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PANAMA

SELECTED ISSUES

February 8, 2023

Approved By
Western Hemisphere
Department

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Acronyms

B2C	Business to Consumer
BEPS	Base Erosion and Profit Shifting
CAIR	Alternative Calculation of Income tax (Cálculo alternativo del impuesto sobre la renta)
CFC	Control Foreign Company
CIT	Corporate Income Tax
DGI	Revenue Directorate General
EMMA	Multinational Enterprises Providing Services Incentive Related to Manufacturing (Empresas Multinacionales para la prestación de servicios relacionados con la manufactura)
ESL	Education Security Levy
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GloBE	Global Anti-Base Erosion
IBFD	International Bureau of Fiscal Documentation
IIR	Income Inclusion Rule
ITBMS	Tax on Transfer of Tangible, Mobile Goods and Service Rendering
LAC	Latin and Central American countries
LVIGs	Low Value Imported Goods
MNCs	Multinational Companies
OECD	Organization for Economic Cooperation and Development
PIT	Personal Income Tax
QDMTT	Qualified Domestic Minimum Tax
SEM	Multinational Regional Headquarters Incentive
SSC	Social security contribution(s)
STTR	Subject to Tax Rule
VAT	Value-Added Tax
WEO	World Economic Outlook
WoRLD	IMF Internal World Revenue Longitudinal Database

TOWARD A MODERN TAX SYSTEM

A. Introduction

1. **Panama's tax collection has been historically low, reflecting the authorities' overarching strategy to promote an investment-friendly environment with low taxation.** The level of revenue is a result of relatively low tax rates, as well as ample use of base-eroding policy measures, such as tax incentives and exemptions across all taxes, that also affect fairness and efficiency. Although low taxation could help the country achieve the policy objective of attracting investments, it leads to chronic fiscal deficits (Figure 1.1) and limits fiscal space for social inclusion policies. Even if national preferences and public choice in Panama are in favor of a small government and public sector, there is ample space to modernize the Panamanian tax regime by increasing its progressivity and transparency, reducing distortions, and aligning it with international best practices through revenue neutral reforms. This paper presents the main features and weaknesses of the current Panamanian tax system and provides an international comparison of its performance.
2. **This paper is structured as follows.** Section II describes the performance of the Panamanian tax system in international comparison. Sections III to V analyze the different taxes in Panama and Section VI summarizes and concludes.

B. Growth and Tax Revenues

3. **Panama's macroeconomic performance has been notably robust** (Figure 1.2). A significant increase in investment led to a rapid accumulation of capital that boosted economic growth to impressive and comparatively high levels. Over the last three decades real Gross Domestic Product (GDP) multiplied fivefold (Figure 1.3). Foreign and domestic investments have been supported by several factors: Panama's geographic location, trade openness, world-class ports, airport, and logistics operations, financial system depth, and the doubling of the Canal's capacity to accommodate much wider ships.¹ The country's policy to attract investment was also reflected in historically low tax collections.
4. **Government revenues have fallen during the period following the Global Financial Crisis (GFC), reflecting cyclical and structural forces (Figure 1.5).** Tax and non-tax receipts contribute equally to Panama's central government revenues, both accounting for about 10 percent of GDP. Non-tax collections include social security contributions (SSC) (about 6.0 percent of GDP) and contributions from the Panama Canal Authority (about 3.5 percent of GDP). These receipts fell steadily until 2016 despite the expansion of the canal, due to the slowdown in global trade (Figure 1.4); and revenue from most taxes also declined (Figure 1.6). After the GFC, tax buoyancy—a measure of responsiveness of revenue mobilization to economic activity—has on average remained below unity, as tax collection has failed to keep-up with growth (Figure 1.7)²

¹ <https://www.imf.org/en/News/Articles/2021/11/17/na111821-panamas-story-of-convergence>.

² The only exception was 2012 due to a tax reform that, among other measures, increased the rate of some excises and the ITBMS (the Panamanian VAT) rate by 2 percentage points.

Figure 1. Panama: Growth and Revenue Performance

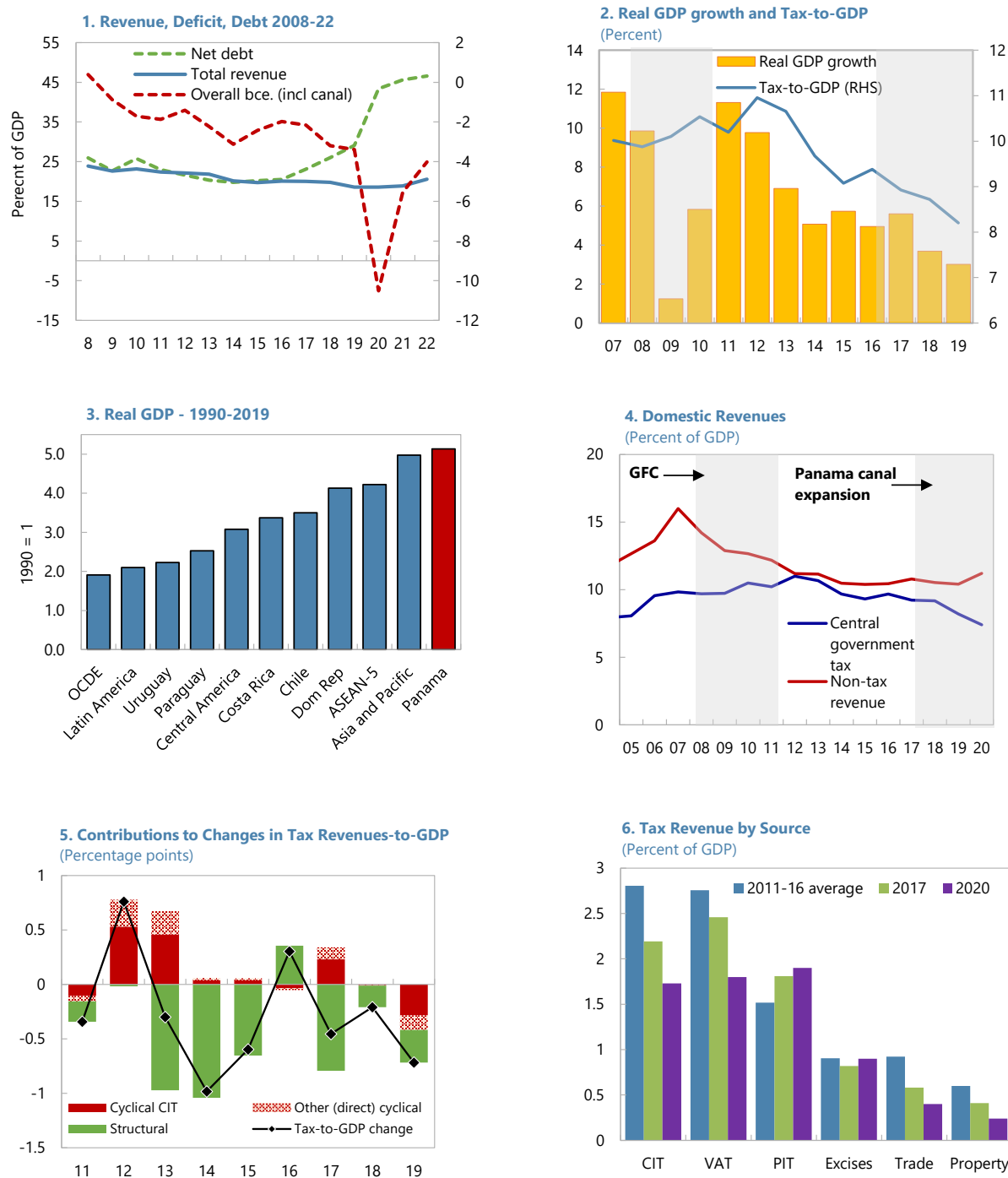
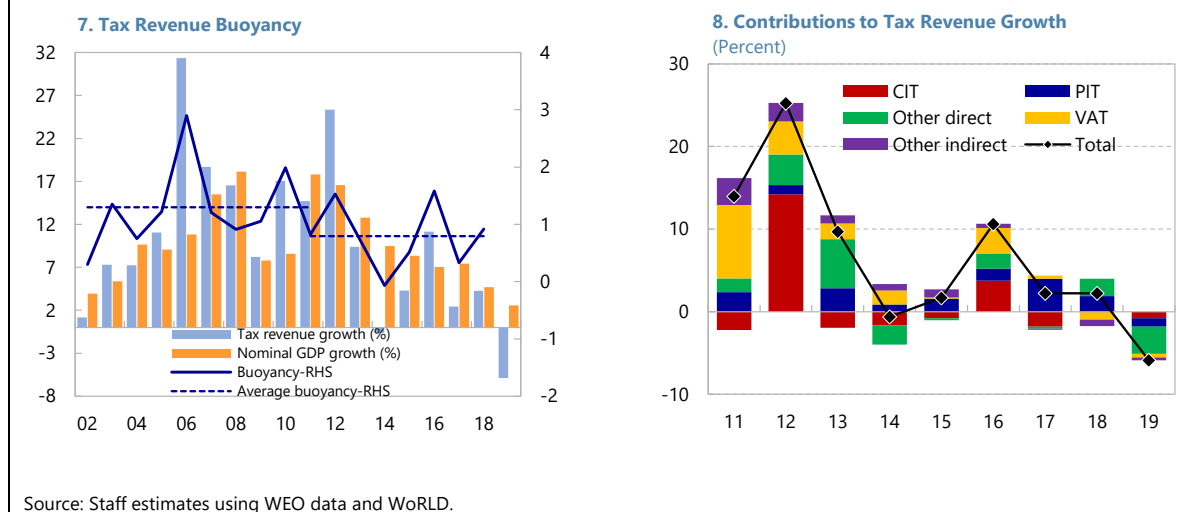


Figure 1. Panama: Growth and Revenue Performance (Concluded)

5. After the GFC, the automatic-stabilizing role of the tax system has mainly operated through corporate taxes. Corporate Income Tax (CIT) and other direct (corporate) taxes—capital gains taxes, and advance payments of dividend withholding—exert the largest impact on overall revenue growth (Figure 1.8). These taxes play a dominant role as automatic stabilizers because their base—corporate profits—tend to be less volatile than economic activity. By contrast, the share of Personal Income Tax (PIT) in GDP does not seem to fluctuate with economic conditions, suggesting that this tax does not help to stabilize output.

6. The level of the Panamanian tax revenue is low in regional comparison. It

reached 8.2 percent of GDP in 2019,³ about half of the average in Latin America countries (LACs) and about 60 percent of the average of Central America (Table 1). Whereas statutory income tax rates are broadly comparable to peers, Panama's Value-Added Tax (VAT) rate is one of the lowest in the world (Figure 2.1). Both top PIT and CIT statutory tax rates are 25 percent. For the PIT, the rate is close to the average of LACs, and, for the CIT, it is lower than the regional average (Figure 2.1).

7. Widespread use of tax expenditures⁴ narrows the base and undermines the productivity of the tax system. Relative to Latin America and the Organization for Economic

Table 1. Panama, Latin and Central America, and OECD: Revenues in 2019

In Percent of GDP	Panama	Central America	Latin America	OECD
Taxes	8.2	15.6	16.4	25.3
Income Taxes	3.7	5.3	5.4	11.8
PIT	1.8	1.6	1.8	8.5
CIT	1.9	3.6	3.5	3.1
VAT	2.2	5.9	6.1	6.7
Others of Good & Services	1.9	1.7	1.8	1.8
On Property	0.3	0.1	0.3	1.1
Other Taxes	0.3	2.6	2.9	1.5
Social Security Contributions	5.8	3.8	4.3	9.1
Taxes and Contributions	14.1	19.3	20.7	34.4

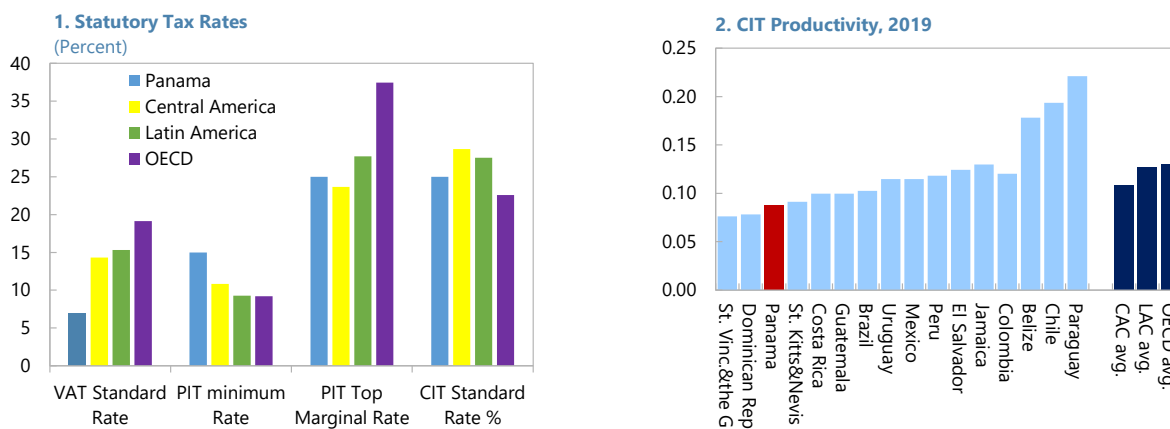
Source: Prepared by staff using WEO and WoRLD data.

³ We use 2019 data, which are not affected by the pandemic crisis; in 2020 the Panamanian tax revenue had fallen even more, to 7.6 percent of GDP.

⁴ Tax expenditure is usually defined as the revenue forgone from preferential tax treatments, relative to a reference tax system (or benchmark).

Cooperation and Development (OECD) countries, Panama's CIT productivity is low (Figure 2.3).⁵ Exemptions also erode the VAT base, but the performance of this tax—measured with C-efficiency—was 0.49 in 2017, which is close to that of comparator economies (Figure 2.4); however, Panama's lack of a VAT refunds in cash and the application of higher VAT rates on some products may also increase measured C-efficiency. Despite the high level of tax expenditures, Panama does not publish a comprehensive tax expenditure review every year and legal provisions that could help curtail tax expenditures (e.g., sunset clauses, periodical ex-ante, and ex-post evaluation, etc.) are absent.

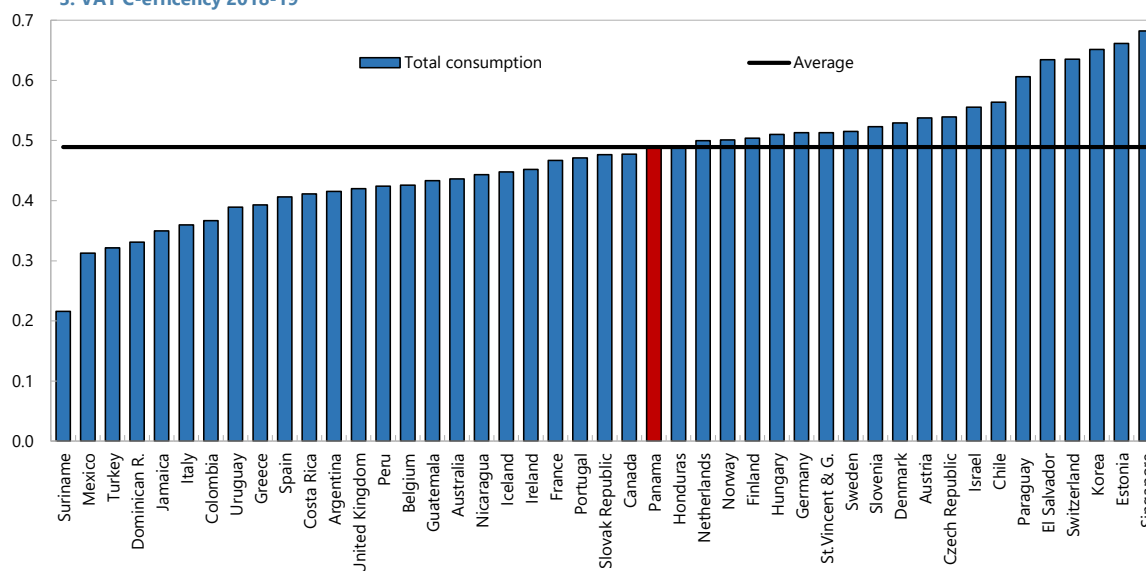
Figure 2. Panama: International Tax Comparison



Source: Prepared by staff from WoRLD and IBFD.

Source: Staff estimates from WoRLD, WEO, and IBFD.

3. VAT C-efficiency 2018-19



Source: Staff estimates from WoRLD, IBFD, and WEO data.

⁵ CIT productivity is calculated as the ratio of its revenue to GDP divided by the CIT rate. It represents the share of GDP collected by each percentage point of the CIT rate, and it reflects the impact of tax exemptions and non-compliance, while isolating the effect of differences in rates among countries.

C. Consumption Taxes

8. This section analyzes Panama's VAT, the Tax on Movable Goods and Service Provision (ITBMS), and excise taxes on selected goods. International best practice in taxing consumption is to apply a broad-based VAT supplemented by excises on specific goods that exhibit externalities.

The VAT in Panama: the ITBMS

9. The ITBMS is a VAT, although with a narrow base, more than one rate, and cascading effects due to delay or lack of refunds. The standard ITBMS rate is 7 percent. Higher rates apply for cigarettes and tobacco products (15 percent), alcoholic beverages (10 percent), lodging services (10 percent), and pure ethyl alcohol to be used in the preparation of biofuels (15 percent). A large group of goods and services is exempt. In addition, nonresident providers of digital services are not subject to the ITBMS in Business to Consumer (B2C) transactions and low value imported goods (LVIGs), where the purchase price does not exceed \$100, are also exempt. Excess input VAT credits can be carried forward and are only refundable to exporters of goods. However, refunds are not made timely and only by compensation (to pay other taxes of the taxpayers) or provided through certificates (the Directorate General for Revenue (DGI) has 180 days to finalize the process).

10. The VAT is potentially one of most powerful tax policy instruments in emerging economies. However, the ITBMS tax base has been undermined by tax exemptions. At 2.2 percent of GDP, the ITBMS revenue is low by regional and international standards (notably lower than the Central America average of 5.9 percent of GDP, Table 1). Three factors may explain a low level of revenue: (i) a low tax rate; (ii) a narrow tax base (high level of exemptions); and (iii) a high level of non-compliance; all three factors are important in the case of the ITBMS.

11. At 7 percent, the standard ITBMS rate is one of the lowest in the world, explaining to a considerable extent the disappointing revenue generation of the ITBMS. However, even if the VAT rate were raised to 15.5 percent, the average of LACs (Table 2), applied on the same tax base, ITBMS revenue would reach only 80 percent of the average of this region, indicating that exemptions and non-compliance

Table 2. Latin and Central American Countries: VAT Indicators

Country	Standard Rate	Revenue	Tax Exp % of VAT Revenue	Tax Exp % of GDP
Argentina	21.0	7.5	16.4	1.2
Dominican Rep	18.0	4.8	60.4	2.9
Nicaragua	15.0	6.4	70.3	4.5
Chile	19.0	8.4	9.6	0.8
Bolivia	15.0	8.5	11.7	1.0
Brazil	19.0	7.2	23.6	1.7
Paraguay	10.0	6.7	20.4	1.4
Peru	18.0	6.0	28.5	1.7
Guatemala	12.0	4.6	31.4	1.4
El Salvador	13.0	6.5	29.8	1.9
Panama	7.0	2.2	55.0	1.2
Ecuador	12.0	6.1	37.7	2.3
Costa Rica	13.0	4.5	64.2	2.9
Uruguay	22.0	7.8	37.9	3.0
Honduras	15.0	7.8	53.8	4.2
Mexico	16.0	4.1	33.2	1.4
Colombia	19.0	4.9	NA	NA
Simple average	15.5	6.1	36.5	2.1

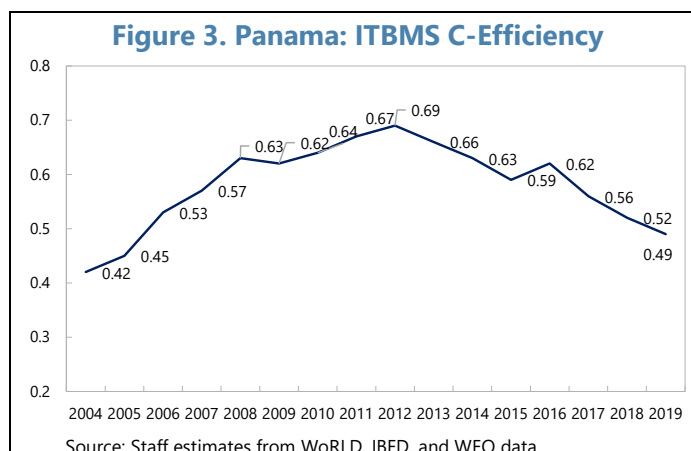
Source: Staff estimates from WoRLD, IBFD, and WEO data.

are also significant determinants of the weak revenue performance of this tax. In addition, the higher rates on selected goods undermine simplicity and complicate control.⁶

12. The C-efficiency of the ITBMS was 0.49 in 2019, which also indicates erosion of the base through exemptions and/or non-compliance.

The C-efficiency notably decreased after the 2011 tax reform, which raised the ITBMS rate and eliminated a few exemptions (Figure 3; see also see CIAT 2022). The ITBMS's productivity⁷ is only 0.33, which implies that for each percentage point increase in the ITBMS rate, collections rise by only 0.33 percent

of GDP. This means that before increasing the ITBMS rate, Panama could greatly improve the productivity of the tax by reducing tax exemptions and/or non-compliance.



13. The revenue loss from ITBMS exemptions has been estimated by DGI at 1.29 percent of GDP.

A broad range of goods and services are exempted from its base (Tax Code Art. 1057-V, Par 8).⁸ The large list of exemptions should be revised. The actual impact of VAT exemptions and reduced rates on income redistribution is limited. Individuals in the highest decile of the income distribution usually consume, in absolute terms, more exempt goods than do individuals who

Table 3. Panama: Who Benefits From VAT Reduced Rates and Exemptions?

Country	Quintile					Total
	1	2	3	4	5	
Differential Rates						
OECD 20 países	13.5	17.3	20.0	22.5	26.7	100.0
Exemptions and/or Differential Rates						
Panama	7.6	12.1	15.7	22.0	42.6	100.0
Honduras	7.3	12.4	17.1	22.5	40.7	100.0
Nicaragua	4.0	7.0	10.2	23.7	55.1	100.0
Colombia	5.6	9.2	13.3	21.0	50.9	100.0
Dominican Rep	10.3	14.1	16.8	21.8	37.0	100.0
Mexico	10.8	17.2	21	23.1	27.9	100.0
South Korea	6.3	13.8	20.2	25.7	33.9	100.0
Morocco	14.5	12.0	15.0	19.7	38.8	100.0
Tunisia	7.9	12.7	17.0	23.2	39.2	100.0

Source: Panama IDB 2021; Colombia, estimated by staff with data from tax department; South Korea: Park and Jung, 2014; México, Levy, Santiago. Redistribution effects of fiscal reform in Mexico: A Policy Proposal. Conference about Latin America organized by the Center for Research on Economic Development and Policy Reform Stanford University, March, 2002. University of Chicago Press, 2003. Morocco: Fouzi Mourji (2011); and Tunisia (Mansour, 2015); Honduras: prepared by staff data from ENIGH 1998; Nicaragua estimated by staff data EIGH 2006-2007.

⁶ It would be relatively simple to move to a single rate. The higher rate on alcoholic beverages and tobacco could be eliminated with a concomitant increase in excise rates to rebalance the revenue. ITBMS for hotels could also be lowered to the standard rate, while eliminating the preferential treatment in the CIT for the sector.

⁷ C-efficiency is defined as revenue divided by the product of the tax rate and consumption, while productivity is the product of the tax rate and GDP in the denominator.

⁸ Exemptions include agricultural products and unprocessed food; agricultural inputs (e.g., fertilizers, seeds, and insecticides); pharmaceutical and medicinal products; medical and educational services; lease or rental of immovable

(continued)

are in the lowest decile of the income distribution. For instance, in Panama, while people in the fifth quintile of income distribution received 42.6 percent of the total benefit of ITBMS exemptions, people in the first (lowest) quintile received only 7.6 percent of the total benefit (Table 3).⁹ This suggests a revenue-neutral reform, which eliminates ITBMS exemptions and uses the additional revenue to support the poor directly, for example, through a well-targeted social spending program, is better suited to achieve a more equitable income distribution. In addition, a well-designed income tax is a better way to introduce progressivity in a tax system.

14. Reforming the ITBMS is essential for growth and fiscal sustainability. While the aftermath of the pandemic and external inflationary pressures may justify delaying the elimination of all exemptions and increasing the rate, some exemptions could be eliminated in the short run to increase fairness, efficiency, and revenue. A near-term reform should focus on exemptions that benefit predominantly the rich (Table 4), cause negative externalities (e.g., some fertilizers and insecticides), are harmful for health (e.g., on soft drinks), or are very inefficient generating cascading effects (e.g., on fuel products). The half-yearly \$1,000 exemption for purchases from the Colon Free Port notably complicates control and should also be eliminated.

15. Taxing fuel products with excises while exempting them from VAT is not a good or common practice.¹⁰ From a pure revenue perspective there may not be a stark difference in taxing fuel products with only one higher (excise) rate, but from the efficiency and compliance point of view, taxing fuel both with VAT and with excise is a better alternative. First, having two instruments allows aligning both taxes with different purposes, with the excise set according to the negative externality and the VAT set at the rate that targets the overall revenue objective. Second, because registered taxpayers can recover the VAT on inputs, the VAT avoids cascading effects and exportation of taxes. Third, and relatedly, while a unique tax (excise) affects equally those who comply with taxation and those who do not (the informal sector), the VAT only impacts on the informal sector (i.e., non-registered businesses), as well as final consumers, thereby encouraging compliance and formalization.

Table 4. Panama: Benefits From ITBMS on Selected Goods

Good	% of consumption	
	10th decil	3 lowest decils
Asparagus	98.0	0.0
Medlars	85.0	0.0
Salmon	93.0	0.0
Caramel	88.0	9.0
Canned tomato	87.0	0.0
Fillet	87.0	1.0
Dehydrated sauce	84.0	3.0
Peach	76.0	1.0
Chickpea	76.0	7.0
Kiwi	73.0	0.0

Source: IDB 2020, Table 10.

property exclusively for housing purposes; cargo and individual air, land or maritime transport, including domestic and international passenger air transport; leasing or subleasing of houses and apartments for agreed periods exceeding 6 months; soft drink; petroleum and fuel products; journals and magazines; and purchases in the Colon Free Port of up to \$1,000 per month per person.

⁹ Moreover, people in the first quintile may have benefited less because a higher proportion of their consumption comes from purchases from taxpayers under the threshold and exempted from the VAT. Studies usually assume the incidence of noncompliance to be equal across all income deciles and overstate the regressivity of the VAT; for instance, Bachas (2019) finds that top decile has 27 percent less untaxed consumption than the bottom one.

¹⁰ A few other countries that do use it are for instance, Honduras and Nicaragua in the region and the Southern African Customs Union Countries.

16. The (non)-taxation of digital services (and goods) provided by non-resident suppliers and LVIGs should be improved. For B2C services provided by non-residents, the best option is the vendor collection approach, making the vendor or the digital marketplace responsible for collecting and remitting ITBMS to the DGI (this approach takes advantage of the huge concentration in this market, which facilitates control). The non-taxation of non-resident suppliers of digital services creates unfair competition with domestic producers and foreign suppliers of traditional goods and leads to control problems and revenue losses. The tax exemption of \$100 for individual LVIGs can add up over various transactions, leading to substantial revenue costs.

17. There is also room to improve efficiency by reducing non-compliance and improving the VAT refund system to exporters of both goods and services. The level of non-compliance in Panama is very high (some studies estimate near 40 percent)¹¹ when compared with that of countries with similar level of development (e.g., 13.3 percent in Uruguay; 25.0 percent in Chile; 11.3 in Poland; and 8.3 percent in Latvia).¹² The failure to provide timely refunds in cash undermines exports, the functioning of the VAT, vital business cash flow, and trust in the overall system (discouraging exports and capital investment).

Excises

18. Excises are applied on selected goods and services in Panama. Both excise design and revenue could be improved. The yield of excises has decreased by 0.2 percent of GDP between 2016 and 2019 (from 1.16 percent of GDP to 0.96 percent); 0.10 percent is explained by the reduction of the excise on fuel products and another 0.10 percent by the reduction of the excise on automobiles (Figure 4.2). Together excises on fuel products and automobiles represented more than 50 percent of excise revenues (Table 4.1); revenues from products with negative externalities (cigarettes, fuel products, alcohol beverages, and soft drinks) are notably and comparatively low, well below the average of the region (Figure 4.3).

19. Revenue from the excise on cigarettes reached 0.04 percent of GDP in 2019 (only one fifth of the average in LACs, Figure 4.3). The ad-valorem rate is comparatively low (32.5 percent) and far from the recommended 70 percent¹³ and the OECD average. However, prior to any increase, the high level of smuggling needs to be addressed (a study estimated that 88 out of every 100 cigarettes consumed in Panama are contraband and avoid paying taxes).¹⁴ Most countries have adopted specific rates per cigarette or package because they are easier to administer by not requiring information on the development in market prices and are not affected by sub-valuation at

¹¹ Cardoza, M., 2017: 'Estimación del incumplimiento del ITBMS de la República de Panamá', Proyecto Lucha contra Evasión fiscal CIAT II' and <https://www.laestrella.com.pa/economia/170407/cepal-evade-itbms-panama>.

¹² Source: for EU countries European Commission (2021), Directorate-General for Taxation and Customs Union, Poniatowski, G., Bonch-Osmolovskiy, M., Śmietanka, A., *VAT gap in the EU : report 2021*, Publications Office, 2021, <https://data.europa.eu/doi/10.2778/447556>. For Uruguay, Dirección General Impositiva (DGI), 2019.

¹³ For instance, the World Health Organization recommends at least 70 percent excise tax share in final consumer price <https://www.who.int/tobacco/economics/taxation/en/index1.html>.

¹⁴ <https://www.newsroompanama.com/news/87-of-the-cigarettes-consumed-in-panama-avoid-the-sin-tax>.

customs; moreover, specific rates impose a heavier burden on the cheaper varieties of a product (therefore, they discourage the use of cheaper cigarettes which tend to be more harmful).

20. Panama applies specific rates for alcoholic beverages. The rates are expressed either in USD per liter (beer and others with low alcohol content) or in USD per degree of alcohol by volume. There is also room for increasing revenue from alcoholic beverages, which reached only 0.10 percent of GDP in 2019 (about one third of the LACs average); eighty percent of the revenue comes from beer taxed with quantum rates (USD per liter), which should be subject over time to regular indexation to retain its value in line with inflation.

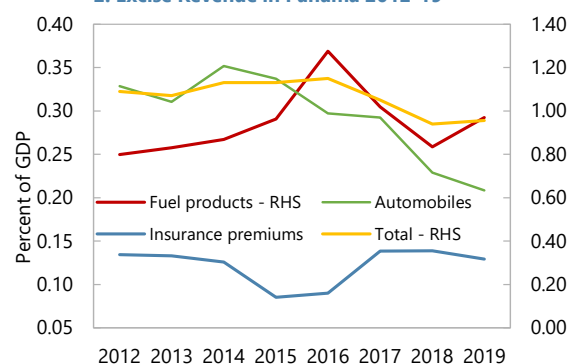
Figure 4. Panama: Excise Revenue and Comparison

1. Panama Excise Revenue 2019

Excise on:	% of GDP	% of Total
Fuel products	0.29	30.6
Automobiles	0.21	21.8
Insurance premiums	0.13	13.5
Beer, wine, liquor	0.10	10.1
Tobacco Prod	0.04	3.8
Soft drinks	0.02	1.6
Other excises	0.04	4.3
Cable and telecomm	0.06	6.4
Gambling	0.08	7.9
Total - 2019	0.96	100.0

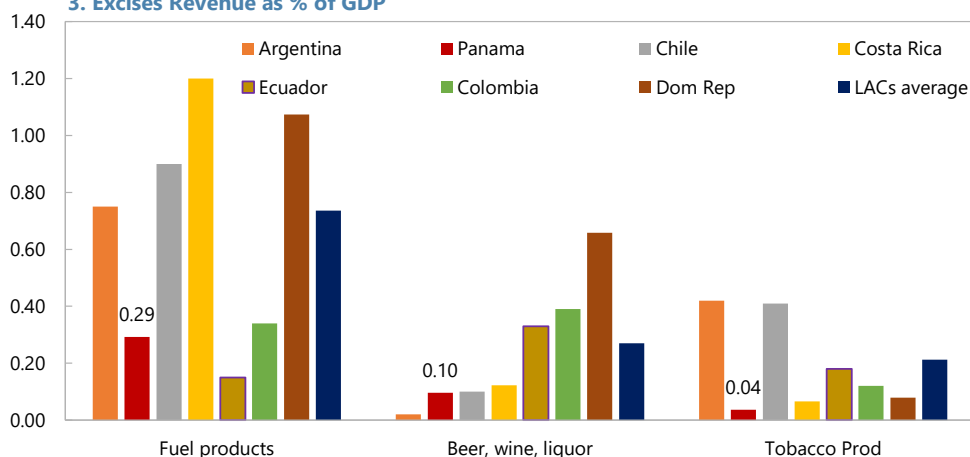
Source : DGI.

2. Excise Revenue in Panama 2012-19



Source: Prepared by staff with WoRLD data.

3. Excises Revenue as % of GDP



Source: Prepared by staff with WoRLD and WEO data.

21. Twenty percent of excise revenue comes from telecommunications and insurance premiums. The main objectives of excises are to discourage the consumption of certain goods with negative externalities and to collect revenue in a simple way when applied to goods and services with low price elasticity. In the long term, once revenue has increased, Panama could reduce or eliminate the excise on these services, starting with that on telecommunication considering its positive externality and the fact that the price elasticity on these services is not always low.

22. The tax on fuel applies specific rates for each type of product. The rates have not changed since 2000 and hence fallen in real terms. Moreover, there have been temporary reductions to compensate for increases in the price of oil. Fuel products in Panama are now priced well below efficiency prices,¹⁵ and excises should be raised, though a small postponement would be justifiable until the recent and significant increase of oil prices due to the war in Ukraine recedes. In addition, as the price of fuel products in Colombia is notably lower,¹⁶ any increase requires strengthening border controls to avoid smuggling.

23. Panama could also impose excises on plastic bags and on hard-to-dispose-of material. Although revenue from such excises is typically low, they present the advantage of the double dividend (in addition to reduce the use of these goods it collects some revenue for the government).

D. Taxation of Labor Income

24. The taxation of labor is determined by three main programs: the personal income tax (PIT), social security contributions (SSC), and the education security levy (ESL). Panama's income tax system is based on the territoriality principle and operates predominantly through withholding at source. PIT standard rates are progressive (Figure 5.1).¹⁷ Social security in Panama is composed of 3 separate branches – old-age and invalidity, health, and occupational health insurance. The tax bases of the three programs are, in general, harmonized. Twenty-seven percent of the ESL collection is allocated in a special education fund while the rest is allocated to the Ministry of Education. Having two taxes on income, the PIT, and the ESL, is redundant and inefficient and they should be unified.

25. At 1.8 percent of GDP, PIT revenue in Panama is close to the average of the region (Table 1). However, it is much lower than that of countries with similar level of development, such as Uruguay (3.3. percent of GDP), Mexico (3.5), and Brazil (3.7). This low level of revenues is mainly explained by the high level of labor informality and deductions and exemptions.

26. In addition to revenue losses, these exemptions and deductions are very regressive as they benefit individuals in the highest decile of the income distribution. Lump-sum compensation for representation expenses should be evaluated considering its revenue potential for PIT (the potential net revenue gain would be close to 0.03 percent of GDP). Fringe benefits and exempted sources of income should be assessed. Tax preferences for special types of income, such as from agriculture, should also be evaluated regarding their cost and their distributional impact. Deductions for health care expenditures are the single largest item, followed by mortgage interest deduction (they represent about 20 percent reduction of taxes for those deducting).

¹⁵ Efficiency price estimates are drawn from Parry and others methodology (2018). They pertain to the cost of damages (negative externalities) from CO₂ emissions or global warming, local air pollution, traffic congestion and accidents, and road damage. Estimates are available for 182 countries, and in other cases are estimated based on the average of countries in the same region and income level. Externality cost estimates are available for petroleum products, natural gas, and coal (but not for electricity to avoid double-counting).

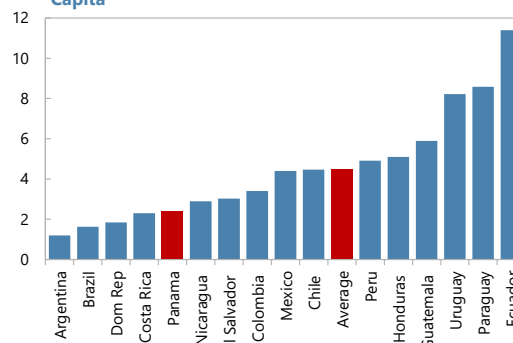
¹⁶ For example, on May 2, 2022, while the final consumer gasoline price per liter was \$1.22 in Panama, it was \$1.37 in Costa Rica and only \$0.60 in Colombia (<https://www.globalpetrolprices.com>).

¹⁷ The PIT taxes various types of capital incomes separately with a preferential flat rate (e.g., interest on term accounts 5 percent, regular dividends 10 percent, and bearer shares 20 percent).

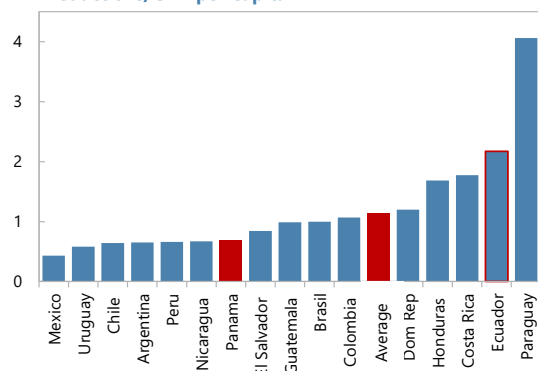
Figure 5. Panama: Taxation of Labor and Informality**1. PIT, SSC, and ESL Nominal Rates**

Social Security Contribution Rates	Employee	Employer	Self-employed	Personal Income Tax Brackets	Rate
Old-age	9.25	4.25		Up to US\$ 11,000	0.0
Health		8.00	8.00	US\$ 11,000–50,000	15.0
Eduction Security Levy	1.25	1.50	2.75	Over US\$ 50,000	25.0
Total	10.50	13.75	10.75		

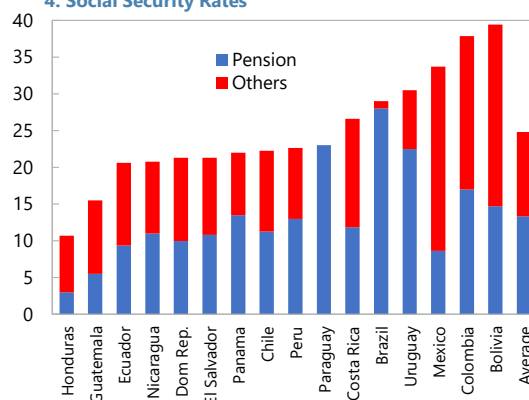
Source: Prepared by staff with Social Security throughout the World: The Americas, 2019 (SSW).

2. Personal Allowance; Personal Deductions; and Top Marginal Rate Bracket/ GDP per Capita

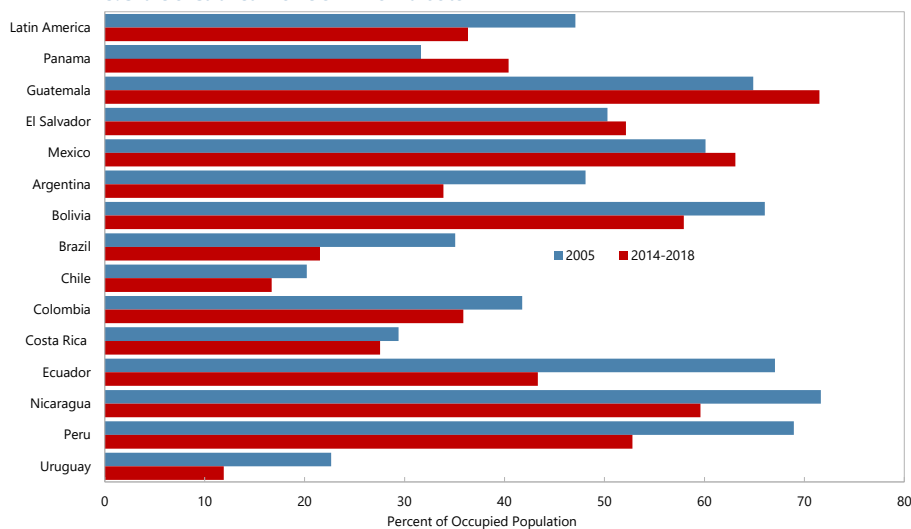
Source: Prepared by staff with WoRLD and IBFD data.

3. Zero Rate Bracket, Allowance, and Personal Deductions/GDP per Capita

Source: Prepared by staff with WoRLD data.

4. Social Security Rates

Source: Prepared by staff with SSW data.

5. Share of Salaried Workers in Informal Jobs

For Panama the blue line is for 2011 data (source: International Labor Organization); for the rest of the countries 2005 (source: Socio-Economic D)

Source: Prepared by staff with Socio-Economic Database for Latin America and the Caribbean and CEDLAS data.

27. While the zero-rate PIT bracket is lower than the average of the region (Figure 5.3) and the level of the Panamanian SSC rates is lower than the average in LACs (Figure 5.4), the level of labor informality (40 percent) is higher than the average of LACs. Moreover, Panama is one of the LAC where labor informality increased since 2005 (Figure 5.5). Reducing the level of labor informality is not an easy task because it is related not only to taxes but also to many factors, chief among them regulations (e.g., at \$636 the minimum wage in Panama is the highest in LACs).¹⁸ It is necessary to start a comprehensive program to reduce labor informality, even though the results on revenue may be reflected in the long run.

28. The reduction of informality requires improvements in the tax administration (to enforce the tax on individuals whose incomes are higher than the zero-rate threshold) and on productivity (of low-income individuals whose income today is lower than the zero-rate threshold). At 15 percent, the minimum PIT rate is higher than the regional averages (10.8 percent in Central America Countries; 9.3 percent in LACs; 1.9 in Mexico; and 4.0 in Chile) and imply a large cost for formalization: a high rate may encourage workers to remain informal (an additional lower rate of, for example, 5 percent, could be introduced once PIT revenue increases from the elimination of tax expenditures).

29. The roles of the DGI and the social security administration in revenue collection should be evaluated with a view to improve efficiency. Automatic and real-time data exchange between the administrations is a precondition for reliable tax policy analysis. Currently, data transfer between the DGI and the social security administration only occurs on a semester basis, hindering efficient administration and control. For example, the DGI lacks access to the monthly data on individual-level earnings, taxes, and deductions on wages by employers. The same data concerns apply to tax administration and inspections.

E. Business Taxation

30. Panama's business tax is overly complex. The Panamanian CIT applies a territorial regime at a rate of 25 percent (close to the OECD average of 23 and the 25.5 percent LACs average). Loss carry forwards can reduce taxable income for 5 years, where the offset per year is restricted to 50 percent of taxable income and 20 percent of losses. Payments to nonresidents are subject final withholding of 12.5 percent. The rate on such payments is lower where the payment is directed at a country that negotiated a bilateral tax treaty with Panama.¹⁹ Companies with taxable gross income exceeding \$1.5 million are subject to an alternative minimum tax²⁰ (CAIR by its acronym in Spanish), according to which the CIT base is the higher of (i) 4.67 percent of the taxable gross taxable or (ii) the net taxable income under the general rules of the CIT. Capital gains are taxed separately at 10 percent, except on the sale of a new property, on which progressive rates (between 0.4 and 4.5 percent) apply.

¹⁸ Other factors include productivity, control, governance (e.g., corruption), and poverty.

¹⁹ Including the United Kingdom, Barbados, the Netherlands, Luxembourg, the United Arab Emirates, and Ireland.

²⁰ Taxpayers with negative profits may request the DGI to waive the CAIR.

31. In addition to the CIT, other taxes, which yield a low level of revenue, apply on business (Table 5.1):

- **Complementary tax:** This is a pre-payment of dividend tax on retained earnings, which is charged at 10 percent, like the standard dividend tax. It applies to 40 percent of net income, with a credit for any dividends actually paid.
- **Operation levy:** a 2 percent tax on equity (between \$100 and a maximum of \$60,000). It applies at the entity level, so that conglomerates with many affiliates must pay it multiple times.
- **Fixed fee:** There is also a small fee of \$300 per year, noted only for the sake of completeness.

32. At the same time, the system provides generous benefits. The low rate for capital gains is not a good practice because it facilitates shifting high-taxed corporate income into low-taxed capital income. In addition to foreign-source income, the main exemptions include: (i) income from international carrier services and from passengers embarking or disembarking Panamanian ports and (ii) savings and agriculture. The system is also plagued with incentives, the most important being those for:

- Free trade zones (with the Colon Free Zone being the largest), the Panama-Pacific Special Economic Area, call centers, tourism, and the City of Knowledge, where the CIT rate is zero for qualifying companies and with different sunset clauses.
- Multinational regional headquarters providing services to other members of the group (SEM and EMMA, by their acronyms in Spanish), where the CIT rate is reduced to 5 percent (and had been zero before 2020) and can be reduced through foreign tax credits to a minimum of 2 percent.

33. The lack of proper anti-abuse rules facilitates the erosion of the CIT base. For instance, restricting the tax deductibility of interest paid to related companies at 30 percent of EBITBA (earnings before interest, taxes, depreciation, and amortization), as recommended in Base Erosion and Profit Shifting (BEPS) Action Plan 4, would increase CIT revenue by 0.10 percent of GDP. Controlled foreign company (CFC) rules would also help to reduce the erosion of the CIT base. At present, the combination of low withholding taxation (12.5 percent) and the territorial regime creates a loophole that allows multinational companies to reduce their overall tax burden by shifting income from Panama to low-taxed affiliates abroad, for instance, by providing services (including loans) from a low or no tax jurisdiction. A CFC rule would tax the income obtained by the foreign companies created in a low tax jurisdiction and controlled by Panamanian companies at the Panamanian CIT rate.

34. As a result, CIT productivity is comparatively low (Figure 2.3), and tax expenditures are very high. In 2019, CIT tax expenditures represented 68.2 percent of CIT revenue (Table 6.2). The total revenue forgone could also be higher because these estimates do not include income from

foreign sources and have been estimated applying an estimated effective tax rate to turnover, thereby if profitability in firms benefiting from tax incentives is like that of the rest of the economy.²¹

Table 5. Panama: Taxes on Business—Revenue and Tax Expenditures

1. Revenues from Business Taxes - 2019 - Percent of GDP

	CIT	CAIR	Complementary Tax	Dividend Tax	Operation levy	Total
<i>Percent of GDP</i>						
2018	1.35	0.07	0.18	0.29	0.19	2.08
2019	1.22	0.07	0.18	0.22	0.19	1.88
2020	1.00	0.04	0.18	0.22		1.44
2021	0.82	0.04	0.13	0.20		1.19
<i>Percent of Total Business Taxes</i>						
2018	64.9	3.4	8.7	13.9	9.1	100.0
2019	64.9	3.7	9.6	11.7	10.1	100.0
2020	69.4	2.8	12.5	15.3		100.0
2021	68.9	3.4	10.9	16.8		100.0

Source: prepared by staff with data from DGI.

2. CIT Expenditures - 2019 - Percent of GDP

Regime	%
Special Regimens	0.49
General Regime	0.21
Others	0.12
Non-profit Organizations	0.01
Total in Percent of GDP	0.83
As Percent of CIT Revenue	68.2

Source: DGI, 2020.

35. Panama reformed some incentive regimes over the last years with a view to comply with the OECD's BEPS minimum standards and other international standards. Since 2015, Panama began exchanging taxpayer information on request and automatically with other countries under global tax agreements and has implemented better banking supervision and began money-laundering investigations (World Bank, 2021). Among the most recent initiatives was a new tax transparency law (Law No. 254 of November 11, 2021), which imposes additional requirements regarding the accounting records that must be kept by legal entities. Panama has also increased the tax rate on SEM and EMMA regimes (from zero to 5 percent) and improved substance requirements to make compliant with BEPS action 5 which includes rules to limit the use of harmful tax practice.

36. Nevertheless, Panama remains on the EU's list of non-cooperative jurisdictions largely due to lack of compliance with exchange of information standards. In its most recent review updated on February 24, 2022, the EU has continued to include Panama on the list of non-cooperative jurisdictions, based on criteria including tax transparency, fair taxation, and anti-BEPS measures (European Union Council 2022). The Global Forum on Transparency and Exchange of Information for Tax Purposes, in its Peer Review Report on the Exchange of Information on Request conducted for Panama in 2019 (a second-round review) found Panama to be partially compliant (OECD 2019). The conclusion was based, among other things, on gaps in availability of beneficial ownership information.

37. The latest international tax developments will affect Panama and require policy reactions. The recent international CIT reform agreement includes the so called two-pillar reform, which is foreseen to be applied to large multinational companies (MNCs). Pillar One is limited to MNCs with turnover of at least €20 billion and aims at reallocating 25 percent of in-scope profits exceeding 10 percent of sales to market jurisdictions where goods or services are consumed

²¹ If tax expenditures were instead estimated starting with profits reported in tax returns, they would likely be twice as high according to staff estimates.

(Amount A) and simplifying the arm's length principle applied to marketing and distribution activities (Amount B).

38. Pillar two introduces a global minimum tax on MNCs with revenues exceeding €750 million. In-scope entities that benefit from an effective tax rate below 15 percent will be subject to a top-up tax that can be implemented through three mechanisms: (i) a domestic top-up tax, (ii) two sets of rules that will be implemented in national tax laws in a consistent manner across borders, and (iii) a tax treaty-based rule (the Subject to Tax Rule, STTR).²² The two domestic tax rules—the Income Inclusion Rule (IIR) and the Under-Taxed Payments Rule—are together known as the Global anti-Base Erosion (GloBE) rules. The IIR allows countries hosting corporate headquarters to impose additional tax on incomes taxed effectively below 15 percent in a source jurisdiction. MNCs operating in Panama would therefore face top-up taxes on any undertaxed Panamanian income collected through the cross-border minimum taxes elsewhere. Panama could capture these taxes by introducing a qualified domestic minimum top up tax (QDMTT, a domestic tax based on the same rules as the GloBE rules). A QDMTT would not change the investment incentives of MNCs that are already subject to global minimum taxes, but simply ensure that revenue is collected in Panama.

39. The global minimum taxes would reduce the advantages of incentives offered by Panama. However, the impact could be small as the minimum tax affects all other capital importers, too.²³ If the adoption of global minimum taxes fails or is significantly delayed, tax competition pressures will remain, and a QDMTT might put Panama at a disadvantage. To avoid this, a QDMTT should be contingent on adoption by Panama's main investment partners (chief among them the United States). Even under the adoption of a QDMTT, there is still a strong case for reviewing tax incentives, which have become widespread and whose costs and benefits are not well known. There is reform potential both in the streamlining of redundant or excessive tax incentives, and in efficiency-enhancing reforms, which could be financed from the revenue gains of the international reforms (e.g., by the implantation of the domestic minimum tax by Panama).

40. Panama maintains a heavy reliance on special regimes and extensive incentives and tax holidays and should move to more reliance on general CIT regime. All exemptions and tax incentives require more attention and assessment. Zones that serve as free ports allowing goods to enter and leave without taxation in transit create few problems. Most zones, however, include exemptions from corporate taxes and even income tax for certain expatriates. Their generosity and sheer number, leads to lost revenue, both directly and from leakage into the domestic economy (physical goods and through profit shifting). The concession for one of the largest copper mines in the world (Cobre Panamá) grants the operating company a very generous tax holiday.²⁴ The tourism sector provides an example of contradictions in tax incentive policies, it benefits from significant tax

²² The STTR is a treaty-based rule that allows source jurisdictions to impose limited source taxation on certain related party payments that are subject to tax below a minimum. It applies only to income taxed less than 9 percent.

²³ Global minimum taxes can be expected to raise the importance of nontax location factors, such as infrastructure, political stability, security, and connectivity, where Panama is ranking highly.

²⁴ The company is (i) exempt from paying any tax (except for royalties) if it has outstanding debt relating to the construction and development of the project and (ii) granted a tax credit equal to development capital expenditures.

incentives, but at the same time has an increased VAT rate. Tax stabilization agreements, signed with some benefited companies, may interfere with the introduction of the domestic minimum tax in Panama (new stabilization agreement should explicitly allow the imposition this minimum tax).²⁵

41. Efficiency-enhancing reforms to make the system more growth friendly include, at least, the elimination of:

- **Tight restrictions on the use of losses carried forward, which discourage risk taking and investments with long-term payoffs.** While the limitation of use to five years is unlikely to cause major harm, the strict rules on using exactly one fifth of losses each year and to reduce taxable profits by no more than 50 percent are more likely to discourage risky investment, notably in startups and innovative firms.
- **The complementary tax and the operations levy increase the debt bias and raise the cost of capital for firms marginally financed from equity.** Regarding the former, because crediting for dividend tax is restricted to take place within a year, it can create double taxation of returns to equity. The operations levy is a tax on equity, with an obvious debt bias. For large enterprises, however, it is effectively a lumpsum tax, given an upper limit (\$60,000).

F. Concluding Remarks and Policy Implications

42. Panama's macroeconomic performance has been notably robust, but Panama's tax collection has been historically low. Panama pays a high fiscal cost for having a very low level of revenue, which has moreover been shrinking over time. A tax system without adequate revenues led to chronic fiscal deficits and a lack of resources to invest in human capital (education and health) and promote social inclusion policies. In addition, the tax system is notably regressive, and several rules are very inefficient and distortive contradicting the overall policy objective of the country to attract investment.

43. Three factors can explain the low level of tax revenue: (a) non-compliance; (b) low tax rates; and (c) narrow tax bases (high level of tax exemptions and deductions). The latter point is particularly noteworthy, and more so because Panama does not carry-out and publish comprehensive tax expenditure reviews, so little is known about the costs and benefits of the many exemptions. There is a compelling case for reviewing all tax expenditures, analyzing their costs and benefits, integrating tax incentive laws in the fiscal code or, at least, combine them in a single tax incentive law. This would notably increase the transparency of the Panamanian tax system.

44. The ITBMS could raise much higher revenues in Panama and excise taxes could also be strengthened. The VAT is potentially one of most powerful tax policy instruments in emerging economies. However, the ITBMS tax base has been undermined by tax exemptions and non-compliance and presents several distortions that could be removed to increase the efficiency of the

²⁵ Existing stability clauses could be renegotiated by mutual agreement, in which case no other concessions should be offered, given that no additional tax is imposed on multinationals (it would be collected by another country, which would not be bound by such clause).

tax system. Excise design could be improved, and more revenue raised if excises are aligned closer to externalities. This is especially the case on cigarettes, which collects only one fifth of the average in LACs. The fuel excise is also very low and has fallen in real terms over time. There is also room to impose excises on plastic bags and on hard-to-dispose-of material on environmental grounds and despite low revenue potential.

45. The low level of PIT collection reduces the progressivity of the tax system and limits its redistributive effect. The PIT is a basic pillar of every modern tax system, as it most effectively organizes taxation based on the principle of ability-to-pay and it is the clearest link between citizens and the financing of public goods. While there is room to introduce a higher top marginal rate (today it is 25 percent), Panama should start with the evaluation of the generous and regressive tax expenditures and with a comprehensive program to reduce labor informality and improving the administration of labor taxes. The exemptions and deductions from the PIT base reduce revenues and are very regressive as they benefit individuals in the highest decile of income distribution.

46. Taxation of the business sector is very complex. Contradicting the country's objective of attracting investments, there are tight limits on loss carry forward, there is a minimum tax on turnover, and, in addition to the CIT, other taxes apply on equity (notably the operations levy) and on dividends and even certain retained earnings (the Complementary Tax). In addition, the difficulty of obtaining ITBMS refunds on time creates disincentives to invest in activities that rely on export markets or are capital intensive (for growing firms or those relying on exports, this turns the ITBMS into a tax on inputs).

47. On the other hand, the system is very generous regarding benefits. In addition to foreign-source income, the main exemptions include income from certain international transportation. The system is also plagued with tax incentives (e.g., for free trade zones, tourism, call centers, and technology, and for multinational regional headquarters providing services). As a result, CIT productivity is one of the lowest among LACs and tax expenditures very high (in 2019, they represented about 70 percent of CIT revenue).

48. Current international tax developments affect Panama and require policy reactions. The global minimum taxes of the recent Inclusive Framework agreement would reduce the value of tax advantages offered by Panama, but as all other capital importers are also affected, the impact is mitigated. However, there is still a strong case for reviewing tax incentives, which have become widespread and whose costs and benefits are not well known. There is also a case for adopting a domestic minimum tax to ensure that any additional tax liability from new international minimum taxes is collected in Panama. There is also room to further improve international tax transparency, as Panama's tax system remains on the European Union's list of non-cooperative jurisdictions largely due to lack of compliance with exchange of information standards.

49. There is also a need of improving control to reduce non-compliance, smuggling, and informality. Although the administrative analysis of the tax system is outside the scope of this

paper, improvements in tax policy could be diluted if they are not properly implemented.²⁶ In the same way, policy improvements will also support the administration side: a tax system plagued of exemptions in all taxes is very difficult to administer, even for very efficient tax administrations of developed countries.

50. Overall, the desirable reform direction is clear: A reduction in tax incentives, following their analysis, as well as stronger anti-abuse provisions, and revenues from an international minimum tax can finance reductions in the inefficient parts of the tax system, such as the multiple business taxes and the strict loss carry forward. VAT can be simplified, refunds improved, and rates ultimately raised, while PIT can be raised once compliance and enforcement are stronger, both of which can fund highly-need social, educational, and infrastructure spending.

²⁶ A clear example is how the productivity of the ITBMS decreased after 2011 reform that increased the rate to from 5 to 7 percent, even while the same reform eliminated some exemptions from this tax. Other examples that highlight the need of administrative improvements are the delays on the ITBMS refunds and the lack of coordination between the organisms in charge of labor taxes.

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PANAMA'S GROWTH STORY¹

Panama has achieved more rapid income convergence to US standards in the past 25 years than most other countries in Latin America and is now the richest country in Latin America.

In terms of demand factors, much of Panama's strong growth was the result of a sharp increase in the investment to GDP ratio. As the consumption to GDP rate dropped sharply, consumption grew much more slowly than GDP.

In terms of supply factors, output growth was driven by rapid growth of capital and labor inputs rather than a rise in total factor productivity (TFP). In fact, TFP fell sharply in the past decade.

While Panama has grown rapidly in the past two decades, when assessed over a longer time period it has not converged as rapidly as the Asian Tigers. South Korea and Taiwan saw faster growth because of rapid TFP growth while Singapore—which like Panama saw little TFP growth—had faster growth of human capital and employment per capita.

In the past two decades growth came from investment and construction: with the private construction boom ending and major development projects now completed, future growth will need to come from other sectors.

A. Introduction and Background

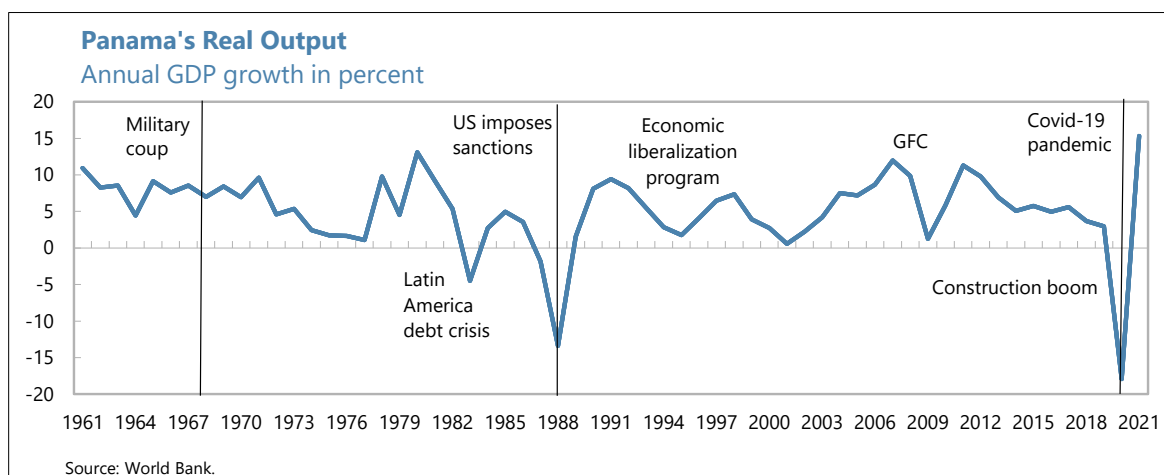
Brief Historical Overview

1. Panama's economy has always depended on international trade and transitory flows across the isthmus. Following their arrival in Panama in 1501, the Spanish turned Panama into a principal crossroads and marketplace of the great Spanish Empire. They built a major road, *Camino Real*, to link settlements on the Pacific and Atlantic coasts and used it to transport treasures from the west coast of South America to Spanish galleons waiting on the Atlantic coast for transport to Spain. Until the 18th century, Panama's economy benefitted from the colonial exchange. In the mid-19th century, the California Gold Rush spurred both cargo and passenger traffic through Panama as the alternative cross-continental route across vast plains and rugged mountain terrain was too dangerous. The Panama Railroad Company, founded in 1847, completed its railroad track in 1855, which followed the path of the present Canal, generating income from supplying travelers with meals and lodging, and establishing the city of Colón, Panama's second largest, at the railroad's Atlantic terminus. Thereafter, France's attempts to construct a canal across the isthmus in the 1880s and, subsequently, its successful completion by the United States over 1904-14 stimulated the Panamanian economy, despite limited direct spillovers to Panama during its construction.²

¹ Prepared By Nicolas Fernandez-Arias and Marina Rousset (WHD).

² In "What Roosevelt Took: The Economic Impact of the Panama Canal, 1903-37", the authors argue that the US-operated Canal Zone deliberately avoided employing Panamanian labor and explicitly prohibited Panamanian businesses from providing services to the Canal Zone or ships transiting through the Zone.

2. Over the course of the 20th century, Panama's GDP growth was volatile. International trade and Canal traffic declined during the US Great Depression of the 1930s. During World War II, the presence of US military forces³ temporarily stimulated economic activity. In 1968, a military coup overthrew the long succession of aristocratic oligarchs controlling the economy, with Brigadier General Torrijos embarking on a program of public works and agrarian reform to develop rural areas, where much of his supporters came from. Initially, Panama enjoyed an economic boom under his presidency, when with the passage of secrecy laws Panama became an international banking center, and the Colon Free Zone became the world's second largest free-trade zone (after Hong Kong). In the 1980s, the country experienced a deep political crisis surrounding the administration of General Noriega, eventually leading to the United States suspending all military and economic assistance to Panama in 1987 and freezing Panamanian assets in United States banks, withholding its monthly payment for the use of the Canal, and suspending trade preferences on imports from Panama in 1988. This led to massive capital flight amid already-high unemployment rates and a stagnating economy, yielding Panama's deepest pre-Covid recession of 1988. Amid the crisis, Panama defaulted on its IMF debt in 1987. The US invaded Panama for over a month (between December 1989 and January 1990), deposing Noriega. Panama's output rebounded and it regained access to IMF funds in 1992.



3. In the last three decades, a construction boom led to a period of unprecedented growth. In 1996, the administration of President Balladares embarked on an economic liberalization program, passing a number of reforms⁴ that stimulated activity in most sectors. In December 1999, the Canal, along with all American military bases, was passed to the Panamanian government, and between 2007 and 2016 it underwent a major expansion project, doubling the Canal's capacity. In addition, the 2000s witnessed an unparalleled construction boom, with large-scale public investment projects coupled with privately funded residential and commercial property development. The

³ In addition to defending the Canal, the US military established an airfield at Rio Hato, the naval base on Isla Taboga, and several radar stations.

⁴ These included the privatization of two seaports (Cristóbal and Balboa), the promulgation of an antimonopoly law, the renegotiating of foreign debt with commercial banks, the privatization of the electricity and water companies, and a banking reform law, according to the Encyclopedia of the Nations.

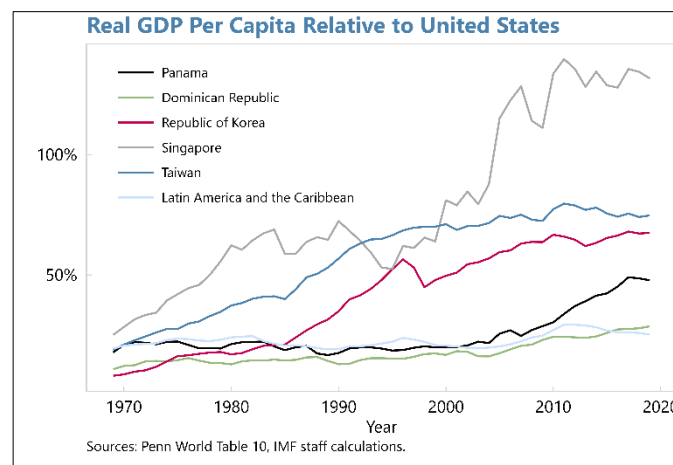
majority of Panama City's skyscrapers were built between 2005 and 2014, while Cobre Panama and the Canal expansion represented the largest investment projects in the country's history (see table below). The rapid scaleup of construction activity and related investment contributed to Panama's remarkable GDP growth over the last three decades, with real annual output expanding on average by 5.9 percent (see discussion in Section D and the 2022 Article IV Staff Report) between 2000 and 2019.

Title	Phases	Construction dates
Tocumen Airport Expansion	1. Renovation and expansion (new gates, boarding bridges and VIP lounge) 2. Northern Terminal (12 new gates, road and taxiways) 3. New terminal (20 gates, parking, river diversion and roads)	2006 2009-12 2012-19
Panama Canal Expansion	Expanding existing channels, adding two sets of locks, and raising operating level of Lake Gatun	2007-16
Cobre Panama copper mine	Under the ownership of First Quantum	2013-19
Panama City metro	Line 1 Line 2 Line 3	2011-14 2015-19 2021 onwards
Cinta Costera	Phases I, II and III (with Maracana Stadium and viaduct)	2009-14
Tallest Skyscrapers	Miramar and Platinum Towers Mirage and Credicop Bank Tower Torre Vista Marina Torre Global Bank, Mystic Point 100 and 200 Aqualina Tower, Aquamar, Bahia Pacifica Ocean One, Venetian Tower, Costa del Este, Country Club 1, Bella Mare Sky Residences, Pacific Village 1 and 2, Sevilla 1 and 2, Astoria Tower, Ocean Two, Dupont Tower, The Sea Waves JW Marriott Panama, Tower Financial Center, F&F Tower, Pearl Tower, Torre Waters, Torre Megapolis, Q Tower, Ten Tower, White Tower, Yacht Club Tower, Torre Allure Vitri Tower, Rivage, YooPanama, Oasis on the Bay, Oceania Business Plaza 1 and 2 Star Bay Tower, Arts Tower, Destiny Panama Bay, Grand Tower HSBC Tower, Golden Tower Evolution Tower	1996 1997 2002 2005 2007 2008 2009 2010 2011 2012 2013 2014 2017

Sources: Wikipedia and Panamanian press.

Income Convergence and Distribution

4. Since 1970, Panama's GDP per capita has increased from 22 percent of US GDP to near 50 percent currently,⁵ making it the 16th fastest growing economy in per capita terms during that time period. Currently, Panama is classified as an emerging market, upper-middle income economy. Its per capita GDP adjusted for purchasing power parity (PPP) stood at US\$29,879 in 2019, the 30th highest in the Penn World Table sample of 114 countries.⁶



⁵ See IMF Country Focus blog "Panama's Story of Convergence" (November 2021): <https://www.imf.org/en/News/Articles/2021/11/17/na111821-panamas-story-of-convergence>

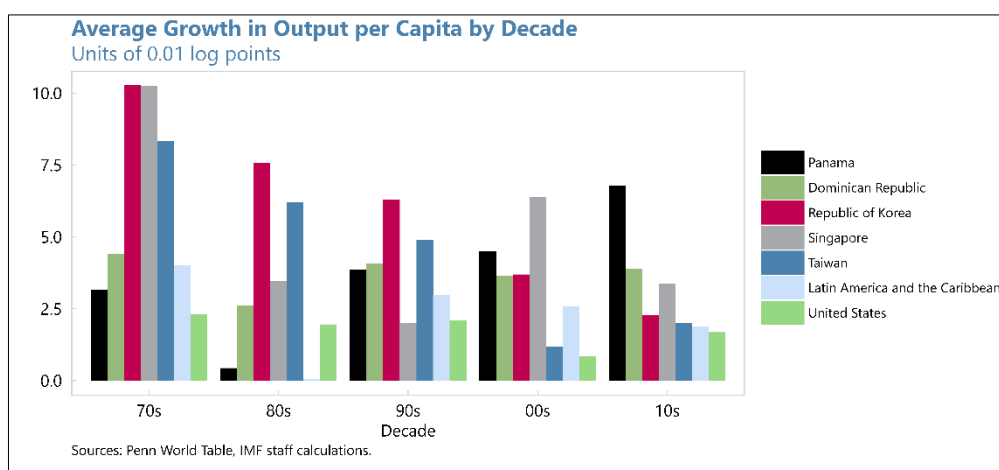
⁶ Using a more complete set of 192 countries from the October 2022 IMF World Economic Outlook, Panama ranks 53rd.

5. Its convergence path, however, has not been uniform:

- Panama's relative (to the US) GDP per capita declined from 1970 (21 percent) to 1989 (16.5 percent) amid political instability and US sanctions.
- Panama's growth rate significantly recovered in the 1990s, although relatively fast growth in the United States meant that its relative GDP per capita only slightly improved to around 20 percent in 2000.
- Post-2000, Panama's rate of convergence increased rapidly, peaking at 49 percent in 2017 (48 percent in 2019). Amid the pandemic, Panama's relative GDP per capita ratio slipped, as in many other countries, to about 48 percent this year, but is expected to recover in the near term.

6. Despite the rapid convergence since 2000, when seen over a longer period and compared to other fast-growing countries, Panama's convergence has been relatively slow.

Panama's growth has been sluggish when compared to Asian Tigers. For example, Singapore's (Hong Kong's) per capita output was about 28 percent (42 percent) of the United States in 1970, but surpassed the United States in 2005 (2004).⁷ Similarly, Panama's relative per capita GDP ratio was about the same as Taiwan's in 1970 and three times that of Korea, but both of those Asian countries converged to advanced economy living standards significantly faster than Panama amid their export-driven development policies.⁸



7. Panama's recent growth has been driven by rapid growth in investment amid declining TFP and low levels of human capital accumulation.

The single most important driver of Panama's recent decoupling from the rest of Latin America and the Caribbean (LAC) in output per capita is growth in investment, particularly due to a boom in construction—the bulk of which is commercial real estate—which cannot outpace growth in the rest of the economy forever. In

⁷ Singapore's (Hong Kong's) GDP per capita was 30 percent (95 percent) higher than Panama in 1969 and is now nearly 3 times (2 times) that of Panama.

⁸ Taiwan's (Korea's) relative GDP per capita reached 74 (67) percent in 2019.

addition, human capital per worker⁹ is low (compared to Asian Tigers) and did not grow in the last decade, and TFP declined by 20 percent in the 2010s, nearly double the amount of TFP growth of the previous 40 years. While there are various possible explanations for the decline in TFP (which we will review below), it appears most likely that Panama's economy has been hitting decreasing returns to scale in capital accumulation.

8. The regional income distribution within Panama remains highly skewed, with most resources concentrated in Panama City and Colon and rural areas remaining relatively poor.

Panama's development in terms of both location of economic activity and concentration of population has followed an axis across the isthmus between Colon at the Atlantic terminus of the Panama Canal and Panama City on the Pacific coast. Over half of the population and most nonagricultural economic activity have historically been located there. Despite Panama's spectacular output growth which expanded the middle class and contributed to significant reductions in poverty and inequality in the recent decades, rural areas remain underdeveloped and rural poverty remains high and is particularly elevated and persistent in the *comarcas*: territories inhabited by indigenous peoples.¹⁰ In other words, convergence to US income level is a more distant reality for some of Panama's residents than for others.

B. Regional Perspective and Cross-Country Context

Growth Performance Comparison

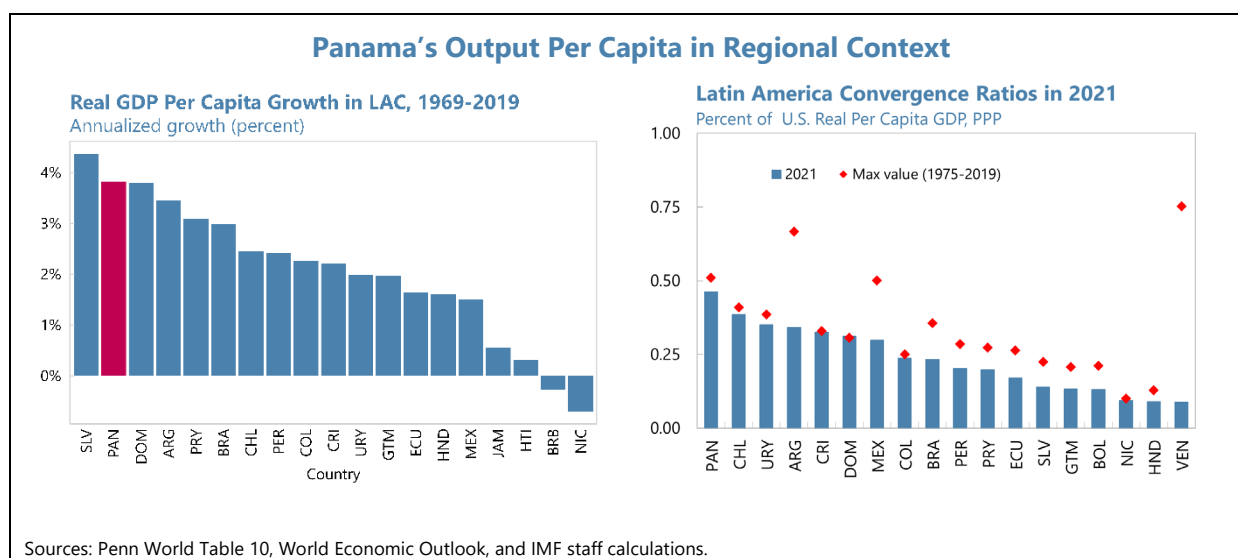
9. Since the 2000s, Panama has decoupled from the rest of the region. In 1970, Panama's per capita output was roughly equal to the aggregate Latin America and the Caribbean (LAC) region and below the level of Chile, Costa Rica, Uruguay, Mexico, Ecuador, Jamaica, Nicaragua, and Barbados. However, since 1990, Panama's growth performance has been very strong and, by 2019, Panama had higher per capita output than any other LAC country.

10. Panama has the highest per capita income in Latin America.¹¹ In 2021, Panama's per capita income adjusted for PPP (US\$29,131), although markedly lower than before the pandemic, still outpaced that of Uruguay (US\$22,058) and Chile (US\$24,312) and remained well above such comparator countries as Costa Rica (US\$20,537) and the Dominican Republic (US\$19,646). Among advanced economies, Panama's closest comparators are Greece and Latvia.

⁹ In this report, "human capital per worker" means the following: all else equal, a worker with twice as much human capital produces twice as much per hour worked. Empirically, this is measured by the Penn World Table using years of schooling as well as country-specific wage-schooling Mincer regressions to estimate the effect on wages (hence productivity, all else equal) of each additional year of schooling in each country. For example, if an additional year of schooling is found to increase wages by x percent in a given country, then increasing the average level of schooling in the working population of that country by one year is assumed to increase human capital per worker by x percent.

¹⁰ See April 2020 Selected Issues Paper "Social Issues in Panama: Background and Policies" by Marina Rousset and Paola Aliperti F. Domingues, IMF Country Report No. 20/125.

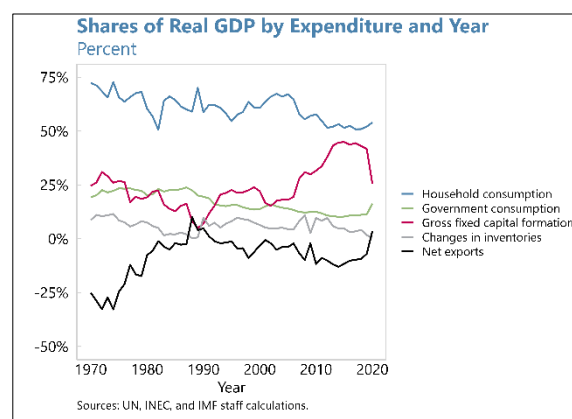
¹¹ Using IMF World Economic Outlook data.



C. Growth Decomposition

By Expenditure

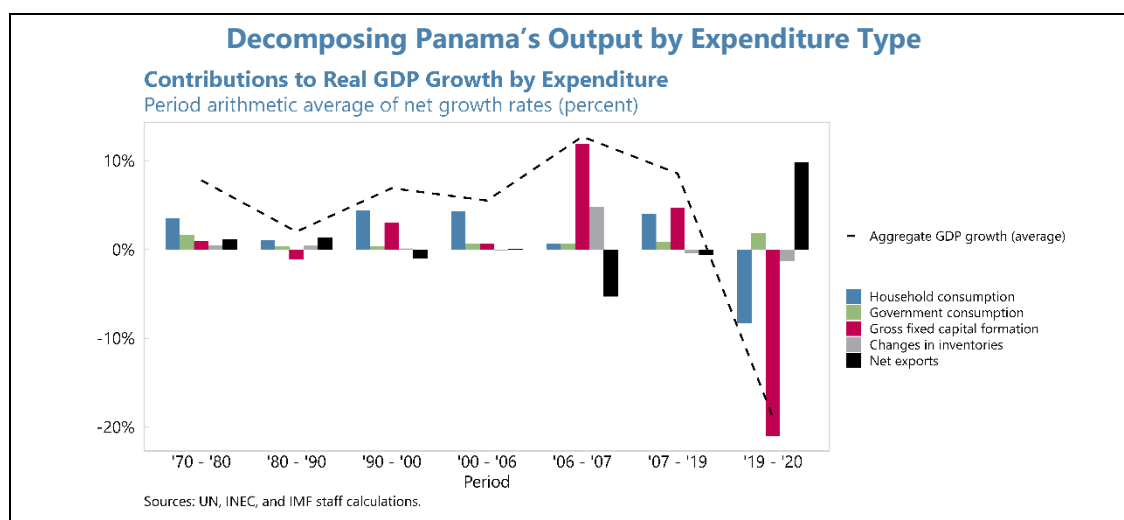
11. Since the 1970s, the share of Panama's household consumption in GDP has declined significantly, while investment has increased as a share of GDP. The share of household consumption in GDP had declined from 75 percent in 1970 to around 55 percent in the mid-1990s. After increasing to 65 percent over the following decade, since the mid-2000s it has again declined steadily to around 50 percent amid a boom in investment. Consistent with this, demand-side growth accounting by decade³⁸ shows that the direct contribution to output growth from investment was at its peak in the 2007-19 period. This rapid scaleup in investment was the most important growth driver during 2000-19: Panama's peak growth period as well as the time of its fastest rate of convergence to the United States and decoupling from the LAC average.



12. The prominence of investment in output means that growth in per capita income significantly overstates improvements in living standards. Ultimately, the goal of economic growth is to increase consumption (including consumption of leisure). While both household and government consumption have increased since 1970 (and since 1990), their share of GDP has significantly decreased, so that while Panama's output per capita is half of the United States', its consumption per capita is only one third of that of the United States.³⁹

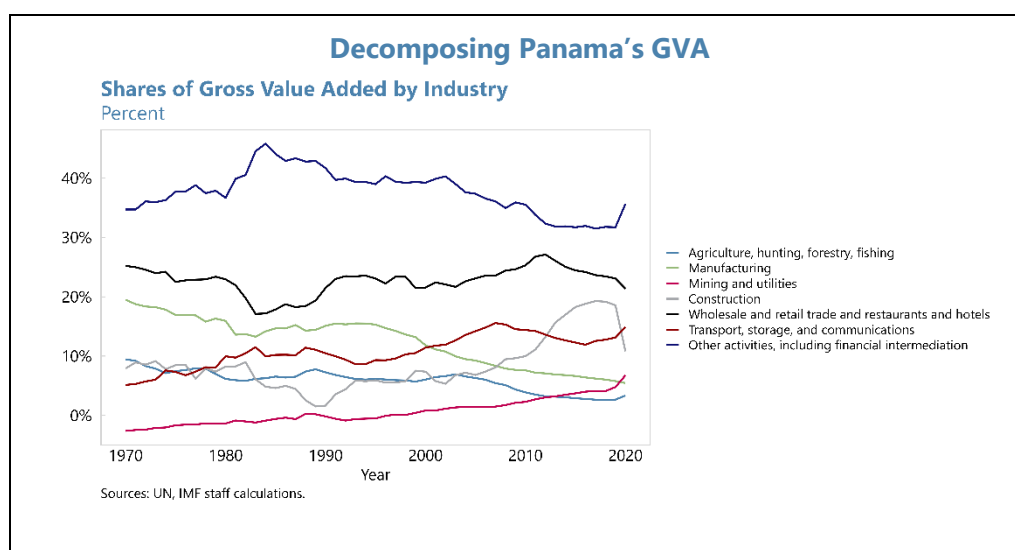
³⁸ The period 2006-2007 is shown separately as the base year for prices changed. Similarly, the period 2019-2020 is shown separately as it reflects the government mandated shutdown of construction during the COVID-19 pandemic.

³⁹ International Comparison Program, World Bank | World Development Indicators database, World Bank | Eurostat-OECD PPP Programme. And Staff calculations. The ratio is calculated by comparing multiplying the ratio of PPP-adjusted real income by the ratio of household consumption to GDP for Panama and the United States.



By Industry

13. The construction share in Gross Value Added (GVA) increased from an average of about 5 percent in the 1990s to 20 percent in the second half of the 2010s. This is consistent with the dynamics of gross fixed capital formation, which increased from 25 percent to 45 percent of GDP during the same time period, showing that construction was the driver of growth in investment. At the peak, about 39 percent of investment was going to construction.



14. Since 1970, the share of manufacturing declined steadily, reflecting a structural change in the Panamanian economy. In 1970, the share of manufacturing in GVA was 20 percent; in the mid-1990s, 15 percent; and by 2020, 5 percent. At the same time, the share of transport, storage, and communications (which includes toll revenue from the Canal as well as value added from related logistics activities) increased from 5 percent in 1970 to 10 percent in the mid-1990s and 15 percent in 2020. Low- and middle-income countries in Latin America have since the 1980s generally exhibited a pattern of declining GVA and employment share in manufacturing, consistent

with the case of Panama.⁴⁰ However, since the 2000s, Panama was able to leverage its role as a trade and logistics hub (e.g., the Panama Canal and complementary economic activities) for East-West trade to continue its fast rate of output growth.

15. The share of agriculture has also declined consistently since 1970, similar to other economies undergoing a structural transformation and diversifying into higher-value-added activities. Labor in Panama is four to five times less productive in agriculture than in, for example, construction.⁴¹ However, the agricultural sector is still the largest employer in Panama, suggesting that there are factors preventing agricultural workers from supplying labor to other sectors.

16. Finally, the mining industry has developed substantially in the last ten years. Wholesale mining and utilities shows an increase from essentially zero⁴² to 7 percent of gross value added, reflecting the opening of a very large copper mine. Later in this report we will discuss the mine in more detail, but as a preview, known ore reserves in Panama suggest the mining industry is unlikely to continue expanding at the current rate in the medium term.

By Input Type

17. A growth accounting exercise confirms that total factor productivity (TFP) in Panama has been slightly negative since 1990—though there are various plausible interpretations of this result with varying implications for Panama’s TFP growth outlook. TFP growth was positive (but small) in the 1990s and 2000s and very negative in the 2010s. During this period, growth acceleration was driven primarily by residential and commercial construction, the development of one of the largest copper mines in the world (Cobre Panama), and public investment projects like the Panama Canal expansion and the expansion of the Tocumen International Airport. Such investments take time to reach full utilization—for example, the new copper mine was operating at below 50 percent maximum output in 2019.⁴³ Neoclassical growth accounting mechanically attributes underutilization of capital to TFP,⁴⁴ leading to negative estimated TFP growth. To the extent that the decline in TFP reflects this channel, the former should be expected to reverse in the coming years (i.e., TFP should grow rapidly) as the capital becomes fully utilized. However, to explain a decline in TFP of 20 percent since 2009 given a capital income share of 2/3, it must be that around

⁴⁰ Dani Rodrik, “Premature Deindustrialization” 2015.

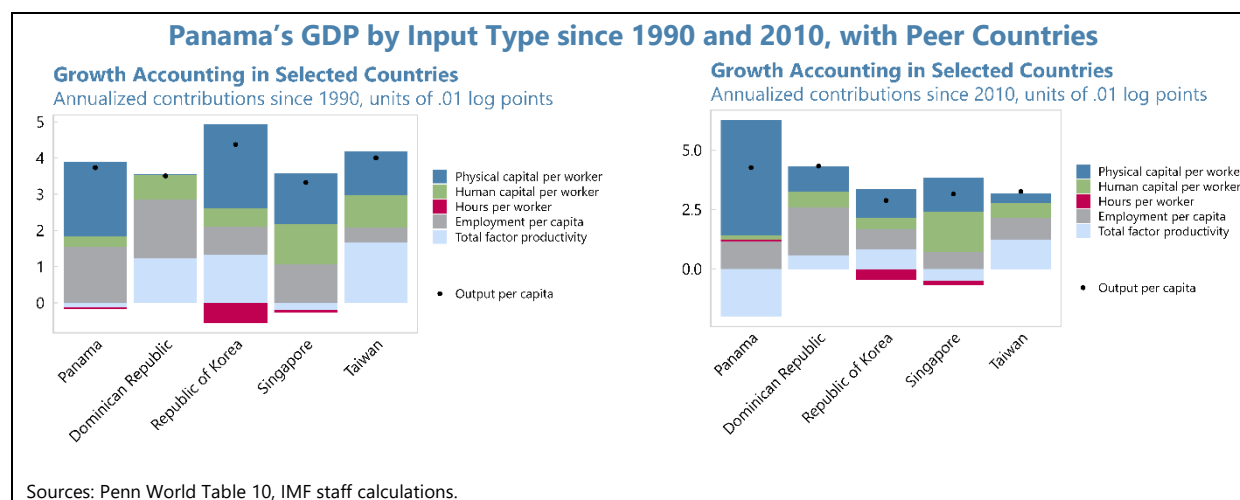
⁴¹ Hausman et al., “Appraising the Economic Potential of Panama: Policy Recommendations for Sustainable and Inclusive Growth,” 2017.

⁴² The contribution in early time periods is negative, likely due to utilities being priced below cost. Data from INEC, which is more disaggregated than what is shown here, shows that mining output was less than 1 percent of GVA in 1995.

⁴³ In 2022 it operated at an output level which is close to its maximum, which will be sustained for several years, and it has doubled its contribution to GVA since 2019.).

⁴⁴ See April 2020 Selected Issues Paper “Structural Policies in Panama: Background and Policy Recommendations” by Julia Faltermeier, IMF Country Report No. 20/125.

40 percent of the increase in the capital stock was not yielding output as of 2019,⁴⁵ which seems implausible, suggesting that other factors also contribute.



18. The decline in TFP may also reflect declining returns to scale or misallocation, in which case the decline should not be expected to reverse. Low, or even negative, TFP growth during times of fast expansion of the capital stock is not unusual—this was also seen in Singapore since 1970.⁴⁶ Declining TFP could reflect decreasing returns to scale in aggregate production, which would mechanically lead to lower estimated TFP as productive inputs increase if the production function is counterfactually assumed to have constant returns to scale. Indeed, the presence of land as a fixed factor in a constant returns to scale aggregate production function implies that production has declining returns in other inputs (see Bakker 2022). However, other explanations are conceivable as well. First, it may be that investment in Panama exhibits smaller spillover externalities to the rest of the economy than previously existing capital (i.e., it has no knowledge spillovers); however, this seems unlikely given that densely populated cities are associated with high productivity due to positive externalities from more frequent economic interactions. Second, construction investment could be misallocated due to distortions affecting firm incentives to expand or contract. Third, it could be that the construction yields output which is not measured in GDP (for example, due to the use of real estate as a store of value).⁴⁷ Under all of the explanations covered in this paragraph, the

⁴⁵ Capital per worker increased by about 0.7 log points. The labor force grew by about 0.2 log points, so the physical capital stock increased by about 1 log point (170 percent). With a capital income share of 2/3, an increase in unutilized capital per worker of 0.3 log points translates into a reduction in TFP of 0.2 log points, or about 20 percent. Hence, one can rationalize the fall in TFP if the effective increase in capital worker was instead of 0.4 log points, with the remaining 0.3 unutilized. Rather than doubling, effective capital per worker increases by 50 percent, and the effective capital stock doubled instead of increasing by 170 percent. The difference in the effective capital stock compared to 2009 according to this approach is 60 percent of what it would have been had the capital been fully utilized, hence the number in the main text above.

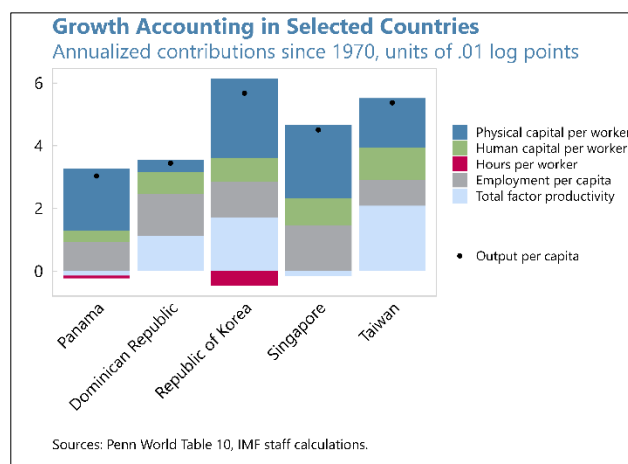
⁴⁶ From 1969 to 2019, TFP declined by 7 percent in both Panama and Singapore.

⁴⁷ In the case that construction is used a store of value, part of its output would be the service flow associated with holding a safe asset, rather than rental income, and thus would not be measured in GDP according to traditional GDP accounting methodologies. This is analogous to the value provided to the global financial system from US treasury bills is not counted in US GDP.

decline in measured TFP would be permanent in that it would not mechanically predict a rapid recovery in the short to medium term. Note, however, that in the last possibility, persistently low measured TFP reflects persistently underestimated output rather than low actual output.

19. Compared to other Asian Tigers, or even the fast-growing regional peer Dominican Republic, Panama has had significantly lower growth in TFP. While the experience of Singapore shows that it is possible to converge to the United States without any growth in TFP, other fast-growing economies in Asia (e.g., Taiwan and South Korea) which have converged faster than Panama, as well as the Dominican Republic which has converged slightly faster (though from a lower base in 1970), did so largely due to faster TFP growth (in addition to, like Singapore, exhibiting larger contributions from human capital per worker). If Panama had had the TFP growth of Korea or Taiwan since 1970 (2 percentage points per year), its output per capita would be nearly three times what it is today, above the level of Singapore. Even if Panama had had the TFP growth of the Dominican Republic since 1970, its output per capita would be 60 percent higher than it is today, around 75 percent of the United States.⁴⁸ South Korea, Taiwan, and the Dominican Republic are in some ways more suitable comparators to Panama than Singapore as they have more similar land area, whereas Singapore is much smaller and thus may be expected to see more severe decreasing returns to scale and hence lower TFP growth.⁴⁹

20. Compared with Singapore, lower growth of GDP per capita is mostly due to lower contributions from human capital (both employment per capita and human capital per worker). Panama has seen extraordinary rates of growth in physical capital stock per worker, driving much of the increase in output per capita, partly due to rapid accumulation and partly due to an economy with relatively high returns to physical capital. But while human capital has also grown substantially, it has contributed significantly less to growth in output per capita than in Singapore, making up 40 percent of the gap in output per capita growth since 1970. Similarly, the quality of Panama's labor force has increased less since 1970, making up 35 percent of the gap in output per capita growth.



21. The comparisons with other fast-growing economies point to a need to further develop human capital and total factor productivity. While the construction boom has been able

⁴⁸ Both of these calculations hold the path of capital per worker constant; however, higher TFP with a constant investment rate would likely lead to more capital accumulation per worker, amplifying the effect.

⁴⁹ Panama's land area is 29,157 square miles. Dominican Republic, South Korea, and Taiwan are of the same order of magnitude, at 18,704, 38,691, and 13,976 square miles, respectively. Singapore is much smaller, at 281 square miles. One caveat, however, is that Panama's growth is concentrated in Panama City.

to productively employ the labor force during the 2010s (subject to the caveats discussed in the previous paragraph), convergence to the United States will likely require a more educated and larger workforce relative to the population. While the Panamanian labor force receives a relatively high (compared to regional peers) and growing number of years of schooling, the quality of this schooling appears to be low, with a very small fraction of students achieving the highest levels of performance in internationally standardized math and science exams.⁵⁰ Moreover, there are many highly technical professions which foreigners are barred from working in, preventing the beneficial inflows of human capital and knowledge spillovers, although loopholes in such regulations mitigate their negative impact.⁵¹ In the medium to long term, the quality of education must be improved; in the meantime, Panama should facilitate the flow of highly educated foreign workers and encourage female labor force participation to supply human capital for high-value-added industries and induce knowledge spillovers to the domestic economy.

Box 1. Neoclassical Growth Accounting

Neoclassical growth accounting methodology attributes the contributions to per-capita real output growth in Panama since 1970 of physical capital per worker, human capital per worker, hours worked per worker, and employment per capita. This approach estimates and then uses a production function to assess the contributions of each factor. As is standard in the literature, aggregate output is assumed to be produced from physical and human capital following a Cobb-Douglas production function.

As a preliminary, suppose that aggregate output in year t , denoted Y_t , is given by

$$Y_t = A_t K_t^\alpha H_t^{1-\alpha}$$

Where A_t denotes total factor productivity and K_t and H_t denote physical capital and effective hours of human capital applied to production, respectively; and where $\alpha \in (0,1)$ is a parameter determining the optimal mix of physical and human capital in production.^{1/} Dividing both sides by population N_t and dividing and multiplying the right hand side by employment L_t yields

$$\frac{Y_t}{N_t} = A_t \frac{L_t}{N_t} \left(\frac{K_t}{L_t} \right)^\alpha \left(\frac{H_t}{L_t} \right)^{1-\alpha}$$

Letting M_t denote annual hours worked per employed worker, dividing and multiplying the right-hand side by $M_t^{1-\alpha}$ yields

$$\frac{Y_t}{N_t} = A_t \frac{L_t}{N_t} \left(\frac{K_t}{L_t} \right)^\alpha \left(\frac{H_t}{M_t L_t} M_t \right)^{1-\alpha}$$

⁵⁰ Hausman et al., "Shifting Gears: A Growth Diagnostic of Panama," 2017.

⁵¹ Ibid. Professions with such restrictions include history, geography, and civism; nursing; barbering and cosmetology; odontology; architecture; agricultural sciences; pharmacy; civil engineering; chemical engineering; chiropractic; nutrition; medicine; psychology; medical assistantship; accountability; journalism; laboratory technicians; public relations; speech therapists; medical radiology; economics; social work; veterinary medicine; physical therapy; law; dental assistance; sociology; and chemistry.

Box 1. Neoclassical Growth Accounting (Concluded)

Define $h_t = \log \frac{H_t}{M_t L_t}$ as the logarithm of human capital deployed per hour worked (i.e., a measure of the average level of human capital of workers), $\kappa_t = \log \frac{K_t}{L_t}$ as the logarithm of physical capital per worker, $\ell_t = \log \frac{L_t}{N_t}$ as the logarithm of employment per capita, and using lower case letters to denote logs of the other variables, we have

$$y_t - n_t = a_t + \ell_t + \alpha \kappa_t + (1 - \alpha) h_t + (1 - \alpha) m_t$$

The final equation above thus decomposes the logarithm of output per capita into contributions from the logarithms of TFP (a_t), employment per capita (ℓ_t), physical capital per worker ($\alpha \kappa_t$), human capital per worker ($(1 - \alpha) h_t$), and hours worked per worker ($(1 - \alpha) m_t$). In changes,

$$\Delta y_t - \Delta n_t = \Delta a_t + \Delta \ell_t + \alpha \Delta \kappa_t + (1 - \alpha) \Delta h_t + (1 - \alpha) \Delta m_t$$

That is, the change in log output per capita is a weighted sum of changes in TFP, employment per capita, physical capital per worker, human capital per worker, and hours per worker.^{2/}

¹ In perfectly competitive equilibrium, α is equal to the share of aggregate income going to owners of physical capital, with the remainder accruing to owners of human capital (i.e., workers). With imperfect competition, there is also a profit share owing to non-zero markups.

² While illustrative, the above is not exactly the approach we follow. We instead use the decomposition used by the Penn World Table to estimate the contributions to growth in output per capita, which is more general in that it allows for the possibility that the capital share α is time-varying, as estimated by the changing labor share of GDP. Specifically, letting $\Delta x_t = x_t - x_{t-1}$ for any variable and denoting $\tilde{\alpha}_t = \frac{\alpha_t + \alpha_{t-1}}{2}$, growth of log TFP is estimated by

$$\Delta a_t = \Delta y_t - \Delta n_t - \Delta \ell_t - \tilde{\alpha}_t \Delta \kappa_t - (1 - \tilde{\alpha}_t) \Delta h_t - (1 - \tilde{\alpha}_t) \Delta m_t$$

Rearranging, we have

$$\Delta y_t - \Delta n_t = \Delta a_t + \Delta \ell_t + \tilde{\alpha}_t \Delta \kappa_t + (1 - \tilde{\alpha}_t) \Delta h_t + (1 - \tilde{\alpha}_t) \Delta m_t$$

Note that this approach does not generally estimate exactly the value of a_t required to make the Cobb-Douglas production function hold. It is instead based on a more general approach. See the documentation of the Penn World Table here: https://www.rug.nl/ggdc/docs/the_next_generation_of_the_penn_world_table2013.pdf.

D. Drivers of Growth Over Time

The Panama Canal and Logistics Activity

22. The interoceanic Panama Canal is the most distinctive feature of Panama's economy and a transportation artery of global significance. The Panama Canal accounts for the passage of nearly 3 percent of the world trade volume—an estimated 2 percent of total global trade. Passing through the Panama Canal saves cargo ships nearly 28 days of travel at 12 knots (about 8,000 nautical miles, or approximately 60 percent of the journey around Cape Horn in South America). The Canal lies at the core of Panama's Transport, Storage and Communications sector,

Panama Canal Significance

Share of global maritime trade (%)	2.5
Maritime routes	180
Countries served	170
Connected ports	1920
Days saved (crossing Atlantic <-> Pacific)	28
Share of LPG trade (%)	24.3
Share of LNG trade (%)	4.8
Share of petroleum trade (%)	3.75
Share of container cargo trade (%)	3.25
Share of grain trade (%)	8
Key users, by cargo origin & destination	US, China

Source: Panama Canal Authority.

whose output share averaged 12.5 percent in 2010-21. In 2019, net income from the Canal alone accounted for about 2.3 percent of GDP and toll revenue equaled 3.8 percent of GDP, with the majority of operating expenses attributable to labor. Beyond direct benefits to the economy (including by providing jobs and purchasing goods and services from local suppliers), the Canal provides potable water to the cities of Panama and Colon, promotes tourism activities, and contributes to the development of the national maritime sector, professional training, and environmental protection⁵²). In addition, the Canal has complementarities with many other forms of economic activity, such as logistics, financial services, and multinational corporate headquarters.

23. Canal toll receipts have increased since Panama took over the Canal administration.

Tolls are assessed on the basis of the number of containers it's carrying (added to a fixed toll based on the ship's size), and there is a slightly higher rate for occupied ("laden") volume as opposed to unoccupied ("ballast").⁵³ Although tolls were based on the ship's carrying capacity (not actual cargo volume or weight) through 2022, there was a positive relationship between cargo weight and toll revenue, with toll revenue rising from about US\$100 million in the 1970s to about US\$3 billion in the last reading. In addition to seeing greater usage, the Canal has become more commercially viable since its transfer to the government of Panama. In terms of profitability, while the Canal was administered by the United States, it generally recorded near-zero net income, with toll receipts offset by operating expenses and depreciation. After the Torrijos-Carter Treaties was signed, however, the Canal remitted about US\$70 million per year to the Panamanian government until the handover was completed in 2000. By 2004, net income from the Panama Canal reached nearly US\$1 billion. In 2021, it was around US\$2 billion, about 3 percent of Panama's GDP.

24. Panama has benefitted from global growth and in particular growth in Asia, both on the input side (natural resources such as fuel shipped to Asia) and on the output side (finished products shipped back to the US and LAC east coast), without being as dependent on the whims of commodity market cycles as some other Latin American countries. This is not only due to Canal transits per se, but the logistics activity that sprang up around it: while the share of toll receipts in the economy has been declining gradually, the share of complementary activities such as transport, storage and communication has increased significantly since 1970,⁵⁴ with the increase concentrated in the 1970s and the 1990-2005 period (the latter may in part reflect the economic liberalization of the 1990s).

25. The Canal's supportive infrastructure and related activities help solidify Panama's comparative advantage in facilitating world trade. The quality of Panama's logistics sector compares favorably to both its regional peers and the peers in its income group across all measured dimensions (such as timeliness, tracking and tracing, logistics competence, international shipments, infrastructure, and customs), according to the World Bank's Logistics Performance Index.⁵⁵

⁵² Panama Canal article "Contributions and Benefits of the Canal to the Republic of Panama."

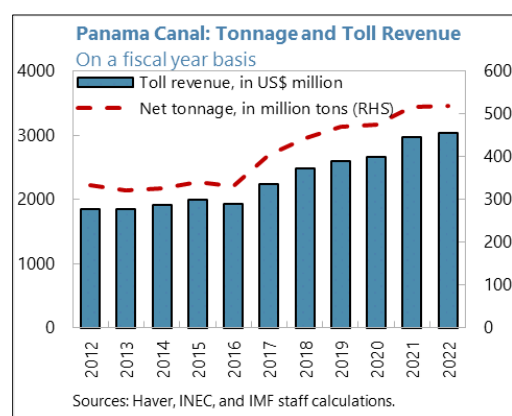
⁵³ The Canal's new toll structure takes effect from January 2023 onwards.

⁵⁴ Transport, storage, and communications increased from 5 percent of GVA in 1970 to 15 percent of GVA in 2019.

⁵⁵ <https://lpi.worldbank.org/international/scorecard/radar/254/C/PAN>

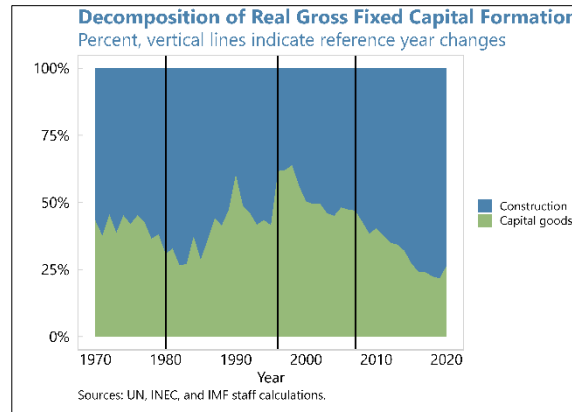
Moreover, it improved in all dimensions over time, enhancing Panama's role as a regional logistics center. The sector is supported by port, road and railway infrastructure that facilitates distribution and an international airport that enhances physical connectivity while the optical fiber cables passing through the Canal increase digital connectivity. These factors taken together, along with financial intermediation and other corporate services, boosted Panama's transformation into a transportation and logistics hub building on the value of its main asset—the transoceanic canal.

26. After the 2016 expansion, the Canal's toll revenues and tonnage progressively increased. The expansion of the Canal doubled its capacity by adding a new lane of traffic allowing for a larger number of ships and increasing the width and depth of the lanes and locks allowing larger ships to pass. The increase in transit capacity has led to a rise in both passenger and container flows, reflected in higher toll revenue and shipping tonnage. The Canal expansion allowed ships laden with over 15,000 containers (triple its previous capacity) to gain access to new markets, in addition to opening the Canal to large cruise ships and expanding hydrocarbon gas liquids transit by allowing liquified natural gas (LNG) tankers to pass through⁵⁶ and facilitating the transit of the liquified petroleum gas (LPG), mainly from the US to Asia.



Construction Activity

27. Construction has boomed during the 2000s, particularly in the last decade, driving the increase in fixed capital accumulation. Since 2000, annual real gross fixed capital formation has increased by a factor of about 5. During the same time period, the share of construction in fixed capital formation increased from 50 percent to 75 percent. Viewed another way, of the 382 percent net growth in fixed capital formation, 328 percent was due to construction and only 54 percent to capital goods investment.

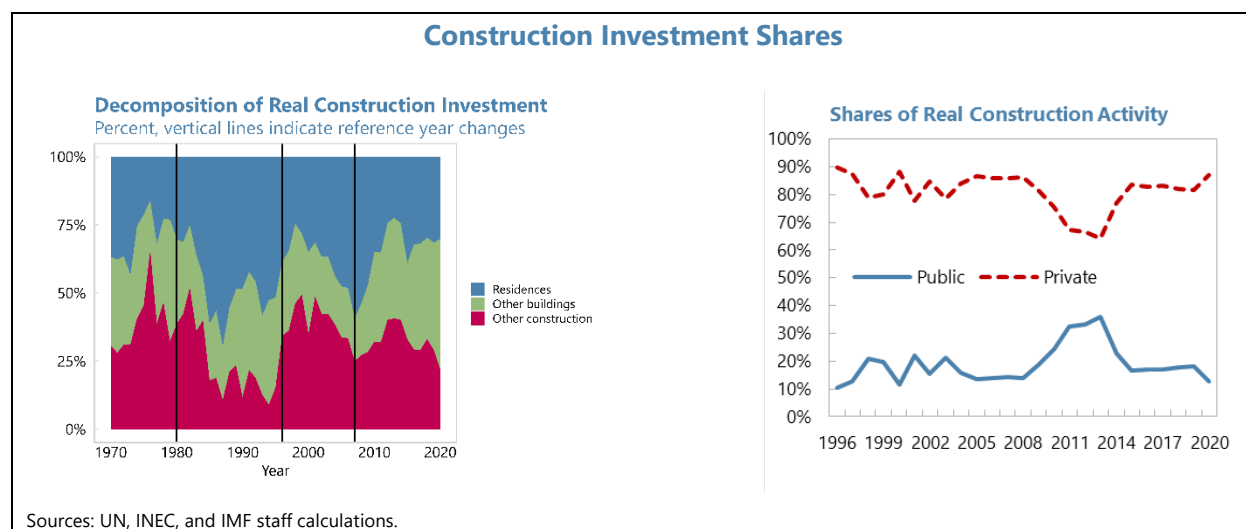


28. While the construction boom since 2000 has included several large public construction projects, about 75 percent of it was in private construction of residential and commercial buildings. The construction boom began in the 2000s with rapid increase in the share of residential construction alongside a decline in the share of other construction. Public construction also began to increase rapidly since 2009, reaching a peak of one third of overall construction (see figure below), with the airport expansion, new metro line, and Canal expansion occurring simultaneously. Since then, public construction returned to its pre-boom share of construction of around 20 percent.

⁵⁶ LNG tankers never crossed the Canal before the 2016 expansion.

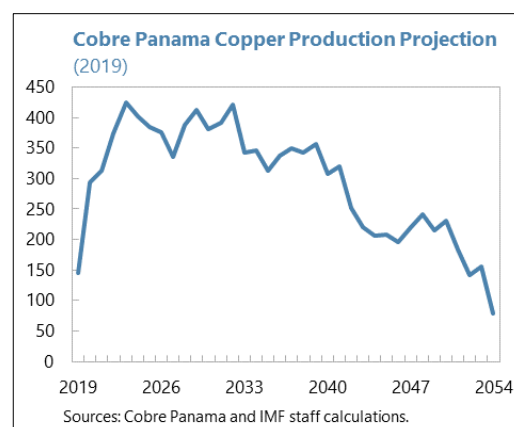
The bulk of the increase in construction since 2008 reflects commercial real estate. Initially, this reflected the construction of skyscrapers, with 37 of Panama City's 50 largest skyscrapers, including the largest, being built between 2008 and 2014.⁵⁷ By contrast, the last wave of commercial real estate was not driven by tall skyscrapers, with only one of the 50 tallest buildings being constructed since 2014 (in 2017).

29. The construction boom began to wane even pre-pandemic while during the pandemic, construction activity declined dramatically. Overall construction activity started to ease even before the pandemic, with the share of GVA plateauing at around 17.5 percent in 2017 and starting to decline gradually in 2018, reaching 17 percent of GVA in 2019. During the pandemic, construction was locked down, explaining the large short-term decline in construction output in 2020. However, since the pandemic restrictions were lifted (including all of 2021), construction has only recovered to about 11.5 percent of GVA, with real output of the industry at about 2/3 of its pre-pandemic level. It is not yet clear if this reflects the end of the construction boom or lingering effects of the interruption of construction activity in 2020 due to lockdowns.



Mining Activity

30. Cobre Panama is one of the largest new copper mines in the world and in 2021, operating at close to full capacity, generated about 7 percent of gross value added. The opening of the Cobre Panama copper mine has increased aggregate real mining output by a factor of three, with its share of gross value added increasing from about 2.5 percent to 7 percent. This has played a significant role in offsetting the decline in construction since 2019. However, as of 2021 the mine was operating at about



⁵⁷ https://en.wikipedia.org/wiki/List_of_tallest_buildings_in_Panama_City

75 percent of full capacity, so it is unlikely to be a major source of growth in the medium term. In the longer term, output from the mine is expected to peak in around 2023 and remain roughly constant until around 2030, after which point it declines until becoming exhausted in about 2050. The scope for scaling up mining operations in Panama is limited and the sector is unlikely to become a major contributor to national output.⁵⁸ However, Panama's experience with Cobre Panama—namely, its dispute over the royalties structure and corporate taxation—sets an important precedent, not just for future mining operations in the country but also for the general investment climate, which is key for attracting new industries.

E. Conclusion

31. Panama has seen a period of remarkable growth and accelerated income convergence, but the drivers of growth may change going forward. Panama has benefitted from its geography, and timely infrastructure development coupled with market liberalization reforms and trade openness⁵⁹ have contributed to its economic performance and income convergence with the US ahead of regional peers. Growth decomposition shows that much of the scaleup in output came from investment, especially in construction, in the recent years, while mining activity emerged as a new source of GVA with the development of Cobre Panama. Throughout Panama's history, its transportation capacity, namely via the Panama Canal, has remained a significant and sustained source of the country's revenue and development. Going forward, diversifying the economy should be a priority, in particular due to the risk of de-globalization hindering growth in world trade (particularly East-West) as a result of growing geopolitical tensions. Thus, Panama's ability to maintain resilient and rapid growth, and perhaps become the first advanced economy in Latin America, may depend less on investment in construction projects and physical capital, and more on human capital and TFP-enhancing innovation.

⁵⁸ The only other known mining development is a 2021 pre-feasibility study done by Orla Mining (a Canadian mining company) for a Cerro Quema project in Los Santos, Panama. The project contains probable reserves of gold, silver and copper with US\$117 million in investment and an estimated six-year mine life (for comparison, Cobre Panama has US\$6.3 billion in investment and had, as of end-December 2021, the mine life is 34 years), so this is a much smaller operation, currently awaiting mining permits from the government.

⁵⁹ Panama has concluded over a dozen free-trade agreements that cover trade relations with over 40 countries and territories.

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MEASURING RESERVES AND ASSESSING RESERVES ADEQUACY¹

Measuring reserves and assessing international reserves adequacy in fully dollarized economies can be challenging. The role of international reserves may be different for these countries compared to countries with their own currencies. In addition, quantifying external risks and the opportunity costs that they face may be complex. This paper complements existing research by: first, exploring the challenges and judgements needed in measuring international reserves in dollarized economies according to country circumstances; and second, deriving a “synthetic” measure of international reserves for Panama and assessing its adequacy. As Panama does not have official international reserves, this paper proposes to use the statutory liquid assets in its banking system as its closest approximation. The paper is arranged in six parts: Section A provides an introduction. Section B summarizes the experiences of a sample of dollarized countries. Section C illustrates a stylized balance sheet of a central bank, depicting how international reserves are shown in a country with a central bank. Section D discusses the liquidity buffers in Panama’s banking sector, while Section E synthesizes the illustrative measures of Panama’s international reserves to gauge reserves adequacy using the IMF metric. Section F discusses an indicator for government liquidity. Finally, section G concludes with a discussion of the policy implications.

A. Introduction

This Paper Tries to Answer Two Questions

1. What are international reserves of a country that does not have its own central bank? In the absence of central bank, the IMF, for statistical purposes, has defined Panama’s international reserves as the net foreign assets of BNP (a large government-owned commercial bank in Panama), after adjusting for IMF transactions. Since BNP is a commercial bank, its net foreign assets correspond to the bank’s policy of diversification of assets and may not represent the international reserves of the country.

Liquidity Buffers: Central Government and Banking System

Liquidity	Details
Central government	Excess cash placed as deposits in Banco Nacional de Panama (BNP)
Banking system	Short-term assets with maturities up to 186 days, comprising • <i>Assets held abroad (84%):</i> ◦ Deposits in foreign banks (29%), ◦ Investment in foreign liquid assets (24%) ◦ Loan service installments up to 186 days (15%) ◦ Other liquid assets (16%). • <i>Assets held locally (16%):</i> ◦ Deposits in Panamanian banks (6%), ◦ Legal tender money in Panama (3%), ◦ Panamanian T-Bills (1%)

Sources: Banco Nacional de Panama (BNP), Superintendency of Banks (SBP).

2. What is the appropriate reserve coverage for fully dollarized economies? Dollarized economies do not need reserves to stabilize the exchange rate and does not face the risk of

¹ Prepared by Julian Chow, Olga Bernalova (both WHD), and Alberto Soler (FAD).

currency mismatches. Existing literature suggests that in fully dollarized economies, “liquidity buffers” in the adopted foreign currency are needed to support domestic financial institutions, including cross border deposit withdrawals, and government financing needs. Moreover, Panama’s need to hold a foreign exchange liquidity buffer differs from non-dollarized countries as it does not face the risk of exchange rate fluctuations and currency mismatches.

Challenges in Measuring Reserves

3. Defining reserves in a fully dollarized economy without a central bank is challenging.²

As a very open economy with a large financial system, Panama receives the U.S. dollar supply through the balance of payments by cross-border financial transactions, international trade, public borrowing, and investment. In principle, any dollar in the economy could be used for international trade or for cross-border financial transactions. Moreover, without a central bank, Panama cannot accumulate reserves by issuing base money in exchange for FX assets ([IMF \(2013; 2015\)](#)). Instead, the country may accumulate reserves through deposits from the central government or a buildup of deposits in the banking system. Panama—being fully dollarized—does not need international reserves in order to smooth exchange rate fluctuations or prevent currency mismatches in the balance sheets. As such, reserves act more as a buffer in the financial system and the public finances.

4. In the absence of central bank, the IMF, for statistical purposes, has defined international reserves as the net foreign assets of BNP. As BNP is a commercial bank, its net foreign assets will depend on the bank’s internal operations decisions and may not represent the international reserves of the country. Notwithstanding, Panama’s need to hold a foreign exchange liquidity buffer differs from non-dollarized countries as it does not face the risk of exchange rate fluctuations and currency mismatches.

Challenges in Assessing Reserve Adequacy

5. How much reserves a country needs is a challenging question. In conjunction with sound policies and fundamentals, reserves are a critical external buffer for most economies as they can help reduce the likelihood of BOP crises and help preserve economic and financial stability. As a central part of countries’ external resilience, examining reserve adequacy is vital to any external sector assessment and represents an important part of the debate on economic and financial developments, policies, and risks in a country. But, doing so may be challenging—not just because of the multiple roles played by reserves, but also due to the complexity of quantifying external risks and vulnerabilities, and the opportunity cost each country faces. Therefore, the assessment should be based on—and tailored to—the specific country characteristics, vulnerabilities, and circumstances.

6. The IMF has developed its own reserve adequacy metric, but the use of other relevant statistics is encouraged. The IMF’s reserve adequacy (ARA) metric for EMs was proposed as a tool

² The term “fully dollarized economies” is used for countries which adopted a currency of another state as its legal tender.

to help inform a comparable assessment across its membership, while balancing simplicity and completeness (Box 1).³ A key motivating factor was the experience of past BOP crises, characterized by multiple channels of market pressure, which suggests the need to hold reserves as a buffer against multiple vulnerabilities and a broad set of risks.

Answers to These Challenges

7. To measure reserves, this paper proposed a synthetic international reserve indicator. It also argues that cash buffers of the central government is another important liquidity indicator. These cash buffers are held as deposits at BNP.⁴ Section C provides further details.

8. Adequacy of reserves. The answer to this question is indeed a difficult one as it calls for judgment. The existing ARA metric was developed for two exchange rate regimes (fixed and floating) whereas Panama is a fully dollarized economy. One workaround method would be to compare Panama with the ARA metrics of countries with fixed exchange rate regime, with a caveat that Panama's exchange rate is assumed to be in the category of "fixed" regime. Additionally, Panama's ratio of "synthetic international reserve" to GDP could be compared with other emerging economies to gauge where the country stands.

Box 1. How Does the ARA EM Metric Work?

The ARA EM metric was developed by the IMF as an additional metric to gauge the adequacy of international reserves.¹ It comprises four components reflecting potential drains on the balance of payments:

- **Export income** to take into account the potential loss from a drop in external demand or a terms of trade shock
- **Broad money** to capture the risks of residents' capital flight through the liquidation of their highly liquid domestic assets
- **Short-term debt** to reflect debt rollover risks
- **Other liabilities** to reflect other portfolio outflows.

The relative risk weights for each component are derived based on the 10th percentile of observed outflows from EMs during exchange market pressure episodes, according to two exchange rate regimes—fixed and floating (Table 1).

³ The IMF's reserve adequacy metric for Emerging Market (EM) aims at assessing the prudent level of reserves—liquid assets denominated in foreign currency plus gold, controlled by a central bank and available for external payments and exchange rate management—held by countries, taking account of the benefits and costs of holding them. IMF (2012; 2016) provides further details.

⁴ Cash buffers of the government and liquidity reserves of the banking system are not independent. To the extent that the government draws down its deposits to pay for imports, this will reduce both government deposits and liquidity in the banking system.

Box 1. How Does the ARA EM Metric Work? (Concluded)

In general, reserves in the range of 100-150 percent of the composite metric are considered broadly adequate for precautionary purposes. Box Figure 1 shows the reserves of selected Emerging Economies, as measured in percent of the ARA Metric in 2021.

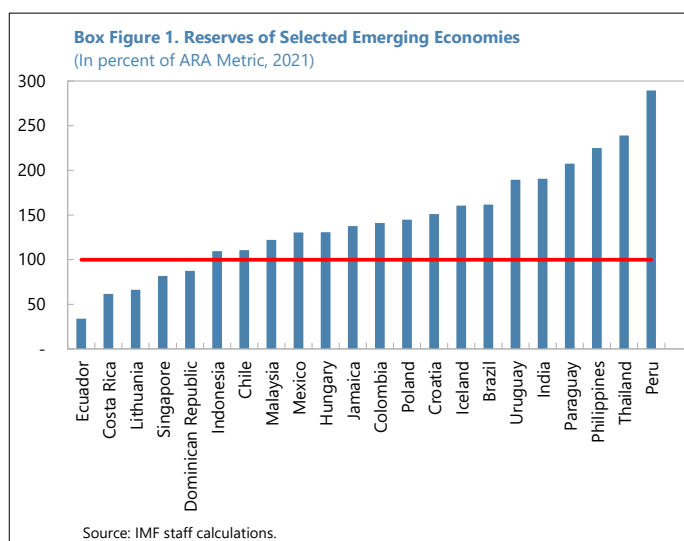


Table 1. Reserve Adequacy Metric and Exchange Rate Regimes

(In Percent)	Exchange Rate Regime	Short-term Debt	Other Liabilities	Broad Money		Export
				Without CFM	With CFM	
Weights	Fixed	30	20	10	5	10
	Floating	30	15	5	2.5	5

Source: IMF.

Note: CFM = Capital Flow Management

1/ Other traditional metrics include import coverage, ratio of reserves to short-term debt, and ratio of reserves to broad money.

B. Experiences from Other Countries

Background

9. Twelve countries do not have their own legal tender, but use the currency of another country. Among them, seven economies have adopted the U.S. dollar, namely three in the Western Hemisphere (Ecuador, El Salvador, and Panama) and four in the Asian Pacific (Republic of Marshall Islands, Federates States of Micronesia, Palau, and Timor-Leste). Three other (non-eurozone) economies adopted the euro (Kosovo, Montenegro, San Marino), while the remaining two opted for the Australian dollar (Kiribati, Tuvalu). These countries are diverse in their size, location, level of development, market access, and institutions (Annex I). Six countries officially have a central bank, although with functions limited to: (i) promoting financial stability and financial supervision;

(ii) providing financial services to the state and the public administration; and (iii) facilitating payment systems. In other countries, the national or development banks usually perform the last two functions. One country (Republic of Marshall Islands) has neither monetary authority nor a public bank. Also, one half of the sampled countries still use an official legal tender (but only as coins), motivated by the high costs of importing coins from abroad.

10. The adoption of the foreign legal tender involves important trade-offs. In addition to anchoring inflation and safeguarding financial stability, the adoption of a foreign currency as legal tender is also motivated by close trade and financial links with the country-issuer of the pegged currency, labor mobility, limited administrative capacity, and consideration of a stable monetary anchor. However, these advantages come at a cost of being unable to: (i) use monetary policy as a macroeconomic stabilization tool; (ii) earn seignorage (as no monetary base can be issued); (iii) manage external competitiveness in a flexible manner; (iv) act as a lender of last resort; and (v) accumulate foreign reserves through FX intervention. Notably, only five of these economies (three in Central America and two in Europe) have access to international capital markets, and therefore, are able to raise adequate external financing.

Reserves Adequacy Considerations

11. When assessing the reserve adequacy of economies with foreign legal tender (in Article IV reports), IMF staff has supplemented or modified the definition of the international reserves. For example:

- *Micronesia, Palau, and Republic of Marshall Islands:* IMF staff measured reserves by U.S. dollar deposits by the government in local banks (IMF (2016b; 2018a; 2018c; 2019c)).
- *Timor-Leste:* Instead of standard international reserves, IMF staff reported “public foreign assets”, which include the Petroleum Fund balance and the central bank’s official reserves (the former being significantly greater than the latter).
- *Tuvalu:* IMF staff added foreign assets of the National Bank of Tuvalu (a public bank), Consolidated Investment Fund, and SDR holdings.
- *San Marino:* IMF staff estimated the aggregate liquidity buffers, which include international reserves and decentralized liquidity buffer held by commercial banks outside of the Central Bank of the Republic of San Marino (CBSM).⁵

12. In other cases, IMF staff had modified the metrics for gauging reserves adequacy.⁶ This is supported by the rationale that fully dollarized/ euroized economies’ primarily need foreign

⁵ <https://www.imf.org/en/Publications/CR/Issues/2020/04/01/Republic-of-San-Marino-2020-Article-IV-Consultation-Press-Release-and-Staff-Report-49297>.

⁶ It is worth noting that most countries have been using standard adequacy metrics.

reserves to provide liquidity to domestic financial institutions, finance government, and repay short-term external debt. For example:

- IMF staff substituted traditional foreign reserves with the central government deposits and compared them against imports (Micronesia, Palau, Republic of Marshall Islands) and government spending (Micronesia, Palau), using the minimum of one and three months, respectively, as benchmarks.
- *San Marino*: IMF staff developed an alternative adequacy metric, which includes: (i) 100 percent of demand deposits of banks, reserve requirements at the CBSM, and contingent liabilities to banks; (ii) two standard deviations of the historical series of CBSM financing provided to the government (about two months of government spending); (iii) any committed credit line the CBSM has given to the government; and (iv) 100 percent of demand deposits from other public institutions. In addition, they evaluated the sufficiency of the government deposits in terms of the number of months of the government spending.⁷
- *Montenegro*: IMF staff modified the IMF adequacy metric for countries with fixed exchange rate regime by replacing the concept of broad money with deposits, while raising the weight of its component from 10 percent to 15 percent and eliminating a component of the other liabilities.⁸
- *El Salvador*: IMF staff computed reserves adequacy as a sum of 30 percent of the short-term public debt at remaining maturity, 30 percent of deposits, and 1 month of the Central Government budget, *minus* the Central Bank's funds.
- *Ecuador*: IMF staff supplemented standard reserve adequacy metrics by an absolute reserve floor that comprised the minimum liquidity buffers needed to confront potential reserve drains from the banking and fiscal sectors. Under this criterion, reserves should be sufficient at least to cover: (i) all deposits of the banking system at the central bank; (ii) money issuance (e.g., coins) and securities issued by the central bank (*Títulos del Banco Central del Ecuador*); (iii) electronic money; (iv) a measure of volatility of public credit; and (v) contingent liabilities.

C. A Stylized Central Bank Balance Sheet

13. In a country with a central bank, the central bank's balance sheet typically comprises domestic currency liabilities, and a varying mix of domestic and foreign currency assets. (Table 1).

- **On the liability side, the main liabilities comprise currency in circulation (coins and notes) and reserves of commercial banks (required reserves plus excess reserves).** In addition, the government places its excess cash with the central bank as deposits. Non-monetary liabilities

⁷ See Annex III "Reserve Adequacy for San Marino" in the 2019 Article IV Consultation Staff Report.

⁸ Reserves = 10 percent of X + 30 percent of STD + 15 percent of Deposits.

consist of securities issued by the central bank as instruments for monetary policy. A number of central banks also use their own securities for repo operations and collateralized lending.

- **The equity capital of a central bank may be low, but substantial reserves are usually built from retained earnings.**⁹ Their equity is generally not traded and are implicitly backed by the government's ability to raise taxes. They are not concerned with profit maximization; some central banks have arrangements governing the extent to which profits are used to increase their capital or paid to the government.
- **On the asset side, the central bank generally has a mixture of foreign currency assets ("international reserves") and domestic currency assets (mostly government bonds and some deposits with banks).** Sources of international reserves include surpluses in trade and international investment. In a floating exchange rate regime, swapping between foreign currency assets and domestic currency assets can be an important means of influencing the exchange rate. Domestic monetary policy is often implemented by sales and purchases of the domestic currency assets.

Table 1. Panama: A Central Bank's Balance Sheet	
ASSETS	LIABILITIES AND CAPITAL
Net foreign assets	Reserve money
Net domestic assets	<i>Currency in circulation</i>
	<i>Reserves of commercial banks</i>
	Deposits liabilities
	<i>Government</i>
	<i>Commercial banks</i>
	Non-monetary liabilities
	<i>Central bank securities</i>
	Equity capital

14. For Panama, which does not have a central bank, we will look at the balance sheet of the banking system, which has a few important differences from the balance sheet of a central bank.

- **The "asset" side comprises predominantly liquidity in the banking system, while the "liabilities" side is constituted by deposits from the public and private sector** (Table 2). Commercial banks (including BNP) deposit the bulk of their liquid assets abroad (close to 90 percent) in the form of deposits in overseas banks, investment in liquid global bonds and other

⁹ [Hawkins \(2003\)](#) notes that low capital may be desirable as there may be better uses for public funds. Moreover, a low-capitalized central bank will have to be more circumspect in its lender of last resort operations, thus minimizing moral hazard.

liquid foreign assets.¹⁰ This is akin to net foreign assets (which is defined as “international reserves”) in a traditional central bank’s balance sheet.

- **The “liabilities” side comprises mainly deposits from the government and private sector (households and corporations).** The deposits from the public sector are mainly central government’s excess cash deposited at BNP.

Table 2. Panama: Banking Sector’s Balance Sheet

ASSETS	LIABILITIES
<i>Foreign assets</i>	<i>Deposits liabilities</i>
<i>Liquid assets^{1/}</i>	<i>Government</i>
<i>Other assets</i>	<i>Private sector</i>
<i>Domestic assets</i>	
<i>Liquid assets^{2/}</i>	
<i>Other assets</i>	

1/ Comprises 84 percent of total liquid assets with maturity of 186 days and below.

2/ Comprises 16 percent of total liquid assets with maturity of 186 days and below.

15. Given that liquidity in the banking system mimics “international reserves” in a typical central bank, this indicator can be used as a synthetic measure for Panama’s “international reserves”. On the asset side of Panama’s banking system balance sheet, close to 90 percent of the statutory liquid assets (maturities of up to 186 days¹¹) are kept as foreign assets, akin to international reserves (net foreign assets) in a typical central bank’s balance sheet. Findings from the [IMF Guidance Note on the Assessment of Reserve Adequacy and Related Considerations \(2016\)](#) support this measure. It argues that fully dollarized economies may need “liquidity buffers” in the adopted foreign currency to support domestic financial institutions and government financing needs.¹² Moreover, as the existing IMF definition of international reserves only accounts for net foreign assets of BNP (which is a subset of the banking system), establishing a synthetic international reserve indicator by using liquid assets in the banking system would be a more appropriate approach.

¹⁰ The remaining liquidity is held in domestic treasury bills, interbank deposits, and cash kept in branches for banking operations.

¹¹ As per definition in the statutory Legal Liquidity Requirement.

¹² Liquidity pressures in banks could result from outflows from the financial system, which can originate from various sources including a decline in exports, a sudden stop in external financing, non-resident flight, or a resident run. In addition, governments may wish to maintain additional fiscal savings as buffer against unexpected fluctuations in revenue or spending since funding in the adopted currency may be difficult in times of stress.

16. As changes in government deposits at BNP could lead to changes in liquidity in the banking system, setting up a second indicator for government liquidity is important.¹³ This indicator would ensure that “international reserves” are adequate to repay the government’s external debt obligations. The positive relationship between international reserves and central government deposits is also seen in dollarized economies with central banks, such as a Kosovo and El Salvador (Annex II).

D. Liquidity in Panama’s Banking Sector

17. Liquidity in the banking sector is high, due both legal requirements and conservative banking practices.¹⁴ Panama’s Banking Law of 2008 stipulates that banks must hold a minimum amount of liquid assets against qualifying deposits as the statutory liquidity requirement set by the Superintendency of Banks (SBP).¹⁵ Pursuant to the Banking Law of 2008, the SBP defines the statutory liquidity requirement as “Legal Liquidity Index” (LLI),¹⁶ set at a minimum of 30 percent of qualifying deposits. This compares well with other dollarized economies. For example, the minimum requirements in Kosovo and El Salvador are 10 and 21.6 percent of total deposits, respectively. Since 2009, the LLI in Panama had been significantly above the minimum requirement of 30 percent, between 50-70 percent. As of end-2021, the LLI stood at 60 percent, and the total amount of liquid assets in the banking sector amounted to 51 percent of GDP.

18. Further measures are underway to complement the Legal Liquidity Index. The authorities have gradually phased-in Basel III liquidity coverage ratio (LCR) in 2022. As of November 2022, all general licensed banks have met the LCR requirement. In addition, the authorities are considering implementing the Net Stable Funding Ratios (NSFR), in addition to other Basel III capital measures such as capital conservation buffer and surcharge for domestic systemically important banks.

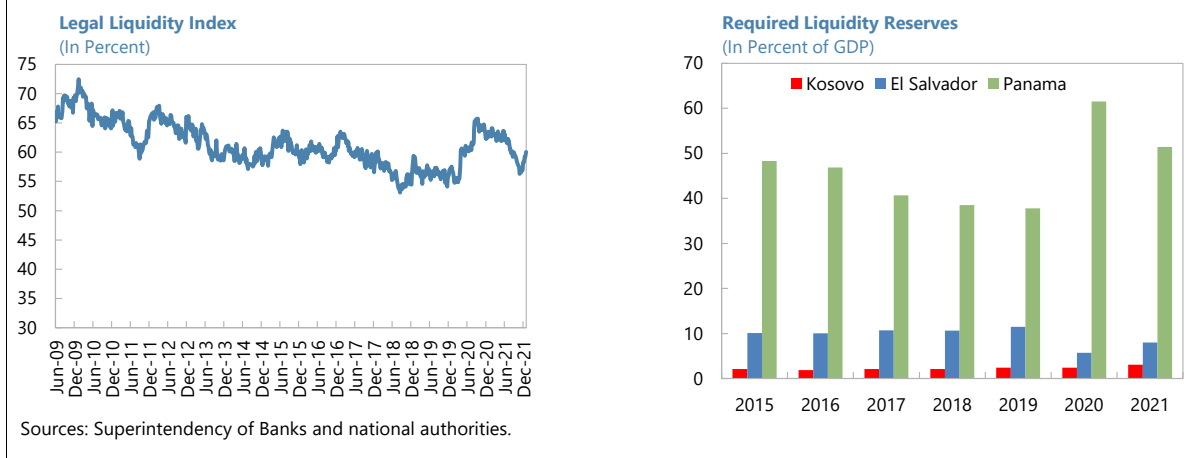
¹³ For example, if the central government deposits more cash in BNP, the asset side of the BNP’s balance sheet will increase in the same proportion as the increase in its deposits liability (double-entry accounting). Assuming that BNP keeps this increment as its deposits in overseas banks (or in other forms of liquid assets) instead of lending it as loans, the total liquidity in the banking system will increase.

¹⁴ It is worth noting that Panama is a financial center, which gives rise to a large share of banks’ liquidity buffers as well as external debt.

¹⁵ Qualifying deposits include private deposits, bank deposits, and deposits from other financial institutions with a maturity up to 186 days. Deposits received from the parent banks are excluded from this requirement. Liquid assets are short-term assets with maturities below 186 days.

¹⁶ Computed as a ratio of total balance of liquid assets to qualifying deposits.

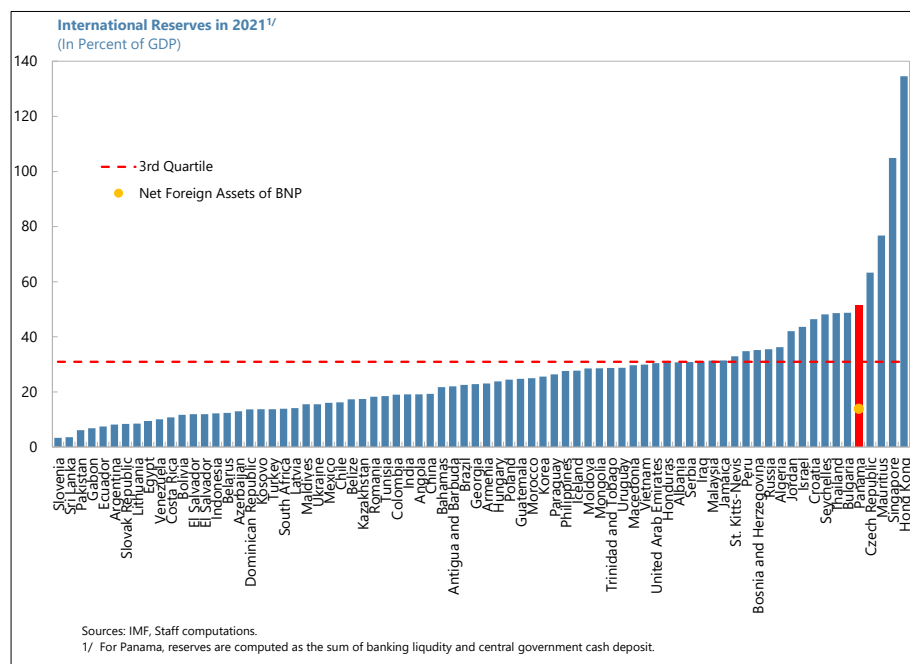
Figure 1. Panama: Statutory Liquidity Reserves



E. Measuring Panama's International Reserves Adequacy

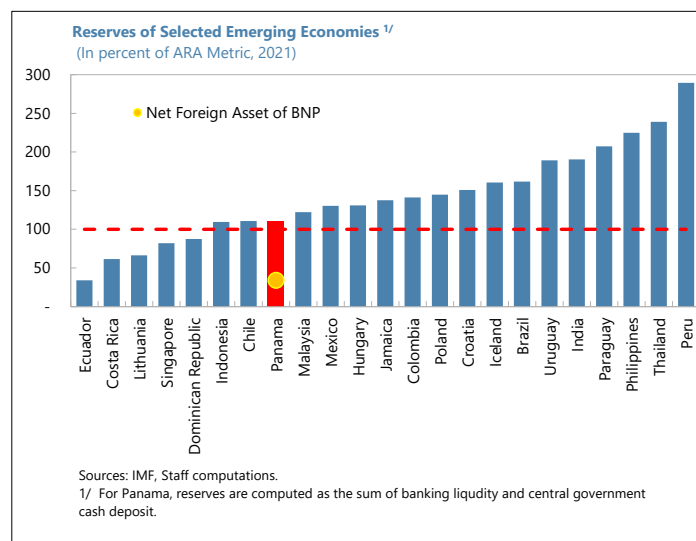
19. Our proposed synthetic measure of international reserves for Panama appears to be relatively high.¹⁷ Specifically:

- **Reserves as a percent of GDP:** Panama's (synthetic) international reserves amounts to 52 percent of GDP, compared to 14 percent of GDP when computed as the net foreign assets of BNP. Within a sample of 76 emerging economies, Panama's synthetic reserves to GDP ratio ranks among countries in the third quartile, indicating relatively high levels of reserves.

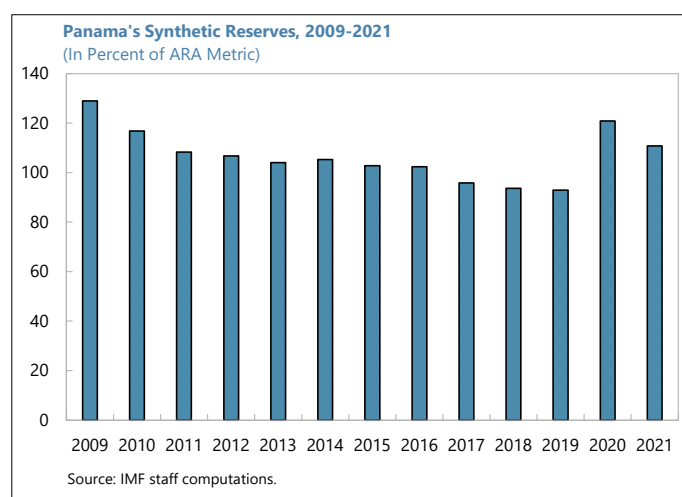


¹⁷ Measured by banking sector liquidity (defined as short-term liquid assets with maturities below 186 days).

- **ARA Metric:** Acknowledging a caveat that the ARA metric derives its relative risk weights according to only two exchange rate regimes (fixed and floating) whereas Panama is a fully dollarized economy, if we assume that Panama's exchange rate is in the category of "fixed" regime, Panama's synthetic international reserves are equivalent to 110 percent of the standard IMF's ARA metric (within the range of 100-150 percent of the metric that is considered broadly adequate).¹⁸ If Panama's international reserves are measured as BNP's net foreign assets, it amounts to only 34 percent of the standard IMF's ARA metric.



20. The synthetic international reserves were also in line with the standard thresholds over the last decade. Since the implementation of the statutory legal liquidity index in 2009, the banking sector's liquid assets averaged around 60 percent of short-term liabilities, well above the minimum requirement of 30 percent.¹⁹ In addition, fiscal reserves had been above the benchmark of 1 month of expenditure, with an average coverage of 2.4 months of central government expenditure from 2009 to 2021 (above the benchmark of one month of central government expenditure for dollarized economies).²⁰



F. Indicator for Government Liquidity

21. The IMF Guidance Note (2016a) proposes one month of central government spending as an adequacy threshold for fiscal reserves.²¹ Based on this measurement, Panama's fiscal

¹⁸ Following the IMF Guidance Note (2016), the ARA Emerging Market metric for fixed exchange rate regime (computed as net reserves divided by the sum of 30 percent of short-term debt, 10 percent of broad money, 20 percent of other liabilities; and 10 percent of exports) provides a starting point to assess the adequacy of liquidity buffer to support domestic financial institutions.

¹⁹ The statutory Legal Liquidity Index defines a 30 percent minimum requirement on liquid assets (including cash and certain debt securities) as a share of qualifying deposits, both with a time horizon of 186 days.

²⁰ Wiegand (2013) provides further details.

²¹ Also see Wiegand (2013).

liquidity buffers are above recommended standard. At the end of 2019, before the pandemic, CG deposits covered 2.7 months of expenditure. If we assume that \$1 billion of CG deposits will be used to pre-finance debt amortizations falling due in each year and deposit withdrawals would be limited in a baseline scenario, this adequacy threshold will continue to be observed over the medium term (Table 3).

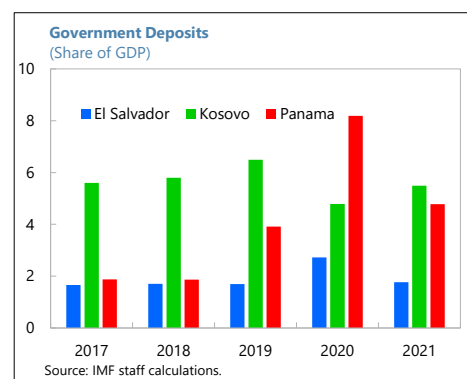


Table 3. Panama: Central Government Deposits in Months of Government Expenditure ¹

	2019	2020	2021	2022	2023	2024	2025	2026	2027
CG deposits in months of expenditure	2.7	4.3	3.1	2.7	2.5	2.3	2.1	2.0	1.8
Distance to benchmark	1.7	3.3	2.1	1.7	1.5	1.3	1.1	1.0	0.8

Sources: MEF and IMF estimates.

1/ 2022 estimates and 2023-27 forecasts from October 2022 WEO.

22. Fiscal liquidity buffers in Panama are broadly in line with or higher than in other dollarized economies. Panama's Central Government (CG) deposits amounted to US\$3 billion and 4.8 percent of GDP in 2021,²² as shown in Table 4).²³ In historical perspective and by comparison with other dollarized economies, Panama's CG deposits had been, on average, in line with or better than El Salvador and have recently closed the performance gap with Kosovo. As for volatility, it has been higher in Panama than in both El Salvador and Kosovo.

Table 4. Panama: Selected Fiscal Reserves Indicators

	2020		2021	
	USD billion	Share of GDP	USD billion	Share of GDP
Financial assets				
CG deposits (selected metrics)	4.4	8.2	3.0	4.8
Deposits of decentralized institutions (including CSS)	5.5	10.1	5.8	9.1
FAP	1.4	2.6	1.4	2.2
Total	11.3	20.9	10.2	16.1

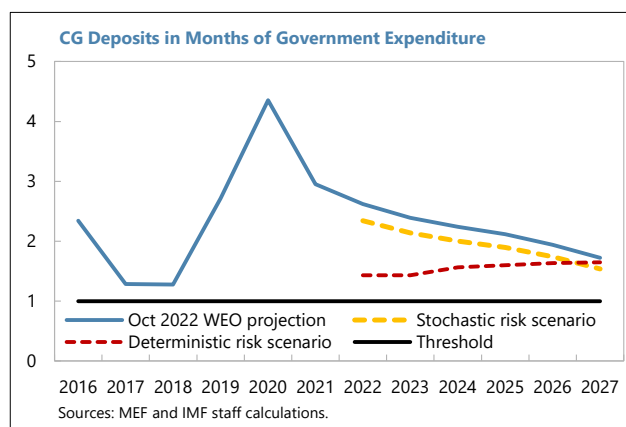
Sources: MEF and IMF staff calculations.

²² Assets worth US\$1.4 billion (2.2 percent of 2021 GDP) is in the balance sheet of the Savings Fund of Panama (FAP), but fiscal legislation limit their utilization for financing government deficits in normal times.

²³ The drop in assets as a share of GDP in 2021 is magnified due to the large denominator effect, since nominal GDP rebounded y-o-y by almost 18 percent.

23. The magnitude of the fiscal reserves is large enough that even targeting constant CG deposits would provide a sizeable buffer against tail liquidity shocks in the next several years.

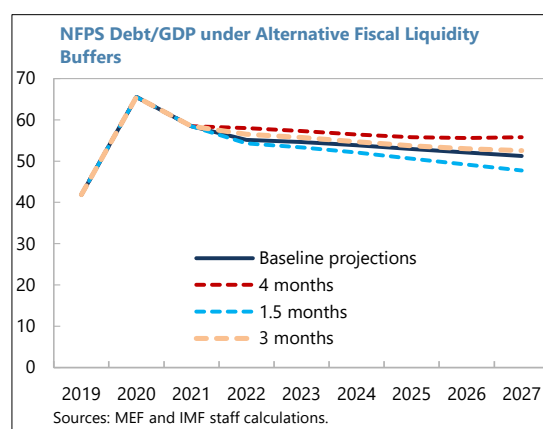
In view of past volatility of the fiscal liquidity metrics and the divergence between observed and smoothed values of deposits, it is worthwhile assessing the resilience of current deposits against extreme shocks. The figure here compares the baseline strategy against two risk scenarios, one stochastic and the second deterministic. In



the stochastic risk scenario, 10,000 normalized shocks on CG expenditure/GDP ratio have been conducted, based on the historical average and standard deviation of this variable, and the 95th percentile of the distribution has been selected for each year for evaluating the adequacy of liquidity. In the deterministic risk scenario, expenditure is about 1.75 percent of GDP above the baseline at the peak of the shock (i.e., 1.4 standard deviations) and the level of deposits 40 percent lower than in the baseline due to refinancing constraints. In the stochastic scenario, deposits would remain well above the threshold of 1 month of CG expenditures over the whole period. In the deterministic one, deposits in terms of months of expenditure start off at their minimum in 2022 at about half a month above the threshold, and would recover thereafter as the effects of the liquidity shock gradually wane off.

24. If further fiscal buffers are accumulated by placing bonds, the threshold would be met by a larger margin.

Accumulating additional financial assets would imply expanding debt issuances, other things being equal. In this respect four possible strategies are assessed. The baseline strategy consists in letting deposits gradually come down from 3 months in 2021 to 1.8 months in 2027, which would be consistent with a decline of debt from 58.4 percent of GDP in 2021 to 52.1 percent in 2027. If CG expenditure coverage was raised to 4 months until 2027, public debt would reduce only slightly relative to baseline in 2021 to 55.8 percent of GDP. If, on the contrary, CG deposits were fixed at 3 months of its expenditure, public debt would fall to 52.5 percent of GDP by 2027, only a modest increase relative to the end of period in baseline. In a more extreme situation that would imply taking even higher risks, lowering deposits to 1.5 months from 2022 would push debt down to 47.7 percent of GDP in 2027.



G. Conclusion and Policy Implications

25. In fully dollarized (or euroized) economies, the need for international reserves differs from other countries as they do not face the risk of exchange rate fluctuations and currency mismatches. In most of these economies, international reserves act a foreign exchange liquidity buffer, and are driven directly by banks' deposits, fiscal balance, and movements in public debt. These liquidity buffers in the adopted foreign currency are needed to support domestic financial institutions and government financing.

26. Assessing reserve adequacy in fully dollarized (or euroized) economies can be challenging and very often requires judgement. These countries differ, not only because of the multiple roles played by reserves, but also the complexity of quantifying external risks and vulnerabilities, as well as the opportunity costs that they face. IMF staff had supplemented or modified the definition of the international reserves, taking into consideration country circumstances and vulnerabilities. In other cases, IMF staff had modified the metrics for gauging reserves adequacy, supported by the rationale that that fully dollarized economies' primary need for foreign reserves is to provide liquidity to domestic financial institutions, finance government, and repay short-term external debt.

27. In the case of Panama, international reserves can be synthetically approximated by liquidity in the domestic banking system. As a fully dollarized economy, Panama does not face the risk of exchange rate fluctuations and currency mismatches. Consequently, the need for reserves arises as precautionary liquidity buffers to support domestic financial institutions in the event of a liquidity stress in the banking sector and for government financing. Over the last decade, liquidity reserves in the banking sector remained high due to legal requirements and conservative banking practices. Moreover, fiscal reserve buffers were also broadly in line with or higher than in most other dollarized economies.

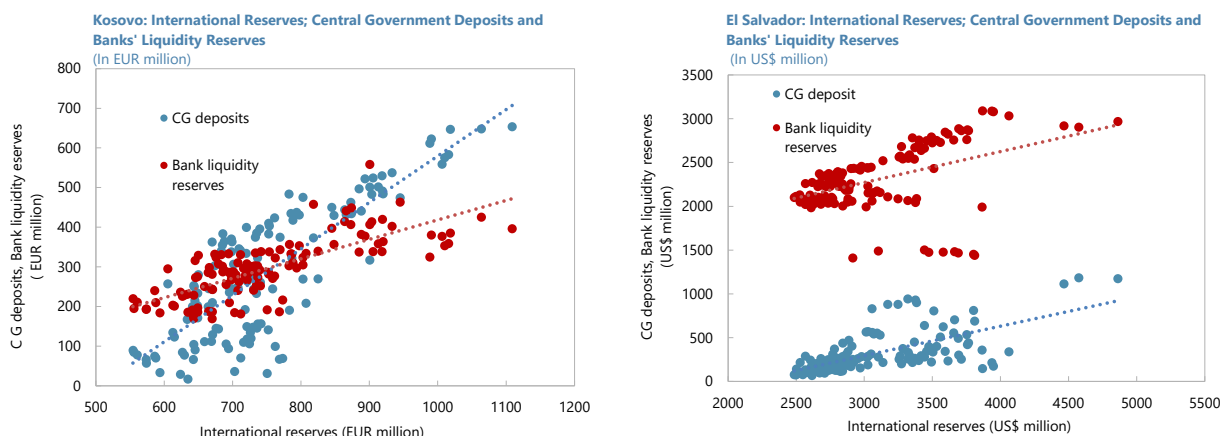
Annex I. Main Characteristics of the Countries with Foreign Legal Tender

Country	Region	Currency Used	Monetary Authority	Local Currency	Sovereign Fund	Market Access
<i>Ecuador</i>	WHD	USD	Central Bank of Ecuador	No	Liquidity Fund	Yes
<i>El Salvador</i>	WHD	USD	Central Bank of El Salvador	El Salvadoran Colon	No	Yes
<i>Panama</i>	WHD	USD	National Bank of Panama	Balboa coins	Sovereign Wealth Fund	Yes
<i>San Marino</i>	EUR	Euro	Central Bank of San Marino	No	No	No
<i>Montenegro</i>	EUR	Euro	Central bank of Montenegro	No	No	Yes
<i>Kosovo</i>	EUR	Euro	Central Bank of Kosovo	No	No	Yes
<i>Republic of Marshall Islands</i>	APD	USD	No	SOV (new digital currency, since 1998)	Yes	No
<i>Federated States of Micronesia (FSM)</i>	APD	USD	FSM Development Bank	No	FSM Trust Fund	No
<i>Palau</i>	APD	USD	National Development Bank of Palau	No	Compact Trust Fund (CTF)	No
<i>Timor-Leste</i>	APD	USD	Central Bank of Timor-Leste	Centavo coins	Yes, Petroleum Fund	No
<i>Kiribati</i>	APD	AUD	Development Bank of Kiribati	Kiribati dollar coins (issued in 1979-92)	Revenue Equalization Reserve Fund (RERF)	No
<i>Tuvalu</i>	APD	AUD	National Bank of Tuvalu	Tuvaluan dollar (issues coins since 1976)	Consolidated Investment Fund	No
Source: IMF. Note: APD=Asia Pacific; EUR=Europe; WHD=Western Hemisphere.						

Annex II. Relationship Between International Reserves, Central Government Deposits and Banks' Liquidity Reserves

A scatter plot analysis below shows the positive associations between international reserves and banks' liquidity reserves and international reserves and central government deposits, in two sample dollarized economies—Kosovo and El Salvador.

International Reserves, Central Government Deposits, and Banks' Liquidity Reserves in Kosovo and El Salvador¹



¹/Based on monthly data from January 2010 to December 2020.
Sources: Haver Analytics; national authorities.

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