



# PANAMA

## SELECTED ISSUES

June 2024

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# PANAMA

## SELECTED ISSUES

May 17, 2024

Approved By  
**Western Hemisphere  
Department**

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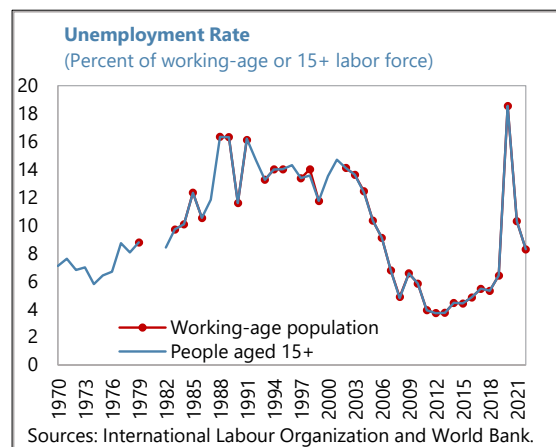
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# UNRAVELING PANAMA'S LARGE UNEMPLOYMENT FLUCTUATIONS<sup>1</sup>

## A. Introduction and Background

1. **Over the last five decades, Panama has experienced large secular swings in unemployment rates.** Between the mid-1970s and the late 1990s, unemployment increased from 5 to 15 percent, while in the early 2000s, it declined sharply to about 4 percent. What was behind these large changes?



2. **Economic cycles do not fully explain these secular movements in unemployment rates.** There is a strong negative relationship between GDP growth and changes in the unemployment rate – also known as Okun's law. Periods of large increases in unemployment rates tend to be characterized by lower GDP growth or sharp recessions. Panama's tumultuous history over recent decades, marked by political and economic upheavals, likely plays a role in these fluctuations in unemployment rates. However, output growth does not fully account for these secular movements in the unemployment rate – demographic transformations and changes in social norms have also played an important role.

## B. Decomposition of Unemployment Growth

3. **Following Hijzen et al. (2017) and David et al. (2019), changes in unemployment can be decomposed into changes in labor demand and changes in labor supply** as follows:

$$u - u^* = -(y - y^*) + (z - z^*) + (part - part^*) + (wap - wap^*)$$

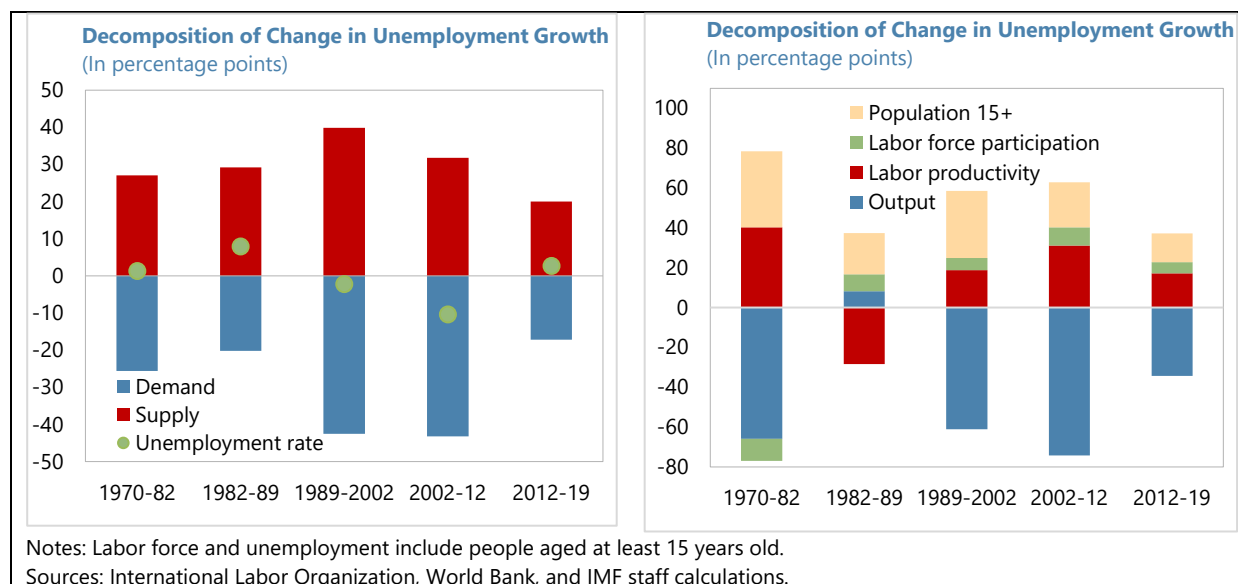
where  $u$  denotes the unemployment rate, and  $y$ ,  $z$ ,  $part$ , and  $wap$  the logarithms of GDP, labor productivity, the labor force participation rate and working-age population (\* indicates the value of a variable at the beginning of the period). Changes in labor demand correspond to output growth minus labor productivity growth, whereas changes in labor supply are captured by changes in the participation rate and working-age population.

4. **The economic cycles, demographic transition, and increase in participation played an important role in shaping labor demand and supply over the last decades.**<sup>2</sup> In the late 1980s, unemployment surged as labor supply surpassed demand, propelled by a rise in the working-age population and labor force participation, and a decline in output. Unemployment rates fell sharply

<sup>1</sup> Prepared by Ana Sofia Pessoa (WHD). Toyosi Ojo (WHD) provided excellent editorial assistance.

<sup>2</sup> Due to data constraints, we focus on the population of at least 15 years old. Nonetheless, most of the changes attributed to fluctuations in the population of 15 or older are driven by the rise in working-age population.

during the early 2000s when labor demand picked up driven by strong economic growth, more than compensating the increase in the working-age population and labor force participation. Labor productivity growth has played a key role in limiting fluctuations in unemployment – see, for example, the decline during the 80s and the slowdown during the 2010s. Labor hoarding or changes in informality may be mechanisms through which labor productivity can adjust to limit changes in unemployment.



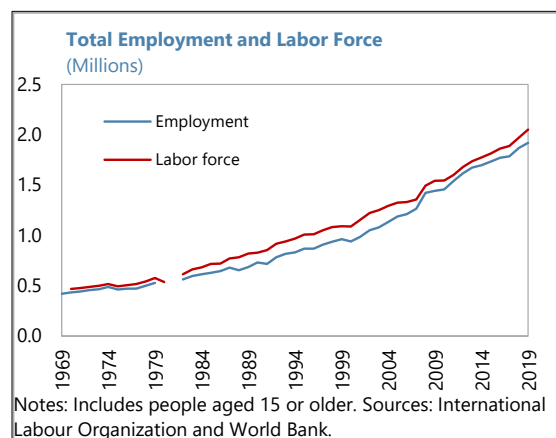
### C. Labor Market Trends

#### 5. Panama’s labor force and employment have increased remarkably over the last decades.

Over the last five decades, the number of workers and people in the labor force quadrupled (see chart).

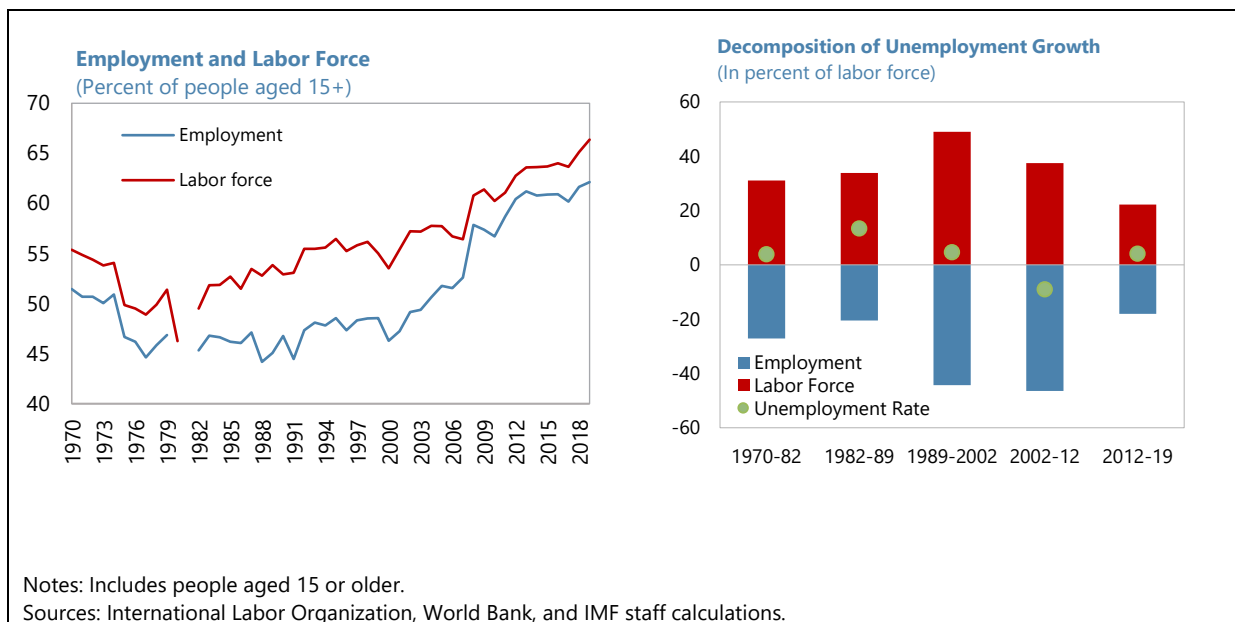
#### 6. The timing of labor force and employment growth differed significantly.

This is most easily shown by looking at labor force participation and employment rates (both calculated as a percent of the working age population). The labor force participation increased steadily, from 50 percent in the 1980 to 66 percent in 2019. The employment rate remained flat in the 1980s and 1990s, and then rose from about 45 percent to over 60 percent in the last two decades.



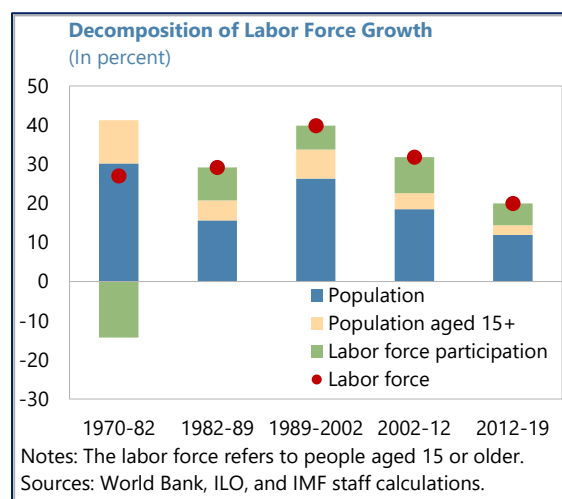
#### 7. This difference in timing was reflected in the unemployment rate.

Unemployment rose during the 1970s and 1980s, when the labor force participation rate rose, and the employment rate remained flat; remained stable during the 1990s when both grew in tandem; and declined rapidly between the late 1990s and early 2010s when the increase in the employment rate far outpaced the increase in labor force participation.



## D. Labor Force – The Role of Demographics and Social Norms

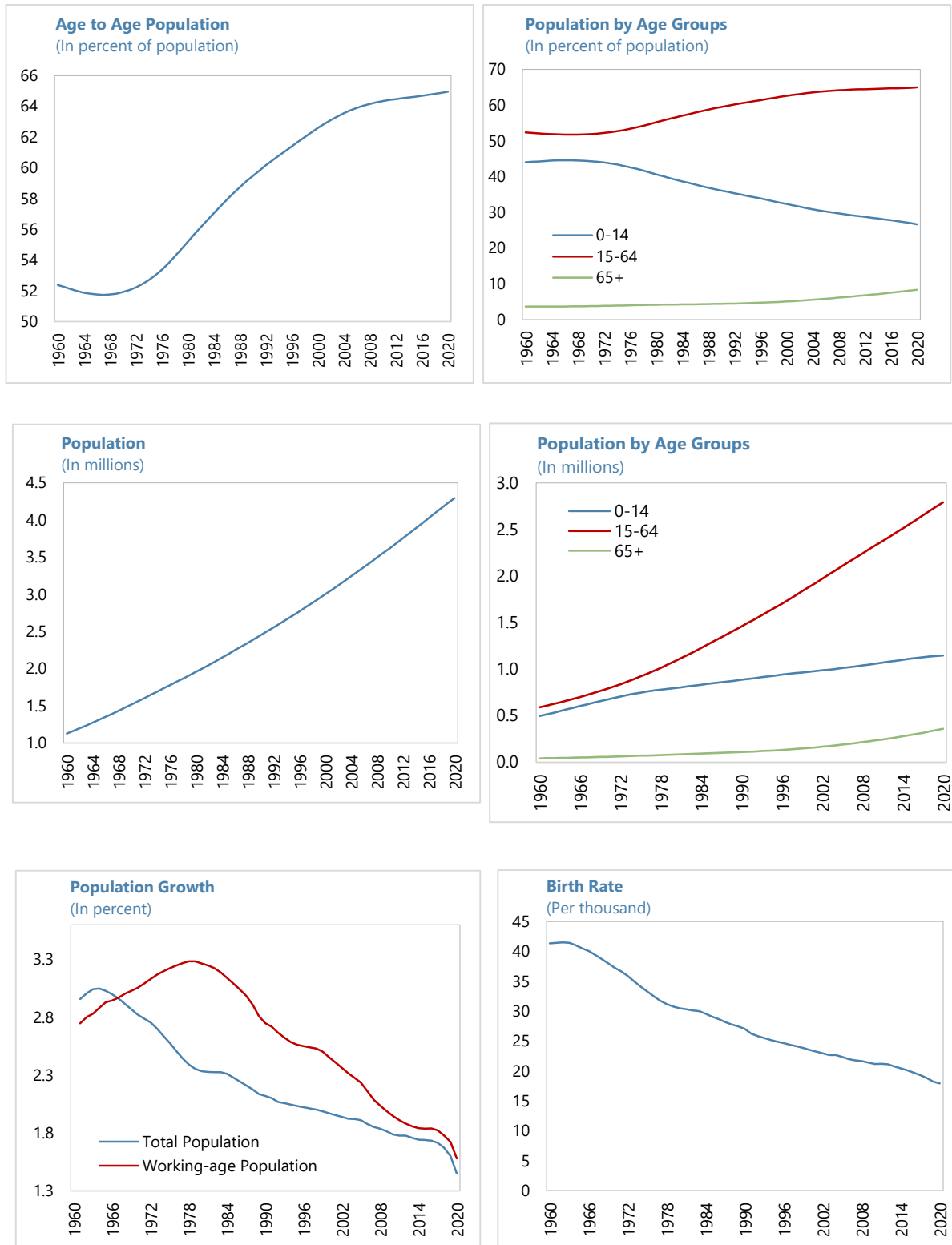
**8. The rapid labor force growth was driven by a combination of demographic and social transformations.** Panama’s population increased rapidly (since the 1960s, Panama’s population has quadrupled); the share of the working-age population increased sharply (from about 52 percent to 65 percent), and labor force participation rose. The importance of these factors changed over time: the contribution of population growth declined, while the contribution of labor force participation growth became more important.



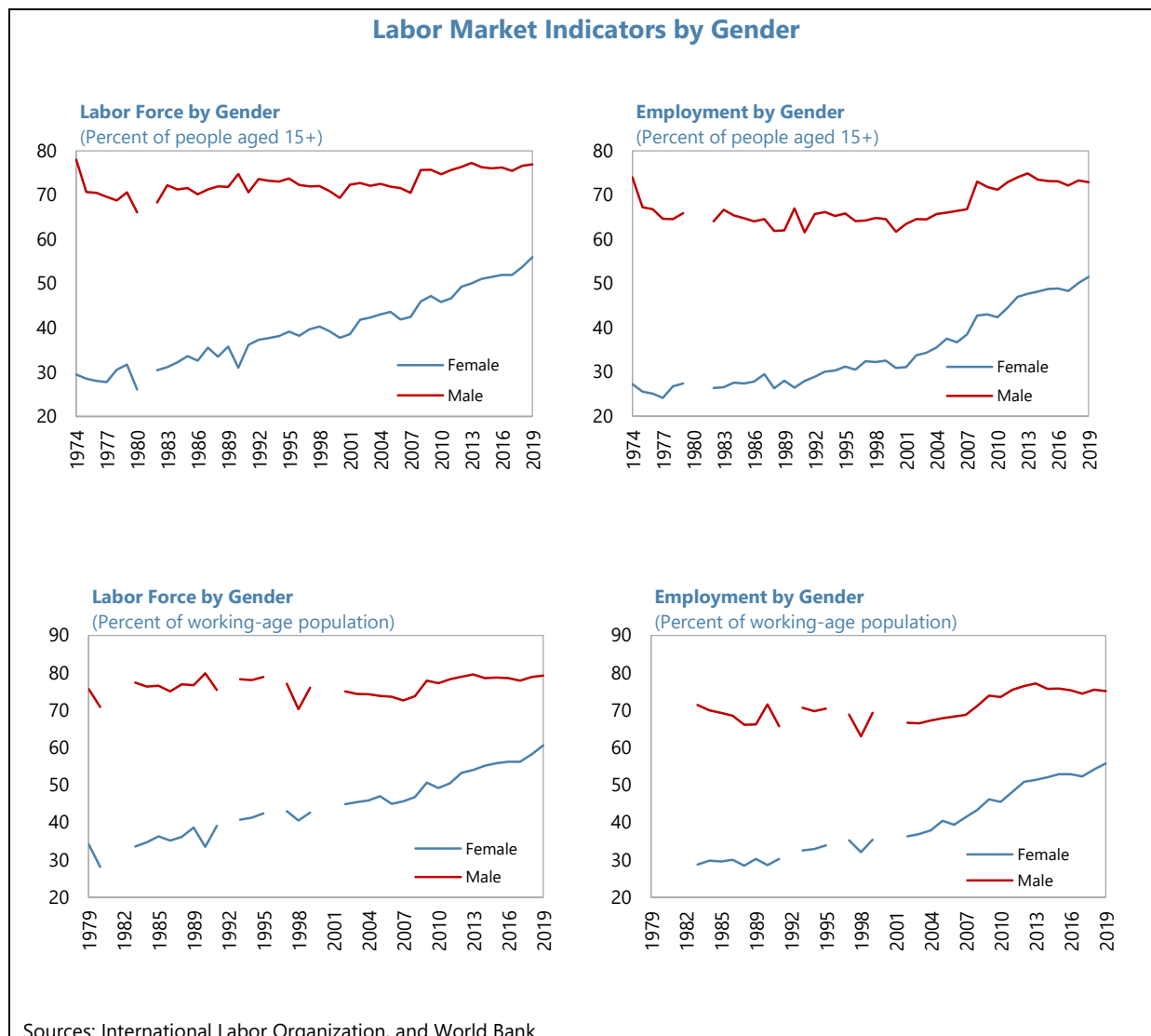
**9. The increase in the labor force participation rate was the result of rising female labor force participation.** Female labor force participation rates increased from about 30 percent in the 1970s to over 50 percent in 2019 (see chart). This sharply reduced the large gender gap in labor participation but did not close it.<sup>3</sup>

<sup>3</sup> In the [World Bank’s Women, Business and the Law 2020 Index](#), Panama still scored poorly on the gender equal pay and pension dimensions.

**Figure 1. Panama: Demographic Indicators**

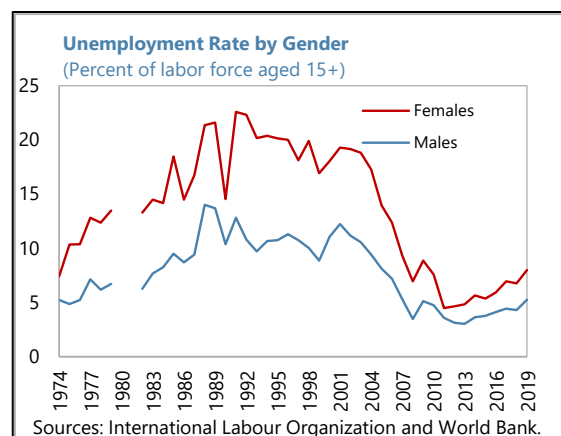


Sources: International Labor Organization, World Bank, and IMF staff calculations.



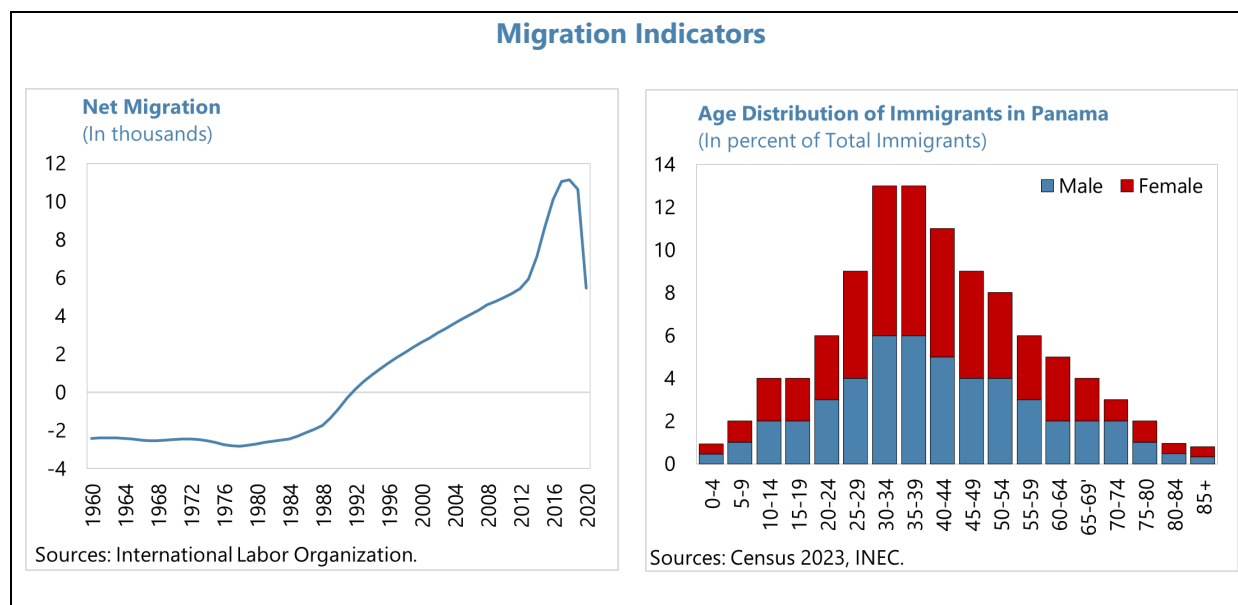
**10. During the 1980s and 1990s, the pace of job creation failed to keep up with the growing labor force, leading to a substantial rise in unemployment rates, particularly among females.** While in the 1970s the difference between male and female unemployment rates was modest, during the following decades, this difference started to widen. Women entered the labor force but did not immediately find jobs. In the 2000s, the female unemployment rate dropped sharply as employment creation accelerated.

**11. The contribution of migration flows to the labor force increase was modest.** From the 1960s to





the 1980s, there were net migration *outflows*. From the early 1990s, immigration started to accelerate and by 2018 annual net migration was 11 thousand (0.27 percent of the population). As a result, the share of immigrants in the population almost doubled since 1990 and is currently at around 6 percent of the population according to the 2023 census. Importantly, over 80 percent of those immigrants are working-age adults, who are likely entering the labor force (see chart).

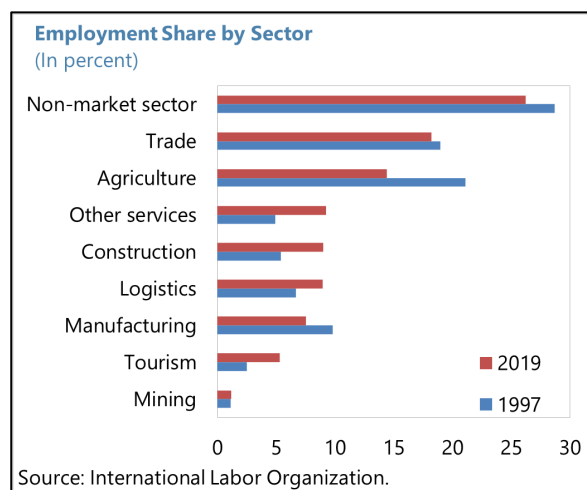


## E. Dissecting the Employment Boom of the 2000s

### Sectoral Employment Changes

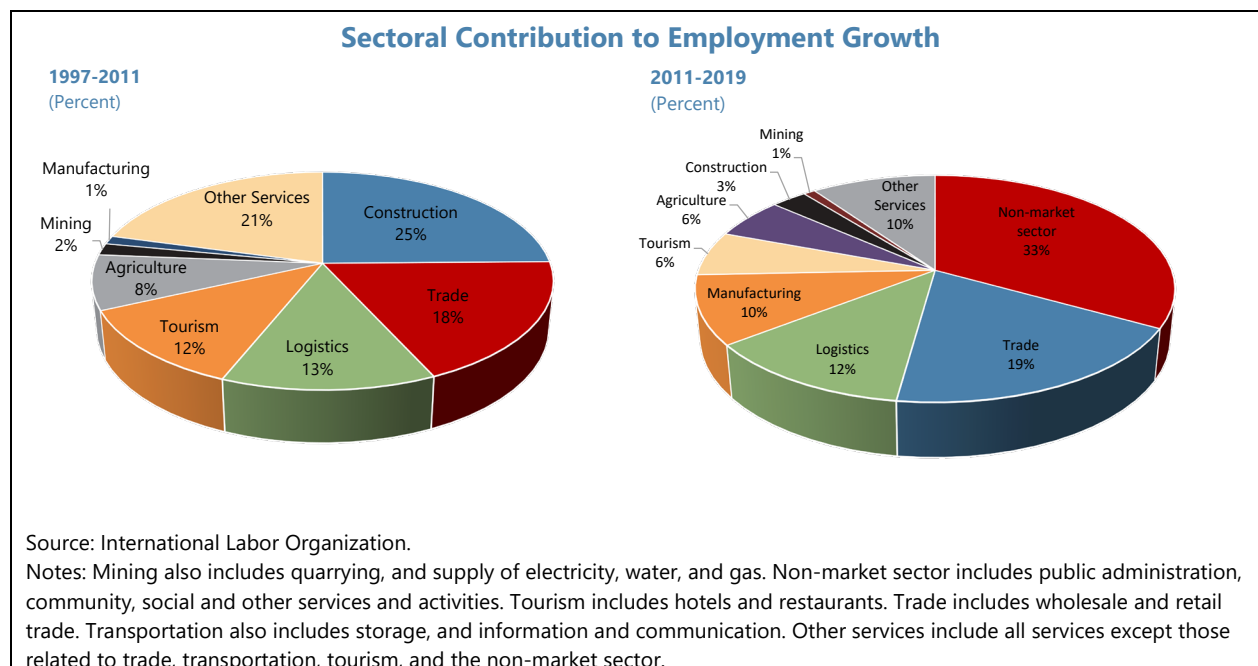
**12. Panama went through important structural changes during the last decades, with employment shifting from agriculture and manufacturing to services.** There was a substantial decline in the share of workers employed in agriculture and manufacturing, similarly to other countries in the region (Rodrik, 2015), while service-oriented jobs (logistics, trade, and tourism) have become increasingly common. The tourism sector expanded remarkably, with the employment share doubling since 1997.

**13. Between 1997 and 2011, employment growth surged,** driven by the construction, retail and wholesale trade, logistics, and tourism sectors (see chart). This labor market dynamism was mainly supported by the role of Panama as a trade and logistics hub (e.g., the Panama Canal and complementary economic activities) and by major construction projects – including the expansion of



the Canal, the renovation of the airport, and the construction of some of the largest skyscrapers in Panama City.

**14. Employment growth decelerated in the 2010s.** The contribution of construction to employment growth decreased sharply, as the sector had already expanded substantially during the previous decade. Overall, employment continued to grow but at a slower pace, mainly supported by new jobs in the non-market sector, which includes public administration, social and community services, health, and education. The contributions of trade, logistics, and tourism to employment growth remained substantial albeit smaller than in the past.



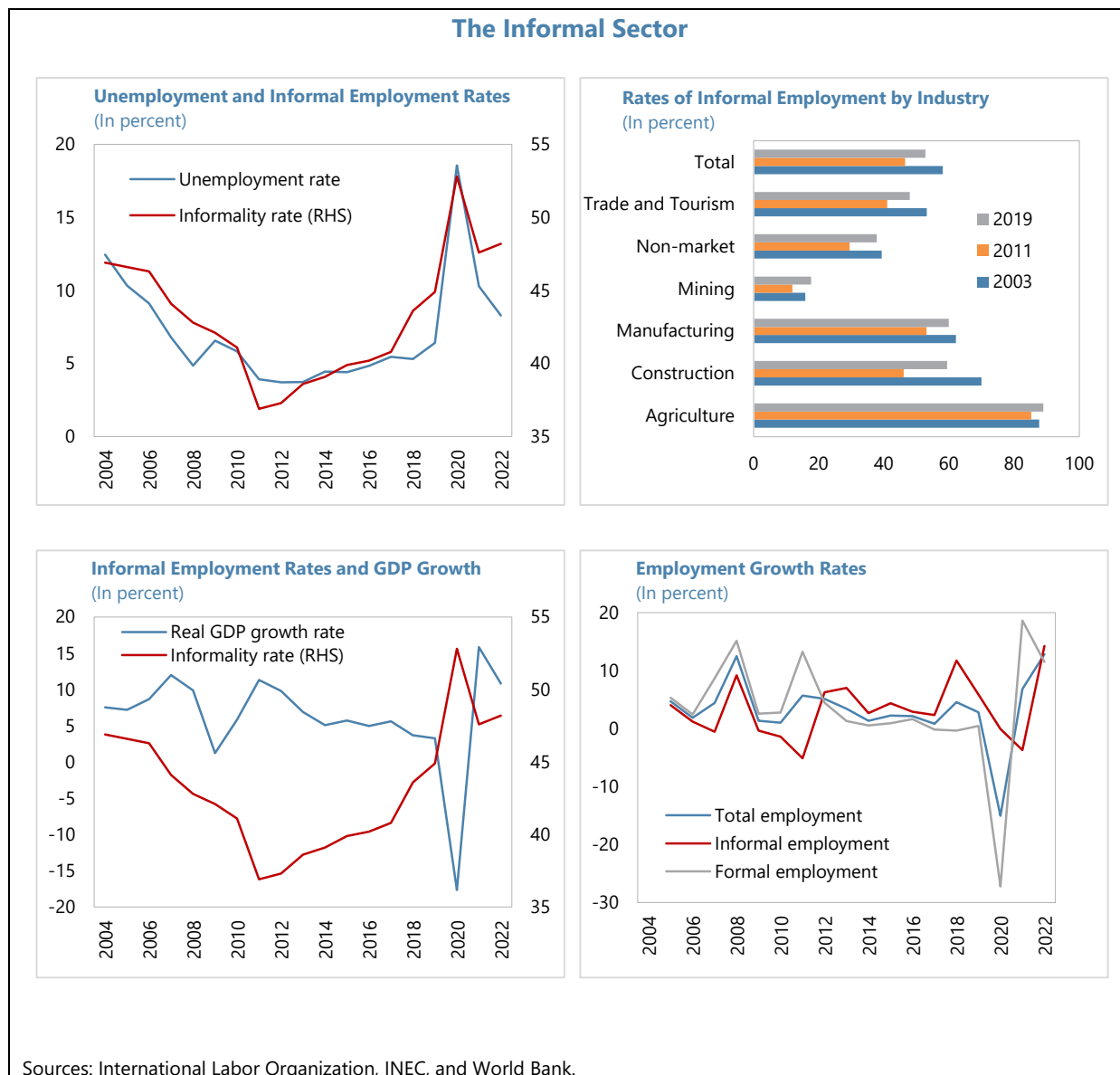
## The Informal Sector

**15. Over the last two decades, there was a strong relationship between informality and unemployment rates.** Overall, informality rates display a counter-cyclical behavior. In periods of strong economic growth, when the unemployment rate declines, the share of informal jobs drops, while the opposite tends to happen in periods of lower growth and high unemployment. Informal employment works as a buffer to absorb formal workers following shocks, preventing unemployment rates from increasing further.

**16. The employment boom of the 2000s led to a decline in the informal employment rate.** The informality rate dropped by about 10 percentage points between 2004 and 2011, to below 40 percent (see chart). Importantly, informality declined across all sectors,<sup>7</sup> and in particular in the construction sector, from 70 to below 50 percent.

<sup>7</sup> Estimates of the informal employment rates by the ILO and INEC differ because INEC's metric excludes the agriculture sector, but the two series are strongly correlated.

**17. The decline in informality was largely reversed during the 2010s.** By 2019 informality was almost back at the 2004 rate even though unemployment remained much lower. During the late 2010s, employment growth was mainly supported by the creation of informal jobs, which drove informality rates up in all sectors. The rate of informal employment increased in tandem with the deceleration of output growth, likely absorbing dismissed formal workers and individuals entering the labor force.



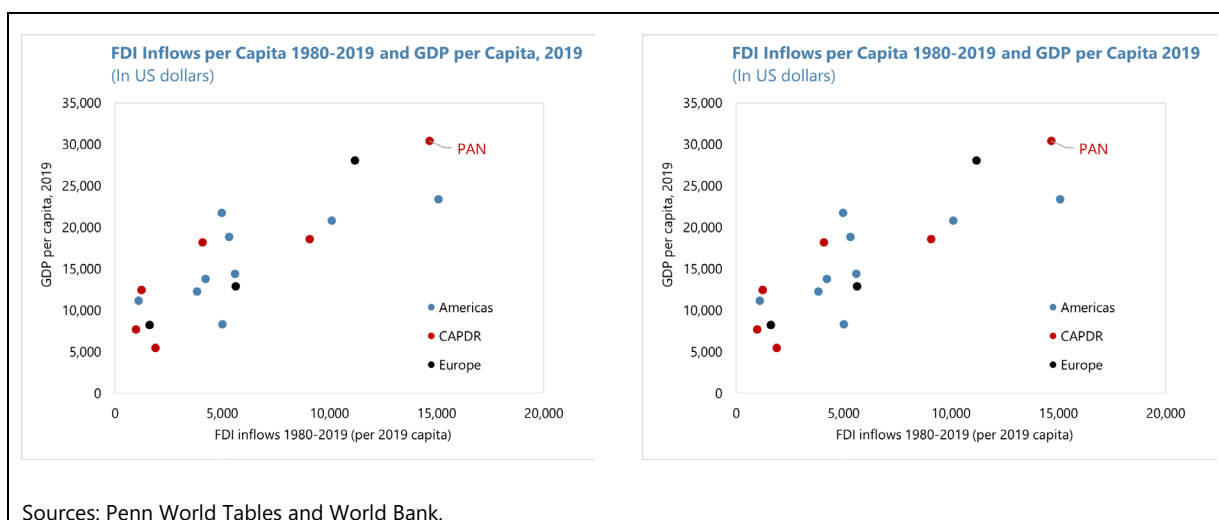
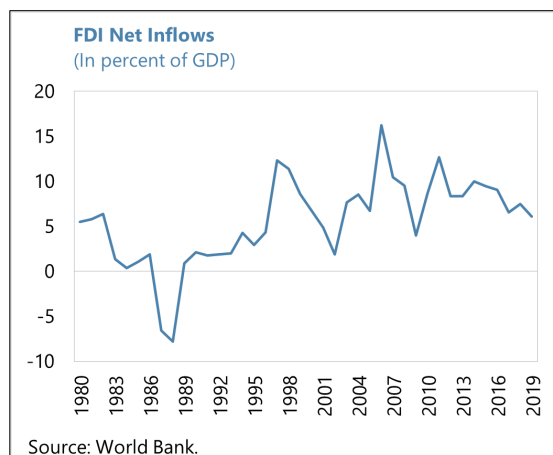
### The Role of Foreign Direct Investment

**18. Over the past few decades, Panama has attracted significant foreign direct investment (FDI), which might have contributed to the economic boom of the 2000s.** Since the economic liberalization reforms of 1996, Panama has received average FDI net inflows of over 8 percent of GDP per year (see chart). Importantly, foreign entities have reinvested a large share of their earnings

in the economy, a strong signal of confidence in Panama and its thriving economy. Moreover, reinvested earnings are likely to be a more stable source of FDI than new equity (Hausmann et al., 2016).

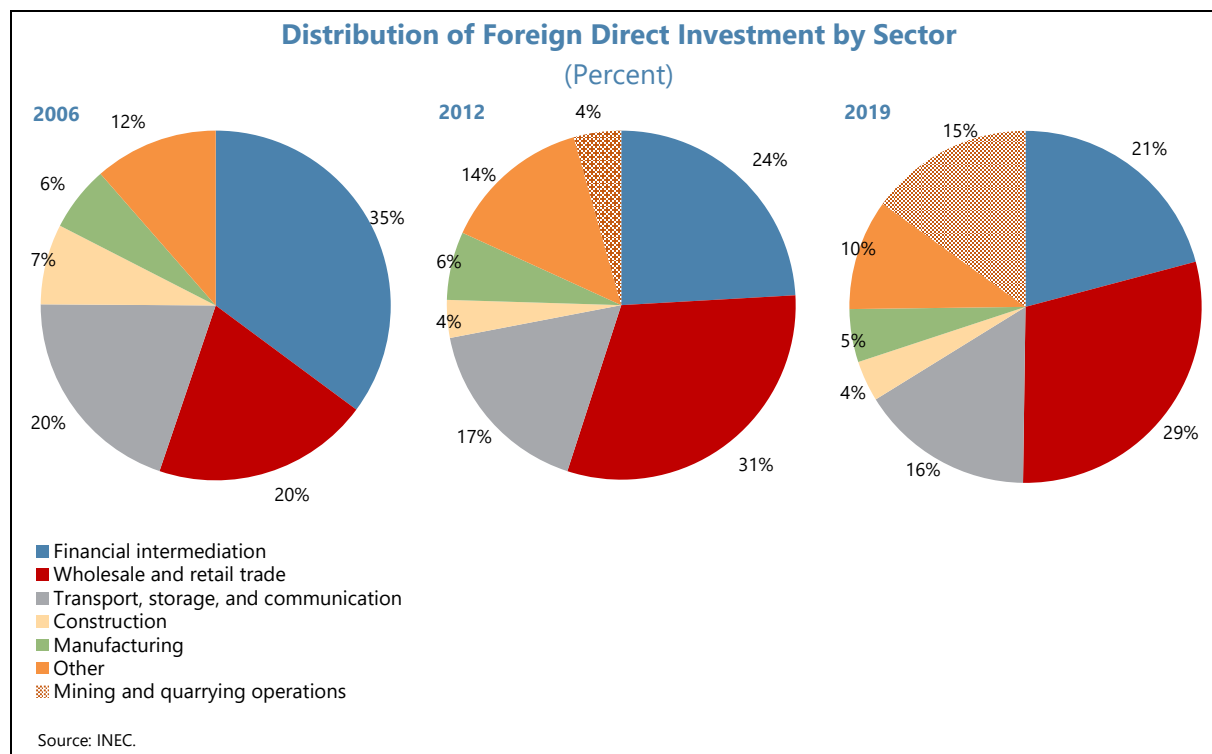
**19. The large FDI inflows had positive spillovers to the labor market.** FDI inflows are strongly related to the share of workers employed in large firms and to income per capita – countries that receive more FDI, tend to be richer and have more workers employed in large firms (see charts).

Panama outperforms most countries in the region in all these dimensions.



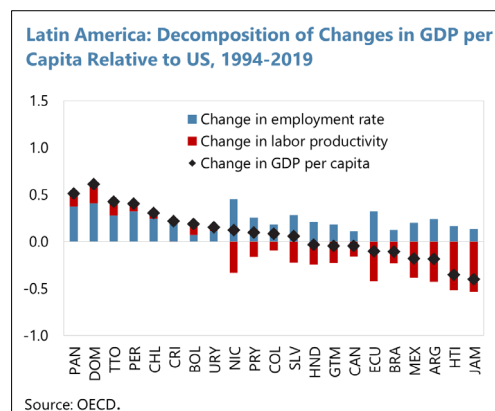
**20. Sectors that received large FDI inflows contributed substantially to the 2000s employment boom.** The sectors attracting the most FDI are the financial intermediation, trade, and logistics sectors, though they evolved at different paces (see charts).<sup>8</sup> These sectors attracted about half of FDI inflows, while accounting on average for 35 percent of employment and being responsible for over 50 percent of the employment growth during the 2000s.

<sup>8</sup> The mining industry also received large investments from foreign entities, but this trend is expected to change with the closing of the copper mine. For more details, see Annex VIII of the 2024 Article IV Staff Report.



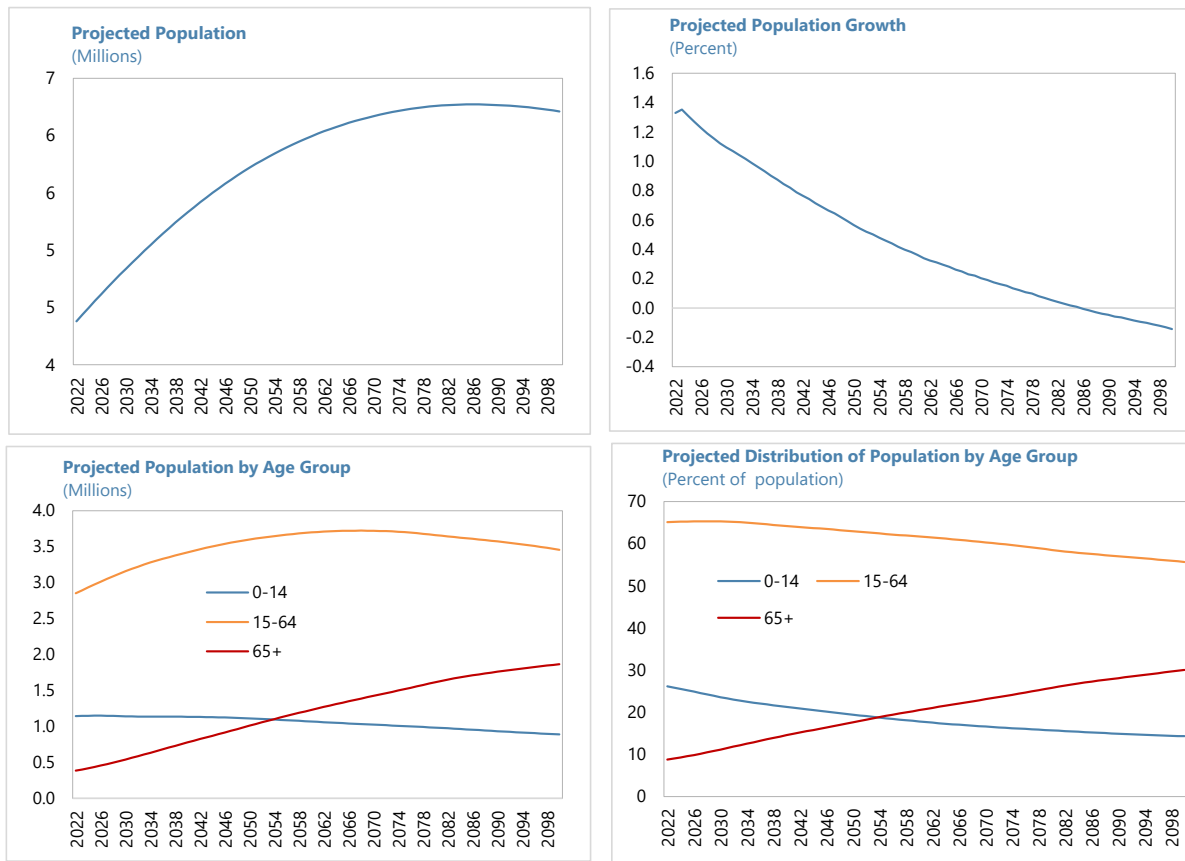
## F. Sustaining Economic Convergence

**21. Panama’s income convergence in the 25 years preceding the Pandemic was in large part the result of an increase in the employment to population rate.** Convergence can either result from an increase in the employment rate relative to that in the US, or from faster labor productivity growth. In the case of Panama, about three quarters of the reduction in the income differential with the US was driven by an increase in the employment to population rate, and only one quarter was the result of faster labor productivity growth (see chart). As discussed earlier, the increase in the employment rate was driven by the booming economy, as well as by population growth, an increased ratio of working-age adults, and greater participation in the labor market.



**22. Going forward, the increase in the employment to population ratio is likely to be slower and, for income convergence to continue, productivity growth will need to accelerate.** The demographic transition has largely run its course as population growth is projected to keep declining and the share of the working-age population is expected to decrease in the next decades (see charts). Labor force participation in Panama already exceeds the average in the region and in high-income countries, and it is therefore unlikely to provide the same support to growth as in the past. Thus, for income convergence to continue, productivity growth will need to accelerate.

### Panama's Population Projections



Sources: United Nations.

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# BUILDING RESILIENCE TO NATURAL DISASTERS AND CLIMATE CHANGE<sup>1</sup>

## A. Panama's Greenhouse Gas Emissions

### 1. Panama contributes little to global climate change.

Panama's net Greenhouse Gas (GHG) emissions are 0.04 percent of global emissions. In per capita terms, Panama's net GHG emissions are comparable to those of LA5 countries, and well below the world average with 3.6 metric tons CO<sub>2</sub>-eq.<sup>2</sup> Moreover, Panama is considered one of only three countries in the world whose emissions are "carbon negative" due to its forests absorbing more carbon than the country emits.<sup>3</sup>

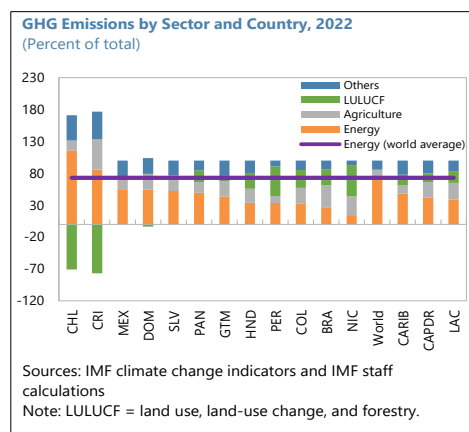
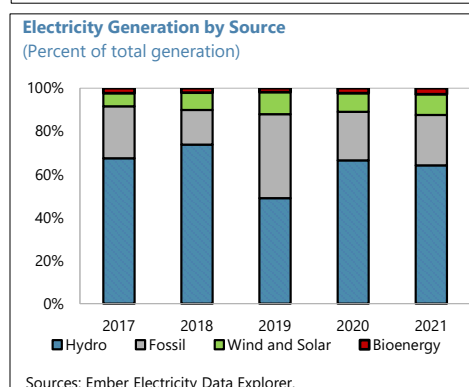
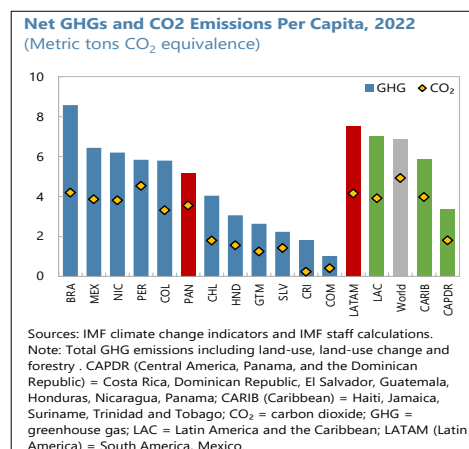
### 2. The composition of net GHG emissions in Panama is similar to that in the LAC region but differs notably from the rest of the world.

The energy sector accounts for 49 percent of GHG emissions in Panama, well below the world average of 72 percent, reflecting cleaner sources of energy supply. The use of fossil fuels in electricity generation is limited, accounting for about 35 percent of total electricity supply, whereas renewable sources are extensively used, accounting for 65 percent of Panama's electricity. More than half of Panama's energy production is from hydropower (NWP, 2022). However, Panama stands out for its large share of net GHG emissions (35 percent of total) from the Land Use, Land-Use Change, and Forestry (LULUCF) and agriculture sector, compared to the global average of 13 percent.

## B. Panama's Exposure to Climate Change Risks

### 3. In the past 50 years, Panama has been less affected by natural disasters than other countries.

According to EM-DAT, between 1980 and 2020, Panama was struck by 44 natural disasters with total economic damages of about US\$381 million and loss of 266 human lives.



<sup>1</sup> This paper was prepared by Diane C. Kostroch, Senior Economist, and Damaris Garza, Research Analyst, in the IMF's Western Hemisphere department. The authors thank Toyosi Ojo for her excellent technical support.

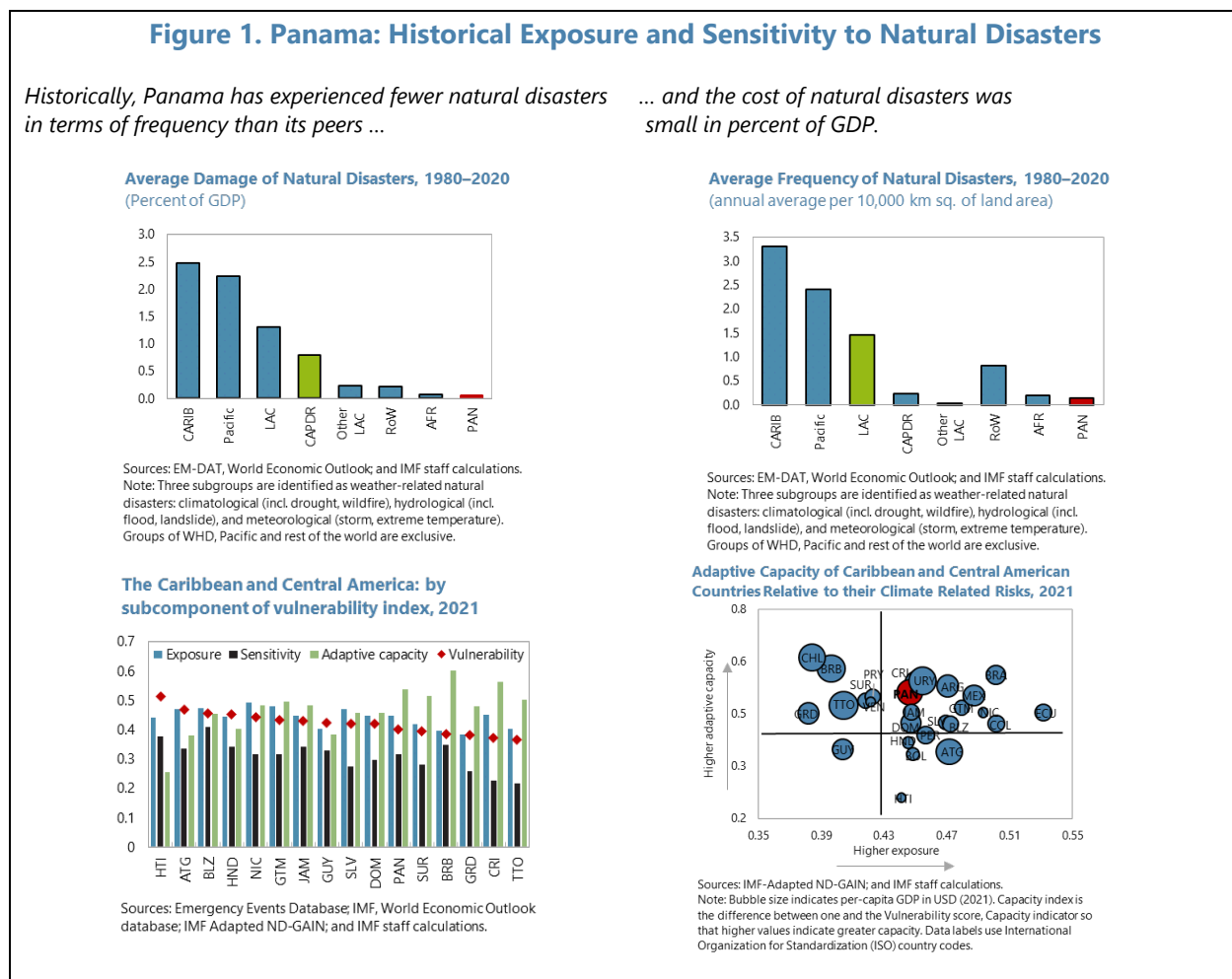
<sup>2</sup> CO<sub>2</sub>-eq (carbon dioxide equivalent) stands for a unit based on the global warming potential of different GHGs. The CO<sub>2</sub>-eq unit measures the environmental impact of one metric ton of these GHGs in comparison to the impact of one metric ton of CO<sub>2</sub>.

<sup>3</sup> For more information see: <https://www.ccacoalition.org/partners/panama>.



**4. Nevertheless, Panama is highly sensitive<sup>4</sup> to climate change risks (Figure 1) and its sensitivity to these risks is expected to increase.**

- The World Bank ranks Panama 14<sup>th</sup> among countries most exposed to multiple hazards based on land area and 35<sup>th</sup> among countries with the highest percentage of total population at relatively high mortality risk from multiple hazards (World Bank [climate change knowledge portal](#)). In addition, Panama has 15 percent of its total area exposed and 12.5 percent of its total population vulnerable to two or more hazards.
- Rising temperatures, sea levels,<sup>5</sup> and more intense and frequent extreme weather events are likely to increase Panama’s climate change related risks underscoring the importance of enhanced resilience. Average temperatures in Panama have increased about 1°C - 3°C, since the 1970s (World Bank Group, 2021a).

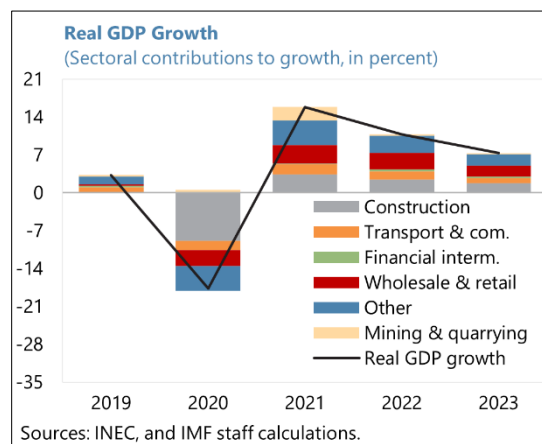


<sup>4</sup> Adjusted ND-GAIN assesses the **vulnerability** of a country to climate change risks by considering six life-supporting sectors: food, water, health, ecosystem services, human habitat, and infrastructure. For each sector, the **exposure** to climate-related hazard is measured twofold: (1) **sensitivity** to the impacts of the hazard; and (2) **adaptive capacity** to adapt to these impacts. For exposure (sensitivity), a higher value implies higher exposure (sensitivity), contributing to higher vulnerability.

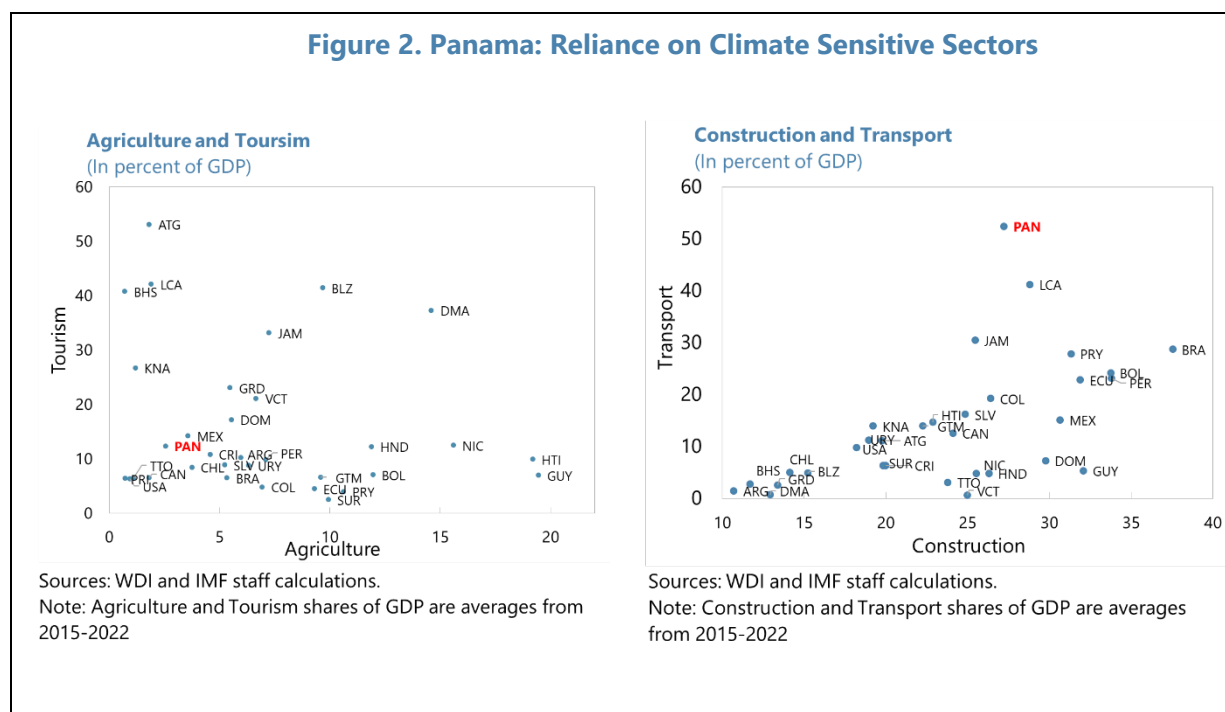
<sup>5</sup> Rising sea levels are estimated to affect 2.01 percent of Panama's total land area.

**5. Panama relies heavily on the tourism, construction, transport services, and agricultural sectors that are susceptible to the effects of climate change (Figure 2).**

Construction and transport services have been the main drivers of economic growth and prosperity in Panama in the last decade, accounting directly for an estimated 27-55 percent of GDP. Given their interconnectedness with other sectors, such as retail, manufacturing and other services, construction and transport dynamics heavily influence economic outcomes. More frequent and severe El Niño-Southern Oscillation (ENSO) may lead to unpredictable weather events such as storms, droughts, heatwaves, and heavy rainfall, which may reduce construction and shipping activity, reduce tourist arrivals, destroy properties and infrastructure, and adversely impact other sectors of the economy.<sup>6</sup> Those ENSO impacts, combined with existing water scarcity,<sup>7</sup> may translate into lower agricultural productivity and higher energy prices from hydropower, further constrain the availability and quality of water resources, lead to the loss of forested areas and biodiversity, and create adverse effects on health conditions.



**Figure 2. Panama: Reliance on Climate Sensitive Sectors**

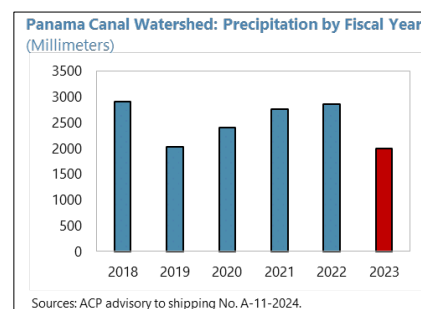
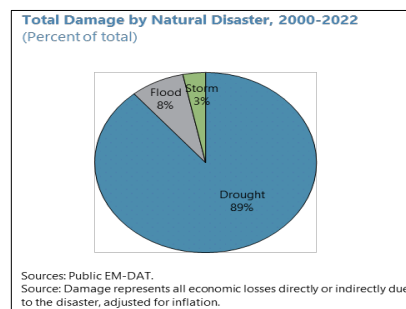


<sup>6</sup> For example, during the drought in 1997-98 economic sectors are estimated to have experienced losses of over \$50 million (0.46 percent of GDP; Bouche, 1998).

<sup>7</sup> See Netherlands Water Partnership: [Panama Water Sector Study 2022](#)

## C. Water Challenges

**6. Droughts may pose the greatest challenge for Panama.** The historically low levels of precipitation of recent years have begun to deplete Gatún Lake and Alajuela Lake, which sustain the Panama Canal. In recent years, changes in precipitation and ENSO impacts have disrupted the Panama Canal's operations, causing shipping delays, capacity limitations, and increased maintenance needs, which can lead to higher shipping costs and supply chain disruptions.<sup>8</sup> The historical 2015/2016 drought led to losses of US\$40 million and the 2019 drought required the Panama Canal Authority (ACP) to reduce the number of ships allowed to pass through the canal from 32 to 27 per day, as well as reduce the maximum cargo weight (ACP, 2020a), resulting in US\$15 million in lost revenues (EFE Servicios, 2019). 2023 was the driest year on record,<sup>9</sup> resulting in delays and canal restrictions with spillovers to the global shipping industry (see Annex X in the Staff Report for the 2024 Article IV Consultation). Limits<sup>10</sup> on the number of daily transits were announced in October 2023 and gradually eased throughout 2024. Toll revenues were impacted toward the end of 2023 but dynamic pricing and auction fees<sup>11</sup> helped buffer the impact. Nonetheless, the ACP reported a monthly decrease of approximately US\$100 million in toll revenues during the initial three months after restrictions were imposed, potentially leading to a total loss of US\$700 million (0.8 percent of GDP) during the first semester of the 2024 fiscal year. It is expected that the canal will return to full capacity in early 2025, with economic damages estimated around 0.5 percent of GDP for 2024.<sup>12</sup>



<sup>8</sup> About 3 percent of global trade (measured in volume) passes through the Panama Canal.

<sup>9</sup> 2023 is considered the driest year since records started in 1950.

<sup>10</sup> Due to the severe droughts observed in 2023, the ACP implemented traffic restrictions starting in October 2023 throughout 2024. The average daily transit decreased to as low as 22 vessels per day, as reported by the ACP Monthly Canal Operations Summary for January 2024. This represents a 39 percent reduction in average daily traffic compared to the peak daily traffic of 36 vessels observed in 2023.

<sup>11</sup> Dynamic pricing refers to the practice of setting flexible prices for products or services based on current market demand. Auction fees are the charges for participating in a special auction to bid on additional slots for transit through the canal.

<sup>12</sup> The estimated loss is calculated by assuming: 1) toll revenue growth of 10 percent, consistent with the annual growth observed in the previous fiscal years (2022-2023); 2) an average capacity reduction of 30 percent from January to June 2024, based on the daily average arrivals reported by the ACP from January to April and the ACP announcements of slots distributions for May and June (see advisory to shipping [No. A-12-2024](#)); 3) a 15 percent average capacity reduction from July to December. These adjustments reflect the gradual lifting of restrictions expected for the second half of 2024. As a result, staff estimates a total toll revenue shortfall of 0.5 percent of GDP for 2024.

**7. Panama depends heavily on water resources, and hence precipitation, for its electricity generation.** In the past, the ACP's short-term responses to the decreased levels of water included suspending the generation of hydroelectric power at Gatún. This solution increased the price of hydroelectricity and resulted in an increased dependence on polluting fossil fuels such as oil and coal. Thus, it ran counter to the country's efforts under its NDCs to reduce total emissions from the energy sector by 24 percent by 2050 (and 11.5 percent by 2030). By contrast, *la Niña* supports greater generation of hydroelectric power, due to the associated heavy rains. However, heavy rains can also jeopardize the dams of the Panama Canal system. Excess water run offs can also endanger areas vulnerable to floods, particularly communities located by the riverbanks.

**8. Severe droughts also result in lower crops production.** Droughts harm farmers and indigenous communities whose livelihoods depend on agricultural outputs. In 2023 the ISA (Instituto de Seguro Agropecuario) insured around 20 thousand hectares and made payments of about US\$3.43 million for agricultural insurance.<sup>13</sup> While this provided relief to affected farmers, it also highlighted the potential contingent liability that severe ENSO events may pose to the government. In addition, droughts also impact meat and milk production due to reductions in the quality and quantity of pastureland, while waterborne diseases due to water shortages may cause cattle to die due to illnesses.

**9. Effective management of water resources is a priority for Panama.** With increasing changes in precipitation and key economic sectors relying on reliable water supply, Panama will need effective water resource management. Agriculture, energy generation, transit through the Panama Canal, and the population at large crucially rely on a constant supply of fresh water. However, in the past the country has encountered worryingly low water levels of its two main reservoirs. Moreover, it is estimated that the distribution system loses over 40 percent of transported water due to leakages. To stabilize the supply of fresh water to businesses and households, it will be essential to build a third reservoir, repair and enhance the efficiency of the existing water distribution network and revise public water fees. These fees have remained at a low level since 1982.<sup>14</sup> The ACP is looking into measures to strengthen the water management system by seeking approval for the construction of a new reservoir and amendments to Law 20 of 2006.<sup>15</sup> In the meantime water storage and water saving measures are put in place to ensure water supply.

## D. Adapting to Climate Change

**10. Adapting to climate change by building structural, financial, and post-disaster resilience is a priority for Panama.** The growing recognition of Panama's sensitivity to climate change impacts underscores the urgency to adopt measures that safeguard communities, ecosystems, and economic

<sup>13</sup> ISA annual report 2023. Available at: [isa-m2023.pdf](#).

<sup>14</sup> See April 2020 Selected Issues Paper "Structural Policies in Panama: Background and Policy Recommendations" by Julia Faltermeier, IMF Country Report No. 20/125.

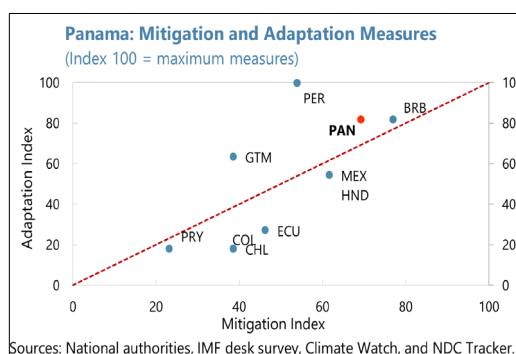
<sup>15</sup> For more information see: [Monthly Canal Operations Summary – March 2024](#).

interests. Panama's National Climate Change Policy 2050<sup>16</sup> sets out a vision to reduce GHG emissions, adapt to climate change, and enhance resilience across all sectors. It aims to tackle climate change challenges in Panama by 1) ensuring Panama remains a carbon sink, 2) transforming the Panamanian economy into one that is resilient and decarbonized, 3) transitioning to a net-zero emissions economy, and 4) reducing the climate and social vulnerability of the population. Panama continues to build resilience through various adaptation and mitigation strategies.<sup>17</sup> To build structural and post-disaster resilience Panama has been investing in resilient infrastructure, early warning systems, and disaster preparedness.

**11. Panama also faces transition risks arising directly from domestic measures and indirectly from structural changes in foreign economies needed to transition to a low-carbon economy to achieve climate sustainability goals.** Panama aims to be carbon neutral by 2050. To this end, Panama endorsed the Breakthrough Agenda<sup>18</sup> launched during COP26 that aims to globally speed up and synchronize green investments in clean technology to reach climate targets.

**12. Panama has committed itself to ambitious mitigation and adaptation targets<sup>19</sup> in its most recent Nationally Determined Contributions<sup>20</sup>**

**(NDC).** Among regional peers Panama is ranked high in both mitigation and adaptation measures, with a stronger focus on adaptation.<sup>21</sup> *Panama's main mitigation policy focuses on a 24 percent reduction in total emissions from the country's energy sector by 2050 (and 11.5 percent by 2030),<sup>22</sup> and the restoration of 50,000 hectares of forest by 2050 nationwide, compared to business as usual. In terms of adaptation,*



Panama's NDCs focus on the management of watersheds, marine-coastal systems, biodiversity, sustainable agriculture, livestock and aquaculture, resilient human settlements, public health, sustainable infrastructure and circular economy (UNDP, 2020). Adopting green Public Financial Management (PFM) practices would support the inclusion of

<sup>16</sup> On June 8, 2023, Panama adopted the National Climate Change Policy 2050, through the Executive Decree No. 3.

<sup>17</sup> Annex 10 of the Staff Report for the 2021 Article IV Consultation provides further details on mitigation and adaptation strategies.

<sup>18</sup> <https://ukcop26.org/cop26-world-leaders-summit-statement-on-the-breakthrough-agenda/>

<sup>19</sup> Panama also hosted the 2023 Latin America and the Caribbean Climate week aimed at regional peer learning and integration of climate policies.

<sup>20</sup> **Mitigation policies** refers to policies that help reduce emissions of greenhouse gases, such as a carbon tax, reduction in subsidies, feebates, emission trading systems, sectoral mitigation policies, cost effective nature-based solutions. **Adaptation policies** refer to efforts to adapt to the effects of climate change and minimize damages from climate-related natural disasters.

<sup>21</sup> Indices are based on information from national authorities, an IMF desk survey, Climate Watch, and NDC Tracker. Countries were asked 22 questions on adaptation and mitigation policies. A simple weighted average was computed based on yes and no answers. A country replying yes to all questions would receive an index of 100.

<sup>22</sup> In Panama's first NDCs it pledged to reduce total emissions of the energy sector by 12 percent by 2030.

climate priorities in all aspects of the budget cycle including budget preparation, budget execution, fiscal reporting as well as oversight and auditing. Risk assessments, which quantify the macroeconomic and fiscal impact of climate risks, would help identify green PFM reform priorities to enhance Panama's structural, financial, and post-disaster resilience. Conducted risk assessments should be regularly monitored and assessed in the budget and budget outturns according to internationally accepted standards.

**13. Panama's NDCs target the restoration of 50,000 hectares of forest by 2050 nationwide.**

The government is providing financial incentives for investments in reforestation projects<sup>23</sup> and to teak plantations. Reforestation projects will also be able to take part in Panama's voluntary carbon market.

**14. Panama is updating its NDC and its National Socioeconomic, Inclusive, Low Emission, and Climate Change Resilient Strategy to 2050.** This update, along with the issuance of the first biennial transparency report, aims to provide a comprehensive overview of Panama's climate action progress while steering the nation's vision toward inclusive economic development. The objective is to decrease emissions, enhance resilience, and promote social welfare.

**15. Panama enhanced its environmental regulations to address climate change concerns.**

The Environmental Impact Assessment (EIA) Decree has been revised to incorporate vulnerability and climate risk analysis, alongside carbon footprint calculations. This update enables the evaluation of emissions from both public and private investment projects, identification of mitigation measures, and assessment of their vulnerability.

## E. Building Resilience to Natural Disasters and Climate Change

### Financial Resilience

**16. Panama has secured financial support from international financial organizations to address climate change risks.** In 2022, The World Bank approved a US\$100 million Development Policy Loan (DPL) with Catastrophe Deferred Drawdown Option (Cat DDO),<sup>24</sup> which supports the strengthening of the technical and institutional capacity to manage disaster risks in Panama. Similarly, the Inter-American Development Bank (IDB) approved a US\$400 million Contingent Loan for Natural Disaster and Public Health Emergencies. In addition, Panama has renewed the parametric excess rainfall policy for 2022/2023 with Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company (CCRIF SPC), which provides coverage for excess rainfall.

**17. Panama also joined efforts with international organizations and multilateral development banks to fortify climate adaptation and resilience initiatives.** In 2023, the World

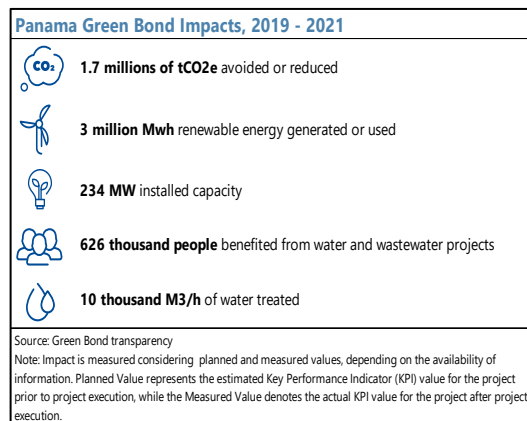
<sup>23</sup> Panama is offering permanent residency visas and citizenship programs for individuals investing at least \$100,000 in pre-approved reforestation projects.

<sup>24</sup> The World Bank Cat-DDO instrument enables countries to immediately access a prearranged amount of funding upon declaration of a State of Emergency due to a natural or climate-related hazard or health emergency. See [World Bank press release](#).

Bank approved a US\$150 million DPL to support Panama's sustainable growth and climate resilience plans. The World Bank approved a second Climate Resilience and Green Growth DPL for US\$200 million in 2024. Reforms support Panama's green energy transition, facilitate decarbonization and conservation of ecosystems, and foster inclusive low-carbon growth. Furthermore, the OPEC Fund for International Development and the Development Bank of Latin America (CAF) partnered to support the "Panama Support Program for the National Climate Change Policy" with a US\$440 million loan in 2023.<sup>25</sup> This comprehensive program seeks to support Panama's adaptation and resilience efforts against the impacts of climate change.

**18. Panama's sustainable finance market has seen significant progress.**

The country has become a major player in the green bond market, leading Central America and the Caribbean with 13 issuances in 2022. In 2023, the BNP contributed to this trend by successfully issuing a certified green bond valued at US\$200 million.<sup>26</sup> In addition, the financial sector keeps making efforts to mobilize capital toward more sustainable investments. In 2023, St. Georges Bank and Global Bank Corporation obtained loans of US\$10 million and US\$100 million, respectively, from IDB Invest. The loans aim to support the financing of sustainable projects and the expansion of their green portfolios. Furthermore, green investments have yielded substantial positive outcomes. According to the Green Bond Transparency platform, these investments have resulted in the generation of over 3 million units of renewable energy, a reduction of nearly 2 million tons of carbon emissions, and the provision of benefits to over 600,000 individuals through water waste projects. These findings highlight the tangible and direct impact that green investments can have on the country.



**19. To align financial flows with NDC targets, Panama has introduced its Sustainable Finance Taxonomy.** This tool, officially launched in March 2024, sets criteria for identifying economic activities that facilitate the transition to a sustainable, resilient, and inclusive economy within the country. It aims to mobilize private capital towards strategic investments essential for a sustainable economy, while also enhancing market transparency, strengthening financial flow monitoring, and designing policies that promote investments in key sectors for the country's transition.

**20. Panama is developing a National Carbon Market that will directly contribute to the country's emission targets.** The Ministry of the Environment (MiAMBIENTE) is currently engaged in the creation and implementation of the National Carbon Market of Panama (MNCP), a mechanism

<sup>25</sup> The OPEC Fund contributed a US\$120 million loan, while CAF pledged US\$320 million. See [OPEC Fund](#).

<sup>26</sup> The bond aims to reduce the debt costs associated with the Toabré Wind Farm (TBW) project, a wind park that supplies energy to businesses in Panama. See [Panama National Bank](#) and [Audax Renovables](#).

that will be designed to facilitate the exchange of emission credits among companies, governments, and organizations. The development of the MNCP has benefited from the collaboration of different organizations like the World Bank and IDB, who have provided technical assistance, financial support, and knowledge exchange.

**21. Building capacity to understand and monitor climate change risks within the financial system is crucial for enhancing financial sector resilience and safeguarding financial stability.**

Financial institutions in Panama face exposure to climate change through three main channels:

- **Physical risks:** arising from the vulnerability of financial institutions' assets to natural disasters and sectors sensitive to climate change.
- **Transition risks:** stemming from the decarbonization of the economy, leading to capital reallocations from high-carbon to low-carbon sectors. This shift may pose challenges for companies in high-carbon sectors, affecting their ability to meet debt obligations and potentially impacting financial institutions' asset positions.
- **Asset price volatility:** Resulting from climate change-induced conflicts and migrations, as highlighted by the World Bank in 2021.

## F. Structural Resilience

**22. Panama is taking strides towards more resilient human settlements.** In recent years, Panama initiated local efforts for resilient and low emissions. In 2016, Panama City participated in the “100 Resilient Cities Program” and created a successful action plan to improve urban resilience in the city. Similarly, some municipalities joined the “Global Covenant of Mayors for Climate and Energy”, committing to create projects that contribute to Panama’s emission targets. The forthcoming National Adaptation Plan (NAP) will expand on these efforts, formulating a comprehensive adaptation strategy for human settlements that integrates detailed climate measures into existing land use and urban planning regulations. This will reinforce the mandatory application of environmental guidelines nationwide and complement previous local actions.

**23. Similar improvements are underway to build resilient infrastructure.** In 2020, the government of Panama developed the “Climate change technical guideline for public investment in infrastructure projects.” The guidelines establish a methodology to incorporate climate risk and resilience criteria into the assessment of public infrastructure projects. In addition, the NAP includes the development of the adaptation plan for infrastructure to manage the effects of climate change risks. The specifics of the plan are still under development, but potential elements may involve sustainable transport and e-mobility. The initiative will be a steppingstone towards building more resilient infrastructure in Panama.

## G. Post-Disaster Resilience

**24. Panama's National Adaptation Plan will play a key role in increasing Panama’s adaptive capacity to natural disasters and climate change related impacts.** The US\$3 million



project is geared towards enhancing the planning, governance, and institutional coordination for adaptation efforts. It aims to build institutional capacity in the assessment of climate risks and vulnerabilities, facilitate better planning in priority sectors, such as water resources, agriculture and food security, infrastructure, human settlements, and health. The project is currently in its implementation phase, with the active involvement of government agencies and support from the Green Climate Fund.<sup>27</sup>

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<sup>27</sup> The project is funded by the Green Climate Fund and supported by the UN Environment Program (UNEP). See [UNEP](#).

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# FINANCIAL SAFETY NETS IN DOLLARIZED ECONOMIES<sup>1</sup>

## A. Introduction

**1. Panama has a large banking system that has served it well.** Panama's banking system developed and grew thanks to policies that enabled and attracted foreign investment in the sector (see Goldfajn and Olivares, 2001, and Moreno-Villalaz, 1999 and 2005). Foreign financial institutions drove the growth of the system since 1970, when a liberal banking law was adopted. Many international banking groups later left the market, which is now dominated by regional and Panamanian-owned financial groups. Panama's well-developed banking system helped it achieve the rapid growth it experienced in the 1970s and 1980s and since 2000. The system is large relative to the economy and, especially, relative to the government budget. At end-2023, the banking sector's assets were equivalent to 177 percent of GDP and 10 times the government's annual revenues.

**2. As a dollarized economy, Panama cannot issue currency to back up its banking system.** Panama uses the US dollar as official tender and does not have a central bank.<sup>2</sup> As a result, and unlike most other countries, it is unable to issue currency to provide liquidity to its banking system in case of need.

**3. Panama does not have deposit insurance or a lender of last resort.** In the context of the resource constraint posed by the inability to issue currency, Panama has opted against the introduction of deposit insurance or the creation of a lender of last resort (LOLR), which are key elements of the financial safety net for banks in other countries. In the view of the authorities, the absence of such a financial safety net helps ensure that banks behave prudently and reduces the risk of moral hazard. However, limited liquidity facilities have been established during some episodes of financial stress, most recently during the Pandemic.

**4. Panama has relied on self-insurance by banks to maintain financial stability.** In the absence of a financial safety net, Panamanian banks have maintained higher capital and liquidity buffers than is typical in other countries. Many of them have established mechanisms to obtain liquidity from abroad. This is facilitated by the fact that a significant part of the banking system is foreign-owned and has therefore access to intra-group support. However, by and large, the banking system is conservatively managed, funded mostly by deposits and focused on basic lending business. There are no derivatives markets and Panamanian banks have little to no off-balance sheet exposures. While this may imply economic inefficiencies and opportunity costs, the banking system

<sup>1</sup> This paper was prepared by Wim Fonteyne (WHD).

<sup>2</sup> Panama adopted the US Dollar when it became independent from Colombia in 1904, in the context of the agreement with the US on the construction of the Panama Canal. For a long time, it was the only sizeable economy (apart from the US itself) that had adopted the US dollar as its official currency. A local currency, the Balboa, formally exists but is issued only as coins. One Balboa equals one US Dollar.

has been profitable and stable. Having adjusted to the absence of a financial safety net, Panamanian banks have not sought the introduction of one.

**5. Panama has not experienced systemic banking crises, except for the conflict-related crisis of 1988-89.** That crisis was triggered when the US imposed sanctions on Panama amidst the breakdown in relations with the administration of Manuel Noriega. The sanctions were lifted after the US invasion, which led to the arrest of Noriega and the replacement of his administration. To cope with the crisis, Panama closed its banking system for 9 weeks. While this was highly disruptive to the economy, the system survived the crisis mostly intact. Only three banks were removed from the market. Outside this episode, Panama has seen numerous instances of banks leaving the market, voluntarily or involuntarily, without major spillover effects to the rest of the system.

**6. This paper surveys financial safety nets in other dollarized economies.** With dollarization being a key factor behind the choices Panama has made regarding its financial stability architecture, the paper looks into the design choices that have been made in other economies with similar constraints. The focus is on two key aspects of a typical financial safety net for banks: deposit insurance and lender of last resort arrangements. Deposit insurance aims to facilitate the orderly resolution or liquidation of a failed bank, while a LOLR facility aims to prevent solvent banks from failing due to temporary liquidity stresses.

## B. Dollarized Economies

**7. In this paper, “dollarized economy” refers to a jurisdiction that lacks monetary independence and therefore cannot freely issue its own currency.**<sup>3</sup> The focus is on jurisdictions, not only fully sovereign countries, that have legal autonomy and host a financial system, and on two categories of monetary arrangements:

- **Official dollarization:** a jurisdiction that does not issue its own currency and in which the currency of another jurisdiction is legal tender.
- **Currency board arrangement (CBA):** a jurisdiction that issues its own currency, but this currency’s value is fixed against another currency and backed up fully by foreign reserves (typically held in the currency of the anchor country)

There is a literature on financial stability, financial crises and financial crisis management in economies that are dollarized in the sense of foreign currency widely circulating and/or being used as a store of value alongside the domestic currency (e.g., Gulde et al., 2003, and Ize, Kiguel and Yeyati, 2005). Such economies are not considered here. In this paper, the term “anchor country” is used to refer to the country or other entity that issues the currency used by a dollarized economy or to which the currency of a dollarized economy is linked. Accordingly, we refer to the currency of the anchor country as the “anchor currency”.

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<sup>3</sup> Note that the definition used here differs from the IMF’s standard definition of a dollarized economy: a jurisdiction in which the currency of another jurisdiction is legal tender.

**8. There are quite a few dollarized economies.** In this survey, the following dollarized economies have been considered:

- In Latin America, Ecuador and El Salvador both abandoned their currency and adopted the US dollar as legal tender in 2000/2001. More recently, El Salvador also made the bitcoin legal tender.
- The European microstates Andorra, San Marino, Monaco and Vatican City use the euro. Liechtenstein uses the Swiss Franc. Luxembourg is a member of the euro area, but before the introduction of the euro, it was in a monetary union with Belgium.
- The British Crown Dependencies Guernsey, Jersey and the Isle of Man have currency board arrangements. They issue their own currency, but this currency is fully backed up by GBP reserves.
- British Overseas Territories have a variety of currency arrangements. Among them, Gibraltar has a CBA similar to the Crown Dependencies (as do St.-Helena and the Falkland Islands, which do not have a significant financial system). The Cayman Islands and Bermuda have currencies (respectively the Cayman Islands dollar and the Bermudan dollar) that are pegged to the US dollar through a CBA. The British Virgin Islands and Turks and Caicos Islands use the US dollar.
- Hong Kong SAR and Macao SAR have CBAs. The Hong Kong dollar is linked to the US dollar and the Macanese pataca is in turn linked to the Hong Kong dollar. Brunei has a CBA that links the Brunei dollar to the Singapore dollar.
- A number of economies that became autonomous in recent decades opted not to introduce a national currency but instead use the currency of another economy. In Europe, Montenegro and Kosovo unilaterally adopted the euro as legal tender. Timor-Leste adopted the US dollar. In the Pacific, the Marshall Islands, Micronesia and Palau continued to use the US dollar after gaining independence from the US. Nauru, Tuvalu and Kiribati use the Australian dollar and the Cook Islands and Niue use the New Zealand dollar.
- Bosnia and Herzegovina introduced its own currency (the convertible mark) that is fixed in value against the euro through a CBA. Bulgaria's currency (the lev) is also fixed to the euro through a CBA.

**9. Although these dollarized economies are quite diverse, there are common traits among subgroups of them.** These economies range from very small to quite large, they include some of the poorest and richest countries in the world, and they span the full spectrum of economic development. However, there are common traits among subgroups of them. Some stylized facts:

- Many are small economies. The smallest economies in the world are typically dollarized. This is the case for Vatican City, the world's smallest state with a surface area of 49 hectares and a population of 764 people, and all other small economies up to a certain size. This reflects the

fact that issuing a currency and maintaining an independent monetary policy requires a certain scale and capabilities. The smallest country in the world with its own currency and monetary policy is Tonga, with a population of about 100,000 people and GDP of just over US\$0.5 billion. It is followed by the Seychelles (population around 100,000 and GDP of about US\$1.5 billion) and Vanuatu (population around 300,000 and GDP of about US\$1.0 billion).

- Many dollarized economies have strong political, economic and military links with other countries, often neighboring countries and/or the anchor country. However, these links do not always coincide. For example, the British Overseas Territories in the Caribbean are politically linked to the UK but have the US dollar as anchor currency. Hong Kong SAR and Macao SAR are part of China but also have the US dollar as anchor currency.
- Most are open economies, both in terms of trade and capital flows.
- Many have large financial sectors relative to their economies, with assets that are often high multiples of GDP, and are net exporters of financial services. This reflects the fact that, as small jurisdictions, they can tailor their legislation and taxation to provide certain comparative advantages to financial intermediaries and thus establish themselves as international financial centers. Accordingly, in some of these economies, the financial sector generates a large part of GDP and is one of the biggest employers.
- Some dollarized economies that are international financial centers separate onshore from offshore banking, with the latter having some or all of specific licenses, regulatory and legislative frameworks, financial stability arrangements, and taxation regimes.
- Many dollarized economies have a central bank or a similar institution that fulfills central bank functions. Some, like Ecuador and El Salvador, abolished their currency but not their central bank. Others opted against introducing a currency but nonetheless decided to establish a central bank (e.g., Montenegro in 2001, Kosovo in 2008 and Timor Leste in 2011) or are considering doing so (Marshall Islands).
- Dollarized economies' financial sectors are often not very diversified. Some, like Andorra, have just a few large institutions.

## C. Deposit Insurance

**10. Deposit insurance aims to reduce the probability of bank runs and the economic impact of bank failures.** Bank runs can bring down even healthy banks, if depositors think that their deposits are at risk and, especially, if they think that this risk increases the longer they wait to withdraw them. Once depositors realize that a bank run is ongoing, it is rational for them to join it “before the money runs out”. Thus, bank failures may happen as self-fulfilling prophecies, regardless of the bank’s financial condition. Deposit insurance aims to reduce this risk by guaranteeing deposits up to a certain level. It also aims to reduce the economic impact of bank failures, by giving depositors of failed banks quick access to their insured deposits. This requires a certain

infrastructure, notably IT and interlinkages that give the deposit insurer the ability to quickly access and/or take over a bank's deposit databases. The existence of such an infrastructure is in and of itself of value in dealing with bank failures and financial crises.

**11. Deposit insurance requires resources.** Deposit insurance can only function and be credible if it has access to sufficient resources to pay out insured deposits in plausible scenarios of one or more banks failing. Many deposit insurance systems (DISs) build up funds to deal with potential future bank failures through regular fees paid by banks (ex ante funding). Others have the possibility to impose levies on surviving banks after the occurrence of a bank failure, to recover the cost of the pay-outs that have been made (ex-post funding). Often, deposit insurers have both options at their disposal. Beyond this, DISs need access to financing that can be mobilized quickly to deal with bank failures for which their available resources are insufficient. Such financing is normally provided by the government and/or the central bank (acting with government backing and/or on behalf of the government). In addition, but at a lesser scale, a DIS has certain operational costs that need to be covered, even if no bank failures happen and the system is never activated to make pay-outs. For banks, deposit insurance fees are a cost that they may be reluctant to pay. Bankers often see these fees as a sort of tax or even a cross-subsidy to smaller and riskier banks, thinking that their own customers will never be the beneficiaries of the DIS. Systemic, foreign-owned, and state-owned banks in particular may see deposit insurance as something that they do not need and will never benefit from.

**12. Dollarized economies are constrained in their ability to provide a financial backstop for a deposit insurance system.** The inability to issue currency (in the amounts needed) means that dollarized economies must tap on readily available assets or borrow when faced with a situation in which the deposit insurance system needs financing to make pay-outs. In the midst of a crisis, possibilities to borrow may be limited, both domestically and abroad.

**13. Deposit insurance carries risks of moral hazard.** Knowing that their deposits are insured, depositors may be less cautious in selecting a bank. They may, for example, place their money at banks that offer high interest rates, without paying attention to the solidity and reputation of these banks. From the side of banks, moral hazard may arise when bankers consider that they can take on greater risks given the availability of a large pool of undiscerning depositors. The counterargument is that the risk of moral hazard can be greatly reduced through proper design of the deposit insurance system and other mitigating measures (notably, bank regulation and supervision).

**14. DISs can take on additional functions of bank crisis management and resolution.** Some systems are limited to the most basic deposit insurance functions of collecting funds and paying out insured deposits when needed ("pay-box function"). However, in many cases, they take on a greater role in bank failures, such as acting as administrator and/or liquidator. The deposit insurance system may be the resolution agent, tasked with managing the entire process from intervening a bank to resolving it and liquidating the remaining estate. Some deposit insurance systems have the possibility to provide resolution financing, i.e., temporary funding provided to a failing bank in order to facilitate the resolution process and reduce its eventual overall cost.



**15. Most dollarized economies have a deposit insurance system.** Of the dollarized economies surveyed in this paper, only the Cayman Islands, the Marshall Islands, Palau, the Turks and Caicos Islands, Timor-Leste, Vatican City, Tuvalu, Kiribati, the Cook Islands and Niue do not have a DIS. Monaco is a special case. It does not have its own deposit insurance system, but banks that operate in Monaco must be licensed by the French bank regulator, in addition to being licensed by Monaco's Financial Activities Supervisory Commission. They are regulated and supervised by the French banking authorities and are part of the French financial safety net, including deposit insurance and resolution arrangements. The Federated States of Micronesia have a similar arrangement. Their only domestic bank, the Bank of the Federated States of Micronesia, is supervised and insured by the FDIC.

**16. There has been a trend toward introducing DISs.** The number DISs in the world has been going up steadily since the 1930s. Among dollarized economies, three decades ago, almost none had a DIS in place. Now, most do (see Table 1).

**17. DISs rarely have the capacity to cover the failure of the largest banks in the system.** DISs are generally considered unsuitable to deal with the failure of a systemic bank, although they can be part of the solution for such a failure. Most of the DISs in dollarized economies have ex ante funding (Table 1). However, the accumulated funds tend to be small relative to the insured risks, in part because most of these DISs were established relatively recently. Ecuador is an exception. Its DIS has accumulated reserves equivalent to 17 percent of insured bank deposits and 7.5 percent of insured deposits at credit cooperatives. Some DISs have an overall cap on how much they will pay out in a bank failure event, or even during a certain period of time. If total insured losses exceed the cap, depositors are compensated proportionally, i.e., for an amount lower than the formal insurance coverage limit. While this could raise credibility issues, it helps safeguard the balance sheet of the DIS and public finances.

## D. Lender of Last Resort Arrangements

**18. A Lender of Last Resort provides Emergency Liquidity Assistance,** which can be defined as follows:

*Emergency Liquidity Assistance (ELA) = The provision of liquidity as a last resort to solvent and viable banks facing temporary liquidity stress, outside of normal monetary policy operations, to preserve financial stability.*

**19. Ideally, ELA is provided at a high interest rate, against adequate collateral, for a relatively short time, and under strict conditions.** In practice, during crisis situations, authorities have often resorted to providing ELA that does not meet these criteria (e.g., without adequate collateral, to banks whose solvency and viability is in doubt, ...), thus putting public finances significantly at risk. ELA should be, but is not always, distinguished from the regular liquidity facilities that central banks typically offer (e.g., standing facilities).

Table 1. Panama: Deposit Insurance Systems in Dollarized Economies

	Intro	Mand <sup>1/</sup>	Admin <sup>2/</sup>	Mandate	# Inst. <sup>3/</sup>	Cov (US\$) <sup>4/</sup>	Cov (EUR) <sup>4/</sup>	Funding	Rate <sup>5/</sup>	Adm <sup>6/</sup>	Liq <sup>7/</sup>	Law(s)
<b>Andorra</b>	2011	Yes	Gov	Pay-box	3		100,000	Ex Ante	Flat	No	No	
<b>Bermuda</b>	2011	Yes	Gov	Pay-box	5	25,000		Ex Ante	Flat	No	No	IL / SRR
<b>Bosnia and Herzegovina</b>	2002	Yes	Gov	Pay-box +	22	28,934		Ex Ante	Flat	No	No	IL
<b>British Virgin Islands</b>	2024	Yes	Gov	Pay-box +				Both	Flat			
<b>Brunei Darussalam</b>	2011	Yes	Gov	Pay-box		37,600		Ex Ante	Flat			
<b>Bulgaria</b>	1999	Yes	Gov	Pay-box +	19		100,000	Ex Ante	Diff	No	No	IL / SRR
<b>Ecuador</b>	2009	Yes	Gov	Pay-box +	516	32,000		Both	Diff	No	No	IL / SRR
<b>El Salvador</b>	1999	Yes	Gov	Pay-box +	21	11,951		Ex Ante	Diff	No	No	SRR
<b>Gibraltar</b>	1994	Yes	Gov	Pay-box	8	135,318		Both	Diff	No	No	SRR
<b>Guernsey</b>	2008	Yes	Private	Pay-box	20	67,659		Ex Post	Diff	No	No	SRR
<b>Hong Kong SAR</b>	2004	Yes	Private	Pay-box	154	64,219		Ex Ante	Diff	No	No	SRR
<b>Isle of Man</b>	1991	Yes	Gov	Pay-box	9	67,659		Ex Post	Flat	No	No	IL / SRR
<b>Jersey</b>	2009	Yes	Gov	Pay-box	19	67,659		Ex Post	Flat	No	No	
<b>Kosovo</b>	2011	Yes	Gov	Pay-box +	10		5,000	Both	Diff	No	No	SRR
<b>Liechtenstein</b>	2001	Yes	Private	Pay-box +	14	109,685		Both	Diff	No	No	IL / SRR
<b>Macao SAR</b>	2012	Yes	Gov	Pay-box	32	62,236		Ex Ante	Flat	No	No	IL
<b>Montenegro</b>	2004	Yes	CB	Pay-box +	11		50,000	Ex Ante	Diff	No	No	IL / SRR
<b>Palestine</b>	2013	Yes	Private	Pay-box +	13	20,000		Ex Ante	Flat	Yes	Yes	IL / SRR
<b>San Marino</b>	2011	Yes	CB	Loss Min	4		100,000	Both	Flat	No	No	IL / SRR

Sources: IADI, Demirgüç-Kunt, Kane and Laeven (2014), and IMF staff calculations.

Notes: Green indicates dollarized economies, orange indicates countries with a CBA; CB = central bank; Gov = Government; SRR = Special Resolution Regime; IL = Insolvency / Bankruptcy Law.

1/ Mandatory or not.

2/ Administrator (CB = Central Bank; Gov = Government; Private = Private Sector).

3/ Number of covered institutions.

4/ Coverage.

5/ Contribution rate - flat or differentiated.

6/ Possibility to act as administrator or conservator.

7/ Possibility to act as resolution agency / liquidator.

**20. There is less transparency about LOLR arrangements than about deposit insurance.** This is often by design: communicating about deposit insurance is key to achieving its intended effect of reassuring the public and preventing panic, whereas regulators often prefer to maintain a certain degree of ambiguity (“constructive ambiguity”) about whether ELA (or other forms of assistance) would be made available to troubled banks. The logic is that this ambiguity reduces the risk of moral hazard and makes bankers more prudent.

**21. Dollarized economies face a binding resource constraint in their ability to provide ELA.** In a typical economy, ELA is provided by the central bank. As the issuer of the national currency, the central bank can in principle create unlimited amounts of liquidity<sup>4</sup>. In dollarized economies, this possibility does not exist. ELA can only be provided to the extent that foreign currency can be made available, either from existing assets or through borrowing. Both options have their limitations and may put public finances at risk, as fiscal resources will typically be needed to provide or mobilize the necessary money. It may be particularly difficult to borrow in times of financial stress. This resource constraint adds to the importance of strictly enforcing ELA conditions and funding plans agreed with recipient banks.

**22. Some dollarized economies have put in place LOLR-like facilities.** For example:

- El Salvador’s central bank imposes reserve requirements on banks. These reserves can be used to provide liquidity to banks in need, as can the country’s international reserves. In addition, El Salvador has obtained a credit line from the Central American Bank for Economic Integration (CABEI) for the explicit purpose of being able to provide liquidity to its banks.
- Ecuador’s central bank does not offer liquidity facilities, nor does it provide an ELA facility. However, banks pool a part of their liquidity (currently amounting to 3 percent of assets) in a private liquidity fund from which they can borrow, subject to certain conditions and limitations. The central bank also has access to liquidity facilities with the Federal Reserve Bank of New York, the BIS, and the Latin American Reserve Fund (FLAR) that can be used if needed in case of dollar liquidity shortages.
- Andorra is building up international reserves and recently became a member of the IMF, in large part in order to have access to resources if needed to support its banking system.
- Liechtenstein’s banks have access to the liquidity facilities of the Swiss National Bank (SNB). However, it is unclear whether this access would extend to ELA. Liechtenstein is seeking IMF membership to have access to additional resources, as did Andorra.
- Similarly to El Salvador, San Marino has a central bank that imposes reserve requirements on banks. These reserves, together with the country’s international reserves, constitute a pool of foreign currency that can be used to provide liquidity to banks.

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<sup>4</sup> In practice, this ability is constrained by the macrofinancial consequences of excessive money creation.

**23. The capacity of these LOLR-like facilities is limited by the amounts of foreign exchange they are able to mobilize from the sources on which they rely.** The examples above show that there is a variety of sources that could be tapped:

- International reserves<sup>5</sup>
- Reserve requirements
- Pooled liquidity
- Credit lines
- Swap arrangements
- The government budget (directly or indirectly, as a guarantor)
- The IMF

## E. Bank Failures in Dollarized Economies

**24. When looking into bank failures in dollarized economies, it is notable that such instances are relatively rare.** Although the sample size is relatively small, perhaps this reflects the fact that banks adapt to the limitations of the financial safety nets in these economies and behave more prudently than their peers in other economies. It also reflects the fact that many banks in dollarized economies are part of international banking groups that can support them and ensure an orderly withdrawal from the market if such a decision is made.

**25. Lessons can be drawn from selected instances:**

- ***Caledonian Bank*** in the Cayman Islands was a small bank with an international customer base. Its assets were held mostly in the US, where it was named a defendant in a lawsuit brought by the SEC over securities fraud. Although the SEC's claim was only for US\$7 million, it obtained a freeze on all the bank's US assets. The assets were mostly released shortly afterwards, as a US judge ruled that the SEC's actions were disproportionate, but by then Caledonian Bank was already beyond saving. In the absence of deposit insurance and a LOLR, it had quickly collapsed as the result of a bank run. Depositors mostly recovered their money in the course of the liquidation, because the bank was financially sound, but this was a slow process.
- ***TCI Bank*** was the only home-grown bank in the Turks and Caicos Islands. Its assets amounted to about 12 percent of GDP, funded mostly with local deposits. It had lent heavily to real estate projects, in particular in the tourism sector. When the Global Financial Crisis (GFC) hit, some of these loans became non-performing. This triggered a crisis of confidence and deposits outflows. In the absence of a financial safety net and with a hoped-for bailout by the UK failing to materialize, the bank could not be saved and was put into liquidation. Depositors recovered about 40 cents on the dollar in the course of the liquidation process.

<sup>5</sup> The main source of international reserves in dollarized economies is government deposits held in the banking system (or in the central bank, where a central bank exists).

- **Banca Privada d'Andorra (BPA)** was implicated in the Pandora Papers and named by the US Treasury as “a foreign financial institution of primary money laundering concern”. This triggered deposit outflows that forced the Andorran authorities to intervene the bank. The bank was too large to be saved by the Andorran State and was put into liquidation. Its good assets and “good depositors”, who had been cleared by a vetting process, were placed in a bridge bank that was sold. As the bank was solvent, the good assets were sufficient to cover the “good” deposits and Andorra’s deposit insurance scheme was not activated. However, a special law had to be adopted in short order to establish a bank resolution agency and a resolution regime that made the bridge bank operation possible. BPA’s Spanish and Panamanian subsidiaries were liquidated by the respective host country authorities.
- **Bank for Credit and Commerce International (BCCI)** was a large international bank registered in Luxembourg, under a holding company established in Luxembourg. Its sister bank BCCI Overseas, owned by the same holding company, was registered in the Cayman Islands. This structure was designed to escape effective consolidated supervision (Baxter and de Saram, 1997). The group engaged in extensive fraud, deliberately making use of poorly-regulated jurisdictions. When the fraud became apparent, the banking group was intervened in coordinated actions by authorities (regulators and law enforcement) in the key jurisdictions where it was active (US, UK, ..). The Luxembourg and Cayman Islands authorities had little influence over these developments. Luxembourg’s banking system had established a deposit co-insurance scheme two years before BCCI’s failure. This being the first time it was activated, the scheme paid out partial compensation to BCCI’s Luxembourg depositors, the cost of which was recovered through ex-post levies on Luxembourg’s other banks. BCCI had only a small banking presence in Luxembourg. The vast majority of the losses (estimated at around US\$10 billion) materialized in other jurisdictions, many of which did not have deposit insurance.
- **Pacific Savings Bank (PSB)** was the oldest domestic bank in the Republic of Palau. It had grown, alongside other domestic banks, in an environment where banks were essentially unregulated. It failed fraudulently in 2006. In the absence of deposit insurance, depositors had to wait until 2010 to start receiving partial compensation. Following this, almost all bank deposits in Palau migrated to branches of FDIC-insured US banks that were present in Palau.

**26. At a country level, the experience of San Marino is instructive.** San Marino’s banking system developed quickly in the 2000s by attracting deposits from Italian customers, offering tax advantages and banking secrecy. The funds that were raised were mostly invested in Italian securities. Between 2000 and 2008, the number of banks in San Marino rose from 4 to 12 and the banking system’s assets grew to 9 times GDP. This business model proved unsustainable. Starting in 2008, the banking system was hit by a number of shocks: the GFC, a crackdown on tax evasion in Italy and Europe, a critical Moneyval report, blacklisting by Italy as a tax haven, grey-listing by the OECD, a tax amnesty in Italy that encouraged the return of money placed abroad, and Italian criminal investigations against Sammarinese bank managers. This triggered rapid and large deposit outflows, in particular by Italian depositors. In late-2009 / early-2010, deposits in the banking system dropped by about EUR 3 billion, from almost EUR 8 billion to around EUR 5 billion. The banks were able to cope with these outflows by selling their holdings of Italian securities. The banking crisis

triggered a deep economic crisis, with GDP declining about 30 percent between 2009 and 2014. San Marino's GDP has still not recovered to its 2009 level. The largest and oldest bank in the country, Cassa di Risparmio della Repubblica di San Marino (CRSM) had invested heavily in the Italian Delta Group, which failed fraudulently. CRSM eventually was bailed out by the Sammarinese State, resulting in a large increase in government debt.

## F. Conclusions

- 27. There is a range of options to design DISs and LOLR arrangements in dollarized economies, but the resource constraint stemming from the inability to issue currency is binding and needs to be taken into account.** Most dollarized economies have a limited DIS and maintain options to provide some support to banks if needed. While these arrangements offer benefits, the inability to issue currency remains a binding constraint on the financial safety net.
- 28. Resources for dealing with a financial crisis need to be, as much as possible, identified and secured in good times.** Ideally, these resources need to be sufficiently large to deal with plausible crisis scenarios, taking into account the size of the financial system and the largest banks. However, this may not be possible for dollarized economies. Public resources should be a last resort and should be used only with strong safeguards. In a system of layered defenses, banks' own liquidity and solvency buffers are the first line of defense. Banks that are part of international banking groups should be dealt with, first and foremost, at the parent level. It should not be up to host countries to support subsidiaries of international banks. Pooled liquidity from banks, international credit lines, fiscal buffers, and IMF facilities can all be sources of funds to deal with crisis situations.
- 29. When faced with the failure of a large bank, dollarized economies often have limited options.** Rescuing the bank may not be possible, even if it is systemic. Close ties with other economies (including the anchor country) cannot be counted upon to result in outside help to deal with a banking problem. Dollarized economies also face higher and specific risks of banking problems resulting in long-term damage to public finances. All of this argues for policies and frameworks that reduce the probability and cost of potential bank failures.
- 30. Banking problems often result not from poor financials, but from legal, AML/CFT, fraud or reputational problems.** There is a lot that can be done to reduce the risk of such problems causing a financial crisis: best practice regulation and supervision, including on AML/CFT; measures that reduce the risk of fraud; ensuring that banks have sound and sustainable business models; maintaining constructive relations with partner countries (in particular, the anchor country) and managing reputational risks.
- 31. Various measures can help reduce the cost of a crisis when one materializes.** Early intervention seeks to ensure that a troubled bank is intervened while it still has a positive value. Recovery and resolution plans facilitate the recovery or orderly wind-down of banks. Bail-in instruments can absorb losses. Finally, an efficient "least-cost" resolution framework can help maximize the recovery value of a failed bank.

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## Annex I. Case Studies

### A. Latin America

#### Ecuador

**1. Ecuador abandoned its currency, the sucre, in 2000 and adopted the US dollar as legal tender.** This was done unilaterally, without agreement with the US. However, Ecuador kept its central bank, the Banco Central del Ecuador (BCE). Ecuador's financial system is dominated by banks, but credit cooperatives are also important. Deposit-taking institutions held assets totaling US\$92.3 billion at end-2023, equivalent to 77 percent of GDP. Credit cooperatives accounted for 20 percent of the financial system. Banks are regulated by the Superintendencia de Bancos.<sup>1</sup>

**2. Ecuador has a deposit insurance scheme and a private Liquidity Fund.** The deposit insurance scheme, COSEDE,<sup>2</sup> was established in 2008. It insures deposits in banks as well as in credit cooperatives. Its current coverage is US\$32,000. The scheme is funded ex ante but can also raise funds with extraordinary contributions from surviving banks. It maintains separate reserves for banks and credit cooperatives. These reserves are sizeable, having reached 17 percent of insured deposits for banks and 7.5 percent of insured deposits for credit cooperatives (US\$2.753 billion and US\$897 million respectively, at end-2023). Taken together, this amounts to about 3 percent of GDP. COSEDE can provide resolution funding in addition to compensating depositors. The BCE does not offer liquidity facilities, nor does it provide an ELA facility. However, it has access to liquidity facilities with the Federal Reserve Bank of New York, the BIS and FLAR,<sup>3</sup> which can be used if needed in case of dollar liquidity shortages. A private Liquidity Fund has been established in which banks pool funds, which currently amount to about 3 percent of the system's total assets. Banks can borrow from this pool under certain conditions. Ecuador underwent an FSAP in 2023.<sup>4</sup>

#### El Salvador

**3. El Salvador abandoned its currency, the colón, around the same time as Ecuador, unilaterally adopting the US dollar as legal tender in 2001.** More recently, it also adopted the Bitcoin as legal tender. Like Ecuador, El Salvador kept its central bank, the Banco Central de Reservas (BCR).<sup>5</sup> El Salvador's financial system consists of 13 banks, 4 savings and loans societies, and 6 cooperative banks. They are regulated and supervised by the Superintendencia del Sistema Financiero. The banks had total assets of US\$ 22.6 billion as of end-March 2023.

<sup>1</sup> <https://www.superbancos.gob.ec/bancos/>

<sup>2</sup> <https://www.cosedec.gob.ec/>

<sup>3</sup> <https://flar.com/en/home/>

<sup>4</sup> <https://www.imf.org/en/Publications/CR/Issues/2023/09/21/Ecuador-Financial-System-Stability-Assessment-539348>

<sup>5</sup> <https://www.bcr.gob.sv/>

**4. El Salvador established a deposit insurance scheme, the Instituta de Garantía de Depósitos,<sup>6</sup> in 1999.** Its current coverage limit is US\$11,951. The system is funded ex ante, with a current annual fee of 0.10 percent of total deposits, and had accumulated reserves of US\$228.4 million as of February 2022, equivalent to 5.3 percent of guaranteed deposits and 0.7 percent of GDP.

**5. The BCR maintains liquidity facilities and can act as a LOLR.** It maintains a regime of required reserves, which provides a pool of resources that can be used for liquidity operations. In addition, it can tap the country's international reserves and has a US\$200 million credit line with the Central American Bank for Economic Integration (CABEI) that is specifically intended for LOLR purposes.

## B. European Microstates

**6. Europe has five microstates that do not have their own currencies.** These microstates are not members of the EU. Nonetheless, four of them (Andorra, San Marino, Monaco, and Vatican City) use the euro. In agreement with the EU, they can issue euro coins but not notes. The fifth, Liechtenstein, uses the Swiss franc. All these microstates are to a significant degree economically integrated with one or more neighboring countries. They have large financial sectors relative to their economies and are major exporters of financial services.

### Andorra

**7. Andorra has a large banking system that specializes in private banking and wealth management.** The system's assets amount to about 600 percent of GDP and assets under management (mostly off balance sheet) to about 23 times GDP (see Lariau, 2022). The financial sector contributes about 14 percent to GDP and employs about 5 percent of the workforce.<sup>7</sup> The system comprises three banking groups that are owned by Andorran families. They have established a network of subsidiaries abroad. Deposits from nonresidents make up a large part of the banking system's funding. The banks maintain capital and liquidity buffers that are well above EU averages. Andorran banks have traditionally maintained high levels of liquidity and capital as a way to signal their capacity to overcome problems in the absence of regulation and supervision.<sup>8</sup>

**8. Andorra's regulatory framework and financial safety net evolved toward EU standards as it went through a process of regulatory convergence and a major bank failure.** Andorra has been in a customs union with the EU since 1991 and completed negotiations on an Association Agreement in December 2023 (along with San Marino).<sup>9</sup> This helped foster a transition from what

<sup>6</sup> <http://www.idg.gob.sv>

<sup>7</sup> The Andorran banking association publishes annual reports on the financial system and applicable regulations. See <https://www.andorranbanking.ad/>

<sup>8</sup> <https://www.imf.org/en/Publications/CR/Issues/2016/12/31/Andorra-Assessment-of-Financial-Sector-Supervision-and-Regulation-20452>

<sup>9</sup> [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_6522](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6522)

had been an unregulated system to one based on EU standards. Andorra's banking system was self-regulated until 1993, when the Institut Nacional Andorrà de Finances (INAF) was established as regulator. In 2011, Andorra established a deposit insurance scheme, the Andorran Deposit Guarantee Fund (FAGADI),<sup>10</sup> and an investment insurance scheme, the Andorran Investment Guarantee Fund (SAGI).

**9. In 2015, Banca Privada d'Andorra (BPA) failed.** The BPA group had worldwide assets of over EUR 7 billion and subsidiaries in several countries, including Banco Madrid in Spain and Banca Privada d'Andorra (Panamá), S.A. in Panama. In 2015, it was implicated by the Pandora Papers and the US Treasury (FinCEN) named it "a foreign financial institution of primary money laundering concern".<sup>11</sup> The FinCEN announcement immediately triggered deposit outflows from BPA and its subsidiaries. The Andorran authorities (INAF) moved quickly to intervene the parent bank and limited deposit withdrawals to EUR 2,500 per depositor per week. With assets of EUR 3 billion versus a government budget of EUR 400 million per year, the bank was too large to be rescued by the Andorran State. Andorra did not have a suitable bank resolution framework in place to deal with the situation. Therefore, a special law was adopted, based on EU standards, to establish a bank resolution agency (the State Agency for the Resolution of Banking Entities, AREB) and a Fund for the Resolution of Banking Institutions (FAREB), restructure the bank, and separate its good from its bad assets.<sup>12</sup> <sup>13</sup> The good assets and those depositors who had been deemed proper after a vetting process (about 93 percent of clients) were transferred to a bridge bank, Vall Banc, which was recapitalized by FAREB for EUR 30 million and sold to J.C. Flowers for EUR 29 million. What was left of BPA was liquidated.<sup>14</sup> Andorra's deposit insurance scheme was not activated, given that the bank had been solvent and the value of the good assets was sufficient to cover the "good" deposits. The Spanish authorities liquidated Banco Madrid. The subsidiary in Panama was intervened by the SBP in March 2015 and liquidated in 2017. J.C. Flowers eventually sold Vall Banc to another Andorran bank, Crèdit Andorrà, in 2021.

**10. Following BPA's failure, Andorra further reformed its financial stability arrangements.**

In 2018, INAF became the Andorran Financial Authority (AFA),<sup>15</sup> and the legislation on FAGADI and SAGI was updated to bring it in line with the latest EU standards. FAGADI now collects annual contributions from the member banks. It aims to build up ex-ante financial resources of 0.8 percent of guaranteed deposits by end-June 2024, and an additional 0.8 percent during the subsequent 8 years. In line with EU standards, coverage is set at EUR 100,000. The law sets an upper limit of EUR 200 million on the total claims that FAGADI may reimburse. While Andorra remains without formal

<sup>10</sup> <https://www.afa.ad/en/fons-de-garantia/fons-andorra-de-garantia-de-diposits-fagadi>

<sup>11</sup> <https://www.ice.gov/news/releases/fincen-names-banca-privada-dandorra-foreign-financial-institution-primary-money>

<sup>12</sup> <https://all-andorra.com/inaf-bpa/>

<sup>13</sup> <https://www.govinfo.gov/content/pkg/FR-2016-03-04/pdf/2016-04767.pdf>

<sup>14</sup> <https://www.fitchratings.com/research/banks/fitch-affirms-banca-privada-d-andorra-withdraws-ratings-27-04-2016>

<sup>15</sup> <https://www.afa.ad/en>

LOLR, the authorities are building up international reserves and Andorra joined the IMF in 2020, in part to have access to additional financial resources in times of need. In a recent report,<sup>16</sup> Fitch raised the possibility of Andorran banks gaining access to the ECB's liquidity instruments as a result of the Association Agreement. It also commented: "*Andorra's new scheme to establish and maintain foreign-exchange reserves as a potential source of emergency liquidity for banks improves banking sector resilience to liquidity shocks, although we do not see this as equivalent to a lender of last resort.*"

## San Marino

**11. San Marino uses the euro but has its own central bank.** San Marino is not a member of the EU but uses the euro as its legal tender. In agreement with the EU, it issues euro coins. It is in a customs union with Italy and finalized negotiations on an Association Agreement with the EU in December-2023 (alongside Andorra). It has a central bank, the *Banca Centrale della Repubblica di San Marino*,<sup>17</sup> that holds reserves and has a LOLR function. The reserves are built, inter alia, by a reserve requirement imposed on banks. San Marino established a deposit insurance system in 2011.

**12. San Marino used to have a large banking system that catered significantly to foreign (almost exclusively Italian) clients.** Financial services were a key part of the economy. The banking system's business model was based on collecting deposits from Italian customers and placing these funds in Italian securities. Deposits were attracted based on tax advantages and bank secrecy. However, the banking system became increasingly crowded in the early 2000's, with the number of banks increasing from 4 in 2000 to 10 in 2003 and further to 12 in 2008. At the same time, a large number of non-bank financial institutions started operations and increased competitive pressures on the banks. As a result, banks' profitability started to deteriorate (see Anayiotos, 2004).

**13. San Marino's financial system was caught up in a multi-dimensional storm in 2008-2010.** The GFC, a tax amnesty in Italy in 2009-10, blacklisting by Italy as a tax haven, a critical Moneyval report, grey-listing by the OECD, Italian criminal investigations against top managers of Sammarinese banks, the intervention in Italy's Delta Group that was majority-owned by SM's largest bank, and a general crisis in relations with Italy combined to trigger a drawn-out financial crisis starting in 2008. Non-resident bank deposits declined by 60 percent during 2009-2011. Nonbank financial companies also saw a severe decline in business, with the fiduciary business in particular disappearing almost entirely. Banks were able to cope with the deposit outflows by selling off their securities portfolios, but their balance sheets shrunk significantly, profits dwindled or turned into losses, and NPLs rose as San Marino's economy went through a deep recession. By 2015, over half the loan portfolio to customers was non-performing and the stock of NPLs reached 140 percent of GDP (Giustiniani and Stetsenko, 2016).

**14. As a result, the banking system shrunk substantially.** The number of banks declined from 12 to four and the banking system's total assets decreased from about EUR 11.5 billion at end-June 2009, equivalent to 9 times GDP, to just over EUR 4 billion at end-2022. The decline was driven by

<sup>16</sup> <https://www.fitchratings.com/research/banks/fitch-affirms-credit-andorra-at-bbb-outlook-stable-15-09-2023>

<sup>17</sup> <https://www.bcsn.sm/site/en/home.html>

the departure of non-resident depositors as well as non-resident bank owners. Of the remaining four banks, only one is majority foreign-owned.

**15. San Marino's largest bank was bailed out by the government.** Cassa di Risparmio della Repubblica di San Marino (CRSM), the largest and oldest bank with assets equivalent to 300 percent of GDP at end-2009, suffered heavy losses and needed to be recapitalized. Part of its losses stemmed from a majority equity stake in Italy's Delta Group, which was put under special administration by the Italian authorities in 2009 for AML violations and subsequently wound down. CRSM booked a large loss in 2016, amounting to EUR 534 million (equivalent to about 30 percent of San Marino's GDP). The bank was bailed out by the government, for an amount equivalent to 36 percent of GDP, and was allowed to spread its loss out over 25 years. As a result, San Marino's public debt went up from about 20 percent of GDP to over 50 percent (Hansen and Meng, 2018).

## Monaco

**16. Monaco's credit institutions are covered by the French financial safety net.** The Monégasque banking system comprises 15 branches of foreign banks and 12 locally-registered credit institutions. Credit institutions registered in Monaco need to be licensed both by the local regulator CCAF (Commission de Contrôle des Activités Financières, Financial Activities Supervisory Commission)<sup>18</sup> and by the French bank regulator (Autorité de Contrôle Prudentiel et de Résolution, ACPR). They are members of the French deposit insurance system Fonds de Garantie des Dépôts et de Résolution (FGDR). The ACPR is also the resolution authority.

## Vatican City

**17. Vatican City, the smallest country in the world, has one bank-like financial institution.** Vatican City uses the euro and is in a customs union with Italy. Its financial institution, the Institute for the Works of Religion (IOR, commonly referred to as the "Vatican Bank") had assets of EUR2.8 billion and deposits of EUR1.8 billion as of end-2022. Following several scandals, Pope Benedict XVI established a financial regulator in 2010, the Supervisory and Financial Information Authority (ASIF),<sup>19</sup> which oversees the IOR. There is no deposit insurance or LOLR in Vatican City.

## Liechtenstein

**18. Liechtenstein has a customs and monetary union with Switzerland and has officially adopted the Swiss Franc (CHF) as its currency.** Monetary policy is therefore conducted by the Swiss National Bank (SNB). The financial regulator is the Financial Markets Authority (FMA).<sup>20</sup> Liechtenstein is a member of the European Economic Area (EEA) and the European Free Trade Association (EFTA). It does not have a central bank, but majority State-owned Liechtensteinische Landesbank AG fulfills certain tasks for the State.<sup>21</sup> Liechtenstein has 12 banks with total assets

<sup>18</sup> <https://ccaf.mc/en/>

<sup>19</sup> <https://www.aif.va/ENG/Home.aspx>

<sup>20</sup> <https://www.fma-li.li/en/>

<sup>21</sup> <https://llb.li/en>

under management of CHF 411.4 billion (about 7,000 percent of GDP) as of end-2022. The banking system specializes mainly in private banking and wealth management. The financial sector is estimated to contribute about 21 percent to GDP.<sup>22</sup>

**19. Liechtenstein has a deposit insurance system but no full-fledged lender of last resort.**

Deposit insurance is provided by the Deposit Guarantee and Investor Compensation Foundation PCC (*Einlagensicherungs- und Anlegerentschädigungs-Stiftung SV, EAS*).<sup>23</sup> It insures deposits up to CHF100,000 and investor claims up to CHF30,000. As of end-2022, insured deposits amounted to CHF 5.3 billion and insured investments to CHF 1.5 billion. The foundation is set up as a core and four cells, each covering a different type of institutions: banks, investment firms, asset managers and UCITS management companies and AIFMs. There is no liability between the cells. If funds are insufficient for a payout event, the EAS can borrow or issue a special levy. Although the system has ex-ante funding, the accumulated funds are small. Liechtenstein's banks have access to the SNB's funding facilities on the same terms as Swiss banks do. However, SNB guidelines suggest that it may restrict their access to ELA. As such, Liechtenstein does not have a full-fledged LOLR. It seeks to become a member of the IMF to have access to additional financial resources in certain circumstances<sup>24</sup>. The FMA is the Resolution Authority. It has introduced a bail-in framework to limit the cost of bank resolutions. The EAS was activated in March 2024 for the bankruptcy of Sora Bank.<sup>25</sup>

## C. Other Europe

### Luxembourg

**20. Prior to the introduction of the euro, Luxembourg was in a monetary union with Belgium.** While generally not considered a microstate, Luxembourg used to have a lot in common with the European microstates discussed above. It was a small country with a large financial sector that did not have a currency of its own. It was economically closely integrated with a neighboring country (Belgium), with which it had been in an economic and monetary union since 1922. It did not have a central bank, but the National Bank of Belgium maintained an office in the city of Luxembourg that provided certain central banking services. There was no LOLR and no deposit insurance.

**21. A private co-insurance scheme was established in 1993.** The Association Pour la Garantie des Dépôts Luxembourg (AGDL) covered up to 90 percent of insured deposits, with 10 percent of any loss to be borne by the depositor. It did not collect fees ex ante, but levied fees from the member banks to cover payouts as needed. The scheme made payouts to depositors of BCCI in 1995 and to about 25,000 depositors of the Luxembourg subsidiaries of three Icelandic banks in 2008 (EUR 310 million). In line with EU directives, coverage was increased from EUR 22,222 to EUR

<sup>22</sup> See the FMA's [Liechtenstein Financial Centre 2023](#) report.

<sup>23</sup> <https://www.eas-liechtenstein.li/en/home>

<sup>24</sup> See the FMA's [Financial Stability Report 2023](#), p. 54

<sup>25</sup> <https://www.eas-liechtenstein.li/en/payout-event-sorabank>

100,000 in late-2008 and co-insurance was abolished, but this increased coverage did not apply to the depositors of the Icelandic banks. In 2015, the AGDL was succeeded by the Fonds de Garantie des Dépôts Luxembourg (FGDL),<sup>26</sup> a more standard State-run deposit insurance scheme with ex ante funding (see Vergara, 2022).<sup>27</sup> In the context of negotiating and creating the European Monetary Union, Luxembourg established a monetary institute (Institut Monétaire Luxembourgeois) in 1983, which became the Central Bank of Luxembourg and a member of the Eurosystem in 1998.

## Bosnia and Herzegovina

**22. Bosnia and Herzegovina (BiH) maintains a fixed exchange rate with the euro through a CBA.** The CBA is managed by the Central Bank of Bosnia and Herzegovina (CBBH). The value of the currency, the Convertible Mark (KM / BAM), is set at KM1 = €0,51129. When it was introduced in 1995, its value was set at par with the Deutsche Mark. Its current exchange rate is the conversion rate from the Deutsche Mark to the euro. The CBBH has imposed reserve requirements on banks, which helps build its reserves.

**23. The financial system is split between the constituent entities of BiH.** The Federation of Bosnia and Herzegovina<sup>28</sup> (FBiH) and the Republika Srpska<sup>29</sup> (RS) each have a Banking Agency (respectively the Federal Banking Agency, FBA, and the Banking Agency of the Republika Sprska, BARS) that is responsible for the regulation and supervision of banks, microcredit institutions and leasing.<sup>30</sup> They are also the resolution agencies. The banking system comprises 23 banks, of which 15 are located in the FBiH and 9 in the RS. Its assets amounted to €42.6 billion and deposits to €31.9 billion at end-2023. The banking system is mostly foreign-owned.

**24. The deposit insurance scheme is an ex-ante funded paybox-type system.** It is managed by the Deposit Insurance Agency (DIA) of Bosnia and Herzegovina<sup>31</sup> and covers deposits up to KM70,000 per depositor per bank. It has the possibility to borrow and can levy extraordinary fees in order to recover losses after a payout event. Its reserves can be used for resolution funding. The EBRD has granted a €30 million standby credit line to the DIA.<sup>32</sup>

**25. The most recent FSAP found deficiencies in the financial safety net, some of which are linked to the CBA.** BiH underwent FSAPs in 2006 and 2014.<sup>33</sup> The 2014 FSAP found that significant deficiencies remain in the financial safety net, including in respect of resolution powers, institutional responsibility for resolution, and recovery and resolution planning. It recommended the creation of

<sup>26</sup> <https://www.fgd.l.lu/en/deposit-guarantee/>

<sup>27</sup> <https://ypfs.som.yale.edu/authors-media/association-pour-la-garantie-des-depots-luxembourg-agdl>

<sup>28</sup> <https://www.fba.ba/>

<sup>29</sup> <https://abrs.ba/en/>

<sup>30</sup> <https://ceelegalmatters.com/banking-2023/banking-bosnia-herzegovina-2023>

<sup>31</sup> <https://aod.ba/en/homepage/>

<sup>32</sup> <https://www.ebrd.com/work-with-us/projects/psd/deposit-insurance-agency-of-bosnia-and-herzegovina.html>

<sup>33</sup> <https://www.imf.org/en/Publications/CR/Issues/2016/12/31/Bosnia-and-Herzegovina-Financial-System-Stability-Assessment-43042>

resolution authorities with comprehensive powers, appropriate resolution tools, and temporary and limited emergency liquidity—within the CBA—to support the resolution of troubled banks and provide liquidity to solvent but illiquid banks. It noted that the legal framework underpinning the CBA requires all CBBH domestic liabilities to be backed by foreign net assets. The CBBH Law does not allow the CBBH to grant any credit and engage in money market operations “involving securities of any type,” ruling out emergency liquidity assistance and a standing liquidity facility.

**26. The FSAP recommended establishing a Financial Stability Fund (FSF) for open bank assistance under the DIA.** Such assistance should be provided only in a systemic crisis, if necessary to preserve financial stability and when there is no new capital forthcoming from private creditors. To protect the taxpayer, the FSF backstop option should be subject to a set of clearly defined criteria. Most importantly, all losses in failed banks should be absorbed up-front by existing shareholders, but also by other creditors according to the hierarchy of claims in liquidation and subject to financial stability considerations. This option should be used under strict conditions that minimize the risk of moral hazard and allow for ex-post recovery from the banking industry.

## Bulgaria

**27. Bulgaria adopted a CBA on July 1, 1997.** The CBA fixed the Lev (BGN) to the Deutsche Mark at a rate of 1,000 to 1. As part of the CBA legal framework, the Bulgarian National Bank (BNB) was restricted in its LOLR function. It could provide ELA to commercial banks only in case of liquidity risk posing a threat to the stability of the banking system in the country. In 1999, the Lev was redenominated, bringing it to parity with the Deutsche Mark. After the introduction of the euro, the Lev was fixed against the latter at the conversion rate of the Deutsche Mark: BGN1 = €0,51129.

**28. Bulgaria’s deposit insurance and bank resolution arrangements are in line with EU standards.** Moreover, although Bulgaria is not a member of the euro area, it joined the Banking Union in 2020. Bulgaria’s banking system consists of 17 banks and 6 branches of foreign banks. Assets were BGN172 billion and deposits BGN147 billion as of end-2023, equivalent to about 102 and 87 percent of GDP respectively.

**29. In 2014, Bulgaria’s fourth largest bank, Corporate Commercial Bank (Corpbank), was brought down by a bank run in which it lost 20 percent of its deposits in a week.** The failure and the authorities’ actions around it have been contentious, in part because another bank that also saw deposit outflows around the same time (First Investment Bank) received BNB liquidity support, unlike Corpbank.

## Republic of Kosovo

**30. Kosovo uses the euro as legal tender and has established a central bank.** The United Nations Administration for Kosovo unilaterally adopted the euro as Kosovo’s currency in 2002. Upon declaring independence from Serbia in 2008, Kosovo established a central bank, the Central Bank of Kosovo (CBK), but maintained the euro as legal tender.<sup>34</sup> The CBK is the regulator for the financial

<sup>34</sup> <https://bqk-kos.org/financial-supervision-2/?lang=en>



system. Kosovo's banking system comprises 12 banks, with assets of €7.5 billion and deposits of €6.1 billion as of end-2023 (equivalent to 76 and 62 percent of GDP respectively).

**31. Kosovo has a limited ELA framework and a deposit insurance fund.** The CBK maintains standing lending facilities and has a framework for ELA. However, the ELA arrangement is limited in size and would only be able to assist smaller banks. The Central Bank Law limits ELA to the total reserves of the CBK and a Special Reserve Fund established by the Treasury that held reserves of €46 million as of 2019. The Deposit Insurance Fund of Kosovo was established in 2011.<sup>35</sup> It insures deposits in member banks, up to €5,000. Insured deposits amount to €1.11 billion (about 11 percent of GDP). It is an ex ante funded scheme. Reserves amounted to €61.4 million as of end-2022 (about 5.5 percent of insured deposits). Kosovo underwent an FSAP in 2012 and a Financial System Stability Review in 2019.<sup>36</sup>

## Montenegro

**32. Montenegro unilaterally adopted the euro, but also established a central bank.** In 1999, well before its 2006 independence, Montenegro introduced the Deutsche Mark alongside the Dinar in a dual-currency system. In January 2001, it adopted the Deutsche Mark as sole legal tender. It moved to the euro when euro notes and coins were introduced in 2002. Despite not having a currency of its own, Montenegro established the Central Bank of Montenegro (CBCG)<sup>37</sup> in 2001. The CBCG is responsible for the regulation and supervision of the financial sector. The banking system consists of 11 banks that had assets of €6.7 billion and deposits of €5.5 billion at end-2023, equivalent to about 120 and 100 percent of GDP respectively.

**33. Montenegro has a Deposit Protection Fund and a Resolution Fund.** The Deposit Protection Fund (DPF)<sup>38</sup> was established in 2004 and insures deposits up to €50,000. By law, it aims to build reserves equivalent to 10 percent of insured deposits by end-2024. As of end-2021, reserves amounted to €117 million while guaranteed deposits amounted to €1.6 billion (a coverage ratio of 7.1 percent). It moved from flat to risk-based premiums in 2021. The base premium rate is 1.2 percent of insured deposits. It has a €50 million credit line from the EBRD. Montenegro underwent FSAPs in 2006 and 2015.<sup>39</sup> The 2015 FSAP recommended strengthening resolution funding options, establishing a dedicated resolution unit in the CBCG, initiating bank-specific resolution planning, and introducing risk-based contributions for the DPF. These recommendations have been implemented. Notably, the CBCG created a Resolution Fund that is fed by ex-ante contributions from banks. It aims to reach reserves equal to one percent of insured deposits. The Fund can borrow

<sup>35</sup> <https://fsdk.org/en/homepage-en/>

<sup>36</sup> <https://www.imf.org/en/Publications/CR/Issues/2020/07/07/Republic-of-Kosovo-Technical-Assistance-Report-Financial-Sector-Stability-Review-49557>

<sup>37</sup> <https://www.cbcg.me/en>

<sup>38</sup> <https://fzdcg.org/en/home/>

<sup>39</sup> <https://www.imf.org/en/Publications/CR/Issues/2016/12/31/Montenegro-Financial-System-Stability-Assessment-43820>

and tap other sources of financing. It can also levy ex-post fees on banks to recover losses made in its operations.

**34. In 2019, Invest Banka Montenegro AD Podgorica and Atlas Banka AD Podgorica were intervened and put into bankruptcy.** The DPF paid out compensation to the depositors of both institutions.

## D. British Crown Dependencies

**35. The British Crown Dependencies Guernsey, Jersey and the Isle of Man are autonomous jurisdictions that issue their own currency and have significant financial sectors.** The currencies of the Crown Dependencies—the Guernsey, Jersey and Manx pounds—are issued at par with the British pound and are fully backed up by British pound reserves in currency board arrangements.

### Guernsey

**36. Guernsey has a deposit guarantee scheme, but no LOLR.** As of end-2023, there were 20 banks in Guernsey, with total deposits of GBP96 billion and total liabilities of GBP115 billion. Banks and other financial institutions are regulated and supervised by the Guernsey Financial Service Commission (GFSC).<sup>40</sup> As of 2021, the establishment of a bank resolution framework and resolution authority was under consideration.<sup>41</sup> There is a deposit insurance scheme in Guernsey, the Guernsey Banking Deposit Compensation Scheme, established in 2008.<sup>42</sup> The scheme's administrative costs are covered by annual fees paid by banks. There is no ex ante funding for compensation. Any compensation paid out would be recovered ex post from member banks through special levies. There is no formal LOLR in Guernsey.

### Jersey

**37. Jersey has established an independent bank resolution authority.** There are 19 banks in Jersey, with total deposits of GBP156.4 billion at end-2023. None of these are headquartered in Jersey. Most are branches and some are subsidiaries of banks incorporated elsewhere. Banks and other financial institutions are regulated and supervised by the Jersey Financial Services Commission.<sup>43</sup> A separate, independent, bank resolution authority was established in 2022, the Jersey Resolution Authority (JRA).<sup>44</sup> It is tasked with developing resolution plans for all banks. Its approach to bank resolution is outlined on its website.<sup>45</sup> Given that all banks active in Jersey are

<sup>40</sup> <https://www.gfsc.gg/>

<sup>41</sup> <https://www.gov.gg/CHttpHandler.ashx?id=137859&p=0>

<sup>42</sup> <https://www.dcs.gg/>

<sup>43</sup> <https://www.jerseyfsc.org/>

<sup>44</sup> <https://jra.org.je/>

<sup>45</sup> <https://jra.org.je/how-resolution-works>

headquartered and therefore supervised elsewhere, cooperation with other supervisors and resolution authorities is a key focus.

**38. Jersey has a deposit insurance scheme, but no LOLR.** The deposit insurance scheme was established in 2009 and is managed by the Jersey Bank Depositors Compensation Board.<sup>46</sup> Coverage is set at GBP50,000, subject to an overall cap of GBP100 million in each 5-year period. The scheme is not funded ex ante. In case of activation, it would be financed up front through a loan from the State of Jersey and ex post through levies on the remaining banks, subject to certain limits. If the overall cap of GBP100 million would be reached, about two thirds would be recovered from banks with the remaining third born by the State of Jersey. There is no formal LOLR in Jersey.

### Isle of Man

**39. The Isle of Man's financial regulator is also the resolution authority.** As of end-2023, there were 11 banks on the Isle of Man, with total assets of GBP44.8 billion, funded almost entirely by deposits (GBP43.2 billion). Banks and other financial institutions are regulated and supervised by the Isle of Man Financial Services Authority (IOMFSA).<sup>47</sup> Since 2021, the IOMFSA is also the resolution authority. All banks are required to prepare recovery plans and the IOMFSA is required to prepare resolution plans.<sup>48</sup> The IOMFSA is authorized to establish a resolution fund. Its approach to bank resolution is explained on its website.<sup>49</sup>

**40. The Isle of Man has a deposit insurance scheme, but no LOLR.** The Depositors' Compensation Scheme (DCS)<sup>50</sup> is to be managed by the IOMFSA and the Isle of Man Treasury when activated. It is not pre-funded. Compensation payments would be recovered from surviving covered banks and the Treasury, subject to a limit of GBP100 million each over a consecutive 10-year period and GBP200 million for all defaults. Accordingly, the IOMFSA warns on its website that: *"This means that in the event of a very large covered bank failing, or in a systemic crisis, the DCS is unlikely to be in a position to provide the full amount of compensation due to you in a timely manner."* There is no formal LOLR on the Isle of Man.

## E. British Overseas Territories

### Bermuda

**41. Bermuda issues its own currency, the Bermuda dollar (BMD), which is pegged at par to the US dollar under a CBA.**<sup>51</sup> The Bermuda Monetary Authority (BMA)<sup>52</sup> issues banknotes and

<sup>46</sup> <https://www.jerseydcs.je/>

<sup>47</sup> <https://www.iomfsa.im/>

<sup>48</sup> <https://www.iomfsa.im/resolution-authority/overview-of-the-resolution-authority/>

<sup>49</sup> <https://www.iomfsa.im/resolution-authority/approach-to-bank-recovery-and-resolution-in-the-isle-of-man/>

<sup>50</sup> <https://www.iomfsa.im/consumer-material/isle-of-man-depositors-compensation-scheme-dcs/>

<sup>51</sup> [https://sites.krieger.jhu.edu/iae/files/2019/12/John\\_Stanton\\_Bermuda.pdf](https://sites.krieger.jhu.edu/iae/files/2019/12/John_Stanton_Bermuda.pdf)

<sup>52</sup> <https://www.bma.bm/>

coins, but US dollars also circulate freely in Bermuda. The BMA is the regulator for the financial system.

**42. Bermuda is an international financial center, with a focus on insurance and reinsurance, as well as collective investment schemes.** There are four licensed banks in Bermuda, of which two are domestically owned (Butterfield Bank and Clarion Bank) and two are foreign-owned (Bermuda Commercial Bank and HSBC Bank). The banks are large relative to the economy, with total assets amounting to BMD24.2 billion in Q3, 2023 or about 4 times GDP. They mainly serve the international business sector in Bermuda.

**43. Bermuda has a deposit insurance scheme, but no lender of last resort.** The Bermuda Deposit Insurance Corporation (BDIC)<sup>53</sup> was established in 2011 and insures deposits up to BMD25,000. The system is funded by fees from the member banks. There is no lender of last resort in Bermuda.<sup>54</sup> Bermuda is not a member of the Fund but underwent assessments of the supervision and regulation of its financial sector in the context of the Offshore Financial Center Assessment Program in 2003 and 2007.<sup>55</sup>

### British Virgin Islands

**44. The British Virgin Islands (BVI) use the US dollar and have a large offshore financial sector.** The US dollar is legal tender in the BVI, which do not have a currency of their own. The offshore financial sector contributed 32.6 percent of GDP in 2022, down from 40-45 percent in 2002. The sector's main activity is the registration of offshore companies (International Business Companies or IBCs). Fees for the registration and licensing of IBCs account for a large part of the government's revenues. The banking and insurance sectors are relatively small for an international financial center, although the BVI have a sizeable captive insurance sector. They also have a sizeable mutual fund incorporation sector. As of Q3, 2023, there were 7 banks in the BVI, all with a general banking license. Their total assets amounted to US\$3.11 billion (about 2.5 times GDP) and total deposits to US\$2.4 billion. Three of these banks are subsidiaries and three are branches of foreign (regional) banks. One is State-owned. The number of banks has been on a downward path. As of 2002, the banking sector comprised 11 banks, of which 6 were general license banks, 4 were banks with a restricted license (limited to doing banking business outside the BVI), and one was a domestic State-owned development bank that (at that time) was not subject to prudential regulation. Their total assets amounted to US\$2.8 billion. In 2007, the Development Bank of the Virgin Islands became the National Bank of the Virgin Islands, reflecting its transition from a development bank into a commercial bank. The bank remains 100% government-owned.

<sup>53</sup> <https://bdic.bm/>

<sup>54</sup> <https://bdic.bm/pati/>

<sup>55</sup> <https://www.imf.org/en/Publications/CR/Issues/2016/12/31/Bermuda-Assessment-of-the-Supervision-and-Regulation-of-the-Financial-Sector-Volume-I-Review-18130> ; <https://www.imf.org/en/Publications/CR/Issues/2016/12/31/Bermuda-Assessment-of-the-Supervision-and-Regulation-of-the-Financial-Sector-22421>

**45. The BVI have a limited financial safety net.** The financial sector is regulated by the BVI Financial Services Commission (BVIFSC)<sup>56</sup>, which accounts for a very large part of government revenues.<sup>57</sup> BVI underwent an IMF assessment of the regulation and supervision of its financial sector during 2002-2003<sup>58</sup> and a Financial Sector Assessment Program (FSAP) in 2010.<sup>59</sup> The 2010 FSAP noted that there is no crisis management framework and no LOLR. Moreover, the BVI is constrained in its borrowing by the UK, limiting its possibilities to provide support to the financial sector. Contingency planning was not required from banks. However, the FSAP also noted that the authorities had handled the crisis of 2008 well, through proactive engagement with the banks at local and parental level, seeking confirmation of financial soundness and willingness to provide parental support. Additionally, at the request of the BVIFSC the BVI banks issued a joint statement to the public outlining their position with respect to liquidity. The FSAP recommended that the BVIFSC require banks to formulate contingency planning arrangements. It supported the establishment of a deposit compensation scheme, which was under consideration at the time. The Virgin Islands Deposit Insurance Corporation (VIDIC), was launched in 2023-24.<sup>60</sup>

### Cayman Islands

**46. The Cayman Islands have a CBA with some flexibility.** The Cayman Islands dollar (CI\$) was introduced in 1971 under a CBA, with its value pegged to the US\$ at CI\$1.00 = US\$1.20. The CBA is managed by the Cayman Islands Monetary Authority (CIMA), which is also the regulator for the financial sector.<sup>61</sup> Over time, several monetary reforms have introduced some additional flexibility. Since 2013, CIMA's Governor is authorized to set the value of the currency. Nonetheless, the law requires that CIMA maintain external reserves with "a value not less than an amount equivalent to ninety percent of the demand liabilities of the Authority".

**47. The Cayman Islands are a major offshore international financial center for banking, captive insurance and hedge funds.**<sup>62</sup> Forty-three of the 50 largest international banking groups are present on the Cayman Islands.<sup>63</sup> Most of the banks have a "Category B" license, which does not allow doing banking business with residents. The number of banks and the system's assets have been on a downward trend. There were 11 banks with a Category A license and 83 with a Category B

<sup>56</sup> <https://www.bvifsc.vg/content/about-us>

<sup>57</sup> In 2009, BVIFSC fees accounted for 62 percent of government revenues.

<sup>58</sup> <https://www.imf.org/en/Publications/CR/Issues/2016/12/30/British-Virgin-Islands-Overseas-Territory-of-the-United-Kingdom-Assessment-of-the-17297>

<sup>59</sup> <https://www.imf.org/en/Publications/CR/Issues/2016/12/31/British-Virgin-Islands-Financial-Sector-Assessment-Program-Update-Financial-System-Stability-24297>

<sup>60</sup> <https://bvi.gov.vg/media-centre/launch-virgin-islands-deposit-insurance-corporation-new-era-financial-security#:~:text=The%20VIDIC%20held%20its%20inaugural,hard%20earned%20money%20is%20safe,;http://laws.gov.vg/Laws/virgin-islands-deposit-insurance-amendment-act-2023> ; <https://bvi.gov.vg/media-centre/premier-fahie-establishment-virgin-islands-deposit-insurance-corporation-consultancy>

<sup>61</sup> <https://www.cima.ky/>

<sup>62</sup> <https://www.tandfonline.com/doi/full/10.1080/09692290.2016.1243143>

<sup>63</sup> [https://www.cima.ky/upimages/publicationdoc/FinancialStability\\_1678458235.pdf](https://www.cima.ky/upimages/publicationdoc/FinancialStability_1678458235.pdf)

license as of end-2022, down from 30 and 353 respectively at end-2002. Their assets amounted to US\$0.51 trillion, down from over US\$1.3 trillion at end-2002 and US\$1.8 trillion in 2008. Caledonian Bank, which was based in the Cayman Islands, failed in 2015 after it was sued by the U.S. SEC in a case of securities fraud and its assets in the U.S. were frozen. This triggered a bank run, which prompted CIMA to intervene the bank.<sup>64</sup>

**48. The Cayman Islands underwent IMF assessments of the regulation and supervision of their financial sector in 2003 and 2009.**<sup>65</sup> The 2009 assessment recommended to draw up contingency plans to handle the failure of important institutions. It also found that:

- There is no LOLR facility available within the confines of the currency board arrangement. The experience in other countries with similar monetary arrangements suggest there is scope for a limited LOLR facility funded by the excess holdings of international reserves, supported by appropriately tailored access criteria.
- There is no deposit insurance fund. Given the magnitude of the bank deposit liability relative to the Cayman Islands GDP and the nature of most of those liabilities, there is no compelling argument to establish one with universal participation. In the future, the authorities could explore options to establish one with participation limited in principle to local banks.
- Resolution tools include the powers to appoint a comptroller and ultimately a liquidator. Although supervisory decisions in this area could be challenged in the courts seeking an injunction, past experience has shown the courts typically deferring to the technical judgments of CIMA in a timely manner.
- Coordination arrangements with home supervisors to deal with distressed institutions and those needing resolution could be further develop by CIMA, by inter-alia becoming an active participant in the supervisory colleges of major financial institutions with operations in the jurisdiction.
- Finally, CIMA along with other relevant authorities, both local and foreign, should develop and implement crisis management exercises to hone skills and surface gaps in the framework.

## Gibraltar

**49. Gibraltar issues its own currency under a CBA and is a financial center.** Similar to the currencies of the British Crown Dependencies, the Gibraltar pound (GIP) is issued under a CBA that

<sup>64</sup> <https://www.mondaq.com/caymanislands/offshore-financial-centres/421588/caledonian-story-offshore-banking-group-brought-down-by-long-arm-reach-of-the-sec>  
<https://www.offshorealert.com/tag/caledonian-bank/>  
<https://www.caymancompass.com/2015/09/09/caledonian-depositors-will-receive-about-90-cents-on-the-dollar/#:~:text=The%20second%20report%20of%20the.new%20unaccounted%20claims%20are%20made.>

<sup>65</sup> <https://www.imf.org/en/Publications/CR/Issues/2016/12/31/Cayman-Islands-Assessment-of-the-Supervision-and-Regulation-of-the-Financial-Sector-Volume-I-18122> ; <https://www.imf.org/external/pubs/ft/scr/2009/cr09323.pdf>

fixes its value at par with the British pound. Its financial sector is large relative to the economy but small on a global scale. It was estimated to contribute about 30 percent to GDP in 2000. The number of banks has been declining. There were 28 in 1998, 19 in 2001 (11 of which were offshore banks), and 18 in 2006 (all but one of which were branches or subsidiaries of foreign banks). Assets amounted to GIP8.4 billion in 2006, with a further GIP6.5 billion under management. As of 2024, there are 9 licensed banks in Gibraltar.

**50. Gibraltar’s financial sector regulator is also the resolution authority and overseer of the deposit insurance scheme.** Gibraltar’s financial sector is regulated by the Gibraltar Financial Services Commission (GFSC).<sup>66</sup> In 2016 it established the Financial Services Resolution and Compensation Committee (FSRCC), which is operationally independent from the GFSC’s supervision function, as a decision-making body to which resolution matters are delegated.<sup>67</sup> The FSRCC also oversees the deposit insurance scheme, which guarantees deposits up to EUR100,000. Day-to-day work is carried out by the Resolution and Compensation Unit. Gibraltar has established resolution and deposit insurance funds that are fed with ex ante contributions from financial institutions. As of 2023, the Resolution Financing Fund had accumulated GIP8.0 million and the Deposit Guarantee Scheme Fund GIP6.6 million. The FSRCC aims to establish a 1.8 percent financial reserve by end-2024. Resolution plans have been developed for the banks. Gibraltar underwent IMF assessments of its regulation and supervision of financial services in 2001 and 2007.<sup>68</sup>

## Turks and Caicos Islands

**51. The Turks and Caicos Islands (TCI) use the US dollar and have a large offshore financial sector.** The TCI is an offshore financial center with large banking, insurance and asset management sectors relative to the economy. There are 7 licensed banks, all of which are branches or subsidiaries of international groups. The banking system’s assets amounted to 248 percent of GDP at end-2022. The regulator is the Turks and Caicos Islands Financial Services Commission (TCIFSC).<sup>69</sup> There is no deposit insurance or LOLR. The local government is subject to a borrowing limit set by the UK, which further limits its ability to bail out financial institutions. TCI saw the failure of its only home-grown bank, TCI Bank, in 2010 and of a local insurance company in 2014.

**52. A 2015 FSAP recommended strengthening the financial safety net.** The FSAP<sup>70</sup> recommended introducing a Special Bank Resolution Regime, as well as recovery and resolution plans, before considering a DIS. It also recommended that the authorities “start exploring funding

<sup>66</sup> <https://www.fsc.gi/>

<sup>67</sup> <https://www.fsc.gi/resolution-and-compensation-unit#:~:text=The%20FSRCC%20is%20responsible%20for,of%20institutions%20experiencing%20financial%20difficulties.>

<sup>68</sup> <https://www.imf.org/external/np/ofca/2001/eng/gbr/103101.pdf> ; <https://www.imf.org/en/Publications/CR/Issues/2016/12/31/Gibraltar-Assessment-of-Financial-Sector-Supervision-and-Regulation-including-Reports-on-the-20952>

<sup>69</sup> <https://tcifsc.tc/>

<sup>70</sup> <https://www.imf.org/external/pubs/ft/scr/2015/cr15282.pdf>

alternatives as a last resort for emergency funding, including the creation of a Fund with industry participation and access to lines of credit.”

## F. Asia

### Hong Kong SAR

**53. Hong Kong SAR’s currency is pegged to the US dollar through a CBA.** Hong Kong maintains a linked exchange rate regime (i.e., a CBA) operated by the Hong Kong Monetary Authority (HKMA)<sup>71</sup> that fixes the value of the Hong Kong dollar (HK\$) relative to the US dollar. Hong Kong has a large financial system and is an international financial center, but it also has very large reserves. The HKMA is responsible for bank regulation and supervision.

**54. Hong Kong has a deposit insurance system, the Hong Kong Deposit Protection Board.**<sup>72</sup> Deposits are insured up to HK\$500,000. The DPS Fund is built up with ex-ante levies and has a target size of 0.25 percent of insured deposits, equivalent to about HK\$6.3 billion in 2023. Levies are differentiated based on members’ supervisory ratings as established by the HKMA.

**55. The HKMA acts as LOLR and resolution authority.** Its LOLR policy was set out in a policy statement issued in 1999.<sup>73</sup> Temporary measures to supply liquidity to banks were taken in 2008,<sup>74</sup> after which the LOLR policy statement was updated in 2009.<sup>75</sup> This policy was replaced by a new policy on the Liquidity Facilities Framework in 2019.<sup>76</sup> This framework includes a “Contingent Term Facility”, which is an ELA-type facility for banks facing extraordinary liquidity stress, as well as a “Resolution Facility”, under which the HKMA can provide liquidity to facilitate the orderly resolution of banks. The HKMA’s liquidity facilities are governed by circulars that are posted on its website.<sup>77</sup> The HKMA is also the resolution authority. Its resolution framework was updated in 2017 with the Financial Institutions (Resolution) Ordinance (FIRO).<sup>78</sup>

### Macao SAR

**56. Macao has a currency board linked to the Hong Kong dollar.** The Macao pataca (MOP) has been pegged to the Hong Kong dollar since 1977 and is set at 1.03 patacas per HK\$ since 1983 under the currency board arrangement. This arrangement is managed by the Macao Monetary

<sup>71</sup> <https://www.hkma.gov.hk/>

<sup>72</sup> <https://www.dps.org.hk/en/main.html>

<sup>73</sup> [https://www.hkma.gov.hk/eng/regulatory-resources/regulatory-guides/circulars/circ/u\\_/circu\\_300699b2](https://www.hkma.gov.hk/eng/regulatory-resources/regulatory-guides/circulars/circ/u_/circu_300699b2)

<sup>74</sup> <https://www.hkma.gov.hk/eng/news-and-media/press-releases/2009/03/20090326-3/>

<sup>75</sup> [https://www.hkma.gov.hk/media/eng/doc/key-information/press-release/2009/LOLR\\_\(2009\).pdf](https://www.hkma.gov.hk/media/eng/doc/key-information/press-release/2009/LOLR_(2009).pdf)

<sup>76</sup> <https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2019/20190826e1a1.pdf>

<sup>77</sup> <https://www.hkma.gov.hk/eng/regulatory-resources/regulatory-guides/circulars/liquidity-facilities-for-banks/>

<sup>78</sup> <https://www.hkma.gov.hk/eng/key-functions/banking/bank-resolution-regime/bank-resolution-framework/>



Authority (MMA, or *Autoridade Monetária de Macau, AMCM* in Portuguese),<sup>79</sup> which also oversees the banking system.

**57. The AMCM has an explicit mandate to act as LOLR.** This mandate is spelled out in Art. 5 of its Rules.<sup>80</sup> However, the AMCM does not appear to have published an LOLR policy. The AMCM maintains a system of reserve requirements that provides a pool of liquidity. The Deposit Guarantee Fund was established in 2012 (Law No. 9/2012) and insures deposits up to MOP500,000.

### Brunei Darussalam

**58. The Brunei dollar is linked to the Singapore dollar at par through a CBA.** Brunei established a Currency Board in 1967 and introduced its currency, the Brunei dollar, in 1973. The Currency Board became the Brunei Monetary and Currency Board in 2004, the Brunei Monetary Authority in 2011 and the Brunei Darussalam Central Bank in 2021.<sup>81</sup> The deposit insurance scheme, managed by the Brunei Darussalam Deposit Protection Corporation (BDPC), was established along with the Monetary Authority on January 1, 2011. It insures deposits up to BND50,000 and is a paybox-type scheme.<sup>82</sup>

### Timor-Leste

**59. Timor-Leste has used the US dollar as its official currency since independence.** Nonetheless, it saw a need to establish a central bank, which it did in 2011, with IMF technical assistance. The Central Bank of Timor-Leste<sup>83</sup> issues coins, the centavo, which circulate alongside US\$ banknotes and coins in the country. One centavo equals 1 US\$ cent. The central bank is responsible for banking supervision and manages the country's reserves as well as its Petroleum Fund.

**60. Four of the five banks active in Timor-Leste are branches of foreign banks.** The fifth bank is government-owned. This market structure reduces the case for a financial safety net for banks. There is no deposit insurance in Timor-Leste, nor is there a formal LOLR facility.

## G. Pacific Island States

**61. The Republic of Palau, the Republic of the Marshall Islands, and the Federated States of Micronesia use the US dollar.** These island states became independent from the U.S. during 1979-1994 but maintain close ties with the U.S. under *Compacts of Free Association*. These

<sup>79</sup> <https://www.amcm.gov.mo/en/>

<sup>80</sup> <https://www.amcm.gov.mo/en/about-amcm/responsibility/decreed-law-no-14-96-m>

<sup>81</sup> <https://www.bdc.gov.bn/home.aspx>

<sup>82</sup> [https://bab.org.bn/wp-content/uploads/2019/06/AMBD-BRUNEI-DARUSSALAM-FINANCIAL-SECTOR-BLUEPRINT-2016-2025-FINAL\\_compressed.pdf](https://bab.org.bn/wp-content/uploads/2019/06/AMBD-BRUNEI-DARUSSALAM-FINANCIAL-SECTOR-BLUEPRINT-2016-2025-FINAL_compressed.pdf)

<sup>83</sup> <https://www.bancocentral.tl/en>

agreements commit the U.S. to providing them with defense, funding grants, and social services. All three newly independent states decided to keep the US dollar as their official currency.

## Republic of Palau

### **62. The Republic of Palau (ROP) became independent in 1994 and joined the Fund in 1997.**

Upon its independence, the Compact of Free Association signed already in 1982 became effective. Palau has two domestic banks (the Asia Pacific Commercial Bank and the Palau Investment Bank), and three branches of U.S. banks (Bank of Guam, the Bank of Hawaii, and BankPacific). The latter are insured by the FDIC and hold over 99 percent of bank deposits in the country. The banks are supervised by the Financial Institutions Commission (FIC).<sup>84</sup> Government-owned National Development Bank of Palau<sup>85</sup> is a significant lender but does not hold a banking license. It is supervised by the FIC but not subject to its regulatory regime for banks. The law allows it to raise deposits but it does not currently do so. Palau does not have deposit insurance or a formal LOLR. Deposits held in the domestic banks are therefore uninsured.

### **63. Palau had a relatively large banking sector before one of the domestic banks failed.**

Banks in Palau used to be licensed by the Attorney General's Office but were essentially unregulated. In the absence of prudential regulation and supervision, Palau developed a relatively large banking sector relative to its economy. As of 1999, there were 5 locally chartered banks.<sup>86</sup> The FIC was established in 2001 but was not allocated sufficient resources to operate effectively for several years afterwards. Palau's oldest domestic bank, Pacific Savings Bank (PSB), failed fraudulently in 2006, with a capital deficit of US\$12 million. Its approximately 7,500 depositors held about US\$23 million at the bank.<sup>87</sup> <sup>88</sup> It had already been subject to a minor bank panic in 2002.<sup>89</sup> Partial payouts to depositors started only in 2010, using money from a loan provided by the government of Taiwan Province of China.<sup>90</sup>

**64. Following the PSB failure, the remaining uninsured banks faced a difficult operating environment, as deposits moved almost in their entirety to the FDIC-insured U.S. banks.** One uninsured branch of a foreign bank left the market in 2012. A domestic bank gave up its banking license and became a finance company in 2011. With domestic lending facing a number of impediments, most of the banks' assets are placed abroad and the loan-to-deposit ratio is very low.

## Marshall Islands

**65. The Republic of the Marshall Islands (RMI) became independent in 1979.** It concluded a Compact of Free Association with the U.S. in 1986 and became a member of the IMF in 1992. There

<sup>84</sup> <https://ropfic.org/>

<sup>85</sup> <https://www.ndbp.com/>

<sup>86</sup> <https://www.imf.org/external/pubs/ft/scr/1999/cr99147.pdf>

<sup>87</sup> <https://www.rnz.co.nz/international/pacific-news/166560/savers-in-palau-face-financial-crisis-after-bank-collapses>

<sup>88</sup> See IMF Country Report 2009/009. <https://www.imf.org/en/Publications/CR/Issues/2016/12/31/Palau-Detailed-Assessment-Report-on-Anti-Money-Laundering-and-Combating-the-Financing-of-22604>

<sup>89</sup> [https://www.mvariety.com/news/local/panicking-depositors-disrupt-palau-bank-operations/article\\_a7f9f13e-792f-5d75-9bda-b0738cc08744.html](https://www.mvariety.com/news/local/panicking-depositors-disrupt-palau-bank-operations/article_a7f9f13e-792f-5d75-9bda-b0738cc08744.html)

<sup>90</sup> <https://www.facebook.com/ThinkBigPalau/posts/another-payout-for-psb-depositorswritten-by-administrator-thursday-12-november-2/1099180326789069/>

are two privately-owned domestic banks in the Marshall Islands (the Bank of the Marshall Islands and the Pacific Regional Bank, which started operating in 2023), as well as a branch of the US-based Bank of Guam.<sup>91</sup> In addition, there is a development bank, the Marshall Islands Development Bank.

**66. RMI has a bank regulator, but no deposit insurance or LOLR.** Banks are regulated by the Banking Commission. There is no deposit insurance or formal LOLR in the RMI, but deposits at the Bank of Guam branch are insured by the FDIC. The Bank of the Marshall Islands (BOMI) has had difficulties obtaining and retaining correspondent banking relations (CBR), in part due to AML/CFT concerns related to the RMI.<sup>92</sup> It has been dependent on a single CBR since 2007 and this CBR has been at risk. This has been a major factor behind the authorities' decision to explore the possibility of establishing a monetary authority.<sup>93</sup>

### Federated States of Micronesia

**67. The Federated States of Micronesia (FSM) became independent in 1979.** The FSM concluded a Compact of Free Association with the U.S. in 1986 and became a member of the IMF in 1993. There are two regulated commercial banks in the country: U.S.-based Bank of Guam and the domestic Bank of the Federated States of Micronesia. Both are licensed by the country's banks regulator, the Banking Board of the FSM, but are supervised and insured by the US FDIC.<sup>94</sup> Bank deposits amount to about 100 percent of GDP. The FSM also have a number of non-regulated (and uninsured) financial institutions, including a development bank and credit unions.

## H. Australian and New Zealand Dollar Zones

**68. Other Pacific island states have opted for the Australian or New Zealand dollar.** Nauru, Tuvalu, and Kiribati use the Australian dollar (A\$) whereas the Cook Islands and Niue use the New Zealand dollar (NZ\$).

### Nauru

**69. Nauru became independent in 1968.** It became a member of the IMF in 2016. It uses the Australian dollar (A\$) as legal tender. Only one bank is active in Nauru, Bendigo Bank Agency, an agency of Australia's Bendigo & Adelaide Bank, which is regulated by the Australian Prudential Regulation Authority (APRA) and covered by the Australian deposit insurance scheme (the Financial Claims Scheme). In a joint statement issued in November 2023, Bendigo Bank and the government of Nauru announced that the bank plans to end its presence in Nauru and that the government is working with the Australian authorities and the Asian Development Bank to identify alternative providers of financial services.<sup>95</sup>

<sup>91</sup> <https://www.state.gov/reports/2023-investment-climate-statements/marshall-islands/>

<sup>92</sup> <https://www.imf.org/en/Publications/CR/Issues/2018/09/10/Republic-of-the-Marshall-Islands-Selected-Issues-46217>

<sup>93</sup> [https://www.griffith.edu.au/\\_data/assets/pdf\\_file/0028/1705375/RMI-monetary-authority-policy-brief-web.pdf](https://www.griffith.edu.au/_data/assets/pdf_file/0028/1705375/RMI-monetary-authority-policy-brief-web.pdf)

<sup>94</sup> <https://bankingboard.gov.fm/>

<sup>95</sup> <https://www.bendigobank.com.au/media-centre/joint-statement-from-bendigo-bank-and-the-government-of-nauru/>

## Tuvalu

**70. Tuvalu became independent from the U.S. in 1978.** It became a member of the Fund in 2010. Tuvalu uses the Australian dollar (A\$) as legal tender. It also issues Tuvaluan dollar coins, the value of which is fixed at par with the Australian dollar. The Tuvaluan dollar is also used as a unit of account.

**71. Two state-owned banks are active in Tuvalu.**<sup>96</sup> These are the National Bank of Tuvalu (NBT), which holds the bulk of the system's assets, and the Development Bank of Tuvalu (DBT). NBT is large relative to the economy (its assets were equivalent to 160 percent of GDP in 2020) and is the only bank able to conduct international transactions through CBRs. In addition, the government operates a pension fund, the Tuvalu National Provident Fund, that is authorized to issue loans.

**72. Banks are de facto unregulated in Tuvalu.** A Banking Commission Act adopted in 2011 was never properly implemented. Since 2015, the function of Commissioner has been allocated to the Ministry of Finance and supervision to the Public Enterprise Reporting and Monitoring Unit (PERMU). There is no deposit insurance or formal LOLR in Tuvalu.

## Kiribati

**73. Kiribati became independent from the U.K. in 1979.** It became a member of the Fund in 1986. Kiribati uses the Australian dollar (A\$) as legal tender. It also issues Kiribati dollar coins, the value of which is fixed at par with the Australian dollar.

**74. There is one deposit-taking bank in Kiribati, ANZ Kiribati, which is a joint venture between the State and the ANZ group.** As part of the latter, it is supervised by the APRA. In addition, the financial system includes the State-owned Development Bank of Kiribati and Kiribati Provident Fund, both of which provide credit (mostly personal loans and loans to SMEs). There are also several credit unions and a State-owned insurance company.<sup>97</sup>

**75. Until recently, there was no designated financial sector regulator in Kiribati.** However, the adoption of the Financial Supervisory Authority of Kiribati Act in 2021 started the process of creating the Kiribati Financial Supervisory Authority (KFSA), which was formally established in 2023. There is no deposit insurance or formal LOLR in Kiribati.

## Cook Islands

**76. The Cook Islands became self-governing in 1965 but are in a free association with New Zealand.** They use the New Zealand dollar as legal tender. They are not a member of the IMF but received IMF technical assistance in 2020.<sup>98</sup> There are 4 banks in the Cook Islands, of which two are branches of foreign banks (ANZ Banking Group Ltd of New Zealand and Bank of South Pacific of Papua New Guinea), one is government-owned (Bank of the Cook Islands), and one is a domestic onshore commercial bank that caters to international clients (Capital Security Bank). Banks and other

<sup>96</sup> The 2021 Article IV Staff Report for Tuvalu provides a good overview of the financial sector.

<sup>97</sup> <https://www.adb.org/sites/default/files/publication/530241/pacific-finance-sector-kiribati.pdf>

<sup>98</sup> <https://www.imf.org/en/Publications/CR/Issues/2020/08/27/Cook-Islands-Technical-Assistance-ReportMacroeconomic-Financial-and-Structural-Policies-49715>

financial institutions are regulated and supervised by the Financial Supervisory Commission (FSC),<sup>99</sup> which maintains a close working relationship with the Reserve Bank of New Zealand (RBNZ). The country started developing as an offshore center for financial services in the 1980s. The Financial Services Development Authority (FSDA) is a government agency that is tasked with promoting and developing the financial services industry.<sup>100</sup>

**77. The FSC has MoUs with the RBNZ, the Australian Prudential Regulation Authority (APRA) and the Bank of Papua New Guinea (BPNG).** The 2020 technical assistance mission recommended to expand those MoUs to include contingency planning and crisis management, and conclude additional MoUs with the parents of the foreign-owned branches. There is no deposit insurance or formal LOLR in the Cook Islands.

## Niue

**78. Like the Cook Islands, Niue is self-governing (since 1974) but in a free association with New Zealand.** It uses the New Zealand dollar. It is not a member of the Fund but became a member of the ADB in 2019.<sup>101</sup> Niue has a State-owned development bank, the Niue Development Bank,<sup>102</sup> and an agreement with New Zealand's Kiwibank to provide financial services on its territory through an agency arrangement.<sup>103</sup> The Niue Development Bank does not take deposits but acts as an agent for Kiwibank. As New Zealand does not currently have a deposit insurance scheme, deposits with Kiwibank are uninsured.

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<sup>99</sup> <https://www.fsc.gov.ck/>

<sup>100</sup> <https://cookislandsfinance.com/>

<sup>101</sup> <https://www.adb.org/sites/default/files/institutional-document/752631/niue-country-classification.pdf>

<sup>102</sup> <https://www.niuedevelopmentbank.com/>

<sup>103</sup> <https://www.kiwibank.co.nz/about-us/news-and-updates/media-releases/niue-renews-banking-services-relationship-with-kiwibank/>