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INTERNATIONAL MONETARY FUND

PANAMA

SELECTED ISSUES

November 21, 2018

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Western Hemisphere Department

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IS THERE A MIDDLE-INCOME TRAP? SINGULAR GROWTH PATTERNS IN PANAMA[1]

In light of Panama's continually strong growth in recent decades, this paper investigates the relevance of the "middle-income trap" for Panama and its prospects for maintaining strong growth in the future. It finds that following the political stabilization in the 1990s, Panama experienced stellar growth performance that brought it closer to moving from the middle to the high-income bracket. However, international evidence suggests that maintaining high growth rates may prove increasingly challenging for countries at Panama's current level of income. In this context, the paper argues that Panama's prospects for maintaining buoyant growth critically depends on continued productivity growth underpinned by comprehensive reforms focused on improving education quality, attracting talent, and continuing to enhance the investment climate.

A. Introduction

1. Panama has been one of the fastest-growing economies in the world in recent years. Real GDP growth averaged over 6½ percent over the last decade, significantly higher than Latin America and the Caribbean (2.4 percent) and the group of emerging markets and developing economies (5.4 percent). In turn, such stellar growth performance has contributed to a significant improvement in living standards and a reduction in poverty.

2. "Middle-income trap" is a phenomenon describing hitherto fast-growing economies that stagnate at some level and fail to reach high-income status.[2] In essence, this phenomenon has been particularly applicable to many countries in Latin America that achieved middle-income status long ago but did not manage to graduate to high-income status for decades. In light of Panama's continually strong growth, long after achieving middle-income level, this paper investigates how relevant the middle-income trap is for Panama and what are its prospects to maintain strong growth in the future.

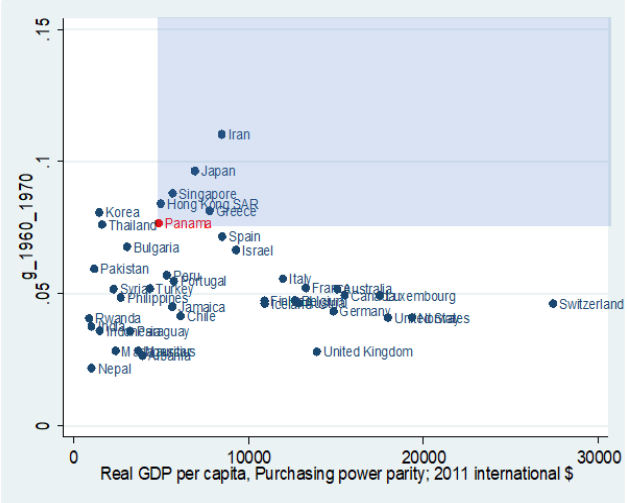
3. The paper looks at the relevance of the middle-income trap in Panama. The paper is organized in six parts. Following the introduction, section B puts Panama's growth experience into perspective. Section C looks at countries' mobility to higher income levels and the relevance of the "middle-income trap". Section D provides some international evidence from other countries' performance when they reached Panama's level of income per capita. Section E looks at prospects for sustainability of Panama's growth. Finally, Section F provides some concluding remarks.

[1] Prepared by Metodij Hadzi-Vaskov.

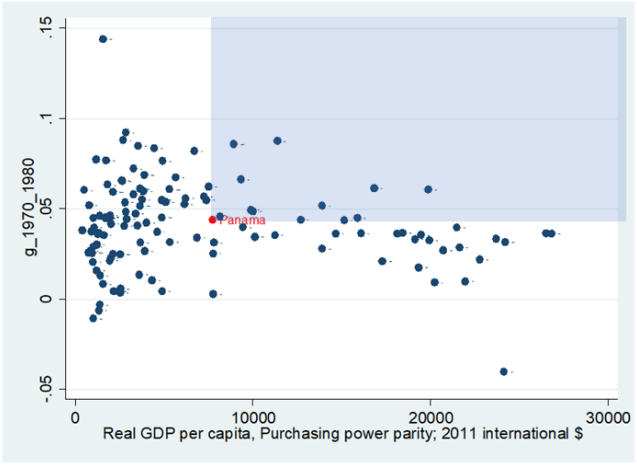
[2] See Aiyar et al. (2013, 2018) about the relevance of the "middle-income trap". See Melguizo et al. (2017) for policy priorities to overcome the middle-income trap in the region of Latin America.

Figure 1. Panama: Growth Perfor+mance (1960-90)

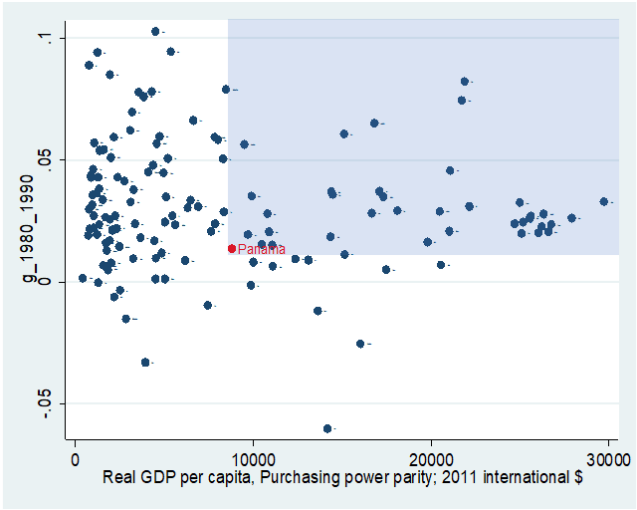
a. 1960-1970



b. 1970-1980



c. 1980-1990



B. Growth Performance

Convergence and Divergence

4. Panama experienced both episodes of growth convergence and divergence over the past several decades. Using data from the WEO database, Figure 1 depicts average growth over each decade (1960-1990) against the level of income per capita (at the start of the decade). The shaded area shows the set of countries with income per capita higher than Panama's that also experienced stronger growth. The figure suggests that Panama had relatively strong performance and convergence toward higher-income countries in the 1960s, with only a limited number of countries outperforming (Figure 1, panel a). However, the set of countries outperforming Panama (in the shaded area) grew rapidly, and Panama's growth was significantly below most countries at its or higher income levels in the 1990s, a decade marked by instability in Panama (panel c).

Becoming a Growth Tiger?

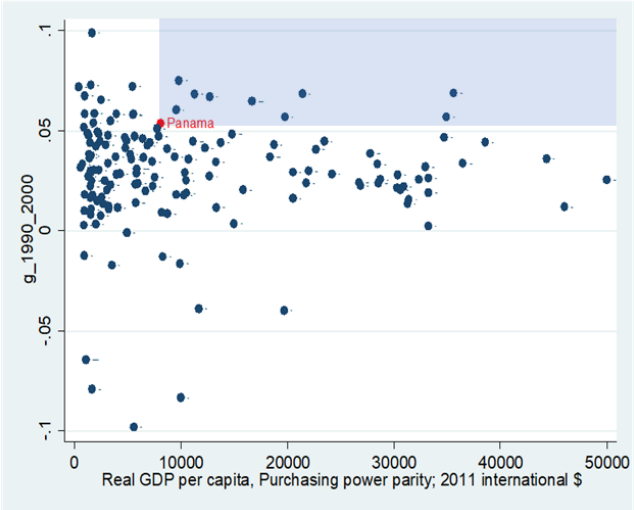
5. Panama's economy embarked on a path of rapid growth since the political stabilization in the 1990s. Figure 2 shows that the 1990s were a turning point when economic growth started accelerating following the continued decline over the 1970s and the 1980s. Economic growth averaged over 5 percent in the 1990s, bringing Panama back to the club of the rapidly-converging economies. A significantly smaller set of countries at comparable or higher levels of income per capita managed to grow faster, as shown by the shaded area. In addition, this set of countries outperforming Panama continued shrinking in the 2000s (the immediate period after the transfer of the Panama Canal to Panama on December 31, 1999). Finally, in the most recent half-decade (2010-15), no country in the world at comparable or higher level of income per capita achieved higher growth than Panama (as shown by the empty shaded area).

C. Middle-Income Trap

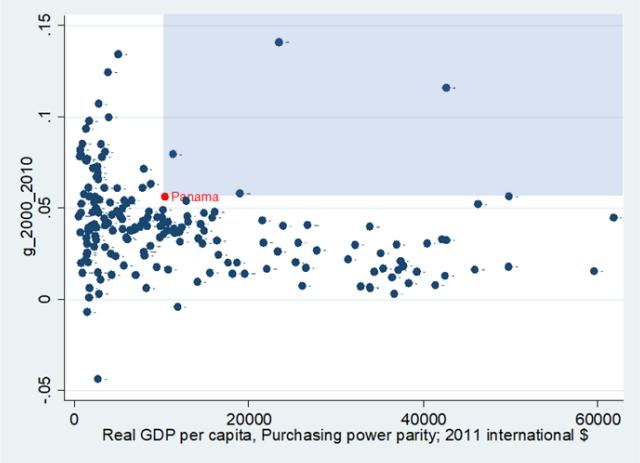
6. Most countries remained in the same group in terms of their relative income per capita. Figure 3 compares income per capita relative to the U.S. in 1970 and in 2015. The shaded areas depict three sets of countries that had broadly similar relative income per capita levels in 1970 and in 2015, suggesting that most countries remained in the same group over time. In this context, a large share of countries is concentrated in the middle group. Exceptions to this pattern are cases of exceptionally strong growth (such as China) and situations with massive income declines (such as Libya).

Figure 2. Panama: Growth Performance (1990-2015)

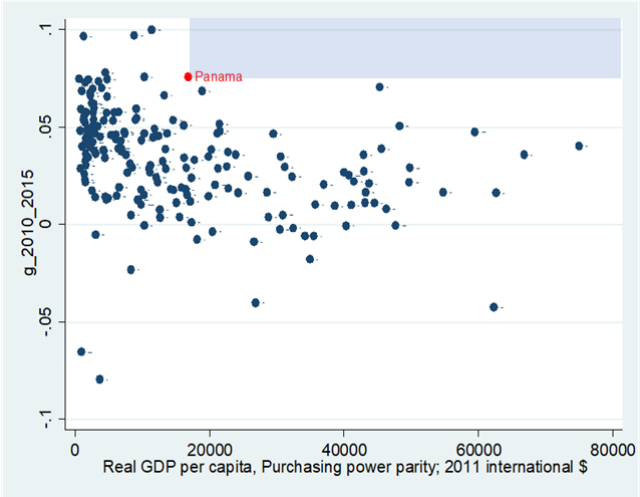
a. 1990-2000



b. 2000-2010



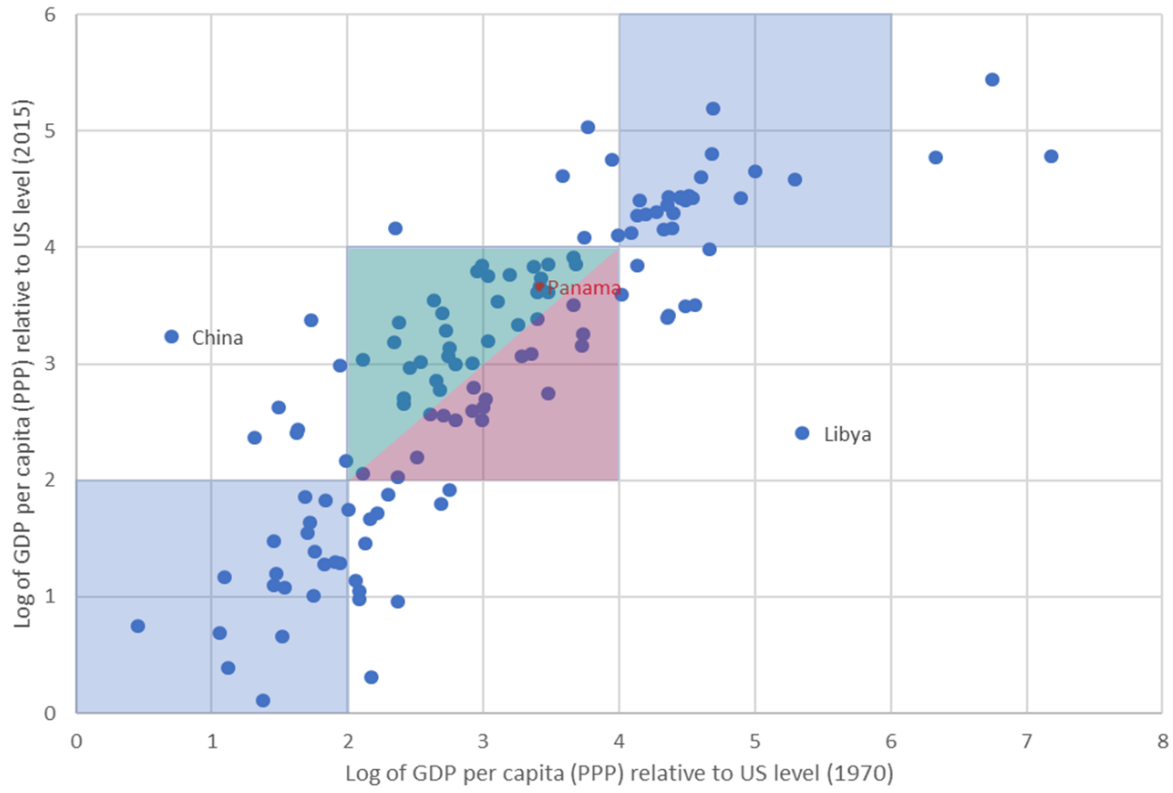
c. 2010-2015



Source: IMF WEO database and IMF staff calculations.

8. Within the middle group, some countries have been converging toward the US level, while others have not. The green triangle contains the subset of relatively better performers among the countries trapped in the middle bracket over the period 1970-2015. These countries, including Panama, managed to narrow the gap relative to the U.S. income level, but fell short of exiting the middle group. On the other hand, the income gap relative to the U.S. widened for the subset of countries trapped in the red triangle.

Figure 3. Panama: Middle-Income Trap
(income per capita relative to the U.S., log of percent)



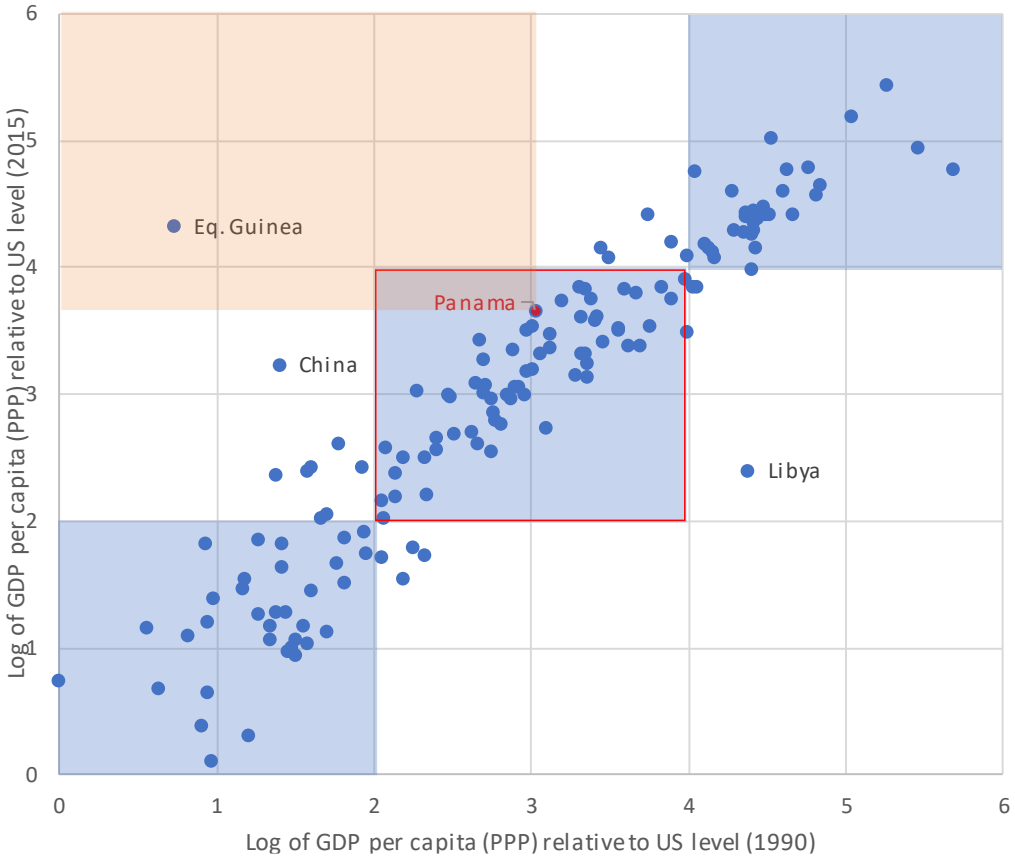
Source: WEO database and IMF staff calculations.

Exiting the Middle-Income Trap?

Panama's stellar performance since 1990 has brought it close to moving from the middle to the high-income bracket. Figure 4 indicates that Panama's distance from the upper bound of the middle-income bracket has been significantly reduced. In addition, there was no country (except for Equatorial Guinea) that overtook Panama in narrowing the gap with respect to the U.S. income level – the empty reddish shaded area shows that countries with lower income per capita in 1990 also remained below Panama's income level in 2015.[3]

[3] Equatorial Guinea's performance is driven by the natural resource boom.

Figure 4. Panama: Exit from the Middle-Income Trap
(income per capita relative to the U.S., log of percent)



Source: WEO database and IMF staff calculations.

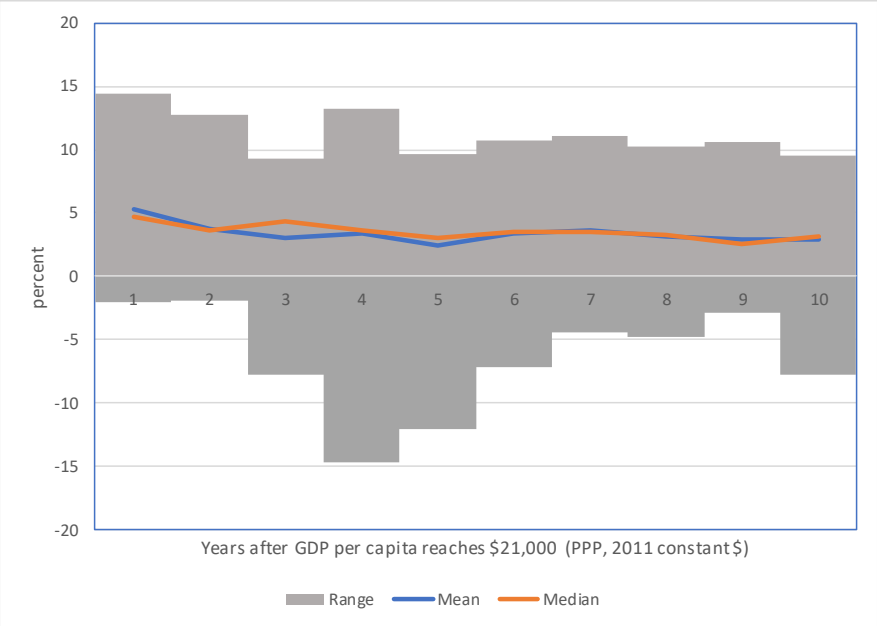
D. Evidence from Past Episodes

9. Does empirical evidence support the key proposition of the middle-income trap that countries' growth moderates considerably after they reach certain level of income? Figure 5 investigates this issue using data from the WEO database for countries that reached a level comparable to Panama's level of GDP per capita in constant US$, adjusted for purchasing power parity. Panama's income level in 2017 was about US$21,000 constant year-2011, which is used as a threshold for identifying the growth episodes to be included in the analysis. In total, the analysis is based on 38 such episodes over the period 1970-2017. Figure 5 shows growth trajectories for these selected country episodes in the first 10 years after they reached the threshold (and did not revert back below the threshold over that period).

10. Average growth moderated after countries reached Panama's level of income per capita. Average growth for the set of country episodes after they reached Panama's per capita income level (i.e., US$21,000 in constant year-2011, PPP-adjusted) dropped from 5.3 percent to 2.9

percent 10 years afterwards.[4] While such evidence is indicative (and deeper analysis is necessary to understand the growth dynamics in a more comprehensive manner), it still suggests that growth is likely to moderate after countries reach certain level of income and their convergence gap has narrowed.

Figure 5. Panama: Evidence from Growth Episodes
(annual growth of real GDP, in percent)



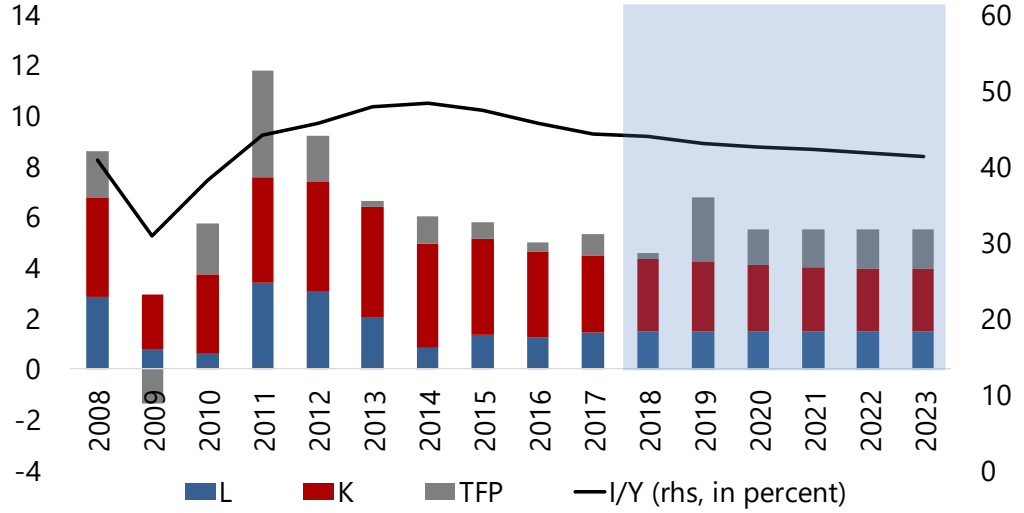
Source: WEO database and IMF staff calculations.

E. Sustainability of Panama's Growth

11. Growth contributions from labor and capital are likely to moderate over the medium term. With the gradual decline in population growth, labor's annual contribution to economic growth is projected to decline by about 0.3 percentage points compared to the period 2008-17. More importantly, following an extraordinary investment cycle over the last decade (2008-17) that also incorporated the expansion of the Panama Canal, the investment share in national income is projected to converge to a more sustainable level of about 40 percent (see Beaton and Hadzi-Vaskov, 2017). In that case, capital contribution is estimated to be about 1 percentage point per year lower than its average over the past decade.

[4] Similarly, the median growth rate for this set of countries dropped from 4.7 percent in the year when they reached the threshold to 3.1 percent ten years afterwards.

Figure 6. Panama: Growth Accounting[1]
(growth contributions, in percentage points)



Source: Panama's National Institute of Statistics and Census (INEC) and IMF staff calculations.
Note: Contribution to economic growth of factors of production: capital (K), labor (L), and total factor productivity (TFP). I/Y stands for the investment share in national income.
[1] The growth accounting exercise is based on the following assumptions: output elasticity with respect to capital of 0.4 and elasticity with respect to labor of 0.6; annual depreciation rate of 5 percent; initial capital stock in 2007 that equals 300 percent of GDP.

12. The sustainability of Panama's growth at high levels critically depends on continued improvements in total factor productivity, which represents a key policy challenge. Table 1 suggests that the contribution of productivity (TFP) to growth needs to increase by about 0.2 percentage points per year compared to the previous decade to maintain growth at the staff's baseline path (average growth of 5.5 percent, about 1 percentage point below last decade). However, this may prove to be a key challenge for the Panamanian authorities – among others, such an improvement would require: (i) substantial update in skills, training and quality of education; (ii) relaxation of regulations to facilitate attraction of foreign talent; and (iii) continued efforts to improve the investment climate. Finally, the decade 2008-2017 was exceptional for Panama, and to the extent that TFP has captured unidentified factors that contributed to this singular performance beyond productivity improvements, reaching the required growth in productivity may prove to be even more challenging.

Panama: Growth Accounting
(growth contributions, in percentage points)

Contribution to growth of factors of production (percentage points)				
	L	K	TFP	Y
2008-2017	1.8	3.6	1.2	6.6
2018-2023	1.5	2.6	1.4	5.5

Source: Panama's National Institute of Statistics and Census (INEC) and IMF staff calculations.

F. Concluding Remarks

13. Following a stellar performance in recent decades, Panama's prospects of maintaining high growth rates and moving toward the club of high-income economies critically depends on continued productivity gains. Panama's economy embarked on a path of rapid growth since the political stabilization in the 1990s, which has brought it closer to moving from the middle to the high-income bracket. However, maintaining high growth rates may prove increasingly challenging, particularly for countries at Panama's current level of income. In this context, enhancing productivity is key for maintaining Panama's high growth rates over the medium term. Policies that focus on improving education quality, attracting foreign talent toward knowledge-based sectors of the economy, and strengthening the investment environment are likely to be essential for sustaining productivity growth.

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FINANCIAL INTEGRITY IN PANAMA[1]

Panama is a key regional financial and business services provider with a strategic location in Central America. Its business model, built on banking, logistics, and trade activities, has transformed the economy into one of the most vibrant in Latin America. Following unfavorable assessments by international standard setters, the authorities have recently upgraded their framework for AML/CFT and implemented initiatives to enhance tax transparency. This paper takes stock of progress on these issues since 2013 and suggests a way forward to improve compliance with international standards as a way to secure Panama's competitiveness as a regional center for finance and business. It finds that while recent efforts have yielded positive gains, with Panama now on par with peers in terms of the technical compliance with FATF's standards, the country is still exposed to ML/FT risks in several critical areas and needs to enhance the effectiveness of the AML/CFT system. Going forward, the near-term focus should be to build on the recent progress and close the remaining gaps in the AML/CFT framework with urgency ahead of the next FATF plenary in February 2019, to avoid going back to FATF's ICRG "grey list". In light of the analysis, it will be important to: (i) criminalize tax evasion, including bringing tax crimes in the scope of ML offences); (ii) improve the transparency of corporate vehicles created in Panama; (iii) further strengthen the AML/CFT supervisory framework, including with risk–based tools given the high number of financial and non-financial intermediaries in Panama; and (iv) strengthen timely exchange of tax information with foreign counterparts.

A. Introduction

1. Panama is an attractive international financial and business services center. Its comparative strengths include a modern international financial center, a dollarized system, a logistic hub (air and sea), a low-rate and territorial tax regime, a friendly legal framework for company formation, a stable macroeconomic environment and a strategic geographic location. Panama's business model, built on banking, logistics and trade activities, has propelled the economy into one of the most vibrant in Latin America[2]. While this model has served Panama well, the country's connectivity and nature of products and services offered, leaves it vulnerable to money laundering, including those related to corruption, drug trafficking and other predicate crimes, such as tax crimes committed abroad.

2. In response to unfavorable assessments by international standard setters, Panama has recently upgraded its framework for AML/CFT and tax transparency. In addition to series of legislative amendments, the framework for anti-money laundering and combating the financing of terrorism (AML/CFT) was revamped in 2015 in line with recommendations from the Financial Action Task Force (FATF) (but prior to the most recent revision of the international standards). The new AML/CFT framework provides for a risk–based approach for AML supervision, appropriate mitigating

[1] Prepared by Joel Okwuokei with assistance from colleagues from the LEG Department, including Kathleen Kao, Richard Berkhout, and Francisco Figueroa.

[2] See Chapter 1 of this SIP and Beaton, K. and Hadzi-Vaskov, M. (2017) on the analysis of Panama's growth performance.

mechanisms, and measures to facilitate international cooperation. This new framework aims to prevent risks of misuse of products and services offered by financial, non-financial and professional business entities as instruments for money laundering and financing of terrorism. Together with advances on tax transparency, Panama's technical compliance is now closer to international standards. Nonetheless, a few significant gaps remain in the AML/CFT framework and more needs to be done to assure effective implementation.

3. This paper takes stock of progress since 2013 and suggests the way forward to secure Panama's competitive position in a rapidly evolving international financial landscape. It seeks to answer the following questions: (i) to what extent is Panama exposed to the risks of money laundering?; (ii) where is Panama in its efforts to tackle ML/FT risks in compliance with global standards?; (iii) how does Panama compare with peers?; and (iv) where does Panama want to go from here? To do this, Section B first gives an overview of the financial system and corporate services sector, highlighting certain peculiarities about Panama. Next, section C discusses Panama's vulnerability to ML risks. Section D discusses compliance with global standards, comparing Panama's progress with peers. In section E, the paper identifies areas where further progress is needed, while section F suggests priority actions and the way forward. Section G concludes.

B. Overview of Financial and Corporate Services Sectors

The Financial System

4. Panama's strategic geographic location facilitated the emergence of a regional financial hub. The financial center is well-known and one of the oldest in the Western Hemisphere. It serves mostly clients in Latin America, capitalizing on Panama's location, connecting North and South America. The financial center is linked to trade and logistics activities in the domestic economy (the other engines of growth), mainly through the Canal and free trade zones.

5. The financial center is relatively small compared to major jurisdictions that offer similar services. Although the financial system is large in relative terms, with assets equivalent to 238 percent of GDP at end–2017, it is small in absolute terms, with cross-border portfolio flows to Panama amounting US$50.7 billion at end–June 2017, representing 0.1 percent of world total (Figure 1). Its share of portfolio flows to 23 selected Offshore Financial Centers (OFCs) amounted to only 1 percent. Compared to similar flows to large LACs, Panama accounted for only 5 percent of the total, far behind Mexico and Brazil, with 35.6 and 35.2 percent, respectively.

Table 1. Panama: Structure of the Financial System

	Number	Assets (US$ bn)	% of total assets	% of GDP
Banks	88	119.7	92.7	193.6
Onshore	49	101.4	78.5	164.0
State-owned	2	13.6	10.5	22.0
Panamanian	17	41.9	32.5	67.8
Foreign	30	45.9	35.5	74.2
Offshore	26	18.3	14.2	29.6
Representative licences	13	...	...	...
Securities	382	1.0	0.7	1.6
Insurers	88	3.2	2.4	5.1
Development banks	2	0.6	0.5	1.0
Credit unions	188	1.8	1.4	3.0
Other 1/	357	2.8	2.2	4.6
TOTAL	**1105**	**129**	**100.0**	**238.1**

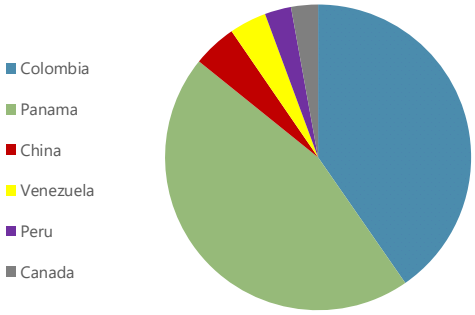
Source: SBP; IMF Staff calculations

1/ Includes financing, leasing and factoring companies, and two other small sectors

6. Financial activity is centered on banking. The assets of the Panama's international banking center amounted to 194 percent of GDP at end–2017 (see Table 1), representing 93 percent of the financial system's total. The banking center consists of 88 banks, 49 of which hold general banking license (including two state-owned banks), 26 hold international license, and 13 are representative offices of foreign banks. The sector offers primarily traditional products of deposit taking and lending. In terms of direct economic contribution, the banking center accounted for 6.5 percent of GDP and 2.5 percent of total employment in 2017.

7. The general-license (onshore) banks are the largest component of the financial system, helped by a strong presence of regional banks. The assets of onshore banks are equivalent to 164 percent of GDP (78 percent of financial systems total). Of the 49 onshore banks, 17 are Panamanian owned, while 30 are foreign-owned. Foreign banks account for 44 percent of banking total assets, 38 percent of total deposits and 31 percent of total loans. Large banks, four of which are Colombian-owned, are part of financial conglomerates. Panamanian licensed banks, unlike most OFCs, must have a physical presence in Panama. They are permitted to conduct banking business with both residents and non–residents.

Panama: Top 15 Banks by Asset Side: Country of Ownership 1/
(2016Q4; in percent of total assets of top 15 banks by asset size)



Sources: SBP; IMF staff calculations. Includes consolidated operations of subsidiaries.

8. Offshore banking is second in importance. The assets of offshore banks are equivalent to 27 percent of GDP (14.2 percent of financial system total), but offshore activities go beyond offshore banks only, given that, for example, onshore banks are permitted to conduct offshore operations. The sector has limited connections with the rest of the financial system, which limits contagion risks from abroad. The economic contribution of the sector is decent, accounting for about 3.5 percent of total employment of the banking center, 0.1 percent of overall local expenditure, and about 0.1 percent of public revenues in 2015 (see Hadzi-Vaskov, 2016).

9. Panamanian banks continue to maintain stable correspondent banking relationships (CBR). Since the removal of Panama from the FATF grey list in February 2016, 72 new CBRs have been established, according to the authorities, bringing the total to 458 as of December 2017. All banks have CBRs, including smaller Panamanian banks that were affected by global banks' recent CBR withdrawals.

10. Although relatively small, the non-bank sector is dominated by a large number of institutions. It comprises over 1,000 licensed entities, including securities, insurance, cooperatives, savings and loans, developments banks, finance companies, trust, leasing companies. Together, they account for 7.2 percent of financial system's assets (15.2 percent of GDP). The vast number of entities in this sector poses a major challenge for regulation and supervision.

11. AML/CFT oversight is fragmented. The five main supervisors include the Superintendence of Banks of Panama (SBP), the Superintendence of Insurance and Re-insurance (SSRP), the Superintendence of the Securities Market (SMV); the Intendency of Supervision and Regulation of Non-Financial Institutions (created in 2015), and the Panamanian Autonomous Cooperative Institute (IPACOOP) (see Table 2). They are sufficiently empowered to undertake AML oversight. Others are: The Gaming Board, the Ministry of Commerce and Industry, the Administrator of the Colon Free Zone, and the National Mortgage Bank (*Banco Hipotecario Nacional*, BHN). With such a high degree of fragmentation of supervisory responsibilities, coordination of AML efforts is very vital. The creation in 2015 of the National Commission Against Money Laundering[3], integrated by high level government official, seeks to overcome this through the establishment of AML/CFT policies and inter-institutional coordination.

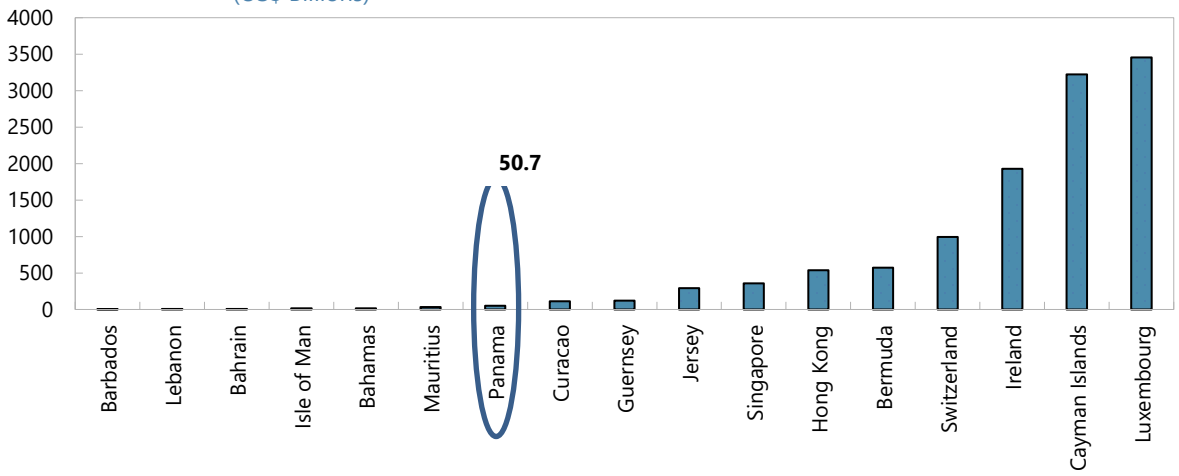
[3] National Commission Against Money Laundering, Financing of Terrorism and Financing of Proliferation of Weapons of Mass Destruction (CNBC).

Figure 1. Panama: OFC Portfolio Investment Liabilities

June 2017

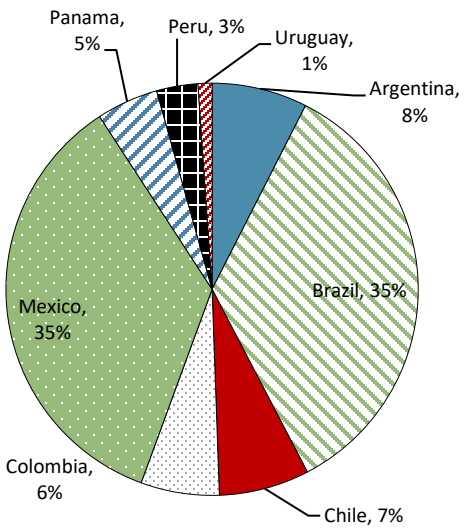
Cross-Border Portfolio Investment Liabilities of Selected OFCs

(US$ Billions)



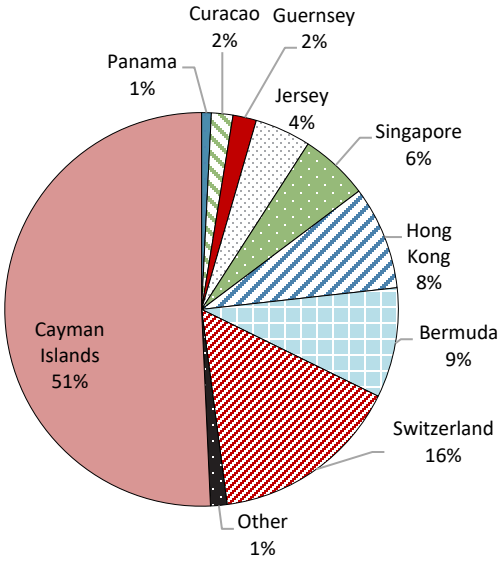
Cross-border Portfolio Liabilities of Major LACs

(Percent of LAC total)



Cross-Border Portfolio Investment Liabilities of Selected OFCs

(Percent of OFC total)



Other include Samoa, Aruba, Gibraltar, Barbados, Lebanon, Bahrain, Isle of Man, Bahamas and Mauritius

Source: Coordinated Investment Portfolio Survey; IMF Staff Calculations

Trust and Corporate Services Sector

12. Panama is a well–known center for trust and company formation and administration. Panama is among the world's top three providers of company formation services (Warf, 2002, TJN 2018)[4]. Legal persons and arrangements that can be created under Panamanian law include corporations, limited liability companies, foreign companies, partnerships, trusts and private interest foundations. Panama's friendly legal framework has facilitated the creation of close to 900 thousand of these corporate vehicles (equivalent to one per Panamanian household), as of September 2018, to conduct a wide range of commercial activities. They are also often used as part of wealth management services for both domestic and foreign clients. An average of 25,000 new entities were formed annually in the last three years. Estimates of the economic contribution from the existence of these entities are imprecise but considered very small by the authorities.

Total Registered and Inactive Legal Persons and Arrangements by Type, as of September 2018

	Currently Registered	Inactive for 3-10 years	% inactive
Foreign entities	2,376	916	38.6
Limited Liability Companies (SRLs)	2,632	540	20.5
Foundations	55,717	2,327	4.2
Trusts	129,498	...	...
Corporations (SAs)	683,083	381,176	55.8
Total	**873,306**	**384,959**	51.8

Source: Public Registry of Panama, GAFILAT 2018

13. Joint stock corporation (*Sociedad Anónima*) is the most commonly incorporated entity by both resident and foreign investors, ahead of foundations and trusts. It accounted for about 78 percent of registered entities as of September 2018ahead of trusts and private interest foundations (with shares of 13 percent and 6 percent of the total, respectively). The law does not distinguish between a domestic and offshore company, which may be formed by any two natural persons, irrespective of their nationality. Private interest foundations may be formed by a natural person, a legal person, or a nominee. On the other hand, trusts are formed by a trust deed, which must designate a settlor, trustee, and beneficiaries. Trust may be administered by a natural or legal person. These corporate structures have been used in the past to obscure ownership and launder illegal proceeds (FATF, 2014), and have been vulnerable to misuse in Panama.

New Registered Legal Persons and Arrangements

	2015	2016	2017	2018 1/
Foreign entities	171	152	185	73
SRL	254	158	141	59
Trust	...	1764	2361	1294
Foundations	4445	3210	2517	1334
Corporations	26184	19749	15411	8652
Total	31054	25033	20615	11412

Source Public Registry of Panama
1/ As of August 2018

14. More than half of legal entities incorporated are dormant. A new law passed in October 2016 (Law No. 52), which came into effect in January 2017, requires corporations, limited liability companies, and any other legal person, to pay an annual franchise fee of US$300 upon registration

[4]British Virgin Island (BVI) and Hong Kong, SAR are the other two jurisdictions.

and in subsequent years to maintain a valid license (except private interest foundations, which are to pay US$350 at registration and US$400 thereafter). Non-payment of the fee after a 6-month grace period attracts a penalty of US$50 dollars per year, and results in non-issuance of certificates and suspension of corporate rights after three consecutive years in default. Once suspended, entities are permitted to reactivate their registration within a period of two years with a fine of US$1,000, otherwise they will be dissolved. While it is difficult to determine the total number of delinquent entities, available data indicates that about 381,000 corporations (55 percent of total registered) are 3–10 years overdue in the payment of annual fees, despite dissolutions that averaged 13,000 a year in recent years. These legacy entities have no activities, physical presence, and no contact with the resident agent and the Panamanian authorities[5].

15. There is no requirement for a corporation to have a registered office, any other form of physical presence, or assets in Panama. As a result, it is difficult to determine and monitor the entities that operate outside of Panama, which represent a reputational risk if misused for money laundering. Instead, corporations, irrespective of their location, or source of income, must designate a resident agent, who will be registered at Panama's Public Registry. Any corporation without a resident agent for more than 90 days, perhaps due to resignation, or termination, will have its corporate rights suspended. The Public Registry reported 28,645 of such entities as of September 2018.

New Dissolutions

	2015	2016	2017	2018 1/
Foreign entities	7	9	18	10
Limited Liability Companies (SRLs)	46	42	36	23
Foundations	1727	2183	1872	893
Corporations (SAs)	12504	14302	11846	5635
Total	14284	16536	13772	6561

Source Public Registry of Panama
1/ As of September 2018

16. The role of lawyers and corporate service providers is critical. Legal entities can only be incorporated by a resident agent, who must be lawyer, admitted into practice in Panama, or a law firm. Resident agents are not subject to any additional licensing requirement[6], and as such any lawyer, or company service provider can incorporate a company. Out of the estimated 10,000 of individual lawyers and law firms reported to operate in Panama, around 4,200 were registered at the Public Registry as of March 2017, of which around 3900 were individual lawyers and some 300 were law firms. Panama also had 72 trust company providers of which 39 were banks, or their subsidiaries. The resident agent is the key link between the owners of the company and the authorities. They must notarize and file all relevant company documents required at the Public Registry and make annual franchise payments on behalf of their clients. In addition, they render nominee services, including acting as directors and shareholders, or engaging a third party to do so. They can also serve as custodian for bearer shares subject to approval by the SBP.

[5] It is understood that some of these entities were created to execute a transaction and has a life span of 3–5 years, and because dissolution triggers charges, the owners decide to discontinue paying the franchise fee and abandon the company.

[6] Besides the license issued for professional practice by the Fourth Chamber of the General Affairs of the Supreme Court of Justice of the Republic of Panama.

17. Resident Agents and the Public Registry are the national primary sources of company information. Company information on the identity of beneficial owners are required to be kept by the company itself and by its resident agent. Entities that operate outside of Panama are required to keep accounting records at the office of the resident agent, or at any other national location, which must be disclosed to the resident agent. The authorities do not have any direct contact with companies that operate exclusively outside Panama. As such, the resident agent is the primary source of information. The public registry is a repository for basic company information and documents, such as the names and domicile of the subscribers, share ownership, articles of incorporation, name and address of the directors, the domicile of the corporation and name and address of the resident agent in Panama, which must be updated when changes occur. Information on the founders of private interest foundations and beneficiaries is not required to be contained in the foundation's charter, and should therefore be known by the resident agent. The registry has a free online access but is hardly up-to-date given the large number of entities that are inactive. Due to the strengthening of AML/CFT compliance since 2015, financial institutions and designated non-financial businesses and professions (DNFBPs) have become important sources of information to the extent that they maintain a relationship with the entities.

18. A custody regime for bearer shares was introduced in 2013, aimed at gaining access to company ownership information. The new regime mandated bearer shares owners to deposit their certificates with an authorized local or foreign custodian together with identity information, or have bearer share certificates replaced with registered share certificates by December 31, 2015. Those who failed to do so by the deadline were considered to have lost their political and economic rights related to the shares. Issuance of bearer shares, which was a very common practice in the past, is prohibited except for corporations that adopted the custody regime before the deadline of December 31, 2015. In which case, any new bearer shares must be registered 20 days after issuance. GAFILAT (2018) recorded that 2,282 corporations filed for custody of bearer shares as of March 31, 2017.

19. Panama has a supervisor, since 2015, for all types of designated non-financial business and professions (DNFBPs) recognized by FATF. Current regulations apply to a large number of DNFBPs that t include casinos, real estate agents, dealers in precious metals, dealers in precious stones, pawn shops, notaries, lawyers and company service providers, other independent legal professionals and accountants (see Table 2).

Financial Institutions and Designated Non-Financial Business and Professions (DNFBPs) for AML/CFT Oversight 1/

Type of Financial Institutions	Number	Regulator/Supervisor
Banks	88	Superintendency of Banks (SBP)
Savings and Loans Associations	4	Banco Hipotecario Nacional (BHN)
Financial Cooperatives	276	Panamamian Autonomous Institute of Cooperatives (IPACOOP)
Brokerage Houses	30	Superintendency of Securities Markets (SMV)
Investment companies	11	Ministry of Commerce and Industry (MCI)
Finance Companies	137	Superintendency of of Insurance and Reinsurance (SSRP)
Leasing Companies	105	Ministry of Commerce and Industry (MCI)
Remittance and Exchange Houses	28	Ministry of Commerce and Industry (MCI)
Insurer and Reinsurers	46	Superintendency of Insurance and Reinsurance (SSRP)
Insurance Brokers	400	Superintendency of Insurance and Reinsurance (SSRP)
Insurance Agents	1550	Superintendency of Insurance and Reinsurance (SSRP)
Trust Service Providers	72	Superintendency of Banks (SBP)
Full Casinos	12	Gaming Board
Internet Casinos	1	Gaming Board
Slot Machine Businesses	40	Gaming Board
Hippodrome, Bingos and Others	23	Gaming Board
National Lottery	1	Self-regulated
Companies in the Colon Free Zone	1900	Administration of the Free Zone
Companies in the Processing Free Zone	84	Ministry of Commerce and Industry (MICI)
Lawyers and company service Providers	10000	Intendency for the regulation and supervision of non-financial entities
Accountants	11888	Ministry of Commerce and Industry (MICI)
Notaries	59	Intendency for the regulation and supervision of non-financial entities
Real Estate Agents and Promoters	284	Ministry of Commerce and Industry (MICI)

Source: Authorities; GAFILAT (2018); IMF (2006); Global Forum (2016)

1/ Latest available

C. Illicit Proceeds and Vulnerability to Money Laundering and Terrorist Financing

Measurement of Money Laundering

20. It is difficult to quantify the amount of criminal proceeds generated from money laundering globally and the flow of such funds[7]. This is because money laundering by its nature is unobservable. The United Nations Office on Drugs and Crime (UNODC) in 2011 estimated that criminal proceeds are likely to have amounted to 3.6 percent of global GDP (2.3-5.5 percent), or about US$2.1 trillion in 2009–consistent with the consensus estimate of 2–5 percent of global GDP indicated in Camdessus (1998). Of the total amount, about 2.7 percent of global GDP (2.1-4.0 percent), or US$1.6 trillion were estimated by UNODC to have been laundered worldwide. The study further reported that illegal drug trade appears most profitable global illegal activity accounting for a fifth of all crimes and half of all proceeds of transnational crime. Out of the estimated gross profit from cocaine sales (US$85 billion), most were generated in North America (US$35 billion) and in West and Central Europe (US$26 billion). In addition, the UNODC study also reports that total cocaine-related flows into Central America, second to the Caribbean, were estimated at US$2.1

[7] While various studies have attempted to measure illicit proceeds generated from criminal activity, such as money laundering, estimates are to be treated with caution. This paper does not attempt a comprehensive review of the literature, which are mostly outdated, but looks at some estimates reported by the UNODC to provide some perspectives on the likely scale of money laundering.

billion (equivalent to 1.6% of GDP), the strongest coming from North America (close to US$1 billion) and South America (US$0.9 billion). A study or estimate of the amount of criminal proceeds generated in or moving through Panama (if any) is not publicly available.

21. Assessment of vulnerability to money laundering thus focuses on country specific risks factors, the strength of the legal framework and the effectiveness of implementation. Relevant risk factors can cover the level and type of proceeds-generating crime in the country; extent of exposure to cross-border flows of criminal or illicit assets; and existence of active terrorist groups. Other considerations include the relative size of the economy; the size, integration and composition of the financial sector, the relative importance of different types of financial products; the volume of domestic and offshore business; and the extent of informality. All these are important elements in FATF's assessment of ML/CFT threats to a country.

Panama's Vulnerability

22. Panama has strong international financial linkages. BIS data suggests that banks located in other jurisdictions have a significant claim[8] on Panamanian borrowers, which stood at US$85 billion (137.7 percent of GDP) at end-September 2017. Of the total outstanding cross-border claims, 85 percent, equivalent to 118 percent of GDP, were loans and advances and the main counterparty were non–bank financial institutions. Banks located in Japan hold 42.5 percent of these claims. Non–resident deposits as a share of banking system's total deposits and total liabilities, were 28 percent and 23 percent, respectively, at end–2017, primarily from LACs, including Venezuela, Ecuador, Costa Rica, and Colombia. Domestic assets and liabilities of offshore banks are about 1.8 percent and 0.4 percent of their total assets and liabilities, respectively. The Panamanian authorities have identified banks as a higher risk sector for AML/CFT.

23. Trade openness is high, particularly through the Colon Free Zone (CFZ). The Colon Free Zone is regarded as the largest free port in the Americas, and second largest in the world. It offers services covering imports, storage, assembly, repackaging, and re-exports, and can potentially be an originator, or a transshipment point for goods purchased with proceeds of drug trafficking and other criminal activities. Re-exports through the CFZ to various destinations, though declining due to the economic challenges in Venezuela and an ongoing trade dispute with Colombia, amounted to 15 percent of GDP at end–2017. As in the case of banks, the authorities have identified free trade zones as a higher risk for AML/CFT.

[8] Cross-border positions by location of banking office.

Cross-Border Positions by Instrument and By Sector of Counterparties Resident in Panama, as at September 2017

	Claims Outstanding (US$ Billion)	% of GDP	Liabilities Outstanding (US% Billion)	% of GDP
By Instrument				
Loans and deposits	73.0	118.1	58.7	95.0
Debt securities	9.5	15.4	0.23	0.4
Other	2.6	4.2	1.35	2.2
Unallocated	0.0	0.0	5.62	9.1
By sector of countertparty				
Banks	11.3	18.3	12.1	19.6
of which: intragroup	3.6	5.8	0.94	1.5
Non-banks	73.5	118.9	53.6	86.7
of which: non-bank financial	10.4	16.8	21.7	35.1
of which: non-financial	59.7	96.6	28.8	46.6
Unallocated	0.18	0.3	0.21	0.3
Total positions	85.1	137.7	65.9	106.6

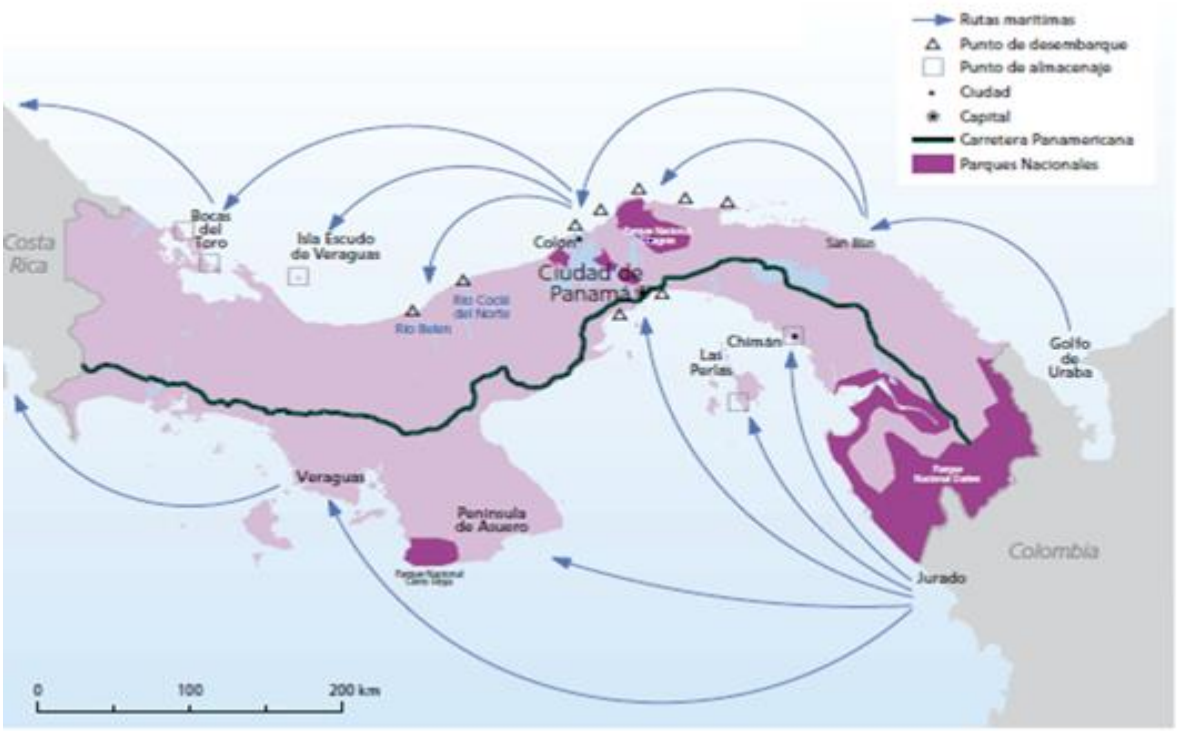
Source: Bank of International Settlement; IMF Staff Calculations

24. The regulatory framework and supervisory practices are not effectively preventing the misuse of entities incorporated in Panama. While the regulatory framework has important strengths, GAFILAT found its effectiveness, particularly in preventing the misuse of foreign and domestic legal entities (e.g., companies) and legal arrangements (e.g., trusts) incorporated or used in Panama, to be low. It implies that corporate structures, trusts and foundations registered in Panama continue to be at risk of being misused for criminal purposes, due to lack of available, timely and up-to-date beneficial ownership information that provides a level of anonymity to the structures. Risk assessment by the authorities suggests that entities without physical presence in Panama are particularly vulnerable to abuse. High-profile incidents in the first half of 2016 that brought Panama into international focus highlighted the vulnerability of the corporate services sector, potentially affecting the effectiveness of the AML/CFT regime.

25. The flexible tax regime has attracted foreign business but may also provide opportunities for tax crimes. The tax code offers a number of benefits to Panamanian entities (e.g. low rates and other tax incentives). Also, as the tax system is based on the territoriality principle, income earned by Panamanian entities abroad are not subject to tax. At the same time, Panama is one of the few jurisdictions, including Latin America peers, where tax evasion is an administrative, rather than a criminal offence, according to the authorities' study (CNBC, 2017b). The non-inclusion of tax crimes as predicate offence for money laundering in the legal framework exposes Panama to be misused by tax evaders from other jurisdictions.

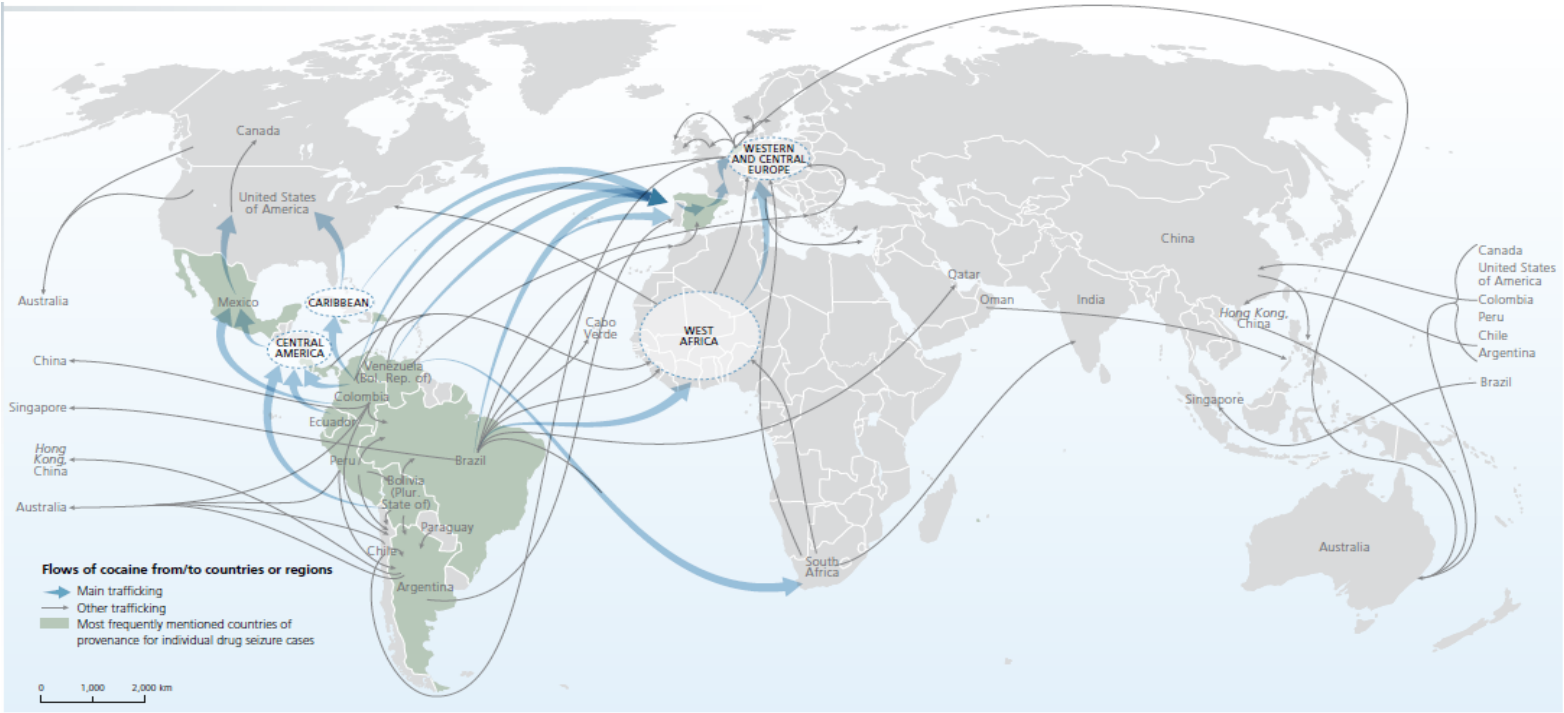
26. Panama is a route for drug traffickers. According to the UNODC (2015), Central America (where Panama is located) is a major drug route (Figure 3). Cocaine trafficking is indicated to flow from Latin America to the US through the Central America and Mexico corridor. Panama's unique connectivity provides opportunity for traffickers to transit cargoes of cocaine specifically from Colombia, Venezuela and Ecuador (Figure 2). The dollarized economy also makes Panama a sought-after destination by criminal groups involved in money laundering and drug trafficking.

Figure 2. Panama: Cocaine Trafficking Routes



Source: Adapted from UNODC (2012): Delincuencia Organizada Transnacional en Centroamérica y el Caribe Una Evaluación de las Amenazas. It was based on UNODC interviews in the región.

Figure 3. Panama: Global Cocaine Trafficking Flows



Source: UNODC, responses to annual report questionnaire and individual drug seizure database.

Notes: The trafficking routes represented on this map should be considered broadly indicative and based on data analyses rather than definitive route outlines. Such analyses are based on data related to official drug seizures along the trafficking routes as well as official country reports and responses to annual report questionnaires. Routes may deviate to other countries that lie along the routes and there are numerous secondary flows that may not be reflected.

The boundaries shown on this map do not imply official endorsement or acceptance by the United Nations. Dashed lines represent undetermined boundaries. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Sudan and South Sudan has not yet been determined.

Source: Adapted from the UNODC 2015 World Drug Report

27. The authorities' recent national risk assessment identified the main domestic and external threats. They see transnational organized crimes as the main external threat, while drug trafficking, corruption, financial crime, smuggling, and copyright crimes, were identified as domestic threats. Free trade zones, real estate and construction sectors were found to be the most vulnerable for money laundering as sizable inflows are channeled to Panama through these sectors that have not been tightly supervised in the past. Despite the strong global financial linkages, the authorities believe the risks from the banking sector are mitigated by robust regulation and supervision. As GAFILAT notes in the 2018 assessment, tax offenses have not been covered in the NRA, which points at a gap in Panama's risk understanding, and negatively impacts on Panama's risk mitigation measures, also in relation to banks.

Risk Assessment of Non-Financial Sector

Risk level	Activities/sectors
High	Free trade zones, real estate, construction, lawyers
Medium High	Money remittance companies, casinos, and games of chance
Medium	Accountants, car dealers, exchange bureaus, pawnshops, dealers in precious materials
Low	Notaries, National Mortgage Bank, Agricultural Development Bank, transportation of valuable goods, national lottery, postal service

Source: National Commission for AML/CFT/WMD

D. Compliance with Global AML/CFT and Tax Transparency Standards

28. The Panamanian authorities recognize the importance of safeguarding financial integrity. Given the role of the financial center, the authorities acknowledge that a continued weak AML/CFT framework may restrict access to global financial markets, as demonstrated by the withdrawal of correspondent banking relationship by global banks in 2014. They also note that domestic and financial stability can be threatened by criminal activities. They are therefore committed to comply with international AML/CFT and tax transparency standards (Box 1).

29. Panama was assessed twice against the international AML/CFT standards over the recent years. The first assessment took place in 2012, against the 2001/2003 FATF 40 main recommendations and 9 special recommendations using the 2004 FATF assessment methodology. Under this methodology, countries were rated for technical compliance with the standards; however, the ratings could be adjusted using implementation data. The results of Panama's assessment against these 49 recommendations was insufficient, causing Panama to be referred to the FATF's International Cooperation Review Group (ICRG). The second and latest assessment was in 2017, against the revised 2012 FATF 40 recommendations using the 2013 FATF assessment methodology. Both the substance of the standards, and the assessment methodology have been revised, and assessments under the old and new standards and methodology are not strictly comparable. Under the current methodology, the main focus is on assessing effectiveness, for which countries are rated against 11 effectiveness outcomes. Panama has not done well under this assessment, meeting once again the threshold for FATF's ICRG process. The current methodology also assesses technical

compliance, and these technical ratings are no longer adjusted using implementation data. On technical compliance, Panama's most current results are comparatively favorable. While the methodologies have changed, it is encouraging that Panama is closer to achieve best practices on technical compliance under the new and improved methodology.

Box 1. International Standards on AML/CFT and Tax Transparency

The Financial Action Task Force (FATF).[1] Recommendations are the internationally recognized standard for AML/CFT. They seek to strengthen global safeguards and protect the integrity of the financial system by providing governments with relevant tools to tackle financial crime (IMF, 2012). Originally developed in 1990, the standard has evolved, and in 2012 was further enhanced to address new and emerging ML/FT threats. Tax crime was recognized as an underlying ML offence. FATF has also emphasized the concept of risk-based supervision, according to which the authorities are expected to identify, assess, and understand their ML/FT risks.

Compliance with the standard are assessed through periodic mutual evaluations conducted by the FATF, FATF-style regional bodies, the IMF and World Bank. The assessment produces ratings for technical and effectiveness of the AML/CFT regime.

The Global Forum (GF).[2] is the premier international body that sets standards on tax transparency and exchange of information. It is the largest international platform that brings together nearly 150 jurisdictions, including all G20, all OECD members, key international financial centers, and many developing countries, to fight tax evasion and avoidance in a coordinated manner. The GF monitors members implementation of the standards through a peer review mechanism.

The GF facilitates information sharing between tax authorities through two complimentary international standards on tax transparency. The first–exchange of information on request (EOIR) standard– which is the bedrock of the GF's work, establishes a framework for tax authorities to request and obtain information from their foreign counterparts on the offshore financial activities of non–residents. The automatic exchange of information (AEOI) standard, modelled after the U.S. Foreign Account Compliance Act (FACTA), enables members to automatically share the financial accounts of non–residents, on annual basis starting in 2017, with all interested appropriate partners, under the internationally agreed "common reporting standard", developed by the OECD's Forum on Tax Administration. These two complimentary mechanisms assist jurisdictions to tackle illicit financial flows.

[1] The FATF is an inter-governmental body whose purpose is to develop and promote national and international policies to combat money laundering, the financing of terrorism and, more recently, the financing of the proliferation of weapons of mass destruction. It was established by the G7 in 1989 in response to mounting concern over money laundering. The FATF is complemented by nine FATF-style regional bodies (FSRBs); together, the FATF and the FSRBs comprise over 180-member jurisdictions

[2] The Global Forum, restructured in September 2009, is an extension of a forum created in the early 2000s in the context of the OECD's work to address the risks to tax compliance posed by non-cooperative jurisdictions. The original members of the Global Forum consisted of OECD countries and jurisdictions that had agreed to implement transparency and exchange of information for tax purposes.

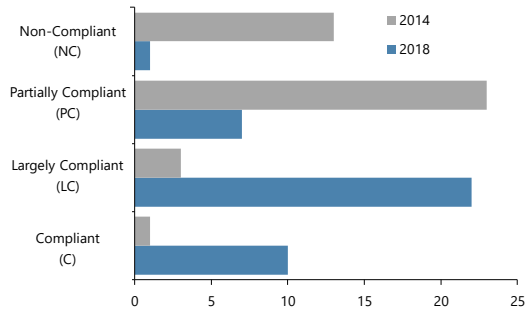
30. The 2012 IMF–led assessment found significant shortcomings in Panama's framework for AML/CFT, which the authorities are actively trying to address. [13] In June 2014, Panama was made subject to the FATF's monitoring under its on-going global AML/CFT compliance process, also known as the FATF's ICRG "grey list", the second time since 2001. As a result, the authorities agreed to an Action Plan to upgrade their legal and institutional framework for AML/CFT by mid-2015. Following significant implementation of the Action Plan, including the approval of a set of legislations, FATF removed Panama from the ICRG process (i.e., the grey list) in February 2016. However, soon after FATF's recognition of the authorities' progress, Panama's reputation was affected by the release of the "Mossack Fonseca documents" in April 2016, immediately followed by U.S. sanctions on money laundering involving a few Panamanian entities in May[14] (See IMF Country Report No. 16/337) with mixed results. These cases highlighted the possible deficiencies in AML/CFT implementation and showed that there is ample room for improvement. To guide future policy and further reforms, the authorities have adopted a national AML/CFT strategy, with IMF TA, following the completion of a national risk assessment in January 2017.

FATF's Adverse Decisions on Panama

	Entry	Exit	Time on list
Black list	Jun-00	Jun-01	12 months
Grey list	Jun-14	Feb-16	20 months

31. After the 2012 assessment, Panama took important measures to strengthen technical compliance. Panama's legal framework criminalizes most money laundering and terrorist financing predicate offences under FATF standards, with a sole exception of tax offences, a gap later identified by GAFILAT in the 2018 assessment. The revised AML/CFT Law 23, which partly reflects FATF's recommendations, aims to prevent risks of misuse of products and services offered by financial, non-financial and professional business entities as instruments for money laundering and financing of terrorism (see Box 2). It established a risk–based approach for AML/CFT supervision, appropriate mitigating mechanisms to protect the integrity of the financial system and the economy, and measures to facilitate international cooperation. The law extended coverage to activities and professions, previously not covered by the then existing AML/CFT framework. It also enhanced the mechanism for Customer Due Diligence (CDD) requirements, and the powers and resources of Panama's Financial Intelligence Unit (*Unidad de Análisis Financiero*, UAF) to ensure its operational independence. A new high level national AML/CFT coordinating body was created in 2015, tasked with the responsibility of monitoring,

Technical Compliance with the 40 FATF Recommendations



Sources: IMF (2014) and GAFILAT (2018)

[13] The report was published in February 2014.

[14] Pursuant to the Foreign Narcotics Kingpin Designation Act. (https://www.treasury.gov/press-center/press-releases/Pages/jl0450.aspx)

establishing and coordinating national AML risk strategies and priorities, and overseeing the implementation of the national action plan.

Box 2. Panama: Key Reforms by Law 23 to the Legal Framework Since 2015

These reforms were aimed to address the shortcomings identified in the 2014 assessment report.

Nonfinancial entities

- Extended and deepened the scope of covered entities for customer due diligence (CDD) by including nonfinancial entities in addition to all financial institutions. Introduced suspicious transaction reporting (STR) requirements for all nonfinancial entities.
- Established an intendancy for supervision and regulation of nonfinancial entities.
- Adjusted the legal framework to grant the financial intelligence unit (FIU) access to information maintained by all nonfinancial entities and resident agents and a heightened role in AML/CFT matters.

Identification of beneficial ownership

- Amended the legal provisions to ensure identification of beneficial owners of all customers (natural and legal) in trust companies and associated services.
- Introduced mandatory identification of all parties to a trust client and covered them by the CDD obligations.
- Restricted the existence of bearer shares by creating a legal obligation for delivery of all bearer shares to be delivered to a custodian, to identify shareholder(s) or their replacement with nominal share certificates.
- Obliged all resident agents to gather and maintain information on beneficial ownership.

Criminalize ML/TF

- Extended the scope of covered entities for customer due diligence (CDD) by including nonfinancial entities in addition to all financial institutions.
- Added crimes as predicate offenses to ML under the previous FATF standard: piracy, forgery, forgery of money, smuggling, etc.

Freezing of terrorist assets

- Established immediate mechanisms to freeze terrorist assets in accordance with UN guidelines without prior judicial review.
- Adopted procedure to freeze terrorist assets for cases initiated under other jurisdictions.

Strengthen the FIU

- Enhanced financial and human resources in line with its expanded responsibilities for new reporting entities.
- Set the FIU as the central agency that receives STRs; strengthened STR quality by providing feedback to reporting entities and coordination with other supervisors.

International cooperation

- Set explicit legal provision to regulate the principles and procedures for international legal cooperation in the absence of a treaty.
- Fostered the signing of MoUs with foreign FIUs, under the Egmont Group framework.

Source: IMF Country Report No. 16/337; and the Panamanian authorities.

32. The recent assessment by GAFILAT, published in January 2018, confirmed the authorities' clear progress towards achieving technical compliance with the AML/CFT standards. Panama was found to be fully or largely compliant with the majority of the 40 FATF's

technical recommendations, with 10 complaint ratings, 22 largely compliant ratings, 7 partially compliant ratings and 1 non-complaint rating. Panama's compliance is strongest in the following areas: confiscation and provisional measures; financial institutions secrecy laws; politically exposed persons; correspondents banking relationships; new technologies; internal controls and foreign branches and subsidiaries; tipping off and confidentially; financial intelligence unit, guidance and feedback; and international instruments. It does not currently meet the standard for the transparency and beneficial ownership of legal persons.

33. While Panama demonstrates technical compliance, important weaknesses were identified in the effectiveness of the AML/CFT framework. Under the current FATF methodology, effectiveness is the core of the assessment. GAFILAT recent assessment shows that Panama's AML/CFT system is only effective in two areas (targeted financial sanctions related to terrorist financing and related to proliferation financing). In all other areas, GAFILAT deems Panama's effectiveness to be insufficient. This covers Panama's risk understanding, international compliance, supervision, preventive measures (CDD), transparency of legal persons and legal arrangements, financial intelligence, money laundering investigations and prosecution, confiscation, and terrorist financing investigations and prosecutions.

34. The authorities have already taken steps to improve the effectiveness of the system over the longer term. As reflected in the GAFILAT report, measures taken after the 2012 assessment included a renewed focus on AML/CFT supervision, which has intensified since 2015, facilitated by the creation of a new intendency and improvements in supervisory capacity. Total onsite inspections conducted by the five main supervisory entities increased by 10 percent, and 40 percent in 2016 and 2017, respectively, facilitated by additional human, financial and information technology resources. The overall number of SBP's inspections went up by 36 percent and 23 percent in 2016 and 2017, respectively, with the number for trusts and other financial entities rising by 84 percent and 300 percent in 2016, respectively. The scope, frequency and the quality of supervision varies across institutions, with banking supervision found to be strong by the 2012 Financial Sector Assessment (FSAP) and continue strengthening. On staffing, the newly created Intendency for regulation and supervision of non-financial entities (which has the complicated task of monitoring a very large number of DNFBPs) and the UAF hired 40 and 35 new staff, respectively in 2017. Supervision (both offsite and onsite) has stepped up through implementation of risk-based models and tools. Although GAFILAT deemed these measures to be insufficient to achieve effectiveness in their 2018 assessment; over the longer term, these measures could be useful components of a larger effort to achieve effectiveness.

AML/CFT Supervision
(Number of supervisions conducted)

	2015	2016	2017
Intendencia	31	35	69
IPACOOP	202	211	295
SSRR	71	78	122
SBP	73	102	116
SMV	26	18	20
Total	**403**	**444**	**622**

Source: National Commission for AML/CFT/WMD

Panama: SBP Supervision
(Number of supervisions conducted)

	2015	2016	2017
Banks	60	66	86
Trusts	13	24	31
Others 1/	6	18	16
Total	**79**	**108**	**133**

Source: Panama Superintendence of Banks
1/ includes finance, leasing and factoring companies

35. The authorities also stepped up AML/CFT awareness and training programs after the 2012 assessment. National awareness appears to have improved in recent years. The authorities reported 766 trainings, workshops and seminars on AML/CFT issues during 2015–17, attracting close to 42,000 participants

Training on AML/CFT

	Number of Training			Number of Participants		
	2015	2016	2017	2015	2016	2017
CUSTOMS	0	0	106	0	0	953
Intendencia	86	92	69	3877	7432	3921
IPACOOP	26	26	73	961	756	2173
SSRR	3	12	9	232	1278	431
SBP	7	13	43	384	1084	1961
SMV	6	4	9	578	490	575
Judicary	3	6	4	64	161	100
FIU	48	43	184	2616	2150	5736
FIU Vitual A	0	0	0	0	0	4950
Total	**179**	**196**	**391**	**8712**	**13351**	**19847**

Source: National Commission for AML/CFT/WMD

36. Suspicious transactions reporting (STR) has increased steadily since 2014, but there is low filing in sectors considered as high risk. STR received by the UAF increased by 73 percent in 2015 to 1,734, and by 45 percent in 2017 to 2,897, mainly from banks and remittance agents. There appears to be low filing from free zones, lawyers and real estate sectors that ML/FT risks were found to be elevated by the national risk assessment. The authorities are of the view that there is resistance in these sectors for fear of losing their clients. Banks are also thought to have been filing for the clients in the free zones. Despite the number of STRs generated by banks, which appears high, GAFILAT's 2018 assessment indicates that more STRs should be coming from the sector due to its size and risk as well as international linkages.

Table 2. Panama: Technical Compliance with FATF Recommendations, 2018

R.1. Assessing risks and applying a risk-based approach	R.2. National cooperation and coordination	R.3. Money laundering offence	R.4. Confiscation and provisional measures	R.5. Terrorist financing
R.6. Target financial sanctions related to terrorism and terrorism financing	R.7. Target financial sanctions related to proliferation	R.8. Non-profit organization	R.9. Financial institutions secrecy laws	R.10. Customer Due Diligence
R.11. Record keeping	R.12. Politically exposed persons	R.13. Correspondent banking	R.14. Money, or value transfer services	R.15. New technologies
R16. Wire transfers	R17. Reliance on third parties	R18. Internal controls and foreign branches and subsidiaries	R19. Higher risk countries	R20. Reporting of suspicious transactions
R.21. Tipping-off and confidentiality	R.22. DNFBPs: Customer due duligence	R.23. DNFBPs: Other measures	R.24. Transparency and beneficial ownership of legal persons	R.25. Transparency and beneficial ownership of legal arrangements
R.26. Regulation and supervision of financial institutions	R.27. Powers of supervisors	R.28. Regulation and supervision of DNFBPs	R.29. Financial Intelligence Unit	R.30. Responsibilities of law enforcement and investigative authorities
R.31. Powers of law enforcement and investigative authorities	R.32. Cash couriers	R.33. Statistics	R.34. Guidance and feedback	R.35. Sanctions
R.36. International instruments	R.37. Mutual legal assistance	R.38. Mutual legal assis-tance: freezing and con-fiscation	R.39. Extradition	R.40. Other forms of international cooperation

LEGEND	LEVEL OF COMPLIANCE			
	Compliant	Largely Compliant	Partially Compliant	Non-Compliant

Effectiveness of the AML/CFT Regime

IO.1. Risk, policy and coordination	IO. 2. International Cooperation	IO. 3. Monitoring	IO. 4. Preventive measures	IO. 5. Legal persons and arrangements
IO. 6. Financial intelligence	IO. 7. ML investigation and prosecution	IO. 8. Confiscation	IO. 9. TF investigation and prosecution	IO. 10. TF preventive measures and financial sanctions
IO. 11. FP financial sanctions				

LEGEND	LEVEL OF EFFECTIVENESS			
	High	Substantial	Moderate	Low

Source: GAFILAT (2018); IMF Staff calculations

37. The authorities have expressed commitment to implementing important initiatives to enhance tax transparency. Following several assessments by the Global Forum, the latest concluded in November 2016[15], the National Assembly has passed legislation in the past three years to establish the legal basis for AEOI, enhance the revenue administration's powers, and require all companies and foundations registered in Panama to keep accounting records. With IMF assistance, the authorities have reorganized EOI unit under the Directorate of General Income (DGI), and increased staffing for effective information exchange. Panama has signed over 30 bilateral tax

[15] This phase 2 review focused on the practical implementation of international standards for transparency and exchange of information on request, during a three-year period (1 July 2012 to 30 June 2015) as well as amendments made to Panama's framework since the Phase 1 review (in September 2010) up to 12 August 2016.

treaties and tax information exchange agreement. It has ratified the OECD's Multilateral Convention on Tax Matters, and met FATCA information reporting requirements, with first transmission of information taken place in September 2017. It has also initiated automatic exchange of tax information (AEOI) with 31 jurisdictions, under the OECD's Common Reporting Standards (CRS). According to UAF, response time to the request for information from foreign counterparts has improved since 2012, from 250 days to 150. Recent advances on tax transparency initiatives led the Global Forum to upgrade Panama's rating to "provisionally largely compliant in mid-2017 under its Fast Track Review process. Nonetheless, Panama must demonstrate compliance with the enhanced GF standard in the ongoing comprehensive assessment by the Global Forum.

38. Compliance with Base Erosion and Profit Shifting (BEPS) measures is advancing. As a member of the Inclusive framework on BEPS[16], Panama is implementing four Minimum Standards to which it is subject to peer review and monitoring. These four standards (which are at the core of the BEPS measures) are: (i) countering harmful tax practices (Action 5); (ii) preventing treaty abuse (Action 6); (iii) implementing country-by-country (CbC) reporting (Action 13); and (iv) making dispute resolution mechanisms more effective (Action 14). Recent efforts have centered on implementing Action 5 shortcomings, primarily through legislative amendments.

Panama in International Context

39. In a select group of offshore centers and regional peers, Panama ranks above the median on technical compliance with FATF recommendations, but it is among the low performers in effectiveness.[17] In the ratings of assessments conducted from late 2016 to early 2018 (against the 2012 standards using the 2013 FATF methodology), Panama fared well on the quality of its AML/CFT framework, among a select group of offshore centers and regional peers. Panama was rated 'Compliant' in one-quarter of the 40 recommendations, same as the median of the group, and 'Largely Compliant' in 22 recommendations, better than the median. However, Panama is lagging most comparators on the effectiveness of the regime, perhaps because most of the recent revisions to the AML/CFT framework have not be sufficiently tested given that Panama's technical framework was strengthened in 2015.

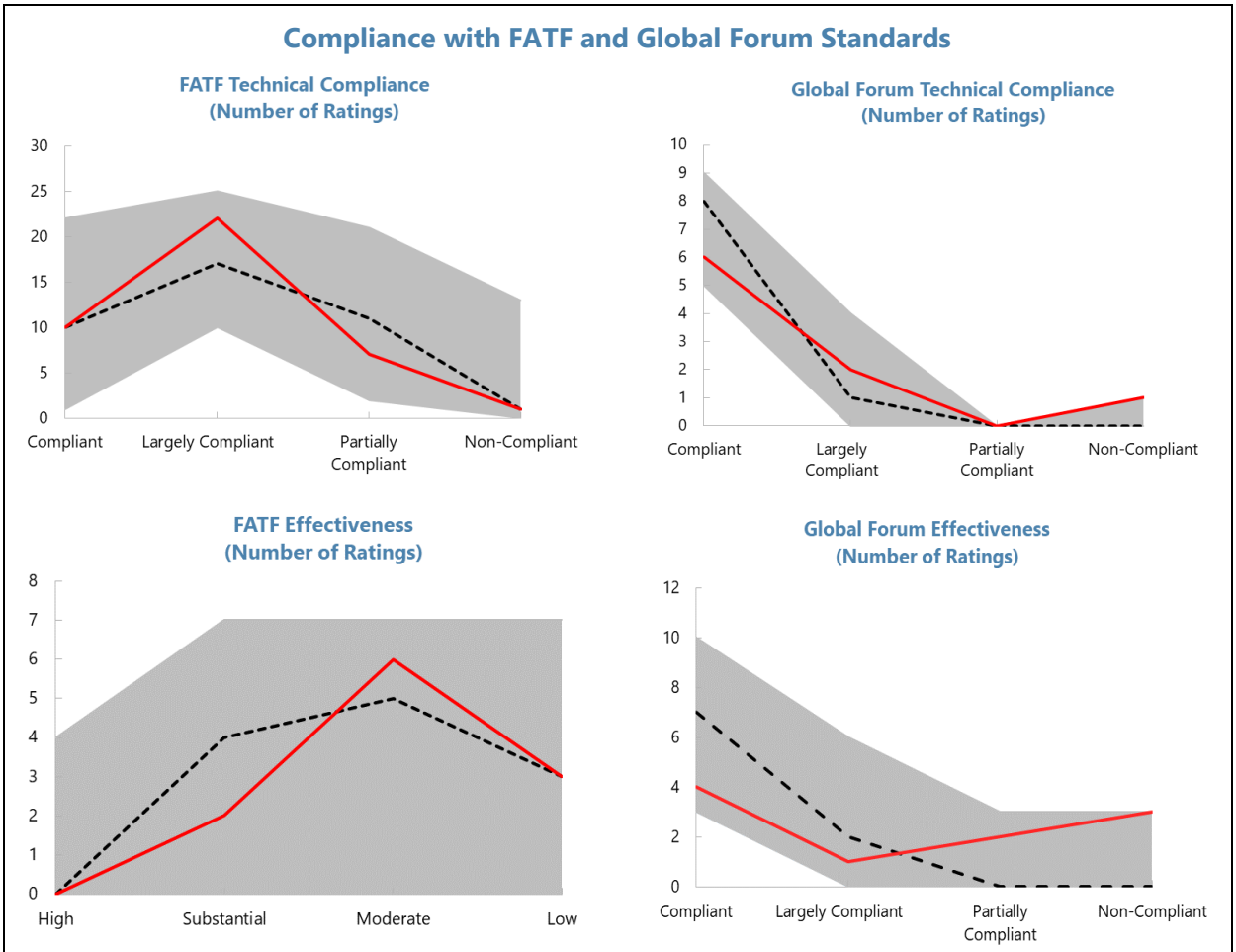
40. The Global Forum's ratings suggest that Panama's performance on tax transparency needs strengthening, especially when compared to other jurisdictions.[18] The authorities have implemented initiatives to strengthen information exchange for tax purposes (see paragraph 37), which led the Global Forum to provisionally upgrade Panama's overall rating from 'Non-compliant'

[16] Panama became the 87th member in October 2017.

[17] The list of countries and jurisdictions include: Bahamas, Barbados, Canada, Costa Rica, Ireland, Isle of Man, Macao SAR, Malaysia, Mexico, Panama, Samoa, Singapore, Switzerland, USA, as well as, Australia, Cuba, Jamaica, Fiji, Guatemala, Honduras, Mongolia, Nicaragua, Thailand, Trinidad and Tobago, and Vanuatu.

[18] Reflecting data availability, the list of countries and jurisdictions include the first 14 in the previous footnote as well as: Bahrain, Bermuda, Brazil, British Virgin Islands, Cayman Islands, Chile, Colombia, Hong Kong SAR, Luxemburg, Seychelles, Turks and Caicos.

to 'Largely Compliant' under its Fast Track Review Process in mid–2017[19]. However, the Global Forum has maintained the ratings of the essential individual components from the Phase 2 assessment published in November 2016, pending a comprehensive assessment, which started in September this year.



Source: Official data from FATF, and the Global Forum, and Staff calculations.

E. Critical Areas for Further Reform

41. Despite recent progress, GAFILAT's latest assessment pointed out important areas in the AML/CFT framework for further strengthening:

- **Criminalization of tax evasion**. Panama's tax to GDP ratio is relatively low, at around 10 percent of GDP, compared to peers. A 2017 study by the authorities indicates that Panama is one of the few jurisdictions where tax evasion is an administrative, rather than a criminal offence

[19] Panama's rating following the Fast Track Review Process reflect a rigorous review process and is based on input from its peer but it did not involve an on-site visit and does not substitute a full peer review, which the Global Forum has initiated in September 2018.

(see CNBC 2017b). It found that most Latin America countries classify tax evasion as a criminal offence, unlike Panama. The non-inclusion of tax crimes as underlying ML offences significantly hampers the authorities' domestic AML/CFT efforts and information sharing with foreign counterparts. This should be addressed in line with FATF recommendations.[20]

- **Transparency of legal persons and arrangements.** Existing regulations do not sufficiently guarantee adequate, timely, accurate and up-to-date beneficial ownership information of entities established in Panama. Only Information of beneficial owners that control 25 percent or more of an entity are required to be kept by law. Access to ownership information is difficult to secure where a resident agent has lost contact with a corporate entity, and where entities lack physical presence in Panama.

- **Large number of dormant entities.** These entities, in most cases, have cut-off relationship with the resident agent and ceased paying their yearly existence corporate fee. The resident agent is the primary source of information on their activity and their beneficial owners at the inception of the relationship, as required by CDD under Law 23. There are some concerns about the timeliness and reliability of the information in the Public Registry, which in some cases is not always up-to-date[21].

- **Customer due diligence (CDD) obligations of resident agents.** The law is not clear regarding the scope of customer due diligence to be conducted by resident agents, partly because of perceived tension in the provisions of a special law (Law No. 2) and the AML law (Law No. 23). Despite bringing resident agents under Law 23, the scope of CDD measures under Law No. 2, appears limited, for example, it requires resident agents to conduct due diligence measures for entities for which they have an ongoing professional relationship, and in the application of such measures, are not obliged to verify the accuracy of the information provided by their client regarding the activity of the company, neither are they strictly required to identify the final beneficial owner.

- **Financial Intelligence.** Despite ongoing efforts to register reporting entities in the UAF online platform, registrations of DNFBPs is relatively low, contributing to low filing of suspicious transaction reports. Compared to financial institutions, DNFBPs are not fully up to speed in effectively implementing compliance measures, due to low risk awareness given that oversight of the sector is relatively recent. Moreover, the timeline allowed by law to report STR is rather long, 15 days after detection[22]. Furthermore, the UAF's processes appears less oriented towards

[20] There is pending legislation, in second debate, before the National Assembly to criminalize tax evasion and to bring tax crimes in the scope of money laundering offences.

[21] All dormant entities which have been so identified by the Tax Authority (*Dirección General de Ingreso*) have a side notation in the public registry, an evidence of default with their obligation under Panamanian Law.

[22] There is pending legislation, in second debate, before the National Assembly to require that STR be reported "Promptly".

producing usable financial intelligence of interests. There is low dissemination of available products for use by relevant prosecutors and law enforcement agencies.

- **AML/CFT Statistics.** Information compiled are not systematic, comprehensive and readily available through the designated national authority (the UAF), partly reflecting weaknesses in the national statistical system. There is coordination gap between the UAF and some data generating authorities.

42. Weak implementation undermines the strength of Panama' AML/CFT framework. The low and moderate ratings on the effectiveness of the AML/CFT framework indicates that financial integrity objectives are not being met. GAFILAT found that Panama has not demonstrated sufficient results in important areas including the understanding of risk, transparency of legal persons, and financial intelligence.

43. Oversight is inadequate, particularly for DNFBPs. While there is scope to further enhance AML/CFT oversight generally, the regulation and oversight of this sector is complicated by the very large number of entities and professionals that operate in this sector. The intendency for DNFBPs was only created in 2015 and available resources are inadequate. In this context, further developing risk-based tools will be critical to prioritize efforts.

F. Priority Actions and Way Forward

44. Moving forward, continued strong efforts are needed to maintain the business model and secure Panama competitive position as international financial and business services center:

- **Further reinforce the AML/CFT framework in line with the GAFILAT assessment and FATF recommendations.** The near-term priority should be to correct shortfalls in the AML/CFT regime, build on the recent favorable technical assessment by GAFILAT and demonstrate sufficient progress in effectively implementing the legal framework. Panama must avoid public listing by FATF/OECD and the potential consequences. The authorities should expeditiously criminalize tax evasion and make tax crimes a predicate offense to money laundering in line with FATF recommendations.

- **Improve transparency of corporate vehicles.** Concrete actions are needed in this area where Panama was found to be particularly weak and highly vulnerable to money laundering. To ensure the availability of beneficial ownership and accounting records of Panamanian entities, the authorities should clarify the role of resident agents, keep the public registry up to date, expedite the dissolution of legacy entities, and remove any impediments to timely access to information. They should take measures to remove any appearance of secrecy in the law.

- **Strengthen AML/CFT supervision.** Effective implementation of the AML/CFT framework must remain a priority. It will be important to enhance the understanding of AML/CFT risks to which Panama is exposed, particularly in the highly vulnerable sectors, which will help devise strategies

to mitigate AML/CFT risks. Strengthening supervisory capacity for AML/CFT oversight, particularly for DNFBPs is critical. Further development of risk-based approaches to AML/CFT supervision will be essential to effectively channel available resources to critical areas, in view of the high number of financial and non-financial intermediaries in Panama.

- **Build a strong financial intelligence knowledge and capabilities.** Continuously educate reporting entities of their AML/CFT compliance obligations. Strengthen the capacity of the UAF to gather, analyze and disseminate intelligence products useful for prosecution and investigation of money laundering offences. Maintain consistent and comprehensive AML/CFT statistics, including through enhanced coordination among competent authorities.

- **Enhance information exchange**. Efforts to further enhance tax transparency and information exchange should continue, towards a successful ongoing assessment by the Global Forum. Implementation of the minimum standards on Base Erosion and Profit Shifting (BEPS) should advance at a faster pace.

G. Concluding Remarks

45. Panama is an important provider of international financial and business services, capitalizing on its key strengths, including its strategic location. Its business model, founded on banking, logistics and trade activities, has transformed the economy into one of the most vibrant in Latin America. While this model has served Panama well, the nature of products and services offered leaves the country vulnerable to money laundering, including from corruption, drug trafficking and other predicate crimes, such tax crimes committed abroad.

46. In recent years, the authorities have made progress in strengthening financial integrity and tax transparency. The authorities are very much aware of the importance of combating money laundering. In this regard, they have passed series of legislations in the past few years, bringing Panama's technical compliance closer to global standards on AML/CFT. Specifically, the AML/CFT framework was revamped in 2015 to prevent risks of misuse of products and services offered by financial, non-financial and professional business entities as instruments for money laundering and financing of terrorism. The new framework provides for a risk–based approach for AML/CFT supervision, appropriate mitigating mechanisms, and measures to facilitate international cooperation. AML/CFT supervision has strengthened with the creation of new intendency in 2015 and greater allocation of resources and training. The legal framework and institution for tax information exchange has been enhanced, including with IMF technical assistance, which has facilitated timely sharing of information with foreign counterparts (recently under the Foreign Account Tax Compliance Act, FATCA and OECD's Common Reporting Standards).

47. Nonetheless, efforts must continue to improve the effectiveness of their AML/CFT framework, enhance tax transparency and solidify Panama's competitive position. Considering the remaining gaps identified in this paper, the authorities should demonstrate good progress in fully aligning its AML/CFT framework with international standards before the next FATF plenary in February next year to avoid being listed as non-cooperative jurisdiction by mid–2019. Specifically,

the authorities should expeditiously criminalize tax evasion in line with FATF recommendations and take concrete steps to improve the transparency of corporate vehicles. It will be important to continue strengthening the effectiveness of their framework as well as enhancing AML/CFT supervision, especially for DNFBPs. Efforts to further improve tax transparency and information exchange should continue, including advancing the implementation of the minimum standards on Base Erosion and Profit Shifting (BEPS).

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PANAMA: GROWTH AT RISK[1]

Accommodative financial conditions support economic growth in the near-term, but can contribute to the build-up of financial imbalances overtime and potentially put economic growth at risk. This paper assesses financial conditions in Panama using the growth at risk approach (GaR) to link financial conditions to the distribution of future growth outcomes for Panama.[2] While financial conditions in Panama remain broadly accommodative and should continue to support near-term growth prospects, the GaR model shows that the prolonged period of accommodative financial conditions can contribute to the build-up of financial vulnerabilities, putting at risk financial stability and growth over the medium-term. These results highlight the importance of remaining vigilant and building resilience to emerging financial risks. In the context of Panama's dollarized economy with no central bank, macroprudential policy and crisis preparedness/management have an enhanced role to play in both mitigating and managing these risks.

A. Introduction

1. Financial conditions and economic activity are closely intertwined. While accommodative financial conditions support near-term growth prospects, financial vulnerabilities tend to accumulate over prolonged periods of financial excess, entailing significant downside risks for the economy over the medium-term. This paper examines the empirical relationship between financial conditions and economic activity in Panama using the growth at risk (GaR) approach. The GaR approach considers how changes in financial conditions signal risks to future GDP growth at different time horizons. The paper first provides an overview of financial conditions in Panama along three dimensions: (i) the price of risk, (ii) leverage, and (iii) external conditions. Financial conditions are then mapped into the probability distribution of future GDP growth at different forecast horizons to evaluate how different dimensions of financial conditions affect risks to the near- and medium-term growth outlook for Panama.

B. Financial Conditions in Panama

2. Financial conditions indices (FCI) are estimated to capture recent movements in financial conditions in Panama. An aggregate FCI is estimated together with separate FCIs for three important dimensions of financial risk: (i) the price of risk, (ii) leverage, and (iii) external conditions. All FCIs are estimated using principal component analysis (PCA), an approach that aggregates information about the common trend among financial indicators. In total, a set of 25 financial indicators is considered in the aggregate FCI. These indicators are then partitioned into groups to estimate the FCIs for the subdimensions of financial conditions. Using this partitioning approach, movements in the price of risk are captured by changes in interest rates, asset returns and price volatility, while movements in leverage are captured by those in credit aggregates and growth.

[1] Prepared by Kimberly Beaton with thanks to Romain Lafarguette for sharing his code and his expertise and to Romain, Adrian Alter, and Alan Feng for helpful comments and suggestions.

[2] See IMF (2017) for an introduction to GaR approach.

External conditions are themselves separated into two subdimensions: (i) financial conditions, reflecting global risk sentiment and interest rates; and (ii) external demand, reflecting movements in growth in key trading partners, world trade, and commodity prices (Table 1). The estimated FCIs are normalized around zero, such that higher positive FCIs indicate relatively tighter financial conditions, and higher negative FCIs indicate more accommodative financial conditions.[3]

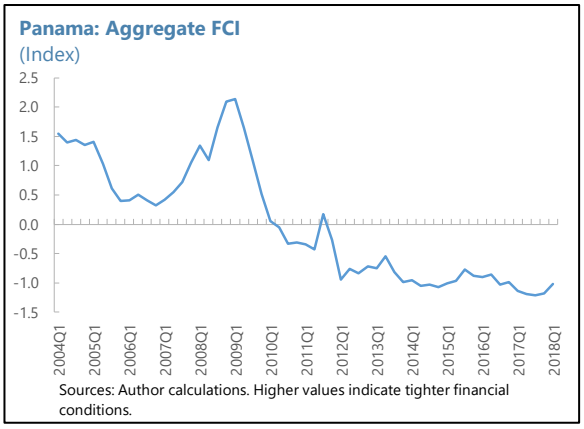
Table 1. Panama: Financial Variables by Dimension of Financial Risk

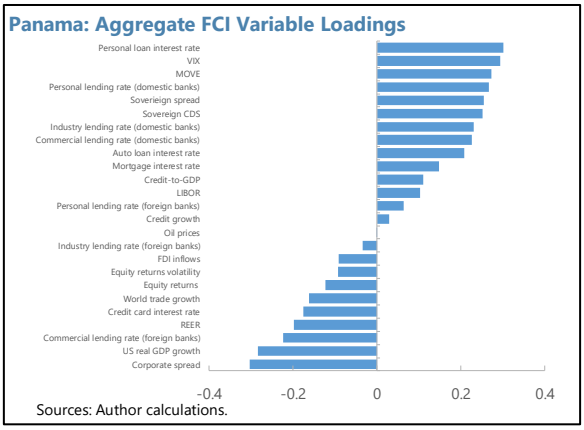
Price of Risk	Leverage	External Financial Conditions	External Demand
Corporate spread (JPMorgan CEMBI)	Credit growth	LIBOR	World trade growth
Commercial lending rate (foreign banks)	Credit-to-GDP	Merrill Lynch Option Volatility Estimate Index (MOVE)	US real GDP growth
Credit card interest rate		Chicago Board Options Exchange Volatility Index (VIX)	Oil prices
Equity returns			FDI inflows
Equity returns volatility			REER
Industry lending rate (foreign banks)			
Personal lending rate (foreign banks)			
Mortgage interest rate			
Auto loan interest rate			
Industry lending rate (domestic banks)			
Commercial lending rate (domestic banks)			
Sovereign CDS			
Sovereign spread (JPMorgan EMBIG)			
Personal lending rate (domestic banks)			
Personal loan interest rate			

Source Author's calculations.

3. Aggregate financial conditions in Panama remain accommodative. Movements in the aggregate FCI are broadly intuitive, suggesting relatively tighter financial conditions during the global financial crisis, followed by a period of sustained accommodative financial conditions. The advantage of the aggregate FCI is that it combines the information from the various dimensions of financial conditions to have an overall view on such conditions. However, by construction, the aggregate index may be dominated by the price of risk variables given the larger number of these variables included relative to variables capturing the other dimensions of financial conditions because of data constraints, particularly with respect to leverage variables, and suppress valuable information from the other dimensions of financial conditions for risks to the growth outlook. Indeed, the weights or loadings of the financial variables included in the aggregate FCI are dominated by the price of risk variables as well external conditions, while leverage variables receive relatively small weights. As the price of risk, leverage, and external financial conditions can affect the distribution of the growth outlook differently at different horizons (see IMF 2017), the aggregate FCI for Panama may mask the importance of the leverage or credit cycle for risks to growth in Panama, particularly at different forecast horizons. Therefore, distinct FCIs are also estimated for the main dimensions of financial risk.

[3] The indices are normalized around zero for the period for which they are estimated. Therefore, the indices provide an indication of the relative tightness/accommodativeness of financial conditions only for the time period for which they are estimated.





4. The different FCIs suggest that the subdimensions of financial risk do not always move together:

- **The FCI related to the price of risk indicates that conditions have remained broadly accommodative since early 2010.** While banks' funding costs have started to rise with global interest rates, notably the ongoing gradual normalization of U.S. monetary policy, upward pressure on the price of risk in Panama has thus far been contained. While lending rates are primarily variable and reset automatically with movements in LIBOR, the overall increase in the price of risk has been offset by historically low sovereign and corporate spreads and continued growth in equity prices. Overall, the FCI for the price of risk captures the tightening during the global financial crisis and subsequent loosening and largely mirrors developments in the aggregate FCI, confirming that movements in the aggregate FCI are dominated by the price of risk.

- **The FCI related to leverage cycle has started to turn. While the estimated FCI capturing leverage was largely accommodative during the post-global financial crisis credit boom, it has tightened with the slowdown in credit growth since 2015.** Nevertheless, on balance, the FCI capturing leverage suggests that leverage is now broadly neutral. The estimation of the leverage FCI is; however, hindered by a lack of detailed information on leverage in Panama. With financial intermediation largely bank-based and relatively shallow capital markets, sufficient time-series data was not available to include variables like equity or bond market capitalization to capture developments in leverage stemming from capital markets. Similarly, detailed data on credit from the banking system is available on a quarterly basis beginning only in 2003, hindering the inclusion of lengthy time series of credit aggregates or credit growth. Finally, quarterly national accounts data is available only beginning in 2007, limiting the period over which the credit-to-GDP ratio can be included.[4] As a result, the approach includes only the credit-to-GDP ratio and growth in credit to the private sector, with the weights assigned to both variables equivalent.

[4] This is also a limitation to the inclusion of the credit-to-GDP gap.

- **Panama's FCI related to external conditions indicates that these are broadly neutral.** The FCI capturing external financial conditions accurately captures the sharp tightening of financial conditions during the global financial crisis and subsequent period of accommodation, while that for external demand accurately captures related movements in the global business cycle. While the FCIs suggest that, on balance, external conditions remain broadly neutral, that for external financial conditions captures the recent tightening consistent with the normalization of global interest rates.

Figure 1. Panama: FCIs for the Subdimensions of Financial Risk and Variable Loadings

Panama: Price of Risk FCI

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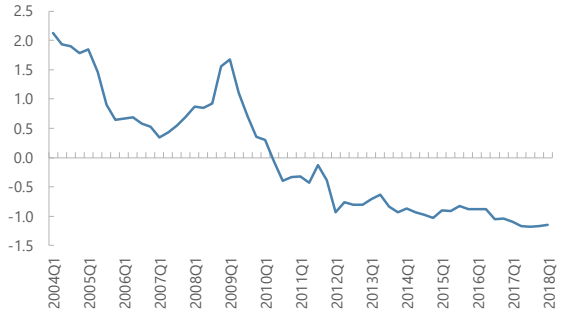
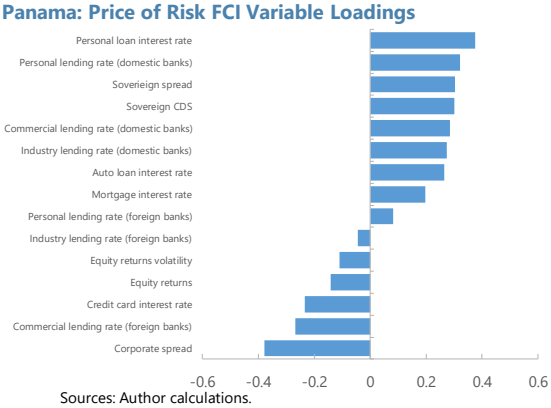


Sources: Author calculations. Higher values indicate tighter financial conditions.

Panama: Price of Risk FCI Variable Loadings



Sources: Author calculations.

Panama: Leverage FCI

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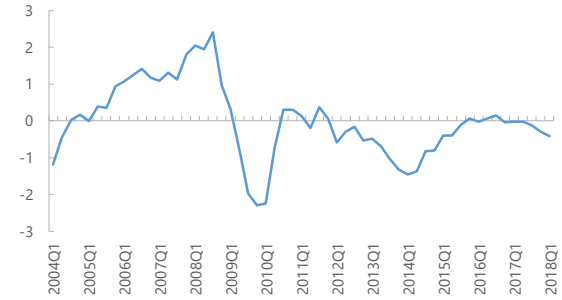
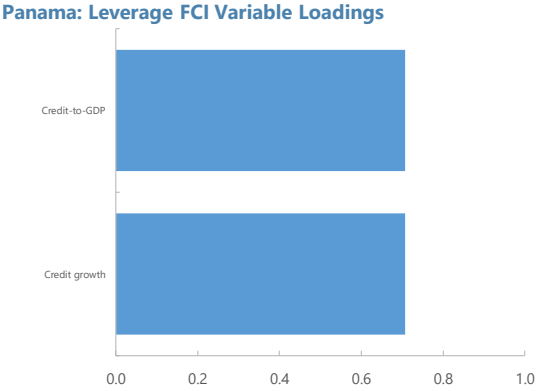


Sources: Author calculations. Higher values indicate tighter financial conditions.

Panama: Leverage FCI Variable Loadings



Sources: Author calculations.

Panama: External Financial Conditions FCI

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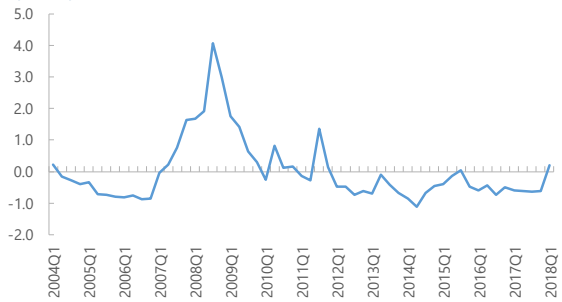
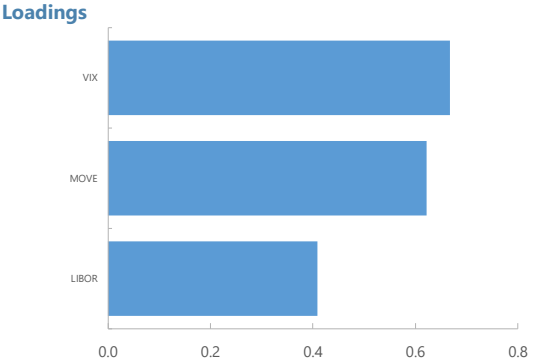


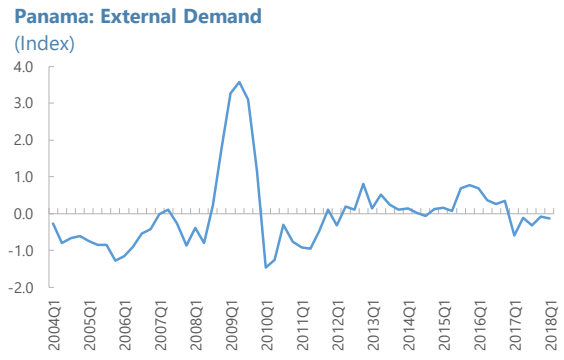
Sources: Author calculations. Higher values indicate tighter financial conditions.

Panama: External Financial Conditions FCI Variable Loadings

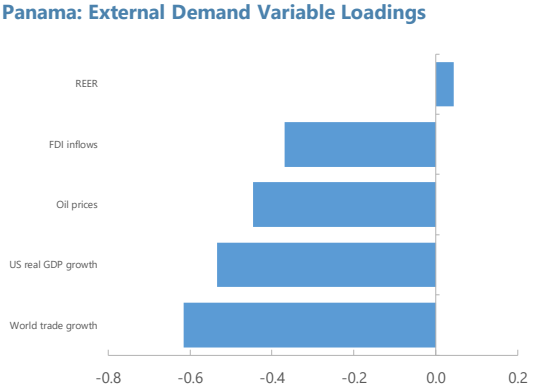


Sources: Author calculations.

Figure 1. Panama: FCIs for the Subdimensions of Financial Risk and Variable Loadings



Sources: Author calculations. Higher values indicate tighter financial conditions.



Sources: Author calculations.

Concluded

C. Growth and Financial Conditions

5. Financial conditions contain important information about the probability distribution of future growth outcomes. The conditional density forecast of future GDP growth in Panama based on current financial and external conditions is estimated using quantile regressions following the approach in IMF (2017).[5] The quantile regressions regress future GDP growth (y_{t+h}), on current growth (y_t), financial conditions, and external demand:

$$Q(y_{t+h}, q) = \beta_y^q y_t + \beta_p^q p_t + \beta_l^q l_t + \beta_{ff}^q ext\_fin_t + \beta_{fd}^q ext\_dem_t + \varepsilon_{t,h}$$

where q indicates the quantile level and h the forecast horizon (in quarters). The regression is fitted on a set of quantiles (0.10, 0.25, 0.50, 0.75, 0.90) and for forecast horizons of 4, 8 and 12 quarters to consider the impact of financial conditions on growth density forecasts at different horizons. The price of risk (p_t), leverage (l_t), external financial conditions (ext_fin_t), and external demand (ext_dem_t) as estimated through the corresponding FCIs, are included separately in the quantile regressions to investigate the relative significance of each dimension of financial conditions for signaling risks to the near- and medium-term growth outlook.

6. Results of the quantile regressions suggest that the different dimensions of financial conditions have divergent impacts on the growth forecast depending on the forecast horizon. External financial conditions are the main driver of Panama's short-term growth prospects, while the build-up of financial vulnerabilities related to leverage is the most important link between financial conditions and Panama's medium-term growth outlook:

- **The impact of the price of risk on the growth outlook is difficult to disentangle for Panama.** The results of the quantile regressions suggest that a rising price of risk is (surprisingly) consistent with upside risks to the growth outlook over both the near- and medium-term, while

[5] See also IMF (2017), Annex 3.3 for a detailed description of the methodology used to estimate the conditional density of future GDP growth based on current financial conditions.

a rising price of risk has typically been found to be associated with downside risks to growth, particularly over the short-term.[6] However, the period for which the quantile regressions are estimated provides important insights into this result. Data constraints restrict the estimation period to start only in 2004 and, for much of this period, the price of risk has been positively, rather than inversely, correlated with real GDP growth. This positive correlation may be due to a decoupling of the business cycles of Panama and the rest of the world to the extent to which the domestic price of risk has been driven by external financial conditions. It may also be related to the completion of several substantial infrastructure projects, including the completion of the Panama Canal, that boosted growth significantly and wound down over the same period as the price of risk was becoming more accommodative.[7] Therefore, the finding that a higher price of risk has a large and positive impact on the right quantiles of GDP growth could be a consequence of higher demand for capital over this investment boom in the upswing that pushed up the cost of capital. On balance, the results should not be inferred to suggest that a rising price of risks is not a useful signal of downside risks to the growth outlook, particularly as, prior to the recent period of significant investment in large-scale infrastructure projects, a rising price of risk was historically negatively correlated with growth outcomes.

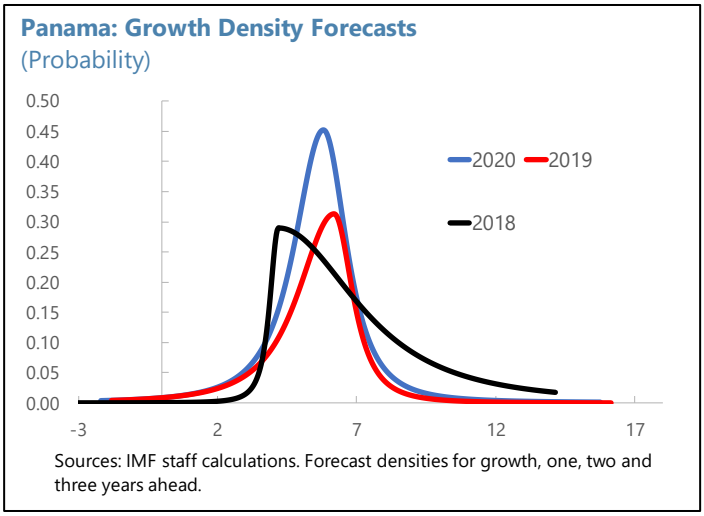
- **Leverage has a small effect on growth at short-term horizons, but a negative effect at longer horizons that dominates the effect of the price of risk and external conditions.** Over the short-term, leverage in Panama has a relatively neutral/slight positive effect on the growth outlook, consistent with the demand side effect of leverage dominating in the short-term with higher leverage translating into more economic activity (e.g. IMF (2017)). However, this result may be skewed by the data limitations outlined above. Over longer horizons; however, higher leverage negatively affects growth, particularly the left-hand tail of the growth distribution, as higher leverage leads to the build-up of balance sheet vulnerabilities over time. Macroprudential policy can therefore play an important role in mitigating medium-term risks to the growth outlook from the excessive build-up of leverage, with development of a framework and tools for macroprudential policy particularly imperative to provide sufficient policy flexibility to address related macro-financial risks in the context of Panama's dollarized economy and regional financial center. This finding highlights the term structure of GaR from financial conditions: in the near-term Panama's still broadly accommodative financial conditions will likely continue to support economic activity, but over the medium-term the continued build-up of financial vulnerabilities can shift the distribution of future GDP growth, increasing GaR.

[6] For instance, IMF (2017) finds that rising funding costs and falling asset prices are the most important signals of severe recession at time horizons of up to four quarters.

[7] Investment is estimated to have contributed on average 4 percentage points to Panama's annual economic growth over 2008-2016 with a substantial share of this related to large scale infrastructure projects like the Panama Canal expansion (U.S. $5.3 billion over 2007-16) and a new mine (U.S. $5.5 billion). Many of these large infrastructure projects were financed externally, either through sovereign issuance on global capital markets or private capital inflows, largely concentrated in FDI rather than through the Panamanian banking system or capital markets.

- **External conditions are the main drive of Panama's growth over short-term horizons.** Tighter external financial conditions have a marked negative effect on the entire distribution of the growth outlook over the near-term, with the negative impact more important than any of the other dimensions of financial risk. Weaker external demand also has a strong negative effect on the near-term growth outlook. This finding is consistent with the fact that Panama is a highly open economy with its business model founded on its ability to be an attractive destination for international financial, business and transportation services.[8] The negative effect of both categories of external conditions dissipates as the forecast horizon lengthens.

7. On aggregate, the conditional information from the price of risk, leverage and external financial conditions is consistent with lower risks to the growth outlook from financial conditions in the near-term relative to the medium-term. The conditional information from the quantile regressions and the various dimensions of financial conditions is used to derive the probability distribution for Panama's growth in 2018 (one-year ahead), 2019 (two-year ahead), and 2020 (three-year ahead).[9] The distributions are calibrated so that the mode, or most likely outcome, is consistent with the forecast for Panama (i.e. 4.3 percent in 2018, 6.3 percent in 2019 and 5.8 percent in 2020). These density forecasts can then be used to estimate the growth at risk (GaR) associated with various states of the financial system. Given current financial conditions, the GaR model forecasts that under a severely adverse growth scenario (one with 5 percent probability) for 2018 the growth outlook for Panama would be 3.9 percent compared to the outlook for 4.3 percent growth.[10] This compares to a severely adverse scenario of 1.4 and 2.3 compared to the outlook for 6.3 and 5.8 percent growth for 2019 and 2020, respectively.



Sources: IMF staff calculations. Forecast densities for growth, one, two and three years ahead.

8. The distributions can also be used to assess the cumulative likelihood of the growth scenarios used by Panama's Superintendency of Banks (SBP) in its stress-test scenarios. The

[8] See IMF Country Report No. 17/106.

[9] Based on the conditional information from the quantile regressions, a t-skew fitted curve approach is used to derive the conditional distribution for Panama's GDP growth for each of the forecast horizons considered. See IMF (2017), Annex 3.3 for a detailed description of the methodology.

[10] For 2018, the assumption that the mode of the growth density forecast is 4.6 percent skews the distribution to the left. This forecast takes into account the impact of the abrupt stoppage in construction activity during the strike, which is estimated to reduce growth by 1 percentage point for 2018. Allowing the mode of the distribution instead to be consistent with the conditional mean suggested by the quantile regression results would give a forecast mode of 5.6, consistent with an estimated impact of the strike on the mode outlook for growth of 1 percentage point.

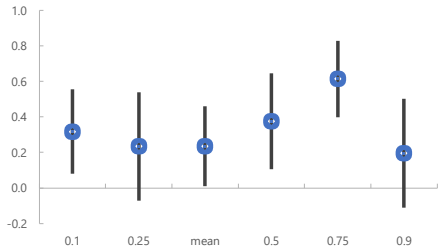
severe scenario used by the SBP assumes growth at end-2019 of 2.5 percent for Panama, broadly equivalent to a GaR scenario with 10 percent probability for 2019, whereas a more severe scenario consistent with a 5 percent probability would be appropriate to evaluate tail risks. Caution is also warranted as the stress tests results assume a relationship between economic activity and asset quality estimated over a limited time period (broadly since 2000) where economic activity has remained robust and asset quality has remained relatively stable, with low levels of non-performing loans (see related Selected Issues Paper).

D. Conclusions

9. Accommodative financial conditions support economic growth in the near-term, but can contribute to the build-up of financial imbalances overtime and put economic growth at risk. Results from the GaR model for Panama suggest that still broadly accommodative financial conditions in Panama should continue to support near-term growth prospects, but that the prolonged period of accommodative financial conditions can contribute to the build-up of financial vulnerabilities, putting at risk financial stability and growth over the medium-term. For Panama, near-term growth prospects should continue to be supported by a still accommodative price of risk, but the turning of the leverage cycle and ongoing tightening of external financial conditions bear close monitoring, particularly as tighter global financial conditions gradually lead to an increase in the price of risk in the context of Panama's dollarized economy. A rapid deterioration in external financial conditions in particular could significantly worsen the outlook for neat-term growth, with a further tightening of leverage likely to have the largest medium-term growth impact. These results highlight the importance of remaining vigilant and building resilience to emerging financial risks. In the context of Panama's dollarized economy with no central bank, macroprudential policy and crisis preparedness/management have an enhanced role to play in both mitigating and managing these risks.

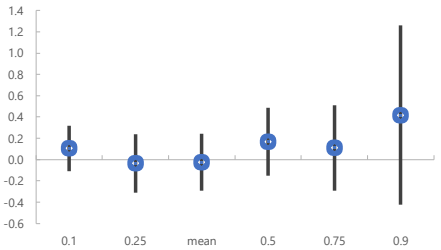
Figure 2. Panama: Coefficients from Quantile Regressions of Financial Conditions on Future GDP Growth

Price of Risk: 4-Quarter Horizon



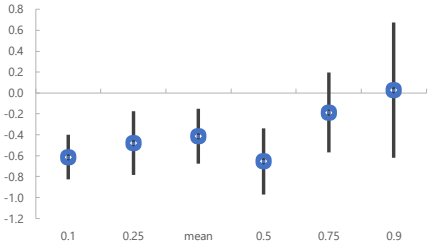
Sources: Author calculations.

Leverage: 4-Quarter Horizon



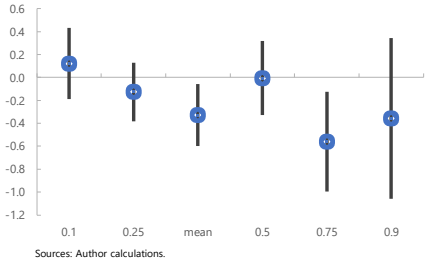
Sources: Author calculations.

External Financial Conditions: 4-Quarter Horizon



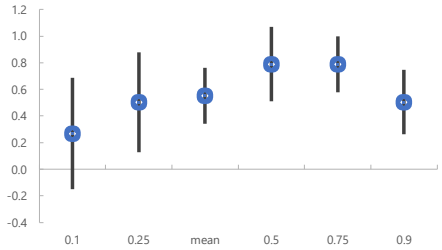
Sources: Author calculations.

External Demand: 4-Quarter Horizon



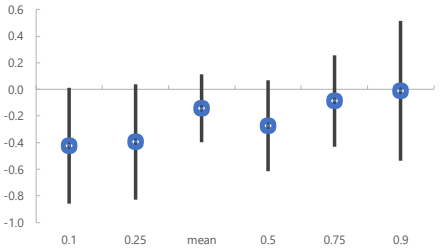
Sources: Author calculations.

Price of Risk: 8-Quarter Horizon



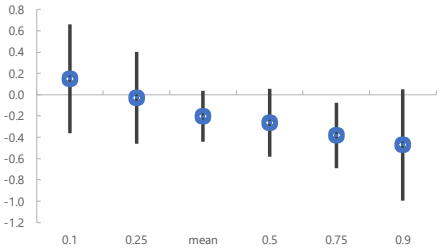
Sources: Author calculations.

Leverage: 8-Quarter Horizon



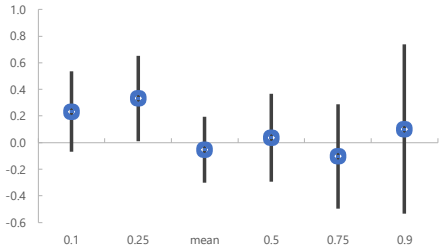
Sources: Author calculations.

External Financial Conditions: 8-Quarter Horizon



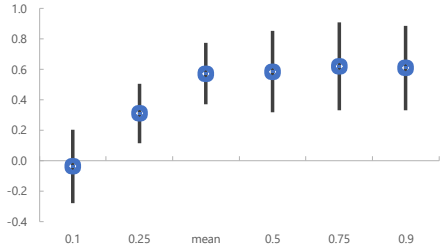
Sources: Author calculations.

External Demand: 8-Quarter Horizon



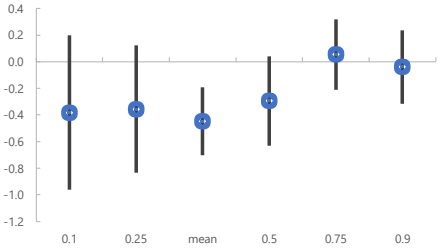
Sources: Author calculations.

Price of Risk: 12-Quarter Horizon



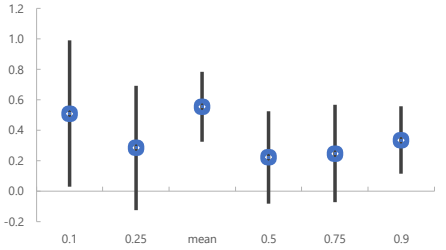
Sources: Author calculations.

Leverage: 12-Quarter Horizon



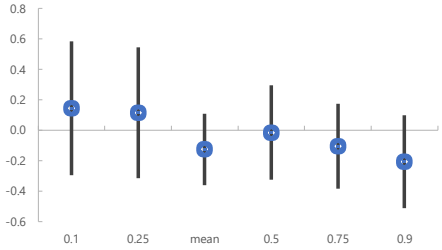
Sources: Author calculations.

External Financial Conditions: 12-Quarter Horizon



Sources: Author calculations.

External Demand: 12-Quarter Horizon



Sources: Author calculations.

INTERCONNECTIONS WITHIN PANAMA'S REGIONAL BANKING SECTOR AND WITH FOREIGN BANKS[1]

This paper assesses the potential magnitude of the risks related to interbank exposures within the Panamanian banking sector and Panama's connections with foreign banking systems through both credit and funding channels are potential sources of systemic risk to Panama. On balance, the results suggest that systemic risks from interconnections within Panama's regional banking sector are moderate. While banks maintain relatively important interbank connections, primarily through deposits, banks' existing capital buffers appear broadly sufficient to absorb contagion from the failure of individual banks in the system without the need for sizeable capital injections. However, caution is warranted as economic or financial shocks that simultaneously affect all banks are beyond the scope of this analysis and would heighten systemic risks associated with banks' interconnections. Panama maintains significant upstream and downstream exposures to foreign banking systems and credit provision in Panama would be materially affected by foreign banks' deleveraging.

A. Introduction

1. Exposures between individual banks and across banking systems can have important implications for financial stability. Disruptions to such financial linkages, even at the level of individual banks, can affect the stability of an economy's entire banking system. Similarly, challenges faced by foreign banks operating abroad can spillover to other countries directly through both funding and credit channels. This paper assesses the potential magnitude of these risks for Panama. First, potential risks to Panama's regional banking center from banks' connections with other banks operating in Panama as well as foreign banks are assessed. Second, potential risks to Panama from its exposure to foreign banks through both credit and funding channels are considered.

B. Interbank Exposures in the Panamanian Banking System[2]

Stylized Facts

2. Interbank connections in the Panamanian banking system are relatively important. Banks are connected through their interbank deposits and their investment holdings (both through bonds and cross-equity holdings). Banks' interbank deposits are a relatively small share of their total assets: of banks operating in the onshore banking sector, interbank deposits account for only about 4 percent of Panamanian-owned banks' assets or about 9 percent of foreign-owned banks' assets as of March 2018. As a share of total assets, the offshore banking sector is much more exposed, with

[1] Prepared by Kimberly Beaton. This Selected Issues Paper updates and extends the analysis in IMF Country Report No. 15/238.

[2] See chapter 2 on financial integrity issues for an overview of the structure of Panama's financial system, including a detailed description of the banking system.

about 30 percent of assets held in deposits in other banks. As a share of banks' equity, banks' interbank exposures are much more important: in the onshore banking sector, interbank deposits account for about 115 percent of Panamanian-owned banks' total equity and 76 percent of foreign banks' equity.[3] Again, offshore banks' exposure to their interbank deposits is also more important as a proportion of their equity at about 165 percent. Thus, although banks have relatively little of their assets concentrated in their interbank holdings, interbank deposits may still be an important transmission channel for bank stress given their importance as a percent of banks' equity. By contrast, banks' investment holdings in the bonds, stocks, other financial instruments of other banks are relatively small both as a share of banks' equity and of their total assets (Table 2).

3. Interbank deposits are relatively concentrated in foreign banks. On aggregate, over 80 percent of banks' interbank deposits are held in foreign banks. While this ratio is boosted by the offshore banks, which are restricted in their ability to interact with the onshore banking system, Panamanian-owned onshore banks hold over 70 percent of their interbank deposits in foreign banks and foreign-owned offshore banks hold about 80 percent of their interbank deposits in foreign banks. Banks' interbank deposits within the domestic onshore banking system are more limited. The concentration of bank's interbank deposits within a few origin banks or destination banks also provides a preliminary indication of banks' vulnerability to losses on their interbank deposits. Annex Tables 1, 2, and 3 show the composition of banks' interbank deposits by origin bank and by destination bank as a percent of total interbank deposits in the Panamanian banking system (including both the onshore and offshore banks). By origin banks, while most banks account for a limited share of banks' total interbank deposits, 4 banks hold shares in excess of 5 percent of total interbank deposits, suggesting higher vulnerability to losses on these deposits. However, for at least two of these banks, these deposits may be in their parent banks abroad. By destination bank, interbank deposits are even more diverse. Exposures within the Panamanian banking system are relatively small as a share of total interbank deposits, except for those to the Banco Nacional, which plays an important role in the operation of the payments system. On aggregate, the Panamanian banking system holds deposits in 128 banks abroad, but the bulk of these deposits are concentrated in the ten banks with the largest exposures: these banks hold about over 50 percent of Panamanian banks' deposits abroad.

4. The degree to which banks are vulnerable to interbank contagion depends on their financial health in addition to their interbank exposures. Aggregate financial soundness indicators suggest that the Panamanian banking system, on aggregate, is well capitalized. Banks generally maintain relatively large capital buffers in excess of the minimum regulatory requirement of 8 percent of risk-weighted assets, but there is significant dispersion in the size of such buffers across individual banks. Non-performing loans remain low, but have been rising, and, while NPLs appear well provisioned on aggregate and has improved with the adoption of IFRS9, provisioning coverage varies significantly across banks. Similarly, while the banking system is profitable, larger banks by asset size tend to be more profitable than smaller banks, likely in part reflecting economies of scale. On aggregate, banks' leverage appears contained and liquidity sufficient, but again with

[3] Based on banks' reported consolidated capital.

wide dispersion across banks. Annex I provides detailed heat-maps of individual banks' financial health based on their capital adequacy, asset quality, profitability, liquidity, and leverage.

Table 1. Panama: Interbank Deposits by Type of Bank License[1/]

			Destination			
			GL	GF	IL	Foreign
Origin	GL	U$S million	1,027	473	0	4,150
		as % of GL equity	21	10	0	84
		as % of GL assets	1	0	0	3
	GF	U$S million	596	464	135	4,727
		as % of GF equity	8	6	2	61
		as % of GF assets	1	1	0	9
	IL	U$S million	27	94	29	4,329
		as % of IL equity	1	3	1	159
		as % of IL assets	0	1	0	29
	Foreign		n.a.	n.a.	n.a.	n.a.
	Total	U$S million	1,649	1,032	164	13,207

Source: SBP and author calculations.

1/GL stands for "General license, local", GF for "General license, foreign", IL for "International license". Data is as of March 31, 2018.

Table 2. Panama: Investment Holdings of Banks by Type of Bank License[1/]

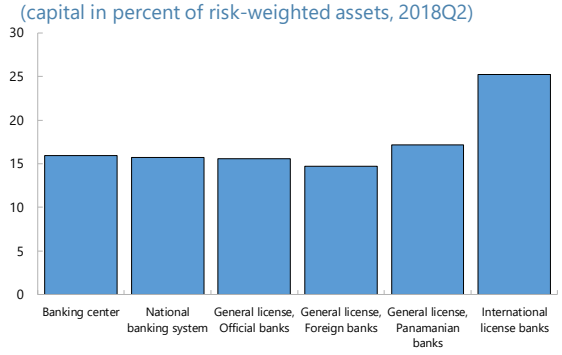
			Destination	
			GL	GF
Origin	GL	US$ million	220	94
		as % of GL equity	4	2
		as % of GL assets	0	0
	GF	US$ million	144	71
		as % of GF equity	2	1
		as % of GF assets	0	0
	IL	US$ million	14	41
		as % of IL equity	1	2
		as % of IL assets	0	0
	Total	US$ million	377	206

Source: SBP and author calculations.

1/GL stands for "General license, local", GF for "General license, foreign", IL for "International license". Data is as of March 31, 2018.

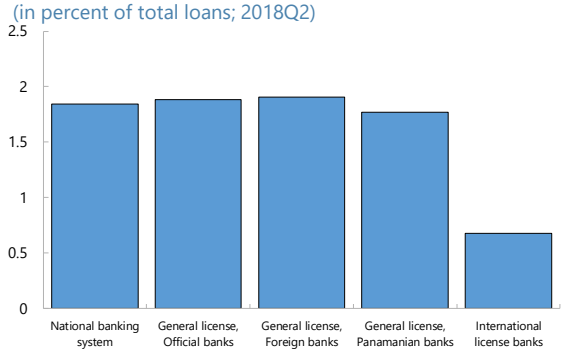
Figure 1: Panama: Panamanian Bank Performance by Bank License Type

Panama: Capital Adequacy
(capital in percent of risk-weighted assets, 2018Q2)



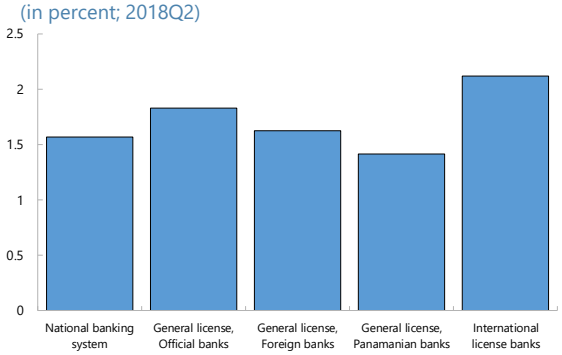
Sources: Panama SBP.

Panama: NPL Ratio
(in percent of total loans; 2018Q2)



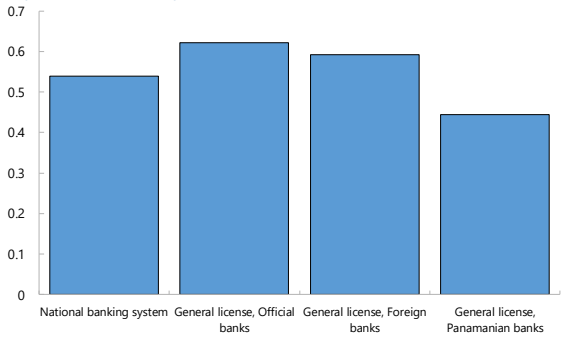
Sources: Panama SBP.

Panama: Return on Assets
(in percent; 2018Q2)



Sources: Panama SBP; and IMF staff estimates

Panama: Legal Liquidity Index
(Percent, 2018Q2)



Sources: Panama SBP; and IMF staff estimates

Methodology

5. The network-based approach of Espinosa-Vega and Sole (2010) is used to assess potential risks to the Panamanian banking system from banks' interbank balance sheet exposures. The simulations examine the potential domino effects triggered by the failure of a bank on its interbank obligations. The approach sequentially simulates the failure of each bank in the Panamanian banking system, with each bank's failure affecting those banks to whom it maintains interbank connections through both credit and funding channels. The failing bank affects its creditors through the credit channel as its creditor banks lose a fraction λ of their deposits and its borrowers through the funding channel as its borrowers can replace only a fraction $(1-\rho)$ of the funding they were getting from the now failed bank and must restore their balance-sheet identify by selling assets at a (fire-sale) price of $\$1/(1+\delta)$ on the dollar. Through these channels, the failure of a single bank can trigger a sequence of bank failures and defaults within the banking system through multiple contagion rounds, with the model continuing to simulate these interbank spillovers until there are no further bank failures.

6. The magnitude of interbank spillovers and the cascade of bank failures triggered by the failure of an individual bank depends on the depth of interbank linkages through credit and funding channels and the assumed severity of these shocks. Following the baseline simulations in Espinosa-Vega and Sole (2010), the simulations assume a loss given default (the

parameter λ) of 1 for creditor banks. This is a severe scenario in which banks are unable to recover any of their loans, reflecting the substantial uncertainty banks face over recovery rates in the immediate aftermath of a credit event. For Panama, it also reflects the potentially high uncertainty related to bankruptcy resolutions given existing gaps in the bank resolution framework. Borrower banks are assumed to be able to roll-over 65 percent of the funding previously received from the now failed bank (i.e. ρ = 0.35), which triggers a fire sale of assets by these banks at a 50 percent discount (i.e. $\delta = 1$).[4] In practice, the extent to which banks are able to replace an unforeseen withdrawal of interbank funding will depend on money market liquidity conditions. By design, the model excludes the possibility of banks raising new capital.

7. Banks may become insolvent even before their capital is fully depleted. As contagion spreads throughout the banking system, a bank may fail even before its capital is fully depleted if the severity of the shock forces the bank to file for bankruptcy or the supervisor, recognizing the severity of the shock, intervenes early to arrest further transmission of the shock throughout the system. Therefore, three scenarios are considered for the threshold of capital under which a bank would become insolvent. First, a high-sensitivity scenario that assumes banks default when their CAR falls below the regulatory threshold of 8 percent. Second, a medium-sensitivity scenario that assumes banks default when their CAR falls below 4 percent. Finally, a low-sensitivity scenario that assumes banks default only when their capital is fully depleted (or CAR<0). The various degrees of sensitivity of banks' solvency to their capital is consistent with experience in past banking crises – the threshold depends on country- and market-specific factors including the prevailing regulatory environment and ex-ante stability of the banking system.

8. The release of dynamic provisions may also affect the extent of contagion from banks' interbank exposures. Panama introduced dynamic provisioning requirements in 2013 (with application starting in 2014).[5] Each bank is required to maintain additional capital or dynamic provisions, over and above the regulatory requirement of 8 percent of risk-weighted assets, based on its outstanding loans (on a risk-weighted basis) and the quarterly change in the amount of its risk-weighted loan exposures and quarterly variation in specific provisions.[6] Effectively, the dynamic provisioning requirements in Panama act as an additional capital buffer that is included in its capital, but cannot be used to meet the minimum 8 percent regulatory requirement. Draw-down of this buffer is restricted and subject to the discretion of the SBP.[7] Therefore, banks' dynamic provisions

[4] Importantly, the scenarios do not capture the potential indirect effect of the resulting fire sales potentially caused by the forced sale of similar assets by multiple borrower banks at the same time, which can trigger further declines in the market value of banks' portfolios and further rounds of forced asset sales.

[5] Regulation No. 004-2013.

[6] The amount of dynamic provisions required (DPR) by each bank in period (quarter) t is defined as DPR(t) = αL(t) + βmax{ΔL(t),0}-SP(t), where α=1.5 percent, β=5 percent, L(t) = risk-weighted assets for loans classified under the normal category and SP(t)= variation in the balance of specific reserves. The amount of DPR is capped at 2.5 percent of qualifying risk-weighted assets and is subject to a floor of 1.25 percent of risk-weighted assets.

[7] Article 37 of Regulation No. 004-2013 stipulates that the amount of dynamic provisions "cannot be less than the amount established in the previous quarter, unless the decrease is the result of a conversion to specific provisions", and the SBP "will establish the criteria" for the conversion.

may reduce the extent of contagion from banks' interbank exposures, but, in practice, the effectiveness of dynamic provisions will depend on the ability of the SBP to determine the appropriate commencement of the draw-down phase. To examine the potential impact of dynamic provisions on stemming interbank contagion, the three sensitivity scenarios are considered both including and excluding the impact of banks' dynamic provisions on their capital.

9. Bank capital losses are classified into three categories: buffer losses, injection required to restore CAR, and excess losses. Following the default of an individual bank, the resulting capital losses of all other banks in the system can be decomposed based on whether banks' capital remains above the solvency threshold. The portion of each banks' total capital loss that reflects a reduction in its capital buffer (i.e. above the regulatory minimum of 8 percent) is classified as a buffer loss. Injection required to restore CAR is the amount of capital required to restore CAR to the 8 percent regulatory minimum (or the difference between 8 percent of risk-weighted assets and actual capital). Finally, any additional losses for banks with capital below the solvency thresholds assumed in the three scenarios is classified as excess loss.

Data

10. The interbank contagion analysis is based on data as of March 2018:

- **Banks' interbank exposures are based on banks' interbank deposits as reported to the SBP in banks' weekly liquidity report.** Banks report on a weekly basis their deposits in other depository institutions, both in Panama and abroad. As only banks with Panamanian operations are required to report, the data do not include information on foreign banks' deposits in Panama. In total, the interbank deposit matrix includes data from 75 banks operating in Panama, of which 49 have general banking licenses and operate in the onshore banking system, and 26 have international banking and are part of the offshore banking system. Of the general license banks, 19 are owned by residents and 30 are foreign-owned banks licensed to operate in Panama.

- **Banks' capital adequacy is calculated using banks' reported regulatory capital and risk-weighted assets.** However, regulatory capital and risk-weighted assets data are only available for these banks for which the SBP is the supervisor of origin. For the banks for which the SBP is the host supervisor, assumptions were made as to their capital adequacy for the purposes of the interbank contagion simulations. Risk-weighted assets for these banks (including both onshore and offshore) were estimated by multiplying their unweighted assets by the average ratio of risk-weighted assets to the unweighted assets of the banks under the SBP's supervision (based on their balance sheet information provided to the SBP). A similar approach was taken with regulatory capital. For those banks for which these assumptions would leave their CAR below 8 percent, their capital was set at the median CAR of the other banks.[8]

[8] This follows the approach in IMF Country Report No. 15/238.

Results

11. The failure of an individual bank cascades through the banking system through capital losses and defaults of other banks. The capital losses and number of defaults resulting from the failure of each bank in the system are plotted in Figure 2.[9] For each of the three sensitivity scenarios, the results show that system-wide capital losses from the failure of an individual bank are only weakly related to the number of additional bank failures caused by the failure of that bank as it defaults on its interbank liabilities. But, both the capital loss of the banking system as well as the number of contagious defaults are important indicators of the banking system's resilience to interbank contagion. The information on potential capital losses is critical to assess potential capital needs and sovereign exposure to contingent liabilities, while that on the number of defaults is important to gauge the risk of a banking crisis. In the high-sensitivity scenario, 6 simulations generate losses greater than US$1.5 billion (or about 1 percent of total consolidated banking system assets and 3.7 percent of 2017 GDP). While a maximum of 7 contagious defaults takes place in the worst of these simulations, the failure of 5 of these banks results in zero contagious defaults. As suggested in Section B, the failure of banks that receive large deposits from comparatively few banks tend to be the riskiest in term of fueling contagion, causing the failure of other banks and increasing the threat of a systemic banking crisis. By contrast, those banks that receive deposits from a large number of banks may be less systemic in the event that these deposits are relatively small compared to the capital of the depositor bank. Results from the medium- and low-sensitivity scenarios suggest a lower degree of contagion within the banking sector from the failure of any individual banks. In each case, while 6 simulations still generate losses in excess of US$1.5 billion, the maximum number of contagious defaults amongst all scenarios is 3 relative to the maximum of 7 in the high-sensitivity scenario.

12. The failure of foreign banks is more likely to result in contagion to banks in the Panamanian banking system. Figure 3 shows, for each scenario, total capital losses and the number of defaults caused by the 30 banks that inflict the largest total losses on the system. The license type of the original defaulting bank is displayed in lieu of its name for confidentiality reasons. Of these banks, it is the default of foreign banks that results in the largest number of contagious defaults with the exception of the default of one local Panamanian bank, whose default in the high-sensitivity scenario results in the failure of 7 additional institutions. In contrast, it is the failure of banks operating in the Panamanian banking system (3 Panamanian-owned, one offshore, and two foreign-owned banks) that account for the largest capital losses for the banking system. The largest capital loss is caused by the failure of a Panamanian-owned bank, causing losses of US$2.8 billion or 7 percent of GDP in the high-sensitivity scenario. However, with the relatively strong ex-ante capital position of banks, the losses generated by the failure of banks are largely absorbed by banks' existing capital buffers. This is true even in the scenarios in which banks' additional capital buffers from their dynamic provisions are not counted toward their capital (see Figures 4 and 5). Consistent

[9] BCT Bank, the new owner of the reorganized Balboa Bank previously intervened by the Superintendent of Banks is excluded from the analysis.

with the concentration of banks' deposits in foreign banks, the largest capital injections required result from the failure of foreign banks.[10]

13. Total capital losses are similar regardless of the sensitivity threshold considered. Total capital losses are US$24.9 billion in the high-sensitivity scenario, US$ 24.6 billion in the medium-sensitivity scenario, and US$24.5 billion in the low-sensitivity scenario. These capital losses are broadly comparable in the scenarios when banks' capital buffers from dynamic provisions are not available. The similarity of the estimated capital losses reflects the fact that the most vulnerable banks (those which fail as a result of the failure of a high number of other banks) tend to be the least contagious (banks whose failure would cause a high number of other banks to fail) and, as a result, the banks affected in the three scenarios are broadly comparable.

14. The onshore banking system remains relatively isolated from the offshore banking system. With little interbank deposits between the onshore and offshore banking systems, the impact of the failure of an offshore bank has little impact on banks in the onshore financial system (see Annex III, Figures 1, 2 and 3). While some offshore banks do feature amongst the most systemic in the system (defined by size of capital losses caused by their default) the impact of the default of these banks is almost entirely on other offshore banks (or potentially foreign banks abroad), with no banks in the onshore system defaulting due to the default of an offshore bank.

C. Spillovers from Stress in International Banks[11]

Methodology

15. The IMF Bank Contagion Model is used to assess the exposure of Panama's regional banking center to foreign banks. As a first step, the model is used to measure the downstream and upstream exposures of Panama's banking sector. Downstream exposures capture Panama's vulnerability to crises in countries that borrow from its banks, including potential losses on direct cross-border lending, off-balance sheet accounts, and affiliates' claims. Upstream exposures capture rollover risks from Panamanian residents' borrowing from international banks and the proportion of lending by foreign affiliates that were funded by their parent bank. The analysis is based on BIS banking statistics and bank-level data as of 2017Q4. This data provides an important complement to the analysis based on banks' interbank deposits in Section C, which cannot fully assess foreign funding risks as the dataset does not include foreign banks' deposits in or lending to Panamanian banks.

[10] The systemic importance of foreign banks would be larger if the data included foreign exposures to Panama. The dataset used here does not include foreign banks' deposits in Panama and is therefore insufficient to assess foreign funding risks.

[11] Model estimates provided by Antoine Malfroy-Camine and Damien Puy.

Figure 2. Panama: Total Capital Losses and Number of Defaults
(based on the three scenarios related to the sensitivity of bank failures to CAR)

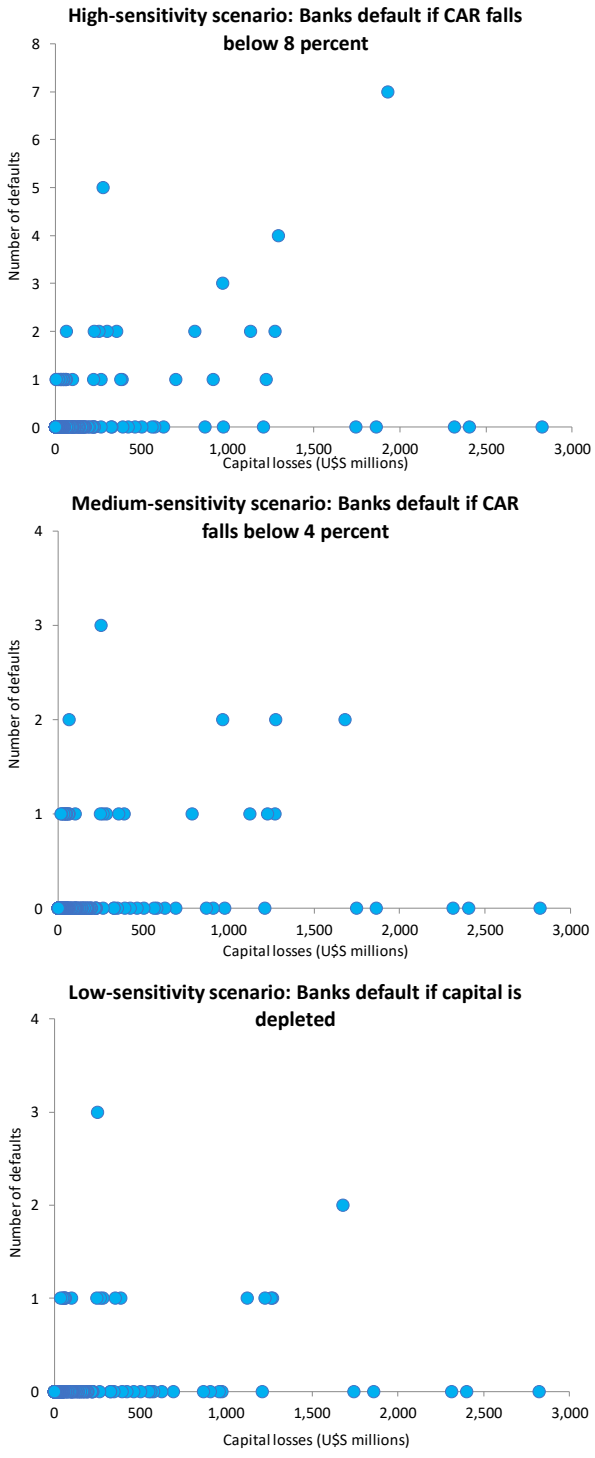
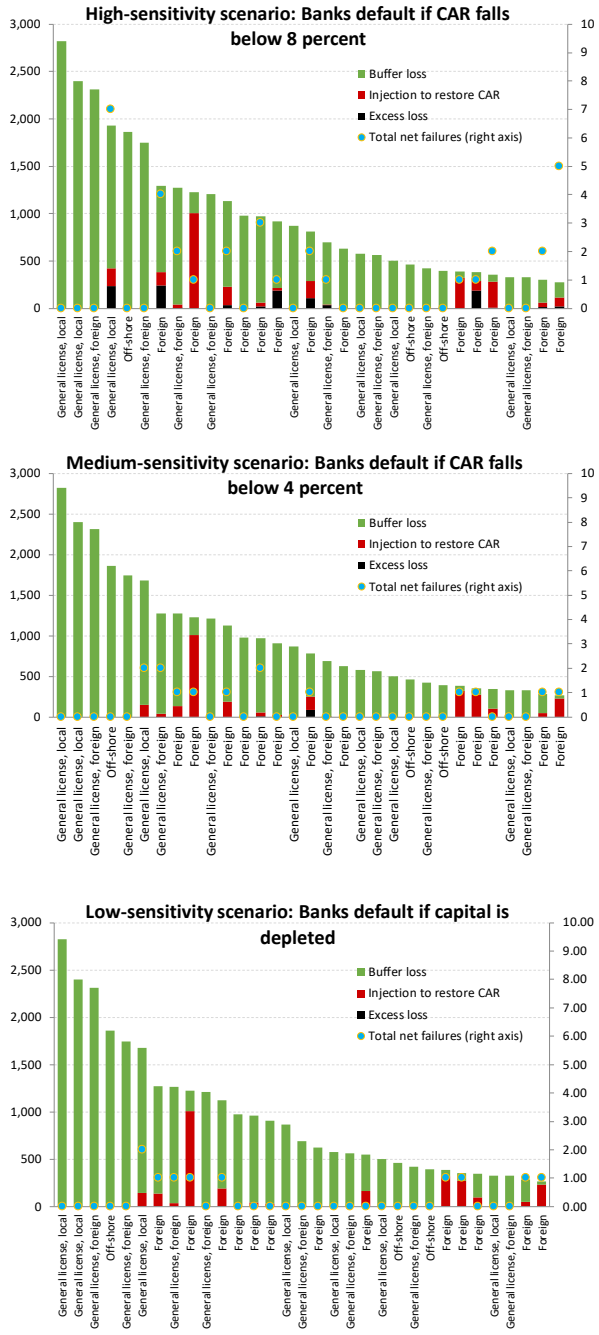


Figure 3. Panama: Capital Losses as a Function of Original Defaulting Bank [1/2/]

(US$ millions, 30 most systemically important institutions)



1/ Each column displays total capital losses in the banking system (excluding those of the original defaulting bank) following the exogenous default of one bank (the license type of the original defaulting bank is shown in lieu of its name). Buffer losses are those over and above 8 percent of RWA, whereas injection to restore CAR represents the difference between 8 percent of RWA and actual capital after contagion. For defaulting banks (i.e. those whose capital is below 8, 4, and 0 percent of CAR in the high-, medium-, and low-sensitivity scenarios, respectively), if remaining capital is positive then that amount is classified as excess loss.

2/ Total number of failures excludes original defaulting institution.

Figure 4. Panama: Total Capital Losses and Number of Defaults Excluding Capital from Dynamic Provisions

(based on the three scenarios related to the sensitivity of bank failures to CAR)

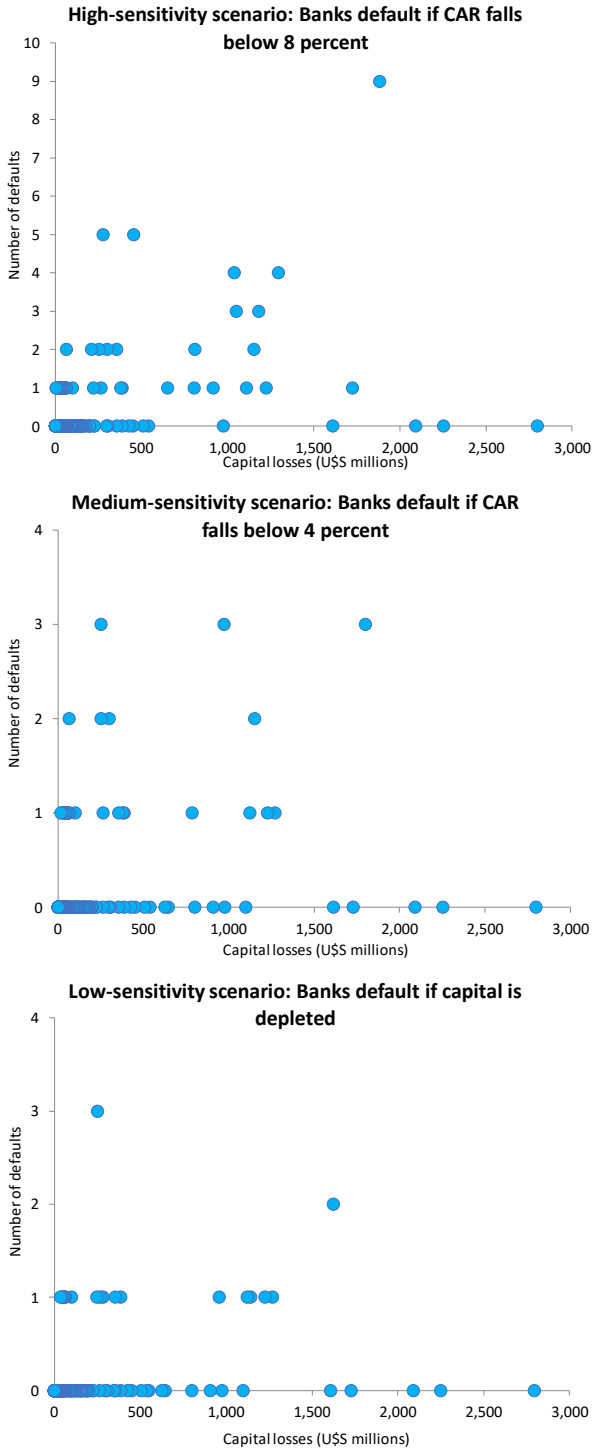
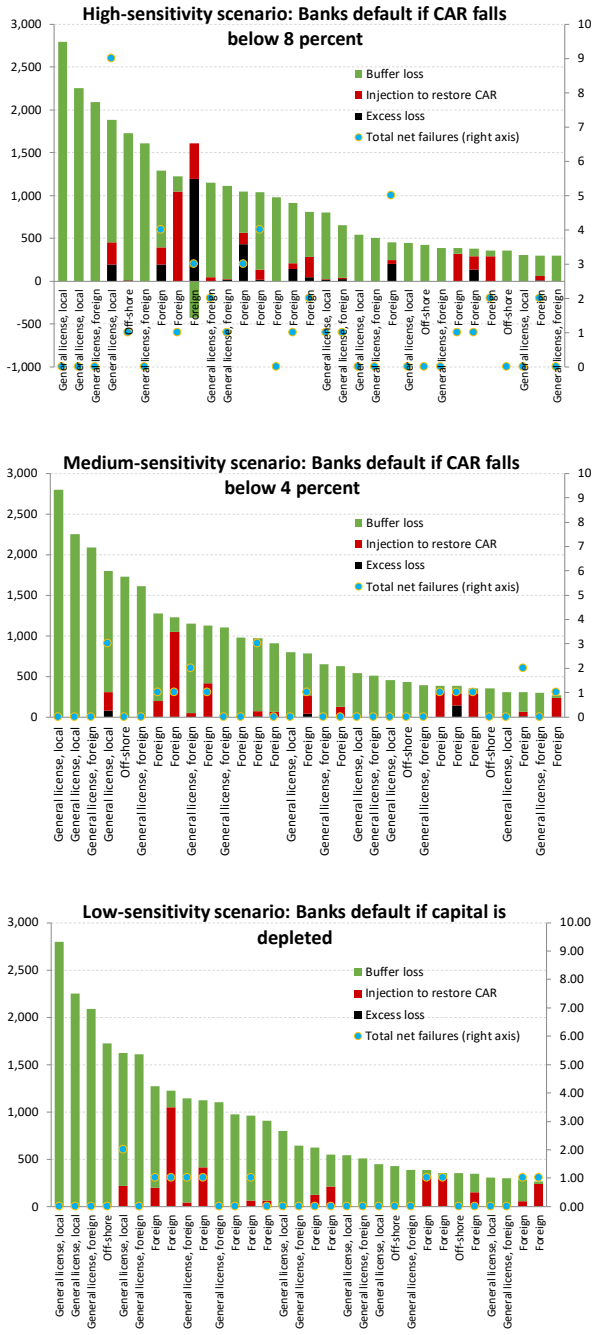


Figure 5: Panama: Capital Losses as a Function of Original Defaulting Bank Excluding Capital from Dynamic Provisions 1/2/

(US$ millions, 30 most systemically important institutions)



1/ Each column displays total capital losses in the banking system (excluding those of the original defaulting bank) following the exogenous default of one bank (the license type of the original defaulting bank is shown in lieu of its name). Buffer losses are those over and above 8 percent of RWA, whereas injection to restore CAR represents the difference between 8 percent of RWA and actual capital after contagion. For defaulting banks (i.e. those whose capital is below 8, 4, and 0 percent of CAR in the high-, medium-, and low-sensitivity scenarios, respectively), if remaining capital is positive then that amount is classified as excess loss.

2/ Total number of failures excludes original defaulting institution.

16. The IMF Bank Contagion Model is also used to assess the potential propagation of financial shocks from foreign banks to Panama through bank losses and deleveraging.[12] Based on Panamanian banks' identified upstream exposures, the model simulates several rounds of asset and funding shocks. The first round considers foreign bank losses on asset that partially or fully deplete their capital. These losses are calculated based on an assumed 10 percent loss in the value of banks' private and public sector assets in selected BIS-reporting countries. In the second round, if banks do not have sufficient capital buffers to cover the losses, they restore their capital ratios by uniformly deleveraging across both domestic and external claims, thus, in the third round, banks reduce their lending to other banks including those in Panama and other countries, causing funding shocks to these banks and further deleveraging. Final convergence is achieved when no further deleveraging needs to occur. This analysis provides an indication of the potential impact on credit availability in Panama from foreign banks' deleveraging versus the impact on banks' capital positions considered in Section C.

Results

17. Panamanian banks maintain sizeable downstream and upstream exposures to foreign banking systems (Table 3). Total downstream exposures amount to over 30 percent of GDP. These high bilateral downstream exposures imply significant potential credit losses from Panamanian banks' lending to foreign clients. Downstream exposures are concentrated primarily to the United States and to neighboring economies in Central and South America. Upstream exposures are even more significant at over 50 percent of GDP, implying that potential funding risks from Panamanians' foreign borrowing are larger than credit risks from Panamanian banks' lending to foreign clients.[13] These exposures capture the upper bound of rollover risks to Panama from the loss of credit by BIS-reporting banks to Panamanian borrowers. Panama's largest upstream exposures are to a handful of Asian countries, the most important of which is Japan, the United States and Canada and several European economies.

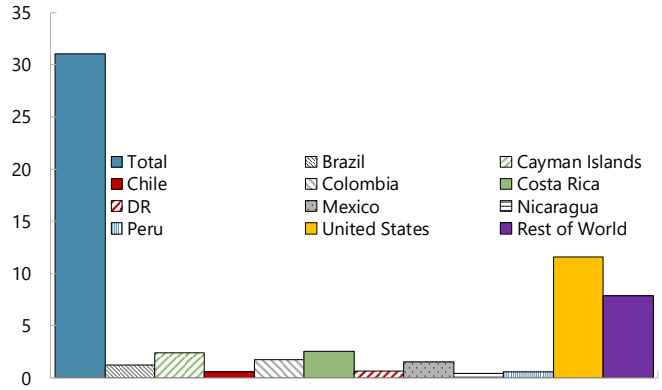
18. Foreign credit availability to Panama would be materially affected by severe shocks to foreign banks' balance sheets (Table 4). For example, a combined 10 percent loss on assets of BIS-reporting banks in Canada and the United States would reduce credit in Panama by about 11 percent of GDP. Based on the identified upstream exposures, the most sizeable impact on foreign credit availability for Panamanian borrowers would stem from losses on Japanese assets, which would reduce credit availability in Panama by over 13 percent of GDP. These calculations do not take into account the amount of local stable funding for foreign banks from deposits in Panama, which would provide some cushion against banks' need to deleverage in Panama.

[12] See Cerutti and others (2012) for details on the methodology.

[13] Based on the consolidated claims on Panama of BIS reporting banks – excluding domestic deposits of subsidiaries of these banks in Panama.

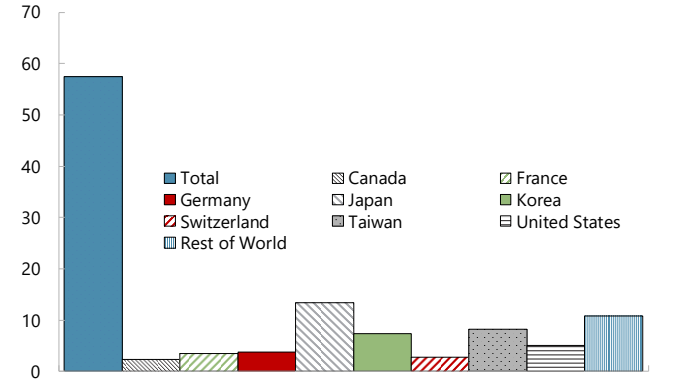
Table 3. Panama: Panamanian Bank's Downstream and Upstream Exposures to Foreign Banking Systems

Panama: Downstream Exposure vis-a-vis Borrower Countries (% of GDP)



Sources: IMF, Research Department Macro - Financial Division Bank Contagion Module based on BIS, ECB, IFS, and Fitchconnect data.

Panama: Upstream Exposure vis-a-vis Creditor Countries (% of GDP)



Sources: IMF, Research Department Macro - Financial Division Bank Contagion Module based on BIS, ECB, IFS, and Fitchconnect data.

D. Conclusions

Both interbank exposures within the Panamanian banking sector and Panama's connections with foreign banking systems through both credit and funding channels are important potential sources of systemic risk to Panama. On balance, results from the network analysis of interconnections within Panama's regional banking sector and with foreign banks suggest that systemic risks from these interconnections are moderate. While banks maintain relatively important interbank connections, primarily through deposits, banks' existing capital buffers appear broadly sufficient to absorb contagion from the failure of individual banks in the system without the need for sizeable capital injections. However, caution is warranted as economic or financial shocks that simultaneously affect all banks are beyond the scope of this analysis and would heighten systemic risks associated with banks' interconnections. Results from the assessment of Panama's exposures to foreign banking system suggest that Panama maintains significant upstream and downstream exposures to foreign banking systems and credit provision in Panama would be materially affected by foreign banks' deleveraging. Results of both exercises highlight the importance of strong

supervision and regulation to mitigating associated risks, including by continuing to build banks' ex-ante capital buffers through macroprudential policy.

Table 4. Panama: Spillovers to Panama from Upstream Exposures to Foreign Banks

Creditor Banking System	Magnitude of Shock to Creditor Banks' Exposures 1/	Impact on Credit Availability in Panama (% GDP) 2/
USA	10	-5.2%
Canada	10	-6.1%
USA and Canada	10	-10.9%
UK*	10	-1.7%
Germany*	10	-3.8%
France	10	-3.5%
Spain	10	-2.4%
Italy	10	-1.2%
Portugal*	10	-0.1%
Switzerland*	10	-0.1%
Netherlands	10	-1.9%
Japan*	10	-13.4%
Selected European Countries 3/	10	-14.9%

Source: IMF, Research Department Macro - Financial Division Bank Contagion Module based on BIS, ECB, IFS, and Fitchconnect data.

1/ Percent of on - balance sheet claims (all borrowing sectors) that default

2/ Reduction in foreign banks' redit due to impact of the shock on their balance sheet, assuming uniform deleveraging across domestic and external claims. All simulations are based on 2017Q4 data.

3/ Greece, Ireland, Portugal, Italy, Spain, France, Germany, Netherlands, and the UK

* These lender countries stopped disclosing these bilateral positions

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Annex I. Bank's Interbank Exposures by Origin and Destination Bank

Annex Table 1: Interbank Deposits by Origin Bank to Destination Bank by Bank Type[1/]

(in percent of total interbank deposits)

		Destination Bank Type				
Bank Code	Bank Type	1	2	3	4	Total
76	I	0.0	0.1	0.0	10.3	10.4
1	GL	0.4	0.6	0.0	9.1	10.1
155	GF	0.4	0.0	0.0	8.9	9.2
3	GL	0.3	0.0	0.0	7.4	7.7
201	GF	0.5	0.5	0.0	3.1	4.1
182	GF	0.7	0.6	0.0	2.4	3.7
27	GF	0.0	0.0	0.0	3.4	3.5
2	GL	1.8	0.9	0.0	0.4	3.1
148	GL	0.6	0.3	0.0	2.1	3.0
79	I	0.0	0.0	0.0	2.9	2.9
117	GF	0.0	0.5	0.0	2.1	2.7
45	GF	0.0	0.0	0.0	2.3	2.4
108	I	0.0	0.0	0.0	2.4	2.4
50	GL	0.7	0.4	0.0	1.1	2.3
135	GL	0.1	0.0	0.0	2.0	2.1
37	GF	0.6	0.0	0.0	1.3	1.9
75	I	0.0	0.1	0.0	1.7	1.8
224	I	0.0	0.1	0.0	1.7	1.7
119	I	0.0	0.1	0.2	1.3	1.5
111	I	0.0	0.0	0.0	1.5	1.5
24	GF	0.5	0.0	0.0	0.9	1.4
174	I	0.0	0.0	0.0	1.3	1.3
210	GL	0.3	0.2	0.0	0.7	1.2
7	GF	0.0	0.3	0.0	0.9	1.2
243	GF	0.0	0.0	0.8	0.2	1.1
140	GL	0.2	0.1	0.0	0.7	1.1
72	I	0.0	0.0	0.0	0.9	0.9
56	GL	0.2	0.0	0.0	0.6	0.8
59	GL	0.4	0.0	0.0	0.3	0.7
136	GL	0.2	0.0	0.0	0.5	0.7
244	I	0.0	0.0	0.0	0.7	0.7
179	GF	0.1	0.3	0.0	0.2	0.6
220	GL	0.2	0.1	0.0	0.3	0.6
255	GF	0.1	0.0	0.0	0.5	0.6
195	GF	0.0	0.0	0.0	0.5	0.5
191	I	0.0	0.0	0.0	0.5	0.5
226	GF	0.0	0.0	0.0	0.4	0.5
225	GF	0.1	0.1	0.0	0.3	0.5
241	I	0.1	0.0	0.0	0.4	0.4
231	GL	0.2	0.0	0.0	0.2	0.4
39	GF	0.0	0.2	0.0	0.2	0.4
239	GF	0.0	0.0	0.0	0.4	0.4
246	GF	0.1	0.0	0.0	0.3	0.4
233	GF	0.1	0.0	0.0	0.3	0.4
173	GL	0.2	0.0	0.0	0.2	0.4
240	GF	0.4	0.0	0.0	0.0	0.4
199	I	0.0	0.0	0.0	0.3	0.3
215	GF	0.1	0.0	0.0	0.3	0.3
236	GL	0.0	0.0	0.0	0.3	0.3
153	I	0.1	0.1	0.0	0.1	0.3
230	I	0.0	0.0	0.0	0.3	0.3
249	GL	0.2	0.0	0.0	0.0	0.2
185	GF	0.0	0.0	0.0	0.2	0.2
87	I	0.0	0.0	0.0	0.2	0.2
196	GL	0.1	0.0	0.0	0.0	0.2
180	I	0.0	0.0	0.0	0.2	0.2
93	I	0.0	0.0	0.0	0.2	0.2
245	GF	0.0	0.1	0.0	0.1	0.2
235	GL	0.1	0.0	0.0	0.0	0.2
190	GL	0.1	0.0	0.0	0.0	0.1
258	GF	0.1	0.0	0.0	0.1	0.1
248	I	0.0	0.0	0.0	0.1	0.1
51	GF	0.0	0.0	0.0	0.1	0.1
206	GF	0.0	0.0	0.0	0.1	0.1
221	GF	0.0	0.0	0.0	0.1	0.1
253	I	0.0	0.1	0.0	0.0	0.1
184	I	0.0	0.0	0.0	0.0	0.1
247	GF	0.0	0.0	0.0	0.0	0.1
234	I	0.0	0.0	0.0	0.0	0.0
254	I	0.0	0.0	0.0	0.0	0.0
237	GF	0.0	0.0	0.0	0.0	0.0
106	I	0.0	0.0	0.0	0.0	0.0
186	GF	0.0	0.0	0.0	0.0	0.0
71	I	0.0	0.0	0.0	0.0	0.0
127	I	0.0	0.0	0.0	0.0	0.0
Total		**10.3**	**6.4**	**1.0**	**82.3**	**100.0**

1/GL stands for "General license, local", GF for "General license, foreign", IL for "International license". Data is as of March 31, 2018. Destination banks are classified as follows: 1=GL, 2=GF, 3=IL, 4=abroad.

Annex Table 2. Interbank Deposits by Destination Bank within Panamanian Banking System from Origin Bank by Bank Type[1/]

(in percent of total interbank deposits)

		Origin Bank Type			
Bank Code	**Bank Type**	**1**	**2**	**3**	**Total**
1	GL	2.8	2.4	0.1	5.2
182	GF	0.5	1.1	0.2	1.8
27	GF	0.4	1.1	0.2	1.7
45	GF	1.1	0.3	0.0	1.5
75	I	0.0	0.8	0.1	1.0
3	GL	0.7	0.3	0.0	0.9
2	GL	0.8	0.1	0.0	0.8
148	GL	0.2	0.4	0.0	0.6
24	GF	0.6	0.1	0.0	0.6
50	GL	0.4	0.2	0.0	0.6
56	GL	0.3	0.1	0.0	0.4
7	GF	0.0	0.3	0.1	0.3
59	GL	0.2	0.0	0.0	0.3
140	GL	0.2	0.0	0.0	0.3
135	GL	0.2	0.0	0.0	0.2
220	GL	0.2	0.1	0.0	0.2
210	GL	0.1	0.0	0.0	0.2
173	GL	0.1	0.0	0.0	0.2
155	GF	0.1	0.0	0.0	0.2
136	GL	0.1	0.1	0.0	0.2
37	GF	0.1	0.0	0.0	0.1
231	GL	0.1	0.0	0.0	0.1
39	GF	0.0	0.0	0.1	0.1
225	GF	0.0	0.0	0.0	0.0
233	GF	0.0	0.0	0.0	0.0
185	GF	0.0	0.0	0.0	0.0
206	GF	0.0	0.0	0.0	0.0
108	I	0.0	0.0	0.0	0.0
196	GL	0.0	0.0	0.0	0.0
236	GL	0.0	0.0	0.0	0.0
117	GF	0.0	0.0	0.0	0.0
245	GF	0.0	0.0	0.0	0.0
179	GF	0.0	0.0	0.0	0.0
247	GF	0.0	0.0	0.0	0.0
190	GL	0.0	0.0	0.0	0.0
221	GF	0.0	0.0	0.0	0.0
249	GL	0.0	0.0	0.0	0.0
51	GF	0.0	0.0	0.0	0.0
Total		**9.3**	**7.4**	**0.9**	**17.7**

1/GL stands for "General license, local", GF for "General license, foreign", IL for "International license". Data is as of March 31, 2018. Origin banks are classified as follows: 1=GL, 2=GF, 3=IL, 4=abroad.

Annex Table 3. Interbank Deposits by Destination Bank Abroad System from Origin Bank by Bank Type [1/]

(in percent of total interbank deposits)

		Origin Bank Type			
Bank Code	**Bank Type**	**1**	**2**	**3**	**Total**
999065	abroad	3.1	2.7	1.8	7.6
999015	abroad	0.0	0.1	7.5	7.6
999005	abroad	0.2	5.5	1.3	7.0
999031	abroad	6.1	0.0	0.0	6.1
999127	abroad	1.4	2.9	1.7	6.0
999086	abroad	3.0	1.0	1.6	5.7
999079	abroad	0.3	3.6	0.0	3.9
999117	abroad	1.1	2.3	0.0	3.4
999121	abroad	0.1	0.1	2.2	2.4
999024	abroad	0.0	0.1	2.1	2.2
999053	abroad	0.1	2.1	0.0	2.2
999052	abroad	0.4	1.0	0.3	1.7
999073	abroad	0.8	0.6	0.2	1.7
999070	abroad	0.0	0.0	1.6	1.6
999113	abroad	0.1	0.8	0.6	1.5
999101	abroad	0.6	0.4	0.4	1.5
999114	abroad	0.7	0.7	0.0	1.4
999018	abroad	0.2	0.0	1.0	1.2
999116	abroad	0.6	0.1	0.4	1.1
999010	abroad	0.6	0.1	0.3	1.0
999012	abroad	0.6	0.3	0.0	1.0
999128	abroad	0.6	0.3	0.0	0.9
999019	abroad	0.3	0.4	0.2	0.9
999069	abroad	0.4	0.4	0.0	0.8
999048	abroad	0.0	0.7	0.0	0.7
999103	abroad	0.0	0.0	0.6	0.6
999080	abroad	0.6	0.0	0.0	0.6
999014	abroad	0.0	0.5	0.1	0.6
999047	abroad	0.0	0.4	0.2	0.6
999055	abroad	0.1	0.0	0.4	0.5
Total		**25.9**	**29.5**	**27.0**	**82.3**

1/ Excluding 98 destination banks that hold less than 0.5 percent of total interbank deposits. Origin banks are classified as follows: 1=GL, 2=GF, 3=IL, 4=abroad where GL stands for "General license, local", GF for "General license, foreign", IL for "International license".

Annex II. Heatmaps of Banks' Financial Performance[14]

Annex Table 1: Capital Adequacy [1/]

(capital in percent of risk-weighted assets)

Bank Code	Bank Type	2016Q2	2016Q3	2016Q4	2017Q1	2017Q2	2017Q3	2017Q4	2018Q1
3	GL	17.18	19.21	18.58	18.99	19.61	19.31	19.11	19.36
1	GL	13.57	14.49	14.03	15.12	15.33	16.77	16.87	16.18
182	GF	14.68	14.32	14.38	14.54	14.54	14.51	15.26	13.86
155	GF	14.06	14.19	13.09	13.74	11.37	14.09	13.72	13.14
148	GL	11.59	13.65	13.44	13.52	13.81	14.04	14.59	14.88
27	GF	16.89	14.51	14.92	15.66	16.27	17.40	16.99	17.74
135	GL	15.71	14.11	14.77	14.92	15.81	15.70	16.10	16.12
201	GF	12.93	12.53	12.44	12.60	13.31	13.63	13.25	14.06
2	GL	15.50	14.35	13.47	12.99	13.22	14.36	13.51	12.75
50	GL	14.85	14.84	14.89	15.21	15.30	15.04	15.47	16.12
59	GL	12.30	12.94	12.46	12.17	10.65	12.51	12.85	12.64
24	GF	12.43	13.33	13.42	12.48	13.82	13.61	12.84	13.15
140	GL	15.23	21.18	21.44	22.28	22.74	22.68	23.40	23.24
136	GL	14.39	14.42	14.11	14.06	13.88	14.04	14.04	13.57
210	GL	14.90	15.67	16.06	15.78	15.51	15.78	15.84	13.98
7	GF	15.29	15.58	14.44	16.62	15.68	15.92	16.57	16.73
220	GL	15.64	15.56	14.90	15.42	15.56	15.46	15.86	15.63
56	GL	17.38	12.23	16.37	15.34	15.01	14.96	15.37	14.14
195	GF	14.80	17.77	14.53	15.11	15.05	14.18	14.56	13.75
225	GF	14.70	16.91	17.58	15.91	15.03	15.26	16.15	14.05
231	GL	13.21	17.93	17.56	16.92	16.34	17.12	16.67	12.37
236	GL	19.29	18.17	17.20	16.71	16.89	17.14	17.25	12.30
235	GL	16.20	15.07	16.53	17.40	17.74	17.07	15.76	15.20
246	GF	14.10	13.57	14.14	14.03	11.41	14.13	13.38	14.44
233	GF	13.91	12.35	12.34	12.57	12.64	11.79	11.27	10.65
215	GF	26.17	22.83	21.37	17.79	17.72	16.62	15.91	15.28
173	GL	22.17	16.73	15.34	16.49	18.60	19.91	21.75	23.35
249	GL	14.79	0.11	0.10	9.28	9.85	13.23	15.12	13.87
206	GF	11.39	10.50	11.27	11.20	10.88	12.20	11.80	13.27
196	GL	15.66	14.47	14.82	15.22	15.78	14.78	14.33	14.50
226	GF	18.99	14.40	15.04	15.63	15.06	15.34	14.75	15.34
239	GF	12.96	12.47	9.97	11.84	11.93	12.09	11.34	10.44
255	GF	39.92	31.17	28.45	24.77	24.63	22.64	26.51	20.28
221	GF	29.74	30.60	28.04	27.28	24.93	21.98	24.48	22.01

1/ High vulnerability banks (in red) are defined as those with CAR of less than the 8 percent of risk-weighted assets minimum regulatory requirement, medium-vulnerability banks (in yellow) are those with CAR of less than the consolidated CAR for the national banking system, low vulnerability banks (in green) are those with CAR greater than the consolidated CAR for the banking system. Heat map is shown only for general license banks that report CAR to the Superintendent of Banks and excludes international (offshore) license banks. GL stands for "General license, local" and GF for "General license, foreign". Bank ordering is based on banks' asset size.

[14] Heatmap methodology is adapted from that in Ong, Jeasakul, and Kwoh (2013). While Ong, Jeasakul, and Kwoh (2013) normalize banks' financial ratios with a z-score approach to assess bank's financial performance relative to their peers, the approach adopted here assesses banks' absolute financial health, although some indicator-specific thresholds are defined based on the pooled distribution of banks' financial ratios.

Annex Table 2: Asset Quality [1/]

(non-performing loans in percent of total loans)

Bank Code	Bank Type	2016Q2	2016Q3	2016Q4	2017Q1	2017Q2	2017Q3	2017Q4	2018Q1
3	GL	1.03	1.12	1.04	1.17	1.47	1.40	1.35	1.42
1	GL	0.62	0.53	0.64	0.69	0.69	0.62	0.73	0.85
182	GF	2.33	2.29	2.34	3.36	2.91	2.82	2.23	2.55
155	GF	0.86	0.90	0.90	0.91	1.00	0.92	0.96	1.05
148	GL	0.78	1.00	1.31	1.25	1.17	1.77	2.00	1.90
27	GF	0.22	0.78	0.89	0.94	1.04	1.11	0.83	0.68
135	GL	0.80	1.44	1.09	1.09	0.88	0.96	0.74	0.78
201	GF	1.21	1.67	1.15	3.44	3.10	3.39	1.82	1.71
2	GL	2.74	2.17	2.10	2.47	2.20	3.11	2.76	4.27
117	GF	0.00	0.00	0.23	0.45	0.63	0.08	0.29	0.17
50	GL	0.01	0.70	0.11	0.17	0.12	0.14	0.15	0.24
59	GL	1.01	1.38	1.00	1.16	1.35	1.50	1.45	0.97
24	GF	2.36	2.39	1.96	1.84	1.71	1.63	1.74	2.18
140	GL	0.80	4.14	3.29	2.99	1.05	1.57	1.75	2.47
136	GL	0.43	1.38	1.17	1.28	1.11	1.13	0.99	0.81
210	GL	0.87	1.53	1.23	1.25	1.27	1.43	0.88	0.76
7	GF	0.71	0.65	0.76	0.63	2.33	2.91	2.98	3.01
220	GL	0.31	0.38	0.12	0.07	0.05	0.11	0.40	0.39
37	GF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	GL	0.21	0.36	0.18	0.27	0.25	0.27	0.88	0.90
195	GF	0.45	0.49	0.81	0.65	0.58	2.77	2.67	2.97
225	GF	1.18	2.05	1.82	1.89	1.76	1.44	1.47	0.80
231	GL	0.05	0.19	0.57	3.47	0.06	0.08	0.21	0.46
243	GF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
236	GL	1.68	2.06	2.05	1.93	1.45	0.24	0.29	0.83
235	GL	0.61	0.53	0.45	0.71	0.67	0.64	0.66	0.71
179	GF	2.31	2.10	2.77	3.10	3.22	2.98	3.31	3.72
246	GF	1.43	1.84	2.10	2.96	2.77	1.64	1.54	1.26
233	GF	3.89	3.59	2.77	2.94	2.64	2.80	0.76	0.63
215	GF	2.29	2.23	1.47	1.34	1.90	0.90	0.42	0.44
173	GL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
249	GL	1.54	11.78	9.16	6.64	6.17	4.21	3.17	4.37
206	GF	1.53	1.64	1.69	1.66	1.69	1.76	1.54	1.53
196	GL	1.14	1.30	1.18	1.55	1.40	2.11	3.03	3.74
226	GF	0.03	0.05	0.03	0.03	0.04	0.04	0.01	0.02
39	GF	0.19	0.05	0.06	0.16	0.05	0.06	3.00	0.15
239	GF	6.56	1.41	1.63	1.46	2.10	4.95	7.80	6.59
51	GF	3.20	4.43	4.99	4.73	2.15	7.48	5.21	1.66
245	GF	19.55	13.35	14.38	14.60	8.34	9.54	0.20	0.73
221	GF	1.74	2.64	2.79	2.92	2.99	3.16	2.97	3.62
247	GF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
186	GF	1.34	1.33	1.16	1.30	2.20	2.26	2.87	3.10

1/ High vulnerability banks (in red) are defined as those with NPL ratios in the top 10th percentile of the pooled distribution of banks, medium-vulnerability banks (in yellow) are those with NPL ratios in the top 50th percentile of the pooled distribution (excluding the top 10th percentile), low vulnerability banks (in green) are those with NPL ratios in the bottom 50th percentile of the pooled distribution. Heat map is shown only for general license banks and excludes international (offshore) license banks. GL stands for "General license, local" and GF for "General license, foreign". Bank ordering is based on banks' asset size.

Annex Table 3: Provisioning Coverage of NPLs [1/]

(NPL Ratio Less Provisions to Total Loans)

Bank Code	Bank Type	2016Q2	2016Q3	2016Q4	2017Q1	2017Q2	2017Q3	2017Q4	2018Q1
3	GL	(0.2)	(0.1)	(0.2)	(0.1)	0.2	0.1	0.1	0.1
1	GL	0.1	0.0	(0.0)	0.0	(0.0)	(0.1)	(0.2)	(0.1)
182	GF	1.1	0.9	0.7	1.7	1.1	1.5	1.1	(0.1)
155	GF	(0.1)	(0.1)	(0.1)	(0.2)	(0.3)	(0.3)	(0.3)	(1.9)
148	GL	0.0	0.2	0.5	0.5	0.4	0.9	1.0	0.9
27	GF	(0.4)	0.1	0.1	0.0	(1.0)	(1.0)	(1.0)	(0.9)
135	GL	(0.3)	0.2	0.0	0.1	(0.0)	(0.1)	(0.1)	(0.3)
201	GF	0.0	0.6	0.0	2.2	2.0	2.5	1.0	0.5
2	GL	1.7	1.3	1.1	1.4	1.1	1.8	1.6	2.2
117	GF	(0.3)	(0.4)	(0.3)	(0.3)	(0.3)	(0.9)	(0.4)	(0.8)
50	GL	(0.4)	0.3	(0.3)	(0.3)	(0.4)	(0.4)	(0.4)	(0.3)
59	GL	0.4	0.8	0.5	0.7	0.9	1.1	1.0	(0.0)
24	GF	1.2	1.6	0.9	0.7	0.4	0.3	0.4	0.2
140	GL	(0.7)	2.5	1.7	1.4	(0.4)	0.1	0.4	1.1
136	GL	0.1	0.9	0.8	0.9	0.7	0.7	0.6	(0.1)
210	GL	0.0	0.6	0.5	0.6	0.7	0.8	0.1	(0.4)
7	GF	(0.9)	(1.1)	(1.5)	(1.7)	(0.1)	0.9	0.8	1.0
220	GL	0.1	0.1	(0.3)	(0.4)	(0.4)	(0.4)	(0.2)	(0.1)
37	GF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)
56	GL	0.2	0.4	0.2	0.3	0.2	0.3	0.9	0.9
195	GF	(0.5)	(0.3)	0.0	(0.2)	(0.3)	1.9	1.6	1.4
225	GF	(0.3)	0.5	0.5	0.5	1.2	0.6	0.5	(0.4)
231	GL	0.0	0.2	0.5	3.4	0.0	0.0	0.2	0.4
243	GF	(0.6)	(0.7)	(3.9)	(3.8)	(1.9)	(1.9)	0.0	(0.8)
236	GL	1.0	1.1	1.2	0.9	0.9	0.1	0.0	0.1
235	GL	0.6	0.5	0.4	0.7	0.6	0.6	0.6	0.7
246	GF	0.3	0.4	0.4	1.2	1.0	1.0	0.8	(1.3)
233	GF	3.9	3.6	2.8	2.9	2.6	2.8	0.8	0.3
215	GF	(6.0)	(5.5)	(5.0)	(4.0)	(2.6)	(2.5)	(2.2)	(2.0)
173	GL	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
249	GL	0.9	11.1	8.4	5.8	5.3	3.3	2.1	2.8
206	GF	(1.3)	(0.6)	(1.6)	(1.1)	(0.4)	0.3	0.4	(1.4)
196	GL	1.0	1.2	1.1	1.4	1.3	2.0	3.0	3.4
226	GF	(0.6)	(0.7)	(0.8)	(0.9)	(1.0)	(1.1)	(1.1)	(1.4)
39	GF	(0.9)	(0.7)	(0.8)	(0.8)	(0.9)	(1.1)	1.6	(1.5)
239	GF	6.3	1.2	1.3	1.2	1.8	4.6	7.4	6.2
51	GF	0.5	3.5	3.5	3.2	0.4	4.6	1.3	(3.4)
245	GF	19.6	13.4	14.3	14.5	8.2	9.4	0.0	0.3
221	GF	(8.2)	(11.2)	(18.7)	(18.9)	(12.2)	(14.2)	(5.0)	(11.4)
247	GF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.8)
186	GF	(1.3)	(1.4)	(1.9)	(1.5)	(0.8)	(0.6)	0.3	0.4

1/ High vulnerability banks (in red) are defined as those with coverage ratios in the top 10th percentile of the pooled distribution of banks, medium-vulnerability banks (in yellow) are those with ratios between zero and the top 10th percentile, and low vulnerability banks (in green) are those with ratios less than zero. Heat map is shown only for general license banks and excludes international (offshore) license banks. GL stands for "General license, local" and GF for "General license, foreign". Bank ordering is based on banks' asset size.

Annex Table 4: Earnings [1/]

(Return on Assets (ROA))

Bank Code	Bank Type	2016Q2	2016Q3	2016Q4	2017Q1	2017Q2	2017Q3	2017Q4	2018Q1
3	GL	1.9	1.9	1.9	1.9	2.0	2.1	2.1	2.0
1	GL	1.1	1.3	1.2	1.7	1.6	1.7	1.6	1.8
182	GF	0.6	0.6	0.4	0.7	0.9	0.7	0.8	0.9
155	GF	5.3	5.0	5.0	4.8	5.0	4.8	4.9	5.0
148	GL	1.0	0.9	0.8	1.9	1.3	1.0	1.5	1.0
27	GF	1.2	1.3	1.1	1.3	1.2	1.2	1.3	0.9
135	GL	1.3	1.2	1.2	1.3	1.2	1.1	1.2	1.4
201	GF	1.2	1.2	1.0	0.6	0.8	0.9	1.0	1.4
2	GL	0.3	0.4	0.3	0.8	1.2	1.3	1.2	1.2
117	GF	0.5	0.6	0.6	0.9	1.1	1.3	1.1	1.3
50	GL	0.9	0.9	1.0	0.9	1.0	1.1	1.1	1.2
59	GL	0.9	0.8	0.9	0.8	2.0	1.6	1.5	0.9
24	GF	0.6	0.5	0.3	0.4	0.5	0.5	0.5	0.6
140	GL	1.8	1.8	1.8	1.3	1.7	1.6	1.6	1.5
136	GL	1.0	0.8	0.8	0.8	1.0	0.9	0.8	0.7
210	GL	0.1	0.1	0.3	0.1	0.3	0.5	0.4	0.3
7	GF	0.6	0.7	0.5	0.8	1.0	0.8	0.6	1.1
220	GL	1.2	1.2	1.1	1.0	1.0	1.1	1.0	1.2
37	GF	0.5	1.5	1.2	1.0	1.1	1.5	1.5	1.1
56	GL	0.5	0.5	0.5	0.4	0.5	0.5	0.5	2.9
195	GF	1.1	0.9	0.8	0.7	0.7	0.8	0.7	1.2
225	GF	0.7	0.7	0.7	0.4	0.0	0.2	0.3	0.7
231	GL	0.5	0.4	0.2	(0.2)	2.1	1.5	1.1	0.6
243	GF	(0.6)	(0.2)	(2.0)	0.9	3.8	3.0	3.9	1.3
236	GL	0.5	0.5	0.5	0.4	0.6	0.6	0.6	0.8
235	GL	0.7	0.6	0.5	0.4	0.4	0.4	0.5	0.3
246	GF	(0.8)	(0.5)	(0.3)	(0.8)	(0.5)	0.3	0.2	0.6
233	GF	0.5	0.6	0.6	0.7	0.5	0.5	0.5	0.7
215	GF	0.9	1.0	0.9	0.1	0.4	0.1	0.5	1.4
173	GL	1.9	2.0	2.0	1.4	1.5	1.4	1.5	1.2
249	GL	(7.8)	0.0	(2.0)	0.1	(0.2)	1.2	1.0	(1.6)
206	GF	1.0	0.9	0.8	1.1	0.6	0.7	0.8	1.8
196	GL	1.3	1.2	1.1	1.2	1.4	1.2	1.1	0.5
226	GF	0.8	0.7	0.8	0.8	0.7	0.7	0.8	1.0
39	GF	1.2	1.3	0.0	1.5	1.7	1.5	1.4	1.5
239	GF	(4.2)	(3.0)	(2.4)	(0.8)	(0.2)	(1.0)	(1.0)	1.2
51	GF	(1.1)	(2.2)	(6.1)	(3.7)	(0.8)	(6.5)	(6.2)	6.1
255	GF	(4.5)	(1.5)	(0.9)	0.4	0.5	0.4	0.4	0.3
245	GF	(3.0)	(2.9)	(3.4)	0.4	0.5	0.3	0.2	0.1
221	GF	0.0	0.0	0.0	(0.2)	(0.9)	(1.5)	(2.0)	(2.5)
247	GF	1.3	1.2	1.1	1.0	1.3	1.4	1.2	0.4
186	GF	2.1	2.1	2.4	2.4	3.9	4.3	3.9	7.1

1/ High vulnerability banks (in red) are defined as those with ROA<0, medium-vulnerability banks (in yellow) are those with ROA ratios in the bottom 50th percentile of the pooled distribution (excluding banks with ROA<0), low vulnerability banks (in green) are those with ROA in the top 50th percentile of the pooled distribution. Heat map is shown only for general license banks and excludes international (offshore) license banks. GL stands for "General license, local" and GF for "General license, foreign". Bank ordering is based on banks' asset size.

Annex Table 5: Liquidity [1/]

(Liquid asset to Deposit Ratio)

Bank Code	Bank Type	2016Q2	2016Q3	2016Q4	2017Q1	2017Q2	2017Q3	2017Q4	2018Q1
3	GL	11.2	11.2	10.9	10.5	9.5	12.5	13.0	12.5
1	GL	42.3	36.7	41.5	34.1	38.8	35.2	32.5	23.9
182	GF	14.0	14.0	13.9	11.5	12.3	16.6	11.2	10.1
155	GF	14.4	13.1	20.7	22.9	22.1	22.1	24.5	31.3
148	GL	15.1	14.1	18.4	16.5	14.7	14.7	14.3	13.4
27	GF	29.3	24.0	37.9	39.9	24.3	26.5	22.8	19.8
135	GL	14.9	15.0	15.6	13.2	13.6	14.8	15.2	12.9
201	GF	24.1	21.9	25.1	24.6	21.6	19.9	19.3	20.1
2	GL	21.6	21.1	15.9	18.1	16.9	16.9	21.0	17.1
117	GF	50.2	48.1	45.1	42.9	44.2	27.6	19.8	18.8
50	GL	26.8	25.9	22.9	22.2	22.9	19.3	19.8	21.3
59	GL	13.3	10.0	8.2	11.9	11.1	9.5	10.4	9.4
24	GF	21.8	25.4	23.9	25.0	27.1	21.9	24.6	25.2
140	GL	20.3	17.4	18.5	15.9	19.5	15.5	19.4	17.0
136	GL	11.6	9.0	10.5	15.5	9.9	8.1	11.0	10.9
210	GL	17.7	21.1	26.2	22.8	20.3	21.0	20.7	19.8
7	GF	22.0	23.6	16.7	27.6	28.2	26.9	21.7	18.0
220	GL	13.2	13.8	15.9	14.2	14.2	13.1	15.5	12.0
37	GF	32.2	23.9	36.3	37.6	45.3	38.7	34.6	28.2
56	GL	26.0	21.5	22.9	18.2	19.3	20.1	16.2	15.8
195	GF	11.5	8.1	12.3	13.2	13.7	11.0	12.5	11.6
225	GF	15.4	13.7	16.5	13.8	12.4	12.6	9.8	11.4
231	GL	32.2	20.8	22.2	23.9	16.6	17.4	17.3	14.2
243	GF	10.4	18.9	40.7	39.5	35.1	45.2	109.7	76.1
236	GL	17.9	20.8	28.1	23.0	18.3	23.1	12.3	11.3
235	GL	10.0	13.7	12.0	19.8	18.1	10.1	8.9	13.3
246	GF	17.4	19.1	18.8	16.3	14.4	12.8	10.9	14.7
233	GF	25.5	33.4	28.4	26.1	22.6	34.1	24.2	17.7
215	GF	16.2	13.8	22.1	16.5	18.4	11.9	11.7	14.5
173	GL	31.0	35.3	30.8	34.2	25.9	29.1	28.3	33.2
249	GL	30.2	13.7	20.5	16.7	14.3	13.0	15.7	15.4
206	GF	3.4	4.1	8.1	8.1	4.9	6.1	3.1	5.3
196	GL	14.5	12.4	15.7	19.8	19.7	15.9	17.5	17.7
226	GF	40.8	39.9	39.7	43.3	44.0	39.5	28.3	29.1
39	GF	20.4	43.2	40.0	27.0	28.6	25.5	33.1	28.3
239	GF	39.9	37.8	51.1	39.4	34.0	36.7	31.2	34.3
51	GF	9.4	6.5	7.8	8.8	15.5	9.5	9.5	10.6
255	GF	66.9	24.8	26.9	19.3	26.5	25.9	24.2	49.7
245	GF	33.7	31.5	26.2	27.3	33.0	35.3	37.9	37.7
221	GF	63.3	25.5	26.6	33.5	31.3	19.2	14.9	23.3
247	GF	79.9	62.5	58.3	53.0	36.4	25.1	44.6	70.7
186	GF	70.2	68.1	59.6	46.7	36.0	37.2	37.8	35.6

1/ Legal liquidity index not available on a bank-by-bank basis. High vulnerability banks (in red) are defined as those with a liquid asset to deposit ratio in the bottom 10th percentile of the pooled distribution, medium-vulnerability banks (in yellow) are those with a liquid asset to deposit ratio in the bottom 50th percentile of the pooled distribution (excluding banks in the bottom 10th percentile), low vulnerability banks (in green) are those with a liquid asset to deposit ratio in the top 50th percentile of the pooled distribution. Heat map is shown only for general license banks and excludes international (offshore) license banks. GL stands for "General license, local" and GF for "General license, foreign". Bank ordering is based on banks' asset size.

Annex Table 6: Leverage [1/]

(Total Equity/Total Assets)

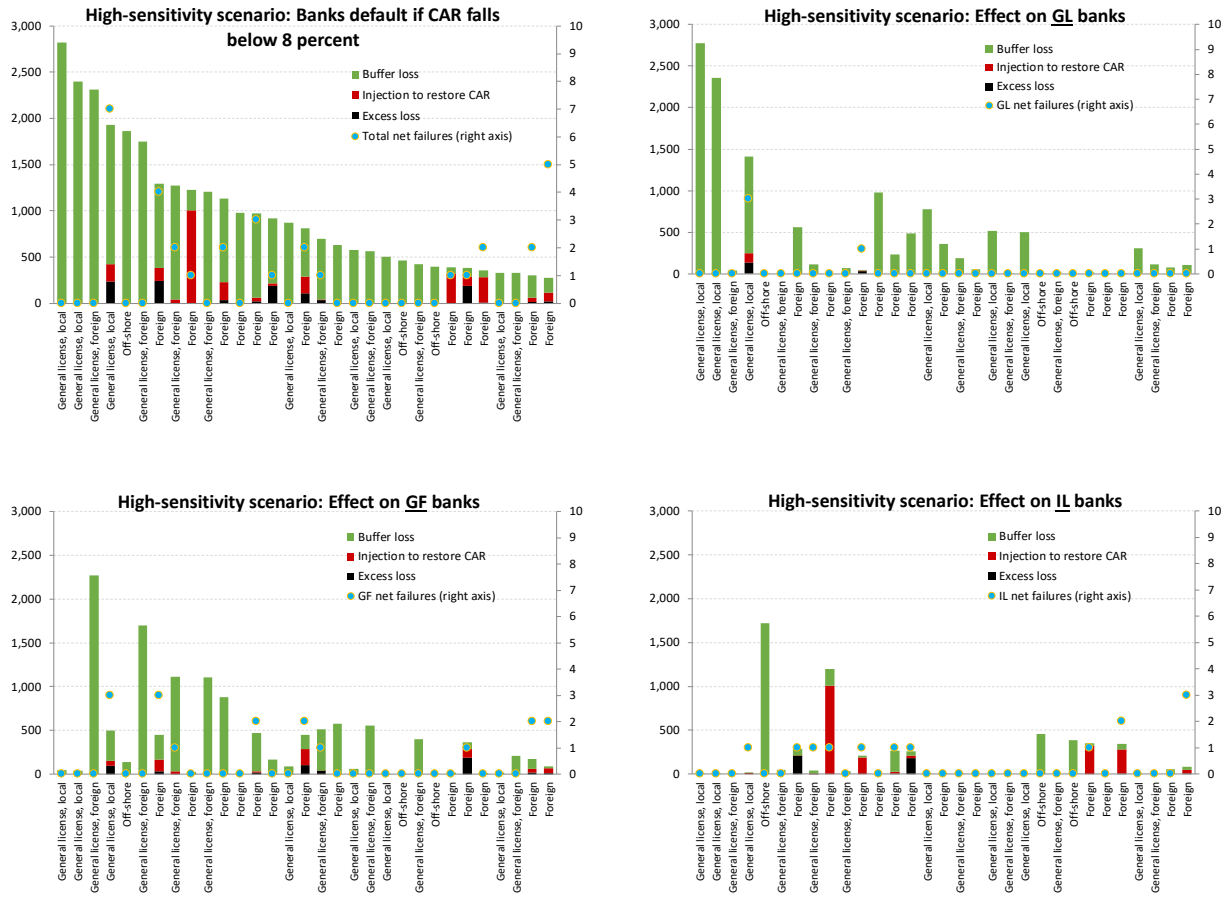
Bank Code	Bank Type	2016Q2	2016Q3	2016Q4	2017Q1	2017Q2	2017Q3	2017Q4	2018Q1
3	GL	7.7	7.8	7.5	7.5	7.9	7.9	7.5	7.7
1	GL	7.0	8.2	7.3	8.4	8.4	9.3	8.9	9.1
182	GF	10.5	10.6	10.6	10.7	10.9	10.4	11.2	10.5
155	GF	36.2	35.6	32.3	32.2	32.5	32.8	32.3	30.2
148	GL	8.0	8.1	7.6	7.8	8.2	8.1	8.8	8.9
27	GF	13.9	14.7	14.9	15.3	16.1	16.7	16.8	17.9
135	GL	9.6	9.9	9.9	9.9	10.3	10.1	10.3	10.4
201	GF	8.2	8.6	8.5	8.8	9.1	9.5	9.2	9.5
2	GL	9.2	9.2	9.4	9.3	9.5	9.8	9.2	9.1
117	GF	2.2	2.5	2.5	3.7	5.8	7.3	6.4	7.1
50	GL	9.7	9.6	9.9	10.1	10.1	10.1	10.2	10.2
59	GL	8.3	8.8	8.7	8.9	9.0	9.5	9.7	8.9
24	GF	11.3	11.9	12.2	12.0	12.4	12.4	12.3	12.1
140	GL	11.9	12.4	12.7	13.1	13.1	13.6	13.7	14.0
136	GL	10.4	10.6	10.1	9.8	10.0	10.4	9.9	9.5
210	GL	7.4	7.7	7.6	7.6	7.6	7.8	7.7	7.5
7	GF	11.3	11.9	11.9	11.9	11.8	12.2	12.4	12.6
220	GL	11.4	11.6	10.9	11.4	11.7	11.6	11.4	11.4
37	GF	7.5	9.1	6.9	6.6	6.6	7.1	6.7	5.3
56	GL	9.1	10.0	9.9	9.6	9.5	9.5	9.7	9.7
195	GF	9.4	9.8	9.0	9.5	9.7	10.0	10.1	9.7
225	GF	7.1	7.7	7.8	7.4	7.3	7.4	7.6	6.7
231	GL	10.7	10.8	10.8	10.7	12.5	12.6	11.9	12.2
243	GF	5.6	5.2	8.9	9.6	10.3	10.7	10.5	12.2
236	GL	10.5	10.6	10.0	10.2	10.6	10.1	10.9	11.1
235	GL	12.6	12.2	12.7	11.9	11.7	11.3	11.1	10.4
246	GF	7.7	7.8	7.9	7.2	6.6	6.8	6.9	5.8
233	GF	7.2	7.1	6.6	7.9	7.2	6.7	6.8	6.8
215	GF	14.3	14.4	12.1	11.5	11.3	9.6	9.8	9.4
173	GL	7.5	7.6	6.8	7.7	9.1	9.2	6.8	8.0
249	GL	19.8	11.9	9.8	9.9	10.1	11.1	11.0	10.2
206	GF	10.2	10.0	10.0	11.1	10.9	10.6	10.7	11.2
196	GL	13.6	13.3	13.1	12.9	12.8	12.7	12.7	12.6
226	GF	7.7	7.9	8.1	8.3	8.1	8.7	9.7	9.5
39	GF	7.0	5.6	7.4	6.7	6.1	6.7	6.2	5.7
239	GF	9.2	8.7	7.1	8.7	8.9	10.4	10.7	9.7
51	GF	6.0	3.5	3.6	12.7	13.8	11.1	10.9	14.2
255	GF	37.5	17.4	15.4	14.6	12.2	11.5	14.8	13.7
245	GF	14.2	21.0	19.6	19.9	20.2	20.0	20.7	18.7
221	GF	19.9	25.5	22.8	20.6	16.8	16.6	17.2	15.1
247	GF	20.2	20.7	17.9	16.7	22.3	23.7	23.0	3.7
186	GF	30.5	31.6	32.7	34.1	35.0	36.2	36.7	38.2

1/ High vulnerability banks (in red) are defined as those with a leverage ratio of less than 3 percent (the regulatory requirement), medium-vulnerability banks (in yellow) are those with a leverage ratio >3 and </=7 percent, low vulnerability banks (in green) are those with a leverage ratio >7 percent. Heat map is shown only for general license banks and excludes international (offshore) license banks. GL stands for "General license, local" and GF for "General license, foreign". Bank ordering is based on banks' asset size.

Annex III. Contagion Analysis – Capital Losses by License Type

The top-left panels in Figures 1-3 correspond to the results shown in Figure 3 in the main text, whereas the remaining panels present the breakdown by the license type of the affected institutions.

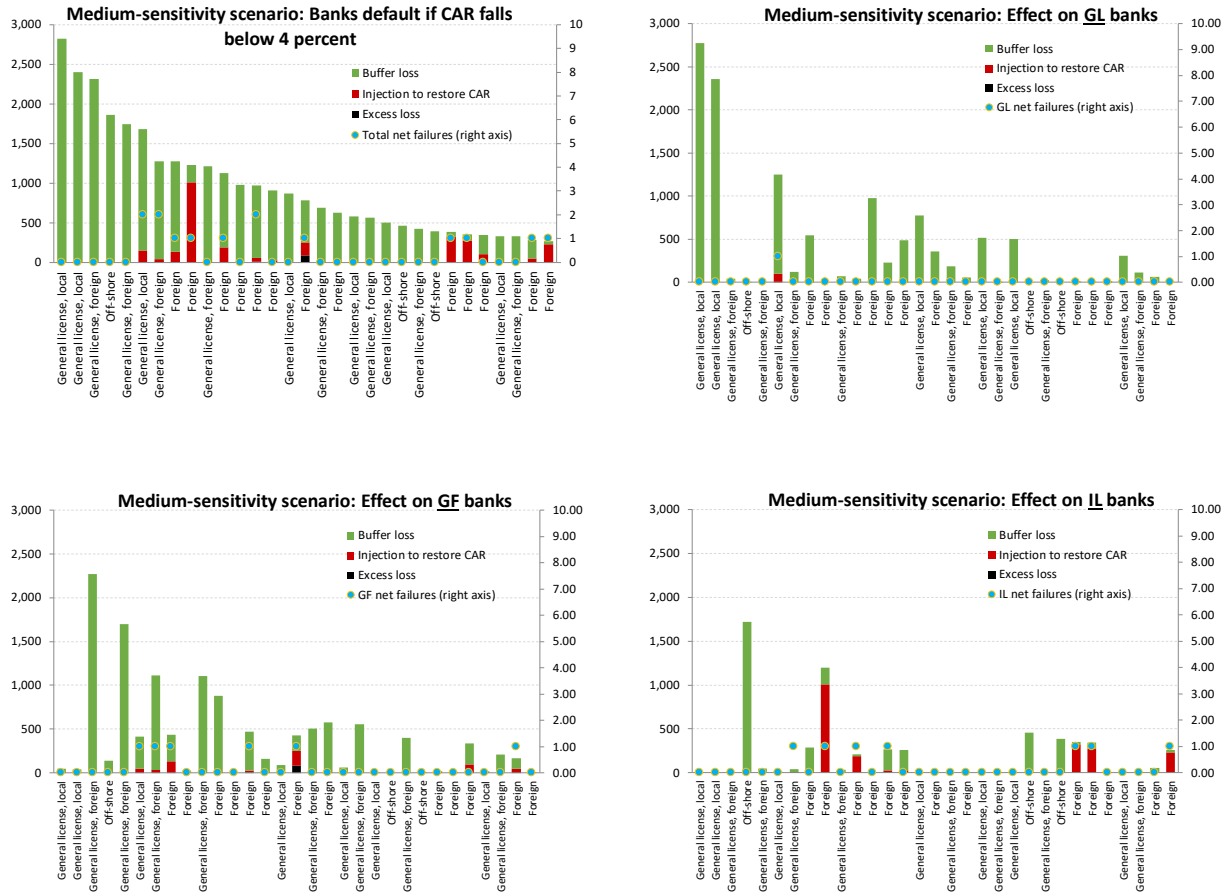
Annex Figure 1. Capital Losses as Function of Bank Originating Cascade [1/2/]
High-Sensitivity Scenario – Breakdown by Type of Affected Bank
(US$ millions, 30 most systemically important institutions)



1/ Each column displays total capital losses in the banking system (excluding those of the original defaulting bank) following the exogenous default of one bank (the license type of the original defaulting bank is shown in lieu of its name). Buffer losses are those over and above 8 percent of RWA, whereas injection to restore CAR represents the difference between 8 percent of RWA and actual capital after contagion. For defaulting banks (i.e. those whose capital is below 8, 4, and 0 percent of CAR in the high-, medium-, and low-sensitivity scenarios, respectively), if remaining capital is positive then that amount is classified as excess loss.

2/ Total number of failures excludes original defaulting institution.

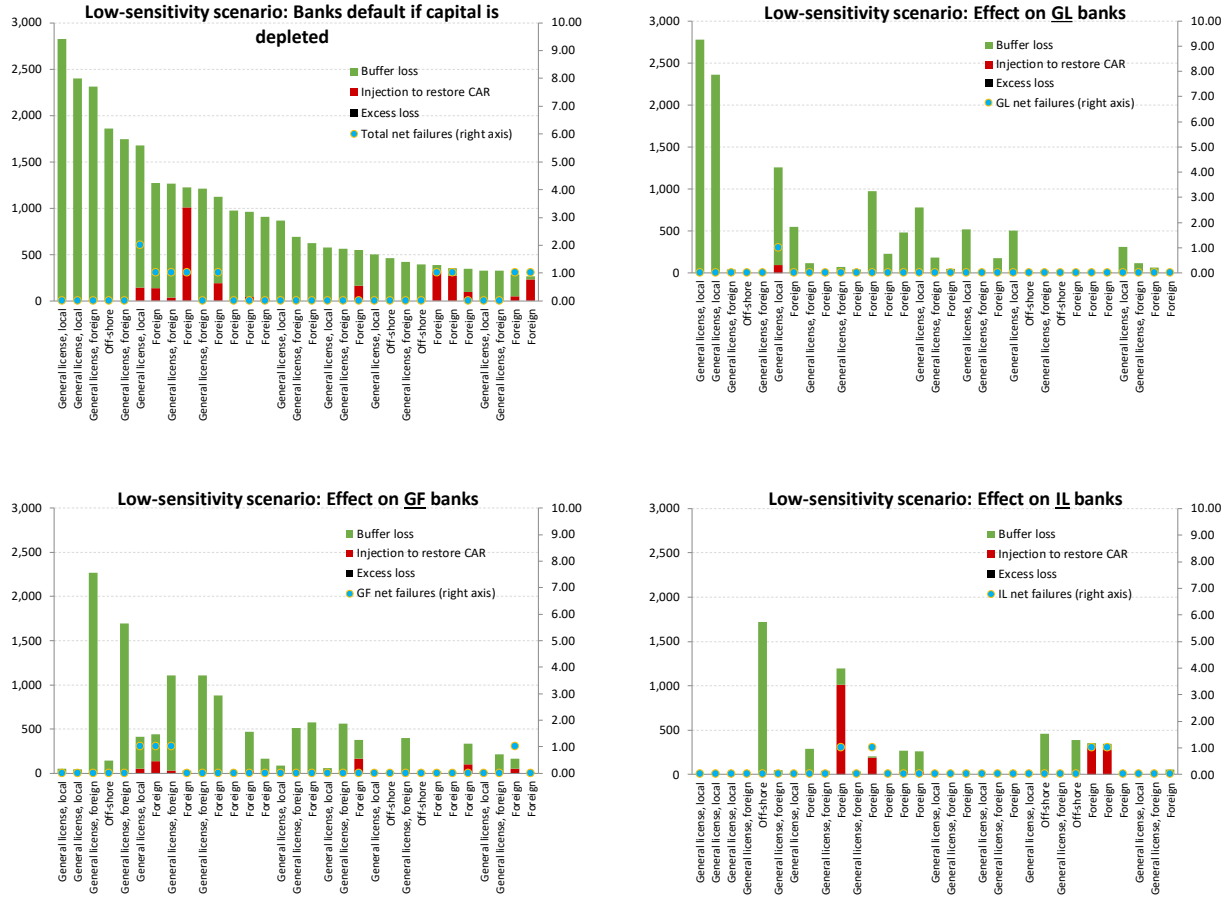
Annex Figure 2. Capital Losses as Function of Bank Originating Cascade 1/2/
Medium-Sensitivity Scenario – Breakdown by Type of Affected Bank
(US$ millions, 30 most systemically important institutions)



1/ Each column displays total capital losses in the banking system (excluding those of the original defaulting bank) following the exogenous default of one bank (the license type of the original defaulting bank is shown in lieu of its name). Buffer losses are those over and above 8 percent of RWA, whereas injection to restore CAR represents the difference between 8 percent of RWA and actual capital after contagion. For defaulting banks (i.e. those whose capital is below 8, 4, and 0 percent of CAR in the high-, medium-, and low-sensitivity scenarios, respectively), if remaining capital is positive then that amount is classified as excess loss.

2/ Total number of failures excludes original defaulting institution.

Annex Figure 3. Capital Losses as Function of Bank Originating Cascade 1/2/
Low-Sensitivity Scenario – Breakdown by Type of Affected Bank
(US$ millions, 30 most systemically important institutions)



1/ Each column displays total capital losses in the banking system (excluding those of the original defaulting bank) following the exogenous default of one bank (the license type of the original defaulting bank is shown in lieu of its name). Buffer losses are those over and above 8 percent of RWA, whereas injection to restore CAR represents the difference between 8 percent of RWA and actual capital after contagion. For defaulting banks (i.e. those whose capital is below 8, 4, and 0 percent of CAR in the high-, medium-, and low-sensitivity scenarios, respectively), if remaining capital is positive then that amount is classified as excess loss.

2/ Total number of failures excludes original defaulting institution.

ASSET QUALITY AND ECONOMIC ACTIVITY[1]

Bank asset quality can have important effects on economic activity. This Selected Issues Paper reviews recent developments in asset quality in Panama and the potential importance of asset quality as a driver of macro-financial feedback loops. The results suggest that the recent deterioration in asset quality in Panama could affect bank lending and contribute to adverse macro-financial feedback loops. Asset quality should be closely monitored to prevent the emergence of systemic risks from the build-up of debt in recent years, particularly in the context of rising interest rates.

A. Introduction

1. Bank asset quality can have important effects for both financial stability and economic activity. While Panamanian bank asset quality remains generally sound, asset quality has deteriorated in recent years following a period of robust credit growth in an environment of low global interest rates. With asset quality expected to come under pressure in the context of rising global interest rates in Panama's predominantly variable-rate environment, this paper considers the potential importance of asset quality as a driver of macro-financial feedback loops in Panama to understand the financial stability and macroeconomic challenges that could be triggered by a further and persistent deterioration in asset quality.

B. Taking Stock of Panamanian Banks' Asset Quality

2. Panamanian bank asset quality remains sound. While bank asset quality has deteriorated, with the level of NPLs doubling since 2015, NPLs remain relatively low compared to regional peers at 1.8 percent of total loans as of June 2018 for the national banking system and appear adequately provisioned (Figure 1). The deterioration in asset quality has, however, been widespread across the banking system, across official banks, private Panamanian banks and foreign banks operating in the onshore banking system as well as offshore banks. While there is considerable heterogeneity in the ratio of NPLs across banks, the distribution has also shifted in recent years, with more banks experiencing higher NPL ratios. By sector, commerce (which includes services), mortgages, construction and personal loans have seen the largest uptick in NPLs (commerce, mortgages, construction and personal loans) and also account for the bulk of the stock of NPLs.

C. Macro-Financial Implications of Asset Quality

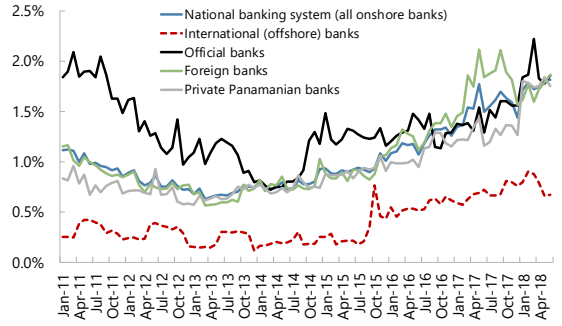
3. High levels of NPLs affect bank lending and may result in adverse macro-financial feedback loops. High NPLs typically reduce the supply of credit, including by reducing bank profitability, tying up capital because of higher risk weights on impaired assets, and raising banks' funding costs because of lower expected revenue streams and investors' heightened risk perceptions (Figure 2). In turn, reduced credit supply, can contribute to weaker economic activity, with adverse implications for NPLs. Indeed, the NPL ratio in Panama is negatively correlated with

[1] Prepared by Kimberly Beaton.

growth in credit to the private sector. Growth in credit to the private sector is positively correlated with economic activity, suggesting that high NPLs are associated with subdued growth and rising unemployment.

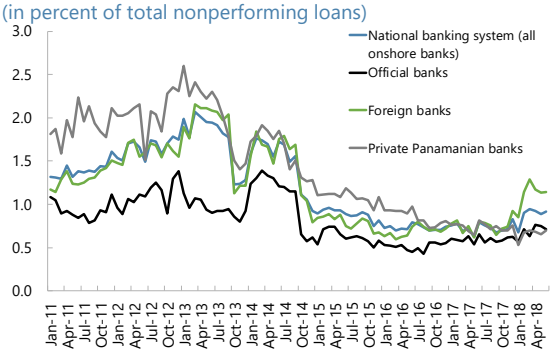
Figure 1. Panama: Asset Quality of Panamanian Banks

Panama: Nonperforming Loans
(in percent of total loans)

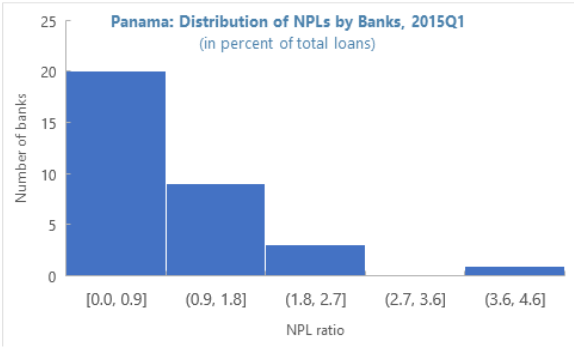


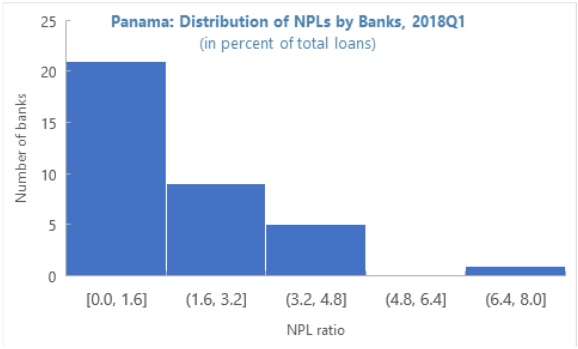
Source: SBP

Panama: Provisioning
(in percent of total nonperforming loans)

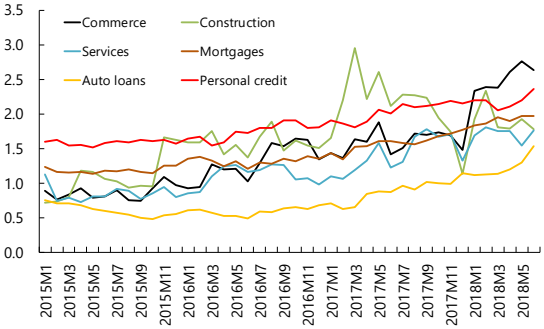


Source: SBP



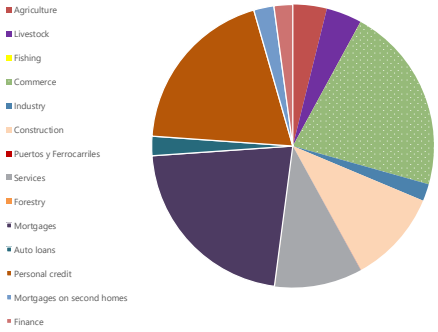


Panama: NPLs by Economic Sector
(In percent of loans to sector)



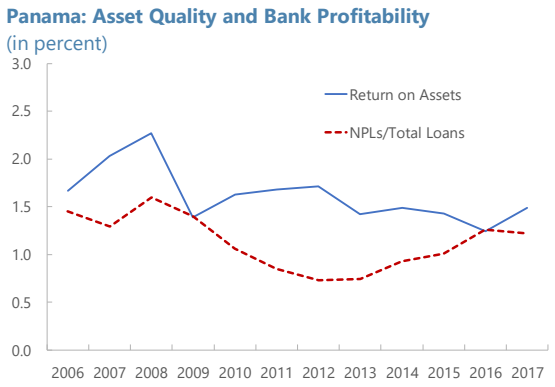
Sources: SBP and Fund staff calculations.

Panama: NPLs by Economic Sector
(in percent of total NPLs)

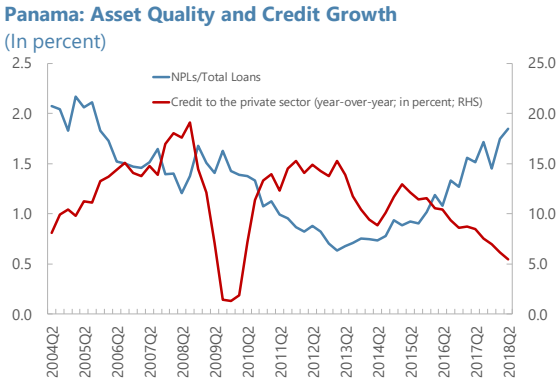


Sources: SBP and author calculations.

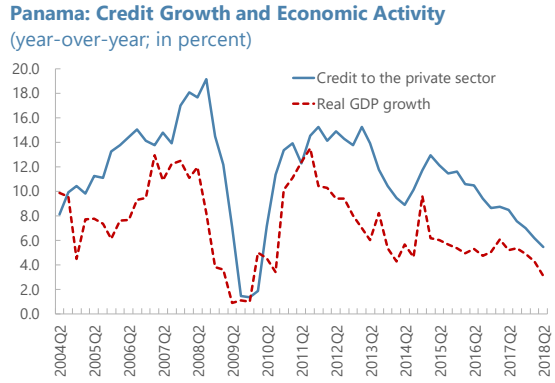
Figure 2. Panama: NPLs, Bank Profitability, Credit and Economic Activity



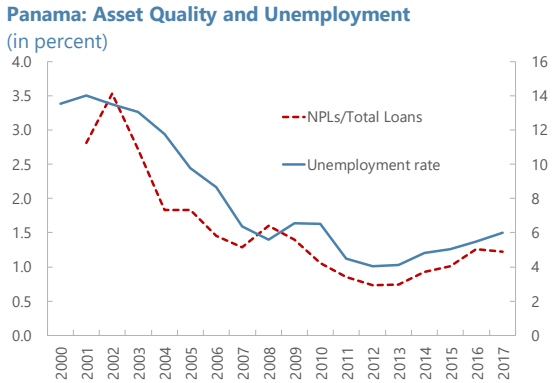
Sources: SBP, INEC and Fund staff calculations.



Sources: SBP, INEC and Fund staff calculations.



Sources: SBP, INEC and author calculations.



Sources: SBP, INEC and Fund staff calculations.

4. Feedback effects between asset quality in the banking sector and the real economy are assessed using a vector-autoregression (VAR) model. The model includes the NPL ratio, growth in credit to the private sector (year-over-year), real GDP growth (year-over-year), total (headline) consumer price inflation (year-over-year), and the commercial interest rate.[2,3,4] All variables are considered endogenous in the estimation of the VAR. Macro-financial feedback effects are assessed using orthogonalized impulse response functions, which illustrate the behavior of one variable in response to innovations in another variable, holding other shocks constant.[5] Data constraints restrict

[2] The commercial (which includes services) interest rate is calculated as the simple average of the commercial interest rate charged on new lending by foreign and Panamanian-owned banks. Commercial lending represents about 40 percent of new credit.

[3] Unit root tests confirm that all variables are stationary in order I(0).

[4] Ideally, the model would also include the unemployment rate to reflect the fact that high unemployment is likely to lower borrower repayment capacity and lead to a deterioration in asset quality. However, there is no quarterly data on unemployment dynamics available for Panama.

[5] Impulse responses are orthogonalized, using the Cholesky decomposition to identify the orthogonal shocks. The variables are included in the VAR in the following order: the NPL ratio, real GDP growth, inflation, and the commercial

the estimation period of the VAR to 2003Q3 to 2018Q1. Such a limited sample period significantly hinders the empirical assessment of macro-financial linkages in Panama as the economy has undergone a sustained period of high economic growth over this period, with little cyclical variability. Nevertheless, simple correlations of key macro-financial variables suggest that asset quality is persistent and negatively correlated with credit growth, economic growth, and inflation, and positive correlated with interest rates.[6]

Table 1. Panama: Contemporaneous and Lagged Correlations Across Macro-Financial Variables [1/]

(quarterly frequency)

	NPL	Credit	GDP	CPI	Interest rate	$NPL_{(t-1)}$	$Credit_{(t-1)}$	$GDP_{(t-1)}$	$CPI_{(t-1)}$	$Interest\ rate_{(t-1)}$
NPL	1.0000									
Credit	-0.2349*	1.0000								
GDP	-0.0672	0.6887*	1.0000							
CPI	-0.2326*	0.6491*	0.4799*	1.0000						
Interest rate	0.1994	-0.2778*	-0.2064	-0.3584*	1.0000					
$NPL_{(t-1)}$	0.9513*	-0.1897	0.0091	-0.2058	0.1401	1.0000				
$Credit_{(t-1)}$	-0.219	0.8721*	0.5478*	0.6173*	-0.3097*	-0.2132	1.0000			
$GDP_{(t-1)}$	-0.0999	0.8030*	0.7714*	0.5903*	-0.2853*	-0.0495	0.6822*	1.0000		
$CPI_{(t-1)}$	-0.2588*	0.5804*	0.3297*	0.9178*	-0.4238*	-0.2151	0.6390*	0.4696*	1.0000	
$Interest\ rate_{(t-1)}$	0.2508*	-0.146	-0.0678	-0.2381*	0.7256*	0.1978	-0.2772*	-0.2042	-.3581*	1.0000

1/ NPL = NPL ratio, Credit = growth in credit to the private sector, GDP=real GDP growth, CPI = total inflation, Interest rate = simple average of commercial interest rate of foreign and Panamanian owned banks. *Significance at 10 percent.

5. VAR estimates confirm the presence of strong macro-financial linkages in Panama. A deterioration in bank asset quality, or a positive shock to the NPL ratio, has a statistically significant negative impact on growth in credit to the private sector, real GDP growth, and inflation (Figure 3). At its peak, a 1 percentage point increase in the NPL ratio reduces credit growth by 1.5 percentage points. Negative implications for credit growth are also persistent, with the deterioration in asset quality negatively affecting credit for longer than a year. Economic activity also declines following a deterioration in bank asset quality - the peak impact on growth of a 1 percentage point increase in the NPL ratio is estimated at 1.2 percentage points. Conversely, macroeconomic performance also has a significant effect on asset quality: a stronger macroeconomic environment improves borrowers' debt servicing capacity and leads to a statistically significant decline in the NPL ratio.[7] Panel VAR variance decompositions (Table 2) indicate that about 20 and 10 percent of the variance in growth is explained by shocks to the NPL ratio over 4 and 8-quarter horizons, respectively. The

interest rate. This ordering reflects our assumption that economic activity affects asset quality with a lag, while asset quality has a contemporaneous effect on economic activity, largely through credit. Estimation results are broadly consistent to the ordering of the variables.

[6] The negative correlation with economic activity and positive correlation with interest rates is not statistically significant.

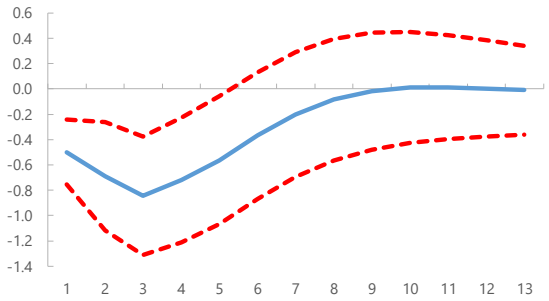
[7] See Annex 1 for impulse response functions for credit and growth shocks.

impact of growth on asset quality is smaller, with shocks to growth explaining about 10 percent of the variance in the NPL ratio over both 4- and 8-quarter horizons.

Figure 3. Panama: Macrofinancial Linkages [1/]

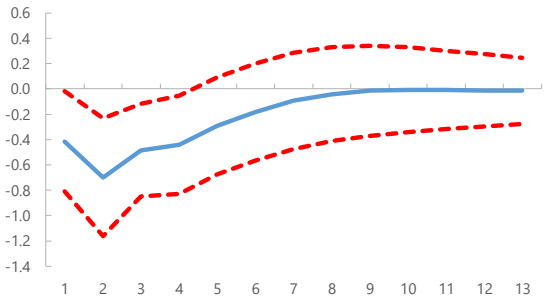
(impact of 1 standard deviation increase in the NPL ratio)

Panama: Response of Private Sector Credit Growth to NPL shock



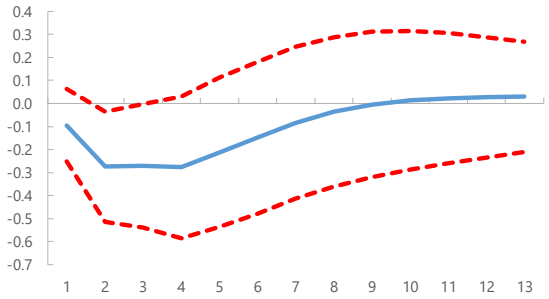
Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in the NPL ratio = 0.58.

Panama: Response of Real GDP Growth to NPL shock



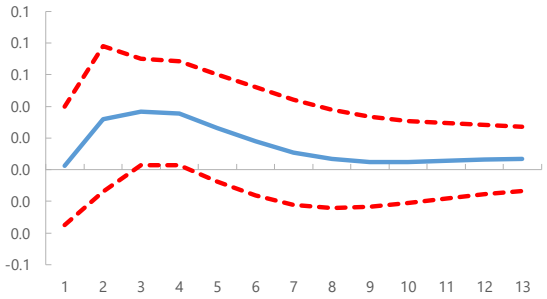
Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in the NPL ratio = 0.58.

Panama: Response of Inflation to NPL shock



Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in the NPL ratio = 0.58.

Panama: Response of Interest Rate to NPL shock



Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in the NPL ratio = 0.58.

1/ As estimated from orthogonalized impulse response functions from a VAR model including the NPL ratio, growth in credit to the private sector, real GDP growth, inflation and the commercial paper rate. Source: Author calculations.

Table 2. Panama: Variance Decomposition [1/]
(quarterly frequency, in percent)

	NPL	Credit	GDP	CPI	Interest rate
			4-quarter horizon		
NPL	0.9	0.0	0.1	0.0	0.0
Credit	0.2	0.4	0.3	0.1	0.0
GDP	0.2	0.0	0.8	0.0	0.0
CPI	0.1	0.0	0.4	0.5	0.1
Interest rate	0.1	0.1	0.1	0.1	0.7
			8-quarter horizon		
NPL	0.8	0.0	0.1	0.0	0.0
Credit	0.2	0.3	0.4	0.1	0.1
GDP	0.1	0.0	0.7	0.1	0.1
CPI	0.1	0.1	0.5	0.4	0.1
Interest rate	0.1	0.1	0.1	0.1	0.6

1/ NPL = NPL ratio, Credit = growth in credit to the private sector, GDP=real GDP growth, CPI = total inflation, Interest rate = simple average of commercial interest rate of foreign and Panamanian owned banks.

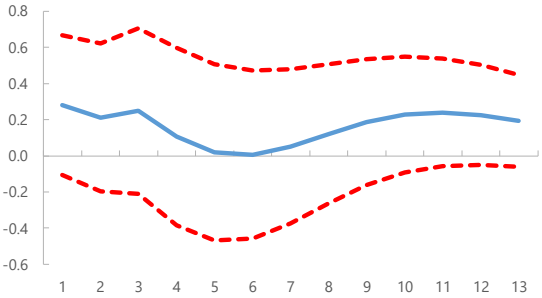
D. Conclusions

6. Bank asset quality should be closely monitored to prevent the emergence of systemic risks from the build-up of debt in recent years. While NPLs remain low and are well-provisioned, they are likely to come under further pressure as rising global interest rates continue to put pressure on interest rates in Panama's dollarized economy. Effective supervision will be critical to help prevent a further deterioration of asset quality, while the recent strengthening of provisions following the transition to IFRS9 will help to facilitate recognition of losses.

Annex I. Impact of Credit Growth Shock

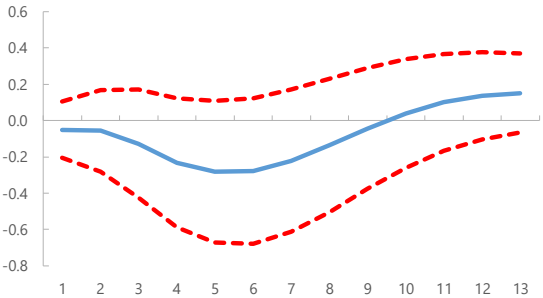
Annex Figure 1: Impact of 1 Standard Deviation Increase in Credit Growth [1/]

Panama: Response of Real GDP Growth to Private Sector Credit Growth shock



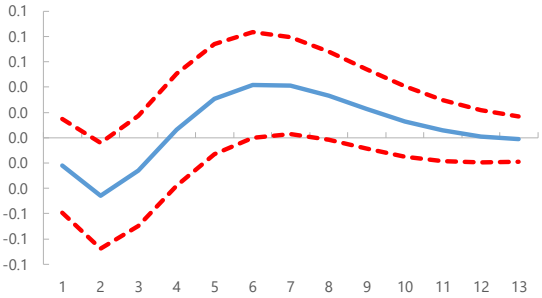
Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in credit growth = 3.8.

Panama: Response of Inflation to Private Sector Credit Growth shock



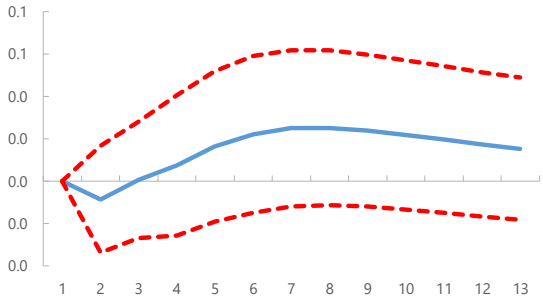
Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in credit growth = 3.8.

Panama: Response of Interest Rate to Private Sector Credit Growth shock



Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in credit growth=3.8.

Panama: Response of NPLs to Private Sector Credit Growth shock



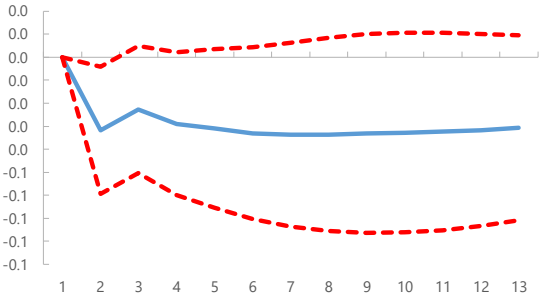
Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in credit growth=3.8.

1/ As estimated from orthogonalized impulse response functions from a VAR model including the NPL ratio, growth in credit to the private sector, real GDP growth, inflation and the commercial paper rate. Source: Author calculations.

Annex II. Impact of Real GDP Growth Shock

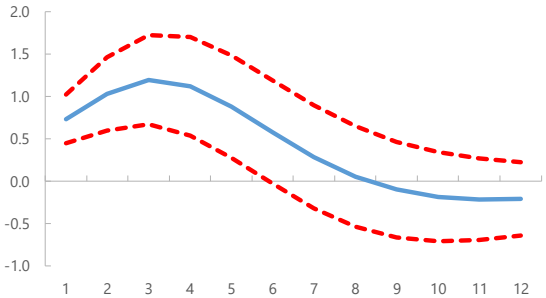
Annex Figure 1: Impact of 1 Standard Deviation Increase in Real GDP Growth 1/

Panama: Response of NPLs to Real GDP Growth shock



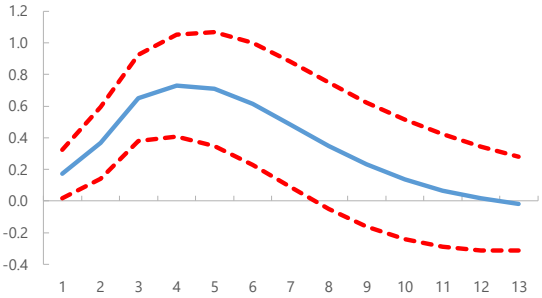
Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in real GDP growth=3.1.

Panama: Response of Private Sector Credit Growth to Real GDP Growth shock



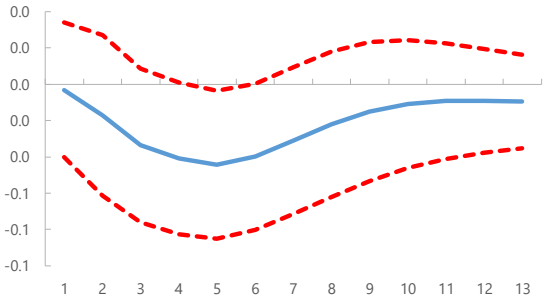
Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in real GDP growth=3.1.

Panama: Response of Inflation to Real GDP Growth shock



Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in real GDP growth=3.1.

Panama: Response of Interest Rates to Real GDP Growth shock



Sources: SBP, INEC and author calculations. Based on a one-standard deviation shock. 95 percent confidence interval shown by the red lines. One standard deviation in real GDP growth=3.1.

1/ As estimated from orthogonalized impulse response functions from a VAR model including the NPL ratio, growth in credit to the private sector, real GDP growth, inflation and the commercial paper rate. Source: Author calculations.