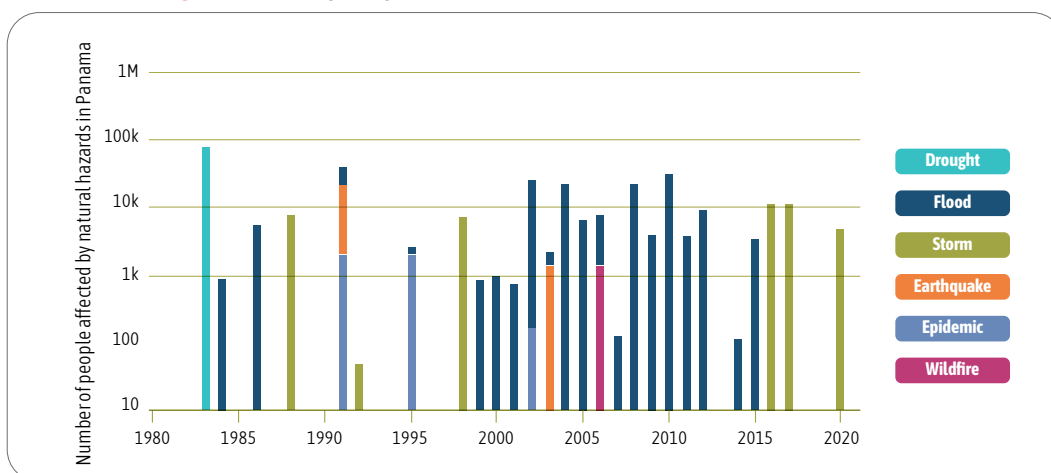
Source: World Bank, "Statistical Performance Indicators (SPI)," <https://www.worldbank.org/en/programs/statistical-performance-indicators/Framework>.

Figure A34a. Panama's per capita GHG emissions have been stable and remain below the averages of world, LAC region, and high-income countries



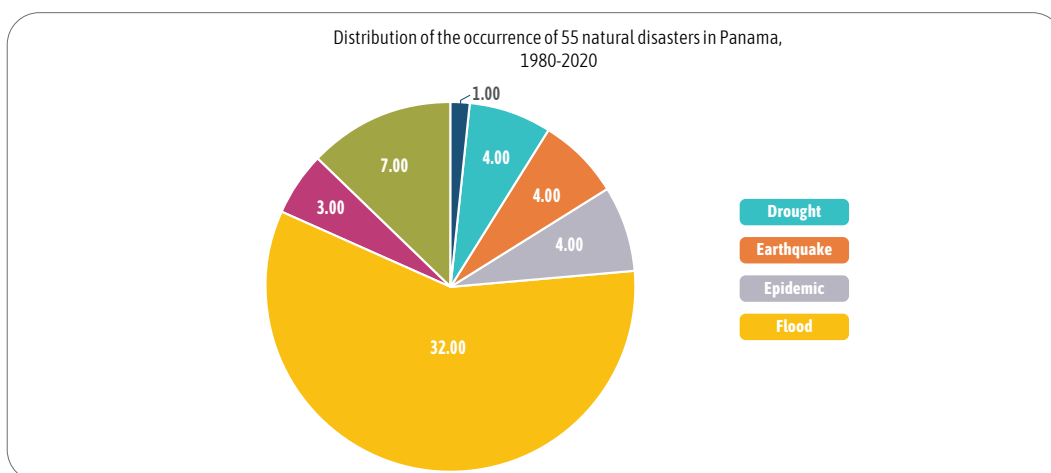
Source: Jones et al. (2023); Population based on various sources (2023); OurWorldInData.org/co2-and-greenhouse-gas-emissions.

Figure A34b. Frequency of natural hazards in Panama increased since 2000.



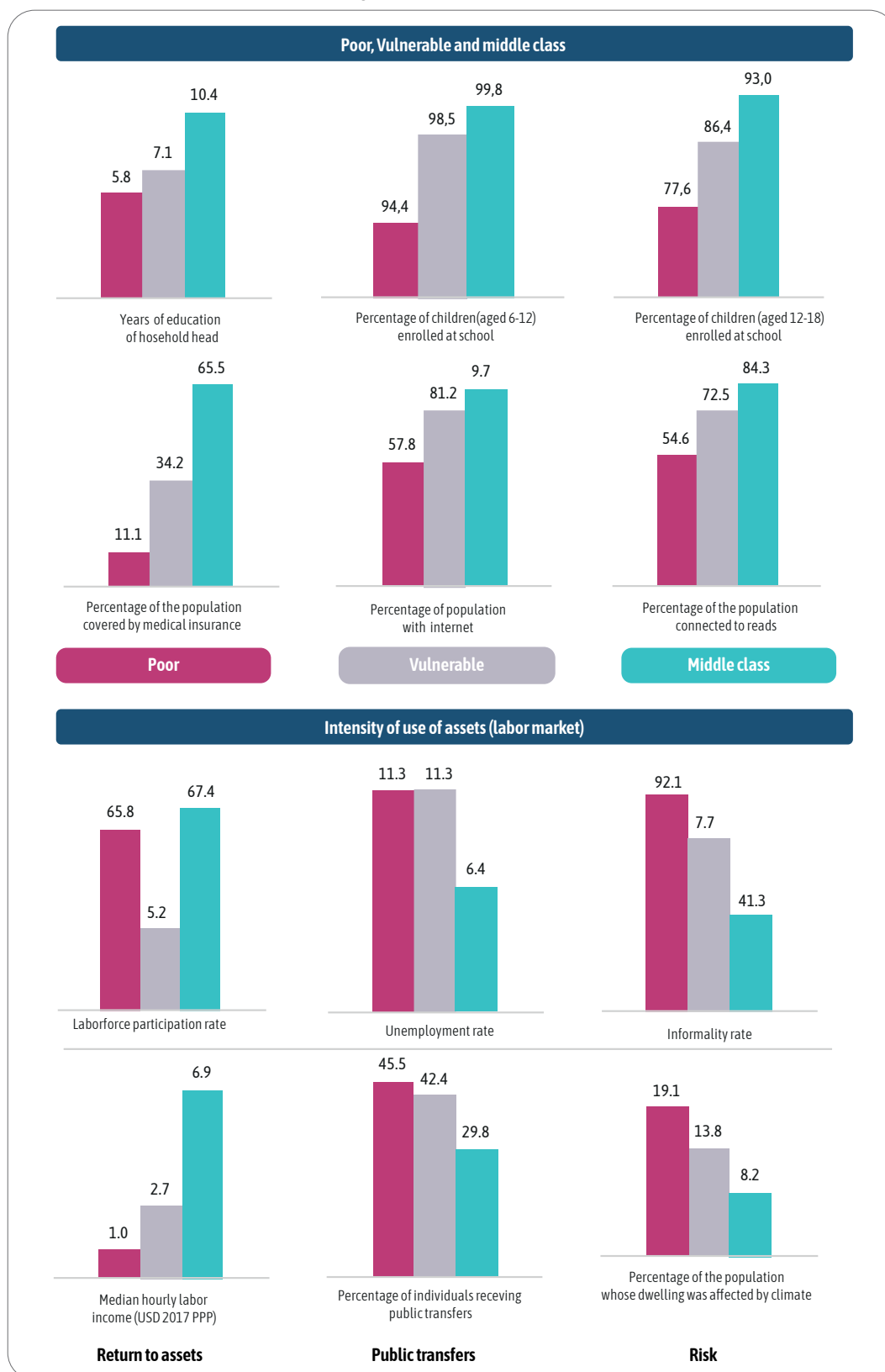
Source: World Bank, "Panama: Historical Hazards," <https://climateknowledgeportal.worldbank.org/country/panama/vulnerability>.

Figure A34c. From 1980 to 2020, floods were the most frequent among 55 recorded natural disasters in Panama.



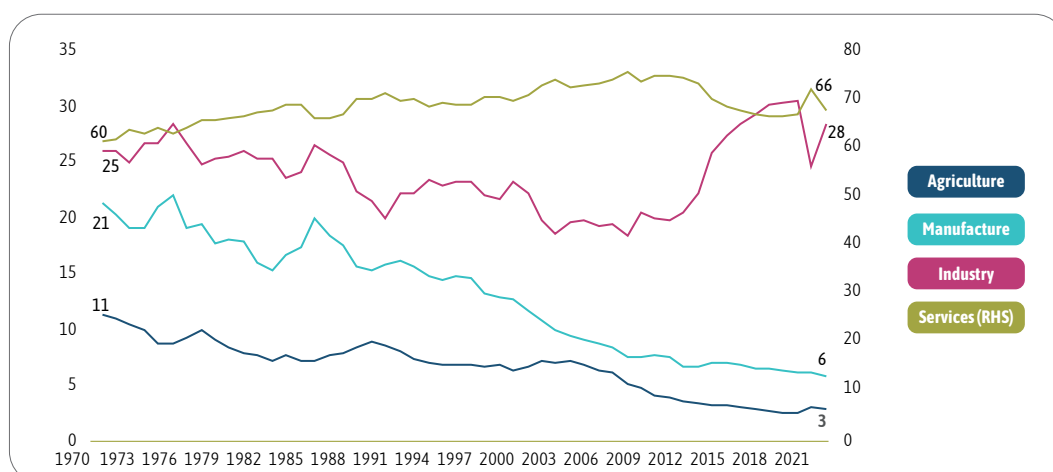
Source: World Bank, "Panama: Historical Hazards," <https://climateknowledgeportal.worldbank.org/country/panama/vulnerability>.

Figure A35. An analysis based on the Asset-Based Framework suggests that poor and vulnerable groups in Panama faced more obstacles to accumulation of assets and productively use them and gain a higher return, compared to the middle class in 2019.



Source: Encuesta de Propósitos Múltiples and Encuesta de Mercado Laboral 2019.

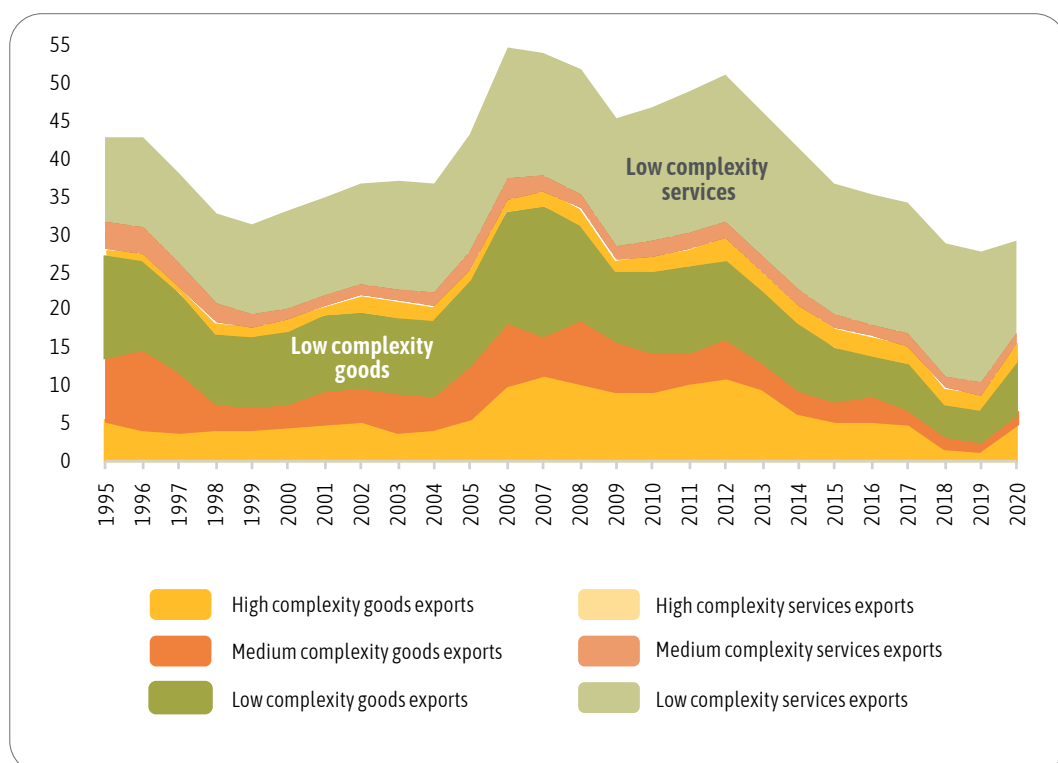
Figure A36. Services contribute the most to GDP, followed by industry.



Source: WDI.

Note: Industry includes manufacturing, construction, utilities, and mining.

Figure A37. Low-complexity goods and services dominate the export mix.



Source: Atlas.

Appendix II - Tables

Table A1. Digital Infrastructure and Service Indicators, 2020

Enhancing access to digital infrastructure	Panama		LAC		OECD	
	2008	2018	2008	2018	2008	2018
Fixed broadband subscriptions (per 100 people)	5.6	10.8	4.1	13.9	22.7	32.9
	2010	2018	2010	2018	2010	2018
Active mobile broadband subscriptions (per 100 people)	3.2	79.1	5.4	73.5	37.7	103.6
	2015	2018	2015	2018	2015	2018
Proportion of population covered by at least 3G network	79	95	86.1	94.6	98.2	98.8
	2008	2017	2008	2017	2008	2007
Fixed broadband speed (in Mbit/s)	0.26	4	0.58	5.1	2.2	27.7

Strengthening effective use of digital services	Panama		LAC		OECD	
	2008	2018	2008	2018	2008	2018
E-Government Development Index (EGDI)	0.47	0.61	0.52	0.65	0.72	0.82
	2008	2017	2008	2017	2008	2017
Share of Internet users (% of population)	33.8	57.9	25.3	62.9	65	83.4
	2015	2019	2015	2019	2015	2019
UNCTAD B2C E-Commerce Index	47.2	50.4	46.4	51.5	73.9	85

Source: OECD. 2020. Latin American Economic Outlook 2020: Digital Transformation for Building Back Better.

Table A2a. The transport and energy industries contribute the most to Panama's GHG emissions (kt CO₂ eq).

Sectors	1994	2000	2005	2010	2013	2016	2017
Energy	4,303	5,191	5,675	9,195	10,150	11,549	11,246
Transport	1,750	2,218	2,703	4,418	4,488	5,938	6,388
Energy industries	1,261	1,464	1,406	2,366	2,493	2,902	2,213
Manufacturing and construction	895	1,075	1,056	1,780	2,534	2,034	1,958
Other	398	434	509	631	635	675	688
Industrial processes and product use	175	313	220	606	936	1,157	1,257
Agriculture	3,288	3,066	3,512	3,677	3,853	3,513	3,463
Waste	716	1,011	1,233	1,498	1,681	1,876	1,905
Total GHG Emissions	8,482	9,580	10,639	14,976	16,620	18,095	17,871
LULUCF	-23,539	-23,234	-27,826	-28,191	-28,397	-27,821	-27,629
Balance	-15,057	-13,654	-17,187	-13,215	-11,777	-9,727	-9,758

Source: MiAmbiente 2020b.

Table A2b. The transport and energy industries represent the highest share of Panama's GHG emissions.

Sectors	1994	2000	2005	2010	2013	2016	2017
Energy	50.7	54.2	53.3	61.4	61.1	63.8	62.9
Transport	20.6	23.2	25.4	29.5	27.0	32.8	35.7
Energy industries	14.9	15.3	13.2	15.8	15.0	16.0	12.4
Manufacturing and construction	10.6	11.2	9.9	11.9	15.2	11.2	11.0
Other	4.7	4.5	4.8	4.2	3.8	3.7	3.8
Industrial processes and product use	2.1	3.3	2.1	4.0	5.6	6.4	7.0
Agriculture	38.8	32.0	33.0	24.6	23.2	19.4	19.4
Waste	8.4	10.6	11.6	10.0	10.1	10.4	10.7

Source: MiAmbiente 2020b.

Table A2c. Within transport and energy, land transport and the production of electricity and heating contribute the most to GHG emissions in Panama (kt CO₂ eq).

	1994	2000	2005	2010	2013	2016	2017
Transport	1750	2218	2703	4418	4488	5938	6388
Land transport	1,740	2,204	2,627	3,761	3,926	4,980	5,147
Maritime and river	NE	NE	NE	439	425	874	1,157
Civil aviation	9.1	13.6	76.2	218.4	137.6	84.1	83.5
Energy Industries	1,261	1,464	1,406	2,366	2,493	2,902	2,213
Production of electricity and heating	984	1335	1406	2366	2493	2902	2213
Oil refinery	277	129	0	0	0	0	0
Manufacturing solid fuels and others	0	0	0	0	0	0	0

Source: MiAmbiente (2020b).

Note: Data show the decomposition of GHG emissions by activity in the transport and energy industries, the two largest contributors to GHG emissions in Panama.

Table A3a. Priority Areas: Consultations, Growth Benchmarking, and Micro Data

Consultations (2022)	Growth benchmarking (2015–2019)	Micro Data (1991–2021)
• Human capital • Physical infrastructure • Inclusion • Digital infrastructure • Lack of data and transparency • Innovation • Environmental sustainability and resilience to natural disasters	• Innovation • Access to finance • Education • Digital Infrastructure • Gender equality • Security • Governance	• Indigenous Populations in comarcas and rural areas • Indigenous Populations in urban areas • Rural dwellers • Women • Education • Territorial differences in health • Job quality

Source: Table A3b.

Table A3b. Methods Used to Identify Priorities and Data Sources**I. Consultations (2022)****a. Consultations with stakeholders in Panama**

Between October and November 2022, a World Bank mission conducted in-person and online consultations with representatives from the Authority of Transit and Land Transportation, Chamber of Commerce, Industries and Agriculture of Panama, Comptroller General, Directorate for International Financial and Fiscal Strategy, Interamerican Development Bank, MiBus, Mining Chamber of Panama, Ministry of Agriculture and Rural Development, Ministry of Education, MiAmbiente, Ministry of Finance (technical and high-level meetings), Ministry of Government (MINGOB), Ministry of Health, Ministry of Public Works, Ministry of Social Development, National Authority for Government Innovation, National Council of Private Enterprise, National Directorate of Public Procurement, National Disability Office, National Institute of Women, National Secretary for Afro-Panamanian Development, INEC, National Water Council (*Consejo Nacional del Agua*, CONAGUA), Panama Metro, Secretary for Public-Private Association, United Nations System in Panama, and the University of Panama

The objectives of the consultations were to: (i) inquire about the stakeholders' views on the main challenges and opportunities to foster sustainable economic growth and reduce poverty and inequality in Panama; and (ii) understand whether the priority areas of the 2015 SCD are still relevant, including the energy supply, quality of education, transparency and effectiveness of public institutions, inclusion of indigenous peoples, and access to and sustainability of clean water.

The main findings of the consultation process are summarized below.

- **Education.** The stakeholders consider access to education, quality of education, and lack of professional and vocational programs to be the main growth and development challenges for Panama. Low educational outcomes, high dropout rates in lower secondary education, and weak coordination between tertiary education and productive sectors pose challenges for the country's socioeconomic development. There have been delays in efforts to update the K-12 curriculum, which aim to make it more flexible for students in lower secondary school and consider differences across five indigenous comarcas. There are still infrastructure challenges in rural areas, especially for the 'rancho' schools with lower educational outcomes. The pandemic exacerbated educational drawbacks, as public schools were closed for two years, leading to learning losses and increasing children's food insecurity. Teachers' strikes and resistance to change is also a concern. There are opportunities from innovative technologies and Plan Colmena, as new educational platforms can close the gap in information and geographical distance.
- **Access to health services in rural areas and comarcas.** Rural populations' access to health services is limited and has worsened since the pandemic. Following the pandemic, access to mobile health services in rural areas has fallen substantially, medicine shortages have worsened, and the maternal mortality rate has increased, mainly due to the lack of health personnel. Weak coordination between the Ministry of Health and Social Security during the pandemic exacerbated existing challenges. The country has been investing in efforts to centralize and digitalize selected health care processes, with the aim to increase coordination and the efficiency of service delivery.
- **Inclusion of indigenous and rural populations.** The poverty rate among indigenous and rural populations is high. Their limited access to basic infrastructure, health care, education and financial services, and economic opportunities are the main structural barriers to inclusion and development in Panama. Although funding for social programs have increased, they do not address these structural barriers. Recently, climate change has emerged as a big challenge for the inclusion of indigenous and rural populations, given their vulnerability to natural disasters. For example, The Guna Yala population that lives on islands is highly vulnerable to disasters and needs to be relocated. The rural population is underrepresented in national statistics, as the expenditure survey used to compute the basic food basket focuses only on urban areas. The development plan for indigenous communities presents

an opportunity to improve school access, create higher education institutions, generate green job opportunities, foster tourism, and empower indigenous women. However, high labor informality and the social security deficit pose challenges to the sustainability of social protection programs. Gender equality. Labor market conditions are highly unequal for women, as they face higher rates of informal employment and underemployment and have lower labor market participation than men, although women do have higher levels of education than men. The pandemic also uncovered many gender-related inequalities and risks as gender violence and female unemployment increased during the crisis. Climate change creates further difficulties in terms of accessing water in rural areas, which further increases the burden on women. Nevertheless, Panama has made significant progress on the legislative framework to improve gender equality, and the authorities created the Ministry of Women in 2023, following the consultation process.

- **Visibility of Afro-Panamanians.** There is a lack of inclusive public policies for Afro-Panamanians, starting with limited data and information about this group, creating a significant bottleneck in terms of adopting targeted policies. There are, however, opportunities for Afro-Panamanians to benefit from the consolidation of the National Secretary for Afro-Panamanian Development's collaboration with INEC, the Ministry of Education, civil society, and the Ministry of Health to improve targeting across services. One of the objectives is to improve the collection of ethnic information in censuses, surveys, and administrative records.
- **Visibility of people with disabilities.** There has been substantial progress in the registration of people with disabilities in national registries, including the development of a digital voluntary certification process on an interoperable platform. Centers specialized in supporting people with disabilities have also seen improvements, along with the development of a plan for risk and disaster management. Additionally, there has been significant progress in advancing the labor integration initiative. For example, Plan Colmena presents an opportunity to extend disability insertion programs to areas in need. However, limited data and information on the socioeconomic characteristics of people with disabilities are constraints faced by policymakers trying to reach these groups.
- **Public sector transparency, effectiveness, and access to data.** Lack of reliable data and low quality of administrative records are big challenges across sectors, areas, and groups, including health, education, infrastructure, water, transport, mining, the labor market, Afro-Panamanians, indigenous populations, and rural areas, among others. There is neither a culture of accountability nor a process to ensure evidence-based or goal-oriented policymaking. Government efforts should focus on improving the availability of and access to data and strengthening transparency, efficiency, and the justice system. Being on the FATF grey list was a significant bottleneck for the country's international trade and investment. In October 2023, Panama exited the FATF grey list following the adoption of laws and regulations to improve financial transparency and the creation of a registry of beneficial ownership. Panama's public procurement framework has improved since 2018. The Directorate has standardized regulations and documents to foster transparency and digitalization, and it created an open-source platform for public procurement, PanamaCompra, in 2021, which has enhanced the transparency, efficiency, and accountability of public budget management. Still, long waiting times at the Comptroller's office slow down the process and hinder the efficiency of the procurement system. Investments in technologies and public information systems present an opportunity to increase transparency and efficiency in public services, and Plan Colmena is critical to improve public service delivery.
- **Access to and sustainability of clean water.** Many rural areas have no access to clean water and sanitation due to their remote location, and contaminated water with chemicals causes health problems and hampers agricultural sustainability. Operational mistakes and lack of coordination across institutions in the water sector have led to inefficiencies. The sector needs more human capital and an integrated information system, and the authorities need access to better administrative records on water services to develop an effective sanitation strategy. The government also needs to develop a comprehensive plan for the management of hydraulic resources, including the Panama Canal, and

design novel financing schemes to address the lack of resources due to low water tariffs and budget allocations for water. Improving the management of water and soil is critical to mitigate the negative impact of climate change on the water sector.

- **Energy transmission and prices.** The energy sector is no longer hampered by supply shortages but by challenges related to the transmission of energy and high electricity prices. The high cost of electricity is a big burden on vulnerable populations and small companies. There are more than 56 thousand rural households without electricity in Panama, and the energy transition project aims to use on-the-grid and off-the-grid solutions to close this service gap by 2030. However, financing these efforts is a significant challenge. Closing the electricity gap will require an estimated US\$80 million, but only US\$10 million has been allocated so far. The government aims to stabilize energy prices by increasing gas production by 2024. Moreover, ongoing transmission projects, including the fourth line project, can triple the capacity of the North Caribbean and Central Pacific transmission. The PPP to build the transmission line Panama-Bocas del Toro by 2030 and the connection project with Colombia will strengthen the Central América network. Still, the country's energy transition strategy needs significant funding and coordination.
- **Quality of infrastructure.** Low-quality roads, weak connectivity in several vulnerable regions, lack of data on transport and infrastructure, climate change, and a shrinking government budget are the main infrastructure-related challenges in Panama.
- **Climate change and vulnerability to natural disasters.** Panama scores high on climate vulnerability, and the increased frequency of extreme weather events pose additional risks for the operation of the Panama Canal as well as for the country's water supply and agriculture. Panama's low adaptation capacity poses a high risk to vulnerable populations. The government plans to address these risks with the expected approval of a climate change law, along with the related legal framework, and the creation of the Institute of Hydrology and Meteorology.
- **Digitalization of the public sector.** The digitalization of public sector processes and services could improve transparency, increase access to information, and promote the efficiency and effectiveness of public service delivery in a wide range of critical areas, including education, health, transport, finance, social inclusion, and climate change, among others. The government has made significant progress in implementing its digitalization strategy, led by the National Authority for Government Innovation, but there is still a lot of room to expand digital infrastructure and public services.
- **Innovation.** There is neither investment nor incentives for private sector innovation in Panama. The government budget focuses on physical investment and operations, with limited budget allocations for investment in research and innovation. Due to lack of funding and a well-developed national public research program, universities do not conduct high-quality research, and some universities do not even have a lab.
- **Fiscal framework and social security.** The increasing fiscal deficit and the unsustainability of social security are big concerns for fiscal stability. Government expenditure increased during the pandemic, especially to fund the delivery of key health and social protection services. Moreover, the quality of spending in education, infrastructure, and other sectors poses additional concerns. Finally, the sustainability of the pension system is in question, with an eroding contributory base and aging population. Limited government revenues hamper the fiscal sustainability of Panama's public spending and investments.
- **Agriculture.** Tariffs on agricultural goods and sanitary requirements make the exports of agricultural goods difficult and expensive. Nevertheless, the agricultural industry has benefited from digitalization and the creation of the legal framework for family agriculture. Other policies such as Plan Colmena, the school feeding program, and Agro Solidario have helped to improve coordination between agricultural institutions.

b. Inputs of sector experts from the World Bank Group's Global Practices and the International Finance Corporation

The following sector-specific inputs were provided by: Cornelia Tesliuc (Social Protection and Jobs), David Olivier Treguer (Sector Leader, Sustainable Development), David Vilar (Program Leader, Infrastructure), Diego Arias Carballo (Practice Manager), Fabian Hinojosa (Senior Transport Specialist), Federica Secci (Senior Health Specialist), Felipe Montoya Pino (Urban Specialist), Julian Najles (Digital Development), Katharina Siegmann (Senior Environmental Specialist), Leah Arabella Germer (Agriculture Specialist), Maria Camila Padilla Gomez (Senior Procurement Specialist), Maria Elena Garcia Mora (Senior Social Development Specialist), Maria Jose Vidal Roman (Consultant, Digital Development), Marie Caroline Paviot (Senior Agriculture Economist), Mia Rodriguez (Country Officer, IFC), Patrick Wieland (Senior Environmental Specialist), Suhas D. Parandekar (Senior Economist, Human Development), Ursula Martínez (Social Protection Specialist), and Yara Esquivel (Senior Financial Sector Specialist).

- **Agriculture.** The meager returns in the agriculture sector relative to those in other sectors suggest that Panama is likely underinvesting in agriculture. Widespread inefficiencies and unsustainable practices hinder productivity, hamper the business environment, and leave small producers vulnerable to climatic and economic shocks while keeping them excluded from high-value markets and income-generating opportunities. High and rising food/fuel/fertilizer prices exacerbate existing structural drivers of poverty, inequality, and food insecurity in Panama. The Ministry of Agriculture has adopted the Family Farming Law (with the support of the World Bank) to focus its support on family farmers, who tend to be among the poorest.
- **Climate change.** Panama has made important progress in developing an institutional framework for climate change, including the creation of MiAmbiente in 2015 and the submission of its first and updated Nationally Determined Contribution in 2016 and 2020. While Panama is not a large emitter of GHGs, decarbonization pathways are crucial for the country's sustainable growth trajectory. Panama's forests and natural resources are strategically important to both climate change mitigation and adaptation efforts. As a narrowly shaped country with two extensive coastlines, strengthening coastal management and integrating disaster risk reduction into marine-coastal system management is important to mitigate the impact of climate change.
- **Digital development.** With a persistent rural-urban divide, Panama faces challenges in achieving affordable and universal digital connectivity. Infrastructure limitations and financial disincentives for operators to deploy digital infrastructure in remote areas contribute to the country's limited access to affordable broadband services in rural regions. The lack of high-speed internet, low mobile network coverage, and limited device ownership further contribute to the digital gap. While the government utilized digital platforms during the COVID-19 pandemic, the overall quality of connectivity is insufficient to ensure resilience, and digital literacy has been declining. Enhancing digital infrastructure, skills, and cybersecurity is crucial to grow Panama's digital economy and ensure inclusive access to digital tools and services.
- **International Finance Corporation (IFC).** As of August 31, 2022, the IFC has an investment portfolio of US\$369 million in Panama, focusing on financial institutions, affordable housing, women-owned businesses, green banking, small and medium-sized enterprises, and support for the Panama Canal. The IFC is actively involved in providing advisory services for PPP projects in the areas of transmission lines and intercity roads. However, Panama still faces challenges related to compliance with international standards, particularly in areas such as beneficial ownership information and responding to requests for information, which could have negative consequences for the country's macro risk perception, cost of doing business, and relationships with correspondent banks if not addressed by October 2022.
- **Infrastructure.** Transportation has been a key sector for Panama's economic development, with the country having made significant investments in infrastructure, such as the expansion of the Panama Canal, Tocumen International Airport, and Panama City's metro lines. However, there is still room to improve the overall quality of transport infrastructure, particularly in terms of road connectivity

and access to rural areas. In urban areas, mobility conditions and integration of the public transport system remain challenges. The government has approved a new PPP law to attract qualified investors and move toward long-term, well-structured PPPs. The World Bank is supporting the government in strengthening its institutional capacity for PPP execution and addressing challenges in strategic planning, project prioritization, and technical expertise. The PPP agenda is seen as a vital tool for infrastructure development and accelerating the economic recovery in the post-COVID-19 context.

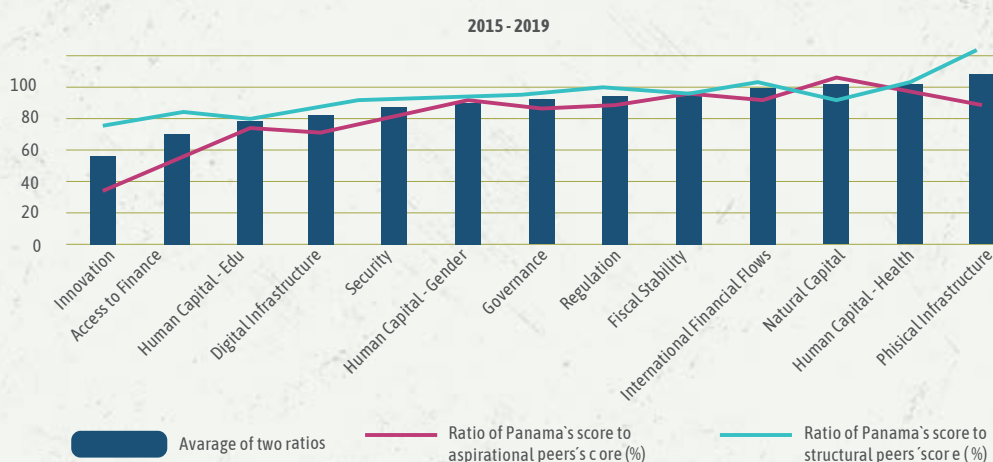
- Procurement.** Panama has a well-established public procurement framework supported by laws, regulations, and an electronic procurement system—PanamaCompra. The system has undergone modernization efforts since 2006, with recent updates aimed at enhancing transparency, efficiency, and professionalization. However, there is a systematic delay in implementing contracts due to the requirement of having Contraloría General de la República endorse all public procurement activities. Panama faces increasing risks from multi-hazard events, including climate-related hazards and natural disasters like earthquakes, floods, and hurricanes. These events have resulted in substantial economic losses and disproportionately affect vulnerable populations, many of whom lack the resources to cope. Panama's rapid and poorly planned urbanization has exacerbated these risks, leading to social segregation, limited access to public services, and degradation of ecosystems. The government has recognized the importance of strengthening disaster risk management and climate adaptation measures to address these challenges. Efforts are underway to improve institutional frameworks, enhance coordination between government authorities, and integrate risk considerations into territorial planning. Building the capacity of local institutions and fostering inter-municipal cooperation are crucial steps toward sustainable and climate-resilient urban development in Panama.
- Health nutrition and population.** Between 2014 and 2019, sanitation works were halted due to corruption scandals, but they have recently been reactivated by the current government administration, which is also dealing with the aftermath of the COVID-19 pandemic. Progress has been made on improving the legal framework and the government action plan, but more needs to be done to implement new health regulations. While there has been progress on implementing the Indigenous Peoples Development Plan, there are still delays in executing health interventions for indigenous communities. Panama faces also new challenges such as closing coverage gaps due to the pandemic, implementing electronic health records and telemedicine, improving access to quality medicines at a fair price, managing hazardous waste, and strengthening social participation in health operations.
- Social protection and jobs.** Panama's conditional cash transfer programs suffer from low coverage rates and targeting challenges. The COVID-19 pandemic highlighted the importance of adaptive social protection systems. During the pandemic, the emergency subsidy PS program covered around 80 percent of the population in 2020 and partially mitigated the increase in poverty. Following the crisis, the government has been unable to close the program due to a lack of other social assistance programs for the urban poor. The country's social protection system faces structural challenges, including fragmentation, targeting errors, limited coverage, and an inadequate delivery system. The coverage of the national social registry is low, and the payment system is inefficient. There are also data gaps in the social protection sector, as there is neither an analysis of urban poverty and the potential expansion of the RdO program's coverage, nor a cost-benefit analysis of the program's expansion in terms of lowering poverty and the distributional impact of food inflation on the poorest households.
- Social sustainability and inclusion.** The government's response during and after the COVID-19 pandemic was designed to serve primarily urban centers, failing to address the needs and risks of rural areas. The repercussions of the pandemic and Russia's invasion of Ukraine may have delayed Panama's full economic and social recovery. There was recent social unrest in the country, and there continues to be significant discontent among the population with measures taken by the government to address unemployment, the high cost of living, and other demands set forth by the different unions and groups. Moreover, the country's economic growth and geographic location has made it attractive to intraregional migrants. Conditions at many border crossing points, particularly in the Darién, are extremely precarious and dangerous, and many communities that host migrants fail to provide them with access to basic services.

II. Growth Benchmarking

Growth diagnostics benchmarking was built such that each indicator is normalized to a scale of 0 to 100 using the following formula:

$$\text{Index of } xi = [(min(xi) - x(i)) / (min(xi) - max(xi))] * 100$$

In this formula, xi represents the specific indicator of interest, min refers to the minimum value of the indicator, and max represents the maximum value of the indicator. If an indicator's maximum or minimum values are extreme outliers, they are not considered in the calculation of the index. For indicators where higher values indicate worse outcomes (e.g., a public service index where 0 represents the best level of public service and 10 represents the worst), index scores are adjusted by subtracting them from 100.



Note: Aspirational peers: Estonia, Hong Kong SAR, China, South Korea, Lithuania, Singapore, Taiwan, China, and the United Arab Emirates; structural peers: Bulgaria, Costa Rica, Croatia, Dominican Republic, and Uruguay.

Sources of the variables used in each index:

Index	Source
Innovation	World Intellectual Property Organization, United Nations, Cornell University, INSEAD, and WIPO
Access to Finance	WDI and International Monetary Fund
Human Capital - Educ	UNESCO and HCI
Digital Infrastructure	International Telecommunication Union and WDI
Security	United Nations and Fund for Peace
Human Capital - Gender	WDI and UNESCO
Governance	WDI, Freedom House, Fund for Peace, and Heritage Foundation
Regulation	The Heritage Foundation
Fiscal Stability	International Monetary Fund
International Financial Flows	WDI
Natural Capital	WDI and World Risk Index
Human Capital - Health	WDI and HCI
Physical Infrastructure	World Economic Forum, Fund for Peace, and WDI

III. Micro Data

The SCD Update included several analyses, including studies of the main barriers to inclusion, drivers of poverty and vulnerability, challenges to human capital accumulation, and factors affecting jobs and firm performance. Several microdata sources were consulted, including EML data for 1991–2021, EPM data for 2015–2019, and EENF data for 2011–2018.

The SCD Update follows an asset-based framework to characterize poor and vulnerable groups and assess the drivers of poverty and vulnerability. According to this framework, there are four components of household income:

1. Assets owned by households, which can be broken down into:
 - a. Stock of income-earning assets owned by each household member, which may include human capital, financial and physical assets, social capital, and natural capital.
 - b. Rate at which assets are utilized by each household member to produce income.
 - c. Returns to assets.
2. Prices of the goods and services households consume and receive.
3. Transfers—monetary or in kind, both within and outside the country.
4. Potential realization of shocks (e.g., adverse health events, natural disasters, crime, and loss of employment).

To benchmark different groups' income-generating capacity and markers of well-being, the SCD Update conducted cross-country (by regional, structural, and aspirational peers) and within-country (by gender, territory, and ethnicity) comparisons.

The analysis and benchmarking of gender within Panama and between countries followed a framework that categorizes indicators into the following dimensions: 1) human endowments, 2) economic opportunities, and 3) voice and agency.

Labor markets and private sector diagnostics focused on job profiles and employment needs, particularly for the poor and people in the bottom 40 percent of the income distribution, and examined links between job outcomes, growth, and the twin goals over the last three decades using harmonized labor market indicators. The diagnostics used harmonized Socio-Economic Database for Latin America and the Caribbean (SEDLAC) microdata from 1991 to 2019, and they were complemented by an analysis of the barriers faced by Panamanian firms and the productivity of businesses by sector and firm size.

The results of the analyses indicate that indigenous populations, rural dwellers, and women suffer from the most important disadvantages in Panama. In addition, progress toward the twin goals is limited by low-productivity MSMEs and low-quality jobs.

Finally, the analyses were complemented by an in-depth look at Panama's level of human capital. This analysis used the 2018 and 2020 Human Capital Index (HCI), which is calculated for 172 countries. Information on each component of the HCI was analyzed and standardized to compare the main drivers of Panama's low HCI. The HCI components were probability of survival to age 5; survival rate from age 15 to 60; expected years of schooling; harmonized test scores; and learning-adjusted years of schooling. Each indicator was obtained from the WDI and standardized from 0-1 using the following formula:

$$\text{Index of } x_i = \frac{(\min(x_i) - x(i))}{(\min(x_i) - \max(x_i))}$$

Where x_i represents the specific indicator of interest, $\min$ refers to the minimum value of the indicator from the list of 172 countries, and $\max$ represents the maximum value of the indicator.

The analysis indicates that the main drivers of Panama's low HCI are education outcomes, especially those related to education quality (Harmonized Test Scores). Within- and cross-country benchmarking of health outcomes suggests that health is also limiting human capital in Panama's poor territories.

Table A4. Recommendations by Policy Area

1. Increase the level of human capital			
	Short term	Medium term	Long term
1a. Increase access to and the quality of education	Update the K12 curriculum to create a stronger and more inclusive education system.	Strengthen the system for monitoring and evaluating teacher and student outcomes.	Strengthen higher education and research institutions by increasing funding and creating new research positions.
	Enhance retention in secondary education by incorporating relevant content for vocational education in the comarcas and impoverished areas.	Strengthen public and private technical education to better respond to labor market demand.	Enhance education and complementary infrastructure in rural areas, including through PPPs.
	Improve digital connectivity in schools.		
	Increase the level and efficiency of education financing and ensure service quality and equity.		
	Strengthen social programs with the potential to increase human capital such as the Red de Oportunidades and PASE-U programs.		
1b. Increase access to and the quality of health services	Improve health care regulation and coordination between different institutions such as the Ministry of Health and the CSS.	Improve health infrastructure, promote the development of traditional medicine, and improve water and sanitation systems in indigenous territories.	
	Improve the efficiency of health sector financing to ensure equitable, high-quality services, including through results-based funding mechanisms.		
	Continue enabling remote health services (telehealth).	Continue enabling telehealth while improving access to electricity and internet in remote areas.	
	Include countrywide metrics and indicators to assess the health system's quality, including through the Electronic Health Information System.		
	Improve access to quality medicine and reduce price-information asymmetry by: (i) informing the public of the activities of the High-Level Commission (Mesas de Dialogo) organized in 2022; and (ii) digitizing the National Directorate of Pharmacy and Drugs.		

2. Increase the innovation and entrepreneurial capacity of firms and improve the quality of jobs			
	Short term	Medium term	Long term
2a. Increase access to better jobs and financing for MSMEs, self-employed workers, and vulnerable groups	Strengthen the regulatory framework to lower the cost of financing and transactions, reduce information asymmetry, and increase the range of assets and goods that can be used as collateral.	Expand the physical and digital infrastructure of the financial sector to extend its reach to rural and remote areas.	
	Strengthen the regulatory framework for digital financial services.	Increase financial and digital literacy.	
	Broaden the range of financing instruments available to MSMEs and entrepreneurs.	Provide training services to entrepreneurs and MSMEs to increase their entrepreneurial capacity.	
	Assess labor regulations.	Upskill the labor force based on private sector demand for skilled labor.	
	Promote higher-productivity jobs in sustainable agriculture, ecotourism, and services with high levels of complexity or connectivity to external markets.		
2b. Increase technical and entrepreneurial skills	Incorporate technical training in secondary and higher education curricula.		
	Promote vocational technical and entrepreneurial training through PPPs.		
2c. Increase private sector funding for science, technology and innovation (STI)		Promote technology transfer through technology licensing, global value chains, trade, and international collaboration.	
		Increase business sophistication.	
	Promote collaboration between the public sector, industry, and academia to increase innovation and the entrepreneurial capacity of individuals and firms.		

2d. Strengthen government policies to support innovation	Develop a comprehensive innovation strategy and vision and consolidate existing strategies.		
	Strengthen the regulatory framework for science and technology institutions (SENACYT and CICYT) to clarify their responsibilities.	Increase coordination and data sharing between SENACYT, CICYT, and other public agencies.	Increase domestic demand and/or market access for innovative products.
	Strengthen intellectual property protections to incentivize innovation and attract investment.		
2e. Strengthen government policies that support entrepreneurial activities	Simplify and streamline regulatory procedures and rules for opening a new business.	Promote advisory and educational activities for aspiring entrepreneurs.	
3. Ensure the inclusion of indigenous communities, rural populations, and women			
	Short term	Medium term	Long term
3a. Increase the productive assets of indigenous and rural communities	Improve the quality and cultural relevance of education services and expand the intercultural bilingual education curriculum.	Expand the provision of educational and health services in the <i>comarcas</i> and rural areas by constructing, rehabilitating, and expanding schools and health centers.	
	Enhance the quality and cultural relevance of health services by implementing intercultural health protocols and building the capacity of health care providers.	Improve water, sanitation, and road infrastructure in remote rural areas, potentially through PPPs.	

3b. Boost economic opportunities for indigenous peoples, rural communities, and the urban poor	Create institutional arrangements and sectoral instruments to link agriculture, tourism, and green initiatives.	Explore the possibility of using payment for environmental services programs to support sustainable agriculture among smallholder farmers.
	Promote sectors that can connect to export markets and/or deliver complex services to generate high-quality jobs.	
	Boost financial inclusion among smallholder farmers and improve the targeting of public programs that provide access to technical assistance through digitalization efforts under the Family Farming Law.	
3c Increase the coverage of social assistance programs in indigenous territories	Expand the coverage of the RdO program to poor households and broaden its presence in indigenous territories.	Strengthen the Social Registry to improve targeting and better mitigate the impact of shocks.
3.d Strengthen government capacity to implement policies in indigenous territories	Build the capacity of indigenous authorities to enhance governance within their territories.	
	Enhance the ability of the Vice Ministry of Indigenous Affairs to effectively plan and coordinate public policies, investments, and dialogues with indigenous peoples.	
3e Improve economic opportunities for women	Increase access to health care, including skilled birth attendants, in underserved rural and indigenous areas.	Implement programs focused on vocational and soft skills to improve women's employment prospects.
	Incorporate a gender perspective in the planning and delivery of services and the implementation of the Indigenous Plan.	Strengthen the voice and participation of indigenous women in the decision-making processes of indigenous authorities. Implement social outreach efforts to address gender stereotypes.

4. Promote environmental sustainability and strengthen resilience to natural disasters			
	Short term	Medium term	Long term
4a. Promote water sustainability	Clarify the responsibilities of different institutions responsible for the water system and promote practices and technologies that improve water management.		
	Ensure timely, reliable, and standardized information and data sharing in the water sector and improve real-time coordination.		
	Improve the institutional, administrative, and technical capacity of agencies involved in water management.		
	Reduce gaps in water access and quality.		
	Invest in upgrading, renewing, and maintaining old water and wastewater infrastructure to improve the storage, delivery, and resilience of the water system.		
		Seek innovative solutions to increase the efficiency of water use, such as investing in smart irrigation.	
	Strengthen regulations to reduce the impact of economic activities on forests.		
4b. Decrease deforestation and increase forestation	Raise public awareness of the importance of forests and the damage caused by illegal logging.		
	Encourage sustainable forestry practices and promote reforestation and restoration efforts through targeted education and training.	Promote capacity building and training among indigenous peoples to improve forest management and ensure sustainability.	
	Improve monitoring and surveillance tools to identify areas of deforestation and illegal logging.		
	Upgrade the technical and institutional framework for multi-hazard monitoring networks and early warning systems.		

4c. Increase resilience to natural disasters	Update existing institutional arrangements to effectively address observed and projected climate trends as well as changes in natural, agricultural, and built environments.		
	Create a sovereign insurance strategy for natural disasters.		
	Reduce contingent liabilities from natural disasters and public health crises by improving the country's capabilities to identify and assess natural hazard risks.		
4d. Promote the green economy	Develop and enforce a comprehensive regulatory framework to promote sustainability in the mining, transportation, energy, and manufacturing sectors.		
	Promote PPPs in the energy sector to further increase renewable energy production.		
	Mobilize green financing.	Strengthening regional cooperation and integration in the renewable energy sector.	
	Promote technical and vocational training programs in renewable energy.	Promote private investment in R&D and innovation to support renewable energy technologies.	

5. Cross-cutting: Strengthen public sector institutions			
	Short term	Medium term	Long term
5a. Promote accountability and transparency	Review and streamline processes in the comptroller's office to increase the efficiency of the procurement system.	Strengthen planning, monitoring, and evaluation functions within the Ministry of Economy and Finance and approve pending anti-corruption legislation.	
	Modernize the regulatory accountability framework.	Strengthen legal protections, increase transparency in the appointment and removal of judges, and ensure that judges have adequate resources and training.	
	Maintain the registry of beneficial ownership created as per the FATF Action Plan to promote financial transparency.	Improve the quality and accessibility of budget information and strengthen oversight mechanisms to combat corruption and improve transparency.	Invest in technology and public information systems to increase the transparency and efficiency of public services.
	Improve the processes and resources for land titling as well as recognizing and protecting the right of possession.	Increase efforts to combat fraud and the misappropriation of property, including through enhanced enforcement and stronger penalties.	Strengthen the legal framework for property registration to ensure that all land is titled, particularly outside of Panama City.
	Develop a comprehensive regulatory framework for aviation and increase technical and human resources to ensure safe and effective operations.	Create insurance mechanisms to ensure the stability of the financial system.	
5b. Promote evidence-driven policies	Increase the allocation of resources to data collection and enhance statistical capacity, particularly in areas with identified gaps such as infrastructure, workforce skills, and financial resources.	Increase the depth and breadth of available data by prioritizing the collection of high-quality data in key areas.	Implement a data-driven culture in the public sector, emphasizing the importance of data interoperability and ICT in modernizing state functions and monitoring and evaluating public services.

	Increase data openness by enhancing the transparency and accessibility of data to a wider audience, including civil society and academia.	Encourage the adoption of best practices in government statistics, including the use of new technologies and the development of partnerships with academia and the private sector to enhance the country's statistical capacity.	Promote evidence-based policymaking across all sectors, including through the development of monitoring and evaluation frameworks to assess the impact of policies and programs.
5c. Increase the effectiveness of public service delivery	Develop targeted interventions to improve access to basic public services, especially in regions with low access rates.	Experiment with ICT in service delivery, such as telemedicine and digital vouchers for social protection programs.	Increase investment in infrastructure to support the delivery of basic public services such as electricity and sanitation. Diversify the energy mix to reduce Panama's dependence on hydropower and prevent energy shortages in the dry season.
	Improve the social protection system by: (i) enhancing its targeting, coverage, adequacy, and delivery methods, and (ii) incorporating lessons learned from ongoing assessments of social programs.		
	Finalize the creation of a single universal registry for social protection beneficiaries.		
	Develop an adaptive social protection system.		
5d. Promote revenue mobilization	Review value-added tax exemptions, personal income tax exemptions and deductions, and corporate tax exemptions and incentives.	Improve tax and customs collection efficiency and broaden the tax base by reducing exemptions, deductions, and tax expenditures that mainly benefit higher-income households. Apply the value-added tax to the digital economy.	

Table A5. Progress Made in Areas Prioritized in the 2015 SCD

Main Findings of the 2015 SCD	Changes since 2015	Recommendations of the 2023 SCD
Education		
Technical education. The country needs to strengthen targeted public and private technical education to better respond to labor market demand. Suggested reforms include introducing vocational training and bilingual education as well as revising high school certificates.	• The country still exhibits high levels of skill-labor mismatches. The government established the Specialized Higher Technical Institute in 2017 to meet the needs of the country's strategic sectors and generate attractive opportunities for secondary education graduates. However, vocational education enrollment remains low, the number of secondary school dropouts is still high, and the National Skills Standardization and Certification System remains incipient.	• Reduce skills mismatches using both demand- and supply-side policy measures. • On the demand side, institute effective and well-informed career guidance at the end of lower secondary education to better match students' preferences and labor market needs. • On the supply side, strengthen the operation and management of higher education and vocational institutes through enhanced coordination, common standards, and curriculum updates to align with changing sector needs and emerging technologies. • Increase funding, ensure public-private coordination, and update the K-12 and higher education curriculum.
Monitoring and evaluation. Panama needs to regularly monitor and evaluate education outcomes to improve quality.	• Panama has increased the quality of monitoring education, which was last internationally measured by PISA in 2009. The country participated in the CRECER assessments 2016–2018, PISA 2018, the off-school PISA-D program, ERCE 2019, and PISA 2022. However, education quality and secondary completion levels remain low.	• To enhance education quality and school competition, update the K-12 curriculum and establish and apply a monitoring and evaluation framework to design and implement data-driven policies. • Use insights from the CRECER assessments to customize school improvement plans, improve teacher training, and target interventions for schools facing learning challenges. • Ensure sustained commitment and stable funding and improve local technical capacity to continue national assessments.
Conditional cash transfer program. The authorities need to increase payments under the conditional cash transfer program Beca Universal, which is differentiated by students' grade level (three cycles), to address high dropout rates in secondary education.	• In 2020, the PASE-U program replaced the Beca Universal program, the latter which differentiated benefits by students' education level.	• Rigorously evaluate the results of the new PASE-U program.

Main Findings of the 2015 SCD	Changes since 2015	Recommendations of the 2023 SCD
Inclusion		
Indigenous peoples. The concentration of poverty in indigenous areas suggests that the authorities need to focus on these areas and this population group.	• The formation of the National Indigenous Peoples Council established a permanent platform for dialogue and institutionalized coordination between indigenous peoples and the government. • Congress approved Law No. 301, which includes the PDIPIP, endorsed by indigenous authorities and consulted with communities. • The government recognized the creation of the Comarca Naso Tjer Di in 2020.	• Increase the coverage of social assistance in indigenous territories. • Strengthen the institutional capacity of indigenous authorities to effectively plan and coordinate public policies and investments related to the PDIPIP.
Comarcas. The comarcas need culturally appropriate economic opportunities, social assistance, infrastructure, and efforts to enforce legal rights.	• Since 2016, Law 37 requires free, prior, informed consent of indigenous peoples. • There has been progress on adopting regulations based on Law 88 on Languages and Alphabets of Indigenous Peoples and designing the National Plan of Intercultural Bilingual Education. • There have been efforts to strengthen traditional medicine, including through the dissemination of Law 17 on Traditional Indigenous Medicine and the registry of health agents in traditional medicine.	• Ensure land tenure policies that protect forests and indigenous peoples' rights. • Improve water, sanitation, and road infrastructure in remote rural areas, with the potential participation of the private sector through the PPP law.
Women. Women have benefited from the growing job market.	• The COVID-19 pandemic hindered progress on increasing the participation of women in labor markets, as sectors where women predominantly work were among the most affected. • Many women who lost their pre-pandemic jobs left the labor force altogether. • Indigenous women have the lowest levels of education and earnings in Panama.	• Increase access to effective health care in underserved rural and indigenous areas. • Implement soft and vocational skills programs to raise the career aspirations of young women. • Strengthen the voice and participation of indigenous women in the decision-making processes of indigenous authorities. • Incorporate a gender perspective in the planning and delivery of public services, particularly in the implementation of the PDIPIP.

Main Findings of the 2015 SCD	Changes since 2015	Recommendations of the 2023 SCD
Energy		
Energy shortages. To mitigate the risk of power shortages, Panama needs to take steps to more effectively manage the national energy demand; modernize the institutional framework of the energy sector, including improving the coordination of key institutions; and increase renewable energy or natural gas power generation.	• The country's energy supply has increased since 2015 and meets demand. • Renewable energy production has increased since 2015.	• Expand renewable energy production. • Decrease transmission costs.
Water		
Water management. Adequate water resource management is key to ensure a sustainable supply of water. However, water management in Panama suffers from unclear institutional roles, which hamper effective regulation, and multiple implementing agencies for infrastructure provision, which impede coordination. Moreover, the process for setting policies in the sector remains disjointed. Finally, there is no regulatory function in the water sector like in other sectors such as electricity and telecommunications.	• In 2015, MiAmbiente was created to raise environmental protection to the ministerial level. • In 2015, the High-Level Committee on Water Security was created to prepare the National Water Security Plan 2015–2050. • In 2016, CONAGUA was created with the responsibility of coordinating and guaranteeing the development and implementation of the National Water Security Plan. • The Panama Canal Authority has implemented programs providing incentives to protect the environment in the Panama Canal's watershed, including instituting a freshwater fee and promoting green technology. • IDAAN has implemented many initiatives to increase public awareness of water use, reduce non-revenue water through enforcement, and decrease water contamination.	• Improve the institutional, administrative, and technical capacity of agencies involved in water management. • Improve water management by clarifying the responsibilities of institutions and strengthening their coordination. • Reduce gaps in access to and the quality of water. • Invest in upgrading, renewing, and maintaining old water and wastewater infrastructure. • Ensure timely, reliable, and standardized information and data sharing on water. • Improve real time coordination among water institutions to prevent inefficiencies in operations.

Main Findings of the 2015 SCD	Changes since 2015	Recommendations of the 2023 SCD
Public sector efficiency		
Public sector management. Panama faces public sector management challenges related to transparency, the regulatory framework, and efficiency. Key reforms to improve the management of public sector functions include; introducing performance-informed budgeting and enhancing coordination; improving fiscal management; modernizing financial planning and debt management; and reducing fiscal risk from disasters.	• While the government has established the Anti-Corruption Prosecutor's Office and the Judicial Council to address corruption, improving the quality and accessibility of budget information and strengthening oversight mechanisms are also necessary to combat corruption and improve transparency. • In October 2023, Panama exited the FATF grey list after the recognition that Panama complied with all 15 areas of FATF Action Plan. • In its efforts to modernize the tax system, the government: (i) approved the Program of Support for the Digital Transformation of the Tax Administration in Panama (PATDAT), which is financed by a B/.40.0 million loan from the Inter-American Development Bank over 5 years and aims to improve governance and human resource management, strengthen tax control and compliance facilitation, and enhance technological management; (ii) recorded 60 online procedures in the online tax system (e-Tax 2.0) in the beginning of 2020, with 160 current active procedures, according to the Director of the Tax Administration (DGI); and (iii) achieved voluntary mass adoption of electronic invoicing in 2021 by adopting the free invoicer and the certified authorized provider. • The adoption of electronic invoicing in Panama has accelerated in the last two years, increasing from 537 users issuing their operation receipts in the system in 2021 to 38,656 users as of May 18, 2023.	• Improve the quality and accessibility of budget information and strengthen oversight mechanisms to combat corruption and improve transparency. • Invest in technology and public information ecosystems to increase transparency and efficiency in public services. • Increase the efficiency of tax administration and mobilize tax revenue.
Public procurement management. There are deficiencies in Panama's public procurement practices.	• The country has made progress in improving its public procurement framework since 2018, including by creating the mandatory open-source platform PanamaCompra, which enhanced the transparency, efficiency, and accountability of public budget management.	• Review and streamline processes in the comptroller's office to increase the efficiency of the procurement system.

Table A6. Knowledge Gaps

Knowledge gaps identified in the 2015 SCD	New knowledge gaps since the 2015 SCD	New knowledge gaps identified in 2023 SCD
Human Capital		
Education		
Lack of data on the causes of dropout rates in Panama.	• Student learning assessments: PISA 2018, ERCE 2019, and Prueba CRECER since 2016.	• Evaluation of the PASE-U program on secondary education dropouts. • Evaluation of the creation of the Specialized Higher Technical Institute on technical education and skills mismatch. • Evaluation of Plan Colmena on education and health outcomes. • Assessment of emerging lessons from student learning assessments (PISA, ERCE, and CRECER).
Health		
<i>Not identified as a priority in the 2015 SCD.</i>		• Demographic and health surveys. • Survey data on women's health, gender norms, agency and empowerment, and violence against women. • Administrative records on health markers and inputs with ample geographic coverage.
Innovation, entrepreneurial capacity, and job quality		
<i>Not identified as a priority in the 2015 SCD.</i>		• Limited coverage and availability of firm-level data, especially on micro and informal firms. • Assessment of the drivers of informality and labor productivity. • Assessment of labor regulations as a source of labor market frictions. • Lack of data and analytical work on competition.

Knowledge gaps identified in the 2015 SCD	New knowledge gaps since the 2015 SCD	New knowledge gaps identified in 2023 SCD
Inclusion		
Lack of poverty data on minorities and other vulnerable groups.	In 2017, multidimensional poverty was measured for the first time in Panama. In 2020, the Multidimensional Poverty Index was measured by districts and townships (corregimiento) using 2010 census data.	• Lack of granular social data, including basic food basket information for rural areas, especially indigenous communities. • Lack of reliable data on disability (following the Washington Group Short Set on Functioning) and migrants. • Lack of information on gender and sexual minorities in census and survey data. • Lack of basic farm-level survey data (economic and biophysical) to enable updated assessments of the main opportunities for improving productivity and competitiveness. • Analysis of urban and rural poverty at the granular level (poverty mapping). • Analysis of the improvements needed for traditional and adaptive social assistance programs. • Recent assessment of the redistributive ability of the fiscal system. • Assessment of the impact of climate change and natural hazards on the poor and vulnerable. • Assessment of the recent increase in migration flows.
Lack of reliable data on the conditions of ADs.	In 2016, the position of National Secretary for Afro-Panamanian Development was created. Since 2018, improvements have been made in the questionnaires of household surveys to self-identify ADs, and an experimental census was implemented in 2021.	• Assessment of potential reporting biases in household surveys.
Low coverage and quality of public service delivery across the country (local governments).		

Knowledge gaps identified in the 2015 SCD	New knowledge gaps since the 2015 SCD	New knowledge gaps identified in 2023 SCD
Lack of tools such as the general equilibrium model that can inform how different scenarios of sectorial growth would affect poverty reduction and shared prosperity.		
Energy		
Lack of simulation tools on growth or climate.	Climate change scenarios was created by MiAmbiente. In 2021. The Hydrology and Meteorology Institute was created to inform on weather conditions and climate change and risk mitigation, as well as to produce information on water.	• Analysis of urban poverty and the potential to increase social assistance programs in urban areas. Disaggregated data on the extraction, processing, and commercialization of forestry products are necessary to better define the economic importance of the energy sector.
Limited knowledge of underground water.		
Water		
Lack of data on the country's hydrological environment, including limited knowledge of underground water and unreliable information on water use.	MiAmbiente was created in 2015. In 2021, the Hydrology and Meteorology Institute was created to inform on weather conditions, climate change, and risk mitigation and produce information on water.	• Knowledge of underground water remains limited. • Limited information on water use and tariffs.
Comprehensive understanding of current water demand. Lack of a functioning information system to increase information sharing between the various institutions involved in water resource management.		• Lack of information on the nutrition security status of different demographics (e.g., urban/rural residents, indigenous people, and people living in the <i>comarcas</i>).
Lack of up-to-date data on water-stressed areas. Unknown ecological cost of water.		• Role and contribution of secondary cities in addressing key development challenges.
Unreliable information on water use.		
Unknown ecological cost of water.		

Knowledge gaps identified in the 2015 SCD	New knowledge gaps since the 2015 SCD	New knowledge gaps identified in 2023 SCD
Environmental sustainability and resilience to natural disasters		
<i>Not identified as a priority in the 2015 SCD.</i>		• Detailed data and analyses on the impact of climate change and natural disasters on economic sectors and the population. • Study on the water-land model that demonstrates how water scarcity and soil erosion in the upper watershed could impact the efficiency of the Panama Canal.
Public sector institutions		
Coverage and quality of public service delivery across the country (local governments).		• Lack of reliable and disaggregated statistical data on vulnerable groups hampers their inclusion in national policies, programs, and projects. Moreover, there is an absence of data and markers on the quality of the health system, as well on the causes of dropout rates.
Lack of data on public service coverage and quality in Panama's municipalities hinders efforts to understand the link between weak local governance and access to services, highlighting the need for better spatial data analysis. Compiling detailed information on the quality and resources of regions, municipalities, and metropolitan areas in Panama could help fill this knowledge gap.		• Data on public service coverage and quality in Panama's municipalities remain limited. • Assessment of data infrastructure (e.g., cloud, data center, and data sharing mechanisms).
A computable general equilibrium model could provide insights into the trade-offs of investing in different public services, and how different scenarios affect growth, employment, poverty reduction, and shared prosperity.		• There is no computable general equilibrium model to assess the tradeoffs of investing in different sectors. • Road sector assessment, including accessibility and vulnerability to disaster analysis. • Road safety assessment. • Urban mobility assessment in secondary cities. • Analysis of the tax system and tax expenditure.

Appendix III - Boxes

Box 1. The COVID-19 pandemic exposed Panama's development challenges.

The COVID-19 pandemic had a profound impact on Panama's economy and exposed its structural inequalities. GDP contracted by 17.7 percent in 2020, marking the largest drop in recent history. Although the economy rebounded with a growth rate of 15.8 percent in 2021, the COVID-19 crisis had a dramatic impact on the labor market. At the onset of the pandemic in 2020, the unemployment rate reached the historic level of 18.5 percent. Women accounted for more than 64 percent of job losses in 2020. Although unemployment rates started to recover in 2021, women's participation in the labor market was still down by 14.6 percent (8.1 percentage points). The pandemic also uncovered many gender-related inequalities in household chores and child rearing. Labor losses were also larger among low-skilled workers than among their high-skilled counterparts. Workers with primary education or less accounted for 81 percent of all labor losses between 2019 and 2021. As a result, the pandemic increased both poverty and inequality in Panama.

To mitigate the impact of the crisis, the government created the PS program. The program's monthly transfers and comprehensive coverage helped to contain the impacts on poverty and inequality. While poverty increased from 12.1 percent in 2019 to 12.9 percent in 2021, it would have been an estimated 4 percentage points higher without the PS program. The Gini coefficient also increased from 0.498 to 0.509 over the same period, but it would have been an estimated 0.022 points higher in the absence of the program. Moreover, the middle class shrunk by an estimated 2.3 percentage points between 2019 and 2021, lower than the estimated 4.4 percentage points without the PS program. While a new version of the program (*Nuevo Panama Solidario*) continues to support households at risk as labor market conditions have not fully recovered, its success will depend on the ability to implement clear targeting criteria.

The pandemic also had a negative impact on the country's already weak human capital. Public schools were closed for two years,²³¹ leading to learning losses. Panama's losses in learning-adjusted years of schooling due to the pandemic are estimated at 1.7 year. These learning losses could translate into a significant decrease in earnings and productivity. Moreover, school closures impacted the food security of households, as only a limited number of schools continued to receive benefits under the School Feeding Program. Compounded by income losses, the share of households reporting food insecurity increased from 11.9 percent before the pandemic to 24.7 percent in 2021. The pandemic also increased health coverage gaps in remote areas and put the health system under huge pressure.

Meanwhile, the pandemic presented an opportunity to improve public service delivery. The crisis exposed the inefficient delivery of basic public services and their uneven coverage in Panama. Nevertheless, it also allowed the health, education, and social protection sectors to experiment with new service models. For example, a telemedicine program provided remote health services to patients with chronic conditions or COVID-19; the implementation of the National Pharmaceutical Law²³² ensured increased access to cheaper generic medicines; and the PS program was delivered through digital means to populations in urban areas (Vale Digital) and prompted the expansion of a national social registry.²³³

Russia's invasion of Ukraine further affected the well-being of households. Although inflation remained relatively moderate at 5.2 percent, year-on-year, in June 2022, transport inflation increased to 20.4 percent over the same period, driven by a surge in gasoline prices. While Panama's inflation is lower than that of its regional peers, price increases threaten vulnerable groups and the middle class. Food prices affect lower-income households the most, representing more than 22 percent of their expenditures. Transportation and food costs also represent a significant share—around 20 percent—of the expenditures of middle-income households. Given the widespread impact of inflation on households across the income distribution, the price increases of mid-2022 resulted in the largest social unrest in decades. In response, the government deployed subsidies and tax cuts for fuel and food, costing about US\$300 million.

Figure A1. The Pandemic reverted over a decade of progress in improving women's labor force participation ...

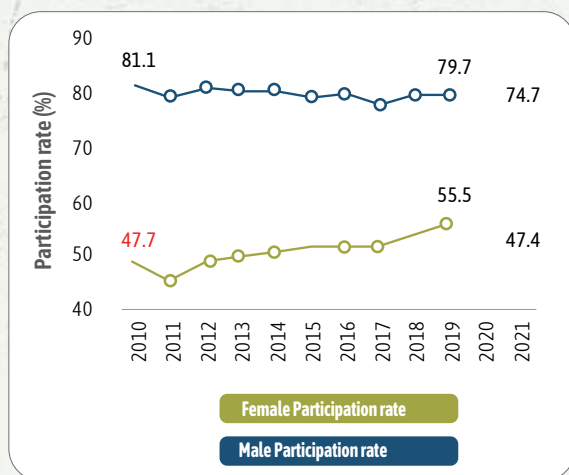


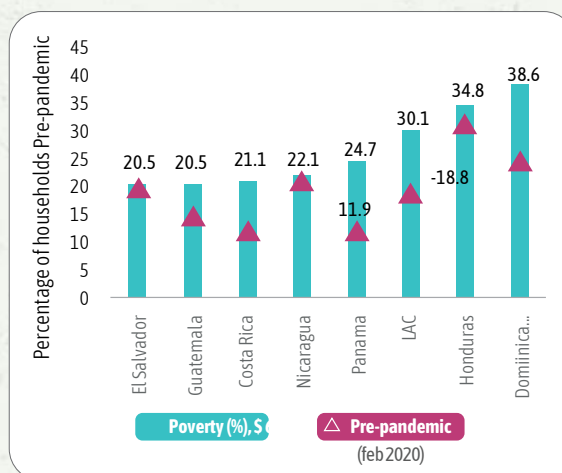
Figure A2. ... and increased poverty despite strong social protection programs.



Figure A1. The Pandemic reverted over a decade of progress in improving women's labor force participation ...



Figure A2. ... and increased poverty despite strong social protection programs.



Source: CEDLAS and the World Bank.

Note: The phone-EMLT2020 is not included, as it is not strictly comparable with previous years of the EML (Figure 4) World Bank and UNDP (2021) High-Frequency Phone Survey, Wave 2.

Box 2. Knowledge and Data Gaps of Key Vulnerable Groups

Migrants.²³⁴ Panama is facing an unprecedented crisis of mixed migration flows. In the last two years, the number of migrants and refugees traveling on foot through the Darien region²³⁵ was around three times the number registered between 2010 and 2020. In 2022, 248,284 people arrived in Panama transiting through this dangerous area, the highest annual figure on record. This represented an 86 percent increase in people entering Panama irregularly over the previous year (133,726). Most migrants, asylum seekers, and refugees are from Venezuela (61 percent), followed by Ecuador (12 percent), Haiti (9 percent), Cuba (2 percent), and India (1 percent). The number of children and adolescents in transit has been on the rise as well. In 2022, 40,438 minors crossed into Panama, the highest number recorded in history. Transit and irregular migration through this region intensified in 2023, with 87,390 people making the journey between January and March, a 16-fold increase compared to the same three months in 2022. According to United Nations High Commissioner for Refugees surveys, most migrants and refugees are in transit to the United States.

Conditions in the area where migrants cross into Panama, known as the Darién Gap, are extremely precarious and dangerous. Migrants who arrive in host communities often lack access to shelter, information, food, health care, water, and other basic services, and in many cases are subject to physical and sexual violence. Effective October 12, 2022, the United States announced that Venezuelans who seek to enter the United States illegally will be returned to Mexico. Procedures to access the refuge and asylum system remain unclear. In the short term, the policy increased pressures on transit countries like Panama, which experienced an immediate increase of stranded and vulnerable migrants and refugees. In addition, the end of Title 42 on May 11, 2023, is expected to accelerate migration flows to the United States, although the medium- and long-term impacts of this decision on Panama and other transit countries are still being assessed, including potential risks such as straining natural resources in the Darien Gap, encroaching on indigenous peoples' lands, and increasing social unrest.

In a joint statement on April 11, 2023, the United States, Panama, and Colombia agreed to launch a 60-day campaign to halt irregular migration through the Darien Gap, provide new pathways for legal migration, and launch a plan to develop border communities in northern Colombia and southern Panama. The impact of these measures is yet to be assessed.

People with disabilities. Panama's 2018 household survey shows a lower incidence of poverty in households with persons with disabilities, which is inconsistent with observations throughout the region.²³⁶ Data limitations, such as stigma in reporting or measurement errors, should be considered and further studied. Moreover, Panama is one of the few countries in LAC that has not incorporated the Washington Group Short Set on Functioning, which is a set of international criteria for collecting high-quality comparable data on disability,²³⁷ in their census and surveys.

Afro-descendants. Based on household data, ADs appear not to be worse off than the rest of the population on several markers of wellbeing. ADs have higher access to services than the indigenous population, in part due to 81 percent of ADs living in urban areas. However, recent studies show that ADs—particularly women^{238 239}—have been excluded from economic opportunities, labor markets, health services, and political participation. A better measurement of ADs in household surveys is needed to conduct an in-depth analysis of their vulnerabilities. Since 2018, there have been some improvements in the questionnaire of household surveys to self-identify ADs. As a result, the population identified as ADs increased from 9.2 percent in 2010 (census) to 28.6 percent in 2021 (EMI).

Sexual and gender minorities. Despite advances in the past decades, lesbian, gay, bisexual, and transgender people continue to face discrimination in Panama. It is difficult to address the exclusion of this group in Panama because of entrenched stigma and lack of an enabling legal framework. For example, there is no legal provision in the country that explicitly protects lesbian, gay, bisexual, and transgender people. In Panama, no census or survey collects information on gender identification and sexual orientation, making it difficult to carefully assess exclusion among this segment of the population.

Box 3. Indigenous Territories and *Comarcas*

Panama is home to eight indigenous ethnic groups: Ngäbe or Ngöbe, Kuna or Guna, Emberá, Buglé, Wounaan, Teribe/ Naso, Bokota, and Bribri. Based on the 2019 household survey, about 42 percent of indigenous peoples live in the **comarcas**, with the rest living in other areas.

Panama's ancestral lands and indigenous territories have different levels of recognition and autonomy, ranging from collectively owned communities to formal **comarcas** (including the recent creation of the Comarca Naso Tjër Di in 2020), where the government has recognized significant levels of autonomy related to traditional forms of government, land, and natural resource rights and ways of living. The **comarcas** and other indigenous territories are self-governing through ten congresses and two councils.

Four reinforcing factors underpin the inequalities between Panama's indigenous territories and the rest of the country: (i) the remote and disperse nature of indigenous communities; (ii) lack of public institutions to provide quality and culturally pertinent services; (iii) low levels of public investment; and (iv) limited capacity for planning and coordination across sectors and with indigenous authorities. Limited access to these areas leads to higher costs for building and maintaining infrastructure and presents a specific challenge to attract qualified personnel for service delivery. For example, the comarca Ngöbe Buglé has 2.2 health workers per 10,000 inhabitants, much lower than the national average of 29.5 per 10,000 inhabitants.²⁴⁰ Additionally, difficult access is exacerbated by low levels of public investment in indigenous territories and limited capacity among government agencies to plan and coordinate public investments across sectors and with indigenous authorities. Between 2014 and 2015, only 2.3 percent of total central government investment spending went to the **comarcas**, even though they are home to the majority of the poor. Meanwhile, coordination has been hindered due to lack of structured platforms for upstream consultation with indigenous authorities and among government agencies. The lack of coordination and limited information about local contexts and priorities have affected investment in indigenous territories.²⁴¹

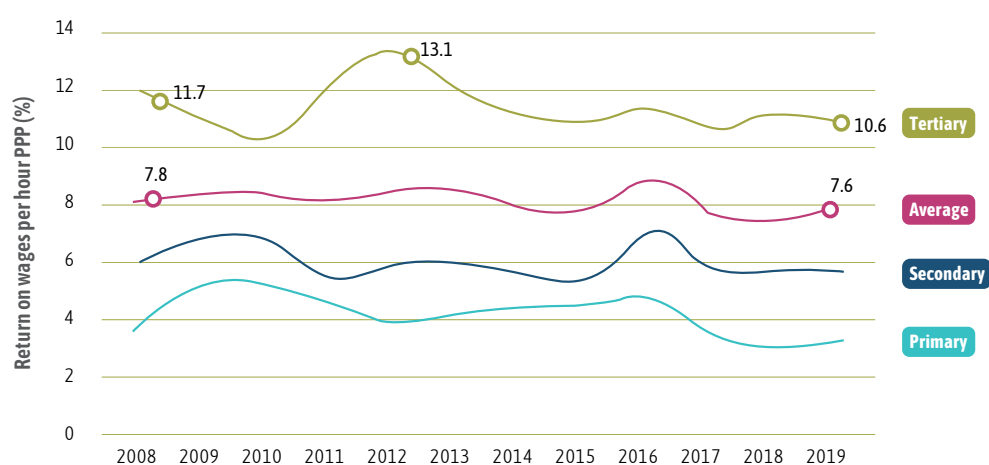
Progress has been made during the past decades through the recognition of indigenous peoples' cultural rights and collective land tenure security, the formulation of the PDIPIP, and the establishment of the National Council for the Integral Development of Indigenous Peoples.

The PDIPIP represents, for the first time, a national consensus among the 12 indigenous congresses and councils on a common vision for the development of indigenous territories. Its driving principles are: (a) indigenous authorities play a leading role as partners in defining and implementing development investments in their territories; (b) development programs should address multi-dimensional poverty and well-being based on indigenous cultural norms and values; and (c) development investments should benefit all 12 indigenous territories. The 15-year plan outlines objectives, actions, and indicators around three pillars: (1) political and legal (governance and land rights), (2) economic (productive activities and food security), and (3) social (access to basic infrastructure and services).

The Government of Panama has demonstrated its strong commitment to work with the Indigenous Peoples Roundtable and implement the PDIPIP. What was historically the Directorate of Indigenous Affairs has been upgraded to the Vice Ministry of Indigenous Affairs. MINGOB has been invited to participate in the government's Social Cabinet to align social policies and public investments with the PDIPIP. There has been a significant increase in investments to a few **comarcas**, and a presidential decree in January 2017 transferred resources and a mandate to MINGOB to institutionalize the Indigenous Peoples Roundtable.

Box 4. Estimating Education Return Differentials by Education Level²⁴²

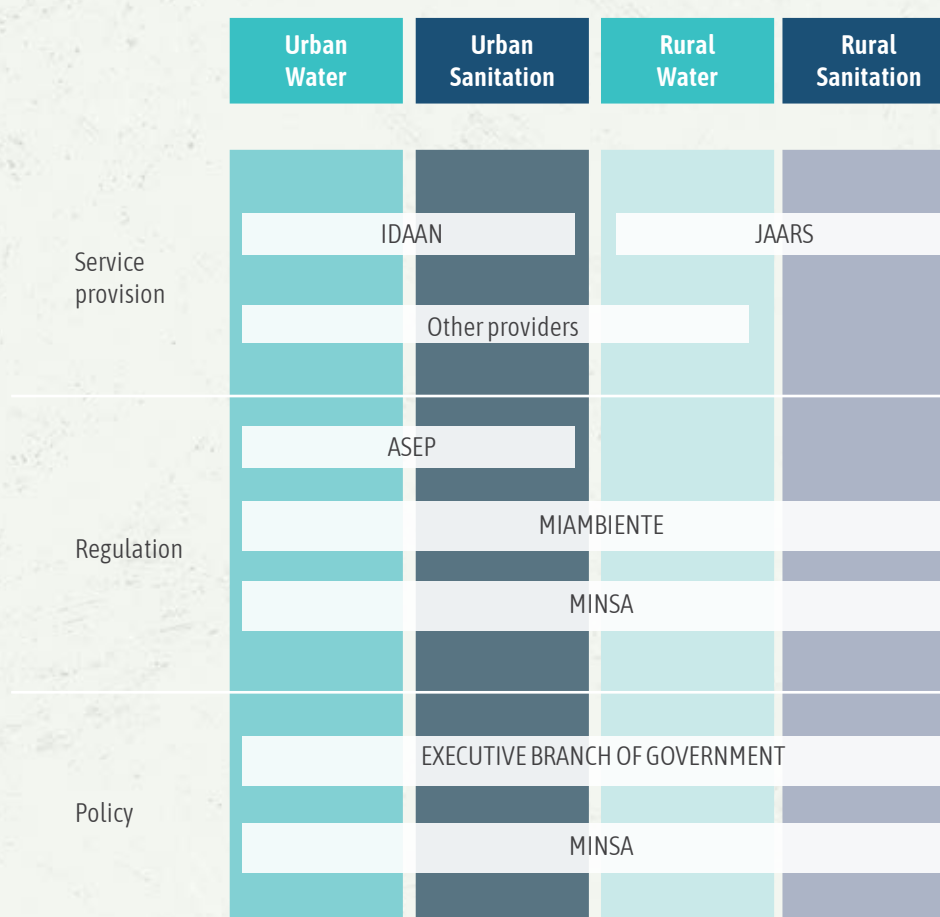
Average returns to education have remained constant in Panama during the last decades. Yet, the difference in the returns of completing primary and secondary education is small and decreased between 2010 and 2015, although it has increased in the last few years. Returns to tertiary education are relatively high and increased in 2012, before remaining relatively stable in 2013–2019. According to Hausmann, Espinoza, and Santos (2016), the returns of secondary education in Panama have been affected by the boom of construction jobs that paid high salaries to low-skilled workers.



Box 5. Water Management System of Panama

IDAAN is the main water provider in charge of supplying drinking water and managing wastewater in urban areas and rural communities with over 1,500 inhabitants, serving about 68 percent of Panama's population.²⁴³ The remaining rural areas where most indigenous populations reside have access to water and sanitation only through locally organized water committees called Rural Aqueduct Administrative Boards. The strength of these committees varies, leading to concerns about the supply and quality of water.²⁴⁴ The National Authority for Public Services supervises and regulates the provision of water and sanitation services; MiAmbiente regulates and monitors compliance with laws and regulations related to the country's natural resources, including water; while the Ministry of Health, through its Directorate of Drinking Water and Sanitation, formulates, coordinates, and implements policies and strategies for drinking water and sanitation services.²⁴⁵ The Panama Canal Authority is responsible for the administration, maintenance, use, and conservation of the Panama Canal's water resources.

Figure 9. Institutional Framework for the Water and Sanitation Sector



Source: Netherlands Water Partnership, 2022, "Panama Water Sector Study."

Note: Figure is based on 2018 data and updates the information provided in the Panama 2015 SCD.

Box 6. Initiatives of the Panamanian Government since 2015 to Promote Environmental Sustainability and Resilience

Since 2015, Panama has undertaken important steps to strengthen the country's environmental governance and climate-related legal and institutional framework, including:

- **Approving the General Law of Environment (Law of March 8, 2015), which created MiAMBIENTE and was a major landmark in national environmental and climate change policy.** Elevating environmental protection to the ministerial level resulted in budgetary provisions that reduced some previous challenges related to human and financial resources that in the past impeded the full application and enforcement of national environment regulation. Many of MiAmbiente's regulatory and enforcement powers emanate from the 2015 Law, which still serves as the overall framework for regulating and managing environmental issues. The institutional reform and budgetary improvement have been supported by a framework of policies, including the Biodiversity Strategy and Action Plan 2018-2050; National Environmental Strategy (2021-2050), National Forest Strategy 2050; regulation of the mitigation chapter of the General Law of Environment through Executive Decree No. 100 of October 2020; regulation of the adaptation chapter of the General Law of Environment through Executive Decree No. 135 of April 2021; National Strategy for Climate Change 2050; Panama's 2021 Climate Vulnerability Index; 2022 National Climate Action Plan; and the National Gender and Climate Change Plan.
- **Creating the High-Level Committee on Water Security in 2015 to prepare the National Water Security Plan 2015–2050: Water for All.** The plan aims to safeguard the integrity of Panama's water resources, improve access to water, and provide a diagnosis of the country's water-related challenges. The plan identifies five national goals: (i) universal access to high quality water and basic sanitation services; (ii) water for inclusive socioeconomic growth; (iii) preventative management of water-related risks; (iv) healthy river basins and ecosystems; and (v) water sustainability and prevention of water-related conflicts. The plan also led to the creation of CONAGUA in 2016, following the state of emergency due to the impact of El Niño. CONAGUA is responsible for coordinating and guaranteeing the development and implementation of the National Water Security Plan. To reduce contamination and restore watersheds, the government plans to integrate watershed management by improving the management and sustainable use of land and strengthen the monitoring of water. The first action includes creating management plans for the sustainable use of land, including promoting sustainable farms.²⁴⁶
- **Having the Panama Canal Authority implementing programs that provide incentives for environmental protection in the Panama Canal's watershed.** Together with the support of the government and private institutions, these programs have made progress in recovering the forest cover, which directly affects the conservation of the basin that supplies drinking water to half of the country's population. The Panama Canal Authority has also implemented incentives for the use of green technology.
- **Having IDAAN implementing several initiatives to increase public awareness of water use, reduce non-revenue water through enforcement, and decrease water contamination.** With a new director since 2021, IDAAN has focused on digitalization and technology-driven innovation.²⁴⁷ It also aims to address Panama's water-related problems, explicitly promoting awareness among the population regarding rational water use through environmental education campaigns; reducing non-revenue water through enforcement and replacement of infrastructure; increasing drinking water and sanitation coverage; and optimizing water purification and wastewater treatment plants (IDAAN 2019).
- **Developing various policies and institutional arrangements to support the country's strategy to address climate change.**²⁴⁸ For example, the Government Strategic Plan 2019-2024²⁴⁹ aims to strengthen the institutional framework for managing disaster risk and provide adequate financial and training support to SINAPROC and first responders. While the Government Strategic Plan emphasizes the need to manage and reduce climate and disaster risks, including at the local level, it also emphasizes that there is insufficient local technical capacity to allow SINAPROC to effectively decentralize its DRM responsibilities, even with the Association of Municipalities of Panama being a strategic partner. To further integrate DRM into public policy, the Strategic Plan calls for: (i) developing a more comprehensive institutional framework to address risks related to climate and other disasters; and (ii) updating the national DRM policy in accordance with international policies and the national context.²⁵⁰

Following the hurricanes Eta and Iota at the end of 2020, the government approved in 2021 the creation of the Institute of Meteorology and Hydrology of Panama²⁵¹ to act as the official national meteorological and hydrological authority and manage national early warning systems, addressing an important legal gap due to the absence of clear institutional guidelines.

Panama has also taken steps to leverage the potential of renewable energy and promote green transition, including:

- **Approving the National Energy Plan 2015–2050 in March 2016.** The plan serves as a long-term roadmap for diversifying the energy sector and advancing energy access, efficiency, and security and the overall decarbonization of the energy system. Under the National Energy Plan's ambitious scenario, renewable energy could reach 70 percent of the power supply by 2050 while meeting increased demand. Moreover, the Government of Panama has made important progress in developing an institutional framework for climate change, including through its submission of its updated Nationally Determined Contribution²⁵² in 2020. Panama's updated Nationally Determined Contribution is structured around policy action in ten sectors,²⁵³ focusing its mitigation commitments on the energy and forests sectors, which have the greatest impact on national emissions trends.
- **Pursuing work under the Renewables in Latin America and the Caribbean initiative, along with 14 other countries.** This initiative is implementing various measures to mitigate the impact of climate change.
- **Launching the Aligning Financial Flows of the Financial Sector in Panama with the Climate Change Objectives of the Paris Agreement project.** This project is funded by the Green Climate Fund and the European Union through the EUROCLIMA program. Over the past two years, the Ministry of Economy and Finance has made significant progress in building technical capacities in the public sector, mainly related to mainstreaming climate change in budget, investment, and public debt management processes.
- **Having the Superintendence of Banks of Panama join the green taxonomy project for Central America.** It will receive support from the IFC to develop a sustainable finance guide, including definitions of economic activities and assets that can be considered green in accordance with international standards. The National Energy Secretariat highlights a planned investment of over B/. 4 billion in energy transition initiatives by 2024, linked to solar rooftops for state buildings, electric mobility, energy efficiency, solar heaters, smart grids, the Hydrogen Hub, and the fourth transmission line, among others.
- **Including an energy transition project for using green hydrogen in the second phase of the country's energy roadmap.** The project aims to enact laws and adopt fiscal and non-fiscal incentives to attract private investments in free zones for the production, distribution, and commercialization of hydrogen. Over the past two years, the Ministry of Economy and Finance and MiAmbiente have formed a strategic alliance to mainstream the consideration of climate change in the management of policy instruments (e.g., public investment, debt, and budget) by strengthening national capacity in different policy areas.
- **Developing green bonds.** The first green bond in the Panamanian market was issued by the Inter-American Corporation for Infrastructure Financing, amounting to US\$200 million for investment in waste management facilities, wastewater treatment, effluents, recycling, and other environmental risk mitigation projects. In 2021, the Panama Canal Authority issued its first green bond, raising US\$2 billion to finance sustainable environmental projects. The bond issuance generated significant interest, demonstrating support for ecological initiatives.
- **Creating green investment funds.** The Water, Protected Areas, and Wildlife Trust was created to be a permanent source of financing and support for environmental initiatives.
- **Having PROPANAMA organizing the first sustainable investment forum in 2023.** The aim of the forum was to promote, alongside the private sector, sustainable high-impact foreign direct investment (FTZ) in Panama.
- **Having the Development Bank of Latin America approve US\$122 million in allocations from the Green Climate Fund to support electric mobility in Panama, Paraguay, and Uruguay.** The Inter-American Development Bank also offered non-reimbursable financing for environmental projects (green hydrogen). Moreover, BAC Panama plans to use US\$135 million to drive social and environmental projects that include financial solutions focused on promoting clean energy use and sustainable mobility in Panama and Central America.

Box 7. Role of Agriculture in Policy Priorities and High-Level Outcomes

Inclusion of indigenous peoples, rural populations, and women: Reducing the inequalities faced by small farmers, including indigenous farmers, will be a critical part of the inclusion agenda. To this end, the Ministry of Agriculture adopted the Family Farming Law (with the support of the DPL P174107) to focus its support to family farmers with high levels of poverty. The Ministry of Agriculture has identified several priorities for future investments to improve the productivity, income, and access to services (e.g., through digitalization) and finance for small farmers and indigenous peoples engaged in agriculture.

Level and quality of human capital: Supporting small farmers and indigenous peoples engaged in agriculture to transition from low- to high-value-added activities is important to generate high-quality jobs in rural areas. Agro-industrial companies in Panama have the potential to revitalize the rural economy. The agro-industry is comprised of more than 340 companies, representing one-third of all industrial companies in Panama, and these generate approximately 32,000 full-time jobs, equivalent to 8.5 percent of the country's total employment.²⁵⁴

Sustainability of water and forests as well as resilience to natural disasters: Supporting sustainable agricultural livelihoods in Panama's poorer rural areas will be critical to eliminate deforestation. A high proportion of forest losses that occurred in Panama over 2012–2019 was in the country's poorest and more agriculturally active areas. For example, 48,758 ha of forests were lost over this period in the southern Central Region, where 60–90 percent of employment is in the agriculture sector and the poverty rate ranges from 40 to more than 80 percent. Several of Panama's remaining areas of dense forest cover overlap with areas where agricultural jobs represent 60–90 percent of employment and poverty rates range from 40 to 100 percent.

Endnotes

- 1 Growth data are from PWT. Figures A1a, A1b, and A2 in the appendix include comparative growth data for Panama.
- 2 Unless otherwise noted, this report uses the SEDLAC methodology to construct household income aggregates (https://www.cedlas.econo.unlp.edu.ar/wp/wp-content/uploads/Methodological_Guide_v201404.pdf) and defines monetary and extreme poverty as the headcount of people living on less than US\$6.85 (2017 PPP) and US\$3.65 a day (2017 PPP), respectively. As of 2019, the share of the population living in poverty was 12.1, while the share living in extreme poverty was 3.7 percent. This SCD Update focuses on monetary poverty. In 2019, the official poverty rate was 21.5 percent, while the official extreme poverty rate was 10.0 percent.
- 3 Data were obtained from <https://www.csis.org/analysis/key-decision-point-coming-panama-canal>.
- 4 Figures A3 through A5 in the appendix provide data on GDP share of trade, Colon FTZ, and the Panama Canal.
- 5 Figures A6a and A6b in the appendix provide data on private and public sector investment as a share of GDP.
- 6 Figures A7a and A7b in the appendix provide data on FDI as a share of GDP and its sectoral distribution.
- 7 Figures A9 and A10 provide information on key events in Panama's economic history and the evolution of GDP and construction sector.
- 8 Although the pandemic and Russia's invasion of Ukraine increased inflation, public debt, and the current account and fiscal deficits, they have been declining and are expected to stabilize in the medium term. Inflation is expected to increase temporarily to 3.3 percent in 2023, before converging to 2 percent by 2025. The current account deficit is forecasted to widen to 3.5 percent of GDP in 2023, driven by higher import prices, before it is expected to stabilize at 3.2 percent in the medium term, supported by decreasing food and oil prices. Anchored in the Fiscal and Social Responsibility Law, the fiscal deficit is expected to decline through tax administration reforms, higher revenues from the Panama Canal, and controlled public spending. Panama's debt-to-GDP ratio is estimated to have peaked in 2022 and is expected to gradually decline.
- 9 Figures A11 through A13 in the appendix provide data on macro and investment climate indicators in Panama
- 10 WDI. Trading Economics (<https://tradingeconomics.com/country-list/rating>) compiles a list of all countries by investment grade. Spread increased to 7.4 percent in 2023 following the street protests and the Supreme Court's declaration of the contract with Cobre Panama as unconstitutional.
- 11 Figures A14a through A14d in the appendix provide data on labor market indicators in Panama.
- 13 Hausmann, Obach & Santos 2016.
- 13 The SCD Update defines labor informality using a legalistic approach. Worker is defined as informal if they do not contribute to the pension system. The main results of the report are robust to alternative definitions.
- 14 The OECD (2017) suggests that the high informality rates are the result of inflexible regulations for hiring temporary workers. Sub section 3.2.1 includes a discussion on vertical and horizontal inequalities.
- 16 In 2019, only 44 percent of Panama's rural population had access to paved roads.
- 16 Unpaid workers are those that work at least one hour a week to generate some form of income but do

not receive a direct form of payment for their labor, neither in kind nor monetary. For example, unpaid workers include family members working on a family farm or in a family business.

- 17 Overall employment increased by 14 percentage points between 1991 and 2019 (from 48.1 to 62.8 percent). The increase was larger in rural areas (from 49.7 percent in 1991 to 68.5 percent in 2019 [18.8 percentage points]) than in urban areas (46.8 percent in 1991 to 60.6 percent in 2019 [13.7 percentage points]). The employment rate increased in the *comarcas* from 63.2 percent in 2001 (start of data collection) to 89.4 percent in 2019. However, the share of people that were employed but unpaid in these areas increased from 29.7 percent to 43.8 percent over the same period.
- 18 Figures A1b, A3, A4, A5a, A5b, and A7a in the appendix.
- 19 Figure A7b includes a decomposition of FDI inflows by sector. According to the International Monetary Fund (2020), the number of banks in Panama has declined from 91 to 79 since January 2014. The number of onshore banks fell by four, two of which were foreign banks, while the number of offshore banks declined by eight. The International Monetary Fund (2020) projects that this trend may continue, as smaller banks with lower profits and higher non-performing loans may not afford increasing operational costs (due to more stringent AML/CFT regulations and implementation of Basel III standards), and they may be acquired by larger banks or exit.
- 20 See Figure A5a in the appendix
- 21 See Figures A15 through A19 in the appendix.
- 22 Labor market indicators presented in the SCD Update have been constructed using the harmonized definition from SEDLAC. Therefore, the data presented may differ slightly from the official data produced by INEC. Based on EML data, the official unemployment and informality rate reached 5.8 and 44.9 percent, respectively, in 2019.
- 23 See Figure A20 in the appendix.
- 24 Secondary enrollment rates (63.8 percent in 2019) have not improved over the past decades and remain below the regional average (77.5 percent). In addition, according to the ERCE, 83 and 97 percent of sixth graders do not achieve the minimum learning outcomes in reading and math, respectively.
- 25 In 2021, Panama's growth bounced back to 15.3 percent and continued at 10.5 percent in 2022. It is expected to decrease to 5.7 percent in 2023, primarily due to the global economic slowdown and US monetary policy tightening.
- 26 Since the pandemic, the National Authority for Government Innovation has been implementing various measures to improve the connectivity of the population. In 2020, the Digital Coverage project provided mobile connectivity to remote communities in the Darién region and the Ngäbe-Buglé and Guna Yala *comarcas*, benefiting 71,818 people. Moreover, the Solidarity Educational Plan allowed free access to the Internet for students in public schools.
- 27 Box 1 in the appendix includes a summary on how COVID-19 exacerbated Panama's challenges.
- 28 For example, the Biodiversity Strategy and Action Plan 2018-2050, the National Environmental Strategy 2021-2050, and the National Forest Strategy 2050. Box 6 includes more details on government policies to promote environmental sustainability and resilience to disasters.
- 29 According to the Ministry of Finance, the Panama Canal Authority signed an agreement with the United States Army Corps of Engineers in 2021 to analyze the water projects program to optimize water management, both for ship transit through the Panama Canal and for human consumption. The administrator of the Panama Canal, Ricaurte Vásquez, announced in January 2023 that the Panama Canal Authority has received the draft of the potential solutions package for the new water management system, which will ensure water resources for human consumption and canal operations in the coming years. The implementation of the new water management system will require an investment of over US\$2 billion, and work is underway to execute it.
- 30 Tables A3a and A3b in the appendix include different methods used to benchmark policy priorities, their findings, and data sources.

- 31 Appendix Table A3b includes more details.
- 32 See Figure A19 in the appendix.
- 33 In addition, access to banking is constrained by burdensome paperwork, financial requirements, and an over-centralized location (Figure A21 in the appendix). Panama's financial inclusion index in 2017 was lower than the average of high-income and upper middle-income countries as well as the regional average. National statistics show that only 14 percent of all bank accounts belong to people in the two poorest income quintiles (World Bank 2021). While in almost all countries, women and the poor and rural population have lower access to finance, the level of access to finance for this group is lower in Panama than the average of high- and middle-income countries (Garcimartín et al. 2022).
- 34 World Bank's Human Capital Index 2020.
- 35 Growth became even more pro-poor during the slowdown period between 2017 and 2019 due to the high labor income growth rate of 21.3 percent for the bottom 40 percent in rural areas (compared to 6.2 percent for the total rural population). Between 2013 and 2019, labor earnings accounted for 34 percent of poverty reduction in rural areas, much higher than 15.6 percent in urban areas.
- 36 Reducing poverty becomes more difficult as poverty levels become lower. An alternative explanation for the poverty level in urban areas remaining stagnant is that the economic slowdown affected the ability of the labor market to lift people out of poverty. Although potentially true, the share of people vulnerable to poverty in urban areas continued to decrease, while the middle-class continued to expand. However, labor market conditions started to weaken at the time of the macroeconomic slowdown. See Figures A15 to A20 in the appendix for more information.
- 37 The participation rate in rural areas steadily increased by 4.7 percentage points between 2015 and 2019, with a minor increase of 0.8 percentage points in the unemployment rate. Agricultural and primary activities, which are comparatively low paying, presented one of the highest annual income growth rates (4.4 percent) during the period.
- 38 Lavado and Yamada 2022.
- 39 See Figure A22 in the appendix.
- 40 This section follows an asset-based framework, which provides evidence of the different elements that promote (or deter) households' income-generating capacity and, ultimately, their economic development (López-Calva and Rodríguez-Castelan 2016; Bussolo and López-Calva 2014; and Attanasio and Székely 1999).
- 41 Either due to pending titling or lack of enforcement mechanisms in the case of invasion of colonos. Panama's legal framework for protecting the land rights of indigenous peoples is one of the most progressive in the world. Despite this, indigenous comarcas and territories have not yet managed to successfully complete the process for securing collective titles to their land. Threats to the land rights of indigenous peoples come from increasing competition for access to land that is claimed by them but not yet titled.
- 42 Garcimartín et al. 2022.
- 43 Panama's Rural Access Index, which includes primary, secondary, and tertiary road networks, is 58.4 percent, the lowest in Central America (Mikou et al. 2019).
- 44 Public transfers accounted for 10 percent of observed poverty reduction between 2013 and 2019. In the years preceding the 2015 SCD, public transfers played a more important role, explaining over one-quarter of the poverty reduction observed between 2008 and 2013. In part, this may have been driven by a reduction in the coverage of the main cash transfer programs. For example, the coverage of the RdO program fell from around 35 percent of the population in the poorest quintile in 2013 to only 20 percent in 2019.

- 45 Other social programs have much higher adequacy. For instance, the 120 a los 65 program represents 33 percent of the income of the poorest quintile, and the Angel Guardian and Beca Universal programs represent 14 percent each.
- 46 INEC. 2019. Encuesta de Propósitos Múltiples. Based on the question: “In the last 12 months, have your, your household, or your assets been affected by natural hazards?”
- 47 Climate-induced flooding can increase water-borne and vector-borne illnesses (Bouley et al. 2018).
- 48 Widespread inefficiencies and unsustainable practices at the post-harvest, storage, processing, transport, and distribution stages stifle productivity, damage the environment and leave small producers vulnerable to climate and economic shocks while excluding them from high-value markets and income-generation opportunities.
- 49 Catastrophic events have a disproportionate impact on the poor and vulnerable. Climate-related threats undermine the sustainability of agri-food systems and the ability of rural families to secure food and nutrition and generate income. In particular, the livelihoods of the rural poor depend on water availability, and subsistence farmers have far fewer coping mechanisms in the face of extreme weather events. Changing climatic conditions and physical damage from floods and hurricanes threaten the ability of the rural poor to generate income, improve their food security, and accumulate human capital.
- 50 MiAmbiente 2020a.
- 51 World Bank 2018.
- 52 According to World Bank simulations in an intermediate scenario (World Bank 2022). See Figure A23 in the appendix.
- 53 INEC. 2021. Encuesta de Mercado Laboral [National Labor Market Survey]. Panama: INEC and OECD 2018.
- 54 See Figure A24 in the appendix.
- 55 UNESCO 2020.
- 56 PISA refers to the OECD Programme for International Student Assessment. The ERCE is UNESCO’s comparative and explanatory study for Latin America.
- 57 Meduca 2021.
- 58 Aleph 2019.
- 59 OECD 2020a.
- 60 UNESCO 2022.
- 61 Meduca 2010.
- 62 Jin et al. 2019.
- 63 UNESCO. 2021.
- 64 Loizillon, A. 2020; UNESCO 2021
- 65 OECD 2019a.
- 66 World Bank 2021b.
- 67 Panama’s Electronic Health Information System is based on patients’ electronic medical records and utilizes standardized codes for diagnosis and services rendered.
- 68 Gutierrez et al. 2023.

- 69 World Bank 2021b.
- 70 World Bank 2023.
- 71 Figure A25a in the appendix includes information on the sub-indicators of the GEI in 2019 (latest available data).
- 72 UNCTAD 2019; IMF 2023a and 2023b; Aliperti et al. 2021; World Bank 2021d.
- 73 Figure A25b in the appendix includes information on indicators for Panama's productive capacities.
- 74 Figure A25c in the appendix includes information on product market regulations.
- 75 Global Entrepreneurship Monitor GEM 2023. The established business ownership rate increased from 4.7 percent in 2019 to 5.8 percent in 2022, while the share of adults running a new business increased from 23 percent in 2019 to 33 percent in 2020, before falling to 22 percent in 2021 and settling at 28 percent in 2022. Out of the 49 countries participating in the GEM, the proportion of adults starting or running a new business is the highest in the following five middle-income (Level B) and low-income (Level C) economies in LAC: Guatemala, Colombia, Panama, Chile, and Uruguay, followed by the high-income country (Level A) of the United Arab Emirates and the low-income country of Togo. All these countries have around one in four adults or more starting or running a new business. Panama surpassed 46 economies, including all 21 high-income economies (Level A) in the study (e.g., the United States, Canada, United Kingdom, Japan, Germany, Sweden, and Norway).
- 76 World Bank 2013.
- 77 Schwab 2019.
- 78 World Bank 2018. Household survey data from 2019 indicate that the returns to tertiary education in Panama are 11 percent higher than the returns to secondary education. See Box 4 in the appendix.
- 79 Labor market indicators presented in the SCD Update have been constructed using the harmonized definition from SEDLAC. Therefore, the numbers presented may differ from the official figures produced by INEC. Based on the EML, the official informality rate was 37.3 percent in 2012.
- 80 OECD 2017.
- 81 OECD 2017.
- 82 Cunningham 2007; OECD 2018.
- 83 ILO 2019.
- 84 Figure A25a in the appendix includes Global Entrepreneurship Indicators for Panama in 2019.
- 85 Figure A25a in the appendix provides details on each GEI indicator.
- 86 GEM 2023. The National Entrepreneurship Context Index summarizes the average state of 13 national Entrepreneurial Framework Conditions selected by GEM researchers as the most reliable determinants of a favorable environment for entrepreneurship. The GEM Global Report is based on hard data collected from at least 2,000 entrepreneurs and national experts.
- 87 Figure A26 in the appendix includes details on the sub-indicators of the National Entrepreneurship Context Index. In 2022, Panama's score on the remaining indicators, on a scale from 0 (inadequate/insufficient) to 10 (very adequate/sufficient), were: 4.9 on government policy: taxes and bureaucracy; 4.8 on government entrepreneurial programs; 4.5 on entrepreneurial education post-school; 4.0 on ease of entry: market dynamics; and 4.3 on ease of entry: burdens and regulation.
- 88 See Figure A27a in the appendix.
- 89 AMPYME 2021.

- 90 From 2000 to 2018, an average of only 9 percent and 23 percent of adults had a credit card and debit card, respectively, much lower than an average of 22 percent and 48 percent, respectively, among structural peers, and an average of 71 percent and 14 percent, respectively, among aspirational peers (Demirgüç-Kunt et al. 2021).
- 91 ILO 2019.
- 92 EML 2015–2029.
- 93 World Bank (2021c).
- 94 World Bank 2021c.
- 95 See Figure A27b in the appendix.
- 96 OECD 2018.
- 97 UNCTAD 2019.
- 98 See Figure A28 in the appendix.
- 99 A considerable share of indigenous peoples reside on islands, particularly in the Guna Yala region, with 35.2 percent of them depending on the sea and rivers as the main source of transportation (EML 2019).
- 100 COPA Airlines is a well-run airline, owing to its very high standards of safety and security, despite Panama's inadequate regulatory framework.
- 101 See Table A1 in the appendix. Positive linkages between the adoption of digital technologies and productivity have been well established in the literature. According to OECD estimates, in the European Union, a 10 percentage point increase in the share of firms using high-speed broadband internet and cloud computing leads to a 1.4 percent and 0.9 percent increase, respectively, in multi-factor productivity after one year. After three years, these figures rise to 3.9 percent and 2.3 percent, respectively. For policies promoting connectivity to be effective, however, they must be accompanied by the efficient reallocation of resources, which includes mitigating the costs of the digital transition for displaced workers and maximizing their reemployment potential (Sorbe et al. 2019; Gal et al. 2019; Draca et al. 2009 and Syverson 2011).
- 102 As part of the National Digital Agenda, the National Authority for Government Innovation's objective is to connect remote rural areas through fiber optic cables, improving the connectivity of 60,000 citizens and reaching 151 schools. In addition, the National Authority for Government Innovation is developing the Educational Wifi project through VSAT.
- 103 UNICEF 2021. There is also a big gap between private and public schools' access to digital services. In 2017, 61 percent of students in public schools had Internet access at home, much lower than 92 percent of private school students. These percentages drop to 6 percent and 10 percent in the Ngöbe-Buglé and Kuna Yala regions, respectively.
- 104 Cybercrime cost the world economy nearly US\$600 billion in 2018, equivalent to 0.8 percent of global GDP, according to the World Economic Forum. Cybercrime in LAC costs about US\$90 billion a year, with the number of cyber incidents and cybercrimes increasing exponentially (World Bank 2021).
- 105 Figure 29a in the appendix provides data on the share of public sector in GDP and employment in Panama
- 106 Figure A29b provides data on governance indicators. On Transparency International's Corruption Perception Index, Panama scored 36 out of 100 in 2022, substantially lower than other high-income countries in LAC, such as Uruguay (74) and Chile (67), and the LAC average (38.8).
- 107 Figure A29c provides data on the rule of law index in Panama. The Worldwide Governance Indicators are a research dataset summarizing information on the quality of governance provided by several enterprise, citizen, and expert survey respondents in industrial and developing countries. These

surveys are gathered from several survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms, and they do not reflect the official views of the World Bank, its executive directors, or the countries they represent. They are also not used by the World Bank to allocate resources.

- 108 US State of Department 2022.
- 109 Demirgüç-Kunt et al. (2022): The Global Index Database 2021, <https://www.worldbank.org/en/publication/globalindex/Report>
- 110 IMF and WDI. Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded. Refunds and corrections of erroneously collected tax revenue are treated as negative revenue.
- 111 Figure A11b and A30a in the appendix includes data on tax revenues (excluding social security contributions). According to the International Monetary Fund (2023b), Panama's VAT revenue is only 2.5 percent of GDP, much lower than the LAC average of 6.1 percent in 2014–2018. Panama's general VAT tax rate is 7 percent (lower than the LAC average of 15 percent), with some products subject to higher rates (e.g., 10 percent for alcoholic beverages and hospitality, and 15 percent for tobacco-derived products) and others exempt from the VAT. Panama's VAT C-efficiency, defined as revenue divided by the product of the tax rate and consumption performance, was 0.49 in 2019, on par with comparator economies, but its VAT revenues are among the lowest in the world, stemming from the high number of exemptions, tax evasion, and low rates. Its CIT C-efficiency lagged the average of comparator economies and LAC. Also, there are no legal provisions to curtail tax expenditure in Panama, but the Directorate-General of Revenue and the Customs Administration are undertaking significant modernization reforms. Panama's low tax revenue is partly compensated by revenues from the Panama Canal, which reached 3.6 percent of GDP in 2022, up from an average of 2.7 percent between 2008 and 2015.
- 112 Directorate-General of Revenue 2019. According to Cardoza (2017), 40 percent of the VAT in Panama was evaded in 2017.
- 113 Figure A30b in the appendix provides more information tax expenditure.
- 114 IMF 2020.
- 115 Following data availability in Panama's household surveys, the SCD Update uses the term *comarcas* to refer to the province-level territories of Emberá-Wounaan, Guna Yala, and Ngöbe-Buglé. Box 3 in the appendix includes a description of the *comarcas* and their relationship with the central government.
- 116 In 2019, the *comarcas* were home to more than one-third of all poor households in Panama.
- 117 Despite recent progress in reducing poverty and inequality—mostly in rural areas—vertical and horizontal inequalities persist. Contrary to the period leading up to the 2015 SCD, when poverty in the *comarcas* decreased only slightly from 86.8 percent in 2008 to 85.25 percent in 2012, poverty reduction between 2013 and 2019 was mostly driven by a reduction in rural areas and the *comarcas*. While poverty in the *comarcas* and rural areas fell by 18 and 12 percentage points, respectively, over the period, poverty rates in these areas remain high. Notwithstanding progress in improving the living standards of indigenous peoples in rural areas, their urban counterparts were worse off in 2019 compared to 2015, as the poverty rate for this group increased by 0.7 percentage points in urban areas.
- 118 Climate change and weather shocks are also expected to contribute to gender disparities. Persistent gender gaps exacerbate women's exposure to shocks and limit their ability to adapt. For example, women's lower labor force participation, concentration in the informal sector, restricted access to credit, and higher burden of care responsibilities as well as restrictive social norms could increase their exposure and vulnerability while reducing their ability to mitigate the negative impacts of climate change. Evidence shows that women are particularly vulnerable to the social responses triggered by weather shocks in places where they face restrictive gender norms. For instance, in areas with a strong preference toward boys, weather shocks have been associated with higher mortality rates among girls

(Chatterjee and Merfeld 2021; Haile et al. 2019), poorer health outcomes for girls (Rocha and Soares 2015), and increased school dropout rates among girls as they assume household chores or enter early marriages (Bau et al. 2022; Dasgupta and Karandikar 2021; Sylvain et al. 2021). Moreover, weather-related economic shocks tend to have a disproportionately negative impact on women's agency due to various factors, including their lower decision-making power in households and higher exposure to gender-based violence. For example, in Peru, the prevalence of physical intimate partner violence increases by 65 percent after the occurrence of droughts during cropping seasons, resulting in increased poverty-related stress and reduced female empowerment (Diaz and Saldarriaga 2023).

119 World Bank 2015.

120 Ostry et al. 2018.

121 In addition, women in Panama tend to bear the burden of domestic and care work and have a higher overall workload than men. Women spend more time doing household chores than men, such as cleaning, cooking, and caring for children and older adults. Estimates indicate that women in urban Panama allocate 2.4 times the hours men put into these tasks, and women work more hours a week than men when paid and unpaid labor is considered (Charmes 2019).

122 WDI.

123 Azevedo et al. 2012.

124 According to the WDI, access to electricity in Panama was 96.7 percent in 2020, lower than the LAC average of 98.5 percent, while access to basic sanitation was 84.6 percent in the same year, also lower than the LAC average of 88.5 percent.

125 Institutional inefficiencies and lack of coordination hamper efforts to ensure equal access to basic services (World Bank 2020).

126 World Bank 2020.

127 See figure A32a-b in the appendix.

128 Astudillo et al. 2019.

129 OECD 2018.

130 About 60 percent of the reduction is attributed to direct transfers.

131 Even when compared to lower-income countries such as El Salvador, Honduras, and Guatemala. See Figure A33 in the Appendix. The Statistical Performance Indicators is a framework consisting of 5 pillars to assess the maturity of national statistical systems (World Bank 2021). Data use: produces data that are used widely and frequently. Data services: connect data users to producers. Data products: statistical products and their accuracy, timeliness, frequency, comparability, and levels of disaggregation. Data sources: data collection, administrative and geospatial data, as well as data generated by private firms and citizens. Data infrastructure: hard infrastructure (legislation, governance, and standards) and soft infrastructure (skills and partnerships) as well as the financial resources to deliver useful—and widely used—data products and services.

132 Such as infrastructure, personnel skills, and financial resources.

133 World Bank 2021.

134 OECD 2019.

135 World Bank 2021a.

136 IPCC 2021.

- 137 World bank 2021a.
- 138 World Bank 2011.
- 139 MiAmbiente Plan Nacional de Acción Climática 2022. <https://transparencia-climatica.miambiente.gob.pa/wp-content/uploads/2022/02/Plan-Nacional-de-Accion-Climatica.pdf>.
- 140 Figure A34a in the appendix provides information on the evolution of per capita GHG emissions.
- 141 National Secretariat of Energy. 2022. <https://www.energiaestrategica.com/flexibilidad-y-almacenamiento-nuevo-eje-del-gobierno-para-potenciar-renovables-en-panama/>.
- 142 Tables A2a through A2c in the appendix include information on Panama's total GHG emissions and their sectoral decompositions.
- 143 Garcimartin et al. 2020.
- 144 Netherlands Water Partnership (2022). The country's freshwater resources were estimated at 119 billion cubic meters in 2016, of which about 25.8 percent was being utilized. The greatest demand for fresh water is along the Pacific slope, where 83 percent of the population lives and where more than 70 percent of the country's economic activities take place.
- 145 Cronk and Bartram 2018.
- 146 The 2015 SCD highlighted how improper management contributes to the inefficient use of water resources. Panama's water-management system is complex and involves various government agencies, insnetitutions, and other stakeholders. Inadequate information sharing and coordination among stakeholders, coupled with the absence of a coherent tariff policy, leads to inefficiencies in water use and in the maintenance of water infrastructure. By improving Panama's water systems, the share of the population with 24-hour service could increase from 55 percent to as much as 64 percent (Cronk and Bartram 2018). Water systems in Panama provided 18 hours of service per day based on data updated in 2017, with service levels varying by region (Colon had the highest), Cronk and Bartran (2018), Requejo-Castro et al. (2017).
- 147 Box 5 in the appendix includes information on Panama's water management system.
- 148 World Bank, DISAPAS, WSP, and FOCARD-APS 2016.
- 149 Garcimartín et al. 2020.
- 150 It was launched by the National Sustainable Development Council, the Ministry of Health, IDAAN, and the Ministry of Housing and Land Management.
- 151 From the consultation meeting between the World Bank staff and CONAGUA in October 2022.
- 152 According to Statista, it consumed about 114.4 billion gallons of water in 2020, more than 90.2 billion gallons in 2011, while it produced about 139 billion gallons of water in the same year, an increase of 3 percent from the previous year, but lower than the level recorded in 2017 (<https://www.statista.com/statistics/720954/water-production-panama/>). Panama has very high levels of water consumption per capita (507 liters per person per day), more than 2.5 times the global average (189 liters) and the highest in Latin America. Based on its per capita income, urbanization rate, and local water prices, Panama's water consumption should be about half its current level (Garcimartín et al. 2020).
- 153 Each time a ship transits the Panama Canal, about 50 million gallons of fresh water is lost through the locks to the oceans. The Panama Canal's basin is a key source of drinking water for 55 percent of the country's population and produces 1.9 percent of the country's electricity. In 2007, 58 percent of the water in the Panama Canal's basin was used for navigation, 7 percent for drinking water, and 2.6 percent for electricity generation. By 2017, these shares had increased to 71, 14, and 6 percent, respectively. During 2010–2017, 57 percent of total electricity was produced as hydroelectric energy from 45 plants

(only 2 of these plants were based in the Panama Canal's Gatun and Madden lakes), higher than the world average of 37 percent and the 29th highest rate in the world. While energy production represents 89.6 percent of the consumption of fresh water available in the country, it does not directly compete with human use or with the operation of the Panama Canal (Garcimartín et al. 2020). In addition, water and land in the basin are used for agriculture, forestry, industrial production, fishing, recreation, and scientific research (Garcimartín et al. 2020; ACP 2019).

- 154 IPCC 2021. In 2019, the Panama Canal's water levels decreased due to an intense drought that lasted about six months, resulting in the maximum allowable ship draft being cut from 50 to 43 feet. This restricted larger ships from using the canal's newest locks, which typically handle around seven ships per day. Since cargo load is a key determinant of Panama Canal tariffs, these limitations have cost the Panama Canal Authority approximately US\$15 million per year, or about 0.8 percent of the canal's revenue (New York Times, "What Panama's Worst Drought Means for Its Canal's Future," May 17, 2019: <https://www.nytimes.com/2019/05/17/climate/drought-water-shortage-panama-canal.html>). Given that the Panama Canal facilitates around 5 percent of the world's maritime trade, any interruptions to its operations directly impact the global economy. According to the World Trade Organization, the Panama Canal accounts for approximately 2.3 percent of global trade.
- 155 World Bank, "harnessing Biodiversity for Sustainable Rural Livelihoods in Panama," October 16, 2020, <https://www.worldbank.org/en/results/2020/10/16/harnessing-biodiversity-for-sustainable-rural-livelihoods-in-panama>. According to a MiAmbiente report in 2020, the Panama Canal basin, key to the country's economy, has registered a 0.5 percent increase in temperature, with a reduction of up to 20 percent of the flows of the Chagres River, which provides water for waterway locks and for the consumption of almost two million people in Panama, Colon, and Panama West. Climate change could also adversely affect major water-dependent economic activities, including canal navigation, hydroelectricity production, agriculture, and tourism.
- 156 Peru, Nicaragua, Belize, El Salvador, Bolivia, the Dominican Republic, Guyana, Honduras, Guatemala, and Haiti are the only countries in LAC with a lower water quality score than Panama (World Population Review, "Water Quality by Country 2024," <https://worldpopulationreview.com/country-rankings/water-quality-by-country>).
- 157 Cronck and Bartram 2018. Rural agriculture generates 55.2 percent of organic water pollutants. Inadequate sanitation and waste management infrastructure prevents communities from reliably accessing clean water (COHA, "Water Quality is Impaired by Agricultural Runoff in Panama and the United States," <https://www.coha.org/water-quality-is-impaired-by-agricultural-runoff-in-panama-and-the-united-states/>). In addition, 63 landfill sites affect waterways, mangroves, and coastal areas (Netherlands Water Partnership 2022), and heavy rains are likely to drive sedimentation in the Panama Canal basin.
- 158 Voluntary National Review 2020.
- 159 Voluntary National Review 2020. These disparities worsen the quality of life among the poor, imposing a high cost on Panama's economy and undermining inclusive development. A 2022 study of the LAC region found that an annual investment of 1.3 percent of regional GDP until 2030 could enable universal access to safely managed drinking water and sanitation while generating up to 3.4 million green jobs per year (ECLAC 2022).
- 160 See Figures A34b and A34c in the appendix.
- 161 World Bank, "Panama: Risk > Historical Hazards," available at <https://climateknowledgeportal.worldbank.org/country/panama/vulnerability>
- 162 New York Times, May 17, 2019, <https://www.nytimes.com/2019/05/17/climate/drought-water-shortage-panama-canal.html>.

- 163 MiAMBIENTE 2021. Panama's contribution to global GHG emissions is relatively small, with a total share of 0.04 percent in 2021. Although it is relatively high in per capita terms, it was still below the LAC and world average in 2021 (Jones et al. 2023), available at <https://ourworldindata.org/co2-and-greenhouse-gas-emissions>
- 164 Panama's Second Biennial Update Report 2021.
- 165 MiAMBIENTE 2021. The conservation and sustainable management of natural capital, especially forests, will be crucial to maintain the country's carbon-negative status. In addition, forests provide local income opportunities through ecotourism and sustainable forestry while enhancing resilience to climate change.
- 166 MiAMBIENTE 2021.
- 167 MiAMBIENTE 2022.
- 168 Ministry of Environment 2019.
- 169 ARIFA 2023. Enacted by Law No 8 of 2015.
- 170 Pareja et al. 2019.
- 171 According to Panama Ministry of Economy and Finance, in 2023, under a new contract with Cobre Panama, 11 environmental benefits were added. The company had 33 environmental management instruments, including environmental impact studies, management plans, environmental audits, and water concessions, and all had strict compliance requirements. The 2023 contract committed Minera Panama to implement a reforestation program at their cost, including restoration within the project's footprint and reforestation for ecological compensation outside the project. The contract also included a written commitment from Minera Panama to begin transitioning its coal power plant and increase the use of renewable energy. Cobre Panama's environmental policy included applying, to the extent reasonable, management practices under the Principles of Ecuador and the IFC / World Bank Standards to promote environmental protection and manage risks and impacts. The policy is available at https://cobrepanama.com/files/pma/Environmental_Policy_ESP.pdf
- 172 To contain the protests, Congress passed Law 407, which provides a moratorium on all new exploration and exploitation licenses for metal mining activities. The suspension of mining activities will have a short-term fiscal impact, although the expected revenues from the mine were relatively small, amounting to 0.5 percent of GDP in 2023. Over time Panama's diversified growth could compensate for the loss of mining activity, especially if further improvements to the business environment are carried out.
- 173 IRENA 2018: Renewables Readiness Assessment: Panama, International Renewable Energy Agency. Abu Dhabi.
- 174 Panama's Second Biennial Update Report 2021. See Tables A2a through A2c in the appendix.
- 175 WDI. Figures are based on the renewable energy consumption (percent of total final energy consumption) series.
- 176 IRENA 2023: Energy Profile of Panama, available at https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Central%20America%20and%20the%20Caribbean/Panama_Central%20America%20and%20the%20Caribbean_RE_SP.pdf
- 177 IRENA 2023: Energy Profiles of Uruguay and Costa Rica.
- 178 Many of MiAmbiente's regulatory and enforcement powers are based on the General Law of Environment, which serves as an overall framework for regulating and managing environmental issues, including those related to pollution control and conservation.
- 179 MiAmbiente's Executive Decree No. 135 of April 30, 2021, published on May 13 in the Official Gazette Digital 29284-A, aimed to create the National System of Climate Change Adaptation Data as a platform

for managing, evaluating, and monitoring climate risk and vulnerability to climate change in Panama; establish the National Monitoring, Evaluation, and Reporting System for Adaptation; activate the Climate Change Adaptation Fund; and create the national Build Your Resilience program. These measures will be implemented throughout the country. The regulation also stipulates that the Climate Change Directorate of MiAmbiente will lead the preparation of the national strategy for climate change adaptation, with a time horizon of up to 2030 and 2050. It further mandates that the strategy must be updated and reviewed every five years in accordance with the procedures and guidelines established by the regulation.

- 180 World Bank Global Facility for Disaster Reduction and Recovery, 2023, "Enhancing institutional capacities for a more comprehensive and inclusive DRM in Panama," <https://www.gfdr.org/en/feature-story/enhancing-institutional-capacities-more-comprehensive-and-inclusive-drm-panama>.
- 181 Beca Universal was a conditional cash transfer program that provided cash transfers to families to encourage school attendance. The program first focused on lower secondary school retention and was then expanded to primary school. The government reformulated and replaced Beca Universal with the PASE-U program in 2020.
- 182 The Specialized Higher Technical Institute started operation in 2019 with 150 students, and 2,000 students were enrolled by the second quarter of 2023, pursuing degree programs in business, hospitality and tourism, industrial technology, and digital innovation (ITSE, "Inicia segundo cuatrimestre de 2023 en el ITSE con récord de más de 2 mil estudiantes," May 15, 2023, <https://www.itse.ac.pa/Inicia-segundo-cuatrimestre-de-2023-en-el-ITSE-con-record-de-mas-de-2-mil-estudiantes>).
- 183 Prueba CRECER evaluates third and sixth graders' competencies in reading, math, and science. It is a standardized, census-based student learning assessment. Panama implemented CRECER assessments over the period 2016–2018.
- 184 MEDUCA is currently updating curriculums and integrating the STEAM methodology (MEDUCA 2023, <https://guias.meduca.gob.pa/pagina/portal-de-guias-2023>).
- 185 There are already guidelines in place for ensuring the transformation, improvement, and well-being of educators.
- 186 On April 6, 2022, Panama passed the Digital Equity Law (Ley No. 20294 Ley de Equidad Digital), which establishes the general guidelines for the formulation, development, and implementation of public education policies aimed at increasing equity in the education system. The law proposes the implementation of pertinent teaching-learning models, including the delivery of flexible modalities for education services, facilitated by technological transformation. These models aim to guarantee the delivery of creative and innovative education services for students to acquire digital competencies and skills throughout their studies.
- 187 Important efforts have already been made such as creating the National Institute of Vocational Training and Training for Human Development.
- 188 The Ministry of Economy and Finance, with the support of the United Nations Development Program, is in the process of implementing a results-based budget.
- 189 Law No.17 of June 27, 2016, protects the knowledge of indigenous traditional medicine.
- 190 Following episodes of social unrest, the National Authority for Government Innovation and the Consumer Protection Agency collaborated with the National Directorate of Pharmacy and Drugs of the Ministry of Health to develop MedicApp in September 2022. This user-friendly application enables individuals to access information about the price, availability, and proximity of medications. Its purpose is to empower consumers by reducing information asymmetry and facilitating price comparisons, including generic options. Furthermore, the CSS has introduced a pilot program, MedicSol, which allows

insured individuals to utilize electronic prescriptions linked to their identification card at privately affiliated pharmacies covered by the program. The costs of these prescriptions are covered by the CSS. The government took additional steps in 2023. For example, it established an observatory of medicines, providing information on the availability of medicine and setting reference prices. Additionally, the government enacted Executive Decree 4, which aims to develop a national plan for guaranteeing the supply of medicines. This decree also establishes the National Center for Medicine Negotiation, which seeks to negotiate better prices for the Ministry of Health, Patronatos, CSS, and Solidarity Pharmacies by leveraging economies of scale. In 2020, a unified purchasing strategy for medicines and supplies was established between the CSS and the Ministry of Health, and an executive decree established in 2022 the regulations for joint or unilateral purchases of medicines between the two entities when critical shortages of drugs and medicines are declared.

- 191 In 2021, the government enacted Law 186 to promote entrepreneurship by simplifying the complex legal procedures to open a business, decreasing excessive regulatory costs, and increasing tax benefits. To boost the productivity of MSMEs and promote entrepreneurship, it launched the Panama Emprende y Crece 2017-2022 and the Política Nacional de Fomento de la Micro, Pequeña y Mediana Empresa 2017-2022 in 2017. Through PENCYT, SENACYT conducted targeted research programs in strategic areas, including water, energy, and health as well as human capital. However, due to the weakening of CICYT as the coordinating body, implementation was not effective.
- 192 Both initiatives aim to strengthen the capacity of firms, enhance the environment for small firms, foster entrepreneurship, extend financial services, and simplify bureaucracy.
- 193 UNCTAD 2019.
- 194 Article 16 of Law 34 from 2008 establishes that within the first six months after taking office, each new administration must prepare and approve a new Government Strategic Plan. In December 2019, the new Government Strategic Plan for 2019–2024 was approved, comprising an economic and social strategy integrated by five strategic pillars: (i) good governance; (ii) rule of law, (iii) competitive economy; (iv) poverty and inequality reduction; and (v) education, science, technology, and culture. Each strategic pillar has a series of specific goals and tasks.
- 195 The National Digital Agenda guides the National Authority for Innovation Government to achieve the digital transformation of the Panamanian State, with the goal of improving the quality of life of citizens, reducing the inequality gap, and increasing the competitiveness of the country. The National Digital Agenda is revised annually.
- 196 OECD 2020.
- 197 Panama aims to promote digital transformation through different initiatives, including two comprehensive strategic plans: the Strategic Plan of the Government 2019–2024 and the Digital Agenda 2020: The Journey toward a Digital Citizen. Both plans highlight the importance of transitioning from e-government to fully digital government. Digital policies focus on establishing online processes for government entities and promoting e-signature and data protection.¹⁵
- 198 Many of these recommendations are being implemented through various programs such as: Aprender Haciendo, Proyecto de Orientación Vocacional para el Empleo, Empleo Solidario de Incentivo para la Contratación Laboral, Programa de Apoyo a la Inserción Laboral, Mejoramiento de la Empleabilidad de las Personas con Discapacidad, Yo Sí Cumpro, Bolsa de Empleo, and Ventanilla Única de Oportunidades.
- 199 Government's Strategic Plan 2019–2024.
- 200 World Bank 2021c.
- 201 In 2023, Panama launched the first State Agri-Food Policy Law (Política Agroalimentaria de Estado), establishing the legal basis for the transformation and sustainability of the agriculture sector and improving the social conditions of rural communities.

- 202 Gaurav 2021; OECD 2018.
- 203 Figure A36 includes information on the evolution of sectoral value-added shares in GDP. The share of services in value-added increased from 60 percent in 1970 to 66 percent in 2019, reaching a peak of 73 percent in 2007. The share of manufacturing in value-added has decreased steadily, from 21 percent in 1970 to 6 percent in 2021, while that of industry fell from 25 percent of GDP in the 1970s to 19 percent in the 2000s, before taking a steep upward turn in 2009 and reached 29.5 percent by 2019. The share of agriculture in value-added also decreased gradually from 8.5 percent in 1970 to 6 percent by 1999, before increasing from 6.3 percent in 2003 to 2.2 percent in 2019
- 204 Hausmann et al. 2017. Figure A31 in the appendix includes information on the share of key sectors in exports, and Figure A37 in the appendix includes information on the share of low, medium, and high value-added products and services in exports.
- 205 Approved by Executive Decree No. 203 of 2018.
- 206 Important improvements have already been made through the implementation and institutionalization of Bilingual Intercultural Education-EIB, the introduction of the ARI TAEN JADENKÄ Program (mathematics for initial education among the Ngäbe population), and an intercultural bilingual mathematics curriculum by interactive radio.
- 207 Box 6 includes information on the role of agriculture across policy priorities.
- 208 The Government Strategic Plan 2019–2024 highlights the different phases of Panama: (i) modern; (ii) middle-class; (iii) suburban; (iv) rural and agricultural; and (v) indigenous (comarcas). Other vulnerable groups such as people with disability and ADs are part of the Government Strategic Plan, but current data gaps hinder a deeper analysis.
- 209 In 2022, the National Council for the Integral Development of Indigenous Peoples and the Advisory Committee of Indigenous Women, together with several public and private institutions, launched the Plan for the Economic Empowerment of Indigenous Women 2025. The objective of the plan is the social inclusion of indigenous women in Panama and the effective exercise of their socioeconomic rights by empowering them and generating opportunities. Moreover, the resolution for the Public Policy for Employability and Labor Insertion of Young People and Women in Conditions of Socioeconomic Vulnerability in Panama was recently passed.
- 210 Box 6 includes more information on government measures to promote environmental sustainability and resilience to disasters. Since 2015, MiAmbiente has taken a wide range of initiatives to raise awareness on climate change, increase the knowledge base, and develop strategies to address issues related to climate change and environmental sustainability, including: Comunicación Nacional sobre Cambio Climático: Primera (2011); Según (2011); Tercer y Cuarta (2022); Actualización de la Primera Contribución Determinada a Nivel Nacional (CDN1) – (2020) (el original fue publicado en 2016); Primer Informe Bienal de Actualización (2017); Niveles de Referencia de Emisiones Forestales de Panamá (2018); Estrategia Nacional de Cambio Climático 2050 (2019); Contribución Determinada a Nivel Nacional (2020); Índice de Vulnerabilidad al Cambio Climático de la República de Panamá (2021); Guía Técnica Comunitaria, Herramienta para la Recopilación de Información y Evaluación de Vulnerabilidad, Riesgo Climático y Resiliencia (2021); Segundo Informe Bienal de Actualización; Segundo Informe Bienal (2022); and Primer Informe Bienal de Transparencia Climática (2022). These have been implemented in collaboration with the World Bank's Partnership for Market Readiness and Partnership for Market Implementation. Projects on adaptation include: the National Adaptation Plan; Municipal Water Footprint Reduction Project; National Registry of Adaptation and Resilience Initiatives; Monitoring, Evaluation of Adaptation; Community Adaptation Guidelines; Technical Guide on Climate Risk for Public Investment Infrastructure Projects; and Climate Change Adaptation Data System, while projects on mitigation include the National Reduce Your Footprint Program (Programa Nacional Reduce Tu Huella).

- 211 Panama has implemented various strategic plans and programs to ensure water resource sustainability, including the National Water Security Plan 2015-2050, Basic Health Plan 100/0, National Energy Plan, Alliance for One Million Hectares, Panama Sanitation Project, and many other initiatives aimed at ensuring access to potable water and sanitation, protecting the environment, and improving social welfare, economic development, and the quality of life for the population. In addition, the Panama Canal Authority is developing plans to guarantee the water supply to the Panama Canal and the general population.
- 212 Collado et al. (2018) include details on the analysis of sustainable agriculture and smart irrigation systems in Panama.
- 213 Panama is part of the Reducing Emissions from Deforestation and Forest Degradation (UN-REDD) program, which was launched in 2008 to support nationally led REDD+ processes to promote informed and meaningful involvement of all stakeholders, including indigenous peoples and other forest-dependent communities, in national and international REDD+ implementation. The Panamanian government is committed to the progressive implementation of REDD+ at the national level. In addition, for the fourth consecutive year, the MiAmbiente extended the resolution that suspends the issuance of special permits for subsistence-based forest use and its modalities, as well as community permits and concessions in tropical forests, for a term of no more than a year. According to the Diagnosis on Forest and Other Woody Land Cover in Panama document published by MiAmbiente, the government has established 27 protected areas, which have contributed to a reduction of the loss of forest cover throughout the country. As a result, according to MiAmbiente, Panama has restored 187,657.08 hectares of forest, a significant achievement and a driver of the country's economic development strategy and work toward Panama's long-term goal of achieving carbon neutrality by 2050. This program aimed to increase the forest coverage by restoring 51,000 hectares between 2021 and 2025, as established by Executive Decree No. 137 of May 21, 2021. Furthermore, the land use, land use change, and forestry sector has continued to implement and update initiatives aimed at conserving and recovering forest land, including programs for conserving and restoring the forest heritage and creating forest cover maps to guide decision-makers.
- 214 Its commitments integrate both adaptation and mitigation dimensions of climate change, focusing its mitigation commitments on sectors with the largest mitigation potential, namely energy and land use, land-use change, and forestry.
- 215 The government created the Disaster Risk Financing Strategy and Operational Plan in 2014 to improve its multi-hazard early warning capabilities and strengthen its financial resilience to natural hazard shocks. However, technical evaluations carried out as part of the Index of Governance and Public Policy in Disaster Risk Management (Índice de Gobernabilidad y Políticas Públicas en Gestión del Riesgo de Desastres) show that Panama is still behind most Latin American peers such as Mexico, Costa Rica, Colombia, Peru, Argentina, the Dominican Republic, Chile, and Guatemala (IDB iGOPP 2025, <https://riskmonitor.iadb.org/en>).
- 216 Panama has a catastrophe insurance policy with the Caribbean Catastrophe Risk Insurance Facility. Since 2018, Panama acquired an excess rainfall parametric insurance policy, with annual renewals, under Cabinet Resolution No. 40 of June 26, 2018.
- 217 Government strategies and programs to promote electric vehicles include: (i) Law No. 295 of April 25, 2022, on incentives for electric mobility in land transport, which was regulated by Executive Decree No. 51 of February 15, 2023, with the aim to reduce GHG emissions, promote and grow electric mobility, and increase the use of renewable energy as a tool to accelerate the energy transition in land transport; (ii) the National Electric Mobility Strategy, which aims to enhance and unify programs developed by the government and private sector to address mobility and quality of life challenges in the country's cities through electric mobility; (iii) a tool launched by the Energy Secretariat to facilitate the transition of vehicles to electric models based on an Excel file with macros and specifications of electric car models available in the country, and it was developed with the support of the Inter-American Development Bank

and the consultancy firm Hincio, with input and information collected through the Energy Managers Program; and (iv) the Comprehensive Strategic Plan for the Technical and Economic Support for the Transformation of MiAMBIENTE's Current Fleet to 100% Electric Vehicles - Phase I, which was awarded by MiAmbiente to the Consortium for Sustainable Mobility Solutions and Energy Efficiency of Panama.

- 218 Box 7 includes information on government programs and initiatives for promoting environmental sustainability, renewable energy, and the green economy. Panama has implemented numerous policies and programs to promote environmental sustainability, primarily through MiAmbiente, including the following programs and strategies: the National Climate Change Strategy 2050; National Forest Strategy 2050; Plan for the Integrated Management of Water Resources in Panama (2022-2026); National Drought Plan; National Climate Action Plan; National Gender and Climate Change Plan of Panama; National Water Security Plan 2058-2050: Water for All; National Climate Change Policy; National Wetlands Policy; National Oceans Policy; National Climate Change Strategy 2050; and the National Forest Restoration Program, with an emphasis on water-producing watersheds/2021-2025.
- 219 Contraloria General 2023.
- 220 World Bank 2020.
- 221 First, the government has taken steps to ensure transparency. The Online Quotation platform is currently being implemented, which is a fully online system for public purchases and contracts that is transparent and accessible to be scrutinized by the public. By May 2023, 246,216 online quotations had been conducted, amounting to B/. 892 million. Second, according to the 2023 report from the Council of the Americas on the Corruption Capacity Index, Panama achieved the greatest advancement in the region's overall score in 2023, with a substantial 9 percent improvement compared to 2022. Third, Executive Decree No. 6 of January 14, 2022, established the Institute of Development Planning under the Ministry of Economy and Finance, which aims to strengthen the government's planning function and long-term development capacity to accelerate the transformation required for inclusive and sustainable development. Finally, Law 129 of March 17, 2020, created the Private and Unique Registry System of Final Beneficiaries of Legal Entities, which aims to facilitate access to final beneficiaries of legal entities collected by attorneys or law firms providing services. The law was modified by Executive Decree No. 13 of March 25, 2022.
- 222 The Panamanian financial system is well developed and robust. According to the Superintendency of Banks, the Panamanian banking system showed strength, resilience, and adaptability during the COVID-19 crisis. In the latest report in March 2023, the liquidity of the banking system reached 56.7 percent, and the average liquidity coverage ratio of supervised entities exceeded 100 percent, well above regulatory minimums. Panama has developed a nearly exclusive monetary and banking system internationally, which uses the US dollar as legal tender and refrains from using monetary policy. The absence of a central bank has not prevented the Panamanian economy from having abundant bank credit at internationally compatible interest rates, allowing successful financial integration with the world economy. A notable advantage of this monetary system is that the demand for credit determines the amount of money circulating in the economy, aligning with the level of GDP at any given time.
- 223 Panama's monetary and banking system is built on the following pillars: absence of deposit insurance, absence of a lender of last resort, free capital mobility, and freedom to set interest rates for each of the country's banks. The rationale behind this design is to balance the risk that depositors and banks undertake in the process of providing credit, whether inside or outside Panama. This compels both depositors and credit providers to efficiently identify risks.
- 224 IMF 2021.
- 225 IMF 2021.
- 226 Resolution No. 205-2021-INEC and Decreto Ejecutivo No 177, 2022.
- 227 World Bank. (Forthcoming). The report proposed activities to strengthen the institution in various areas, including financial, organizational, managerial, and statistical operations.

- 228 IMF 2023b.
- 229 IDB 2021. The government of the Republic of Panama, in collaboration with the Inter-American Development Bank, initiated a digital transformation process to enhance the state's capacity by increasing tax collection. The program encompasses three key guiding principles for the implementation of pilot plans: (i) enhance governance and human talent management, which aims to strengthen strategic management as well as update human resources management procedures and internal control and transparency management procedures and instruments; (ii) strengthen tax control and compliance facilitation, which encompasses the review and optimization of operational processes, the adoption of a comprehensive tax risk management model, the implementation of a taxpayer assistance center, the modernization of the digital tax management system, and the expansion of the use of electronic invoicing; and (iii) enhance technological management, which includes strengthening strategic planning and information technology management, updating information technology infrastructure, and adopting an information security model. The tax administration faces significant challenges, but there has been progress in advancing internal and external modernization efforts within the institution, according to statements made by the Director General of Incomes, Publio de Gracia Tejada, at the Challenges of Taxation in Panama forum. As a result of the implementation of measures by the Directorate General of Incomes, tax revenue collection in the fiscal year 2022 surpassed 2019 collection levels by 6.0 percent.
- 230 MEF 2023, <https://www.mef.gob.pa/2023/08/dgi-regulara-las-plataformas-digitales-para-que-paguen-tributos-al-estado/>.
- 231 According to WB simulations in an intermediate scenario. World Bank 2021 <https://academic.oup.com/wbro/article/36/1/1/6174606>
- 232 Law 97 of October 4, 2019. https://www.gacetaoficial.gob.pa/pdfTemp/28875_A/75178.pdf.
- 233 World Bank. 2021. Panama Pandemic Response and Growth Recovery Development Policy Loan (P174107). <https://documents1.worldbank.org/curated/en/899581607742064952/pdf/Panama-Pandemic-Response-and-Growth-Recovery-Development-Policy-Loan.pdf> Plewa, 2021, "Migration Trends through Panama's Darien Gap and What They Mean for Regional Cooperation," <https://igs.duke.edu/news/migration-trends-through-panamas-darien-gap-and-what-they-mean-regional-cooperation>.
- 234 Plewa, 2021, "Migration Trends through Panama's Darien Gap and What They Mean for Regional Cooperation," <https://igs.duke.edu/news/migration-trends-through-panamas-darien-gap-and-what-they-mean-regional-cooperation>.
- 235 The Darién Gap is a geographic region consisting of a large watershed, forests, and mountains covering Panama's Darién Province and the northern portion of Colombia's Chocó Department.
- 236 Garcia Mora, M. E., Schwartz Orellana, S., & Freire, G. 2021. Disability inclusion in Latin America and the Caribbean: A path to sustainable development. World Bank.
- 237 Washington Group on Disability Statistics, <https://www.washingtongroup-disability.com/question-sets/>.
- 238 UNDP and INAMU, 2020, "Situación de las Mujeres Afropanameñas."
- 239 INAMU, "Situación de la mujer en Panama 2014-2016."
- 240 Anuario Estadístico, Ministerio de Salud, <https://www.minsa.gob.pa/contenido/anuario-estadistico-del-2019>
- 241 World Bank. 2018. Panama - Support for the National Indigenous Peoples Development Plan Project (English). World Bank
- 242 The following regression was run $\ln(w_i) = \beta_0 + \beta_p D_p + \beta_s D_s + \beta_t D_t + \beta_2 \text{expi} + \beta_3 \text{expi}^2 + \beta_j I_j + \beta_j P_j + u_i$, where D is a dummy if the person finished a given education level (p = primary, s = secondary, t = tertiary)

and $\exp$ is the age of the individual. Fixed effects by industry and province were included. The return of schooling per level of education is calculated relative to the immediate inferior level. For instance, the rate of return for primary education compares the gains of people with complete primary schooling to those without, considering the foregone earning while studying ($rp = \beta_p/6$). Moreover, the rate of return for secondary education was done by comparing the gains of people with a secondary education to those with a primary education, using $rs = (\beta_s - \beta_p)/6$ (Montenegro, C. and H.A. Patrinos 2014).

- 243 Netherlands Water Partnership 2022. Water Sector Study Panama, Netherlands. Castillero (2019): Castillero, G. C. (2019). El agua del otro Panamá. La Prensa. https://www.prensa.com/opinion/agua-Panama_0_5389711027.html.
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- 246 Netherlands Water Partnership 2022; Gobierno Panama, 2016, “Plan Nacional de Seguridad Hídrica.”
- 247 IDAAN. 2019. Políticas Institucionales 2019. IDAAN https://www.idaan.gob.pa/wp-content/uploads/2020/01/politicas_institucionales_del_idaan_2019.pdf.
- 248 These include: the National Committee for Climate Change of Panama, the inclusion of the Climate Change Chapters in the General Law on the Environment, Regulation of the mitigation chapter of the General Law of Environment through Executive Decree No. 100 of October 2020, Regulation of the adaptation chapter of the General Law of Environment through Executive Decree No. 135 of April 2021, National Strategy for Climate Change 2050, Panama’s 2021 Climate Vulnerability Index, 2022 National Climate Action Plan as a strategic framework that promotes the country’s long-term national and sectoral climate change implementation, and the National Gender and Climate Change Plan. In addition, in 2023, Panama has drafted a law on climate change.
- 249 The Government Strategic Plan for the next five years was adopted through Executive Cabinet Resolution No. 149 of December 30, 2019. The Cabinet Resolution was published in the Government of Panama’s Official Gazette (Gaceta Oficial Digital) No. 28931-A, on December 30, 2019.
- 250 In line with the Government strategic Plan, the government approved Executive Decree No. 251 in 2021, which created the Cabinet for Comprehensive Disaster Risk Management (Gabinete de Gestión Integral de Riesgos a Desastres), a high-level coordination body under the president tasked with ensuring the implementation of the DRM agenda. This cabinet complements the coordination responsibilities of SINAPROC by focusing on disaster preparedness and response in multiple sectors and integrating risk management into sectoral planning. Under the DRM cabinet, sector ministries are responsible for establishing strategic plans for operational continuity in their sectors in the event of a disaster. In addition, keeping with its mandate, the DRM cabinet has recently approved the update of the National Policy for Comprehensive Disaster Risk Management 2022-2030 as well as the National Strategic DRM Plan 2022-2030, in coordination with MINGOB and SINAPROC.
- 251 Law No. 209 of 2021, https://www.gacetaoficial.gob.pa/pdfTemp/29269_A/GacetaNo_29269a_20210422.pdf.
- 252 UNFCCC 2022, <https://unfccc.int/documents/499571>
- 253 Energy, forestry, integrated watershed management, marine-coastal system, biodiversity, sustainable agriculture, livestock and aquaculture, resilient human settlements, public health, sustainable infrastructure, and circular economy
- 254 ASA, 2021, “Exploring the Development Potential of Panama’s Rural Economy” (P172460).

