

BALANCE SHEET ANALYSIS IN URUGUAY—HIGH DOLLARIZATION BUT LIMITED RISKS¹

This chapter presents an overview of inter-sectoral exposures in Uruguay. It divides the Uruguayan economy into five sectors—non-financial public sector (NFPS), central bank (Banco Central de Uruguay or BCU), banks (other depository corporations or ODC), non-bank financial sector (other financial corporations or OFC) and private non-financial sector (including both households and corporates)—and discusses inter-sectoral linkages, as well as exposures to the rest of the world based on a comprehensive sectoral balance sheet at end-2015. In line with the definition used by the Uruguayan authorities, the consolidated public sector is defined as the NFPS plus the BCU. The full sectoral balance sheet matrix is presented in the appendix.²

A. Introduction

1. The Uruguayan financial system has been characterized by solid balance sheets, a low level of credit and continued high dollarization since the crisis in 2002.³ Balance sheets throughout the system appear generally well hedged, with dollar exposures covered and ample liquidity. Banks, for example, have enough liquid assets to more than cover all non-resident FX deposits.

2. There are pockets of vulnerability, however, especially after the recent slowdown in economic growth. NFPS gross debt is fairly high at 48 percent of GDP and the NFPS as well as the public sector as a whole have a net open foreign currency position. At the same time, the non-bank financial system (essentially pension funds) has a large exposure to government debt. Corporates, also those in non-tradable sectors, borrow heavily in dollars. While most keep ample FX liquidity, those who do not are exposed to currency risk. Recently, dollarization of government debt (50 percent) and bank deposits (80 percent) as well as the rate of non-performing loans (2.7 percent) have edged up slightly. Lastly, international reserves have fallen, albeit from high levels. Gross international reserves are 29 percent of GDP and gross reserves excluding ODC FX deposits at the BCU stand at 17 percent of GDP.

3. Low levels (and a low growth rate) of credit, while limiting financial risks, might be hampering economic growth. At 30 percent of GDP, credit to GDP is unusually low in Uruguay. This is particularly true for household credit, with the ratio of household to corporate credit the lowest in Uruguay among its peers in Latin America (LA), but corporate credit also lags far behind more developed financial markets such as Brazil and Chile. The segmented nature of the banking system, with public

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² The balance sheet data is constructed drawing on standardized reporting forms (IFS data), debt data provided by the BCU, the international investment position as well as bank and pension fund balance sheets. All ratios are calculated by dividing the nominal dollar amount by GDP in dollars (GDP in peso, converted into dollar using the average yearly exchange rate). Given valuation effects, ratios can differ from those calculated using peso amounts. This is the case notably for public debt. A number of inter-sectoral exposures (or their currency/maturity split) were not available or different data sources showed minor inconsistencies. The methodological appendix spells out the assumptions used in such cases and provides details of data construction more generally.

³ See Kamil (2006) for a similar stock taking exercise of balance sheets in 2005.

banks capturing a large share of the peso market targeted at households and private banks operating mainly in USD and lending to corporates, is likely contributing to this.⁴

4. A number of challenges for policy makers emerge from the analysis. Among the key ones are the need for (i) continued careful management of government debt and debt composition, (ii) continued attention to net USD exposures given the high level of dollarization throughout the financial system, (iii) particular attention to FX mismatches in the corporate sector, (iv) the development of local capital markets to allow for peso saving and financial hedging of risks and (v) an effort to stimulate credit growth to support economic growth while at the same time not weakening bank's currently solid balance sheets.

B. Uruguay's External Position

5. Uruguay's net international liabilities have been gradually increasing since 2006 (figure 1a). After the crisis in 2002, the international investment position improved from about -15 percent to -5 percent of GDP in 2006, before slowly deteriorating to about -20 percent of GDP in 2015.

6. Foreign direct investment accounted for the bulk in growth in gross external liabilities, however. For the past years, current account deficits were fully financed with FDI. Inward portfolio investments also increased, mostly in the form of holdings of NFPS debt (95 percent). Non-resident deposits never picked up to the levels seen before 2002 and have not been an important source of liability growth—while they accounted for 41 percent of total deposits in 2001, they now only account for roughly 15 percent. Overall, the share of equity financing in total external liabilities stands at 41 percent, relative to 14 percent in 2001.

7. On the asset side, the central bank accumulated substantial (gross) international reserves over the past years which peaked at 31 percent of GDP in 2014. ODC and non-financial private sector deposits abroad constitute the second important source of international assets. Outward FDI and other portfolio investments are minimal.

8. On aggregate, the balance sheet of the economy as a whole seems solid and external liquidity risks are limited. BCU reserves make up the bulk of external assets while external liabilities are mostly in the form of equity and long-term government debt.

9. The non-financial public sector is the only sector with a negative net external foreign currency position (figure 1b).⁵ Non-residents held around 58 percent of the consolidated public sector debt at end-2015 with much of it in dollars, leading to a negative net external foreign currency position of 24 percent of GDP for the NFPS. Banks, pensions funds and the non-financial private sector all have

⁴ See Lambert and Singh (2015).

⁵ Note that we assume that all FDI liabilities are in Peso, given that the book value of the investment is likely to be in Peso.

long external FX positions, mainly in the form of highly liquid assets such as deposits and high quality paper, and the BCU has a large positive net external FX position due to its large reserves.

C. Sectoral Balance Sheets

Overview of net positions by sector

10. The financial system in Uruguay is small. Table 1 presents total assets and liabilities as well as the net position by sector, currency and maturity.⁶ The banking sector is small, with total assets of 66 percent of GDP. Liabilities are mainly short-term deposits in foreign currency. The non-bank financial sector has assets of around 30 percent of GDP, over $\frac{2}{3}$ accounted for by pension funds.

11. Overall, while currency and maturity mismatches exist at the sectoral level, risks appear limited. All sectors have net long foreign currency positions except for the NFPS (-22 percent of GDP). The open FX position of the NFPS also causes an open foreign currency position of 12 percent of GDP for the public sector as a whole. Foreign currency liabilities of the NFPS are overwhelmingly long-term (average maturity of over 14 years), however, limiting the risks arising from this open position. Banks have a net long foreign currency position and large liquid foreign currency assets to manage funding shocks. The non-financial private sector as a whole has a large net long FX position (30 percent of GDP), largely due to households saving in dollar

Overview of key inter-sectoral linkages

12. No one sector is at the heart of all linkages, thus limiting the risk of second-round effects of shocks to some degree. Figures 2 and 3 summarize the structure of the financial system in Uruguay, as well as the main inter-sectoral exposures.⁷ Figure 2 illustrates gross exposures between sectors, with blue arrows indicating peso exposures and green arrows indicating FX exposures. The arrows point from creditor to debtor and the size of the arrows is proportional to the nominal amounts. As can be seen, banks have little exposure to the NFPS. On the other hand, pension funds have invested close to 50 percent of their assets in (mostly local currency) NFPS debt. The non-financial private sector has large FX deposits in banks (35 percent of GDP) and abroad. The main liability of the non-financial private sector is the counterpart to the stock of FDI, which we assume to be a peso liability.

13. The largest net FX positions in the system are the net long position of the BCU vis-à-vis the rest of the world (30 percent of GDP), as well as the net open position of the NFPS vis-à-vis the rest of the world (24 percent of GDP). Figure 3a shows all net inter-sectoral FX assets larger than 5 percent of GDP while figure 3b does the same for net short-term assets. Banks have an open FX position of 19 percent of GDP vis-à-vis the non-financial private sector due to the high dollarization of deposits but this is covered by the net long FX position vis-a-vis the BCU (12 percent of GDP) and vis-a-vis the

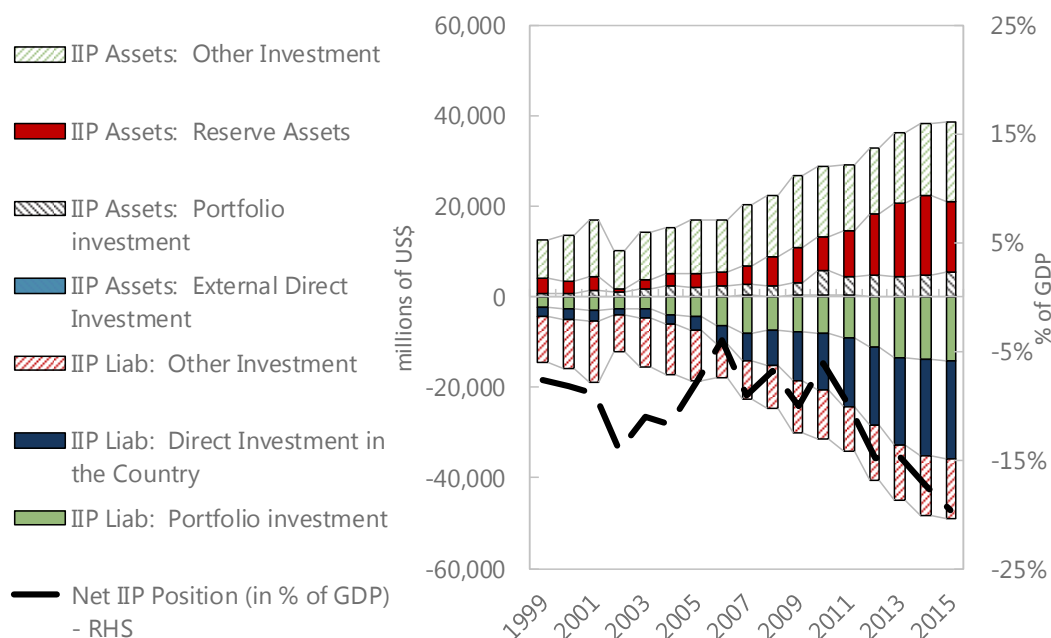
⁶ See methodological appendix for details of why assets and liabilities do not sum to zero for the central bank and some other sectors. Part of the reason is that intra-sectoral exposures are not captured.

⁷ Detailed numbers for all inter-sectoral exposures are shown in the full balance sheet matrix in the appendix.

rest of the world (9 percent of GDP). In terms of maturity, banks have (as is normal) an open short-term position of 31 percent of GDP vis-à-vis the non-financial private sector.

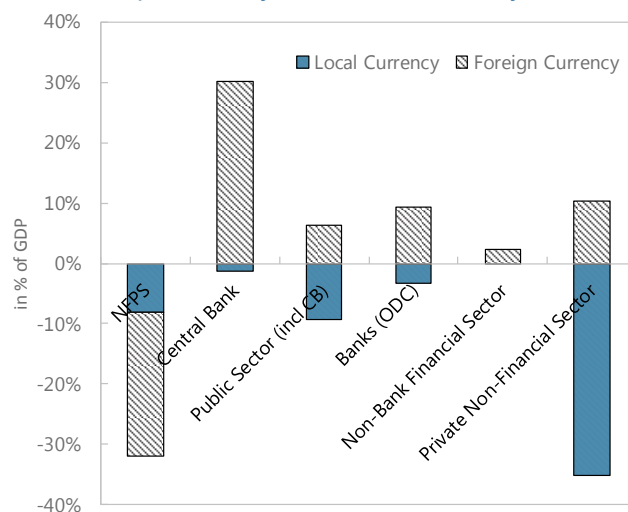
Figure 1. External Position of Uruguay

(a) International investment position 2001–2015



Source: IMF Staff Calculations based on international investment position (IIP).

(b) Net external position by sector and currency at end-2015



Source: IMF Staff Calculations based on authorities' data, standardized reporting forms and IIP

Table 1. Total Assets and Liabilities by Sector

<i>% of GDP</i>	Assets	Liabilities	Net
NFPS	11%	57%	-46%
In local currency	5%	28%	-23%
In foreign currency	7%	29%	-22%
Short-Term	9%	3%	6%
Medium- and Long-Term	2%	55%	-52%
Central Bank	41%	34%	7%
In local currency	8%	12%	-3%
In foreign currency	32%	22%	11%
Short-Term	29%	29%	1%
Medium- and Long-Term	11%	5%	6%
Public Sector (incl CB)	36%	75%	-39%
In local currency	3%	30%	-27%
In foreign currency	33%	45%	-12%
Short-Term	31%	25%	7%
Medium- and Long-Term	5%	50%	-46%
Banks (ODC)	66%	66%	0%
In local currency	16%	19%	-3%
In foreign currency	50%	47%	3%
Short-Term	40%	53%	-13%
Medium- and Long-Term	26%	13%	13%
Non-Bank Financial Sector	30%	21%	9%
In local currency	21%	20%	1%
In foreign currency	8%	1%	7%
Short-Term	9%	0%	9%
Medium- and Long-Term	21%	21%	0%
Private Non-Financial Sector	85%	74%	10%
In local currency	32%	51%	-19%
In foreign currency	53%	23%	30%
Short-Term	58%	15%	44%
Medium- and Long-Term	26%	60%	-33%
External	93%	73%	20%
In local currency	48%	0%	48%
In foreign currency	45%	73%	-28%
Short-Term	12%	60%	-48%
Medium- and Long-Term	81%	13%	68%

Source: IMF Staff Calculations based on authorities' data, standardized reporting forms and IIP.

Figure 2. Structure of the Financial System in Uruguay

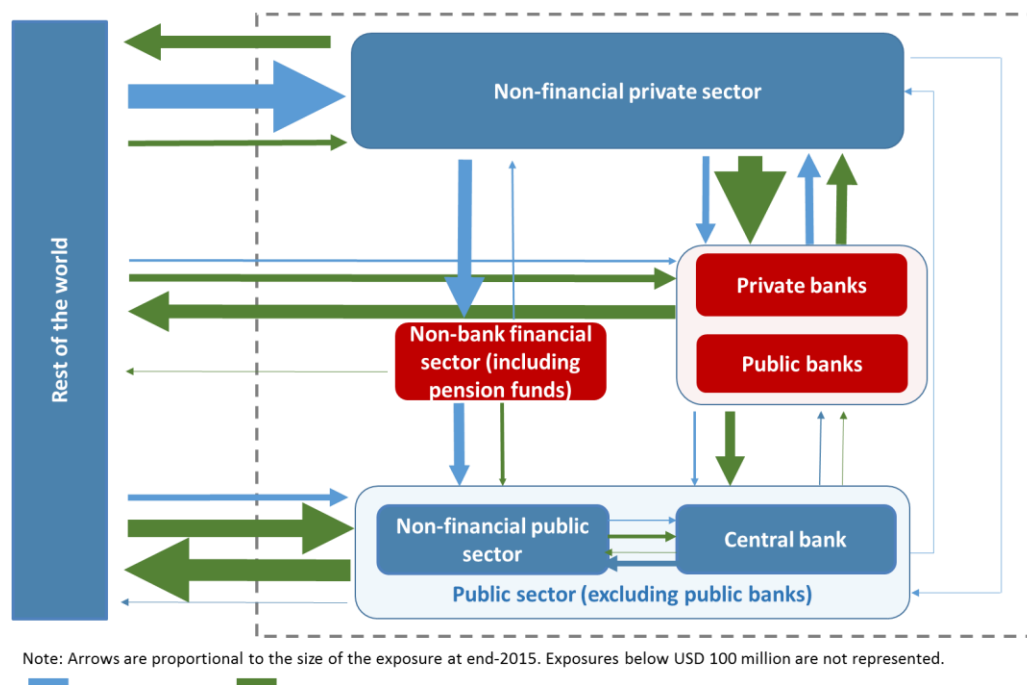
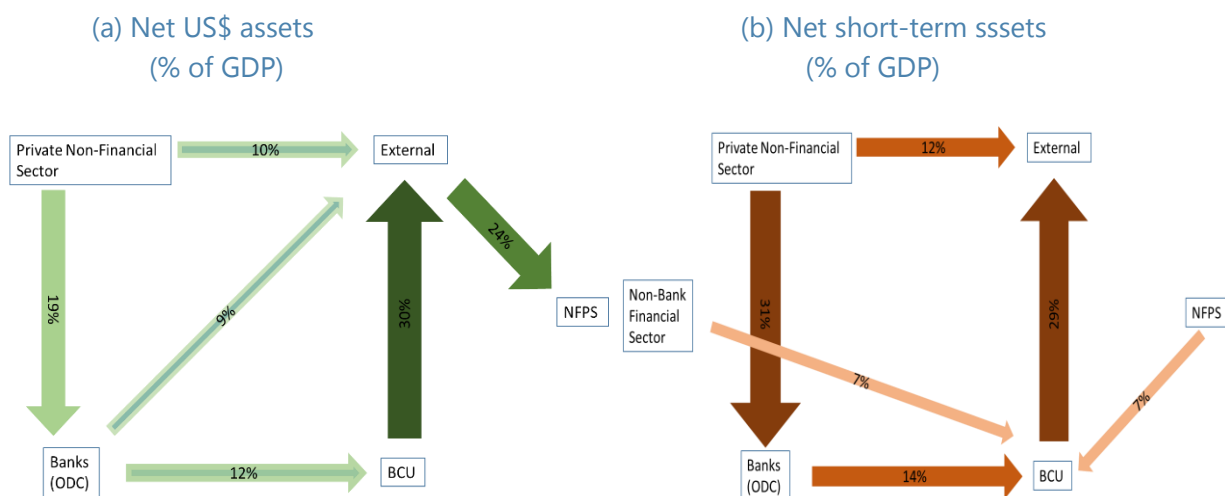


Figure 3. Network Maps of Inter-Sectoral Linkages

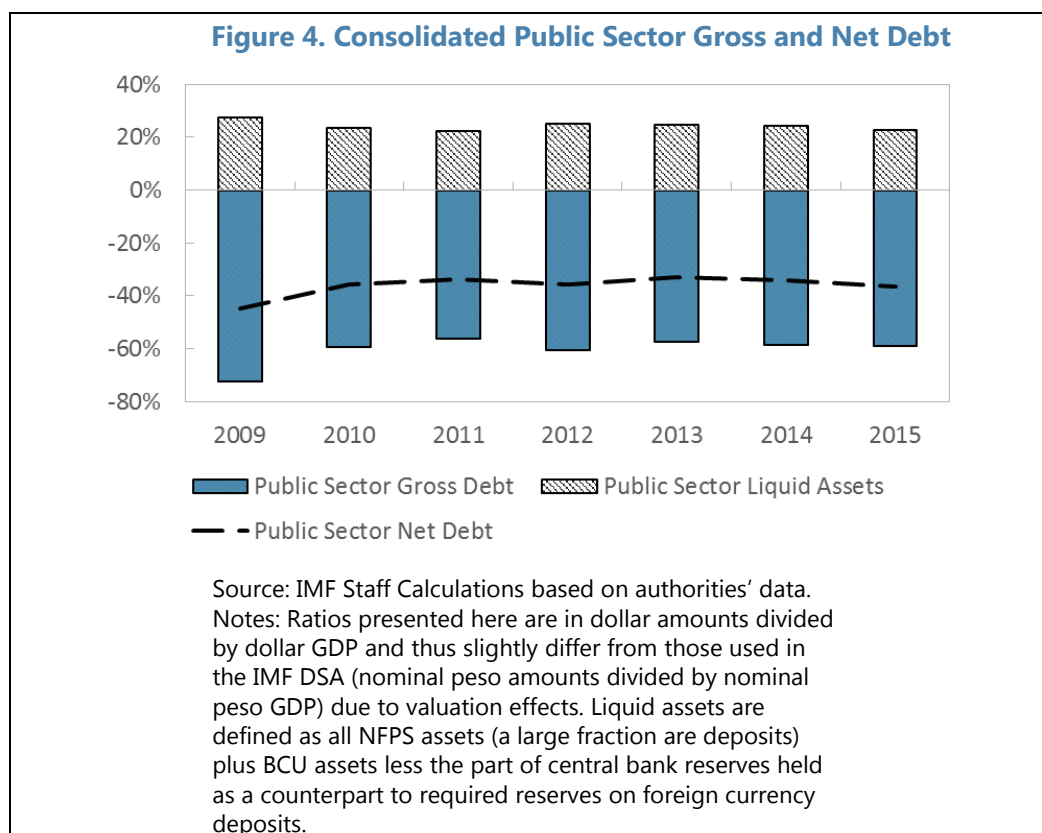


Source: IMF Staff Calculations based on authorities' data, standardized reporting forms and IIP data.
 Notes: Net assets under 5 percent of GDP are not shown.

Public sector

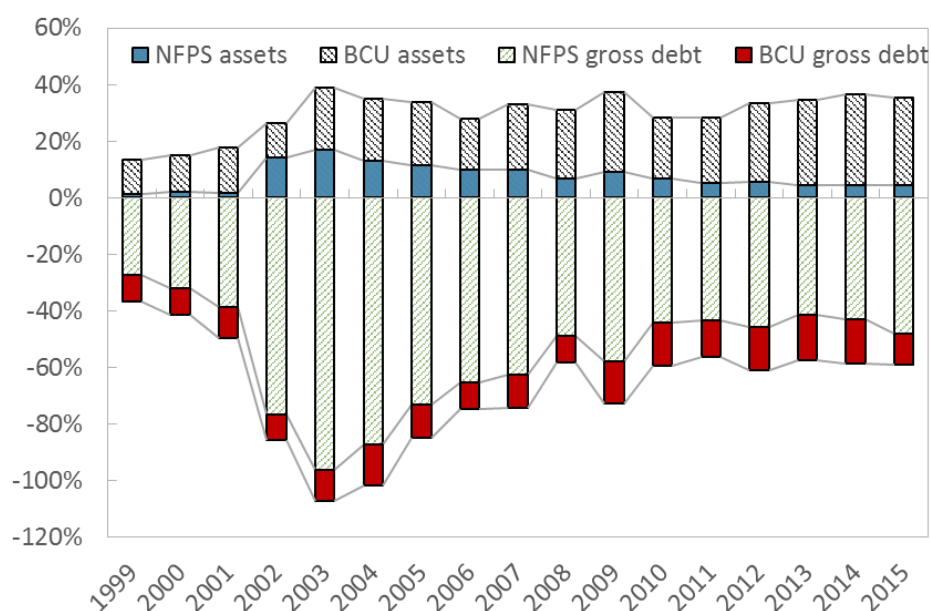
14. Net debt of the consolidated public sector has fluctuated between 30 and 40 percent of GDP since the global financial crisis but trended up slightly over the last two years (figure 4). Net debt of the public sector here is defined as gross debt net of liquid assets (where liquid assets of the BCU are international reserves net of FX liabilities vis-à-vis the banking system- *encajes*). Net debt of the NFPS increased due to an accumulation of gross debt but this increase was partly offset by reserve accumulation at the BCU until 2014 and by a shrinking BCU balance sheet in 2015 (figure 5).

15. Relative to other LA6 countries, Uruguayan government debt has one of the longest average maturities but still a relatively high FX share (figure 6). At around 14 years, Uruguay's government debt has the longest average outstanding maturity in LA6 together with Peru. In fact, relative to most countries in the world, Uruguay's debt stands out as having a particularly long maturity (figure 7). The long maturity comes with a relatively high share of foreign currency debt, however, which after falling for many years, has inched back up over 50 percent over the last three years.⁸



⁸ Local currency debt of the NFPS is mainly in CPI-linked instruments (*unidades indexadas*) with only a relatively small fraction in nominal peso.

Figure 5. NFPS Gross Debt and Assets



Source: IMF Staff Calculations based on authorities' data.

Notes: All data here come directly from the BCU debt tables and are pre-consolidated, i.e. exclude exposures between different entities within the public sector. Ratios presented here are in dollar amounts divided by dollar GDP and thus slightly differ from those used in the IMF DSA (nominal peso amounts divided by nominal peso GDP) due to valuation effects.

16. The central government keeps roughly 18 months of debt service in liquid assets. As part of its pre-funding strategy, the government keeps ample liquidity reserves—around 5.5 percent of GDP. The NFPS as a whole has short-term assets of 9 percent of GDP (recall table 1). Since a large part of those is held in deposits at the central bank they do not show in pre-consolidated data but can be seen in the full balance sheet matrix (see arrow between BCU and NFPS in Figure 3b). Additionally, the government has access to liquidity via contingent credit lines, notably with the Inter-American Development Bank and World Bank.

17. A number of state-owned enterprises (SOEs) have currency mismatches that the authorities are seeking to address. The public oil company (ANCAP), for example, is exposed to USD risk, given that it buys oil in the international market but sells at controlled domestic prices. The authorities are encouraging the use of financial instruments by SOEs, by streamlining and coordinating the process, in order to hedge these risks.⁹

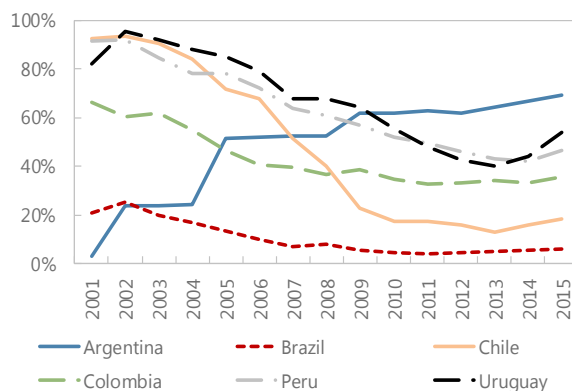
18. At 29 percent of GDP, gross international reserves of the BCU are largely sufficient by standard metrics (figure 8). Reserves remain well above the upper bound of the IMF reserve adequacy

⁹ The state-owned insurance company (BSE) which provides pension annuities faces a particular mismatch—its assets are largely invested in CPI-linked instruments but the constitution requires pensions to increase in line with wage growth. The authorities are considering modalities to address the mismatch.

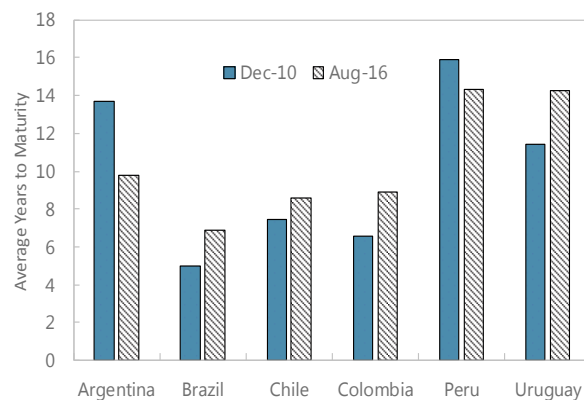
metric range, and various other prudential benchmarks. Furthermore, gross reserves excluding commercial banks' reserves held at the BCU (*encajes*) amount to US\$ 9.8 billion, still at the upper bound of the adequacy range for total gross reserves and the BCU's 'own reserves'—reserves net of all short-term FX liabilities—stand at a healthy level of 9 percent of GDP (see below liquidity stress test).

Figure 6. Government Debt Currency Composition and Average Maturity in LA6

(a) Share of GG gross debt in foreign currency

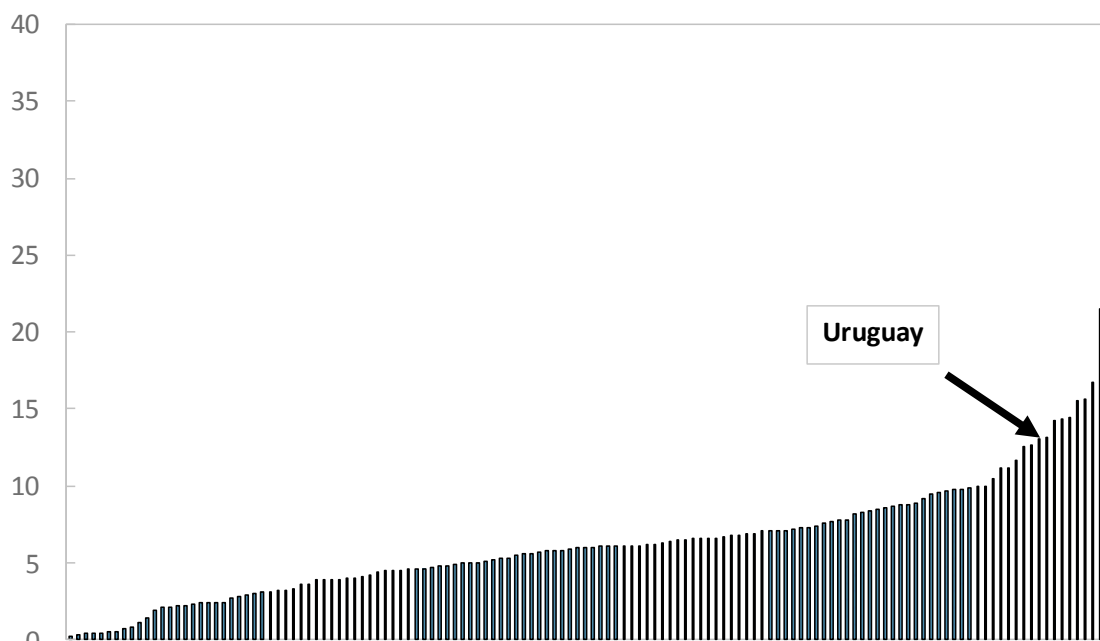


(b) Average maturity

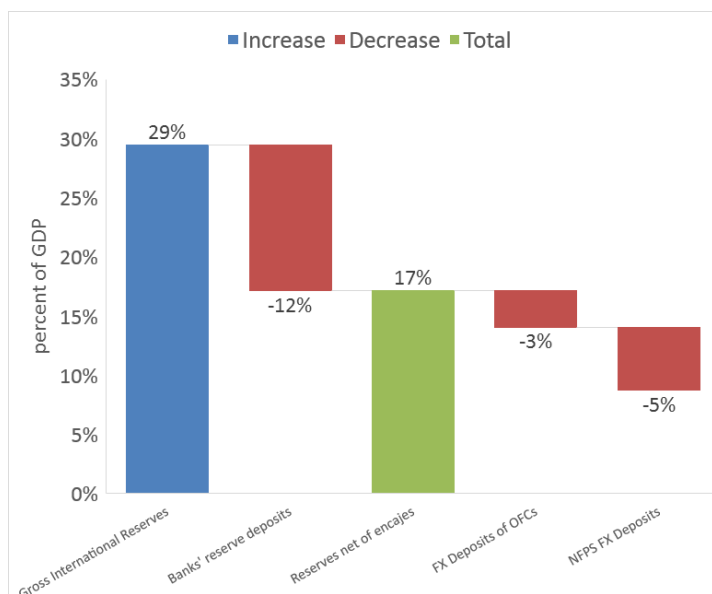


Source: IMF Staff Calculations based on WEO data for (a) and Bloomberg L.P. for (b).

Figure 7. Average Maturity of Outstanding Debt Across Countries in the World
(Number of years as of August 2016)



Source: Bloomberg L.P.

Figure 8. Gross International Reserves and Short-Term BCU FX Liabilities

Source: IMF Staff calculations based on standardized reporting forms.

Banking sector

19. The banking sector continues to be highly dollarized (figure 9). Deposit dollarization is 77 percent if non-resident deposits are excluded, and 81 percent overall.¹⁰ Credit dollarization is 56 percent due to corporate borrowing since households nearly exclusively borrow in pesos (table 2).¹¹ Banks are highly liquid and could absorb a complete withdrawal of non-resident deposits as well as a withdrawal of 46 percent of resident FX deposits by drawing on their FX reserve deposits at the BCU and their liquid external FX assets.

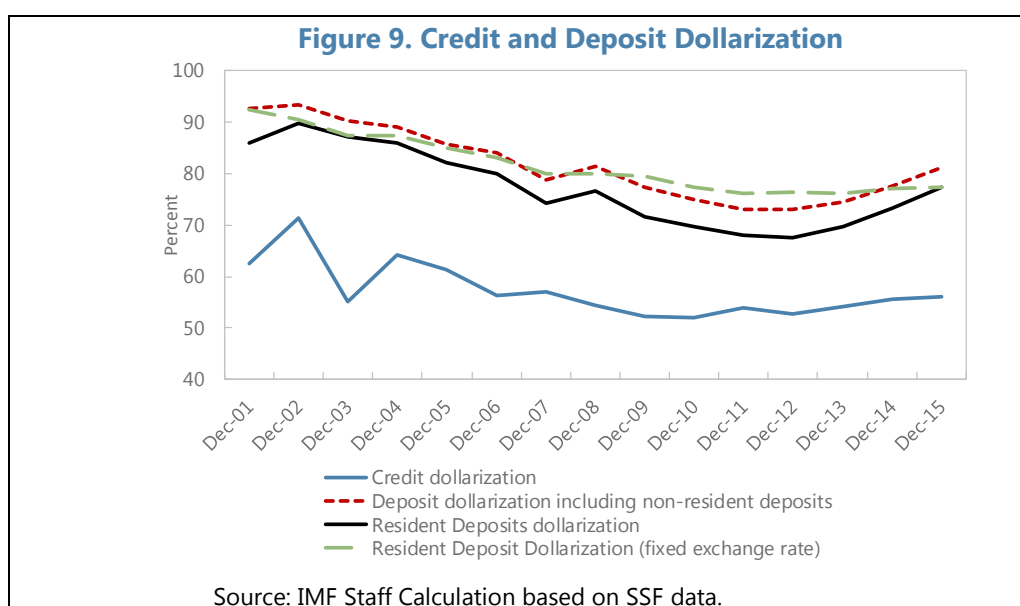
20. The banking sector is segmented between public and private banks which focus on the peso and FX markets, respectively (table 2). The system is made up of 2 public and 9 private banks. The two public banks (BROU and BHU) are focused on the domestic peso market, with the latter focusing nearly exclusively on mortgages and the former the largest banking player with a dominant position in peso deposits. On the other hand, the key business for private banks are dollar loans to corporates. Stress tests indicate that direct FX exposure and liquidity are generally well managed at the individual bank level (see next chapter).

¹⁰ Dollarization has increased again over the past 4 years but to a large extent due to movements in the exchange rate. Using a fixed exchange rate, deposit dollarization of resident deposits has been roughly constant since 2012 after falling for a 10 years. This suggests that preferences for dollar saving have been fairly constant for a number of years now.

¹¹ Dollarization levels throughout the system have been similar to current levels since the mid-1970s (see Sander et al., 2008).

21. Partly due to the segmented nature of the market, Uruguay's credit-to-GDP is among the lowest for emerging markets, even following a number of years of strong growth (figure 10).¹²

This ratio increased from 23 percent of GDP in 2011 to 30 percent in 2015.¹³ Figure 11 shows that in the mid-2000s, the main reason for Uruguay's low credit to GDP ratio was household credit, with the ratio of household credit to corporate credit (around 25 percent) significantly below other LA countries. Since then household credit has grown (from 8 percent of private consumption to 16 percent) while the ratio of corporate credit to gross fixed capital formation has fallen from 135 percent in 2004 to 98 percent in 2015.¹⁴ Over the last 4 years, as the exchange rate depreciated and deposit dollarization increased, these trends partly reversed though, with the ratio of household credit to corporate credit falling again, possibly conditioned by funding shortages in the peso market. Overall, compared with LA peers both corporate and household credit are low.



¹² See Lambert and Singh (2015) for a detailed discussion of bank lending in Uruguay.

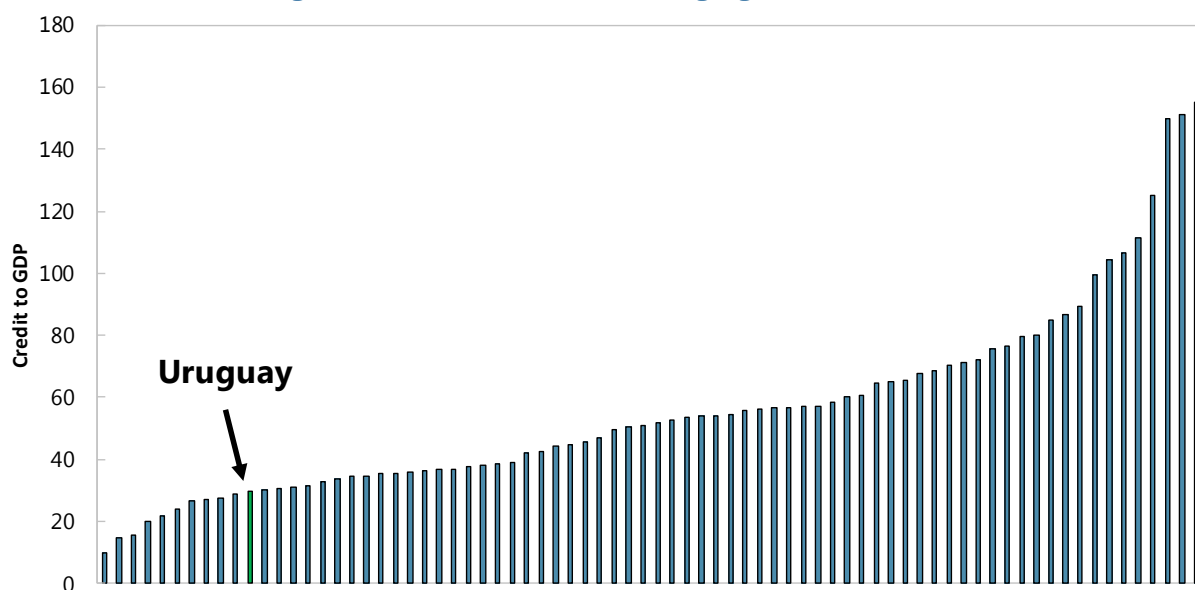
¹³ Low credit to GDP was already an issue in 2006 (Canales-Kriljenko and Gelos). A number of recommendations such as encouraging dedollarization and improving the credit culture are still valid. Low credit, however, seems to have become more of a structural issue now while it could be seen as a temporary post-crisis phenomenon in 2006. Also see Gelos and Pinon (2008), Podpiera and Wezel (2011) and Lambert and Singh (2015) for further work on the topic and recommendations linked to reducing the segmentation of the market and encouraging competition.

¹⁴ See Podpiera and Wezel (2011) for a brief discussion of corporate and household credit in the 2000s.

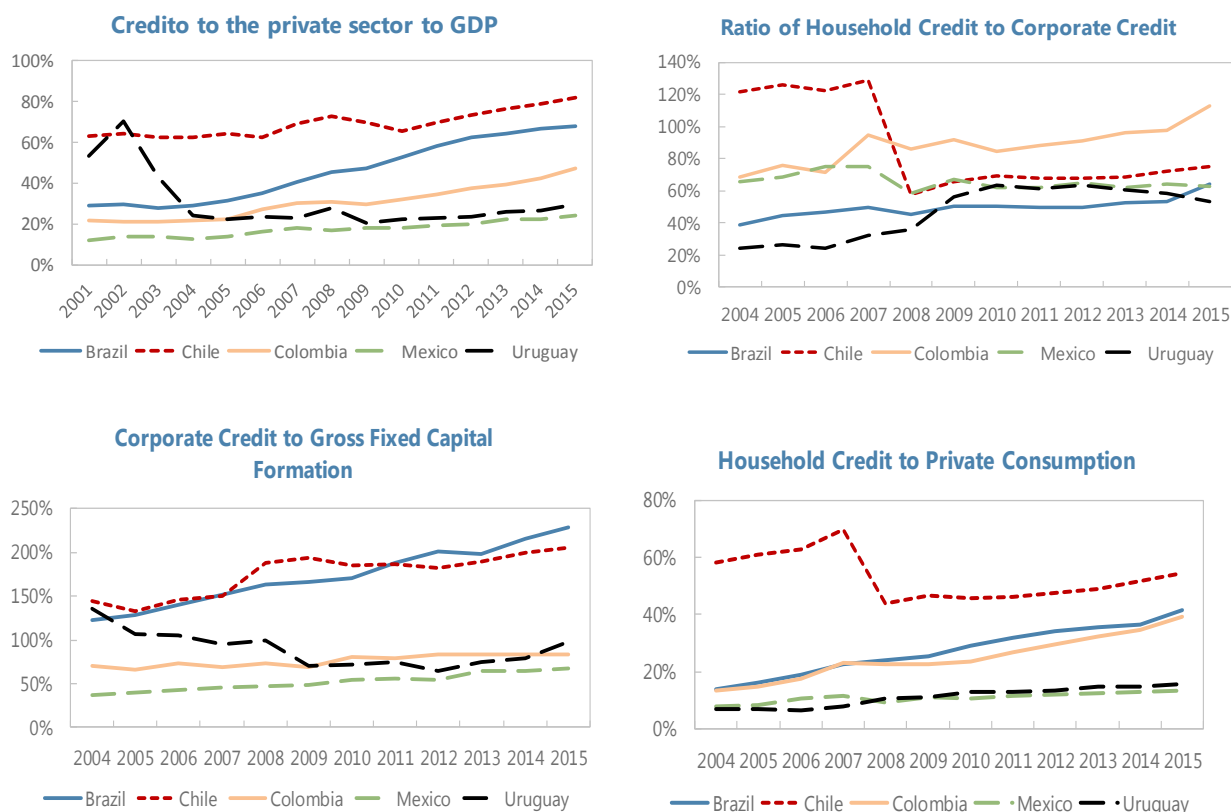
Table 2. Distribution of Bank Credit

<i>% of total bank credit</i>	Any currency	Credit in Pesos	Credit in US\$
Public Banks	44%	28%	16%
Corporates	18%	3%	15%
Households	23%	22%	0%
Public Sector	4%	2%	1%
Private Banks	56%	17%	39%
Corporates	43%	7%	37%
Households	11%	9%	1%
Public Sector	2%	1%	1%
Total	100%	45%	55%

Source: IMF Staff Calculation based on SSF (BCU) data.

Figure 10. Credit to GDP in Emerging Markets at End-2015

Source: World Bank (World Development Indicators).

Figure 11. Credit in Selected LA Countries (2004–2015)

Source: IFS.

Non-bank financial sector

22. Pension funds are the dominant player in the non-bank financial sector.¹⁵ Private pensions funds (introduced in 1996 in Uruguay)¹⁶ invest a large fraction of their portfolio in domestic, local currency public sector debt, for which they dominate the market. About 45 percent of their portfolio (close to 9 percent of GDP) is invested in NFPS debt and another 15 percent in BCU paper (see non-bank financial sector in Figure 2). The remainder is split roughly equally between bank deposits, trusts, stocks and corporate debt and external assets. There exists a limit on the pensions funds FX exposure (35 percent for so called accumulation funds and 15 percent for retirement funds) and the industry hit those limits in early 2016, following a switch into FX as the peso depreciated.

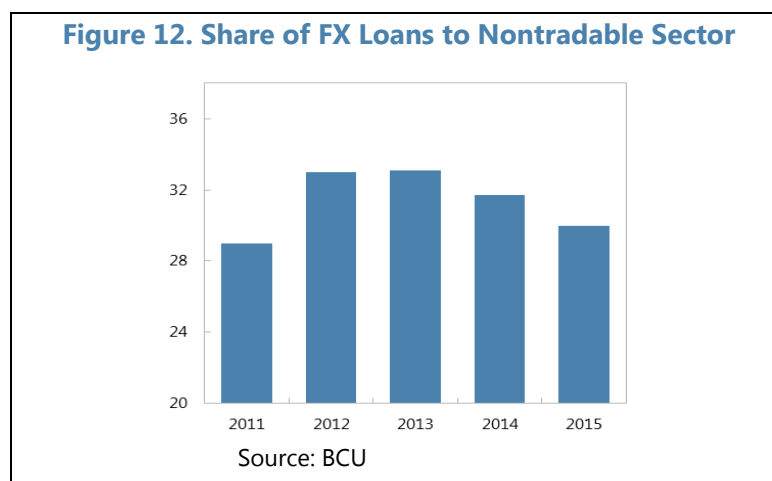
¹⁵ Other actors are offshore financial entities as well as credit agencies which specialize in micro-loans but they are very small from a systemic perspective.

¹⁶ See chapter on pensions in 2016 SIPs for an overview and appraisal of the pension system in Uruguay.

Non-financial private sector

Corporates:

23. The corporate sector has large liabilities to the rest of the world but the share of equity financing is very high. Around 20 percent of foreign financing is in the form of debt (9 percent of GDP), and less than 7 percent is in the form of short-term FX debt, making the sector relatively resilient against sudden reversals in international funding.



24. Corporates borrow mostly from domestic banks in dollars.¹⁷ Detailed information for the manufacturing sector shows that bond issuances account for only 4 percent of debt, and bank loans consistently accounted for around 96 percent of corporate debt over the past 10 years.¹⁸ The ratio of FX bank credit to peso credit for the corporate sector as a whole is roughly 5:1, suggesting that at least a number of firms are likely to be vulnerable to Peso depreciations.

25. Dollar borrowing creates currency mismatches which corporates hedge by keeping large dollar liquidity rather than by using financial instruments. Using the methodology of classifying sectors as tradable and non-tradable developed by Sander and others (2008) suggests that around 30 percent of FX bank loans are going to firms in non-tradable sectors (see figure 12).^{19 20} Using detailed microdata, Buscio and others (2011), find that only 17 percent of firms in that year had a significant net exposure to a peso depreciation²¹, with firm size not a strong predictor for exposure but certain sectors such as manufacturing and commerce more exposed. Licandro and others (2014) find that on average

¹⁷ Equity markets are very small in Uruguay, with total market capitalization below 1 percent of GDP.

¹⁸ See CIU "Endeudamiento del sector industrial" (2016).

¹⁹ These numbers fell strongly as new prudential legislation was introduced after the crisis in the early 2000s but has been fairly constant since the mid-2000s (Sanders and others, 2008). See stress testing chapter on FX related prudential regulation introduced since 2005 in Uruguay.

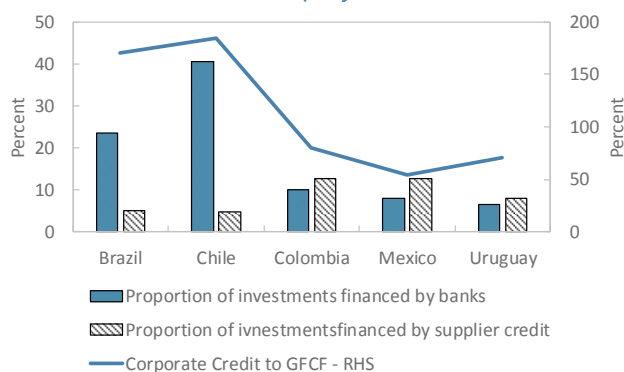
²⁰ Using the universe of corporate loans in Uruguay from 1999-2009, Cabrera and Bazerque (2010) show that a higher level of dollarization of credits is associated with a somewhat higher probability of default of the borrower.

²¹ Defined as (Short-Term US\$ liabilities – Short-Term US\$ Assets)/ Total Assets > 20%.

firms have a small net long dollar position (both total and short-term). They keep large amounts of dollar liquidity to protect against peso depreciations and are thus essentially exposing themselves to a peso appreciation. While the mean is positive, the distribution has long tails, however, with some firms having a large open dollar position. Lastly, Mello (2016) uses the economic survey of 2012 which covers close to 5,000 companies of all sizes to analyze the determinants of debt dollarization of Uruguayan firms. He finds that firms with a higher degree of debt dollarization also have a higher level of asset dollarization, are more likely to be exporters and are larger on average. These relationships point towards an adequate exchange rate management of corporates on aggregate. However, the use of financial instruments could be a more efficient way than simply keeping dollar liquidity for corporates to hedge their currency risks. Government attempts to deepen local markets are a step in the right direction in that sense.

26. Low (measured) corporate credit levels might understate access to credit somewhat, with small enterprises relying on (unmeasured) supplier credit as much as they rely on bank credit to finance investments. Small and medium-enterprises SMEs (<100 employees) account for $\frac{2}{3}$ of employment in Uruguay but only $\frac{1}{3}$ of the volume of bank lending operations. The World Bank (2015), based on data from the 2010 enterprise survey, observes that “In Uruguay small enterprises finance only 6.6 percent of their investments with bank loans, with 8.1 percent financed from supplier credit”. The ratio of bank to supplier credit for small enterprises correlates strongly with the ratio of corporate credit to GCFC in LA countries (figure 13), indicating that the total credit provision in countries with low corporate credit to GFCF ratios might be understated.²² Mello (2016) also highlights the role of non-bank credit in Uruguay, with small firms accessing mainly supplier credit, medium-sized firms accessing bank credit and large firms getting credit from several sources.

Figure 13. Investment Behavior of Small Enterprises in LA in 2010
(<19 employees)



Source: World Bank Enterprise Survey and IFS.
Data are for 2010 or latest available year of WB enterprise survey.

²² Uruguay does have a particularly high share of small enterprises using own funds to finance investment, however.

Households:

27. Households overwhelmingly save in U.S. dollars, potentially exposing them to a sharp dollar depreciation. Given households' strong and long-standing preference for saving in dollars, dollar depreciations should thus create a negative wealth effect in Uruguay. However, certain goods (durable goods and real estate mainly) are priced in dollar (roughly 10 percent of the CPI basket) and since there is a high exchange rate pass-through (around 30 percent) for these goods, households are partially hedged against a dollar appreciation. In fact, the relationship between dollar appreciations and consumption seems to be negative in practice, perhaps due to the consumer's association of peso weakness with general economic weakness or due to the fact that dollar saving (and saving in general) is concentrated in the wealthier segments of society so that for lower income households a stronger dollar simply increases the cost of durables. Deposit dollarization decreased somewhat between 2002 and 2012 but increased again quite rapidly when the peso depreciated over the past years, suggesting an asymmetric reply to exchange rate movements.

28. Households borrow nearly exclusively in pesos, a marked departure from the past and a success in terms of de-dollarization. Between 2005 and 2015 household credit dollarization fell from around 20 percent to below 5 percent, partly due to prudential policy implemented after the 2002 crisis.

Stylized stress tests to balance sheets

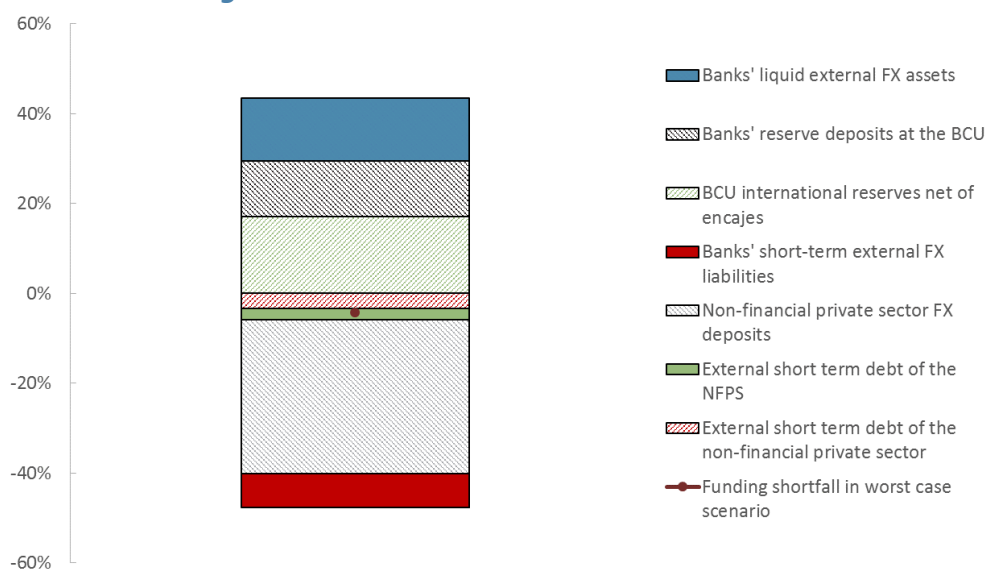
29. A large peso depreciation of 30 percent, would lead to nominal losses of close to 7 percent of GDP for the NFPS but gains in most other sectors of the economy (table 3). Given gains on the BCU's assets, the public sector as a whole would incur valuation losses of only around 3.2 percent of GDP. ODCs, OFCs and the private non-financial sector would all make gains given their long FX positions but there is some heterogeneity between households and corporates (with some corporates short in dollars and households overwhelmingly long, as discussed above).

30. The system could withstand an extreme FX funding shock (figure 14). Banks' are able to cover a complete withdrawal of non-resident deposits (8 percent of GDP) purely out of their liquid external FX assets (14 percent of GDP). They have 12 percent of GDP in reserves at the BCU, offering an additional cushion. Additionally, the BCU has international reserves (net of FX obligations to ODCs) of 17 percent of GDP. A dramatic FX funding shock similar to 2002 with 65 percent of non-resident deposits flowing out, 30 percent of resident FX deposits being withdrawn and 26 percent of short-term debt having to be paid off would correspond to an FX funding shock of roughly 20 percent of GDP but could be absorbed by the system. In fact, ODC and BCU short-term FX assets are nearly enough to cover all resident FX deposits (34 percent of GDP) as well as non-resident FX deposits and external FX short-term debt of the NFPS and of the non-financial private sector (around 3 percent each).

Table 3. Impact of FX Shock

Sector	Net FX Position at end 2015	Loss/Gain from 30% Depreciation
NFPS	-22%	-6.7%
Central Bank	11%	3.2%
Public Sector (incl CB)	-12%	-3.6%
Banks (ODC)	3%	1.0%
Non-Bank Financial Sector	7%	2.2%
Private Non-Financial Sector	30%	8.9%
URUGUAY vs Rest of the World	28%	8.4%

Source: IMF Staff Calculations based on authorities' data, standardized reporting forms and IIP data.

Figure 14. Short-Term FX Assets and Liabilities

Source: IMF Staff Calculations based on authorities' data, standardized reporting forms and IIP data.

References

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Appendix I. Uruguay: Sectoral Balance Sheet at End-2015

<i>In percent of GDP</i>	Holder of Liability (Creditor)							
Issuer of Liability (Debtor)	NFPS	Central Bank	Public Sector (incl CB)	Banks (ODC)	Non-bank financial sector	Private Non-Financial Sector	External	Total Liabilities
NFPS								
Total Liabilities		9%		4%	12%	1%	32%	57%
In local currency		8%		2%	10%	1%	8%	28%
Short-Term								
Medium- and Long-Term		8%			10%	1%		
In foreign currency		1%		2%	2%	0%	24%	29%
Short-Term								
Medium- and Long-Term		1%			2%			
Central Bank								
Total Liabilities	7%			15%	9%	1%	3%	34%
In local currency	2%			2%	6%	1%	1%	12%
Short-Term	2%			2%	4%			8%
Medium- and Long-Term					2%		1%	4%
In foreign currency	5%			12%	3%	0%	1%	22%
Short-Term	5%			12%	3%			21%
Medium- and Long-Term							1%	1%
Public Sector (incl CB)								
Total Liabilities				18%	20%	1%	35%	75%
In local currency				4%	15%	1%	9%	30%
Short-Term								
Medium- and Long-Term								
In foreign currency				14%	5%	0%	25%	45%
Short-Term								
Medium- and Long-Term								
Banks (ODC)								
Total Liabilities	3%	0%	3%		3%	45%	14%	66%
In local currency	2%	0%	2%		3%	10%	3%	19%
Short-Term						9%	0%	
Medium- and Long-Term						2%	3%	
In foreign currency	1%	0%	1%		0%	35%	11%	47%
Short-Term						34%	8%	
Medium- and Long-Term						1%	3%	
Non-Bank Financial Sector								
Total Liabilities	0%	0%	0%	0%		20%	1%	21%
In local currency	0%	0%	0%	0%		20%	0%	20%
Short-Term								
Medium- and Long-Term						20%		
In foreign currency	0%	0%	0%	0%		0%	1%	1%
Short-Term								
Medium- and Long-Term							1%	
Private Non-Financial Sector								
Total Liabilities	1%	0%	1%	28%	3%		43%	74%
In local currency	1%	0%	1%	12%	3%		35%	51%
Short-Term				2%			0%	2%
Medium- and Long-Term	1%		1%	10%	3%		35%	49%
In foreign currency	0%	0%	0%	15%	0%		8%	23%
Short-Term				9%			3%	12%
Medium- and Long-Term				6%			5%	11%
External								
Total Liabilities	0%	31%	32%	20%	3%	18%		73%
In local currency	0%	0%	0%	0%	0%	0%		0%
Short-Term								
Medium- and Long-Term								
In foreign currency	0%	31%	31%	20%	3%	18%		73%
Short-Term		29%	30%	14%	2%			
Medium- and Long-Term		2%	2%	6%	1%			
Total Assets								
Total Liabilities	11%	41%	36%	66%	30%	85%	93%	
In local currency	5%	8%	3%	16%	21%	32%	48%	
Short-Term		0%						
Medium- and Long-Term		8%						
In foreign currency	7%	32%	33%	50%	8%	53%	45%	
Short-Term		29%						
Medium- and Long-Term		3%						

Notes on data construction

NFPS:

- Total liabilities are obtained from BCU debt tables + debt vis-à-vis the BCU obtained from monetary data. Total assets are obtained from BCU debt tables + assets vis-à-vis the BCU obtained from monetary data.
- Exposure vis-à-vis the BCU and ODC: From standardized reporting forms (monetary statistics).
- Exposure vis-à-vis the non-financial private sector: On the asset side, found as a residual by subtracting external and ODC assets from BCU debt tables. On the liabilities side from BCU debt tables.
- Exposure vis-à-vis non-bank financial sector: Assumed to be 0 on the asset side and retrieved as a residual on the liability side by subtracting all other sectors for total liabilities of the NFPS. AFAPs with 4541 million US\$ account for the bulk of the 6272 million US\$ of liabilities. The difference between the two numbers could also be exposure to the private non-financial sector.
- Exposure vis-à-vis rest of the world: From BCU external debt tables (Note: contractual, rather than residual maturity).
- NFPS equity in BCU and public banks currently not included.

BCU:

- All headline data from standardized reporting forms. Some minor differences between monetary data and BCU external debt tables (roughly 300 on liabilities side and 200 on asset side). The difference is added to medium- and long-term maturity assets and liabilities.
- Total assets and liabilities obtained as the sum of all sub-items. Total assets and liabilities do not sum to 0 since currency in circulation and the capital account are omitted from the liability side.

Public sector:

- Obtained as the sum of NFPS and BCU, netting out cross-exposures.

Other depository corporations (banks):

- All headline data from standardized reporting forms except for liabilities vis-à-vis the non-bank financial sector which are taken from AFAP's balance sheets (sum of all term deposits). Do not have detailed information on these term deposits but assume that they are >1 year, i.e. long-term.
- We add private bank equity as a peso liability vis-à-vis the rest of the world.
- For split between short-term and long-term exposure to non-financial private sector and to the rest of the world, use detailed split on credit and deposit composition by currency and maturity from bank data and then apply the obtained percentages to the monetary headline data.

- Total assets and liabilities obtained as the sum of all sub-items. Total assets and liabilities do not sum to 0 since intra-sectoral exposures (and some potential small other items) are not captured in the sectoral balance sheet.

Non-bank financial sector:

- Exposure vis-à-vis private non-financial sector: Data is only for AFAPs, due to lack of comprehensive data. On the asset side use all corporate bonds and stocks, as well as consumer loans held by AFAPs. On the liabilities side use the total value of AFAP funds.
- Exposure vis-à-vis the rest of the world: Combine AFAP data with data from standardized reporting forms. However, OFC data for Uruguay only comprises offshore financial institutions. Therefore, it has limited institutional coverage.
- Total assets and liabilities obtained as the sum of all sub-items. Note that there is a discrepancy since only for a few inter-sectoral exposures was data available for a larger set than only the AFAPs.

Private non-financial sector:

- Exposure of private non-financial sector vis-à-vis the rest of the world comes from IIP. On liability side, assume that all direct equity investment to private non-financial sector. Assume all direct investment via debt instruments is in foreign currency. Additionally, assume that all 'other investments' is in foreign currency. Take out SOE external debt from 'other' sector in IIP. Rest (direct equity investments) assume in Pesos given book value in Pesos.
- On the asset side, take data from IIP for 'other sectors' and subtract AFAPs and other non-bank financial institutions.

General observations on use of standardized reporting forms:

- Currency in circulation is not included in BCU liabilities. Capital account is always excluded given difficulty of assigning counter-party.
- OFC data are only for offshore financial institutions therefore always use CB and ODC survey when possible.
- Classify transferable deposits as short-term. Assume that all loans are long-term unless more precise information is available. Assume that all other small items such as trade credits and derivatives are short-term unless more precise information is available.

Note: We define short-term to be anything with a (residual) maturity of less than 1 year. When residual maturity is not available, contractual maturity is used. BCU debt tables often give contractual maturities.