



DEMOCRATIC REPUBLIC OF SÃO TOMÉ AND PRÍNCIPE

SELECTED ISSUES

June 2016

This Selected Issues paper on the Democratic Republic of São Tomé and Príncipe was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the Democratic Republic of São Tomé and Príncipe. It is based on the information available at the time it was completed on May 20, 2016.

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International Monetary Fund
Washington, D.C.



DEMOCRATIC REPUBLIC OF SÃO TOMÉ AND PRÍNCIPE

SELECTED ISSUES

May 20, 2016

Approved By
The African Department

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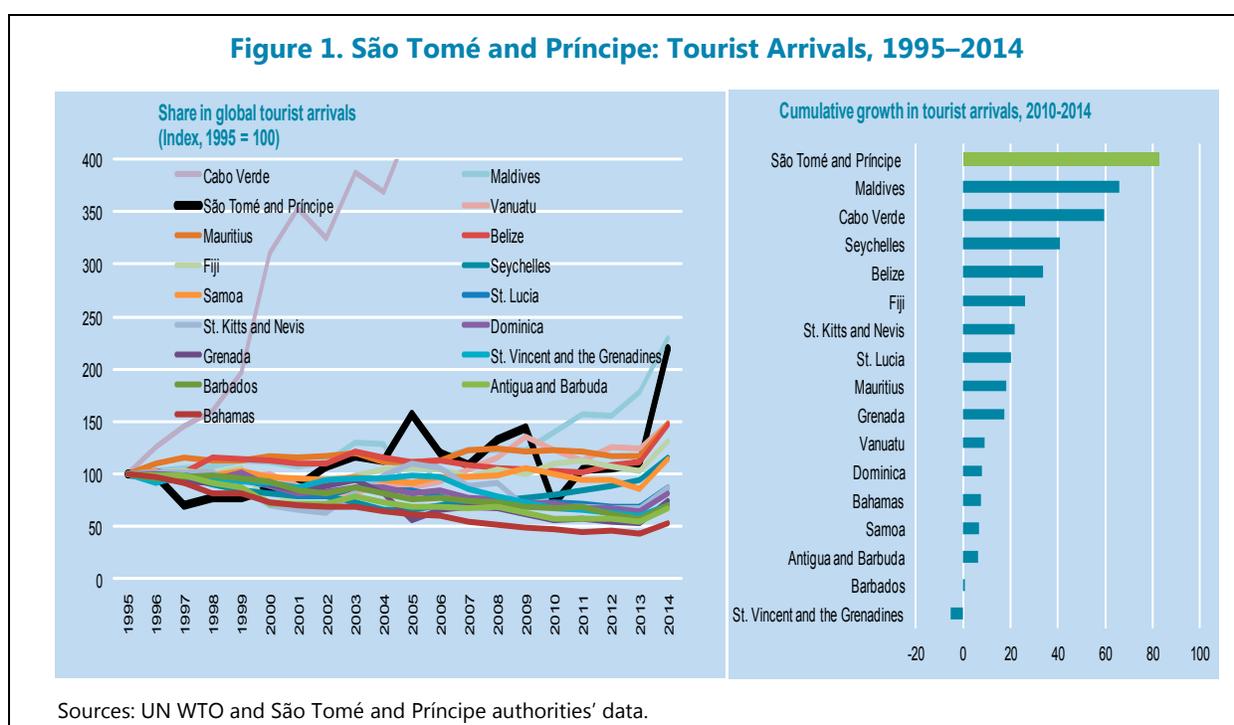
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TOURISM COMPETITIVENESS IN SÃO TOMÉ AND PRÍNCIPE: CHALLENGES AND STRATEGY¹

A. Tourism Competitiveness

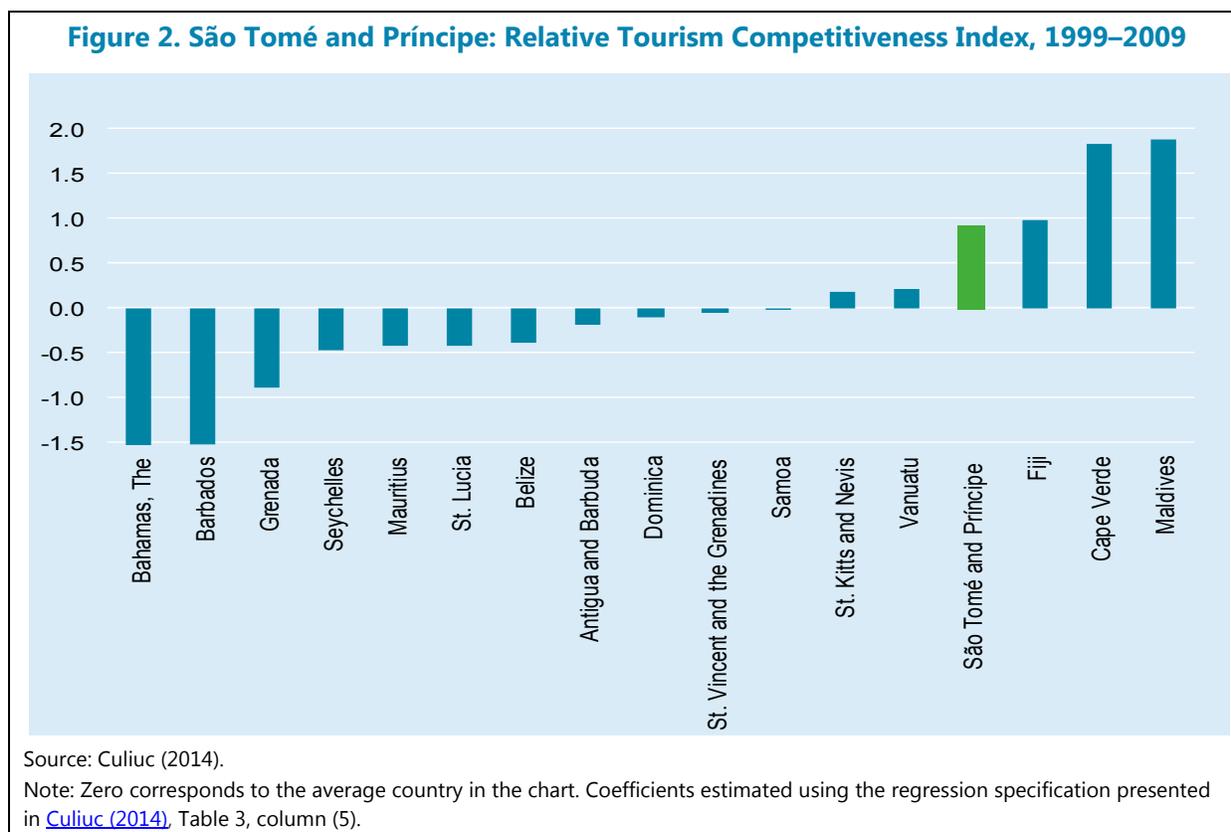
1. São Tomé and Príncipe has experienced significantly faster growth in tourism than most tourism dependent small states (TDSS). Growth in tourist arrivals since 1995 averaged 7.5 percent annually, and, by 2009, had more than doubled (Figure 1, left chart). The crisis in Europe, home of the vast majority of tourists to São Tomé and Príncipe, led to a significant cutback in the number of arrivals in 2010. However there was already a rebound in 2011, stronger than the case with other TDSS (Figure 1, right chart).



2. An application of a tourism gravity model shows that São Tomé and Príncipe is competitive compared to TDSS. While comparing rates of growth and changes in global shares provides some insight into the country's tourism performance over time, comparing the level of tourist arrivals must take into account that tourism flows to each destination are subject to many mitigating and inhibiting factors. An index calculated as the value of the country dummy in a fixed effects regression with bilateral arrivals as explanatory variable and controlling for the fundamental

¹ This note was prepared by Dalmacio F. Benicio (AFR).

determinants of bilateral tourism flows (i.e. GDPs of the origin and destination countries, their populations, areas, distances, price levels, geographical characteristics, common culture and history) provides a more reliable measure of competitiveness. A ranking by the index shows that São Tomé and Príncipe's tourism competitiveness during 1999–2009 was above that of an average TDSS (Figure 2).



3. The results of the tourism gravity model also shed light on São Tomé and Príncipe's competitiveness in different tourism markets. Figure 3, left chart, plots the residuals (actual minus predicted arrival values) for São Tomé and Príncipe's selected origin markets from a gravity model regression with fixed origin and destination effects. It shows that—after controlling for the fundamental determinants of bilateral tourism flows—São Tomé and Príncipe's has been doing unusually well in the Portuguese and Angolan markets, highlighting the significance of regular direct flight connections. Interestingly, although Nigeria and Angola are within close proximity to São Tomé and Príncipe, the number of Nigerian tourists is less than the model's predictions. Also underperforming is the Brazilian market that akin to Portugal and Angola shares common linguistic, historical and cultural ties with São Tomé and Príncipe. On the flip side, the underperformance in Germany and Nigeria helps to explain the rapid growth registered on those markets since 2007 onwards (Figure 3, right chart)—reflecting the “catch up effect” to its potential. However, growth was not limited to previously underperforming markets, as tourist arrivals from markets in which São Tomé and Príncipe already over performed in 2008 grew by 32 to 68 percent

in the six years since then (Portugal and Angola). The catching up effect has not kicked in yet in the underperforming French and Brazilian markets as well as in other markets in the top five major origins (the United States, UK, Spain, Gabon and Cabo Verde), suggesting untapped potential for faster future growth.

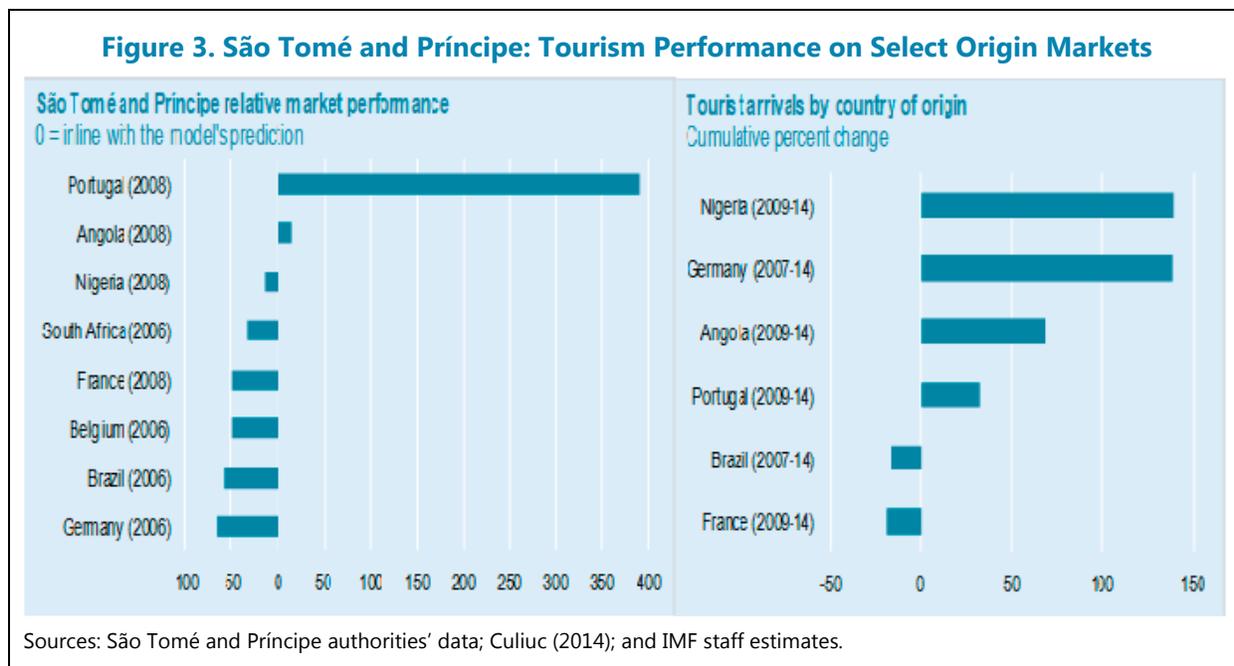


Table 1. São Tomé and Príncipe: Top Five Major Tourist Origins in the Last Five Years

| 2010 | | | 2011 | | | 2012 | | | 2013 | | | 2014 | | |
|--------------------|--------------|------------|--------------------|---------------|------------|--------------------|---------------|------------|--------------------|---------------|------------|--------------------|---------------|------------|
| Country | Arrivals | % of Total | Country | Arrivals | % of Total | Country | Arrivals | % of Total | Country | Arrivals | % of Total | Country | Arrivals | % of Total |
| Portugal | 3,578 | 45 | Portugal | 4,385 | 36 | Portugal | 5,811 | 46 | Portugal | 5,447 | 40 | Portugal | 7,462 | 33 |
| Angola | 1,105 | 14 | Angola | 1,475 | 12 | Angola | 1,866 | 15 | Angola | 1,403 | 10 | Angola | 3,051 | 13 |
| France | 514 | 6 | France | 673 | 6 | France | 843 | 7 | France | 765 | 6 | France | 1,190 | 5 |
| United States | 280 | 4 | Nigeria | 555 | 5 | Cabo Verde | 494 | 4 | Cabo Verde | 327 | 2 | Gabon | 443 | 2 |
| UK | 229 | 3 | Cabo Verde | 409 | 3 | Nigeria | 396 | 3 | Spain | 195 | 1 | United States | 410 | 2 |
| Top 5 total | 5,706 | 72 | Top 5 total | 7,497 | 61 | Top 5 total | 9,410 | 74 | Top 5 total | 8,137 | 59 | Top 5 total | 12,556 | 56 |
| Total | 7,963 | 100 | Total | 12,231 | 100 | Total | 12,743 | 100 | Total | 13,708 | 100 | Total | 22,622 | 100 |

Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

B. Challenges and Strategy

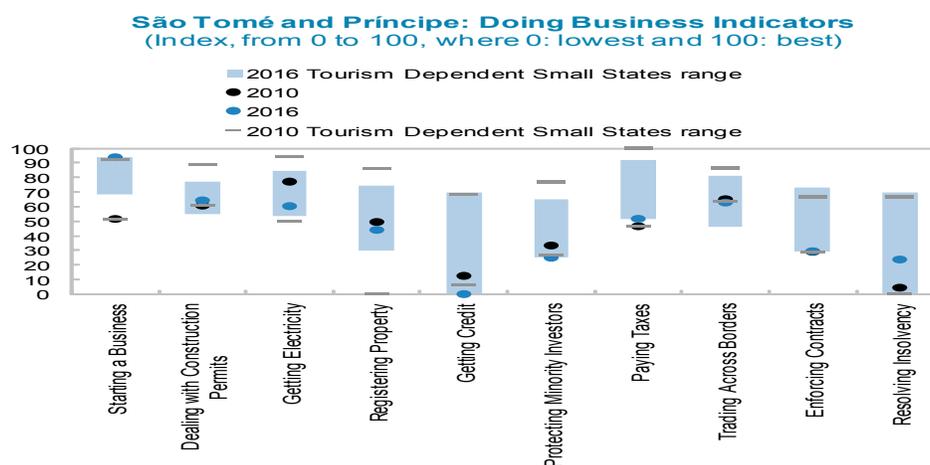
Tourism development in São Tomé and Príncipe faces two broad challenges: On the micro level, it must overcome competitiveness-related structural bottlenecks in order to make tourism a driver of the private sector led and inclusive growth. On the macro front, tourism must have a balanced development to act as a buffer against external vulnerability.

4. The current tourism model has been built around a handful of beach resorts and smaller boutique hotels capitalizing on São Tomé and Príncipe’s main value proposition, namely tropical and unspoiled landscapes in a safe and secure environment. While this model has driven growth in the tourism sector in the recent decade and a half, evidence points to a large untapped potential that would require a re-tweak of the current model. Going forward, sustainable development of tourism in São Tomé and Príncipe will depend critically on the government’s vision for the sector and on actions in the following key *areas aimed at* enhancing the enabling environment and investing in the supporting infrastructure:

- **A national tourism strategy.** This should include country branding strategy backed by a set of well-targeted policies to enhance the existing enabling conditions. Specific actions could include targeted marketing campaigns to increase the visibility of São Tomé and Príncipe and attract tourists from select markets in the sub-region, Europe, America and Asia. In addition, the authorities should continue to pursue measures to improve the country’s international openness both in terms of open bilateral air service agreements with targeted markets and visa waiver programs. In that regard, the recent government’s decision to waive entry visa requirements for stays up to 15 days for all travelers to São Tomé and Príncipe carrying the EU and the U.S. passports or other passports with valid 90-days Schengen or U.S. visas is a welcome step.
- **Enabling environment.** The focus needs to be on reforming the business environment. The country does generally well on safety and security while the health environment has improved with the success of malaria control. However, important advances are needed in the business environment, especially those aspects with the impact on attracting FDI and where the country ranks in the bottom quarter in the region: getting electricity, registering property, access to credit, protecting minority investors, and paying taxes (Figure 4).
- **Supporting infrastructure.** Areas of main priority include air transport and tourism service infrastructure. The extension of the runway and modernizing of the country’s only international airport in São Tomé is a strategic priority. The number of available international and domestic seats has been constrained by the low frequency of flights and by the small size of aircrafts that the airport can accommodate due to the very short runway. Tourism service infrastructure needs upgrading. While the low hotel occupancy rates suggest sufficient capacity to meet the existing demand, there is a need to attract new investment into facilities that will support a new and more high-end tourism model. There is also a need to modernize supporting services such as car rental and the payment system with ATM accepting credit cards.

Figure 4. São Tomé and Príncipe: Select Indicators of Bottlenecks to Tourism

Business environment is hampered by an inefficient electricity sector, lack of credit and weak insolvency resolution framework



Tourism infrastructure and their utilization rates compare poorly relative to peer

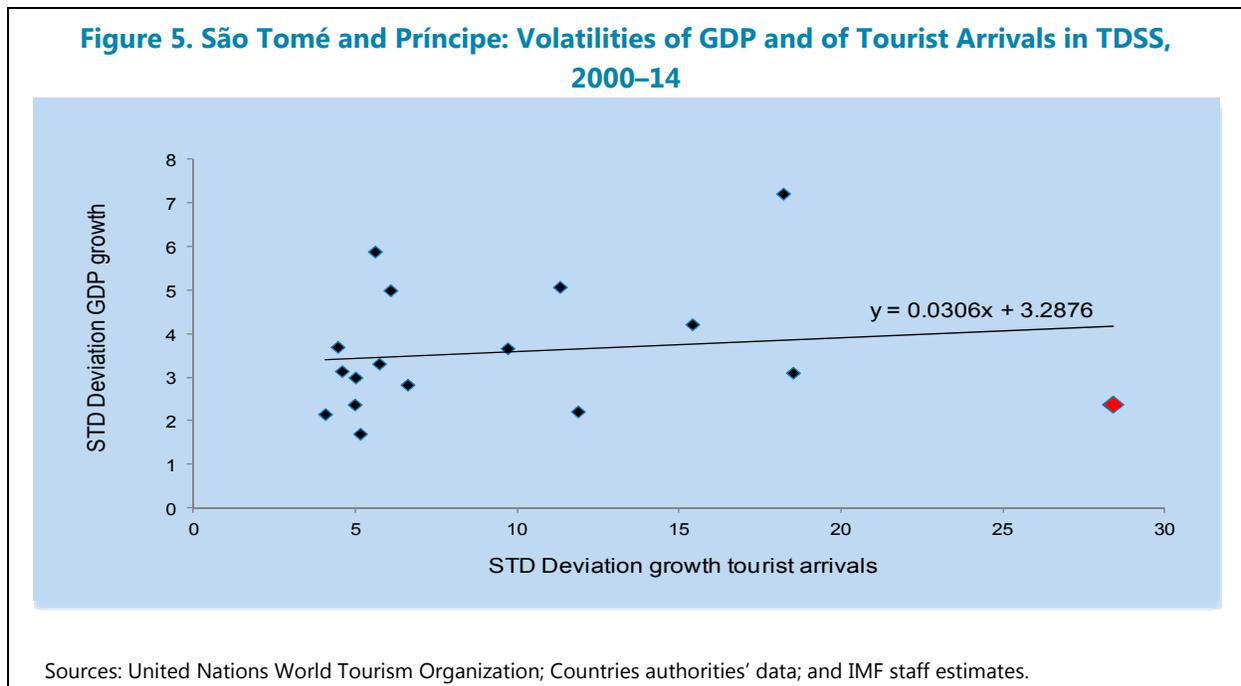
| Capacity indicators | São Tomé and Príncipe | | Cabo Verde | |
|-------------------------------|-----------------------|-------|------------|--------|
| | 2013 | 2014 | 2013 | 2014 |
| Available beds | 935 | 1,043 | 15,995 | 18,188 |
| Average annual occupancy rate | 23% | 33% | 56% | 53% |
| Number of rooms | 601 | 664 | 9,058 | 10,839 |
| Number of establishments | 44 | 55 | 222 | 229 |

...and dearth of supporting services

| Supporting services | São Tomé and Príncipe | |
|--------------------------------------|-----------------------|------|
| | 2013 | 2014 |
| Number of airlines | 5 | 5 |
| Total local flights per week | 5 | 5 |
| Total international flights per week | 8 | 10 |
| Travel agencies | 7 | 9 |
| Rent-a-cars | 7 | 9 |
| Tourism and events companies | 4 | 5 |
| Restaurants | 22 | 25 |
| Bars | 9 | 10 |
| Discos | 9 | 9 |
| Museums | 3 | 3 |

Sources: World Bank Doing Business survey; and IMF staff estimates.

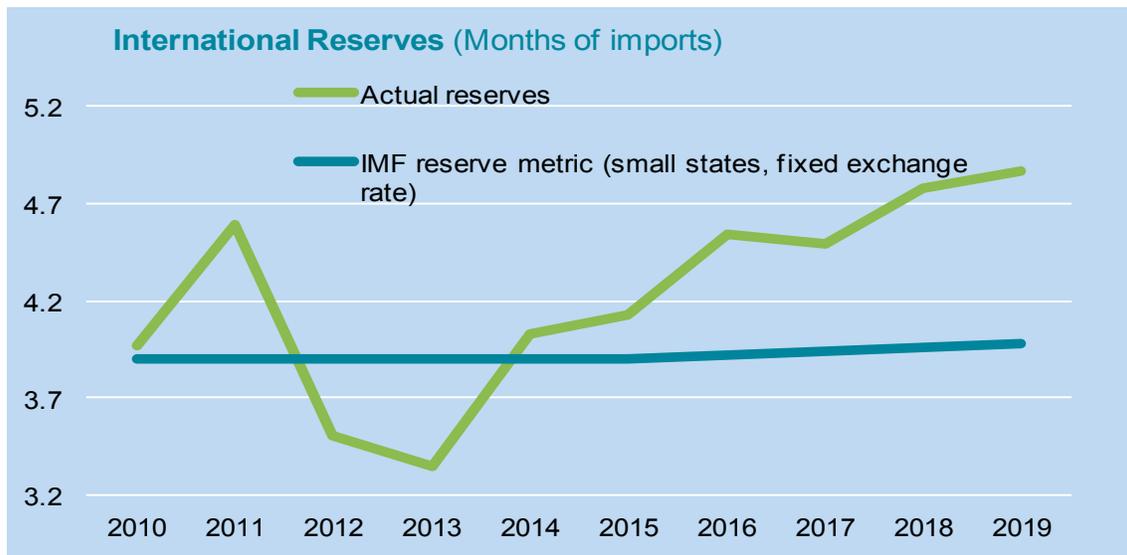
5. Tourism is a key source of vulnerability to external developments in São Tomé and Príncipe. Tourism currently makes important contributions to the GDP, employment and exports. The overall impact of tourism in 2015, including indirect and induced contributions, was estimated at 14 percent of GDP, 13 percent of the overall employment and two-thirds of exports of goods and service. To quantify the impact of the potential slowdown, one requires estimates of the elasticity of tourist arrivals to GDP in tourist-originating countries. Using first differences regression, Culiuc (2014) estimates the global elasticity of tourist arrivals at around 1.3; it is however significantly lower (0.9) for small islands. São Tomé and Príncipe is therefore likely to see tourism demand from its main markets drop nearly one-for-one should their economies contract. Results also show that tourists are price sensitive; in response to a 1 percent appreciation in the bilateral real exchange rate, arrivals and average nights-stay drop 0.11 and 0.27 percent respectively for a combined effect of 0.36 on total nights stayed.



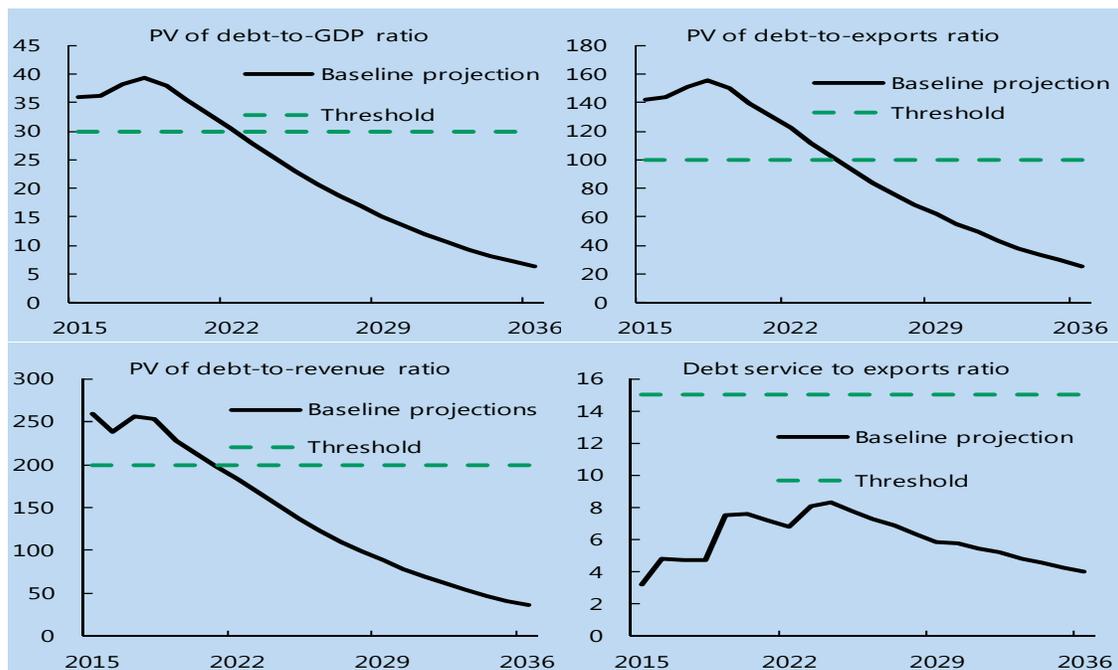
6. São Tomé and Príncipe must build buffers to cushion against external shocks reverberating through tourism into the domestic economy. This entails a two-track strategy. The first track involves self-insuring against shocks by maintaining a steady pace of international reserves accumulation and the second includes reducing public debt to sustainable levels to provide buffers against external shocks. With regard to reserves accumulation, concerns with maintaining the peg with the euro suggest that a level around 3½ months of import cover should suffice; added vulnerability to external shocks would suggest somewhat higher and more prudent reserve coverage is desirable. On debt reduction, given that São Tomé and Príncipe is in high risk of debt distress, a medium-term goal of moving to moderate risk of debt distress appears attainable and will anchor fiscal policy. However, the goal can be reviewed over the longer term taking into account the many factors that impact on the optimal level of public debt.

Figure 6. São Tomé and Príncipe: Indicators of Policy Buffers

Somewhat higher reserve coverage is desirable



Baseline projections below thresholds correspond to moderate risk of debt distress



Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

References

- Culiuc, Alexander (2014) "Determinants of International Tourism", *IMF Working Paper No. 14/82*.
World Economic Forum, *Travel and Tourism Competitiveness Report 2015*.
World Travel & Tourism Council, *Travel & Tourism Economic Impact 2015 São Tomé and Príncipe*.

MAINSTREAMING MACRO-FINANCIAL LINKAGES¹

A. The Landscape of the Financial System

- 1. São Tomé and Príncipe has a small financial system with money supply (M2) around US\$90 million at the end of 2015.**² Similar to other small financial systems, concentration of assets and operating costs are high, coupled with relatively low asset quality and lower profitability. However, recent trends show further deterioration in key areas—increasing NPLs and large and growing excess liquidity—from averages in other small financial systems (section IV). Private sector credit (as a percent of GDP) is low yet comparable to other small states, including sub-Saharan African (SSA) small states, at 28.3 percent in 2014. Commercial banks account for approximately 98 percent of financial sector assets, and a large majority of these banks (6 out of 7) are foreign-owned; in addition, there are two insurance companies and four small consumer lenders operating in São Tomé and Príncipe. The banking sector is highly concentrated, with the largest bank holding almost 50 percent of total assets, and the largest three banks holding almost 75 percent of total assets. The analysis in this paper will, therefore, focus on the banking sector.
- 2. The size of the banking sector expanded rapidly following its liberalization in the early 2000s.** The Banco Internacional de São Tomé e Príncipe (BISTP) was the only commercial bank since 1993 until three new entrants in 2004 after the liberalization. The number of banks increased to eight by 2008, in anticipation of increased economic activity in relation to commercial oil production. With the uncertainty of commercial oil production, the central bank of São Tomé and Príncipe (BCSTP) has had to put three banks under administration within a decade of granting their license, underscoring weak regulatory and supervisory environment that could not cope with the rapid increase in the number of banks.
- 3. There has however, been notable progress in banking supervision since 2012.** The BCSTP began a full cycle of on-site inspections in 2012, which was completed in 2015; a new cycle of inspections commenced in 2016. Improvements in BCSTP's banking supervision framework have helped identify banks with inadequate capital, obtain more reliable and realistic estimates of NPLs and provisions. Both the use of supervisory instruments and the monitoring of banks' adherence to the prudential standards have also improved.

¹ This note was prepared by Burcu Hacibedel (FIN).

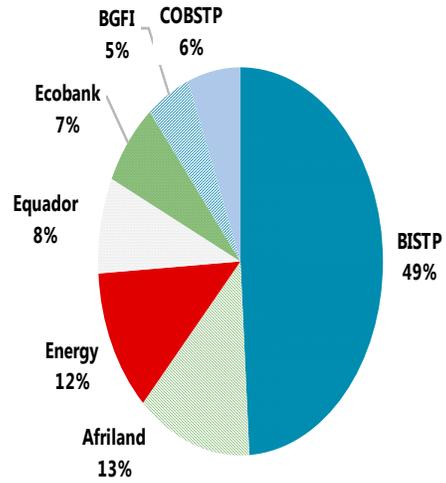
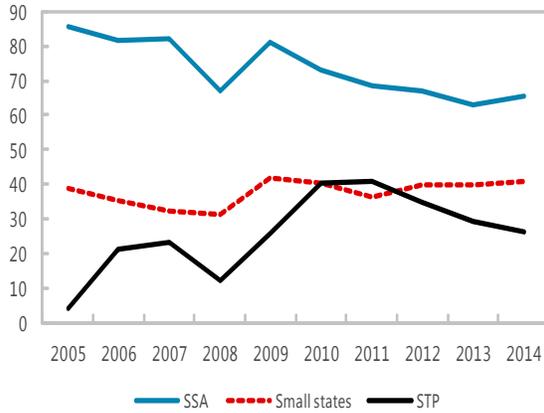
² See section IV for detailed discussions of small financial systems.

Figure 1. Key Financial Sector Indicators

The financial sector grew notably in the last decade, but remains small...

...with three largest banks accounting for 74% of total assets.

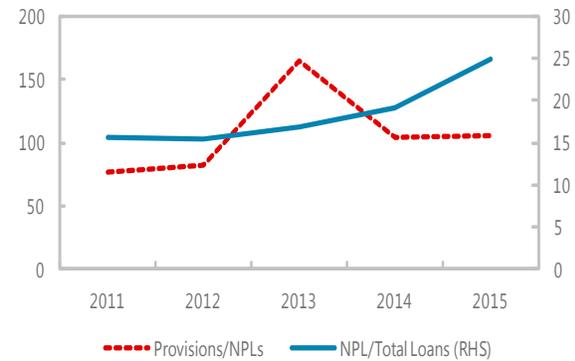
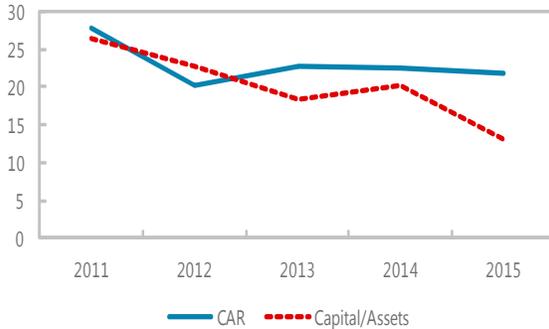
Domestic credit/GDP



Banking sector experienced a deterioration in capital adequacy in 2015...

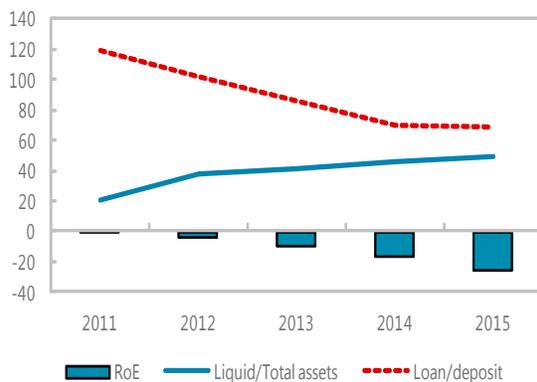
...accompanied by an increase NPLs.

Capital Adequacy

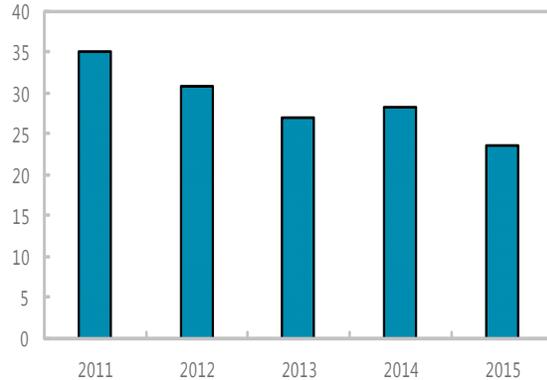


While highly liquid, banks' efficiency and profitability decreased significantly.

There have been improvements in dollarization and currency risk.



FX/Total liabilities



Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

B. Financial Sector Stability Analysis

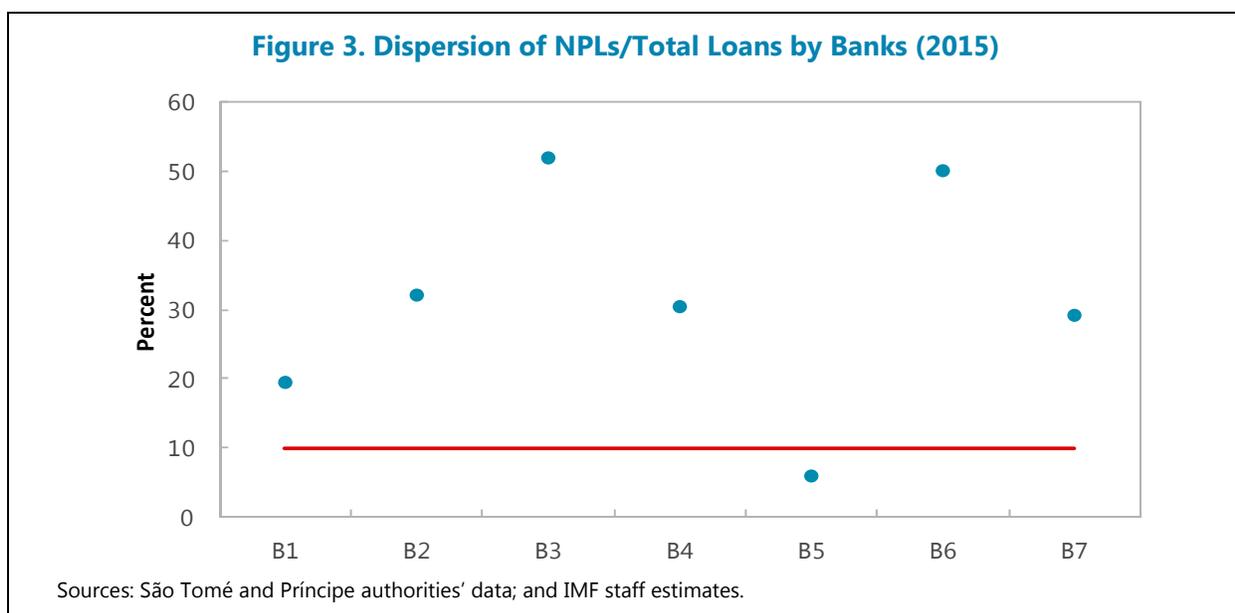
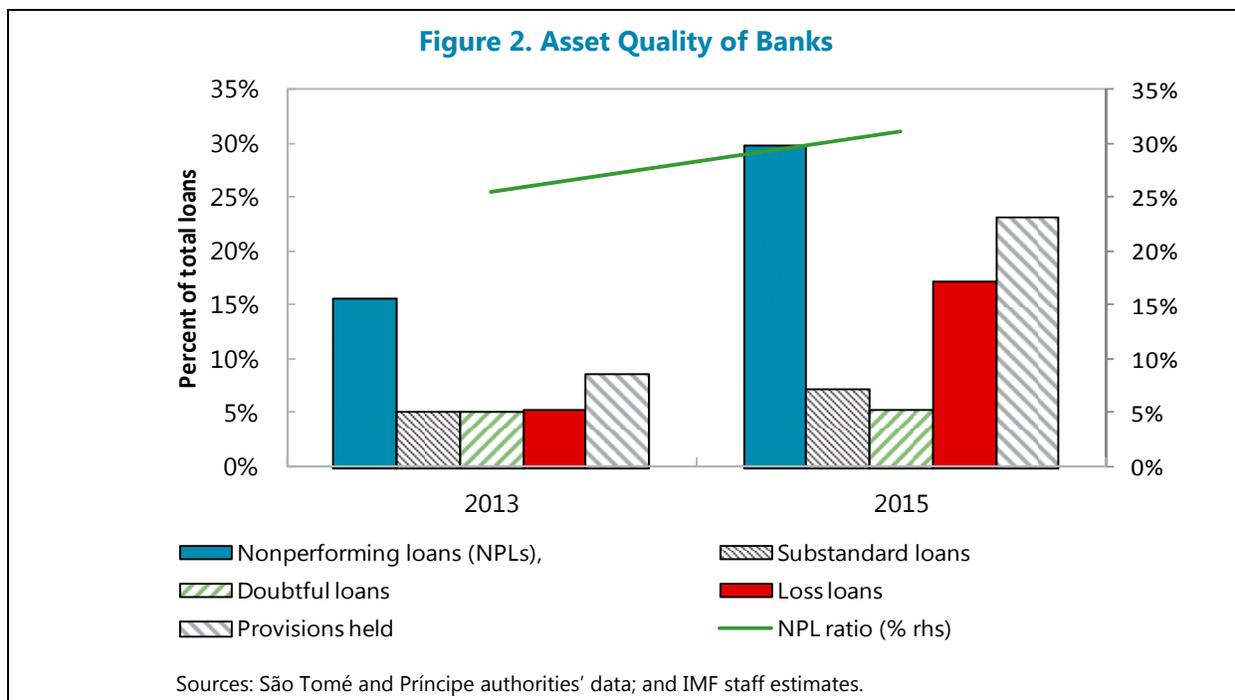
4. The two main concerns from a financial sector stability standpoint are excess liquidity and deterioration in asset quality. São Toméan banks started to experience excess liquidity, increasingly over the last three years. Consolidated banks' balance sheet (Table 1) illustrates the feeble growth in loans as well as a substantial increase in liquid assets in cash and treasury bills. The slow credit growth is indicative of banks' risk-averse stance, particularly, given an increase in non-performing loans and uncertainties surrounding delays in addressing collateral enforcement and default risks through the judiciary system. In 2015, the ratio of liquid assets to total assets reached 52 percent. Despite the stagnation in credit growth, deposits have been increasing steadily and grew by more than 20 percent in 2015. Of total deposits, almost 70 percent are in demand deposits (versus time deposits) and around 40 percent are in foreign currency.

Table 1. Key Developments in Banks Balance Sheet

| Key developments in banks' balance sheet | 2013 | 2014 | 2015 | 2014/13 | 2015/14 |
|--|----------------|-----------|-----------|---------------------|---------|
| | Dobras million | | | year-on-year growth | |
| Total assets | 4,006,540 | 4,580,469 | 4,809,388 | 14% | 5% |
| Cash and T-bills | 1,635,226 | 2,097,461 | 2,503,817 | 28% | 19% |
| Long-term government bonds | 101,310 | 102,156 | 86,110 | 1% | -16% |
| Total loans (net) | 1,559,862 | 1,511,714 | 1,473,291 | -3% | -3% |
| Other assets (net) | 684,655 | 789,435 | 746,170 | 15% | -5% |
| Total liabilities | 4,078,588 | 4,522,644 | 4,809,388 | 11% | 6% |
| Deposits | 2,134,873 | 2,440,793 | 3,010,654 | 14% | 23% |
| Demand deposits | 1,481,321 | 1,684,400 | 2,068,174 | 14% | 23% |
| Domestic currency | 903,783 | 926,721 | 1,229,607 | 3% | 33% |
| Foreign currency | 577,537 | 757,679 | 838,567 | 31% | 11% |
| Term deposits | 653,552 | 779,143 | 942,481 | 19% | 21% |
| Domestic currency | 364,296 | 530,663 | 564,412 | 46% | 6% |
| Foreign currency | 289,257 | 248,480 | 378,069 | -14% | 52% |
| Total capital (equity) | 890,592 | 956,663 | 890,592 | 7% | -7% |

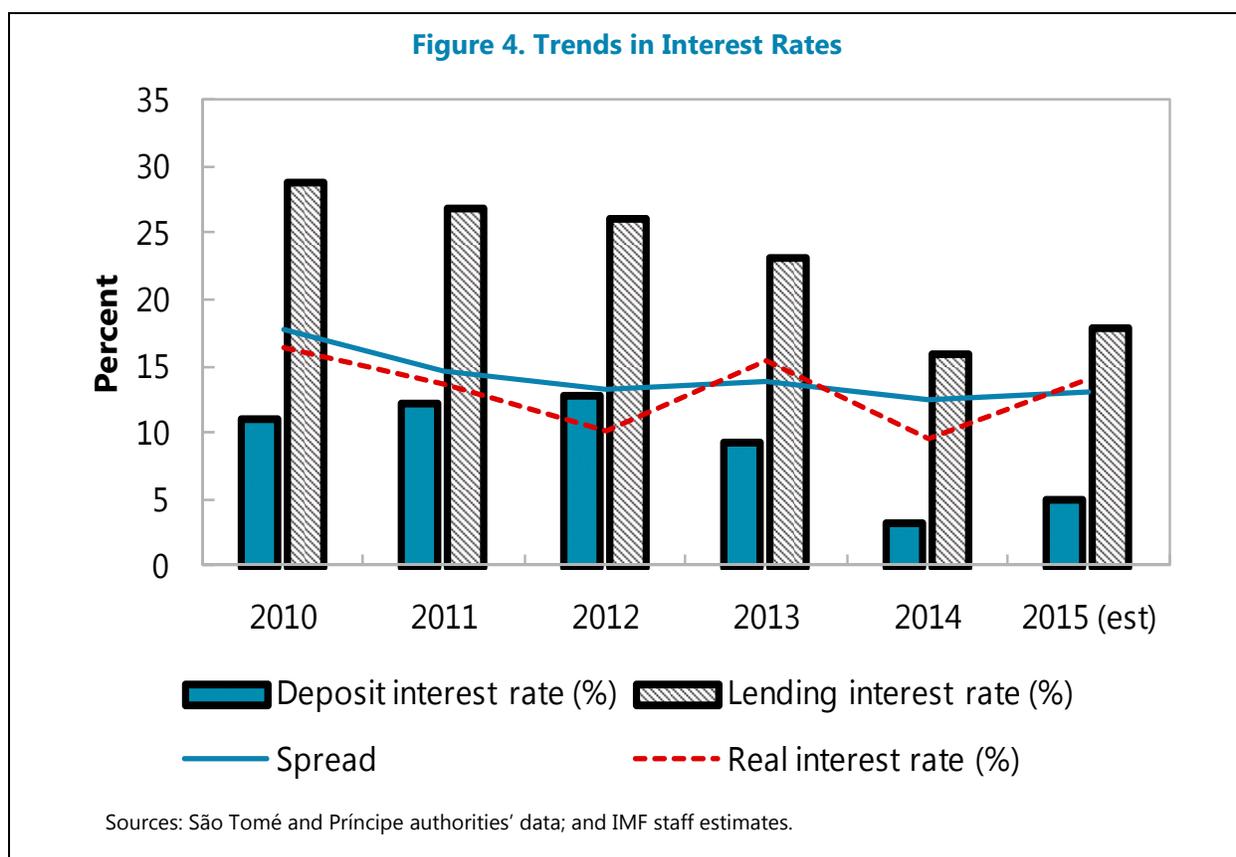
Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

5. A preliminary asset quality review shows that the quality of the banks' aggregated loan book deteriorated significantly since the last Article IV in 2013 (Figure 2). The ratio of NPLs to total loans almost doubled from around 16 percent to almost 30 percent, largely driven by substandard and loss loans, which indicates further deterioration in asset quality. However, provisions more than doubled and there is heterogeneity among banks. That notwithstanding, bank-by-bank NPLs show a worrying picture, with only one bank with an NPL ratio of less than 10 percent. Two banks have NPLs close to 50 percent while the remaining banks have NPLs ranging between 20 and 30 percent, reflecting similar trends in other small financial systems (Figure 3).

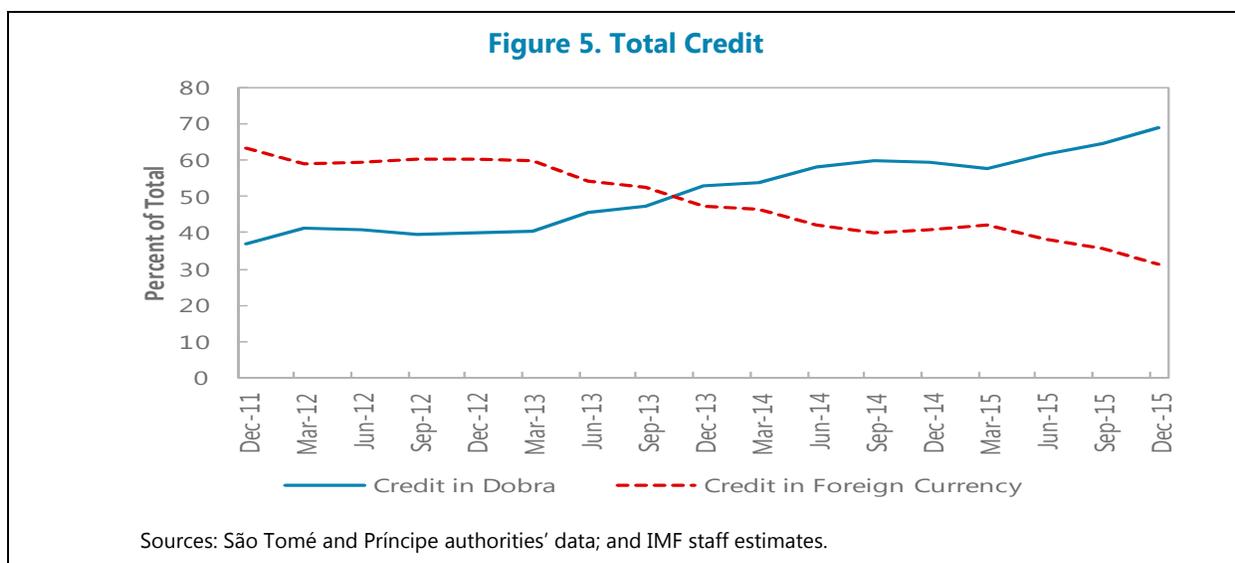


6. Other sector-wide prudential indicators have shown some improvement following supervisory action. The capital to risk-weighted assets ratio increased from 20.3 percent in 2012 to 24.1 percent in 2015 as three banks were asked by BCSTP to inject additional capital after supervision activity identified that their capital bases were inadequate, relative to the prudential ratios. Consequently, all active banks have met or exceeded the regulatory threshold of 12 percent. Nonetheless, the capital to assets ratio continued to decline and stood at 15.5 percent at the end of 2015.

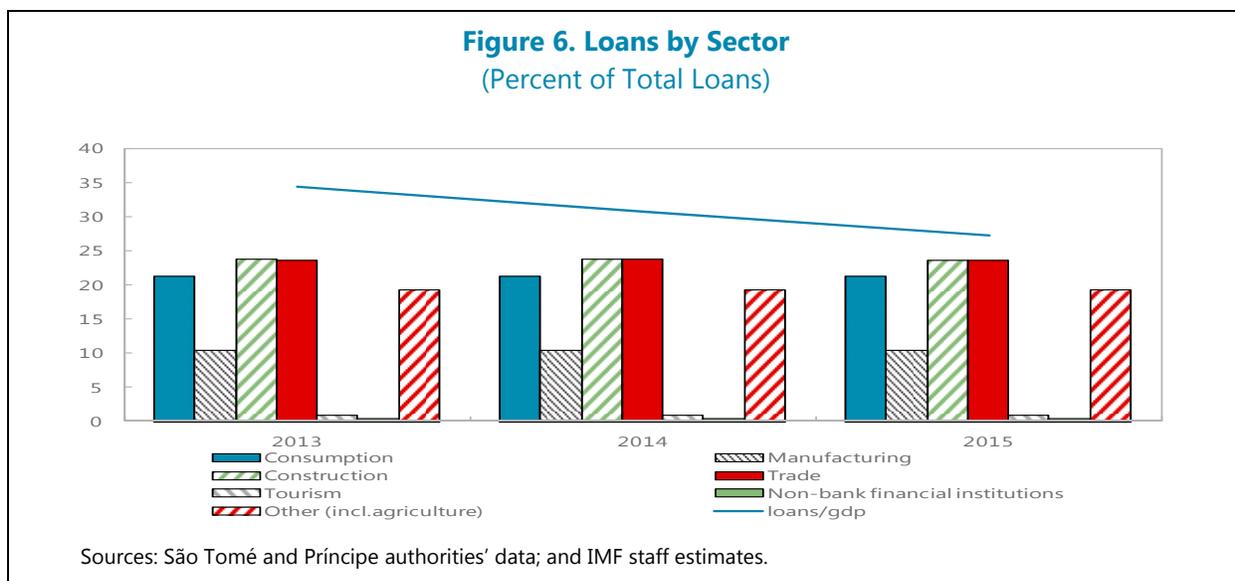
7. Compared with other very small financial systems, the interest rate spread has been higher in São Tomé and Príncipe, hovering around 12–13 percent versus the 9.25 percent average in small financial systems (SIP Section IV). The margin decreased from 18 percent in 2010 to 13 percent in 2015. While declining since 2010, the lending rate on average was around 17-18 percent and deposit rate around 5-6 percent in 2015. The high lending rate, despite the peg, reflect both the high operating costs and increase in banks’ risk aversion as a result of the recent increase in NPLs.



8. Dollarization has halved in the last 5 years (Figure 5). Since the official pegging of dobra to the euro, the share of loans denominated in local currency increased while those in foreign currency decreased. As a percentage of the total portfolio, deposits and loans in foreign currency decreased from levels above 60 percent in 2010 to around 30 percent in 2015, with the downward trend becoming more visible after 2013.



9. The sectoral composition of banks' consolidated loan portfolio remained almost unchanged over 2013–15, while the loans-to-GDP ratio decreased from 34 to 27 percent during the same time period (Figure 6). Loans for construction, trade and consumption account for the largest proportions of credit by economic sector. While the credit growth in the past decade (until 2013) could be attributed to prospects of oil production, sectoral allocation of credit has not changed since credit growth started slowing down in 2013.



10. At the individual bank level, credit exposure to sectors and the size of the credit portfolio vary greatly (Figure 6). For example, in 2015, credit to the construction sector was provided mainly by one bank, and to a large degree the same is true for lending to tourism and manufacturing; this credit concentration by sector at the individual bank level increase banks' vulnerability to sector-specific shocks.

11. Low profitability of São Toméan banks has been mostly driven by noninterest expenses and provisions for loan losses, which have both increased in 2015 (Table 2). One of the problems faced by banks in São Tomé and Príncipe is high operating costs, largely attributable to utilities (particularly electricity) and the technology infrastructure (such as information systems and the ATM-related costs).

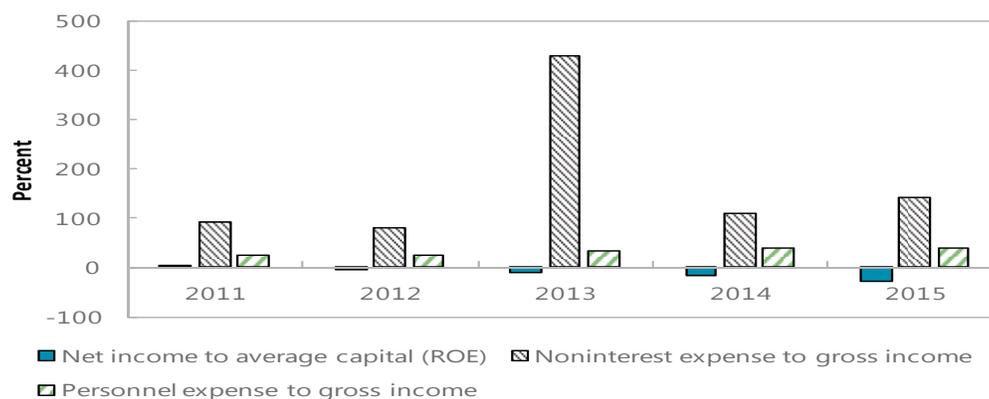
Table 2. Breakdown of Bank Profitability

| Breakdown of Bank Profitability | 2013 | 2014 | 2015 | 2014/13 | 2015/14 |
|---------------------------------|----------------|-------------|-------------|---------------------|---------|
| | Dobras million | | | year-on-year growth | |
| Net income ("after-tax profit") | -110,825.55 | -132,293.22 | -226,470.09 | -19.4% | -71.2% |
| Net operating income (+) | -86,952.46 | -107,120.35 | -216,556.48 | -23.2% | -102.2% |
| Net interest income (+) | 133,939.43 | 136,853.42 | 138,702.03 | 2.2% | 1.4% |
| Interest income (+) | 252,057.09 | 251,938.65 | 250,969.02 | 0.0% | -0.4% |
| Interest expense (-) | 118,117.66 | 115,085.23 | 112,266.99 | -2.6% | -2.4% |
| Noninterest income (+) | 256,817.55 | 256,643.60 | 255,687.74 | -0.1% | -0.4% |
| Provisions for loan losses (-) | 63,719.95 | 98,733.18 | 168,954.87 | 54.9% | 71.1% |
| Noninterest expense (-) | 409,810.50 | 404,903.72 | 441,991.38 | -1.2% | 9.2% |
| Securities gains/losses (+) | 0.00 | 0.00 | 0.00 | | |
| Applicable income taxes (-) | 12,851.90 | 13,890.09 | 9,913.61 | 8.1% | -28.6% |

Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

12. Analysis of São Tomé and Príncipe's financial soundness indicators also indicates problems in earnings. Most banks have reported negative earnings since 2013 and these losses have been rising (Table 2 and Figure 7). The expense to income ratio has also been increasing. The increase in provisions does not match growth in NPLs, fluctuating at around 100 percent of NPLs in 2015 compared to above 150 percent in 2013. While this could be partially explained by the increase in the NPLs, it flags a need to increase provisioning for problem loans by banks.

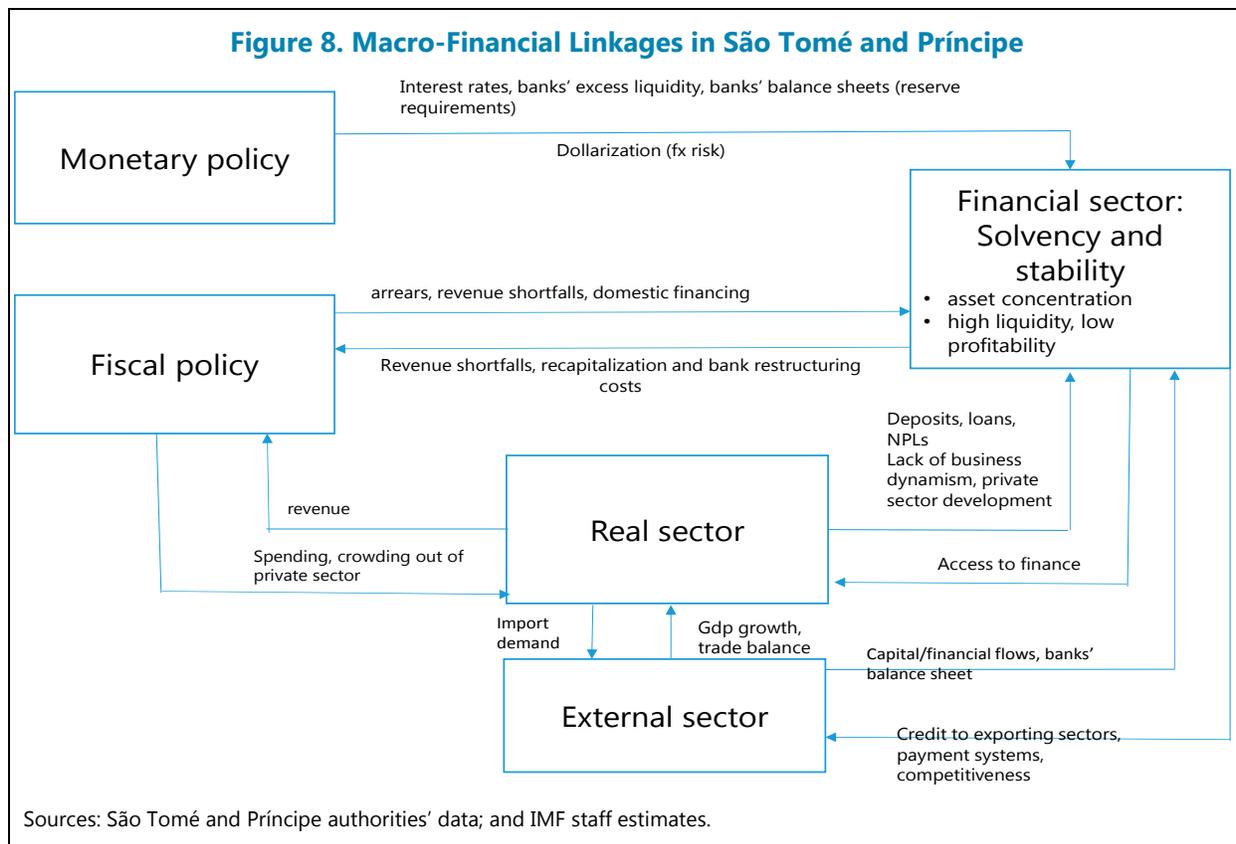
Figure 7. Expenses vs. Profitability (2011–15)



Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

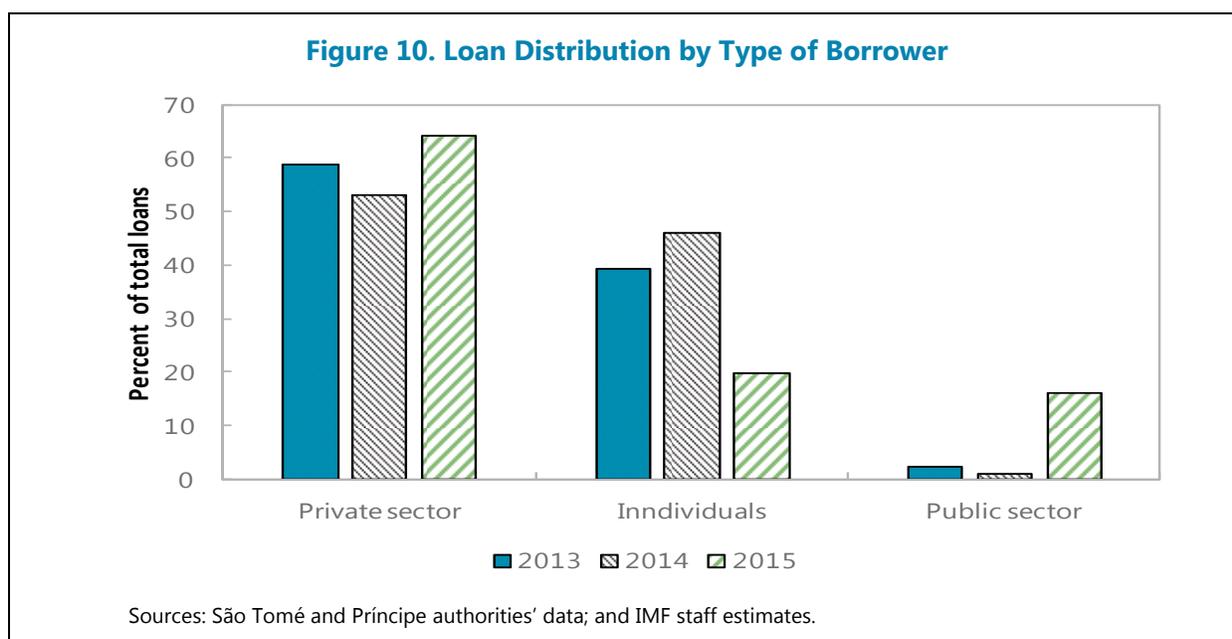
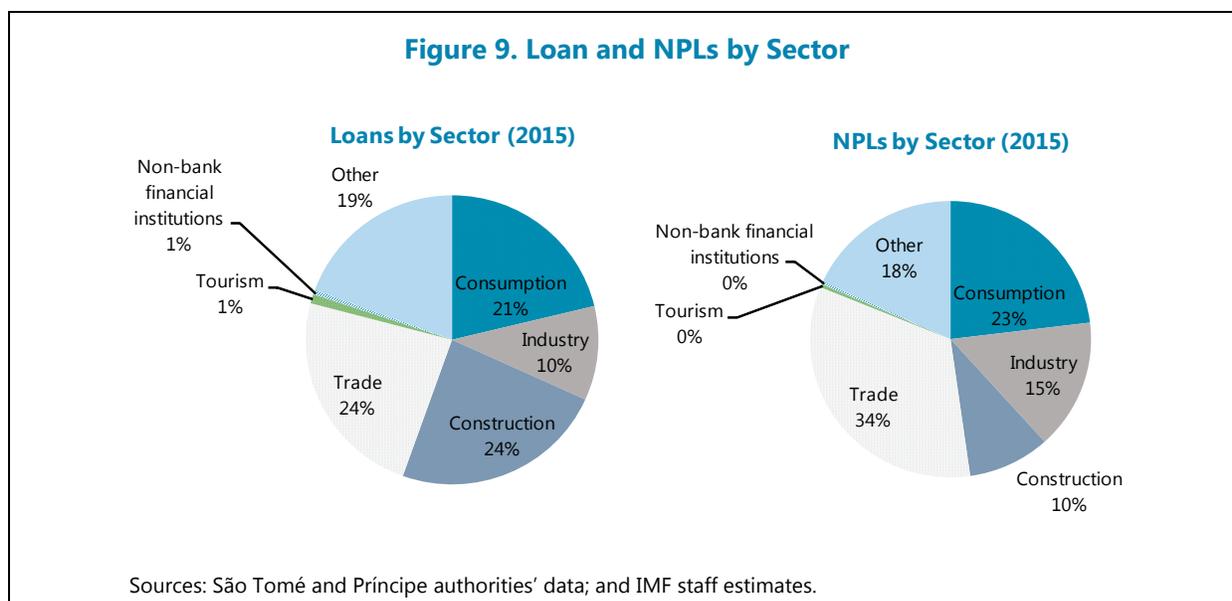
C. Macro Financial Linkages

13. Linkages between developments in the financial sector and the overall economy are bi-directional. In the context of examining these bi-directional linkages, we focus on the real, fiscal, external and monetary sectors. Using the banking sector data, bank-by-bank balance sheet analysis as well as discussions with market participants, these linkages and their transmission channels (including spillovers from the financial sector to the rest of the economy and spillbacks from the rest of the economy to the financial sector) were identified (Figure 8).



14. The real and financial sector linkages are primarily through the credit channel.

A breakdown of the loan portfolio in 2015 shows that trade (24 percent), construction (24 percent) and consumption (21 percent) received around 70 percent of the credit to the economy (Figure 9), and this pattern has not changed much in the last two years. On the other hand, credit to the agricultural and tourism sectors remained low at about 1 percent each. Expansions in the agriculture and tourism sectors are largely externally-financed by grants and FDI respectively. The share of credit to the public sector, including the local government and public non-financial corporations, is miniscule—1 percent of gross claims in 2015 (Figure 10). NPLs in the top three domestic credit-receiving sectors are also relatively higher than in other sectors; in 2013, NPLs in the trade sector were disproportionately higher (more than 50 percent) but, in 2015, there were also significant increases in NPLs in consumption and construction.



15. The banking system has minimum direct exposure to the public sector, while the private sector has been the largest borrower in the last three years, followed by individuals/households (Figure 10). Credit to public sector has been at very low levels in 2013 and 2014, with an increase in 2015 due to available credit lines to EMEA). While credit to households grew rapidly in 2010/11, it has been contracting since 2013. High levels of NPLs to households reflect both expansions in credit in anticipation of increased incomes that normally come with commercial oil production, as well as lack of bankable investment opportunities for the banks. Poor lending standards and credit stance and in adequate supervisions during the credit boom (up until 2013) also contributed to the rapid accumulation of NPLs.

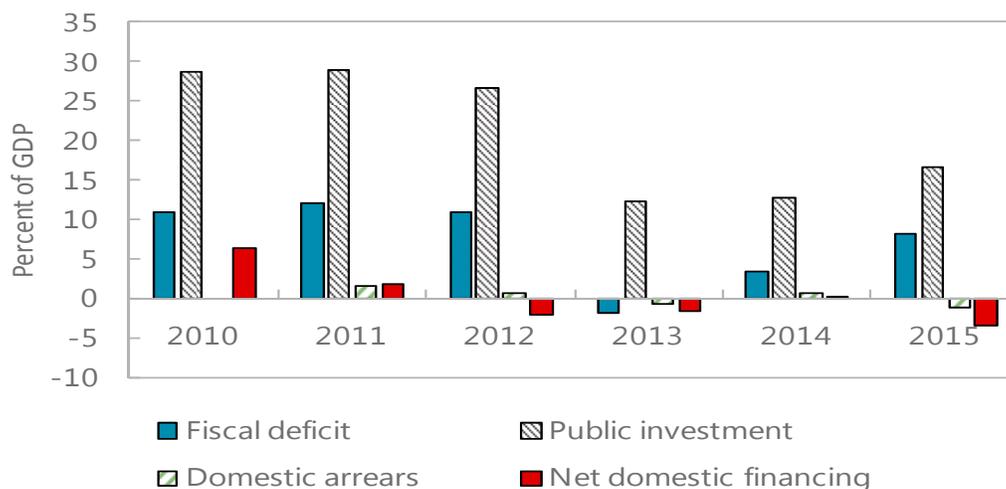
16. There are also significant spillbacks from the real sector to the financial sector.

For example, inefficiencies in energy production has contributed significantly to high operating costs for most financial institutions which are charged higher tariffs in the tariff structure. At the end of 2015, on average, electricity costs constituted about 40 percent of total operating cost of most financial institutions and this has been the trend in the last decade. These high operating costs in part explain the low profitability and high interest rate spreads in the banking sector.

17. Some of the locomotive sectors of economic growth in the economy benefit less than optimally from bank credit and access to finance. The construction sector with assets that are used as collateral was the recipient of almost a quarter of total bank credit, even though its contribution to real GDP was 7 percent in 2015. Conversely, credit to the agriculture sector made up the smallest share (1 percent) even though the sector—including fisheries—contributes close to 15 percent to total GDP, ranking as the second largest sector, and is a key employer. Lending for wholesale and retail trading averages roughly a quarter of total outstanding credit to the private sector, consistent with the distributive trades' dominance in the economy (contributing about a quarter to real GDP). Similarly, tourism received around 1 percent of domestic credit, in line with its contribution to GDP (around 2 percent), underscoring its untapped potential.

18. One important factor that restrains the real-financial sector linkages is the high degree of informality in São Tomé and Príncipe's economy. Informality limits access of small and medium-sized enterprises to finance as well as financial inclusion. However, the establishment of a credit registry partially decreased the information asymmetries and associated costs in the formal sector.

19. The linkages between the fiscal and financial sectors are relatively weak (Figure 11). While the government does not directly rely on domestic financing, the main linkages with the fiscal sector come from accumulation of large domestic arrears to key businesses and potential costs to the budget from restructuring/recapitalization of banks. A less direct linkage comes through private companies which provide services to the government, particularly financing for investment projects. On the other hand, where the private sector mostly depends on government spending on goods and services, any delays in budget implementation and any accumulation of arrears to suppliers by the government could impact on the ability of these government contractors to service loans. Stress tests under adverse-shock scenarios show that restructuring/recapitalization costs to the budget could be in the range of 1½ to 3 percent of GDP. Performance in the banking sector has a direct impact on government revenues, in particular, from corporate taxes. Recent low profitability of banks has affected government domestic revenue mobilization negatively. Only two banks paid corporate taxes in 2013 and this drop to just a bank paying taxes in 2014 and 2015.

Figure 11. Simulated Financial Sector Impact on the Budget

Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

20. The complications that arise from excess liquidity in the banking sector highlight the bi-directional linkages between the monetary and financial sectors. Excess liquidity of financial institutions weakens monetary policy by undermining the effectiveness of tools available to the central bank. For instance, any BCSTP decision to change the reserve requirement would only have very limited impact on credit. Similarly, the monetary transmission mechanism is also weakened, limiting the impact of changes to interest rates.

21. Large presence of foreign-owned banks could potentially pose risks to reserves and the currency peg arrangement. In a banking sector where around 50 percent of total assets are held by foreign-owned banks, the central bank faces the risk that these banks may decide to move their investments abroad given scarce domestic investment opportunities and low profitability. Such a situation would lead to increases in capital outflows and demand for selling local currency, and hence induce pressure on the currency and the peg. Similarly, any reversal of the downward trend in dollarization upturn in foreign currency denominated loans would affect international reserves and induce stress on the current exchange rate peg arrangement.

22. The development of domestic debt market and introduction of new instruments could strengthen the monetary-financial sector linkages. The BCSTP recently strengthened its efforts to introduce domestic debt instruments through issuances of two Dobra-denominated treasury bills in 2015 and 2016. These are expected to be instrumental in improving the interbank market, which has not been used by the banks so far due to high risk aversion and the stigma associated with accessing the interbank market. The issuance of treasury bills and bonds are expected to serve as collateral to back lending in the interbank market. Additionally, development of the treasury bills market—developing a secondary market and the number of bills on offer with different maturities—would help the BCSTP build a yield curve, which would decrease both uncertainty in the market and the risk premium in investments. This would also strengthen the BCSTP's liquidity management tools

and options such as open market operations in the medium and long term. However, while developing the debt market, there should also be a clear borrowing strategy by the government and issuance should be aligned with fiscal policy and debt sustainability.

23. There are a number of bi-directional linkages between the external and financial sector, primarily through exports and trade. Strengthening of the external and financial sector linkages could play a key role in promoting growth through exports, which would also have positive implications for the rest of the economy.

24. The tourism sector is expected to play an important role as a key pillar of economic growth in the medium term. The financial sector could support tourism by providing credit to and investing in the sector and improving the sector's competitiveness by offering a range of financial services to tourists. In São Tomé and Príncipe, both of these support mechanisms are weak; credit to the tourism sector is marginal and financial services available to tourists and service-providers are quite limited. Financial sector innovation would help improve São Tomé and Príncipe's competitiveness.

25. The financial sector could also play a critical role in facilitating trade, particularly with respect to payments. Currently, foreign exchange is limited and not always available to banks, weakening their capacity to support importers. This could partially be explained by the BCSTP's strict control to minimize open positions. Financial instruments to support trade are also very limited and as a result importers and exporters face practical difficulties. For instance, letters of credit are not used for payments, and instead businesses resort to the high-risk option of transferring money in advance for imports and having no control over the trade.

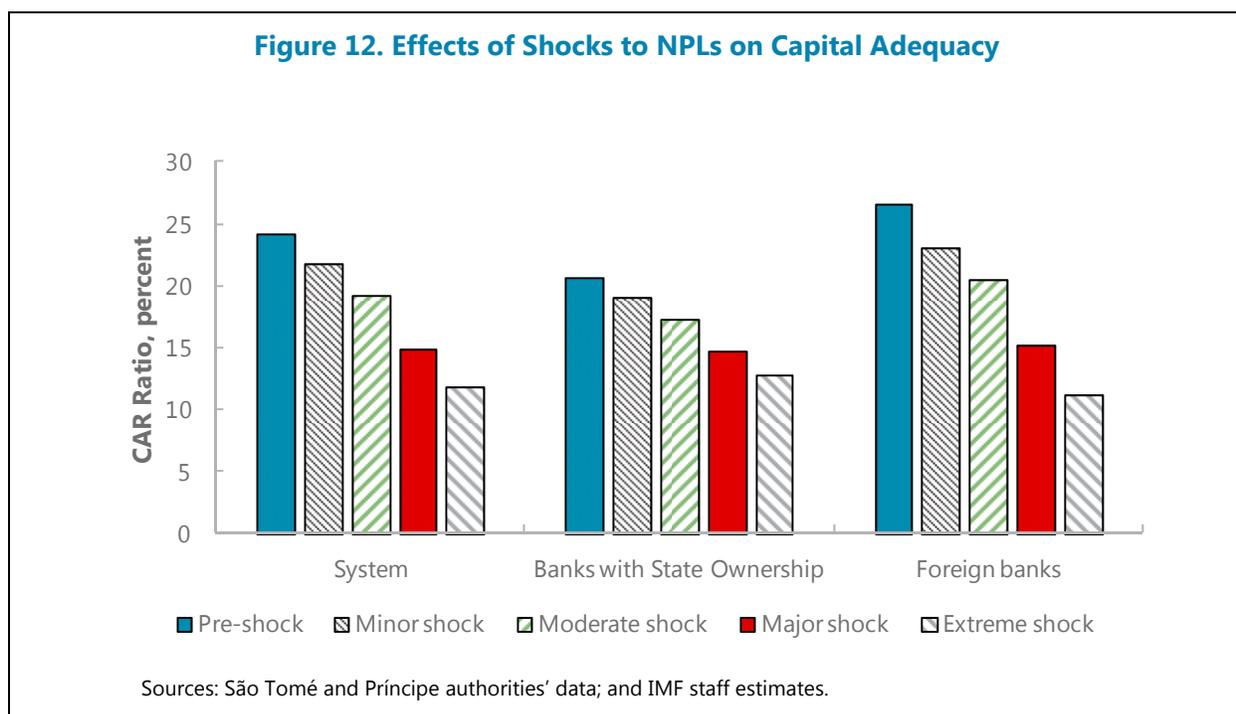
D. Macro Stress Tests

26. To identify areas of potential vulnerability in the banking sector that would become evident under adverse scenarios, macro stress tests were conducted as part of the macro-financial linkages study in São Tomé and Príncipe. These tests utilize a set of statistical techniques to help assess the vulnerability of financial institutions and financial systems to *exceptional but plausible* events. The objective is to make risks more transparent by estimating potential losses in abnormal circumstances. At the moment, these stress tests are not part of the BCSTP's supervisory framework, although the authorities are familiarizing themselves and experimenting with these tests to complement surveillance of the financial sector.

27. The exercise draws on the Cihak (2007) framework, adjusted for São Tomé and Príncipe banking sector's specificities and data. Four types of risks are analyzed: credit risk, liquidity risk, market risk (interest and foreign exchange) and income risk. The impact of minor, moderate and major shocks on São Toméan banks is tested for each risk both at the aggregate and individual bank level. The tests are based on end-2015 banking sector data provided by the BCSTP.

28. Stress tests suggest that in São Tomé and Príncipe, credit risk is the most relevant given the limited debt instruments, excess liquidity and currency peg. Vulnerabilities come from of the accumulation of NPLs and high concentration of credit exposure. The results are discussed in the remainder of this section.

29. The banking sector’s resilience to solvency risk was assessed by stimulating the impact of an overall deterioration in loan quality on capital adequacy ratio (CAR) per bank and for the whole sector. A minor shock of 20 percent, a moderate shock of 40 percent and a major shock of 70 percent increase in total NPLs were applied and a provisioning rate of 100 percent for the new NPLs was assumed. The results show that the banking system in aggregate would remain resilient to minor, moderate and major shocks, with CAR staying above the 12 percent minimum requirement CAR (Figure 12). However, at the individual bank level, the major shock leaves two foreign banks with CARs below the minimum threshold. In an extreme case scenario where NPLs are assumed to increase by 90 percent, the banking sector’s CAR drops below the minimum requirement, driven by deterioration in foreign banks’ balance sheets.

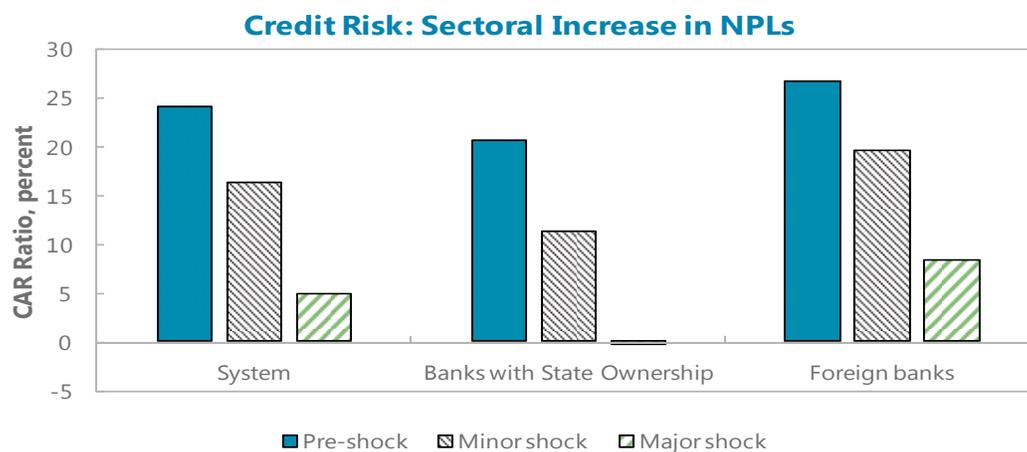


30. The sectoral shocks to NPLs aim to better assess the vulnerability faced by banks, using recent trends in NPLs by sector (Table 3 and Figure 13). The assumed increases in NPLs were based on the observed historical growth of NPLs by sector since 2012. Under the minor shock scenario, two banks’ CARs decrease to around 11 percent. When NPLs increase under the major shock scenario, the CAR at the aggregate level deteriorates, with one bank becoming insolvent due to its large exposure to the construction sector and four of the foreign banks remain solvent with CARs above 12 percent.

Table 3. Sectoral Impact of Shocks to NPL

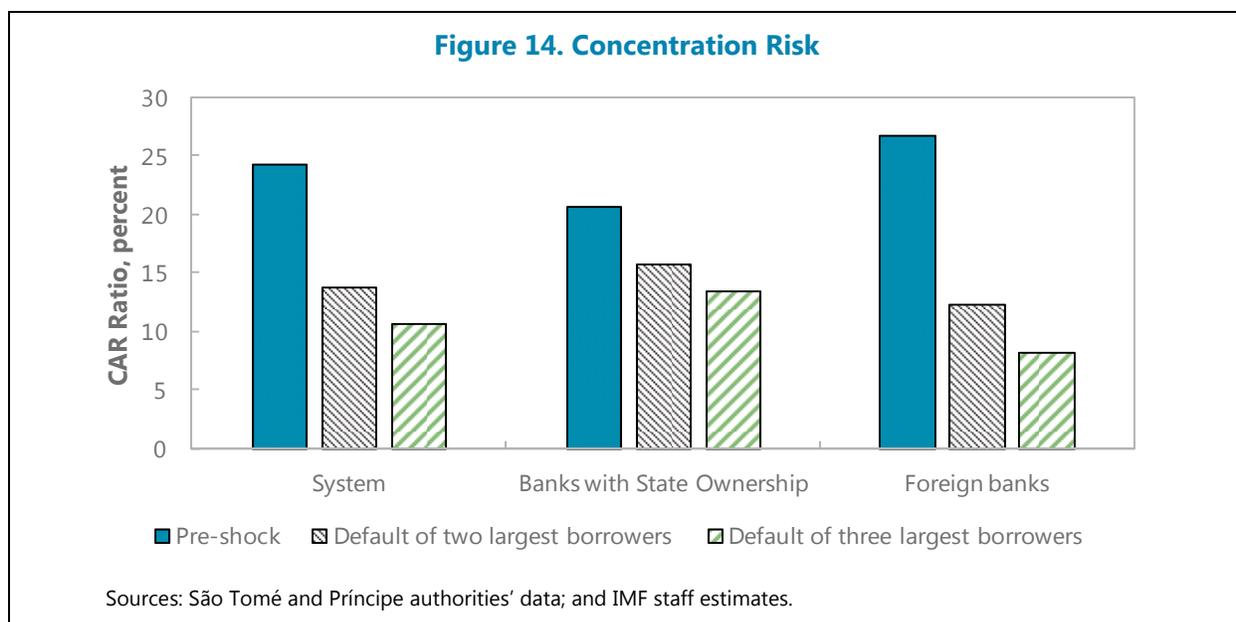
| Sectors | Pre-shock NPL ratio | Percentage increase in NPLs | |
|---------------------------------|---------------------|-----------------------------|-------|
| | | minor | major |
| Consumption | 23 | 40 | 75 |
| Industry | 15 | 20 | 60 |
| Construction | 9.5 | 20 | 50 |
| Trade | 33.3 | 30 | 60 |
| Tourism | 0 | 10 | 30 |
| Non-bank financial institutions | 0 | 10 | 30 |
| Other | 18.2 | 20 | 70 |

Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

Figure 13. Credit Risk: Impact of Sectoral Increases in NPLs on Capital Adequacy


Sources: São Tomé and Príncipe authorities' data; and IMF staff estimates.

31. Large exposure to few borrowers exposes banks to concentration risk as a default of large borrowers would lead to CAR dropping below 12 percent. The results of the stress tests show that the entire banking sector is exposed to the concentration risk (Figure 14). The overall CAR ratio would drop below the minimum capital requirement after the default of the two or three largest borrowers of each bank. In the case of two largest borrowers defaulting, two foreign banks experience substantial difficulties in capital adequacy, whereas with the default of the three largest borrowers, overall CAR ratio drops to 10 percent.



32. For assessing the liquidity risk, simple liquidity tests are more suitable for São Tomé and Príncipe given that the financial sector is in its early stages of development. Moreover, the interbank market is almost non-existent. Therefore, the risk of drying-up of liquidity in interbank operations is negligible. Simple liquidity tests model a simple liquidity drain that affects all banks in the system proportionally. In a financial system with excess liquidity like São Tomé and Príncipe, the results show that liquidity risk is low for the banks. In case of a liquidity run, all banks would not face a liquidity problem in the first 5 days or the need to access external financing for liquidity.

33. Given the shallowness of government debt market and its short history, São Tomé and Príncipe banks are not sensitive to changes in bond interest rates and do not face any significant interest rate risk. Similarly, the current foreign exchange risk is quite limited in the presence of a currency peg. While there is still dollarization in the system, it is at much lower levels (30 percent). Thus, not presenting a significant risk to the banks through exchange rate fluctuations. Neither direct nor indirect foreign exchange risk results in banks' CARs dropping to below the minimum requirement of 12 percent.

E. Policy Implications

34. Continued vigilance over the financial sector is warranted given the adverse impact of macro-related risks on banks and the negative feedback loop to the overall economy. Ensuring the health of the financial sector would bolster its role in supporting economic growth. In light of the recent developments regarding high NPLs, low profitability and low financial intermediation, the banking sector would benefit from a credible NPL resolution strategy. It is also necessary to address structural bottlenecks in the economy such as lengthy court resolution processes, lack of collateral, large informal sector and low financial literacy levels.

35. Deterioration in asset quality and NPLs are immediate risks to financial sector stability and soundness. The BCSTP's prospective NPL resolution strategy and increased supervision will be keys to minimizing spillovers from the banking sector to the rest of the economy. Enhancing both on and off-site supervision and tightening and enforcing prudential norms are critical to containing credit risk and avoiding liquidation costs for the monetary authority and fiscal sector. In the presence of banking sector vulnerabilities, there is also the need to consider the introduction of emergency lending assistance (ELA) arrangements.

36. The financial sector could play an instrumental role in unlocking São Tomé and Príncipe's growth potential. Currently, the relative importance of the various sectors' contributions to the economy (in terms of GDP and employment) is not fully aligned with the credit distribution trends. Therefore, while high NPLs are reasonably expected to restrain credit expansion, once the banking sector recovers and becomes more stable, domestic credit should support the country's growth strategy. In this respect, supporting sectors like agriculture and tourism would benefit both the external and the real sectors.

37. Macro stress tests show that credit risk is currently the biggest threat to financial sector stability. Simulated shocks lead to rapid accumulation of additional NPLs, at the aggregate and individual bank levels and concentration risk. In terms of sectoral allocation, banks' portfolios vary notably, such that certain shocks affect the banks differently. Bank-level results of stress tests therefore shed light on some risks that disappear at the aggregate level. Consequently, conducting stress tests regularly to complement on and off-site supervision would help ensure the soundness and stability of the sector.

PROMOTING GROWTH AND PRIVATE SECTOR DEVELOPMENT IN SÃO TOMÉ AND PRÍNCIPE¹

This study discusses growth and private sector development in São Tomé and Príncipe. Using a growth accounting framework, it identifies the main components of growth and analyzes the differences with respect to comparator countries. The study also addresses some constraints facing the business sector and various policy recommendations. The findings suggest that measures for increasing productivity and enhancing the business environment, particularly improving access to credit, among other initiatives, can have a positive impact on economic growth and private sector development.

A. Introduction

1. The Democratic Republic of São Tomé and Príncipe has successfully achieved greater macroeconomic stability in recent time. Economic growth rates have been stable since 2009, averaging over 4 percent per year, after a period of widely fluctuating growth rates. While real GDP has been expanding faster than in many small-island states recently, it has not been sufficiently strong and diversified to meaningfully improve economic prospects and reduce poverty noticeably. Additionally, annual inflation has moderated significantly. Supported by the euro peg and a prudent fiscal policy stance, inflation has fallen sharply from the historic high of 28 percent in 2007 down to 4 percent in 2015, the lowest in the past two decades.

2. On the development front, initial gains in job creation have not been sustained. The unemployment rate declined from 16.0 percent in 2002 to 13.9 percent in 2008, then inched back upwards to 14.5 percent in 2015, with women, the youth (aged 15–34 years), and city-dwellers being disproportionately affected by joblessness. However, it should be noted that the fall in the unemployment rate between 2002 and 2008 was more accentuated for women than for men. Economic growth had less of an impact on underemployment, which increased by almost 40 percent above 2002 levels.

3. Despite improvements in macroeconomic stability, poverty reduction remains an important social and political issue. Over half of the population lives below the national poverty line; in fact, the absolute poverty measure was reported to be 66.2 percent in 2009/10, based on a standard cost-of-basic-needs (CBN) assessment that quantifies the consumption-poverty line at 30,000 São Toméan dobra (about US\$1.60) per capita per day. It would require an accelerated and sustained broad-based growth of more than 6 percent of GDP in order to make significant impact on poverty reduction.

¹ This note was prepared by Jehann Jack (AFR).

B. Sources of Growth

4. To identify the sources of growth and explain income differentials with peers, the analysis uses a growth accounting framework. A common representation of the production process is the Cobb-Douglas production function, in which output is expressed as:

$$Y_t = A_t K_t^\alpha L_t^{(1-\alpha)}$$

where Y is output, K is the physical capital stock, L is labor input (or human capital stock), and A is total factor productivity (TFP), which captures all other implicit variables that are relevant for the transformation of capital and labor into output, such as technology and institutions. The subscript t denotes time. Following Gijon, Yontcheva, and Dernaoui (2015), the World Bank's World Development Indicators (WDI) database was used for labor force and the IMF's World Economic Outlook (WEO) database for physical capital and real GDP growth rates. The capital share (α) is assumed to be 0.4, based on work on growth accounting in sub-Saharan Africa (IMF Working Paper 04/176). Capital shares of between 0.30 and 0.45 were used in research on the Eastern Caribbean Currency Union, which is a region of small-island states much like São Tomé and Príncipe in terms of size, population, and economic orientation, and it was determined that within this range the overall results were largely the same (Thacker et al 2013).

Taking natural logarithm of the function and differentiating with respect to time gives:

$$\frac{\dot{Y}}{Y} = \frac{\dot{A}}{A} + \alpha \frac{\dot{K}}{K} + (1 - \alpha) \frac{\dot{L}}{L}$$

where the dotted variables represent time derivatives. The equation essentially indicates that economic growth can be decomposed into contributions from TFP, and capital and labor inputs. It also means that once the growth of output, capital, and the labor force are obtained, TFP growth can be estimated as a residual, based on α 's assumed value.

5. **There are some limitations to the model.** Given the paucity of data on educational attainment, the analysis uses a basic production function that abstracts the contribution of human capital to growth, including only capital and labor as factor inputs. The TFP component is measured as an unexplained residual and thus picks up measurement errors in the data, including the challenge of accounting for improvements in the quality and composition of physical and human capital, which could be significant. The assumption of constant shares over time may also not necessarily hold. Despite these caveats, this framework remains an important tool for policymakers to help diagnose the contribution of different factors to growth, the constraints to growth, and the design of policies to enhance growth.

6. **The results suggest that economic growth in São Tomé and Príncipe has been underpinned by the contribution of investments in physical capital—largely public sector-financed.** Over the period 1980–2012, the contribution of capital to growth was 6.7 percent on average while that of labor averaged 0.7 percent (Table 1). On the other hand, productivity seems

not to be contributing to the growth momentum. Analysis of the results also reveal that growth could be further accelerated over the medium term through mobilizing private investment and enhancing productivity, which are important given the country's level of indebtedness and limited fiscal space for sustaining high levels of public sector investment.

Table 1. Sources of Real GDP Growth, 1960–2012

($\alpha = 0.4$)

| | Real GDP growth 1/ | Contribution of: | | |
|---|-----------------------|---------------------|-------------|-----------|
| | | Physical Capital | Labor 1/ | TFP 1/ |
| São Tomé and Príncipe 2/ | 1.8 | 6.7 | 0.7 | -5.7 |
| Sub-Saharan Africa | 3.6 | 2.8 | 1.3 | -0.6 |
| Low-income countries | 3.1 | 2.8 | 1.4 | -1.0 |
| Eastern Caribbean Currency Union 3/ | 4.0 | 1.8 | 0.7 | 1.5 |
| Memorandum item: All low-income countries in the world 4/ | 3.8 | 2.1 | 1.3 | 0.4 |

Sources: IMF, World Economic Outlook database, 2012; World Bank, World Development Indicators, 2012; Thacker et al (2013); Gijon et al (2015); and authors' calculations.

1/ Percentage change.

2/ Data from 1980-2012.

3/ Data from 1971-2007. Alpha, $\alpha=0.35$; using different values for α ($=0.30-0.45$) make little difference to the overall results according to the authors.

4/ Data through 2001.

7. Growth composition in peer groups in sub-Saharan Africa is broadly similar to that of São Tomé and Príncipe. Sub-Saharan African low-income countries' average growth decomposition also shows that physical capital is the most important factor contribution to growth, followed by labor input while productivity losses have held back growth. By contrast, independent countries in the Eastern Caribbean Currency Union—namely, Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, and St. Vincent and the Grenadines—have grown twice as fast as São Tomé and Príncipe with a positive contribution from productivity despite lower capital contribution. The same is true for all low-income countries in the world when grouped together.

C. Constraints to Growth and Private Sector Development

8. Companies in São Tomé and Príncipe have consistently identified “getting credit” as a key barrier for doing business. Among the reasons put forward by credit institutions for their reluctance to lend are high credit risks (due to over-indebtedness and asymmetric information) and costs of funds, especially in relation to loan size, even though these factors are largely priced-in given the relatively high lending rates in the market. Private sector credit growth, while recently turning positive, has remained weak and supports non-productive sectors like distributive trades and private consumption disproportionately relative to agriculture and tourism. Credit to the private

sector, which increased by 3.8 percent in 2015, seems to be trending back upwards since early 2015 after successive months of year-on-year declines in 2014. The slow credit growth has led to the build-up of excess liquidity in the banking system and this has also been compounded by growing household debts (high non-performing loans) and the lack of liquidity management tools. The withdrawal of large-scale oil exploration activity, coupled with declining prospects for commercial oil production, has also meant that opportunities for banks to lend are scarce, entrenching the liquidity overhang. While economic diversification and vibrancy in private sector activities would help, banks also need to resolve the issue of high non-performing loans before they can lend more money. Development of non-banking financial institutions and services has also been limited. The microfinance sector is miniscule, in which there is a single operator and no formal regulatory framework to support the growth and development of the sector.

9. The costly business environment also extends to the price of electricity, which has been invariably mentioned as a challenge for the private sector. In addition to the high price for electricity, the oft-times inefficient and unreliable service adds both direct and indirect costs to the private sector in terms of generator usage and lost productivity during times of service disruptions. Some businesses in the financial sector report spending as much as 40 percent of their total operating costs on electricity alone and service reliability is a concern across the board. Frequent outages are largely the result of the aging generation equipment.

10. Governance—particularly bureaucratic and legal systems—while necessary, has become a constraint as there is insufficient transparency and excessive delays. While São Tomé and Príncipe has been lauded in recent time for its stable political environment and swift business registry procedure, the judicial system has been singled out by the private sector as a major challenge with governance, and in need of reform to provide more legal protection for investors and enable banks and credit institutions to realize collateral claims in a timely manner.

11. Other identified issues that require attention are infrastructure bottlenecks and health and environmental challenges. The business community agrees with the political directorate on the necessity for further infrastructure development, especially as it pertains to road and airport development. However, infrastructure investment must be done judiciously; high value-added projects should be expedited, especially if financing is available at terms and conditions that do not jeopardize the country's debt sustainability. Moreover, health and sanitation concerns need to be addressed by expanding the water supply coverage area, discouraging litter and encouraging healthy lifestyles. All efforts should be directed to preserving the unspoiled image of the islands.

D. Policy Recommendations

12. São Tomé and Príncipe can do well with venture capital-type financing for micro, small and medium-sized enterprises (MSMEs). Venture capital is defined as long-term, committed share capital invested in enterprises that are subject to certain risks that make them unattractive to bank financing or to financiers in the public or quoted capital markets. The risks of the venture bear some relation to its size, stage of development, degree of leverage, and/or the nature of the industry. Venture capital addresses the challenge of access to credit by providing investment

funds—primarily, but not exclusively, to entrepreneurial ventures that simultaneously possess promising potential yet risky returns. In this way, venture capital can be viewed as a supplement to traditional financial intermediation and inflows of foreign direct investment as it reduces information asymmetries, creates investment incentives and rewards entrepreneurial talent.

13. Branding and product certification, trade promotion, and training are necessary to highlight the unique offerings of the country to a global market. It is important for a small-island economy, which has peculiar challenges (such as market size and production scale limitations), to be outward-looking in its orientation, and to find and perfect its market niche—whether it be high-end tourism or premium chocolate, or both. Linked to this point is the need for respecting the natural environment and preserving the natural assets of the country, especially given the certification of the biosphere reserve on Príncipe Island, which distinguishes it as a leader in sustainable tourism. Tying all of these points together is the imperative for training and capacity building through education, technical assistance and information-sharing so that the population understands its roles and responsibilities, and can contribute more effectively to growth and private sector development initiatives in order to share its benefits.

E. Conclusion

14. São Tomé and Príncipe faces key policy challenges to ensure sustained growth in the periods ahead. Two important points stand out: a decline in productivity, rather than a lack of investment, appears to be the principal reason for the slower growth relative to peer groups over the time span of more than 30 years; and improving access to credit can be a significant growth stimulus, reducing poverty and promoting economic empowerment, provided that the stability issues are appropriately addressed. Staff projections show that economic growth will stabilize at a modestly higher 5.5 percent in the medium term. The forecast assumes a conservative implementation of the government’s strategic investments given the financing needs. Longer-term growth could potentially hover at 6.0 percent.

15. While capital investment intensification is necessary to support São Tomé and Príncipe’s high growth potential, productivity gains are essential. Productivity losses may explain some of the differences between São Tomé and Príncipe’s growth performance and that of its main peer groups so, while capital investment intensification is useful, productivity gains are vital to maximize growth potential. Further improving São Tomé and Príncipe’s productivity requires, among other measures, addressing its challenging business climate and promoting a more diversified economy with vibrant private sector participation.

16. Providers of credit, especially banks, have an important role to play and venture capital financing could be considered to support growth and private sector development. The role of banks for spurring private sector development given São Tomé and Príncipe’s nascent stage of development cannot be overemphasized. While both institutions and markets are complementary for growth, too much and rapid market development at the embryonic stages of institutional development may have negative implications for stability. Hence, establishing the appropriate balance between financial markets and institutions is important.

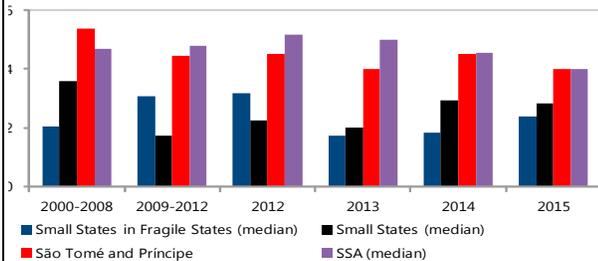
17. Financial sector development could stimulate economic growth, while reducing poverty and inequality. By mobilizing pooled savings into investment, improving resource allocation, and increasing access to financial services, financial development would likely convey net benefits to São Tomé and Príncipe, provided there is adequate regulatory oversight to prevent excesses. However, if the financial system becomes too large to allow for effective regulation and supervision, it could conceivably divert resources away from productive activities, generate financial instability and macroeconomic volatility (with adverse consequences on long-term growth), and engender financial crises. Structural reforms—such as expanding the credit registry and strengthening the legal codes (e.g., for possessory title)—are required to facilitate further financial sector development and increase potential growth.

18. Other business-friendly reforms can also have significant potential for creating longer-run economic payback. These should focus on: improving the effectiveness of public investment; improving the business environment and providing more efficient public services; increasing linkages between sectors with strong potential growth, e.g. tourism, agriculture and fisheries, and geothermal energy; and increasing efficiency in the product, labor, energy and financial markets.

Figure 1. São Tomé and Príncipe: Sources of Growth

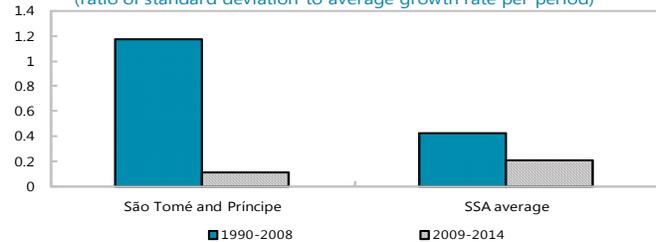
Growth has been more in line with the SSA (median) than with other small state peers...

Real GDP Growth



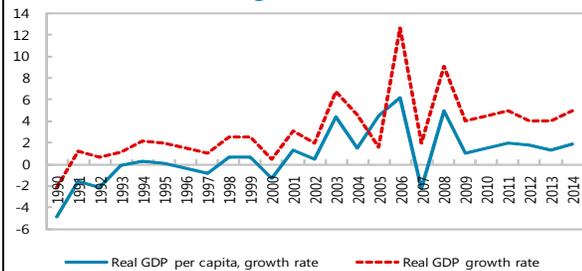
...and has been less volatile since 2009.

Relative volatility in real GDP growth
(ratio of standard deviation to average growth rate per period)



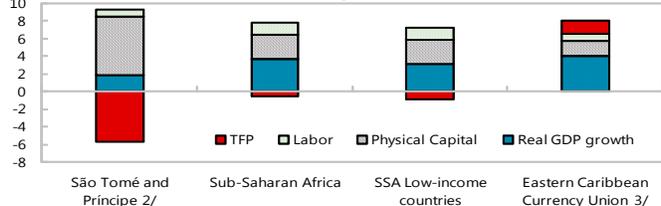
Economic growth has trended upwards since 1990...

Real GDP growth, 1990-2014



...and has been underpinned by capital contribution with productivity losses, weighing on growth.

Average Sources of Real GDP Growth, 1960-2012



Sources: IMF, World Economic Outlook database, 2012; World Bank, World Development Indicators, 2012; Thacker et al (2013); Gijon et al (2015); and authors' calculations.
1/ Percentage change.
2/ Data from 1980-2012.
3/ Data from 1971-2007. Alpha, $\alpha=0.35$; using different values for α ($=0.30-0.45$) make little difference to the overall results according to the authors.

Sources: IMF World Economic Outlook database, and IMF staff estimates and projections.

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SMALL FINANCIAL SYSTEMS: SOME STYLIZED FACTS¹

The challenges of small financial systems are well known. The provision of financial services is often more expensive and more limited in small financial systems compared to larger ones due to limited economies of scale at both the level of each financial institution and the financial system as a whole. Financial service costs are mostly fixed, which means that the cost of financial intermediation decreases as the number of transactions, customers, and institutions increases. Fewer transactions and fewer customers can sustain fewer financial institutions and less competition. They are also more expensive to operate as they face a number of costs including branch network, IT systems, and corporate governance structures that are largely independent of the number of customers served. Similarly, the costs of regulating and supervising a financial system and the cost of payments systems and other financial infrastructure are also largely independent of the number of institutions that make up the financial system. Moreover, it is often difficult for small financial systems to diversify risks, which can further constrain the size of the financial system in small markets and contribute to financial stability risks.²

A. Countries with Small Financial Systems

1. In 2013, out of 170 reporting countries, 19 countries had financial systems with a total size as measured by M2 (currency outside of banks and demand deposits) of less than US\$1 billion (Figure 1, Table 1). As Bossone, Honohan, and Long (2002) point out, this is no larger than a small bank in a developed country.³ Small populations characterize countries with small financial systems. Among the 19 countries, population size ranges from less than 100,000 in Dominica and the Seychelles to 10 million in Burundi and is on average less than 2 million. They are also prevalent in small economies as measured by GDP. In terms of GDP per capita, the group of countries varies widely, from low income countries to upper middle-income countries. About half of the countries are located in sub-Saharan Africa (10), followed by East Asia Pacific (6) and Latin American and the Caribbean (3). (Given that a disproportionate number of countries with small populations and low GDP per capita do not report M2, the true number of countries with small financial systems is higher than 19).

¹ This is a summary of analytical work done during the preparation of the São Tomé and Príncipe Financial Sector Development Implementation Plan by Dorothe Singer and Julian Casal, both World Bank.

² Bossone, Honohan, and Long (2002) provide a discussion of how small financial systems differ from larger ones and propose policies that can help small financial systems overcome some of these challenges. In particular, they show how openness can help offset some of the disadvantages of being small. Work by Beck and De La Torre (2007), Barajas et al. (2013), and Beck and Feyen (2013) benchmarks the size, depth, and performance of financial systems relative to structural characteristics of countries such as size in terms of economic activity and population. They find that poorer countries and countries with smaller populations have smaller, shallower and poorer performing financial sectors.

³ Adjusted for inflation, US\$1 billion in 1999 is equivalent to US\$1.35 billion in 2013. See also the US Federal Reserve Board's FRED database for the size of US banks.

2. It is estimated that US\$1 billion is a low threshold: 70 countries out of 170 countries had financial systems of less than US\$10 billion in terms of M2. By comparison, 63 banks in the United States had more than US\$15 billion in average assets at the end of 2013 (US Federal Reserve Bank, FRED database). The average population size for countries with financial systems in terms of M2 between US\$1 billion and US\$10 billion is 7.5 million, if excluding the Democratic Republic of Congo, which, with a population of 72 million, is twice as large as the next populous country in this category.

3. Compared to 10 years ago, the number of countries with financial systems with M2 smaller than US\$10 billion (in 2013 dollars) has decreased from 104 in 2003 to 70 in 2013 (Table 2). As their economies have grown and their financial sectors have expanded, some countries moved from having financial systems with M2 below US\$1 billion (in 2013 dollars) to financial systems with M2 between US\$1 billion and US\$10 billion (in 2013 dollars) while in other countries the financial sector now clears the threshold of US\$10 billion. The latter category includes countries with relatively large populations (such as Kenya), which have been able to expand the size of their financial systems as their economies grew and their financial sectors were liberalized. However, many countries with small financial systems are too small in terms of population to develop large financial systems serving their domestic economy.⁴

4. Smallness and the issues facing small financial systems are of course not limited to countries falling below some thresholds. Rather, as some of the analysis below shows, the issues facing small financial systems are also relevant to relatively small systems beyond those thresholds along the continuum of size, albeit to a lesser extent.

B. Some Stylized Facts of Small Financial Systems

5. Given the presence of economies of scale, the absolute size of financial systems matters but are small financial systems also small in relative terms? A scatter plot of private credit as a percent of GDP against size and a tabulation of financial depth by size show that small financial systems are not only small in absolute terms as measured by M2, but also in relative terms (Figure 2 and Table 3). In 2013, very small and small financial systems on average reported a private credit to GDP ratio of around 30 percent. This compares to an average ratio of 45 percent in other developing countries and 101 percent in high-income OECD countries. However, as reflected by the scatter plot of private credit as a percent of GDP against M2, factors other than the absolute size influence financial depth and policy can play a potential role in further deepening financial sectors even for a given absolute size.

6. Compared to countries with larger financial systems, small financial systems are characterized by fewer financial institutions and a higher share in the number of foreign

⁴ Some countries with small populations have developed large financial sectors through the provision of offshore financial services. However, it is not clear that offshore financial services contribute to the quality of depth of on-shore financial services in small developing economies (Bossone, Honohan, and Long, 2002).

institutions and the percentage of total bank assets held by foreign banks (Table 4).⁵ Given the typically smaller market size of countries with small financial systems in terms of overall population and often also in terms of income, the smaller number of banks is expected. On average, very small and small financial systems have 9 banks compared to 32 banks in other developing countries and 52 banks in high-income OECD countries. The share of foreign banks in very small and small financial systems is 62 percent (number) and 75 percent (assets), respectively, about twice as large as in other developing and high-income OECD countries. The higher share of foreign banks in small financial systems might just be a reflection that any given number of foreign banks leads to very different shares of foreign bank ownership depending on the number of domestic institutions. But it can also point to the fact that smaller systems are more open because the presence of foreign financial institutions can help small financial systems address some of the challenges they face such as making the system more competitive and efficient by importing knowledge, risk-management skills, governance, access to capital and economies of scale. However, the presence of foreign banks can also raise questions in terms of foreign banks crowding out the market instead of introducing competition, increasing contagion risk, and overwhelming supervisory capacity.⁶

7. Asset concentration among the three largest banks is highest in very small and small financial systems at 82 percent; it is 55 percent in other developing countries and 70 percent in high-income OECD countries. The scatter plot of asset concentration among the largest three banks and M2 shows there is a large variation in the concentration ratios across financial systems, again pointing to other influencing factors and the potential role of policy in determining the level of concentration (Figure 3). Highly concentrated systems are typically thought to be less competitive; however, in small financial systems there might be a trade-off between competition and size given the prevailing economies of scale in finance, which might make relatively higher levels of concentration desirable.

8. Financial systems across all sizes appear to be well-capitalized. Asset quality in small financial systems is on average somewhat lower than in countries with larger systems (Table 5). In 2013, average non-performing loans (NPLs) as a percent of total gross loans stood at 8.7 percent in countries with very small or small financial systems compared to 7 percent in other developing countries and 5.8 percent in high-income OECD countries. While variation across countries along the size continuum does exist, this relationship is also illustrated in a scatter plot (Figure 4). One factor that might explain higher NPL ratios in very small and small financial systems might be relatively scarcer risk management skills both at the level of banks and at the level of regulation and supervision. It might also be a reflection of the generally greater difficulty to diversify risks in small financial systems.

⁵ Data on the characteristics for a large number of countries (136) are available in Claessen and van Horen's (2014) Bank Ownership Database. The most recent year for which the data are available is 2009.

⁶ For an overview of the benefits and risks of foreign banks, see Beck et al (2014) and, for a specific overview as relevant to small financial systems, see Bossone, Honohan, and Long (2002).

9. The profitability of banks varies by financial sector size. Return on assets and return on equity in very small financial systems are on average higher than in high-income OECD, but about half of those in countries with small financial sectors, which have the highest, average profitability (Table 6). This indicates that contestability remains limited overall especially in small financial systems despite the large share of foreign banks in these countries as documented above.

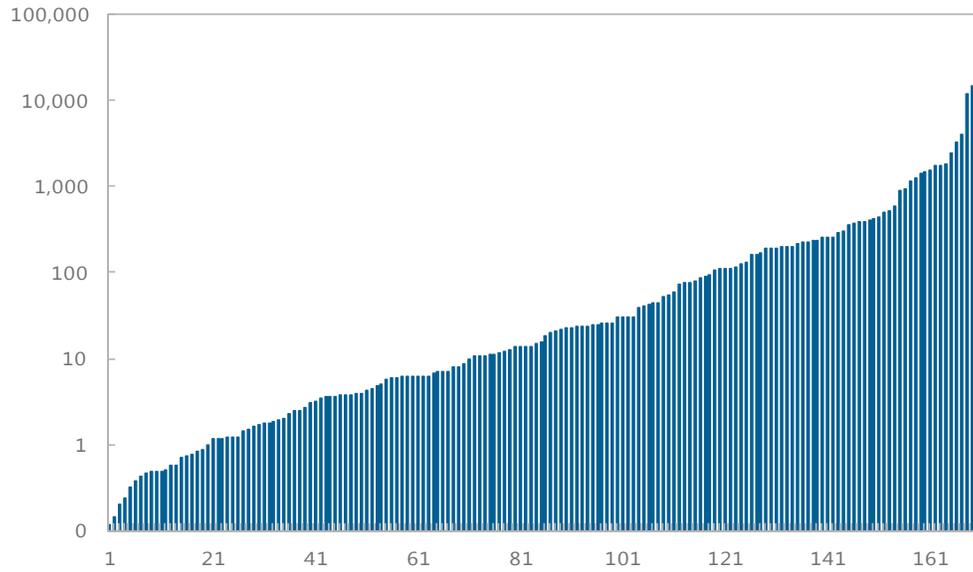
10. Operational efficiency in countries with small financial systems is typically lower compared to countries with larger financial systems (Table 6). Given the presence of economies of scale, it comes as no surprise that countries with smaller financial systems have higher cost to income and overhead costs to assets ratios (Figure 5). The interest rate spread—the difference in lending rate minus deposit rate—is also higher in smaller financial systems and decreases as the financial system size increases (Figure 6). Higher interest rate spreads might reflect higher lending risk, but also the higher overhead costs typically found in smaller financial systems. Other factors, including statutory reserve ratios and provisioning requirements, also explain differences in interest rate spreads. Higher interest rate spreads in small financial systems might also explain at least in part higher average net interest margins in small financial systems. In contrast, the ratio of non-interest income to total income does not appear to vary systematically with financial system size.

11. Another measure of efficiency is the rate at which the banks are able to transform savings into loans. The private credit to deposits ratio is lower in countries with very small financial systems compared to the ratio in countries with small financial systems and other developing countries. This might be a reflection that banks perceive lending exposure as relatively more risky in these countries, but it could also be a reflection of more limited supply of projects to invest in or a combination of both.

12. In terms of access to financial services, smaller financial systems typically have lower account ownership rates among adults and fewer bank branches and ATMs per 100,000 adults (Table 7). A simple average of account ownership rates across countries shows that countries with very small or small financial systems show an account ownership rate of 33 percent among adults compared to one of 48 percent in other developing countries. Data on financial access points show that while differences in bank branches by financial system size in developing countries are relatively small, they are more pronounced for ATMs with on average 22 ATMs per 100,000 adults in very small financial systems, 30 in small financial systems, and 38 in other developing countries.⁷

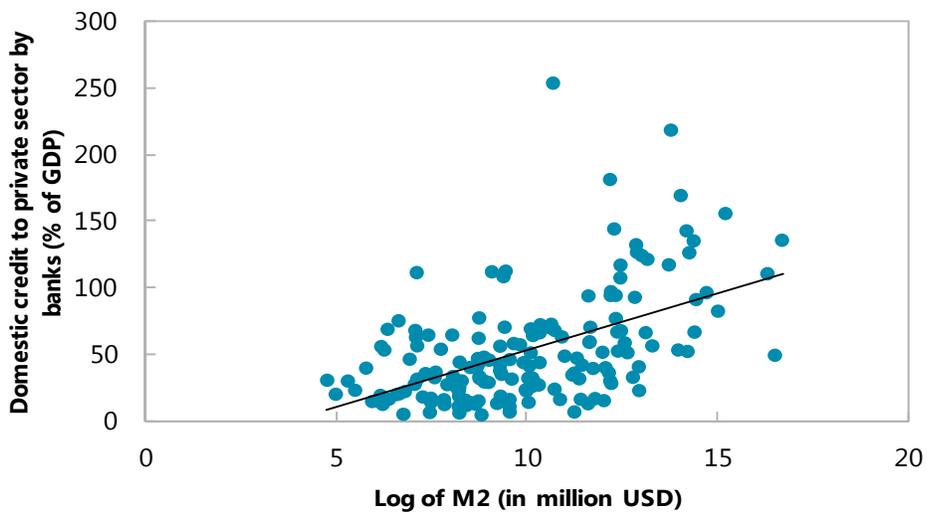
⁷ Data on firm access to financial services are available from the World Bank's Enterprise Surveys but country coverage among very small and small financial systems is too poor to calculate meaningful averages.

Figure 1. Size of Financial System (M2) in 170 Countries
(US\$ billion, 2013 of Growth)



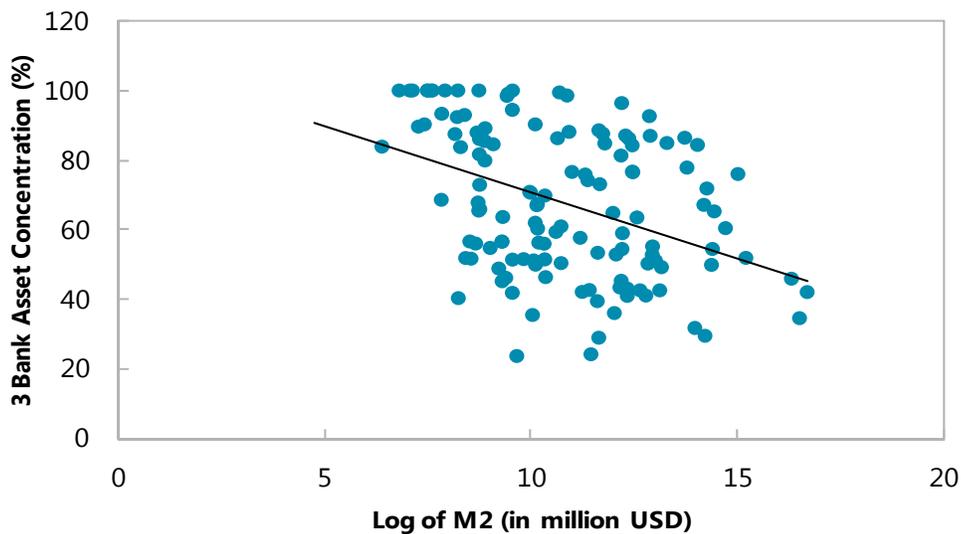
Source: World Bank.

Figure 2. Private Credit by Banks (Percent of GDP) vs. M2
(2013)



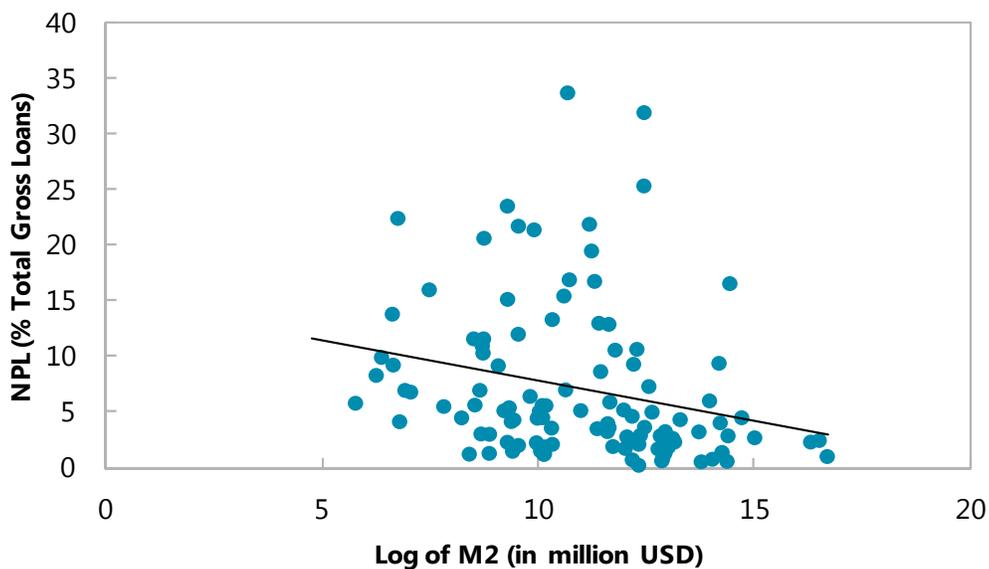
Source: World Bank.

Figure 3. Largest Three Banks' Asset Concentration vs. M2
(2013)



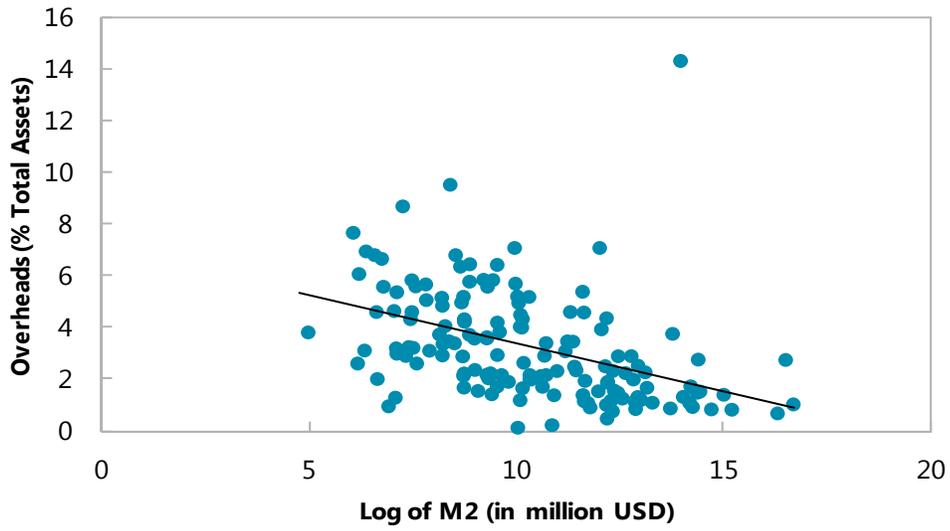
Source: World Bank.

Figure 4. NPL (% total loans) vs. M2
(2013)



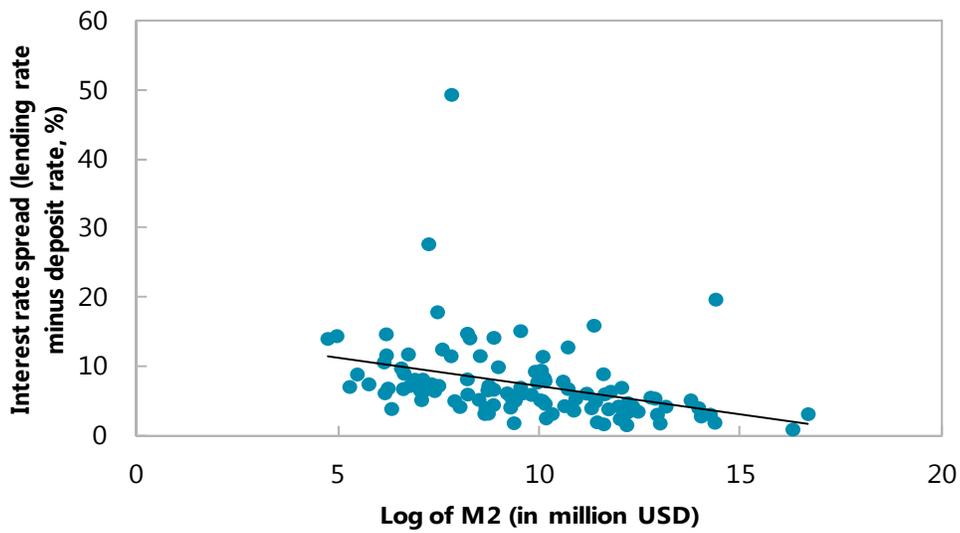
Source: World Bank.

Figure 5. Overheads (% total assets) vs. M2
(2013)



Source: World Bank.

Figure 6. Interest Rate Spread vs. M2
(2013)



Source: World Bank.

Table 1. Countries with Financial System Size (M2) of Less than US\$1 billion
(2013)

| Country | Region | Income Group | M2 (USD million) | Population (million) | GDP (USD million) | GDP per capita (USD) |
|--------------------------------|---------------------------|--------------|------------------|----------------------|-------------------|----------------------|
| Burundi | Sub-Saharan Africa | LI | 591 | 10.466 | 2,715 | 259 |
| Central African Republic | Sub-Saharan Africa | LI | 432 | 4.711 | 1,545 | 328 |
| Comoros | Sub-Saharan Africa | LI | 243 | 0.752 | 619 | 823 |
| Dominica | Latin America & Caribbean | UMI | 481 | 0.072 | 517 | 7,175 |
| Gambia, The | Sub-Saharan Africa | LI | 497 | 1.867 | 891 | 477 |
| Grenada | Latin America & Caribbean | UMI | 759 | 0.106 | 836 | 7,890 |
| Guinea-Bissau | Sub-Saharan Africa | LI | 378 | 1.757 | 947 | 539 |
| Lesotho | Sub-Saharan Africa | LMI | 897 | 2.083 | 2,148 | 1,031 |
| Liberia | Sub-Saharan Africa | LI | 725 | 4.294 | 1,947 | 453 |
| Micronesia, Fed. Sts. | East Asia & Pacific | LMI | 146 | 0.104 | 316 | 3,049 |
| Samoa | East Asia & Pacific | LMI | 323 | 0.190 | 796 | 4,181 |
| Seychelles | Sub-Saharan Africa | UMI | 775 | 0.090 | 1,411 | 15,696 |
| Sierra Leone | Sub-Saharan Africa | LI | 862 | 6.179 | 4,928 | 798 |
| Solomon Islands | East Asia & Pacific | LMI | 472 | 0.561 | 1,060 | 1,890 |
| St. Vincent and the Grenadines | Latin America & Caribbean | UMI | 522 | 0.109 | 719 | 6,575 |
| São Tomé and Príncipe | Sub-Saharan Africa | LI | 116 | 0.182 | 311 | 1,703 |
| Timor-Leste | East Asia & Pacific | LMI | 500 | 1.180 | 1,468 | 1,244 |
| Tonga | East Asia & Pacific | UMI | 201 | 0.105 | 433 | 4,117 |
| Vanuatu | East Asia & Pacific | LMI | 569 | 0.253 | 802 | 3,167 |

Source: WDI.

Note: Lower income (LI), lower middle income (LMI), upper middle income (UMI).

Table 2. Countries with Small Financial Systems
(M2, 2003 and 2013)

| | 2003 | 2013 |
|--|------|------|
| Countries with M2 less than USD 10 billion (in 2013 dollars) | 104 | 70 |
| <i>of which M2 less than USD 1 billion (in 2013 dollars)</i> | 49 | 19 |
| <i>of which M2 between USD 1 billion to USD 10 billion (in 2013 dollars)</i> | 55 | 51 |

Source: WDI.

Note: No 2013 data available for four countries (Barbados, Guinea, Lao PDR, and Rwanda) which likely have financial system size of less than US\$10 billion in 2013.

Table 3. Financial System Size and Financial Depth
(2003 and 2013)

| | M2 (as % of GDP) | | Private Credit provided by banks (as % of GDP) | |
|--|------------------|-------|--|-------|
| | 2003 | 2013 | 2003 | 2013 |
| Very small (M2 less than USD 1 billion in 2013) | 36.6 | 48.0 | 19.1 | 29.0 |
| Small (M2 between USD 1 and 10 billion in 2013) | 42.7 | 50.5 | 26.3 | 35.2 |
| Other developing (M2 more than USD 10 billion in 2013) | 63.7 | 63.8 | 39.4 | 44.8 |
| High income: OECD | 89.3 | 108.4 | 84.7 | 101.2 |

Source: WDI.

Table 4. Banking System Structure by Financial System Size
(2009)

| | Average number of banks | Average % of foreign banks among total number of banks | Average % of foreign bank assets among total bank assets |
|--|-------------------------|--|--|
| Very small and small (M2 less than 10 billion in 2013) | 9 | 62% | 75% |
| Other developing (M2 more than USD 10 billion in 2013) | 32 | 38% | 34% |
| High income: OECD | 51 | 34% | 31% |

Source: Claessens and van Horen (2014).

Table 5. Capital and Asset Quality by Financial System Size
(2013)

| | Bank capital to assets (%) | Regulatory capital to risk (%) | NPLs to total gross loans (%) | Provisions to NPLs (%) |
|--|----------------------------|--------------------------------|-------------------------------|------------------------|
| Very small and small (M2 less than USD 10 billion in 2013) | 12.4 | 19.3 | 8.7 | 58.6 |
| Other developing (M2 more than USD 10 billion in 2013) | 10.8 | 16.6 | 7.0 | 95.3 |
| High income: OECD | 7.9 | 16.0 | 5.7 | 48.5 |

Source: IMF Global Financial Stability Report via FinStats.

Table 6. Financial Performance Indicators of Banks by Financial System Size
(Percent, 2013)

| | Return on Assets (%) | Return on Equity (%) | Private credit to deposits (%) | Net interest margin (%) | Non-interest income to total income (%) | Cost to income | Overhead costs to total assets (%) | Interest rate spread (%) |
|--|----------------------|----------------------|--------------------------------|-------------------------|---|----------------|------------------------------------|--------------------------|
| Very small (M2 less than USD 1 billion in 2013) | 0.89 | 8.24 | 69.09 | 6.13 | 38.86 | 70.62 | 5.07 | 9.25 |
| Small (M2 between USD 1 and 10 billion in 2013) | 1.96 | 16.66 | 85.33 | 5.55 | 40.47 | 56.98 | 4.13 | 9.67 |
| Other developing (M2 more than USD 10 billion in 2013) | 1.29 | 12.29 | 87.35 | 4.64 | 34.09 | 54.27 | 3.19 | 6.13 |
| High income: OECD | 0.22 | 3.39 | 111.91 | 1.76 | 39.77 | 63.53 | 1.52 | 2.82 |

Sources: WDI and IMF Global Financial Stability Report via FinStats.

Table 7. Access Indicators by Financial System Size

| | 2014 | 2013 | |
|--|---------------------------------|---|-------------------------|
| | Account ownership (% of adults) | Commercial bank branches per 100,000 adults | ATMs per 100,000 adults |
| Very small (M2 less than USD 1 billion in 2013) | | 16 | 22 |
| Small (M2 between USD 1 and 10 billion in 2013) | | 14 | 30 |
| Very small and small (M2 less than USD 10 billion in 2013) | 33% | | |
| Other developing (M2 more than USD 10 billion in 2013) | 48% | 20 | 38 |
| High income: OECD | 93% | 32 | 94 |

Sources: Global Findex database and IMF FAS database.

Note: Account ownership calculated as simple averages across countries.