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PANAMA

SELECTED ISSUES

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Approved By
The Western Hemisphere Department

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CONTENTS

I. SPILLOVERS TO PANAMA: IMPACT OF TRADE AND INTERNATIONAL FINANCIAL SHOCKS **3**
A. Introduction 3
B. Methodology and Data 4
C. Empirical Results 6
D. Concluding Remarks 8
References 13

II. MACROPRUDENTIAL POLICY IN PANAMA? LESSONS FROM CROSS-COUNTRY EXPERIENCE **14**
A. Introduction 14
B. Background 15
C. Existing Institutional Arrangements Around the World–Advantages and Disadvantages 17
D. Advantages and Disadvantages of Individual Policy Instruments 19
E. Implications and Conclusions 22
References 24

III. PANAMA: TAKING STOCK OF A DECADE OF TAX REFORMS **31**
A. Introduction 31
B. Reforms, Tax Structure and Performance 31
C. Challenges and a Way Forward 37

References 50

BOXES

III.1. Estimating the Tax Effort 36
III.2. Examples of Tax Incentives in Panama 40
III.3. Tax Administration Reform Priorities 41

FIGURES

I.1. Panama: Top 5 Trading Partners 3
I.2. Loan to Deposit Ratio 4
I.3. Panama: External Linkages 5
I.4. Panama: Dynamic Responses of Domestic Variables to External Shocks in the Scenario with the US GDP 10
I.5. Panama: Dynamic Responses of Domestic Variables to External Shocks in the Scenario with Top 5 Trading Partners' GDP 11
I.6. Panama: Real Credit as Transmission Channel 12
I.7. Panama: Fraction of Variance Explained by External Shocks 12
II.1 Latin America: Private Sector Credit, percent of GDP, 2011 15
III.1 Panama and Peer Groups: Tax Revenue 34
III.2 Panama: Tax Revenue Buoyancy 34
III.3 Panama and Cross-Country VAT Indicators 35

TABLES

II.1 Panama: Structure of the Financial System (June 2012) 15
III.1 Top Corporate and Personal Income Tax Rates for OECD Countries, Latin America and Central America 33

APPENDICES

II.I. Some Relevant Elements of the Institutional Design of Macroprudential Policy 25
II.II. Some Key Distinguishing Dimensions of Real Life Macroprudential Policy Models 26
II.III. A Comparison of Regional Arrangements 27
II.IV. Selected Systemic Risk Manifestations and MaPP Tools in Other Countries 29

ANNEXES

III.I. Main Features of the 2002–10 Tax Reforms 42
III.II. Tables 45

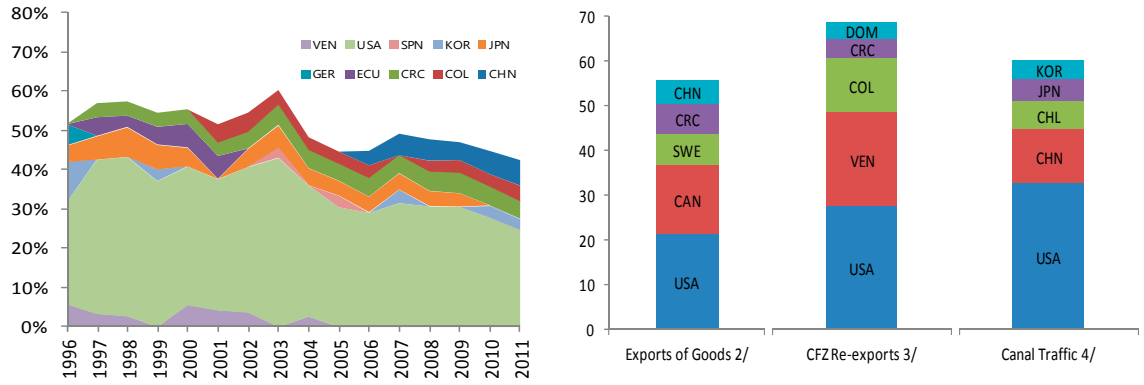
SPILLOVERS TO PANAMA: IMPACT OF TRADE AND INTERNATIONAL FINANCIAL SHOCKS[1]

A. Introduction

1. Panama is a small economy with a high degree of trade and financial openness. Trade and financial linkages have built up extensively due to Panama's full dollarization, as well as the development of economic activity around the Panama canal and the Colón Free Zone (CFZ). Although Panama avoided a recession during the recent global crisis, real GDP growth slowed substantially from 10.1 percent in 2008 to 3.9 percent in 2009. The crisis period was characterized by a sudden withdrawal of international credit lines following the Lehman episode that transmitted rapidly into a freeze in domestic interbank lending, adversely affecting real activity. [2] This paper documents Panama's main external economic linkages and provides a quantitative analysis of spillovers to Panama's economy stemming from external trade and financial shocks.

Figure 1. Panama: Top 5 Trading Partners [1]

(In percent of total)



Sources: National Authorities, DOTS and IMF staff calculations.

[1] Left panel: In percent of total merchandise trade.

[2] As of 2011.

[3] As of 2012, January to October.

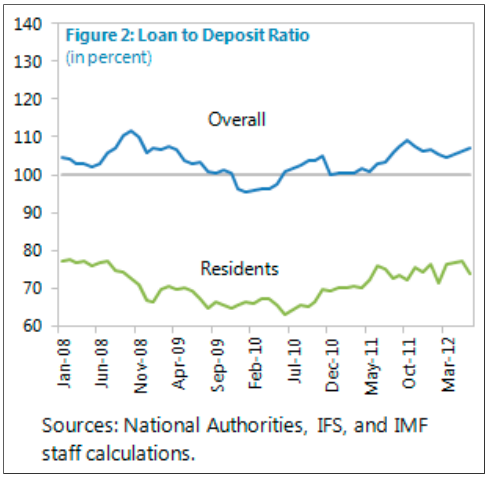
[4] As of FY 2012, in percent of total tons of cargo.

[1] Prepared by Almira Buzaushina.

[2] See Section I in Panama–Financial System Stability Assessment.

2. While the U.S. remains Panama's most important trade partner, the importance of China and Latin America has been growing. The U.S. accounts for about 20 percent of merchandise exports and for about a third of total canal traffic and CFZ re-exports (Figure 1). While business cycles in Panama and the U.S. have been historically highly correlated (Figure 3), China has become Panama's second most important partner for merchandise trade in the past two years. Recently, with buoyant economic growth in Latin America and inroads in intraregional trade integration, Panama's economic activity has become more sensitive to conditions in neighboring countries. For example, Colombia, Costa Rica, and Venezuela together accounted for 40 percent of CFZ re-exports in 2012, above the share of the U.S. Nevertheless, world trade remains an important driver of economic activity, through Panama canal transit and related logistics services (Figure 3).

3. Panama is an important regional financial center. Panama has a sizeable banking sector with total assets amounting to about 215 percent of GDP and domestic credit to the private sector amounting to about 90 percent of GDP (as of end-2011). Since mid-2010, the overall loan-to-deposit ratio has exceeded 100 percent, possibly reflecting an increased reliance on external financing, though lending to residents is more than covered by resident deposits (Figure 2), As of September 2012, foreign interbank deposits accounted for around 15 percent of total domestic deposits. Revocable international contingent credit lines amounted to about US$4 billion (about 7 percent of total deposits), with around half of these lines originating in North America (Figure 3). In contrast, foreign assets of Panama's banking center, such as loans and other financial assets, are mostly concentrated in Latin America, reflecting a strong presence of other Central and South American banks in Panama.[3]

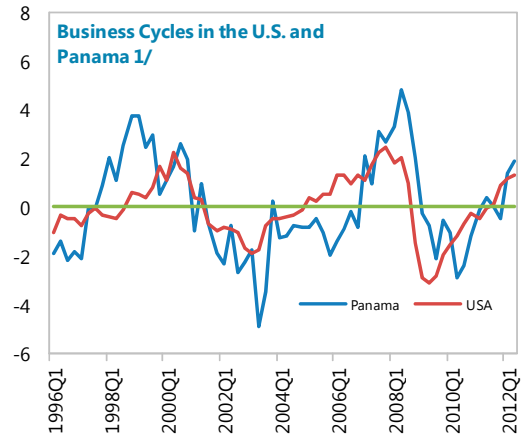


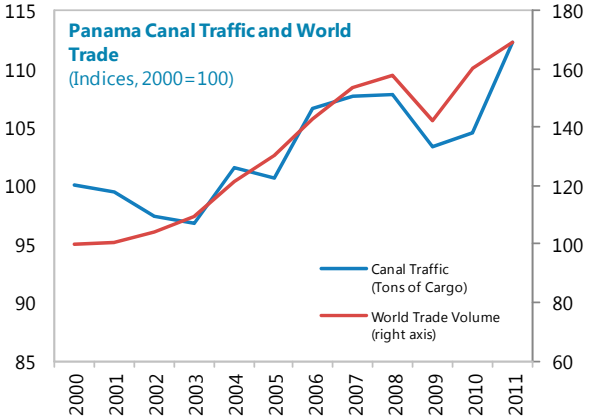
B. Methodology and Data

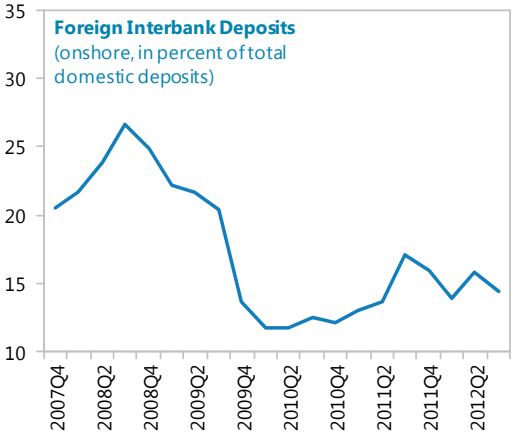
4. The impact of external spillovers on Panama's economy is quantified using impulse responses from an SVAR model. Our VAR includes three domestic macroeconomic variables (real GDP, real domestic private credit, and the trade-balance-to-GDP ratio) and two external variables (global demand and global financial conditions). Global demand is proxied by (i) U.S. real GDP; (ii) a trade-weighted average of Panama's main trading partners' real GDP; and (iii) the world trade-to-world GDP ratio. Global financial conditions are measured by the Chicago Board Options Exchange Market Volatility Index (VIX). All variables are expressed in logarithms, except for the trade balance-to-GDP ratio and the VIX, which are expressed in levels. The model is estimated using quarterly data (seasonally adjusted, except for the VIX) for the period 1998Q1–2012Q1 with four

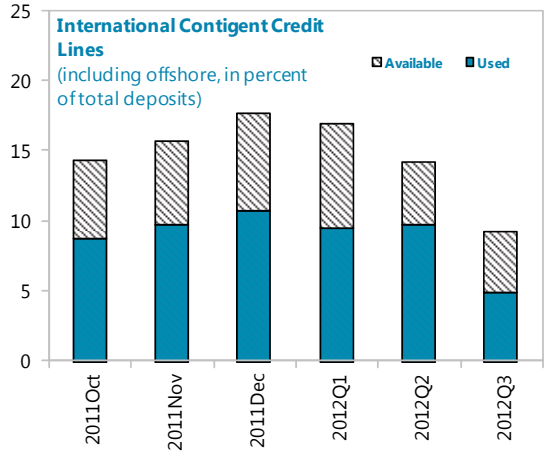
[3] Of the 49 onshore banks, only 21 are Panamanian (38 percent of banking sector assets). Another 31 percent of assets are held by other Central and South American banks.

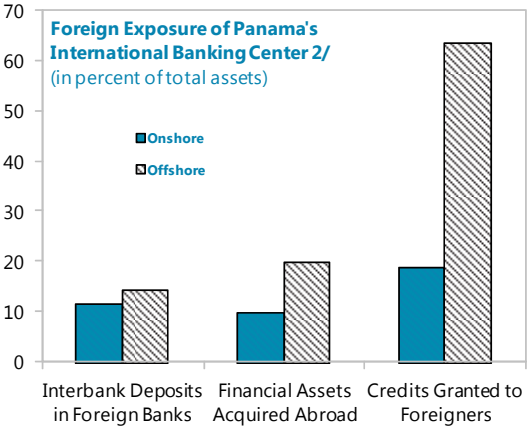
Figure 3. Panama: External Linkages

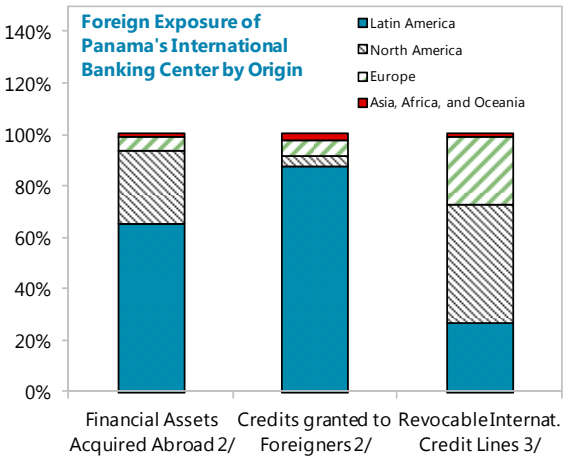












Sources: National authorities and IMF staff calculations.
1/ Percentage deviation of real GDP from a Hodrick-Prescott trend (smoothing parameter is 1600).
2/ As of September 2012.
3/ As of March 2012.

lags.[4] The data sources are primarily the IMF's International Financial Statistics (IFS), World Economic Outlook (WEO), and Haver Analytics.

5. Structural external shocks are identified by a Cholesky decomposition. Due to the small size of Panama's economy we assume that Panama's variables don't have an impact on global or U.S. variables, neither contemporaneously nor with a lag. Structural shocks to external variables are identified by a Cholesky decomposition: external variables are assumed to be contemporaneously exogenous to Panama' economy and the global real variable reacts with a lag to innovations in global financial conditions.[5]

6. Following the methodology proposed by Bayoumi and Swiston (2008), we also identify the extent to which external shocks are amplified through the domestic credit channel. Macro-financial linkages are significant in Panama due to the size of the banking sector.[6] The extent to which external shocks are amplified by the response of Panama's real private credit is assessed by estimating a second set of VAR systems that include Panama's real credit as an exogenous variable. In this specification, the estimated responses of domestic variables to external shocks do not include the indirect impact through the credit reaction to external shocks. The amplification effect through the credit channel can then be gauged by the difference between the responses in this model and in the original model, where all domestic variables are treated as endogenous.

C. Empirical Results

7. Global demand and international financial shocks have a sizeable and lasting impact on Panama's real activity as well as on real private sector credit. Figures 4 and 5 show impulse responses for Panama's variables in two VAR specifications, in which external demand is proxied by different variables: the U.S. real GDP or a trade-weighted average of Panama's top 5 trading partners 'real GDP.[7] As world trade is closely linked to Panama canal traffic (Figure 3) and canal-related

[4] Standard unit root tests (augmented Dickey-Fuller) show that all the variables are stationary in first differences, except for the trade-balance-to-GDP ratio and the VIX that are stationary in levels. In addition, standard co-integration test (Johansen Trace) suggests that one co-integrating relationship is evident among I(1) variables. It is adequate to estimate the model in levels, thereby avoiding a potential misspecification of the co-integration rank. While most conventional tests (Akaike Info and Schwarz Criteria) suggested including nine lags, four lags were chosen given the sample length and as a natural choice for quarterly data.

[5] Most recently, Adler and Sosa (2012) applied a similar methodology to quantify spillover effects from Brazil in South America.

[6] Selected Issues Paper on Macro-Financial Linkages in Panama (IMF Country Report No. 10/315).

[7] Panama's top 5 trading partners are identified in each year from 1996 to 2011 based on their annual shares in Panama's overall exports and imports. As countries' shares in Panama's overall trade tend be volatile, the list of the top 5 trading partners in each year includes in total 10 countries. Using quarterly trade shares (calculated as a moving average over the last eight quarters) of these 10 countries and their quarterly real GDP (seasonally adjusted, expressed in billions of 2005 U.S. dollars), we compute a trade-weighted geometric average of top 5 trading partners' GDP in the period from 1996:Q1 to 2012:Q2.

activities, such as ports and the CFZ, we also analyze how Panama's economy would be affected by a disruption to world trade. Impulse responses are generated in a standard fashion and reflect one standard deviation shocks. The following results are worth highlighting:

- *U.S. real GDP.* A positive one standard deviation shock to the level of real U.S. GDP (corresponding to an increase of 0.4 percent) would lead to an increase in the level of Panama's real GDP by about 0.6 percent after one quarter and by 0.4 percent within the first year (Figure 4).[8] The impact on real credit is more pronounced, leading to a peak increase of about 1.2 percent after one year. The trade balance-to-GDP ratio increases by 2 percentage points on impact.

- *Trade-weighted real GDP of trading partners.* Panama's real GDP would increase by more than 0.4 percent after the first quarter and by almost 0.7 percent after a year in response to a positive one standard deviation shock to trading partners' real GDP. There is a delayed impact on real credit, with an increase of almost 1 percent after two years. The trade balance improves slightly two quarters after the shock, as Panama's real GDP starts to pick up and deteriorates afterwards due to higher growth in Panama's GDP.

- *World Trade.*[9] In contrast to a shock to U.S. GDP or trading partners' GDP, a positive one standard deviation shock to the ratio of world trade to world GDP (by about 1 percentage point) has an immediate impact on Panama' output. Panama's real GDP increases by about 0.5 percent on impact and by about 0.8 percent after the first two quarters. World trade might have an immediate impact on Panama's real activity through its direct impact on Panama canal traffic and therefore on value-added activities surrounding the Panama canal, including Colón Free Zone reexports. Panama's real credit responds earlier to the shock in world trade than in the above scenarios, though the credit response is of a similar magnitude. The trade balance deteriorates, though the immediate impact is not statistically significant.

- *VIX.* In the VAR specification with the trade-weighted real GDP of Panama's main trading partners, a one standard deviation shock to the VIX index would decrease Panama's real output by 0.4 percent after the first quarter and by almost 1 percent after a year. Real private credit would not be affected on impact, but would decline by 1.3 percent after one year. In the VAR specification with real U.S. GDP, a shock to the VIX has a significant impact only on Panama's private credit, which decreases by almost 0.7 percent after two quarters and by about 0.8 percent at the peak. The stronger reaction in the specification with Panama's main trading partners might be due to the negative effects of a VIX shock on the trading partners' real

[8] These estimates are broadly in line with findings in previous studies. Estimating a SVAR that includes GDP growth for major regions and Panama, Swiston (2010) finds that a positive one standard deviation shock to U.S. GDP growth (by about 0.6 percentage points over the first year) raises Panama's GDP growth by about one percentage point within the first year.

[9] Due to space constraints, impulse responses to a shock to the ratio of world trade to world GDP are not reported here, but can be provided upon request.

activity. In the specification with world trade, a shock to the VIX has a long-lasting impact on domestic credit (by about 1.4 percent) and worsens on impact the trade balance-to-GDP ratio by about 1 percentage point.

8. Panama's real credit appears to amplify the output response to external shocks at longer time horizons, suggesting that the real credit response is demand-driven. Figure 6 shows impulse responses of Panama's real GDP to external demand and VIX shocks together with impulse responses from a VAR specification, in which the indirect impact on Panama's GDP from the private credit reaction to external shocks is not included. Impulse responses show that Panama's real private credit responds with a lag to external shocks, i.e. after real activity is significantly impacted, suggesting that the real credit response is demand-driven. This result also holds in the specification with world trade.

9. Spillovers from external trade and financial shocks explain about 40 percent of output fluctuations in Panama. A forecast error variance decomposition, i.e., an analysis of how much of the fluctuations in domestic variables are attributable to each exogenous shock, suggests that in the VAR specification with the U.S. GDP as a proxy for external demand, external shocks explain about 35 percent of output fluctuations at the 4th quarter horizon (Figure 7). Real spillovers (from U.S. GDP) are the main source of output fluctuations (33 percent). In the VAR specification with Panama's top 5 trading partners' GDP, the VIX shock appears to explain a larger share of Panama's output fluctuations (about 60 percent). In the specification with world trade, the world trade shock explains about 45 percent of Panama's output fluctuations.

D. Concluding Remarks

10. Panama's extensive trade and financial linkages make it vulnerable to adverse external shocks. Trade linkages mainly operate through the high degree of trade openness, Panama canal traffic and related activities, such as ports, the CFZ, and logistics services. A negative shock to trading partners' GDP would adversely affect real activity in Panama through lower external demand. A negative shock to world trade would result in lower canal traffic and therefore diminish demand for canal-related services.[10] Financial linkages are dominated by FDI flows that finance a significant share of Panama's large current account deficit, and the sizeable domestic banking sector. A sudden withdrawal of international credit lines due to worsening international conditions can be quickly transmitted into a freeze in the domestic interbank lending with adverse repercussions in the real sector.

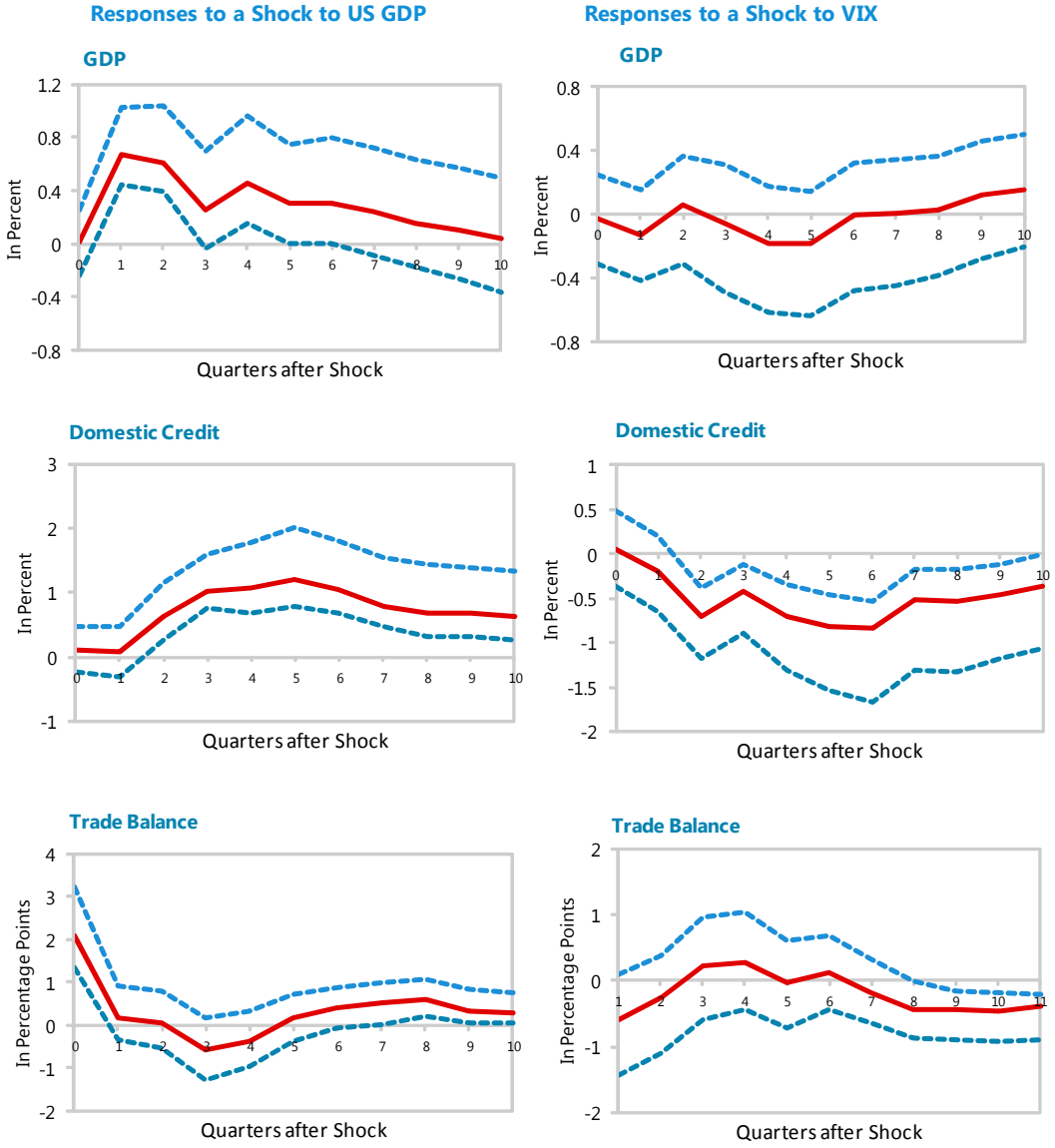
11. Spillover analysis suggests that external trade and financial shocks would have a sizeable impact on Panama's real activity, amplified by the domestic credit channel at the

[10] Historically, canal revenues have been fairly stable as the Canal authority has been adjusting fees when traffic declined. See Panama – Staff Report for the 2012 Article IV Consultation (http://www.imf.org/external/country/PAN/index.htm).

longer time horizons. The SVAR analysis suggests that Panama's real GDP would decrease by about 0.4 to 0.8 percent within the first year after an adverse external demand shock. Although real domestic credit responds with a lag to negative shocks (including the VIX shock), the response is stronger than in the case of real GDP, leading to an amplification of Panama's output response.

12. Preventive policy actions could increase Panama's resilience against adverse external shocks. Strong domestic fundamentals and a healthy banking system with solid liquidity and capital buffers would help mitigate the negative impact of external demand and financial shocks on Panama's economy. In the absence of independent monetary policy, fiscal prudence and discipline become imperative for allowing a countercyclical fiscal policy response in order to dampen spillovers on domestic activity in the aftermath of a large external shock. Strong financial supervision, as well as the development of financial safety nets, would help limit negative repercussions on the domestic banking sector and their effects on real activity.

Figure 4. Panama: Dynamic Responses of Domestic Variables to External Shocks 1/
In the Scenario with the U.S. GDP 1/

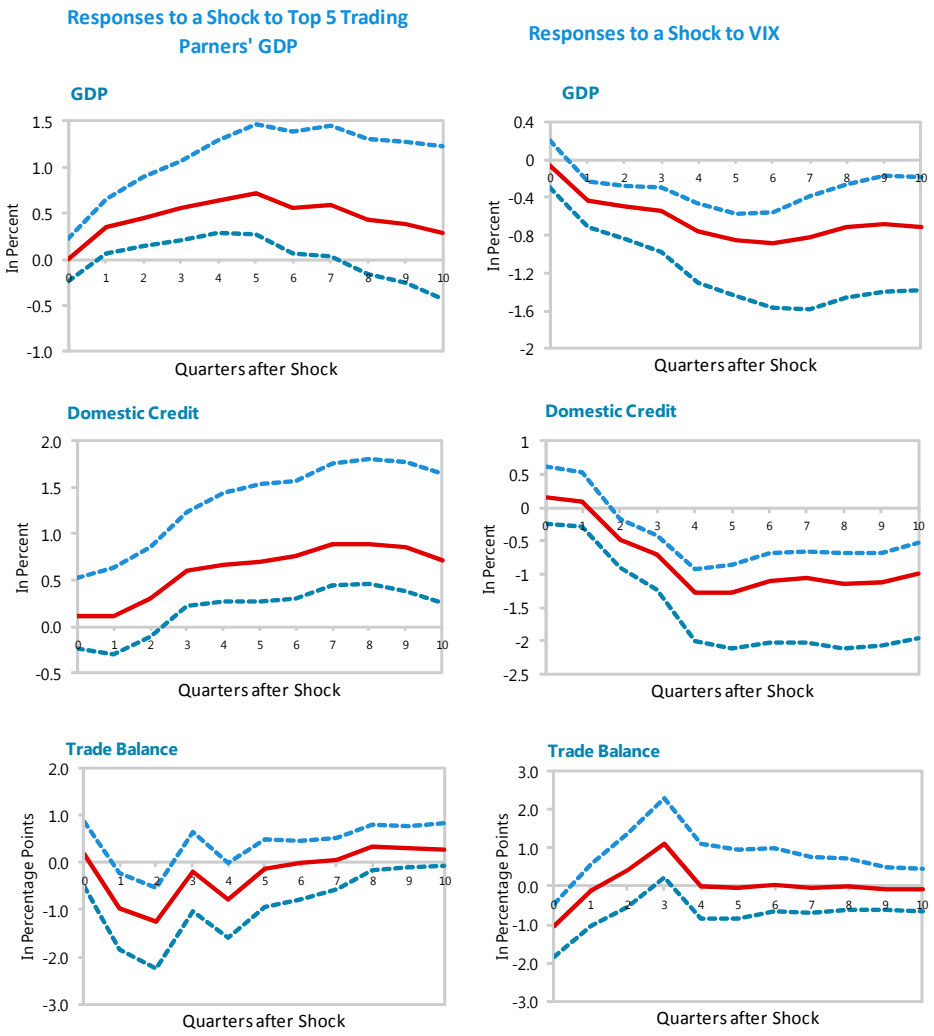


1/ Responses to a one standard deviation shock to US real GDP (+0.4 percent) and to a one standard deviation shock to VIX (+5.5 points).

Dotted lines correspond to 90 percent confidence intervals.

Source: IMF staff estimates.

Figure 5. Panama: Dynamic Responses of Domestic Variables to External Shocks in the VAR Specification with Top 5 Trading Partners' GDP1/

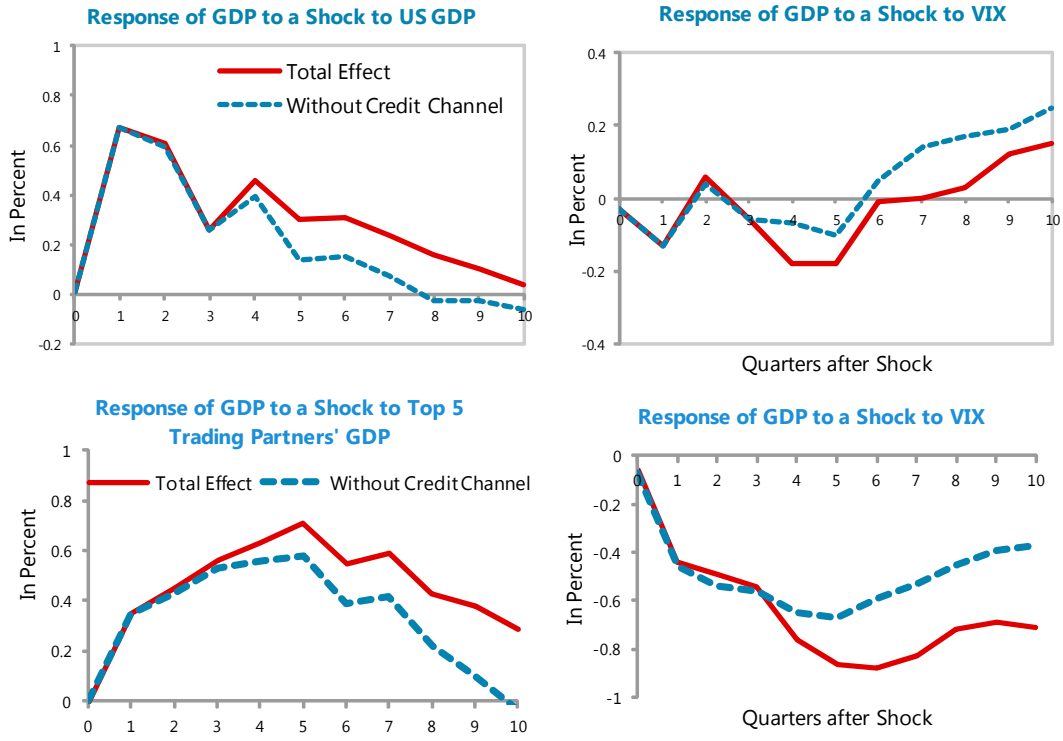


1/ Responses to a one standard deviation shock to top 5 trading partners' real GDP (+2.9 percent) and to a one standard deviation shock to VIX (+5.4 points).

Dotted lines correspond to 90 percent confidence intervals.

Source: IMF staff estimates.

Figure 6. Panama: Real Credit as Transmission Channel 1/

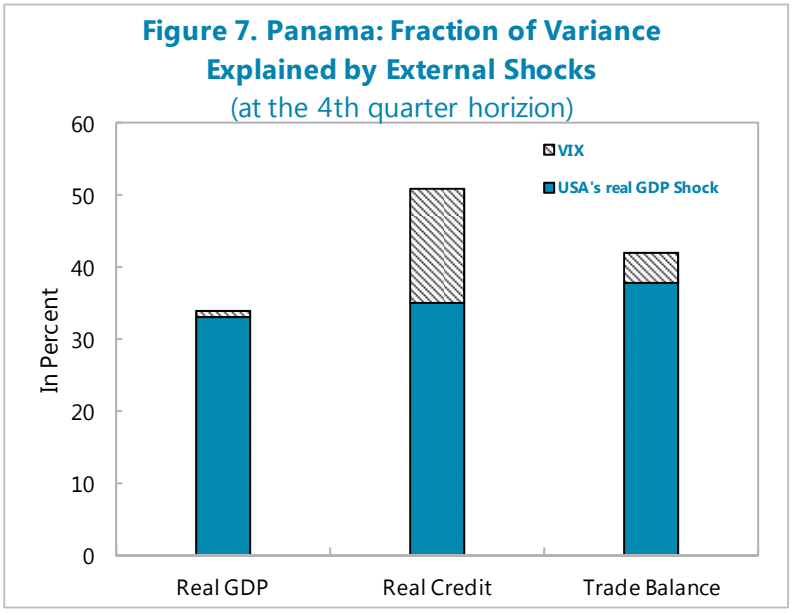


1/ Responses to a one standard deviation shock to US real GDP (+0.4 percent) and to a one standard deviation shock to VIX (+5.5 points).

Source: IMF staff estimates.

Figure 7. Panama: Fraction of Variance Explained by External Shocks

(at the 4th quarter horizion)



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Bayoumi, T., and A. Swiston, 2008, "Spillovers Across NAFTA", IMF Working Paper 08/3 (Washington: International Monetary Fund).

Swiston, A. 2010, "Spillovers to Central America in Light of the Crisis: What a Difference a Year Makes", IMF Working Paper 10/35 (Washington: International Monetary Fund).

MACROPRUDENTIAL POLICY IN PANAMA? LESSONS FROM CROSS-COUNTRY EXPERIENCE[1]

A. Introduction

1. The Panamanian financial system is sound and has proven resilient to shocks. Domestic credit and output growth rebounded quickly following the global financial crisis, and financial sector indicators suggest that the banking sector—which dominates the financial system—remains well capitalized, liquid, and profitable. The 2011 FSAP found that banking sector supervision was broadly adequate, though it also noted that (i) the Superintendency of Banks of Panama (SBP) did not have a framework to monitor macroeconomic developments and their impact on the banking system; and (ii) the regulation of nonbanks suffered from important weaknesses as regards the legal framework and capacity of the supervisory agencies.

2. An important FSAP recommendation was to enhance offsite supervision to develop a view on macro-prudential and systemic risk trends.[2] While the creation of a council of supervisors (Financial Coordination Committee, CCF) was welcome, the FSAP also indicated that the council needed an enabling legal framework to oversee the financial system effectively.[3] Since then, the authorities have made significant progress in addressing the FSAP recommendations, including through initiating a quarterly financial stability report, and upgrading the legal framework and enhancing the technical and analytical capacity of nonbank supervisors, but much remains to be done to oversee the financial system as a whole.

3. This paper discusses how macroprudential policy could supplement the existing microprudential policy framework in Panama. This is done through (i) analyzing the strengths and weaknesses of existing institutional arrangements for macroprudential policy in a number of countries with a view to identifying best practices that could be applied in Panama; and (ii) discussing the advantages and disadvantages of different macroprudential policy instruments, based on the experience of other countries, and their potential usefulness in Panama.

[1] Prepared by Etibar Jafarov.

[2] Systemic risk is defined here as the risk of disruptions in the provision of key financial services that can have serious consequences for the real economy. It is related to the interconnectedness of financial institutions and markets, common exposures to economic variables, and procyclical behaviors (IMF, FSB, BIS, 2011).

[3] The CCF was created in 2011 to improve coordination among financial sector supervisors and harmonize regulation. Its members include the Superintendents of Banks (SBP), Insurance and Reinsurance (SSRP), the Capital Markets (SMV), as well as of head of the Panamanian Autonomous Institute of Cooperatives (IPACOOP), the Director of Financial Companies of the Ministry of Industry and Trade (MICI), and the Director of the Public Sector Workers' Pension Funds (CICAP).

B. Background

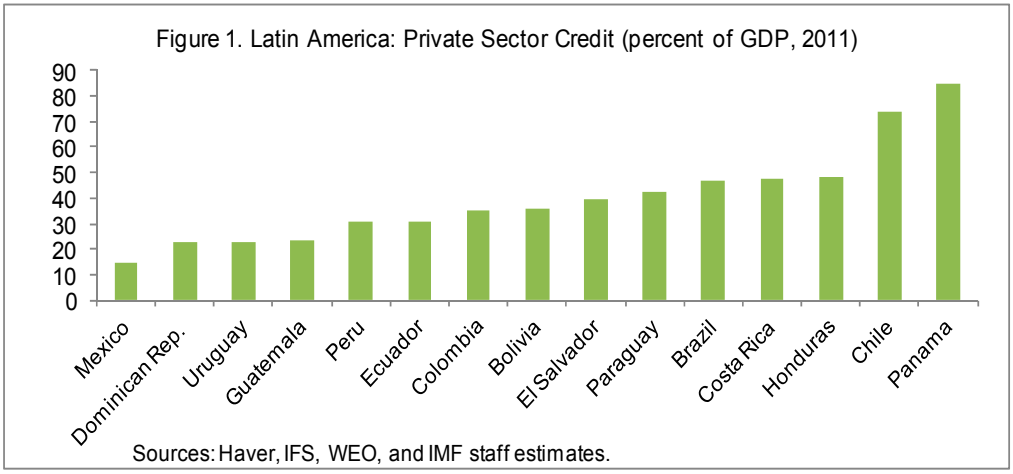
Financial Sector Structure, Performance, and Oversight

4. Panama is an important regional financial center. With total assets representing more than three times GDP, the financial system is the largest in Latin America, and is dominated by banks, which represent almost 80 percent of total system's assets. Securities' firms account for about 17 percent of total system's assets (Table 1). The Panamanian banking sector includes a sizable offshore sector (some 20 percent of total bank assets), which is largely isolated from the rest of the financial system.[4] While onshore banks pursue a traditional model of lending financed with deposit taking, foreign funding has been increasing: from 2005 to 2011, the share of foreign deposits in total retail deposits increased from about 20 percent to 30 percent. At more than 90 percent of GDP, bank credit to the private sector is high by Latin American standards (Figure 1).

Table 1. Structure of the Financial System (June 2012)

Entities	Number of entities	Assets in percent of total financial system assets	Assets in percent of GDP	Supervisory authority
Cooperatives	577	1.6	4.8	Panamanian Autonomous Institute of Cooperatives (IPACOOP)
Savings and credit associations	4	...	...	National Mortgage Bank (BHN)
Insurance companies	31	1.3	4.0	Superintendency of Insurance
Pension fund	2	0.7	2.2	Superintendency of Securities Markets
Development banks	2	0.5	1.5	Agricultural Development Bank, and National Mortgage Bank (BHN)
Financial companies	161	0.8	2.3	Ministry of Commerce and Industry
Leasing companies	118	0.3	0.9	Ministry of Commerce and Industry
Securities firms	74	16.9	50.9	Superintendency of Securities Markets
Remittance companies	15	...	...	Ministry of Commerce and Industry
Pawn shops	280	...	...	Ministry of Commerce and Industry
Banks	90	77.9	234.8	Superintendency of Banks
General license	48	63.6	191.7	Superintendency of Banks
International license	28	14.3	43.2	Superintendency of Banks
Representative license	14	...	...	Superintendency of Banks
Total	1,354	100.0	301.6	

Source: Panamanian authorities.



[4] Although offshore banks can conduct interbank transactions with onshore banks, volumes of these transactions are reportedly small.

5. Banks are well capitalized, profitable, and liquid (see Table 5 of the accompanying staff report). The stress tests conducted during the 2011 FSAP suggest that the system could withstand a wide range of shocks, including a repeat of the Lehman episode. However, the analysis was constrained by data gaps: for example, the SBP does not collect regularly data on loan write-offs, construction sector, property prices, and loan-to-value ratios. Given that the interbank market is not operating smoothly and that important safety net elements such as a lender of last resort and deposit insurance are missing, banks hold significant liquidity buffers. On the other hand, some banks have a high degree of concentration in their interbank liquidity holdings, and some small banks appear vulnerable to liquidity shocks. Bank failures have been rare, of limited size and complexity, and have been effectively managed, generally with no losses to depositors or creditors.

6. Data deficiencies make it difficult to assess the financial situation of some nonbank financial institutions, most of which (considered individually) are not systemically important. For example, cooperatives—some highly leveraged—do not produce financial statements according to IFRS. Savings and loans institutions produce financial statements according to IFRS, but are not subject prudential requirements to classify and provision assets.

7. Oversight responsibilities are fragmented, though the recently-established Financial Coordination Committee (CCF) has already contributed to enhance coordination among the supervisory agencies. Financial system supervision is split among eight different entities, half of which are autonomous and the other half are part of the government. The CCF was created in 2011 in order to improve coordination among all these entities and harmonize financial sector regulation, but the lack of a clear financial stability mandate and differences in capacity of member institutions may diminish its effectiveness (Table 1 and footnote 3).

Stability Challenges and the Role for Macroprudential Policy

8. The main financial stability challenges relate to the openness of the financial sector in a highly uncertain macroeconomic global environment, strong credit growth against the backdrop of very low interest rates, the highly dynamic real estate market, and increasing cross-sectional linkages. Chapter 1 of this Selected Issues Paper shows that the impact of external shocks on Panama's output is amplified through their effect on domestic credit. Indeed, during the 2008-09 crises, foreign banks cut their credit lines to Panamanian banks, which significantly affected credit and real GDP growth in Panama. There are no signs of bubbles in the real estate market, though anecdotal evidence suggests that there may be oversupply in certain segments such as hotels and the high-end real estate market. In recent years, although overall credit growth has remained in line with economic activity, mortgage loans seem to have grown faster than wages, and credit to some other subsectors (e.g. tourism) seems to have grown more than these sectors' revenue-generating capacity.

9. Financial stability challenges are mitigated by banks' conservative lending practices. Having always operated in an open system without a lender of last resort, banks favor conservative

business models, dominated by traditional deposit-taking (rather than relying on wholesale funding) and lending operations. Furthermore, banks maintain ample liquidity and capital buffers, apply prudent self-imposed loan-to-value ratios, and have so far largely avoided more sophisticated instruments such as loan securitization.

10. Nonetheless, a macro-prudential function could be useful in a fully dollarized economy like Panama, as a more efficient way to address systemic risks. Although self-discipline has served Panama well and the system has proved resilient to even large external shocks, individual institutions do not have an overview of the system as a whole. Self-imposed rules can easily be broken, particularly in times of increased competition, and individual decisions may not always be optimal for systemic stability. A stronger mandate for financial stability and the ability to implement macroprudential policies, be it as a start the formulation of guidelines for the financial system or specific subsectors, could be useful to prevent future problems, particularly in the absence of a monetary policy.

C. Existing Institutional Arrangements Around the World–Advantages and Disadvantages

11. The key institutional elements of a macroprudential policy framework include the mandate, powers, instruments, and coordination with microprudential and macroprudential policies. For example, a formal mandate can improve the clarity of decision making and avoid policy paralysis when views of stakeholders differ. A mandate normally comes with the power to collect information and adopt measures. Establishing accountability in conducting macroprudential policy is important given that there is no straightforward metric of success (Appendix I).[5]

12. Previous IMF studies identify three broad categories and seven stylized models of macroprudential policy. The three broad categories are differentiated mainly based on how objectives and functions of macroprudential, monetary, and microprudential policies are coordinated and how much information is available within the central bank: full integration means that all financial supervisory and regulatory functions are carried out by the central bank or by its subsidiaries; partial integration means that the securities supervisor or business conduct supervisor are separate entities, while prudential supervision of banks (and other institutions) is conducted by the central bank; and separation means that essentially all financial regulatory functions (other than payments oversight) are housed outside of the central bank (Nier and others, 2011 and Appendix II).

13. Institutional designs of macroprudential policy vary across countries and regions. The 2010 IMF survey suggests that, compared to other regions, the Western Hemisphere has the lowest share of financial stability and macroprudential policy mandates given to the central bank. This is because it is seen to conflict with the independence and mandate of the central bank as sanctioned

[5] The "costs" of macroprudential measures in the of form restrictions on certain activities are felt immediately while "benefits" of lowering incidence of financial distress accrue over a long term and are difficult to measure.

in the constitution in some countries (Appendix III). In most of the countries without a formal macroprudential policy mandate, there is a formal financial stability mandate, usually shared among agencies (e.g. Canada, Chile, and Colombia).

14. The models in the full and partial integration categories, where the central bank either alone or together with other agencies is in charge of macroprudential policy, are less relevant for Panama. The central bank becomes the owner of macroprudential policy when it is given the objective to safeguard financial stability (as in the Czech Republic and Singapore). Partial integration or twin peaks models involve close institutional integration between the functions of the central bank and the prudential supervisor, while the regulation of activities or "conduct" in retail and wholesale financial markets is conducted by another agency (e.g. the setups in Brazil, the Netherlands, the U.K., and the U.S.). The main advantages of the full or partial integration models relate to better flow of information and improved coordination across objectives and functions within one organization, which can increase effectiveness of decision-making. The main disadvantage relate to the lack of institutional mechanisms to challenge the "house views" formed within one institution.

15. The models falling under the separation category (models 5-7 in Appendix Table 1) are more relevant for Panama. The strengths of such a multiagency setup include (i) reduced risks for any one institution becoming unchallenged in its identification of risks or assessment of the appropriate policy response and (ii) keeping each agency focused on their main objective, which in itself may contribute to maintaining financial stability. Under this arrangement, policy making benefits from different perspectives on the sources of systemic risk, the potential for regulatory arbitrage, and appropriateness of measures (which may be housed in different agencies). The existing models in Canada, Chile, Mexico, Peru, as well as Australia, Hong Kong SAR, and Korea are examples of such stylized models.

16. This setup also faces a number of challenges in ensuring effectiveness of macroprudential policy. In particular, a collective responsibility for systemic risk mitigation can dilute accountability and incentives and may create a situation where no one institution has all the information needed to analyze all interlinked aspects of systemic risk (due to barriers to free flow of information, caused by rivalry or legal obstacles). This may increase the chances of risks remaining unaddressed and delays in taking remedial measures.

17. A key mechanism to address some of these weaknesses is the establishment of a coordinating committee. It can facilitate the exchange of information between agencies and foster the engagement on the part of each agency with the shared goal of financial stability. Formal arrangements, which are more visible to the public, can enhance these benefits. Specifically, more formal arrangements may allow the committee to issue public warnings and recommendations to constituent agencies (as in Mexico). This can foster effective use of macroprudential policy instruments even where such recommendations are not binding on the agency. However, a committee may not be able to fully address deep-rooted accountability and incentive problems that remain a concern for the effectiveness of this group of models.

18. An important risk is also that decisions may be subject to delay. This risk is greater where the committee's membership is large or where the treasury occupies a strong role. Careful design of voting arrangements can reduce the risk that no action is taken as a result of persistent disagreement between constituent agencies or political economy pressures. Such voting should be subject to a simple majority or a qualified majority rule rather than requiring unanimity among all constituent agencies (Nier and others, 2011).

D. Advantages and Disadvantages of Individual Policy Instruments

19. This section describes briefly the most frequently used macroprudential measures and discusses their relevance for Panama. The measures considered here include loan-to-value ratios (LTV), debt (service)-to-income ratios (DTI), and dynamic provisioning (DP). Advantages and disadvantages of other measures are described in Appendix IV.[6] These are for illustration purposes only, and actual assignment and specification of instruments has to take into account local considerations, such as legal and constitutional constraints, effectiveness of instruments to meet objectives, and the level of development, structure, and complexity of the financial system.[7]

LTV

20. LTV limits enhance banks' resilience to credit risks by increasing the collateral backing of loans and thus restricting losses in the event of default. Generally, the ratio is set based on the historical volatility of the collateral value. It directly limits risky lending, slowing down the supply of credit to specific sectors (e.g. real estate, car lending, etc).[8]

21. Limits on LTV ratios have been increasingly applied to reduce systemic risk arising from boom-bust episodes, notably in real estate markets. By limiting the loan amount to well below the current value of the property, LTV limits can help rein in house price increases by putting the brakes on household leverage, reducing the financial accelerator effect. For example, Wong and others (2011) find that, for a given fall in prices, the incidence of mortgage default and bank losses bank losses are higher for countries without an LTV measure. Furthermore, this measure is less prone to international leakage as it is also applied to branches of foreign banks.

[6] Most macroprudential measures can be (and are) applied also for microprudential purposes. Both policies exist to correct market failures and externalities related to them. Generally, microprudential policy looks at individual institutions, while macroprudential at a financial system as a whole. In practice, overlaps are possible in the areas of perimeter, toolkit, and its transmission mechanism. Osiński and others, 2012 offer several approaches to deal with the problem of borderlines and potential tensions and conflicts.

[7] These instruments are used to address the time dimension of systemic risks. See Appendix IV for instruments that are used for addressing the cross-sectional dimension of systemic risks.

[8] Crowe and others (2011) find that tighter LTVs lead to lower house price increases, at least in the short run. Igan and Kang (2011) find similar results.

22. The ratio can be (and often is) applied countercyclically. Tightening the ratio during a boom restricts the accumulation of risks, thereby moderating the credit boom and house price increases. The caps would generally apply to new loans rather than the stock of existing loans to avoid the situation where borrowers would have to provide more collateral after a large fall in the price of collateral. Some countries have kept LTV rates constant to provide a minimum buffer against an unsustainable increase in house prices (Colombia, Lebanon, Malaysia, and Sweden). In other countries, LTV limits are adjusted in line with the cyclical position, with a tightening occurring during housing booms and a relaxation during downturns (China, Hong Kong SAR, and Korea). In some cases, the adjustments are made in a reactive, and not necessarily countercyclical, manner (Lim and others, 2011).

23. Like other measures, LTV limits have also a number of disadvantages. First, implementing this measure has costs associated with potential credit rationing. For example, new entrants to the housing and real estate market could be rationed out. In some countries (e.g. Hong Kong SAR), this problem is addressed with insurance programs for first-time home buyers. Accordingly, it is difficult to calibrate the trade-off between financial stability benefits, economic activity and societal preferences for home ownership.[9] Second, the measure is susceptible to circumvention and could encourage obtaining second mortgages on the same property or unsecured loans such as credit card borrowing. Importantly, it has less impact on leverage of borrowers and banks.

24. Globally, this is the most frequently used tool. According to the 2010 IMF survey, 34 out of the 52 responding countries had this measure in place.[10] LTV limits are particularly popular in Asian countries: 9 out of 12 surveyed countries had LTV limits. In the Western Hemisphere, LTV limits were applied in Brazil,[11] Chile, Colombia, Mexico, and Paraguay as well Canada [12] and the U.S.

25. In Panama, there are no formal LTV requirements. Individual banks apply LTV ratios for their creditworthiness assessments based on the value of the underlying (financed) property. For example, for properties worth US$45,000, 95 percent is considered the maximum; for properties

[9] Many countries differentiate LTV limits on mortgage loans based on the purpose or value of the property (e.g. for commercial investors in Canada, Turkey, and Singapore or luxury or speculative investments in Hong Kong, Malaysia, and Singapore). Some Asian countries have adopted more granular features: Hong Kong relates the maximum LTV to the value of residential properties, while rates in Korea are based on whether or not a property is located in a speculative zone.

[10] In addition, several countries such as Australia, Canada, Korea, Latvia, Thailand, and United Kingdom had granular capital requirements based on LTVs.

[11] In Brazil, caps on LTV were abolished in December 2011.

[12] In Chile, the maximum LTV ratio for covered bond-type mortgages raised from 75% to 100% for debtors with higher credit ratings in 2009. In Colombia, an LTV cap at 70 percent was introduced in 1999. In Canada, the authorities selectively tightened the LTV ceilings on cash-out refinancing transactions and investment property loans (in February 2010) and reduced the maximum amortization period for new government-backed insured mortgages with LTV ratios of more than 80% to 30 years from 35 years (in April 2011).

worth more than US$45,000 but less than US$120,000, 90 percent; and for more expensive property, 80 percent LTV ratio is considered a norm. Usually, these loans are provided against life insurance, which does not cover unemployment. However, increased competition may force banks to apply less stringent requirements. The authorities could usefully consider formal requirements, including lower ratios in zones where housing prices increase much faster than the national average. To be able to apply such a differentiated ratio, the authorities would need to collect and analyze information on housing prices as well as (actual) LTVs applied by banks.

DTI

26. When used alone, limits on DTI aim at safeguarding banks' asset quality. They limit risky lending and reduce the probability of default. When used in conjunction with the LTV, the DTI can help further dampen the cyclicality of collateralized lending by adding another constraint on households' capacity to borrow. As with LTV limits, adjustments in the DTI ceilings can be made in a counter-cyclical manner to address the time dimension of systemic risk (Lim and others, 2011).

27. Like in the case of the LTV, DTI may involve costs associated with potential credit rationing. Moreover, data requirements can be challenging and calibration is difficult. It is susceptible to circumvention.

28. In Panama, there are no formal DTI requirements, and banks apply fairly high DTI ratios, sometimes above fifty percent (when the debt burdens for mortgages and other consumer loans are combined), for their creditworthiness assessments. Although this is less of a problem in a booming economy, characterized by historically low interest rates and unemployment, the situation may change in downswings with higher unemployment rates, especially if it is accompanied with much higher interest rates.

DP

29. Dynamic provisioning (DP) is designed to distribute loan losses evenly over the credit cycle. It is based on the notion that provisions should account for expected loss over the long term (cycle) rather than incurred loss. Generally, the level of provisioning on this basis would be less subject to sharp swings stemming from the strength of economic activity because of the primacy of expected, rather than actual, losses in a dynamic provisioning approach. By requiring banks to build reserve buffers during an upswing, DP counterbalances the tendency of specific loan reserves to be low when credit quality is high. As a result, the marginal cost of loan-loss provisioning is smoothed significantly over the credit cycle. Overall, DP is more effective when applied to narrowly-defined categories at the beginning of the cycle. DP would be less effective if a bank incurs large losses in an upswing, reducing the available cushion in the form of accumulated reserves.

30. While DP has a number of beneficial properties, there are also limitations to what it can achieve. For example, it can help absorb reasonably large shocks to loan quality, reducing a bank's probability of default, but it is not designed to cover large unexpected loan losses (for which, there is bank capital) or tail risks. While it contributes to smoothening credit cycle, it is not designed

to rein in rapid credit growth. The overall impact on credit growth is muted as lending can be shifted to foreign (parent) banks and less-regulated intermediaries. For example, in Spain, the buffer of dynamic provisions was large enough to offset about half of the loan losses occurred during 2008-09 but not all delinquencies, since eventual loan losses exceeded expected losses. By contrast, the reserves coverage in Uruguay ballooned as the expected loan delinquencies on which the model was calibrated did not materialize (Lim and others, 2011).

31. Data requirements and calibration can become challenges. Some calibration does not take into account the credit risk profile of banks. Those involving probability of default estimations require granular data, which are missing in many countries. Moreover, data should cover a full credit cycle; data covering only the boom period would lead to underestimation of risks. There are strong overlaps with countercyclical capital buffers and variable risk weights tools.

32. DP is widely applied in Latin America. Following the introduction of the Spanish system in 2000, Uruguay (2001), Bolivia (2008), Peru (2008), Colombia (2009), Chile (2011), and Mexico (2011) implemented countercyclical provisioning tools.

33. The design of the DP systems varies significantly across countries.

- In Spain and Uruguay, the system requires banks to (continuously) build up provisions against the average flow of provisions through the credit cycle.
- In Colombia and Peru, the system does not require continuous provisioning, but rather includes an activation mechanism that triggers the accumulation of dynamic provisions during an economic upswing and the drawdown of these provisions during a downturn. Under the Peruvian system, which is based on GDP growth performance, the activation or deactivation of the mechanism is common to the whole system. In Colombia, given the system's discretionary nature, there is no explicit variable used so far, although the authorities have announced that credit will be taken into account.
- In Chile and Mexico, provisioning rates are set according to debtors' classification or risk profile in terms of expected loss (Chilean banks are allowed to build additional countercyclical provisions to cover "unexpected losses;" Wezel and others, 2012).

34. In Panama, the authorities have initiated a project to adopt a DP system. The project is supported by IMF technical assistance.

E. Implications and Conclusions

35. In the absence of monetary policy, macroprudential policy tools could usefully complement microprudential and other tools in Panama. To potentially benefit from macroprudential policy tools, the authorities should define an agency responsible for the stability of the financial system as a whole, and start monitoring and analyzing systemic risks. This would involve providing adequate mandate and powers to the agency, collecting necessary data and building capacity to monitor systemic risk. On the former, the CCF could become such an agency.

- **The CCF should be given a clear a financial stability mandate.** While institutional arrangements are largely shaped by country-specific circumstances and there is no "one size fits all," fragmented institutional structures can create frictions in risk identification and mitigation. The CCF has already contributed to improving coordination among the supervisory agencies, but does not have a mandate for financial stability. A clear mandate would strengthen accountability and incentives to act, and reduce (potential) risks of delayed action due to political pressures or lobbying in the presence of multiple agencies.

- **A macroprudential supervisory body must possess the ability or power to collect and analyze firm-, market-, and global-level data to detect risks before they develop into full-blown crises.** For effective risk identification, it is important that all relevant data are available to all agencies, or at least to the agency that is in the lead in risk identification. In this context, the SBP's chairing the CCF is welcome, but this function could be further expanded though building up the SBP's capacity to monitor and analyze systemic risks, which may involve additional costs (human resources, software, etc.). Priority should be given to collecting and analyzing data on real estate prices, loan write-offs, LTVs, leverage indicators for households and corporates and building the capacity to analyze macro-financial linkages. The SBP's recent initiative to produce financial stability reports could also be extended to cover nonbank sectors, with inputs from other supervisors.

- **The CCF should be given the power to adopt or recommend macroprudential measures as needed.** Importantly, the CCF should be able to influence and be responsive to microprudential policies.

- **Any specific macroprudential measures that the authorities might adopt would depend on the types and expected impact of systemic risks they face.** While banks apply (self-imposed) LTV and DTI ratios, increased competition may force them to loosen lending standards. Thus, the authorities could consider adopting formal LTV and DTI requirements or at least recommend a range, taking into account leverage of the household sector. In adopting any measures, the authorities should weigh the benefits of the measures against their costs. The authorities should also continue their efforts to implement DP.

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Appendix I. Some Relevant Elements of the Institutional Design of Macroprudential Policy[1]

Information and resources. To gauge accumulating systemic risks, it is essential that policy makers have access to information and data on the components of the financial system, including data on individual financial institutions, their exposures to other institutions, and developments in payments and settlements systems. When several bodies are involved, the arrangements for sharing information become complex, as some information are confidential and market sensitive. It is also important that adequate resources are available to process received information and develop measures or provide recommendations.

Mandate and powers. Advantages of developing a formal macroprudential mandate include establishing clear objectives, responsibilities, and powers for the agency (agencies) involved in macroprudential policy. The 2010 IMF macroprudential survey found that less than half of the respondents had a formal macroprudential mandate in place, beyond financial stability. A larger proportion of emerging markets economies (50 percent) than advanced economies (35 percent) has such a mandate, which may be related to the fact that emerging markets had more frequent financial crisis in the past compared to advanced economies. Of those without a formal mandate, about half have plans or are contemplating to adopt a mandate.

Powers to communicate risk warnings and to recommend regulatory instruments and actions are essential parts of policy making. Examples include the ability to issue non-binding recommendations to other authorities. The recommendations are often subject to a "comply or explain" mechanism (e.g., in EU, UK and US), sometimes strengthened by an ability to publish recommendations.

Accountability. An institutional design challenge is to establish accountability when the "costs" of macroprudential measures in the form restrictions on certain activities are felt immediately while "benefits" of lowering incidence of financial distress accrue over a long term and are hard to measure. This challenge is often compounded by the presence of multiple agencies in macroprudential policymaking that may differ in their primary objectives. This challenge highlights the importance of insulating the authorities in charge of macroprudential policy from pressures linked to the political cycle.

Transparency and clear communication of policy decisions to the public are central elements of accountability. This can include ex ante statements of strategy, publication of records of meetings, Financial Stability Reports and annual performance statements with an ex post assessment of policy effectiveness.

[1] Based on FSB, IMF, BIS (2011).

Appendix II. Some Key Distinguishing Dimensions of Real Life Macroprudential Policy Models (based on Nier and others, 2011)

Degree of institutional integration of central bank and financial regulatory functions. Institutional integration affects coordination across objectives and functions of macroprudential, monetary, and microprudential policies and how much information is available within the central bank. The degree of integration can be full, partial, or separation.

Ownership of macroprudential policy. Ownership of the macroprudential mandate can rest with the central bank or a committee related to the central bank or an independent committee or be shared by multiple agencies. If the mandate is given to multiple agencies, each agency is expected to take responsibility for mitigation of systemic risk arising in its domain.

Role of the treasury. The formal role of the treasury can be (i) active, if it plays a leading role in policymaking or coordinating committees; (ii) passive, if the treasury participates in such committees, but has no special role; or (iii) simply nonexistent.

Existence of a separate body coordinating across policies to address systemic risk. A separate coordinating committee is a common feature when the policy mandate is shared by multiple agencies.

Appendix Table 1. Stylized Models for Macroprudential Policy [1]

Features of the model/Model	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
1. Degree of institutional integration of central bank and supervisory agencies	Full (at a central bank)	Partial	Partial	Partial	No	No (Partial*)	No
2. Ownership of macroprudential policy mandate	Central bank	Committee "related" to central bank	Independent committee	Central bank	Multiple agencies	Multiple agencies	Multiple agencies
3. Role of MOF/ treasury/government	No (Active*)	Passive	Active	No	Passive	Active	No (Active*)
4. Separation of policy decisions and control over instruments	No	In some areas	Yes	In some areas	No	No	No
5. Existence of separate body coordinating across policies	No	No	No (Yes*)	No	Yes	Yes (de facto**)	No
Examples of specific model countries/ regions	Czech Republic Ireland (new) Singapore*	Malaysia Romania Thailand UK (new)	Brazil* France (new) United States (new)	Belgium (new) Netherlands Serbia	Australia	Canada Chile HK SAR* Korea** Lebanon Mexico	Iceland Peru Switzerland

Source: Nier and Others, 2011.

[1] Stars are explained in the table.

Appendix III. A Comparison of Regional Arrangements

National institutional designs of macroeconomic policy frameworks are largely influenced by legal traditions, pre-existing coordination arrangements, and objectives. In some countries in Latin America, for example, the central bank does not participate in the committee in charge of macroprudential policy because this is seen to conflict with the independence and mandate of the central bank as sanctioned in the constitution. The authorities in many countries try to capitalize on existing institutions and governance structures if they are working well.

In a number of advanced economies, in particular in Europe, macroprudential functions have been integrated into the central bank. Generally, these countries have adopted some form of "twin peaks" model, leaving conduct-of-business and securities market supervision as a responsibility of a separate agency (Belgium, France, the United Kingdom, and the United States).

A number of countries created dedicated policy-making committees. But the roles of the central bank and treasury in these committees differ across countries. For example, the Financial Policy Committee (FPC) in U.K. is chaired by the Governor of the Bank of England, while the Financial Stability Oversight Council (FSOC) in the U.S. is chaired by the U.S. Treasury.

In Latin America, the institutional arrangements for financial stability have broadly shaped the institutional arrangement for macroprudential policy framework. Here, countries can be classified in two distinct groups: the "Atlantic" model (includes Argentina, Brazil, and Uruguay), and the "Pacific" model (includes Chile, Colombia, and Peru, as well as Costa Rica and Mexico).[1]

In the Atlantic model, the central bank is implicitly in charge of macroprudential policies, although the precise institutional setup varies across countries. In Brazil, the National Monetary Council (CMN) is vested with broad powers, including potential decisions of macroprudential policy nature (based on recommendations from the central bank). In Uruguay, all financial regulation and supervision is fully integrated at the central bank. In Brazil, the government has the majority of members and chairs the CMN. In Argentina, the government has no representation on the central bank board, but, in practice, exercised influence over the central board, which led a high turnover of central bank governors. In all three countries, the government plays an active role in macroprudential policy.

In the Pacific model, both the central bank and the financial supervision agency take regulatory decisions that fall in the domain of macroprudential policy, creating challenges in ensuring appropriate accountability. In all the countries in this model, the governor of the central bank cannot be held accountable for financial stability because this responsibility is beyond the scope of their mandate. The role of the government varies across countries: in Chile and Mexico, the

[1] Jácome and others, 2012.

government plays a key role in macroprudential policy since the MoF chairs the committees. In Colombia, the government also plays an important role as the MoF is in charge of financial sector regulation, and the Financial Superintendence legally reports to the MoF. In Peru, the government plays no role on financial stability.

The new macroprudential committees in Latin America (Chile, 2011; Mexico, 2010; and Uruguay, 2011) are vested with powers to obtain information from all financial institutions and to play a coordinating role to secure the consistency of financial stability efforts. They have a mandate to prevent the buildup of systemic risks and, if necessary, recommend the implementation of macroprudential policies to the relevant agencies. In all three countries, the committee is presided by the MoF/Treasury,[2] perhaps because crisis management is among its goals, and reflecting the fact these countries have had financial/banking crises that involved resolving insolvent institutions with public money. In particular, the financial stability committees in Mexico and Uruguay have explicit powers to manage financial crises. In Chile, the crisis management powers reside with the individual agencies and the Council operates as a coordinating device.

In European emerging market economies, the institutional setup varies across countries. In Hungary, the macroprudential policy committee comprises the central bank, treasury department, financial supervisory authority, and the chairmanship rotates. In the Czech Republic, on the contrary, the macroprudential policy framework is centered on the central bank (CNB), whose mandate includes both price and financial stability. There is no yet formal macroprudential policy mandate in Croatia and Poland, but the central bank in these countries has frequently used their financial stability mandate to take measures of macroprudential and capital flow management nature.

In Asia, institutional designs of macroprudential policy widely vary across countries. While Australia has a separation model (and does not have a formal macroprudential policy mandate),[3] Singapore has a full integration model. Malaysia established (in 2009) a financial stability committee within the central bank structure, chaired by the central bank Governor; Thailand established a similar model in 2008. Hong Kong SAR and Korea have separation models, where policies are coordinated formally and informally.

Compared to other regions, Asia has the lowest share of macroprudential mandates being fixed in legislation and the highest ratio of the mandate being shared among multiple agencies. In all countries but Mongolia, the mandate, if there is one, is shared among several agencies. In all countries with a mandate, the central bank is given the mandate (means that the analytical capacity of the central bank is fully utilized.

[2] The other members are the heads of the financial supervisory agencies and the central bank except in Chile, where the governor is invited to participate but is not formally a member of the Council.

[3] In Australia, microprudential regulators take macroprudential considerations into account. The Council of Financial Regulators, chaired by the central bank, co-ordinates work of the country's main financial regulatory agencies. The Council is non-statutory and has no regulatory functions separate from those of its members.

Appendix IV. Selected Systemic Risk Manifestations and MaPP Tools in Other Countries

(Based on review of the literature, and Osiński and Jafarov, forthcoming)

MaPP tools	Country of use	Pros	Cons
Leverage ratio	Canada, USA	Guards against underestimation of asset risk. Less susceptible to arbitrage and mis-measuring.	A blunt instrument that can constrain economic activity. No penalty for risk may create perverse incentives to "risk-up."
Time varying counter-cyclical capital surcharges		Increases costs of borrowing while building loss-absorbing capacity to cope for the bust. May help moderate credit cycles. Under Basel III, the "leakage problem" is mitigated by introducing mutual recognition of national countercyclical buffers. In particular, it is envisaged that the national buffer measure will apply to the local exposure of foreign banks. This reciprocity is mandatory only for buffers of up to 2.5 percent. The leakage problem could be more significant in small countries with large and open financial systems.	Limited success in curtailing the incidence and duration of credit booms. It is a crude tool if exuberance is localized in particular sectors, and may even encourage "risking up." May divert attention from the liabilities side of banks' balance sheets and is subject to "international leakage." In case of Panama, the relatively large share of foreign bank branches in the domestic financial system assets (20 percent in 2010) requires a close attention to the leakage problem. The effectiveness of this measure is very sensitive to appropriate risk weighting of assets.
Ceiling on general credit or credit growth.	Bulgaria, China, Colombia, Croatia, Greece, Nigeria, Portugal, Serbia, Slovakia, Romania	Direct impact on credit. Limits rapid expansion and leverage. Have had some success in slowing down the pace of bank credit.	Susceptible to circumvention. Can be offset by increases in credit from nonbanks, leading to build up of systemic risk in often less-regulated intermediaries, and foreign borrowing by some borrowers.

Risk weights/ sector dependent risk weights	Austria, Argentina, Brazil, Bulgaria, Croatia, Czech republic, Estonia, France, India, Lebanon, Malaysia, Mongolia, New Zealand, Norway, Poland, Spain, Turkey	Targeted approach. May provide sharper incentives than countercyclical capital buffer. Adjusting risk weights on flow of lending relative to its stock could restrain lending in booms or encourage lending in downturns	May displace risk to other parts of the system — a "water bed" effect. Implementation challenges to ensure consistent application across balance sheet. Data needs greater than with aggregate tools.
Sectoral credit growth or level limits	China, Colombia, Malaysia, Philippines, Portugal, Singapore	Targets specific sectors, with limited impact on other sectors.	Muted impact on overall lending growth.
Time-varying liquidity buffers	Argentina, China, Croatia, India, Indonesia, Lebanon, Nigeria, Norway, Portugal, Serbia, South Africa, Switzerland,	Direct effect on banks' liquid asset holdings and maturity mismatch, increasing resilience. Harder to arbitrage than capital-based measures. May also help to moderate the credit cycle (Croatia)	Limited international experience with liquidity requirements Microprudential standards still under development.
Core funding ratios	Belgium, Greece, India, Indonesia, Switzerland, Italy, Lebanon, Mongolia, Netherlands, Poland, Portugal, Spain, Sweden, Uruguay	Affects the quality and amount of liabilities. Limits the ability of financial institutions to rely on risky sources to fund growth in upswings and thus minimizes the impact of liquidity crises in bust periods.	
Limits on interbank exposures	Belgium, Chile, Colombia, India, Mexico, Nigeria, Paraguay, Peru, Portugal, Sweden, Switzerland, Uruguay.		

PANAMA: TAKING STOCK OF A DECADE OF TAX REFORMS[1]

A. Introduction

1. Over the past decade Panama has carried out three tax reforms (2002, 2005 and 2009). While an overarching objective of all reforms was the creation of a buoyant, elastic, and equitable system as a whole, political economy constraints did not allow the introduction of many changes at once. Thus, every administration–Moscoso (1999-2004), Torrijos (2004-09), Martinelli (2009-14)– assigned priorities to certain areas (Annex I).[2] Overall, the reforms made the system more progressive as they allowed for a combination of tax reductions (e.g. on the income tax side) and increases (e.g. VAT), and broadened the tax base.

2. This study analyzes Panama's tax structure, performance, and administration in order to identify priority areas for further strengthening. In particular, the paper (i) takes stock of the tax reforms introduced during the past decade; (ii) examines the tax structure and performance–in comparison with neighboring or income peer group where possible; and (iii) identifies tax administration challenges and areas for further strengthening. Although the reforms did succeed in raising Panama's tax-to-GDP ratio, they nonetheless fell short of objectives, and Panama still lags its income peer group with respect to tax pressure and effort. While buoyancy increased with the pick-up of GDP growth, tax-to GDP ratios were still below the countries at the same level of economic development. While some of Panama's tax rates remain below peers, efforts to increase tax revenue going forward should rather focus on continuing to reduce exemptions and strengthening tax and customs administration.

B. Reforms, Tax Structure and Performance

Reform Objectives

3. Increasing the yield and buoyancy of the tax system through equity-enhancing tax policies was a major objective of the successive reforms in Panama. The reforms also sought to raise the system's elasticity to sustain a permanent revenue performance; and improve its efficiency. Reducing the personal income tax rate was intended to make the system more progressive on the income side. To reduce tax evasion, all businesses, including banks, above a certain size were brought into the tax net through an alternative minimum income tax (Annex 1). Selected activity in the Colón Free Zone started to be taxed. Direct taxes on business were raised overall, while the

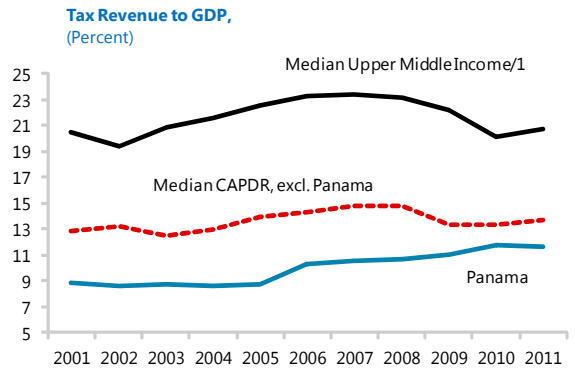
[1] Prepared by Svetlana Vtyurina.

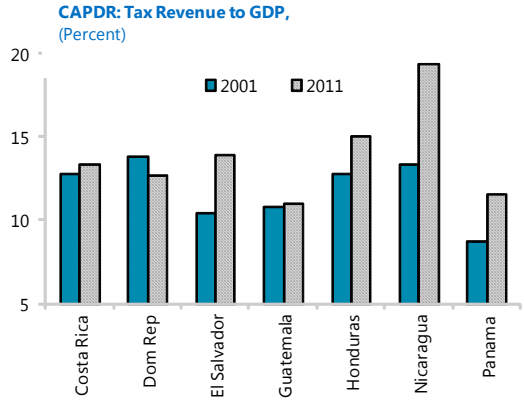
[2] Revenue enhancing measures were particularly necessary to reduce the high deficits of mid-2000, and to finance an ambitions public investment program starting 2010.

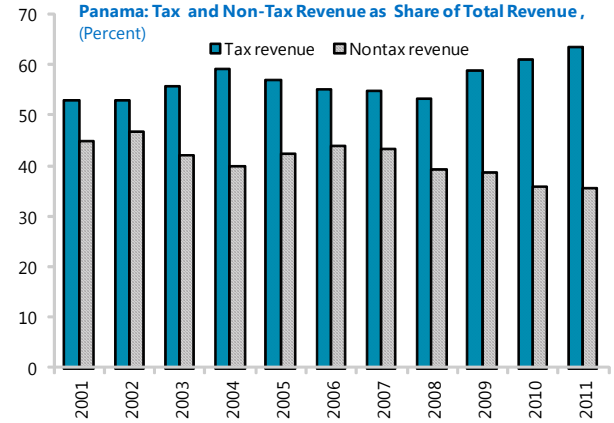
personal income tax rate was decreased. Indirect taxes have seen the most change with the widening of the VAT base and increase in the rate. Some effort was made to reduce exemptions but a few were actually introduced in addition to the existing ones.

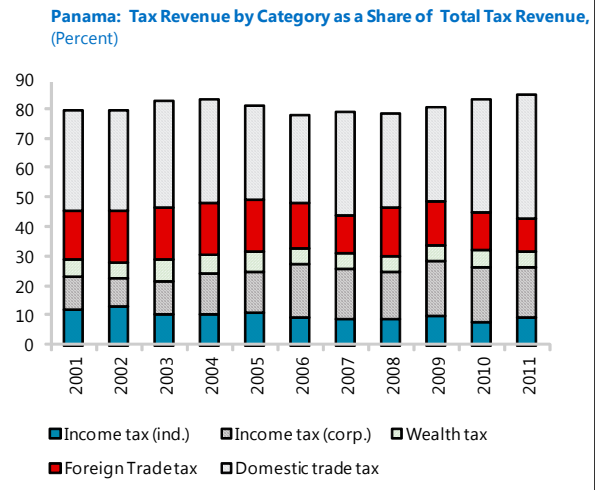
4. The revenue gains from Panama's tax reforms compare favorably with the region, but Panama still has one of the lowest tax-to-GDP ratio. Several countries in the region undertook tax reforms over the past decade (Annex II, Table 1, and Figure 1). Noticeable improvements in tax ratios could be observed mostly in Nicaragua (although it is a lower-income country). While Panama's tax revenue intake improved by about 3 percentage points over the past decade, to about 12 percent of GDP, Panama's tax-to-GDP ratio is one of the lowest in the region, and well below the median for upper-middle income countries. This is partly explained by a high share of non-tax revenues in Panama (representing about 36 percent of total revenue), mainly from the Panama canal, as well as revenues and dividends from other public agencies and semi-public enterprises (Figure 1 and Annex II, Tables 2 and 3), which bring the total revenue-to-GDP closer to their peers.

Figure 1. Panama and Peer Groups: Tax Revenue









Sources: National Authorities, staff calulations.
1/ Albania, Argentina, Belarus, Botswana, Brazil, Bulgaria, Colombia, Jamaica, Lithuania, Malaysia, Namibia, Peru, Romania, Russia, South Africa, Turkey, Uruguay.

Reform Results

Revenue Composition

5. Tax revenue as a share of total revenue rose by 10 percentage points to 63 percent between 2001-11 (Figure 1 and Annex II, Table 3). The share of income tax increased by 3 percentage points, while the personal income tax share fell by the same amount.[3] The corporate income tax intake compensated for the loss as revenue increased from 11 to 17 percent due to the elimination of many deductions, in spite of the decrease in the rate. In fact, income tax rates in Panama are now below average compared to the OECD, as well as Latin and Central America (Table 1).

Table 1. Top Corporate and Personal Income Tax Rates for OECD Countries, Latin America and Central America

	CIT	PIT
Panama 1/	25.0	25.0
Latin America Average 2/	27.5	27.7
Central America Average 2/	28.5	27.7
OECD average	24.5	36.7

Sources: KPMG Corporate and Indirect Tax Survey (2010), OECD.

1/ After the March 2010 tax reform at end of 4 year adjustment period. 2/ Excludes Panama.

6. The share of sales tax revenue also increased due to the scaling back of exemptions and the broadening of the tax base (Figure 1). It rose from 33 to 42 percent over the past ten years, however it is still slightly lower that the median for CAPDR of 55 percent (Annex II, Table 3). There was a noticeable decline in the share of domestic taxes on petroleum products, of 4 percentage points, which was most likely due to government subsidies introduced to alleviate the impact of high international oil prices.[4] Finally, the share of trade taxes decreased slightly, although Panama remains more dependent on foreign trade taxes than its neighbors (with the exception of Nicaragua).

7. The increase in the share of sales tax revenue is encouraging, as broad-based sales taxes are seen as relatively easy to administer and as an efficient way to generate revenue. The VAT's share in tax revenues doubled over the past decade (Figure 2 and Annex II, Table 3).[5] Sales taxes are now higher than the income tax share and are becoming the main source of revenue, which is consistent with worldwide and regional trends, except for Costa Rica and Nicaragua (Figure 2). However, while the standard VAT rate varies across the Central American countries and the Western Hemisphere, ranging about 12-15 percent as of end 2010, Panama still has the lowest rate at 7 percent (Figure 2). VAT in Panama is also levied at two rates, with a higher rate (10 percent) applied to tobacco and alcoholic beverages. Although multiple rates are not uncommon, it is generally advisable to have just a single rate as administrative complexity tend to grow more than

[3] All the reforms reflected the view that personal income was excessively taxed, in particular low incomes.

[4] Taxes adjust downwards when the market price of gasoline increases above the established threshold. The budget recuperates the subsidy when the price goes below the threshold.

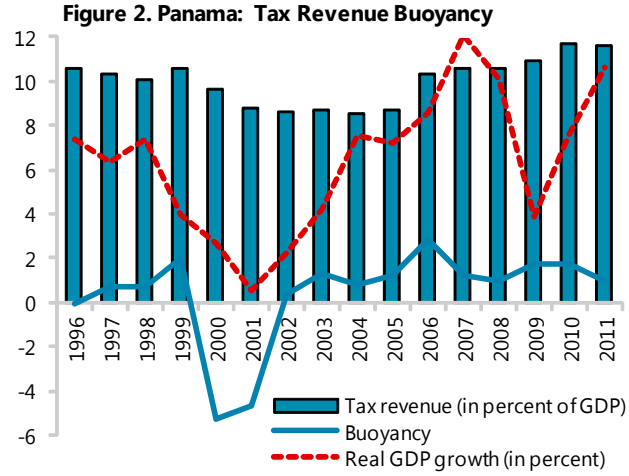
[5] The ITBMS (Impuesto a la Transferencia de Bienes Muebles y Prestaciones de Servicios) is a value-added tax.

proportionately to the number of rates, and may impair collections as well as lead to excessive distortion in economic decisions (IMF, 2011).

Tax Buoyancy

8. Tax buoyancy in Panama has improved substantially since the 1990s but has not fully reflected the high GDP growth pattern observed since the mid-2000s. Buoyancy, defined as the ratio of the annual growth of tax revenue to the annual growth rate of nominal GDP, which was below unity from mid-1990s till about 2005, stayed above unity thereafter (Figure 2).[6] However, while buoyancy declined in line with economic activity in the beginning of 2000, it did not quite follow the very high growth pattern observed since 2004, even considering a lag, and stayed rather flat despite the tax reforms implemented over this period.[7]

Figure 2. Panama: Tax Revenue Buoyancy



Sources: National Authorities, and staff calculations.

VAT Productivity

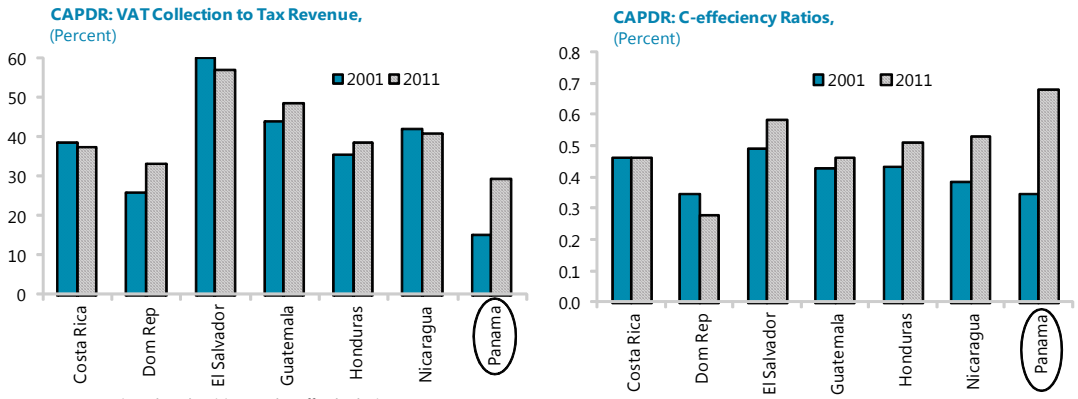
9. Panama saw significant improvements in VAT productivity, following efforts to improve tax collections and broaden the tax base (Figure 3). A commonly used measure, a "c-efficiency" ratio, measures VAT revenue as a share of total domestic consumption divided by a standard VAT rate (Annex II, Tables 4 and 5). This ratio shows a standardized measure of revenue productivity across countries.[8] A declining VAT productivity, if sustained, should be a source of concern. VAT productivity remained fairly stable in CAPDR over the past decade. While Panama's VAT productivity compares relatively favorably with a group of upper middle income countries, its VAT revenue-to-GDP ratio is well below the median.

[6] A value greater (smaller) than unity implies a rising (declining) tax-to-GDP ratio.

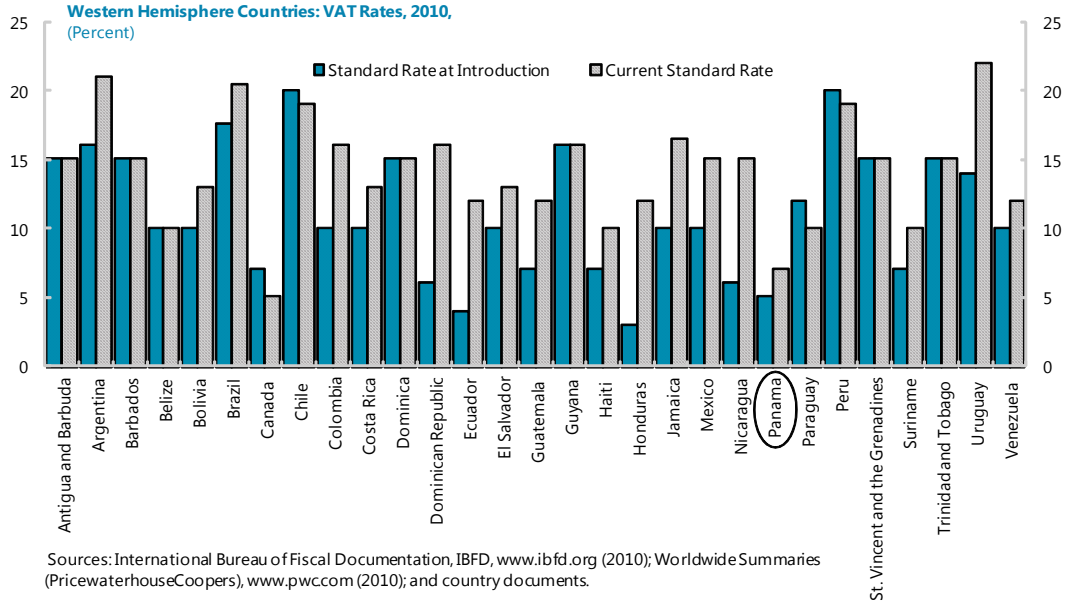
[7] The lack of buoyancy or its stability in spite of rising GDP may be in part due the low elasticity (buoyancy with unchanged tax laws and regulations) of the tax system, owing to remaining loopholes in tax legislation and regulations, special tax regimes, tax evasion, and weaknesses in tax administration, which shield fast growing sectors from taxes.

[8] There are, however, several shortcomings to this measure: (1) there is a bias towards countries with multiple rates as a standard rate is used in the calculation, (2) any mis-measurement of final consumption (likely reflecting a mis-measurement of GDP, and indeed the GDP series, is being revised upwards) would also translate into a mis-measurement of the VAT productivity (in fact in many CAPDR countries GDP is believed to be underestimated).

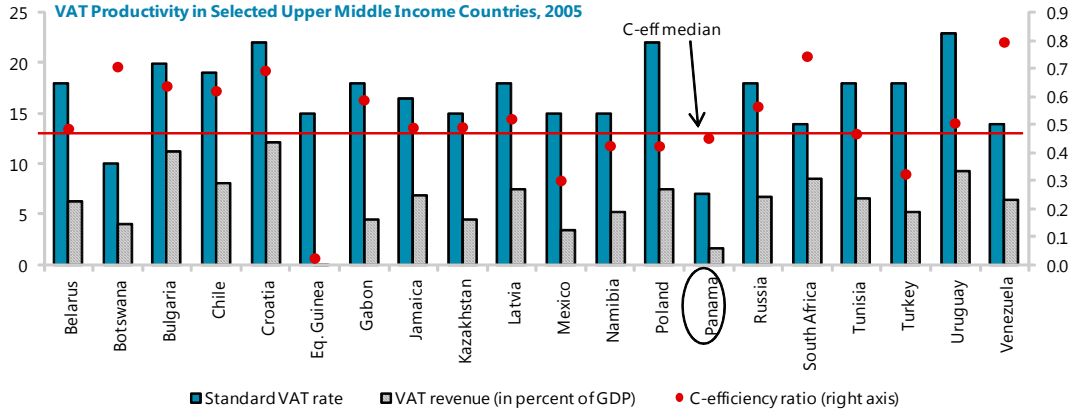
Figure 3: Panama and Cross-Country VAT Indicators



Sources: National Authorities, and staff calculations.



Sources: International Bureau of Fiscal Documentation, IBFD, www.ibfd.org (2010); Worldwide Summaries (PricewaterhouseCoopers), www.pwc.com (2010); and country documents.



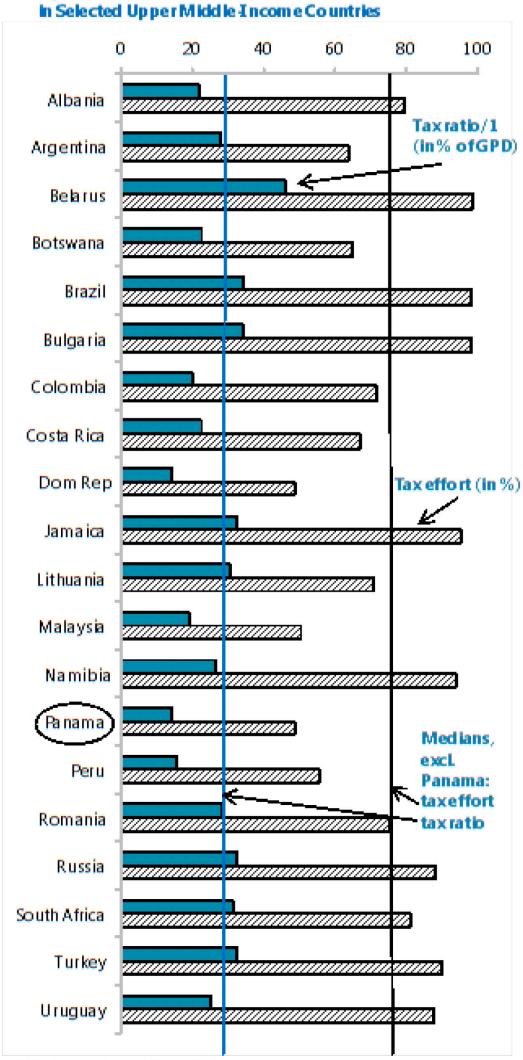
Source: Fiscal Affairs Department staff calculations.

Box 1. Estimating the Tax Effort[1]

An extensive empirical literature finds revenue performance to be correlated with a wide range of developmental, structural and institutional indicators. Many studies involve regressing various measures of revenue performance against country characteristics. Results vary quite markedly across data sets, with estimation methods and functional form, but some common findings are worth highlighting.

Figure 1 presents the results based on the application of the methodology measuring the tax effort developed by Greene (2008) and applied by Pessino and Fenochietto (2010). Revenue is a function R(x, p) of exogenous variables x and policy choices p. Assuming a multiplicative form r(x)I(p), and normalizing maxpI(p) = 1, maximum revenue is r(x) and I(p) Є [0,1] is an index of 'effort.' In an unbalanced panel over 1991–2006, excluding countries with receipts from hydrocarbons of more than 30 percent of total tax revenue, variables treated as entering *r (revenue) are income per capita, the degree of openness of an economy, the value added of the agriculture sector as percent of GDP, public spending on education, and income inequality. Corruption* and inflation are treated as entering *I*. While the technique clearly has limitations—in dealing with endogeneity issues, for instance, and resource wealth—the results are suggestive, and in most cases would conform to widely held presumptions.[2] Based on this methodology, Panama ranks very low in its tax effort; and its tax-to GDP ratio is also much below the median for its peers.

Figure 1. Estimated Tax Effort
in Selected Upper Middle-Income Countries



1/ Includes Social Security taxes.
Source: Fiscal Affairs Department staff calculations.

[1] This Box is based on a Board paper "Revenue Mobilization in Developing Countries", IMF (2011).

[2] Great caution needs to be used, however, in drawing conclusions on the scope for specific countries to raise more revenue. To the extent that regressors are exogenous—legal and constitutional structures, for instance—they will, by definition, be difficult to change. Attention then shifts to the residuals from such estimated equations. Further difficulties then arise. If the regressors are exogenous (or at least statistically predetermined), the coefficients will reflect not only feasibility constraints—conceivably the same for all countries—on what can be raised (depending on whether a country is landlocked, for instance, or has a particular political structure)—but also the unobserved and (potentially idiosyncratic) policy choices (tax rate and bases) that countries then make in the light of those constraints. Estimates are thus of a reduced form whose coefficients (as in the case of the agriculture share, for instance) conflate constraints and policy functions. This makes it problematic, for instance, to infer scope for the additional revenue that any country might raise simply by examining the residuals of such regressions. For that one would need to identify the feasibility constraint alone.

C. Challenges and a Way Forward

10. Notwithstanding recent advances, Panama appears to be a country with a low tax effort–at 48 percent versus the median of 77 percent (Box 1).[9] Its actual tax to-GDP ratio of 14.3 percent is thus far from its tax collection capacity, making Panama stand out when comparing with the peer group's median of 26.8 percent. For some countries with similar results, public choice is part of the explanation of a low tax effort–the legislation of these countries deliberately allows for a large level of exemptions (in some cases embedded in national constitutions) or very fairly low tax rates, such as in Panama (the very high per capita income countries or regions like Singapore and Hong Kong show similar results as their tax rates are very low). In addition to low tax rates, reforms came short of their objective to yield substantial permanent additional revenue due to widespread tax exemptions and persistent weaknesses in tax administration.[10]

Tax Expenditure

11. Widespread tax exemptions introduced for selected industries during the 1990s and early 2000s led to high tax expenditures (Box 2). Exemptions, in particular from custom duties, corporate income tax, real estate tax, and VAT, have been granted under a variety of schemes and modalities. International experience widely regards tax exemptions, particularly on investment, as an ill-designed form of incentive, and one that poses considerable dangers to the wider tax system as it creates loopholes which could be attempted or pushed for to be recreated in other areas (IMF, 2011).

12. The cost of exemptions, however, has been declining since 2001 (Annex II, Table 6). As a percent of tax revenues, especially, the cost has been reduced dramatically, from almost 15 percent to 4 percent over the past decade. Recent reforms of tax incentives made taxation somewhat more progressive. While further reducing or eliminating tax exemptions is no panacea, it would nonetheless help improve the equity of the system.

Tax Administration

13. There are still serious weaknesses in tax administration and management of tax compliance.[11,12] These weaknesses were detected at the Tax Directorate (Direction General de

[9] While tax capacity represents the maximum tax revenue that a country can collect given its economic, social, institutional, and demographic characteristics, tax effort is the relation between the actual revenue and this tax capacity.

[10] For example, the latest 2009-10 reform was expected to yield 2.5 percent of GDP against the estimated actual 1.8 percent. Previous reforms were expected to permanently increase tax collections by 1-2.2 percent of GDP.

[11] The IMF has not provided technical assistance in the area of revenue administration to Panama for several years due to a lack of demand. Since mid-2010, the regional technical assistance center, CAPTAC-DR, through the resident expert and short-term expert assignments, has identified significant weaknesses in tax administration which

(continued)

Impuestos (DGI)) in strategic management and planning, human resources, auditing capacity, lack of a taxpayer compliance program, and weak controls.

14. Panama remains the only country in Latin America that does not have an approved strategic plan or an annual operational plan for the DGI. The current administration has recently asked the multilateral institutions to help design a strategic plan for the DGI and it is strengthening efforts to improve controls and address evasion. Recent plans to establish an independent tax agency replacing the Directorate should help strengthen its capacity to implement the necessary reforms and fulfill its mandate.

15. In the customs area, efforts at the National Customs Agency's (Administration National de Aduanas or ANA) in improving customs control and procedures reveal little progress to date. And, while there is a strategic plan for the agency, there are no monitoring indicators to assess progress of major projects or to track their results. Despite the large amount of resources invested, the operating units of the ANA still do not have structures and basic elements to conduct inspections in the primary customs zone; and there is little oversight of special regimes.

16. The recent creation of the LTU is an important progress, as Panama was the only country in Latin America without such a structure. The international experience demonsrates that an LTU could greatly help to increase control over the largest taxpayers. While these could only be a handful–comprising 75 large taxpayers in Panama–these could be responsible for more than half of the revenue intake.[13]

17. A set of main recommendations for strengthening tax and customs collections is presented in Box 3. The main areas for improvement, which could yield a substantial increase in tax revenue, are the following:

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contributed to low collections and tax evasion. First diagnostic mission from the IMF to define an overall strategy for tax administration reform took place in December 2011.

[12] The Inter-American Development Bank (IDB) has been working on a program to improve the tax system, in coordination with the Interamerican Center for Tax Administration (CIAT). The CIAT made proposals in 1999 to simplify Panama's tax system. Simplification of the tax structure was recommended to increase efficiency in tax administration, strengthen tax collections and reduce tax evasion. Regarding direct taxes, a key proposal was to limit tax incentives and other exemptions on corporate income, while decreasing personal income taxation. On indirect taxes, the report recognized that the rate of the ITBM (5 percent) was the lowest VAT-type rate in Latin America. However, since raising the rate was deemed politically difficult, it recommended widening the base to include selected services. Some of its recommendations were taken on board in the recent reform design.

[13] In Uruguay, large taxpayers showed a late filing rate of more than 10 percent before the large taxpayer monitoring system became operational; the rate has since been reduced to less than 3.8 percent. There was also a 22 percent increase in the VAT revenue in constant terms over a two-year period (Dos Santos, 1994).

- *Improving tax education*, an area where Panama ranks last in the Latin America region. This will also help improve the fiscal responsibility of the citizens and add to the success of the DGI's mission in general.

- *Tackling more decisively tax evasion and corruption*.[14] In particular, enhancing cooperation and exchange of information between the DGI and Customs Agency is necessary for the purpose of cross-checking information on taxpayers and fighting tax evasion.

- *If the DGI structure is preserved, ensure that it has adequate resources* to improve human resource management.[15]

- *Strengthening controls and targeted audits* at the Customs Agency.

18. Future efforts should be mostly directed at addressing the aforementioned priorities and flaws in tax administration rather than introducing new legislative changes. Although there would be room to increase the VAT rates to levels comparable to other upper-middle-income countries, international experience suggests that frequent changes in tax legislation upset the expectations of investors and make it difficult for taxpayers to understand and comply with the laws (Gordon and Thuronyi, 1996).[16]

[14] For example, before 2002, tax evasion for ITBMS on domestic sales was estimated to be 40 percent of collected revenue, or 0.3 percent of GDP (CIAT). According to the IDB/CIAT report (2012), Panama, however, scored well however in collecting of past due debts, with a ratio of 56.3 percent against an average of 26.8 percent.

[15] According to the IDB/CIAT report (2012), DGI has the smallest budget in nominal U.S. dollar terms, and lowest administrative costs among a sample of Latin American countries, at 0.5 percent of collections against an average of 1.4 percent. There is also a very high turnover, with staff with less than 5 years of tenure comprising more than 50 percent of total.

[16] However, in August 2012, the National Assembly approved amendments/corrections to the Tax Code, including (1) exempting certain sums generated by the payment of preferred stock income tax (ISR), (2) replacing the monthly advance income tax (Amir) by the previously used system, (3) imposing a selective consumption tax (ISC) to electronic equipment to offset tax losses after elimination of the import tariff, and (4) exempting income from agricultural activity earning no more than US$300,000 per year.

Box 2. Examples of Tax Incentives In Panama

Law 8 of June 1994 (subsequently modified in 1998) entitled Panamanian and foreign individuals and companies investing in tourism at least US$50,000 in rural areas or at least US$300,000 in urban areas to the exemption from import duties, property tax and corporate tax for a period of up to twenty years. The incentive package in construction comprises a number of provisions, including subsidized loans for acquiring inexpensive housing and exemption from the duty levied on the first property sale. But by far the most generous provision grants a twenty-year property tax exemption to newly built properties. Port companies benefited from government concessions at favorable terms.

According to Law 34 of November 2005, tax incentives in construction were to be partially withdrawn after September 1, 2006. The period of future tax exemptions diminishes with the market value of the property: more expensive properties (valued above US$250,000) will enjoy tax exemption during the first 5 years (previously 20 years), medium-value properties (ranging between US$100,000 and US$250,000) – during the first 10 years, and cheaper houses (not be partially withdrawn after September 1, 2006. The period of future tax exceeding US$100,000 in value) – during the first 15 years.

Other exemptions include incentives to nontraditional exports, small businesses, residential construction, tourism, petroleum products trade, agroindustry, reforestation, foreign direct investment, exports, leasing, Panama's historic district rehabilitation, public transportation, and several other sectors. Some exemptions were granted in the form of tax certificates, in particular industrial export incentives (Certificados de Abono Tributario, or CATs (was due to expire in end-2005 but did not.)

Box 3. Tax Administration Reform Priorities

Tax Directorate

Strengthening structural weaknesses

- Develop a plan for all business areas to simplify structure, redefine hierarch lines, and separate the tactical area (planning, coordination and evaluation) from the operational.
- Establish a permanent team in charge of internal control, which is responsible for combating and prevention of corruption, and define the security policy information.
- Promote the stability of human resources through generating a career plan, admission through public tenders, avoiding political interference, and competitive compensation.

Facilitation of taxpayer compliance

- Promote and coordinate direct and remote channels for the relationship with its taxpayers; appoint an individual in charge of harmonizing and coordinating development, content and feedback from all channels of interaction with the taxpayer.
- Generate a comprehensive plan involving corporate image channels, attention in person, online, and the development of a future virtual office-making.
- Improve information for the analysis by enhancing the Register of taxpayers.
- Improve coordination and information exchange with the control areas and external agents.
- Generate contingency plans in case of a failure of the primary databases.

Addressing tax evasion

- Define a comprehensive strategy to address weakness in this area.
- Improve management and evaluation of the overall performance of the tax audit, and introduce enhancement to the processes of control.

The National Customs Agency

Strengthening Office of Risk Analysis

- Improve the quality and timeliness of information received, the methodology for the generation of profiles depending on the type of risk inputs or outputs that could be generated for the control post, and systems or modules to support risk management.
- Establish a clear strategy for the prevention and management of fiscal risks.
- Revise the organizational structures responsible for implementing control measures, and clarify responsibilities of each division.

Overhauling the organization and technological structure

- Align the currently horizontal structure with international best practice, with a separate internal audit department. In addition, tax auditors need to communicate more effectively with the departments in charge of research, monitoring and risk management.
- In order to create greater synergy between various areas, create a Risk Committee to help define and monitor strategies and control policies to be implemented before, during and after the release of the goods.
- Analyze the feasibility of grouping in a single area control functions subsequently aligned within a control cycle with the purpose of checking the due performance of taxes and regulations, and restrictions.
- Assess and evaluate and where necessary create or adapt the manuals of operational procedures, in line with the functionality of the new computer system EMIS.

Annex I. Main Features of the 2002–10 Tax Reforms

Corporate Income

- The corporate income tax (CIT) rate was scheduled to be lowered from 30 to 29 percent in 2005, and 28 percent starting in 2007 (2002).
- Banks' income, previously largely exempt, was subjected to a minimum tax (2002).
- Some fiscal incentives, authorizing deductions to corporate income tax, were to be phased out over five years (2002).
- CIT was maintained at 30 percent against a scheduled lowering to 29 percent under the 2002 tax law (2005).
- Effective 2006, limits on deductions for businesses resulted in a minimum income tax of 1.4 percent of sales. Loss-making businesses could appeal to the Tax Directorate for exemption from these limits on deductions (2005).
- CIT was lowered from 30 percent to 25 percent over two years, and over 4 years for telecommunications, banking, electricity, insurance and casinos (2009).
- The corporate expenditure calculation method was modified, notably for the financial sector (2009).
- The Colón Free Zone, casinos, maritime transportation, and oil trade were subjected to a more comprehensive corporate and dividend taxation treatment; and profits from some foreign operations were to be taxed (2009).

Personal Income

- The annual exemption under the personal income tax (PIT) was raised from US$3,900 to US$10,400 (2002).
- The maximum PIT was reduced from 30 percent to 27 percent (2005).
- Effective 2006, a minimum tax on income, amounting to 6 percent of gross income for individuals earning at least $60,000 annually, was introduced. Individuals earning solely wages were exempt from this tax (2005).
- PIT rates were lowered from 20–27 percent to 15–25 percent and the exempted income threshold level was raised from 1.1 to 1.4 times income per capita (2009).
- Most personal expenditure deductions were eliminated (2009).

Business Costs

- The annual business registration fee (Tasa Unica) was raised from $150 to $250 (2002).
- The business license fee was raised from 1 percent to 2 percent of capital (2002).
- Sales of services to businesses in the Colón Free Zone were made liable to income tax (2005).
- Representation expenses became part of taxable income (2005).
- Increase in fees paid by businesses in the Colón Free Zone, by an additional US$30 million, was introduced (2005).
- Tax on real estate transactions, including capital gains on the sale of property, was introduced (2009).

Value Added Tax

- The VAT's (ITBM was renamed ITBMS) base was widened to include services, albeit with many exceptions (health, education, transportation, electric power, fixed telephone, press, mail, insurance, and various other services). Small businesses with annual sales less than $36,000 were exempt (2002).
- The 5 percent consumption tax levied on a selective basis was extended to include luxury goods (2002).
- Amounts in excess of $300 won in casinos were subjected to a Selective Consumption Tax of 5 percent (2005).
- An exemption of ITBMS for fast-food businesses was introduced and ITBMS rate on tobacco was raised to 15 percent (2005).
- Bank commissions was brought under the VAT coverage (2009).
- The minimum alternative tax rate was lowered while the standard rate of the VAT was increased from 5 percent to 7 percent (2009).

Tax Incentives

- Tax exemptions for the housing sector were modified to better target low-income housing (2002).
- The Industrial Incentive Act (Law 11/2004) adopted in February 2004 granted new tax incentives to industry while temporary incentives to construction were introduced in 2003, and extended through 2005 (2004).
- The definition of tax exempt income of foreign origin was narrowed (2005).
- The 2004 Industrial Development and Incentive Act (Ley 11 de 2004) was cancelled (2005).

- Reforestation tax incentives were eliminated (2005).
- Tax incentives to nontraditional exports (CATs) were set to be eliminated by end-2005 (2005).
- Tax incentives for home improvement were continued (2005).

Other Measures

- Property transfer tax schedule combined with an incentive to update assessed values was reduced (2005).
- Heavier sanctions were introduced for noncompliance with tax laws (2005).
- Businesses had to adopt international accounting and auditing standards (2005).

Tax Administration

- A law to reform the revenue directorate to give it more operational autonomy was approved, supported by regional technical assistance to improve tax administration (2002).
- Operational and financial autonomy was granted to the tax administration unit, and a specialized tax court was created (2009).

Annex II. Tables

Table 1. CAPDR: Recent Tax Reforms, 2009-12
(estimated gains, in percent of GDP)

	Honduras	**Panama**	El Salvador	Guatemala	Nicaragua	Dom Republic
Tax on income						
Taxation of dividends	x		x	x	x	
Elimination of deductions/exemptions	x	**x**	x	x	x	
Minimum tax	x		x		x	
Additional rate for large enterprises	x					
Tax on casinos and gambling						x
Increase in deductions			x		x	
Increase in rates			x			x
Increase in minimum exempt income		**x**	x	x	x	
Norms on transfer pricing	x			x		
VAT						
Elimination of exemptions		**x**	x			
Increase in rate		**x**				
Selective tax on consumption						
Elimination of exemptions and expansion of base	x	**x**			x	
Elimination of fiscal credit					x	
Increase in rates		**x**	x		x	
Other						
Tax on legal entities						
Increase on tax rates on vehicles				x		
Tax on bank assets						x
Tax on financial transactions	x					
Total gain/1	1.9	**1.8**	1.7	1.2	0.9	0.5

1/ National Authorities' and staff estimations.
Source: National Authorities.

Table 2. Panama: Revenue
(in percent of GDP)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total revenue (incl. grants)	16.5	16.2	15.6	14.5	15.2	18.6	19.3	19.8	18.6	19.0	18.3
Current revenue	16.3	16.2	15.3	14.4	15.2	18.5	19.0	18.4	18.2	18.5	18.2
Tax revenue	8.8	8.6	8.7	8.6	8.7	10.3	10.6	10.6	11.0	11.7	11.6
Income tax, o/w	3.8	3.7	3.4	3.5	3.8	5.1	5.0	4.9	5.2	5.0	4.8
Personal	2.0	2.1	1.6	1.5	1.6	1.7	1.7	1.7	1.8	1.5	1.7
Business, o/w	1.8	1.6	1.8	2.0	2.2	3.5	3.3	3.2	3.4	3.6	3.1
Panama Canal	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2
Other Business	1.4	1.2	1.3	1.6	1.8	2.5	2.6	2.6	3.0	3.0	2.5
Wealth tax	0.5	0.5	0.7	0.5	0.6	0.5	0.6	0.5	0.6	0.7	0.6
Taxes on foreign trade, o/w	1.5	1.5	1.6	1.5	1.6	1.6	1.4	1.8	1.6	1.5	1.3
Imports	1.5	1.5	1.6	1.5	1.6	1.6	1.4	1.8	1.6	1.5	1.3
Taxes on domestic transactions, o/w	3.0	2.9	3.2	3.0	2.8	3.1	3.7	3.3	3.5	4.5	4.9
Value added ITBM	1.3	1.3	1.5	1.6	1.7	1.9	2.6	2.3	2.3	3.1	3.4
Petroleum products	0.9	0.9	0.9	0.7	0.5	0.5	0.5	0.4	0.5	0.4	0.3
Tabacco and Beverages	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.6	0.8
Other	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.3	0.3	0.4	0.4
Extraordinary revenue	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Nontax revenue	7.5	7.6	6.6	5.8	6.5	8.2	8.4	7.8	7.2	6.9	6.5
Panama Canal (fees from tolls)	1.2	1.2	1.1	1.3	1.3	1.6	1.8	1.5	1.4	1.3	1.2
Other	1.4	1.6	1.3	0.8	1.0	1.5	1.2	1.2	0.9	1.1	0.9
Transfers from public agencies	2.1	1.7	1.6	1.4	1.3	1.3	1.2	1.8	1.6	1.6	1.0
Consolidated public sector	0.7	0.6	0.5	0.4	0.5	0.5	0.5	1.1	0.8	0.8	0.5
Non-consolidated public sector	1.4	1.1	1.1	1.0	0.8	0.8	0.7	0.7	0.8	0.8	0.5
Interest from Fiduciary Fund and others	0.9	1.0	0.7	0.5	0.5	0.4	0.5	0.4	0.5	0.2	0.3
Dividends from public enterprises, o/w	1.8	2.0	2.0	1.6	2.1	3.4	3.7	2.9	2.7	2.7	3.1
Panama Canal Authority	0.3	0.7	0.8	1.3	1.3	2.0	2.5	1.5	1.8	1.8	2.2
Capital revenues	0.3	0.0	0.3	0.1	0.0	0.1	0.1	1.1	0.3	0.5	0.0
Grants	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.1	0.1	0.1
Memo item:											
GDP (US dollar billion)	11.8	12.2	12.9	14.1	15.4	17.1	19.7	23.0	24.1	26.5	30.5

Source: Ministry of Finance, and Fund staff estimates.

Table 3. Panama: Revenue
(in percent, a share of total revenue)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total revenue (incl. grants)	100	100	100	100	100	100	100	100	100	100	100
Current revenue	98.3	99.9	98.2	99.1	99.7	99.3	98.6	92.8	97.9	97.3	99.4
Tax revenue	53.2	53.1	56.0	59.2	57.2	55.3	55.0	53.5	59.0	61.3	63.6
Income tax, o/w	23.3	22.8	21.6	23.9	24.9	27.6	25.9	25.0	28.2	26.5	26.1
Personal	12.2	12.9	10.4	10.2	10.7	9.0	8.7	8.8	9.7	7.7	9.2
Business, o/w	11.1	10.0	11.2	13.7	14.2	18.6	17.2	16.2	18.5	18.8	16.8
Panama Canal	2.8	2.5	2.6	2.7	2.2	1.8	1.6	1.4	1.4	1.0	1.2
Other Business	8.3	7.5	8.6	11.0	12.0	13.5	13.6	13.3	16.2	15.8	13.7
Wealth tax	3.1	2.8	4.2	3.8	3.8	2.9	2.9	2.6	3.4	3.6	3.5
Taxes on foreign trade, o/w	8.8	9.3	9.9	10.6	10.3	8.5	7.1	9.0	8.7	7.7	7.2
Imports	8.8	9.3	9.9	10.6	10.3	8.5	7.1	9.0	8.7	7.7	7.2
Taxes on domestic transactions, o/w	18.0	18.1	20.3	20.9	18.3	16.4	19.2	16.9	18.7	23.5	26.9
Value added ITBM	7.9	7.8	9.6	11.2	11.1	10.3	13.4	11.6	12.5	16.4	18.6
Petroleum products	5.5	5.8	5.8	4.9	3.0	2.7	2.4	1.9	2.5	1.9	1.6
Tabacco and Beverages	1.7	1.6	1.8	1.7	1.9	1.5	1.6	1.8	2.0	3.2	4.5
Other	2.9	2.9	3.0	3.0	2.4	1.9	1.8	1.6	1.8	2.0	2.1
Extraordinary revenue	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
Nontax revenue	45.1	46.8	42.2	39.9	42.5	43.9	43.6	39.3	38.8	36.0	35.8
Panama Canal (fees from tolls)	7.2	7.7	7.2	9.0	8.7	8.5	9.4	7.8	7.8	6.9	6.5
Other	8.3	9.7	8.1	5.8	6.6	8.2	6.3	5.9	5.1	5.5	5.1
Transfers from public agencies	12.9	10.7	10.3	9.7	8.6	7.2	6.4	9.0	8.7	8.4	5.4
Consolidated public sector	4.2	3.8	3.0	2.9	3.1	2.7	2.6	5.4	4.3	4.1	2.6
Non-consolidated public sector	8.7	6.9	7.2	6.7	5.4	4.4	3.8	3.6	4.4	4.3	2.8
Interest from Fiduciary Fund and others	5.7	6.2	4.2	3.8	3.5	2.0	2.3	1.9	2.6	0.9	1.8
Dividends from public enterprises, o/w	11.0	12.5	12.5	11.2	13.5	18.2	19.0	14.7	14.7	14.3	16.9
Panama Canal Authority	1.8	4.5	5.2	9.0	8.5	10.5	12.8	7.5	9.7	9.3	12.1
Capital revenues	1.6	0.1	1.8	0.9	0.3	0.7	0.6	5.3	1.5	2.4	0.3
Grants	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.8	0.7	0.3	0.3
share of tax revenue											
Income tax, o/w	43.7	43.0	38.6	40.4	43.5	49.8	47.1	46.6	47.8	43.2	41.0
Personal	22.9	24.2	18.5	17.3	18.7	16.3	15.8	16.4	16.4	12.6	14.5
Business, o/w	20.8	18.7	20.1	23.1	24.8	33.6	31.2	30.2	31.4	30.6	26.5
Panama Canal	5.2	4.6	4.7	4.5	3.9	3.3	3.0	2.6	2.4	1.7	1.8
Other Business	15.6	14.1	15.3	18.6	20.9	24.4	24.7	24.9	27.5	25.7	21.5
Wealth tax	5.9	5.3	7.5	6.4	6.6	5.2	5.2	4.9	5.7	5.9	5.5
Taxes on foreign trade, o/w	16.6	17.5	17.8	17.9	18.0	15.4	12.8	16.9	14.8	12.6	11.3
Imports	16.6	17.5	17.8	17.9	18.0	15.4	12.8	16.9	14.8	12.6	11.3
Taxes on domestic transactions, o/w	33.8	34.1	36.2	35.2	32.0	29.6	34.9	31.6	31.7	38.3	42.2
Value added ITBM	14.8	14.8	17.1	18.8	19.4	18.6	24.4	21.6	21.1	26.7	29.3
Petroleum products	10.3	11.0	10.4	8.3	5.2	4.9	4.3	3.5	4.2	3.1	2.6
Tabacco and Beverages	3.2	3.0	3.3	2.9	3.3	2.7	2.9	3.4	3.3	5.2	7.0
Other	5.5	5.4	5.4	5.1	4.1	3.4	3.4	3.0	3.1	3.2	3.3

Source: Ministry of Finance, and Fund staff estimates.

Table 4. CAPDR: VAT Revenue Growth, 2002-2011
(in percent)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Costa Rica	11.8	11.4	19.9	22.1	29.2	27.3	17.4	-11.3	10.8	11.9
Dom Rep	11.8	15.7	59.6	35.4	30.1	24.3	10.9	-6.0	17.2	9.5
El Salvador	4.3	6.2	6.9	14.0	16.5	10.6	7.2	-11.9	10.1	15.0
Guatemala	23.4	7.8	12.9	2.6	16.2	23.0	5.1	-7.1	13.1	14.7
Honduras	10.7	21.6	15.5	15.1	20.9	22.8	15.8	-12.5	11.5	18.2
Nicaragua	9.0	13.6	20.0	22.4	21.6	17.9	12.2	-0.9	16.0	24.4
Panama	**0.6**	**24.7**	**17.9**	**14.2**	**26.2**	**55.3**	**3.2**	**5.8**	**48.3**	**25.7**
Median	10.7	13.6	17.9	15.1	21.6	23.0	10.9	-7.1	13.1	15.0

Source: National Authorities, staff calculations.

Table 5. CAPDR: Consumption Growth, 2002-2011
(in percent)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Costa Rica	12.2	13.3	15.0	18.6	18.7	18.7	18.4	8.5	11.8	10.3
Dom Rep	12.2	31.3	45.3	18.4	17.5	15.4	22.3	4.0	15.8	12.5
El Salvador	2.7	5.8	7.3	9.6	9.8	10.9	8.1	-8.6	4.8	8.3
Guatemala	9.9	8.5	9.6	11.3	10.6	13.7	15.8	1.8	8.7	10.3
Honduras	10.5	11.2	13.3	16.2	14.5	16.1	14.8	4.2	7.2	9.1
Nicaragua	7.7	8.3	13.3	14.9	12.7	15.0	24.3	-0.8	11.2	12.7
Panama	**8.8**	**1.2**	**12.0**	**5.7**	**8.0**	**8.1**	**7.0**	**1.7**	**28.9**	**14.9**
Median	9.9	8.5	13.3	14.9	12.7	15.0	15.8	1.8	11.2	10.3

Source: National Authorities, staff calculations.

Table 7. Panama: Tax Exemptions and Subsidies
(in million of US dollars)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011 (p.)
Exemptions of import duties/1	47.4	40.1	44.4	40.4	34.6	51.9	49.4	72.9	54.2	78.8	75.9
Industry	22.2	15.2	18.7	17.5	20.4	18.9	22.7	31.0	23.2	34.3	33.3
Public sector	6.7	5.5	5.4	6.3	2.4	2.2	3.9	5.5	7.6	12.3	15.9
Embassies	0.5	0.7	0.6	0.5	0.7	2.3	2.2	1.2	0.9	0.7	0.4
International organizations	0.9	0.4	0.6	1.2	2.7	2.1	1.1	1.2	2.6	1.7	1.5
Corporations	16.5	17.8	18.8	14.8	8.1	26.0	19.4	33.9	19.8	29.8	23.8
Public transportation	0.5	0.5	0.3	0.2	0.2	0.3	0.1	0.1	0.2	0.0	1.0
Tax redemption certificates/2	41.4	33.4	23.9	23.1	18.5	40.8	25.3	18.2	20.4	18.9	3.4
Tax anulment certificates/3	1.0	1.0	0.5	1.2	0.5	0.7	1.0	0.9	0.7	0.6	5.7
Special tax anulment certificates/3	1.2	0.2	1.3	0.6	0.2	0.2	0.5	0.2	0.0	0.1	
Import duties devolution/4	0.4	0.4	0.4	0.1	0.1	0.1				0.2	0.0
Eurocertificates/5										2.6	2.0
Agricultural export promotion certificates										1.9	8.6
Industry promotion certificates											1.1
Income tax exemption/6	33.8	35.3	32.2	34.9	40.4	15.8	8.8	21.1	32.8	19.6	23.9
Incentive: Construction	3.4	2.6	2.6	1.5	3.1	1.5	0.8	0.5	0.6		
Deforestation	8.8	10.5	6.7	9.9	10.4	0.0	0.1	2.1			
Handicap	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.1
Agriculture	2.6	3.3	4.2	0.4	0.3	0.1		0.0			
Reinvestment	11.3	11.4	8.7	11.6	9.7	3.4	4.8	11.2	16.2	11.4	16.5
Tourism	1.1	0.4	0.3	0.5	0.1	0.2	0.3	1.8	5.0	2.4	1.6
Other incentives	6.6	6.9	9.8	10.7	16.6	10.4	2.7	5.3	10.8	5.5	5.5
Historic town (Casco Antiguo)	0.0	0.0	0.0	0.1	0.0	0.3	0.1	0.2	0.1	0.1	0.2
Real Estate tax exemption/7	13.1	13.4	14.2	12.2	12.8	10.7	15.6	10.7	23.5	16.4	24.3
Income tax exemption/8 *	17.7	13.7	15.5	14.7	14.8	8.8	6.7	13.6	15.0	9.8	2.7
Total incentives	*156.1*	*137.5*	*132.5*	*127.1*	*121.9*	*129.0*	*107.3*	*137.7*	*146.6*	*149.0*	*147.7*
Fiscal Credits/9 *	16.7	9.7	19.0	29.0	39.4	47.5	57.7	69.0	58.9	82.1	98.8
Preferencial Interest *	19.3	30.2	32.6	34.8	35.2	47.7	62.5	28.6	73.3	80.5	42.1
Fuel tax exemption/10*	30.7	35.1	30.7	24.5	23.5	31.2	48.8	37.7	52.9	47.2	12.2
Bus subsidy/11*					20.9	2.0	3.5	19.0	6.8	10.6	12.9
Metro bus subsidy/11 *											3.4
Energy subsidy/12 *					26.0	72.0	44.3	84.7	95.9	66.1	108.9
Total subsidies	*66.8*	*75.0*	*82.3*	*88.3*	*145.1*	*200.4*	*216.8*	*239.0*	*287.8*	*286.6*	*278.3*
Total	**222.9**	**212.5**	**214.8**	**215.5**	**266.9**	**329.4**	**324.1**	**376.7**	**434.4**	**435.5**	**426.0**
Percent of tax revenues	**21.5**	**20.2**	**19.1**	**17.8**	**19.9**	**18.7**	**15.5**	**15.4**	**16.5**	**14.1**	**12.0**
Incentives	15.0	13.1	11.8	10.5	9.1	7.3	5.1	5.6	5.6	4.8	4.2
Subsidies	6.4	7.1	7.3	7.3	10.8	11.4	10.4	9.8	10.9	9.3	7.9
Percent of GDP	**1.9**	**1.7**	**1.7**	**1.5**	**1.7**	**1.9**	**1.6**	**1.6**	**1.8**	**1.6**	**1.4**
Incentives	1.3	1.1	1.0	0.9	0.8	0.8	0.5	0.6	0.6	0.6	0.5
Subsidies	0.6	0.6	0.6	0.6	0.9	1.2	1.1	1.0	1.2	1.1	0.9

Source: Ministry of economy and Finance; staff calculations.

1/ Excluding ITBMS and other duties.
2/ Incentives to non-traditional exports.
3/ Tax credits, accumulated ITBMS.
4/ Article 9, Law Nr. 3 of March 20, 1986.
5/ The government had to temporary subsidize exporters as the Ministry of Commerce did not apply on time to receive lower tariffs from the European Union .
(6) Fiscal loss coming from deductions applied to income declarations.
(7) Law 44/90 and Law 6/2005 exempts from income tax.
(8) Article 6, Law 28/95 from June 28, 1999 based on Law 20 of June 1999.
(*) modfied every year based on filing of late exemptions.
(9) Fiscal credit: subsidy for the price of 1 gas cilinder (25 pounds).
(10) Article 68, Law 6/97 regarding electricity companies: exemption (Contrato la Nacion, Dec 22/98 (Art 86 and 87)).
(11) Subsidy for imported fuel (diesel) to the public trasportation sector; benefits users by freezing the cost of a ticket.
(12) Subsidy for electricity to households consuming less than 500KW (from the Tariff Stabilization Fund).

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