December 2014

LOCAL MARKETS HANDBOOK 2015

A Guide to Latin American Rates

ARGENTINA

BRAZIL

CHILE

COLOMBIA

MEXICO

PERU

URUGUAY

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LATAM

LATIN AMERICA LOCAL MARKETS SUMMARY

	Argentina ARS	Brazil BRL	Chile CLP	Colombia COP	Mexico MXN	Peru PEN	Uruguay UYU
FX policy framework							
Convertibility	Non-convertible	Non-convertible	Partially convertible	Non-convertible	Fully convertible	Partially convertible	Partially convertible
Regime	Managed float	Dirty float	Free float	Free float	Float	Managed float	Free float
Central Bank intervention	Daily discretionary, spot & onshore forward	Discretionary, spot, fwd, FX swaps, credit lines and other regulatory mechanisms.	Discretionary. Daily Central Bank purchases and USD swaps used in the past	Discretionary USD buying. Options have been used in the past.	Sporadic rules-based volatility USD spot sales	Discretionary spot, FX swaps & USD CDs as well as USD reserve requirements	Discretionary, spot & occasionally forward
Average ticket in US$ million & bid/ask (pips)	5mn & 10 cents	50 mm & 10pips	5mn & 50pips	5mn & 100-200pips	5 mm & 5-10 pips	1.5mn & 10pips	300k & 1 to 4 cents
Spot daily average trading in US$ billion	0.2 (onshore)	1-1.5	1.8-2	1-1.5	9.0	0.5	0.2
Local trading hours	10am-1pm	9am – 6pm	9am-1pm	10am-1pm	8:30am-3pm	9am -1:30pm	11am-4pm
Market daily fixing	BCRA	PTAX (Central Bank)	Observed BCCh rate	TRM (Superfinanciera)	Banxico official MXN fixing	Official rate (BCRP)	Official Closing rate (C. Bank)
Forward daily trading in US$	40mn at 1m-3m (on & offshore)	16.2 (BM&F)	1.0	1.0	21 (swaps)+2 (fwds & fut)	300mn	5mn
Monetary policy regime	Money supply target	Inflation target	Inflation target	Inflation target	Inflation target	Inflation target	Indicative inflation target
Inflation target 2011	Not applicable	4.5% (±200 bps)	3.0% (±1pp)	3.0% (±1pp)	3.0% (±100 bps)	2.0% (±100 bps)	5% (±200 bps)
Policy rate	Reverse repo	Selic	BCCh monetary policy	BanRep O/N repo	Banxico O/N "fondeo"	BCRP reference	No reference rate since July 1st 2013
Bond market							
Local govt. debt outstanding LCY billion	925.1	2050.8	28,950	179,395	5,648	56.2	362.2
Local govt. debt outstanding US$ billion	147.4	870.0	48.1	81	413.7	19.4	15.4
Fixed	49.9%	43.3%	27%	73%	42.2%	81.3%	48.4%
USD	51.1%	0.6%	0.0%	0.0%	0.0%	0.0%	3.8%
Inflation linkers	14.0%	36.8%	73%	27%	19.7%	18.7%	47.8%
Floaters	35.5%	18.8%	0.0%	0.0%	19.9%	0.0%	0.1%
Other*	14.8%	0.5%	0.0%	0.0%	18.1%	0.0%	0.0%
Average duration & maturity (years) **	3.1 & 9.0	4.5 & 6.7	6.25 & 8.1	4.48 & 5.29	5.95. & 8.70	7.7 & 15	n.a. & 4.1
Daily turnover LCY billion	66.4	15.9	220.0	3,820	15.2	0.1	0.6
Daily turnover USD billion	7.9	6.7	0.4	1.8	1.1	0.0	0.0
Daily turnover as % of outstanding	5.36%	0.8%	0.9%	2.3%	0.6%	0.2%	0.2%
Daily turnover as % GDP	1.24%	0.3%	0.2%	0.4%	0.1%	0.0%	0%
Local debt (securities) as % GDP	23.4%	39.3%	17.9%	20%	32%	6.8%	28%
AFP participation in local debt (%)	n.a.	17.5%	70%	27%	27%	37.0%	27%
Foreign participation in local debt (%)**	10.8%	20.4%	1 to 3%	14.6%	37%	37.6%	22.0%
Derivatives							
FX options	Not available	Available	Available	Available	Available	Not available	Not available
1-month ATM implied vol spread		0.70%-1.00%	1.00-1.50%	1.50-2.00%	0.5%-0.75%		
Inflation forwards	Not available	Not available	UF/CLP	Not available	Not available	Not available	UI/USD – OTC
Swaps nominal	ARS x Badlar	Pre-DI	CLP x Camara	IBR Swaps	TIIE	Not available	Exclusively available OTC
Average ticket in US$ million & bid/ask (bps)	1mn (200 bps)	25 k DV01 (1-2 bps)	10k DV01 (5-10 bps)	5k DV01 (10-15 bps)	10k DV01 (4-5 bps)		
Swaps inflation-linkers	Not available	IPCA x CDI	UF x Camara	Not available	UDI x TIIE	Not available	Not available
Average ticket in US$ million & bid/ask (bps)		20k DV01 (15 bps)	10k DV01 (5-10 bps)		No longer liquid		
Cross currency	ARS x USD Libor	CDI x Cupom Cambial	CLP & UF x USD Libor	COP & UVR x USD Libor	TIIE x USD Libor	PEN & VAC x USD Libor	UYU x USD , exclusively OTC
Bid-ask spread	600 bps	20k DV01 (15 bps)	10mn (10 bps)	20mn (15 bps)	10k DV01 (15-20 bps)	5 mm (20 bps)	UI/USD – OTC

Sources: Corresponding Central Banks, government ministries and other regulatory bodies, and Santander.
*"Others" include GDP warrants in Argentina (duration estimate excludes warrants).
**In Argentina excluding par and discounts from the exchange, which are subject to foreign law; in Peru duration is calculated with most-liquid fixed bonds. In Uruguay, maturity refers to Treasury liabilities.

ARGENTINA

MACRO BACKGROUND

The dispute with holdout investors was one of the main themes in 2014 and will continue to be in 2015, in our view. (More on this topic is included in this report.) The country was placed in restrictive/selective default by credit rating agencies Fitch and Standard & Poor's by the end of July 2014 after the country failed to make a US$537 million payment by the end of June that year, provided an agreement with holdout investors was not reached before the payment. The technical default announcement—even though the missed payment was not significant in size—negatively affected market participants' expectations of Argentina, leading to further deterioration in domestic fundamentals. In addition, earlier in 2014, the depreciation of the peso against the U.S. dollar in excess of 20% during January pushed realized (and expected) inflation higher, leading to a decrease in real wages that caused a deterioration in private consumption, one of the main engines of growth in the last decade.

Key drivers for growth in the last decade were the automobile and construction sectors and, in 2014, they constituted a drag on activity based on FX controls, declines in real wages, deceleration of the Brazilian economy (one of the major markets for auto exports), and the introduction of a tax on luxury cars that increased auto prices. Partial activity indicators such as retail sales had declined 7.5% y/y in the first 10 months of 2014, pointing to weak consumption figures. Furthermore, in 2014 we believe private sector consumption is likely to show the first contraction since 2002, on the back of an erosion in real wages, a stagnant labor market, and deterioration in expectations.

In 2015, events that will dominate the agenda (and the evolution of the economy) will, we believe, be a potential agreement with holdout investors and the presidential elections, the latter to be held in October. In our view, risks for economic activity are tilted to the downside, as the external backdrop will not be supportive. Brazil, the main trading partner, is expected to post tame 0.3% GDP growth in 2015, and the convergence of the Chinese economy to lower growth should not be conducive to strong commodity prices. Indeed, prices for soybeans, one of the major exported products, edged down by almost 20% in the first 11 months of 2014, and World Bank forecasts point to no significant price gains in the coming years for that product. On the domestic front, the likely contraction in activity should be mostly explained by a retraction in private consumption and investments, according to our local team estimates. In an election year, the government will try to power up the economy, although room for further fiscal expansion is limited.

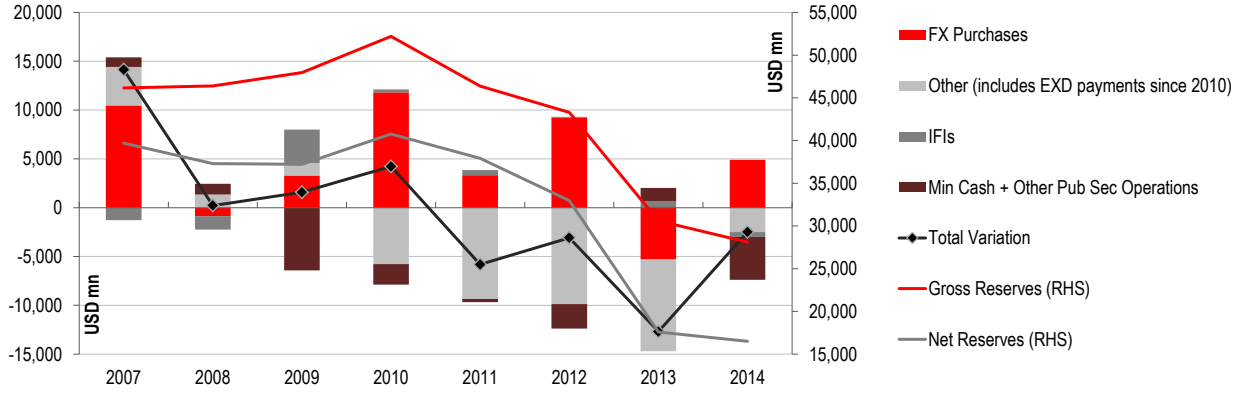
With almost no access to global debt markets, in the last few years the current administration turned to local institutions (and particularly to government agencies) in order to finance its increasing expenditures, and continued to do so in 2014. Current expenditures went up 46% y/y in the first nine months of 2014, while current revenues expanded 42% y/y in the same period. However, transfers from the central bank (CB) and the social security administration (SSA) grew at a 142.5% rate in the aforementioned period. The budget deficit, close to 2% of GDP, almost doubles if transfers from the CB and SSA are taken out. Indeed, our team in Argentina expects the fiscal balance to deteriorate to -3.7% in 2015 from -2.7% in 2014.

In terms of international reserves, the 2015 budget contemplates the use of those central bank assets in an amount close to US$12.0 billion in order to make debt-related payments. Since 2010, the current administration relied on the central bank to seek domestic financing and to cancel external debt payments. (More on the change in composition in government debt is discussed in the "Holdout Investors" section.) In this way, and with the exception of 2013, the FX purchases from the central bank have been counterbalanced by the use of reserves (to foreign debt-related obligations), leading a net contraction in those assets. (See following chart.)

The trade balance has been one of the main sources of U.S. dollars in the last years, with the government relying, from time to time, on import controls in order to keep the net inflow of the USD strong. However, the dynamics in the trade balance shifted in the last year or so, and for 2015 we do not expect it to add strong inflows. Indeed, our team expects the trade surplus to be around US$4.3 billion next year, significantly below the US$11.7 billion average in the 2009-2013 period, based on weaker commodity prices and a deceleration in

global trade. All in all, we expect international reserves to end 2015 close to US$20.0 billion, but with upside risks prevailing if the government reaches an agreement with holdout investors.

Sources of variation in international reserves



Net reserves subtract current account in other currencies, means of payments in other currencies, obligations with international agencies, CB notes issues in foreign currency, among others, from gross reserves. 2014 shows figures to November. Sources: Central Bank of Argentina and Santander.

LOCAL MARKETS

In 2015, the government will be obligated to make foreign currency payments in the amount of about US$14 billion, with almost half of that amount related to Boden 15, which is due in October next year (the month when presidential elections are scheduled). The government recently announced a swap of the Boden 15, bringing forward the payments (details follow). The composition of external payments in 2015 will be US$5.9 billion national debt, US$3.2 billion corporate debt, IFIs and Paris Club will amount to US$3.4 billion (US$0.8 billion being Paris Club payments), and the remaining US$2.0 billion will be province-related payments. In May 2014, the government reached an agreement with the Paris Club in order to refinance the US$9.7 billion debt (US$5.0 billion capital and US$4.7 billion interest) and to pave its way back to international markets. The negotiation did not include the involvement of the IMF (usually part of past negotiations between Paris Club members and debtor nations) and established a payment framework of five years that could be potentially extended to seven. In terms of financing, and as already mentioned previously, the government included in the budget the use of US$12.0 billion of international reserves dedicated to debt payments. Therefore, we believe the current administration will likely have its financial needs covered and will continue with its strategy of relying on CB reserves in order to cancel foreign-currency-related payments.

In the last few years, the government's strategy has been to change the financing mix between foreign and domestic creditors, augmenting the weight of the latter. Domestic debt increased to 70% of total debt by the end of 2013 (when latest official data are available) from 53% in 2Q05. (See following chart.) As a counterpart, external debt as a share of total debt went down to 30% by the end of 2013 from 47% in 2Q05. The change in total debt composition is mostly explained by the inability of the government to tap global debt markets and its use of internal agencies such as the social security administration and the central bank in order to cancel foreign debt payments. All in all, total debt (excluding obligations to holdout investors) rose by almost US$30 billion in the 2011-13 period, to US$203 billion by the end of 2013.

Considering the international reserves dynamics and the debt payments that the next administration will have to face in the coming years (see following chart), particularly in 2017, along with domestic challenges, we see a higher probability of the country returning to global markets from 2016 onward. In order to exit the scheme of currency controls (implemented in late 2011), the next administration, in our opinion, will have to restore confidence and have sufficient ammunition (in terms of international reserves) to face potential short-term strong USD demand that could result from lifting the controls (if that policy is pursued). A potential strategy on the debt side could be to roll over the debt, especially for short-term payments, but we see this option as available only from 2016 onward.

In terms of ARS financing, the government will likely need to close in the gap of ARS350 billion (7% of GDP) in 2015; however, given the strategy implemented by this administration in the last few years, we believe that the main source of financing will be internal agencies, in the context of a deterioration in fiscal figures. Latest issuances in the local market (particularly U.S. dollar linked) indicate that the administration will try to rely less on pure monetary financing and more on domestic issuances in order to reduce pressure on prices, particularly in an election year.

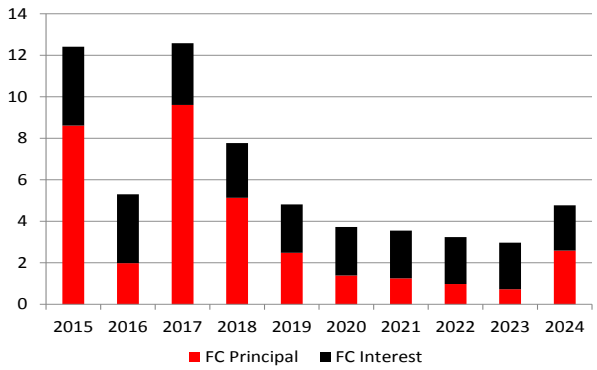
Total debt (excluding holdout investors) increased to US$202.6 billion at the end of 2013 from US$197.5 billion at the end of 2012, with the domestic debt accounting for most of the change. Debt in the hands of the public sector rose US$6.3 billion in the same period to US$21.1 billion, while that in the hands of the private sector contracted almost US$2 billion between 2012 and 2013 to US$55.5 billion. In terms of currency composition, 61.2% of the gross public debt is denominated in foreign currency (51.06% in U.S. dollars, 9.8% in EUR and the rest in other currencies). Of the peso-denominated debt, 14.03% is inflation linked.

Gross & net public debt stock (US$ billions)

	US$ bn
Bonds	134.1
- Local currency	32.6
- Foreign currency	101.5
Loans	62.6
- Multilateral agencies	19.4
- Commercial banks	4.7
- Central bank & other agencies	22.5
- Other	15.9
Paris Club	5.0
Total Public debt (official)	**202.6**
Holdouts	11.8
Total public debt adjusted	**214.5**
- In hands of BCRA, ANSES & BNA	121.1
Net public debt (adjusted)	**93.4**
Gross public debt, % of GDP	**35.4%**
Net public debt, % of GDP	**15.4%**

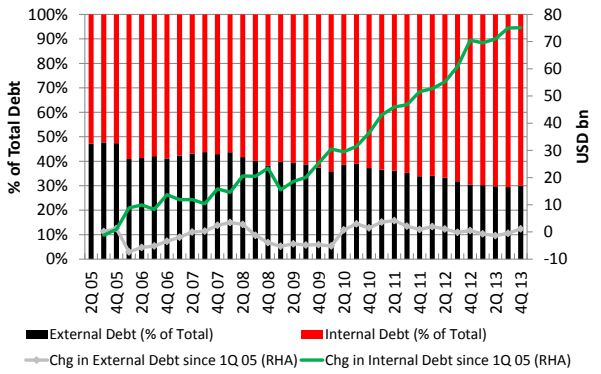
As of December 31, 2013. Public sector holdings include ANSES, BCRA, and BNA. Sources: MECON and Santander estimates.

Principal and interest payments, strong in 2015



Interest and principal payments on IFIs and public debt in foreign currency. Sources: Economy Ministry and Santander.

Changing the source of financing



Public sector debt excluding debt in hand of holdout investors. Sources: Economy Ministry and Santander.

Holdout Investors

One of the dominant topics in 2015 will be a potential agreement with holdout investors, as the Rights Upon Future Offers (RUFO) clause expires in December 2014. The government will have leeway to potentially negotiate with investors that did not enter the 2005 and 2010 debt swaps. If the government wants to regain market access, an agreement with holdout investors appears to be a necessary condition. After the technical default in July 2014, the government enacted a law to change (voluntarily) the jurisdiction of the payment to Buenos Aires for restructured bondholders and replaced the Bank of New York-Mellon (BoNY) with Nacion Fideicomisos as fiduciary agent. However, according to government officials, there was no significant participation of investors in the voluntary change. The amount of debt in the hands of holdout investors stands close to US$11.7 billion, of which 56% is principal and the remaining 44% interest. In terms of currencies, U.S. dollar-denominated debt stands at US$8.0 billion, while US$3.7 billion is EUR-denominated.

Of the payments due in 2015, US$2.3 billion interest will come from Par, Discount, and Global 17 bonds. In terms of timing, the payments for the par debt are scheduled in March and September, while the Discount and Global 17 are due in June and December. (See due amounts below.) At the time of this writing, local newspaper reports indicated that a potential agreement with holdouts could come in 1Q 2015. However, we believe that negotiations will not be straightforward and may take more time than expected. Attention will remain on Congressional activity and on whether the government calls for extraordinary sessions at the beginning of 2015, but available information suggests that Congressional activity will extend until the end of December 2014. If an agreement with holdout investors is reached, the law that aimed to modify the payment location in a voluntary way (as well as the fiduciary agent), along with the so-called "Lock Law" (*Ley Cerrojo*), which did not enable further debt swaps after the one in 2010, will likely have to be derogated, thus centering the attention on Congressional activity.

Instrument	Nominal value (US$ millions)	Minimum holding for acceleration (US$ millions)	Interest payments due in 2015 (US$ millions)
Par	**15798.1**		
NY Law	5393.6	1348.4	135
EUR UK Law	8897.9	2224.5	201
JPY Japanese Law	205.6	51.4	1
USD Local Law	1301.0	325.3	33
Discount	**18914.4**		
NY Law	5577.8	1394.5	462
EUR UK Law	7939.9	1985.0	621
JPY Japanese Law	93.3	23.3	4
USD Local Law	5303.3	1325.8	439
Global 17 (NY Law)	**965.8**	241.4	85

Data as of 4Q13, in U.S. dollars in millions. Sources: Ministry of Finance and Santander.

Fixed Income Market

As of October 2014, the social security administration (SSA) had ARS-denominated debt in an amount close to US$16.1 billion, with almost half of those holdings (52%) in Cuasipar. The Bonar holdings were divided as follows: US$1.8 billion each for Bonar 18s and 19s, while Bonar 16s and 20s amounted US$1.3 billion and US$1.2 billion, respectively. In terms of USD-denominated debt, Bonar 18s and Discount (local law) account for the majority of SSA's portfolio (70%), with respective holdings of US$5.7 billion and US$5.4 billion.

ARS and CER-linked bonds—Secondary market liquidity and outstanding amounts

Maturity	Traded volumes monthly avg	Outstanding amount (US$ millions)
Bonar 15	94.6	1,150.4
Bonar 16	74.3	1,921.9
Bonar 17	108.1	n.a.
Bonar 19	42.0	2.4
Pro 12	1.1	188.6
Pro 13	86.6	864.3
Par bonds	9.3	1,063.3
Quasi Par bonds	0.1	12,058.0
Discounts	76.0	4,987.2
Bogar 18	50.2	5,181.4
Total	**542.1**	27,418

Monthly traded volumes at MAE (Mercado Abierto Electrónico), cash basis, in millions of U.S. dollars (average of August, September, and October 2014). Outstanding stock as of December 30, 2013. n.a.: Not available. Sources: MAE, IAMC, Superintendencia de AFJP, Economy Ministry, and Santander.

U.S. dollar-denominated bonds—Secondary market liquidity and outstanding amounts

Maturity	Traded volumes monthly avg	Outstanding amount (US$ millions)
Boden 15	1,292.3	5,945
Global 17	25	966
Bonar X	725.3	3,374
Bonar 18	0.002	6840.1
Bonar 19	n.a.	961.2
Discounts	48.1	5577.8
Par bonds	64.6	5393.6
Total	**2,155.2**	29,058

Monthly traded volumes at MAE (Mercado Abierto Electrónico), cash basis, in millions of U.S. dollars (average of August, September, and October 2014). Outstanding stock as of December 30, 2013. n.a.: Not available. Sources: MAE, IAMC, Superintendencia de AFJP, Economy Ministry, and Santander.

GDP-linked securities—Secondary market liquidity and outstanding amounts

Maturity	Traded volumes monthly avg	Outstanding amount (notional, US$ millions)
ARS	10.4	5908.9
USD	5.5	17219.5
EUR	3.7	26037.5
JPY	n.a.	439.7
Total	**19.6**	49605.5

Monthly traded volumes at MAE (Mercado Abierto Electrónico), cash basis, in millions of U.S. dollars (average of August, September, and October 2014). Outstanding stock as of December 30, 2013. n.a.: Not available. Sources: MAE, IAMC, Superintendencia de AFJP, Economy Ministry, and Santander.

BODEN 2015 SWAP

On December 4, the Minister of Finance Axel Kicillof announced a voluntary swap of the Boden 2015 for Bonar 2024 (*Bonos de la Nacion Argentina en Dolares Estadounidenses 8.75% 2024*) and also the option to bring forward the payments of Boden 2015. The original payment schedule for the instrument maturing in 2015 was, according to latest available official data (as of 4Q13), a US$208 million interest payment due in April and October and a US$5.9 billion capital payment in October next year. On the option to bring forward the Boden 15 payment, those investors who decide to receive the payments in December 2014 will obtain US$97 for each US$100 in nominal value (cash payment), and if the option of early payment is not exercised, the original schedule will be maintained. The period when offers will be received will start on December 10, 2014 and end on December 12, 2014 (at 5:00 pm local time) and the payment date will be December 22, 2014.

Investors willing to enter the swap will obtain (nominal value) US$99.70 in Bonar 24 for each US$100 in Boden 15 plus accrued interest of the latter of US$1.53611 for each US$100 nominal value in Boden 15. The subscription period will start on December 10, 2014 and will end December 12, 2014 (at 5:00 pm local time), and the payment date will be on December 22. In addition, the government will increase the issuance of Boden 2024 by US$3.0 billion (the first issuance of this semiannual payment bond was in May 7, 2014 in the amount of US$3.25 billion), bringing the outstanding amount to US$6.25 billion. The auction period will start December 10, 2014 and end December 12, 2014 (at 5:00 pm local time), the bond will be issued at a discount of US$96.20 per USD 100 nominal value, and the minimum offer amount will be US$1,000. Finally, a fourth option available to investors would be to cash in Boden 2015 in December 2014 and purchase, with the proceeds, Bonar 2024.

As we mentioned in the "Local Markets" section, the government will face a foreign currency payment of US$14.0 billion next year, according to our estimations, and the current administration had budgeted the use of US$12.0 billion of international reserves in order to make debt-related payments. In addition, the Central Bank of Argentina signed a three-year US$11.0 billion swap with the People's Bank of China that could be used to either boost (temporarily) international reserves or make import payments from China. As of December 2014, the Central Bank of Argentina used US$1.3 billion from the swap line. Of the debt due in the next ten years—US$61 billion in capital and interest—payments in 2015 and 2017 account for 41% of the total amount.

REGULATORY AND TAX ISSUES

Investors participating in the local foreign exchange market (MULC) face several restrictions, among which we highlight the following:

1. **Minimum stay period.** Debt of nonresidents in foreign currency must have a tenor no shorter than 365 days. All forms of prepayment are prohibited. Bond issuance in primary markets, with public offer and effectively traded in self-regulated markets, is exempted from this obligation. Financial debt is issued by a local agent and funded by a nonresident (either from the nonfinancial or financial private sector).
2. **Nonremunerated foreign currency deposit.** Investors are required to make a nonremunerated deposit at the Central Bank equivalent to 30% of the foreign currency amount entering the local foreign exchange market. Some exemptions include (1) debt issuance to invest in local nonfinancial assets, and (2) funds applicable to the purchase of public sector bonds in primary auctions.
3. **Foreign exchange controls for institutional investors.** The Central Bank resolution 5314 established that local banks are not entitled to buy U.S. dollars in the official MULC market for the purchase of dollar-denominated bonds, although some exceptions exist. As a result, local banks' participation in the local bond market has declined significantly, with a consequent impact on overall market volumes.
4. **Existence of gap between onshore and offshore bond prices.** Given the imposition of new foreign exchange and capital controls in 2011, the gap between onshore and offshore bond prices has widened sharply over the last few years.
5. **In terms of taxes, foreign investors face the following taxes when investing locally.** Sovereign and trading corporate debt are exempt from income tax and tax on holdings. Nontrading corporate debt is exempt on the income tax in capital gains; however, interest receipts are taxed (35% for nonfinancial

companies or individuals and 15% for financial companies), while holdings as of December 31 are charged at 2.5% for nonfinancial companies.

6. **Investment funds are exempt from income tax charges but face a 2.5% tax on holdings** (as of December 31) for nonfinancial companies. Local deposits holdings are taxed 1.25% for individuals (holdings as of December 31), and a 15% income tax is applied.
7. **The blue chip market,** an available and alternative mechanism to access U.S. dollars by the purchase and sales of equity (or also through bonds) locally and abroad, has been under strain and lost liquidity since the new Central Bank administration took place, and the gap between the official rate and the blue chip rate has declined substantially since October 2014. Domestic regulation requires a 72-hour holding period before the sale of the asset is done, increasing exposure to price variations.

Investors are strongly encouraged to consult their legal advisors regarding tax, foreign exchange, and capital regulations under Argentine law, which are subject to frequent changes, according to events observed in the last few months.

A NOTE ABOUT MODELING INFLATION-LINKED (CER) BONDS

The CER is an index that was officially created on February 4, 2002, and was intended to maintain the real value of pesofied obligations (Bloomberg ticker is CER <Index>). The value of the CER index was set at 1.00 for February 4, 2002, and reached 4.3219 as of November 27, 2014, meaning that consumer prices as measured by INDEC increased by 332.2% in the last 10 years. The underlying reference used to compile the index is CPI inflation published by INDEC (Institute of Statistics and Census), which can be found on the Central Bank's website (http://www.bcra.gov.ar). The CER is published by the Central Bank of Argentina on the seventh day of every month, and it provides a daily quote for each day of the following month (including weekends) using the following formulas (included in resolution 47/02 published by the Economy Ministry):

Between the first day of the month and the sixth day of that same month:

$$CER_t = \left[\frac{CER_{t-1} \times CPI_{i-2}}{CPI_{i-3}}\right]^{\frac{1}{k}}$$

Where t is the day, i is the month, and k is days in month i-1. The value of the CER index for May 1 equals the value of the index on April 30 times the daily geometric average of the inflation observed during March.

Between the seventh day of the month and the last day of that same month:

$$CER_t = \left[\frac{CER_{t-1} \times CPI_{i-1}}{CPI_{i-2}}\right]^{\frac{1}{k}}$$

Where t is the day, i is the month, and k is days in month i. The value of the CER index for May 7 equals the value of the index on May 6 times the daily geometric average of the inflation observed during April.

The objective of adjusting ARS-denominated bonds by CER was to maintain the real value of amortization installments and coupon payments of the debt issued after the pesofication, i.e., Bodens, Bocones, and Bogars. Consequently, the way to model all those bonds is to apply the CER index to the initial value of the principal amount and to calculate amortization and interest payments on the gross-indexed principal (i.e., the nominal amount). Therefore, each amortization or coupon payment is calculated on the total indexed principal (the current nominal value of the principal).

Example

Period	CER	Indexed principal (in ARS)	Percentage amortized	Amount amortized (in ARS)	Residual real amortization	Coupon	Interest amount (in ARS)
T0	1.00	100.00			100% real	2% + CER	
T1	1.20	120.00	25%	30	75% real	2% + CER	2.40
T2	1.40	140.00	25%	35	50% real	2% + CER	2.10
T3	1.60	160.00	25%	40	25% real	2% + CER	1.60
T4	1.80	180.00	25%	45	0% real	2% + CER	0.90
Total			100%	150			

Source: Santander.

In February 2014, the national bureau of statistics (INDEC) started to release a new inflation index which is measured on a national basis (base 4Q 2013 = 100), becoming the new benchmark for inflation-linked instruments. The new release replaces the previous consumer price index, which was computed for a geographical coverage of the city and province of Buenos Aires, while the new index is measured on a national basis. In the first 10 months of 2014, accumulated inflation on a national basis stood at 17%, while the average annual inflation for the 2009-2013 period under the previous index was 10.5%, continuing to showing divergence with private sector estimates of inflation.

BONAR ARS 2015

Issuer	Government of Argentina. Authorized by Resolution 57/2009 from the Secretary of Finance and Resolution 216/2007 from the Secretary of Treasury; subject to Argentine law, also known as Bocan 2015. Date of issuance: September 10, 2009.
Maturity	September 10, 2015.
Coupon	Quarterly. The first eight coupons will be capitalized on a quarterly basis. Starting December 10, 2011, interest payments will be in cash. The coupon rate will be equivalent to the private banks' BADLAR rate (provided by the Central Bank, *BADLARPP Index* at Bloomberg), plus a 300-bp spread. The BADLAR rate will be the average observed between the 10th business day prior to the beginning of the coupon period and the 10th business day prior to the end of the coupon period. It is paid on the 10th of March, June, September, and December, or the following business day.
Day count	Calculated on an actual/actual basis.
Amortization	Six semiannual installments; each of the first five installments of 16.66% and the last one of 16.70%. It is paid on the 10th of March and September.
Convention	For yield calculation purposes, floating-rate coupons are generally calculated by adding the fixed spread (300 bps) to the average BADLAR rate of the last 10 observations.

BOCON

Bocones (*Bonos de Consolidación*) are government securities issued by the National Treasury to cancel debts with pension beneficiaries or public sector suppliers. Bocones trade in the market on a dirty-price basis. Trading hours are generally 9:00 to 15:00 local time.

Bloomberg ticker	ARGBOC <Govt>

BOCON PRO 12 (BOCON PROVEEDORES 4TA SERIE EN PESOS)

Issuer	Government of Argentina. Bocon Pro 12 (Pr12) was issued to cancel government debts with suppliers and contractors. The series was authorized by Decree 1873/02, Resolution 638/02. Date of issuance: February 3, 2002.
Face value	ARS1.0 adjusted by CER.
Maturity	January 3, 2016.
Coupon	Monthly; 2% on principal adjusted by CER. It is paid on the third of each month or following working day. First coupon paid on February 3, 2006. During the four-year grace period, interest was capitalized on a monthly basis.
Day count	Calculated on a 30/360 basis.
Amortization	120 monthly installments; Each of the first 119 installments of 0.84%, and the last of 0.04%, of principal adjusted by CER. First amortization paid on February 3, 2006.

BOCON PRO 13 (BOCON PROVEEDORES 6TA SERIE EN PESOS)

Issuer	Government of Argentina. Bocon Pro 13 was issued to cancel government debts with suppliers of the public sector. The series was authorized by Law 25827, Art. 66 and Resolution 378/04. Date of issuance: March 15, 2004.
Face value	ARS1.0 adjusted by CER.
Maturity	March 15, 2024.
Coupon	Monthly; 2% on principal adjusted by CER. Paid on the 15th day of each month or the following business day. First coupon will be paid on April 15, 2014. During the four-year grace period, interest will be capitalized on a monthly basis.
Day count	Calculated on a 30/360 basis.
Amortization	120 monthly installments. Each of the first 119 installments of 0.83%, and the last one of 1.23%, of principal adjusted by CER. First amortization payment will be on April 15, 2014.

BOGAR

Bogars (*Bonos Garantizados*) were issued as part of a restructuring of provincial liabilities. Bogar 18s trade in the market on a dirty-price basis. Unlike most other CER-indexed bonds, the bonds currently have a credit rating from Fitch only. Trading hours are generally 9:00 to 15:00 local time.

Bloomberg ticker ARGBON <Govt>

BOGAR 2018

Issuer Banco de la Nación Argentina, in its role as trustee of the Fondo Fiduciario de Desarrollo Provincial. Bogars were issued in exchange for provincial liabilities, including bonds, bills, and loans, under Decree 1387/2001 and Economy Ministry Resolutions 539/02 and 624/02. Cash flows are currently guaranteed by the government of Argentina. Date of issuance February 4, 2002.

Face value ARS100 adjusted by CER.

Maturity February 4, 2018.

Coupon Monthly; 2% adjusted by CER. Paid on the fourth of each month or the following business day. First coupon paid on October 4, 2002. During the seven-month grace period, interest was capitalized on a monthly basis.

Day count Calculated on an actual/365 basis.

Amortization Bogars amortize in 156 monthly installments. The first 60 payments correspond to 0.40% of principal, the subsequent 48 payments correspond to 0.60% of principal, the following 47 payments correspond to 0.98% of principal, and a last installment equivalent to 1.14% of principal, adjusted by CER. The first amortization date was March 4, 2005.

Additional features Adjusted principal including capitalized interest and CER was set at 134.9631292 as of September 4, 2002, according to the Economy Ministry's tutorial. Interest and amortization coupons are adjusted by the CER coefficient corresponding to the fifth business day prior to the payment date.

BOGAR 2020

Issuer	Banco de la Nación Argentina, in its role as trustee of the Fondo Fiduciario de Desarrollo Provincial. Bogars were issued in exchange for provincial liabilities, including bonds, bills, and loans, under Decrees 1387/2001, 1579/2002, and 977/2005. Cash flows are currently guaranteed by the government of Argentina. Date of issuance February 4, 2002.
Face value	ARS100 adjusted by CER.
Maturity	October 4, 2020.
Coupon	Monthly; 2% adjusted by CER; paid on the fourth of each month or the following business day. First coupon paid on September 4, 2005. During the 43-month grace period, interest was capitalized at 2% annually.
Day count	Calculated on an actual/365 basis.
Amortization	Bogars amortize in 156 monthly installments. The first 60 payments correspond to 0.40% of principal, the subsequent 48 payments correspond to 0.60% of principal, the following 47 payments correspond to 0.98% of principal, and a last installment equivalent to 1.14% of principal, adjusted by CER. The first amortization date was November 4, 2007.

DISCOUNTS AND PARS (ARS-DENOMINATED)

ARS-denominated Discounts and Pars were issued by the National Treasury in exchange for defaulted bonds in 2001. They all trade in the market on a dirty-price basis. Trading hours are generally 9:00 to 15:00 local time.

Bloomberg ticker ARGENT <Govt>

ARS DISCOUNT

Issuer Government of Argentina. Authorized by Decree 1735/04, Resolution 20/05, and issued under Argentina's 2005 debt exchange.

Maturity December 31, 2033.

Face value ARS1, adjusted by CER. Adjustment factor is calculated using the CER value 10 days prior to the payment date over the CER value 10 business days prior to the issue date (December 31, 2003).

Coupon Semiannual, 5.83%, with partial capitalization until December 31, 2013. Capitalization rules: December 31, 2003-December 31, 2008: 2.79% paid in cash, 3.04% capitalized; December 31, 2008-December 31, 2013: 4.06% paid in cash, 1.77% capitalized; December 31, 2013-December 31, 2033: 5.83% paid in cash, 0.00% capitalized.

Day count Calculated on a 30/360 basis.

Amortization 20 semiannual installments of 5% of principal adjusted by CER, on June 30 and December 31 of each year, or the following business day. First installment will be paid on June 30, 2024.

ARS PAR

Issuer Government of Argentina. Authorized by Decree 1735/04, Resolution 20/05, and issued under Argentina's 2005 debt exchange.

Maturity December 31, 2038.

Face value ARS1, adjusted by CER. Adjustment factor is calculated using the CER value 10 days prior to the payment date over the CER value 10 working days prior to the issue date (December 31, 2003).

Coupon Semiannual step-up coupon. First coupon paid on March 31, 2006. Coupon schedule: December 31, 2003–March 31, 2009: 0.63%; March 31, 2009–March 31, 2019: 1.18%; March 31, 2019–March 31, 2029: 1.77%; March 31, 2029–December 31, 2038: 2.48%. Short first coupon and short last coupon.

Day count Calculated on a 30/360 basis.

Amortization 20 semiannual installments of 5% of principal adjusted by CER. The first 19 installments will be paid on March 31 and September 30 of each year or following business day, with the final installment paid on December 31, 2038. The first installment will be paid on September 30, 2029.

DOMESTIC USD BONDS

This category comprises U.S. dollar-denominated Bodens (*Bonos del Estado Nacional*) and Bonars (*Bonos Argentinos*) issued under local law. Bodens were issued by the National Treasury as compensation for the effects of asymmetric pesofication in the banking system in 2002, while Bonars were first issued by the National Treasury in early 2006 through auctions in the local primary market. Bodens and Bonars trade in the market at dirty prices. Trading hours are generally 9:00 to 15:00 local time.

Bloomberg ticker	ARGBON <Govt>

BODEN 2015

Issuer	Government of Argentina. Authorized by Resolutions 240/2005 (Secretary of Treasury) and 85/2005 (Secretary of Financing). Subject to Argentine law. Date of issuance October 3, 2005.
Face value	US$1.
Maturity	October 3, 2015.
Coupon	Semiannual 7% fixed coupon. Paid on the third of April and October, or the following business day. First coupon paid on April 3, 2006.
Day count	Calculated on a 30/360 basis.
Amortization	Bullet.

BONAR X (BONAR 17)

Issuer	Government of Argentina. Authorized by Resolution 24/2007 from the Secretary of Finance and Resolution 100/2007 from the Secretary of Treasury; subject to Argentine law. Bonar X was voluntarily placed in the market in order to meet the National Treasury's financial needs. Date of first issuance: April 12, 2007.
Face value	US$1.
Maturity	April 17, 2017.
Coupon	Semiannual 7% fixed coupon. Paid on the 17th of April and October, or the following business day. The first coupon was paid on October 17, 2007.
Day count	Calculated on a 30/360 basis.
Amortization	Bullet.

BONAR 18

Issuer	Government of Argentina. Authorized by Resolution 132/2011 from the Secretary of Finance and Resolution 424/2011 from the Secretary of Treasury; subject to Argentine law. Bonar 18 was voluntarily placed in the market in order to meet the National Treasury's financial needs. Date of first issuance: November 29, 2011.
Face value	US$1.

Maturity	November 29, 2018.
Coupon	Semiannual 9% fixed coupon. Paid on the 29th of May and November, or the following business day. The first coupon was paid on May 29, 2012.
Day count	Calculated on a 30/360 basis.
Amortization	Bullet.

BONAR 19

Issuer	Government of Argentina. Authorized by Resolution 26/2012 from the Secretary of Finance and Resolution 41/2012 from the Secretary of Treasury; subject to Argentine law. Bonar 19 was voluntarily placed in the market in order to meet the National Treasury's financial needs. Date of first issuance: March 15, 2012.
Face value	US$1.
Maturity	March 15, 2019.
Coupon	Semiannual 9% fixed coupon. Paid on the 15th of March and September, or the following business day. The first coupon was paid on March 15, 2012.
Day count	Calculated on a 30/360 basis.
Amortization	Bullet.

GLOBAL USD BONDS

This category comprises the U.S. dollar-denominated bonds issued under international law after the restructuring of the sovereign debt in 2005. Pars and Discounts were issued in 2005 during the first phase of the debt swap, while Global 2017s were issued in 2010 during the reopening (or phase II) of the transaction. Trading hours are generally 9:00 to 15:00 local time.

Bloomberg ticker ARGENT <Govt>

USD DISCOUNT

Issuer Government of Argentina. Authorized by Decrees 1735/04 and 563/10, and issued under Argentina's 2005 and 2010 debt exchanges; subject to New York law.

Maturity December 31, 2033.

Face value US$1.

Coupon Semiannual; 8.28%, with partial capitalization to December 31, 2013. Capitalization rules: December 31, 2003–December 31, 2008: 3.97% paid in cash, 4.31% capitalized; December 31, 2008–December 31, 2013: 5.77% paid in cash, 2.51% capitalized; December 31, 2013–December 31, 2033: 8.28% paid in cash, 0.00% capitalized.

Day count Calculated on a 30/360 basis.

Amortization 20 semiannual installments of 5% of principal paid on June 30 and December 31 of each year, or the following business day. The first installment will be paid on June 30, 2024.

USD PAR

Issuer Government of Argentina. Authorized by Decrees 1735/04 and 563/10, and issued under Argentina's 2005 and 2010 debt exchanges; subject to New York law.

Maturity December 31, 2038.

Face value US$1.

Coupon Semiannual step-up coupon. December 31, 2003-March 31, 2009: 1.33%; March 31, 2009–March 31, 2019: 2.50%; March 31, 2019–March 31, 2029: 3.75%; March 31, 2029–December 31, 2038: 5.25%. Short first coupon and short last coupon.

Day count Calculated on a 30/360 basis.

Amortization 20 installments of 5% of principal. The first 19 installments will be paid on March 31 and September 30 of each year or following business day, with the final installment paid on December 31, 2038. The first installment will be paid on September 30, 2029.

GLOBAL 2017

Issuer Government of Argentina. Authorized by presidential Decree 563/2010. Subject to New York law; date of issuance: June 2, 2010.

Face value US$1.

Maturity	June 2, 2017.
Coupon	8.75%, on a semiannual basis paid on June 2 and December 2. First coupon was paid on December 2, 2010.
Day count	Calculated on a 30/360 basis.
Amortization	Bullet.

GDP-LINKED SECURITIES

GDP-linked securities (also known as GDP kickers or GDP warrants) were issued as part of the debt exchange of 2005 and phase II in 2010. They initially were attached to Discounts, Pars, and Quasi-Discounts, but started trading independently as of November 29, 2005. Trading hours are generally 9:00 to 15:00 local time.

Bloomberg ticker ARGENT <Govt>

GDP-LINKED SECURITY—ARS AND USD

Issuer Government of Argentina. Authorized by Decree 1735/04, Resolution 20/05, and issued under Argentina's 2005 debt exchange.

Expiration date Earlier of December 15, 2035, or when payment cap is reached.

Payments Payments contingent on performance of Argentina's GDP. If conditions are met, payments are made on December 15 of each year following the relevant reference year. The first payment was made on December 15, 2006.

Calculation date Prospectus indicates November 1 of each year following the relevant reference year. However, in the last few years the government made the official announcement some days later (for instance, November 27, 2009).

Payment conditions Payment made if three conditions met: (1) "Actual Real GDP" for reference year exceeds "Base-Case GDP" for that year; (2) annual growth of "Actual Real GDP" for reference year exceeds "Base-Case GDP" growth rate for that year; and (3) accumulated total payments do not exceed payment cap.

Payment calculation Aggregate notional amount of securities held multiplied by "Available Excess GDP." All calculations of payments (if any) will be carried out by the Economy Ministry. For the reference year 2013, the payment was null, as actual GDP growth in that year has been lower than the critical threshold value (2.93% versus 3.22%, respectively).

ARS Warrant (expressed in ARS) = 5% of Excess GDP per unit of notional amount = 5% x Excess GDP x (1/238651.5 = 0.000419%).

USD Warrant (expressed in USD) = 5% of Excess GDP per unit of notional amount = 5% x Excess GDP x (1/81800 = 0.001222%) / USD/ARS Exchange Rate.

Excess GDP: amount, if any, by which Actual Real GDP, converted to nominal ARS, exceeds the Base-Case GDP, converted to nominal ARS.

Actual Real GDP: GDP of Argentina in constant ARS for each calendar year as published by INDEC. On May 2014, INDEC changed the base year and now uses 2004 as the year to calculate base prices (before it was 1993; see Base-Case GDP on the following page).

USD/ARS Exchange Rate: Average free market rate during the 15 calendar days prior to December 31 of the reference year.

Payment cap Payments will cease if accumulated total amount paid exceeds 48% of the notional amount expressed in each currency. Including the estimated payment for the 2012 reference year, the accumulated total amount paid is 23.4% for ARS warrants and 18.0% for USD warrants.

Amortization None.

Base-case GDP

Reference Year	Base-Case GDP (2004 ARS mn)	Base Case GDP Growth	Reference Year	Base-Case GDP (2004 ARS mn)	Base Case GDP Growth
2005	585,116.45	4.26%	2020	934,765.78	3.00%
2006	605,888.08	3.55%	2021	962,808.76	3.00%
2007	626,609.45	3.42%	2022	991,693.02	3.00%
2008	647,287.57	3.30%	2023	1,021,443.81	3.00%
2009	668,583.33	3.29%	2024	1,052,087.12	3.00%
2010	690,379.14	3.26%	2025	1,083,649.74	3.00%
2011	712,885.50	3.26%	2026	1,116,159.23	3.00%
2012	736,125.57	3.26%	2027	1,149,644.01	3.00%
2013	759,828.81	3.22%	2028	1,184,133.33	3.00%
2014	782,851.63	3.03%	2029	1,219,657.33	3.00%
2015	806,337.17	3.00%	2030	1,256,247.05	3.00%
2016	830,527.29	3.00%	2031	1,293,934.46	3.00%
2017	855,443.11	3.00%	2032	1,332,752.49	3.00%
2018	881,106.40	3.00%	2033	1,372,735.07	3.00%
2019	907,539.59	3.00%	2034	1,413,917.12	3.00%

Base-case GDP correspond to the new base year (2004) after INDEC released a new base year for national accounts in May 2014.
Source: Economy Ministry.

ARS vs. USD LIBOR CROSS-CURRENCY SWAPS

The ARS vs. USD LIBOR swap is a cross-currency swap that trades over the counter, where the investor pays or receives a fixed ARS rate and in exchange receives or pays a floating rate indexed to six-month USD LIBOR.

SUMMARY OF TERMS

Reference	This is a cross-currency swap in which the fixed leg is denominated in ARS and the floating leg is denominated in USD. The USD reference rate is six-month LIBOR. The swap is quoted in terms of the ARS fixed rate.
Conventions	In the offshore market, semiannual cash flows are typically calculated on a 30/360 or actual/360 basis for the ARS leg, and actual/360 basis for the USD leg. ARS payments are converted to USD based on the EMTA ARS Industry Survey Rate. In the onshore market, the ARS leg is generally calculated on an actual/365 basis.
Maturity	Levels are quoted up to the 7Y tenor (generally for two, three, four, five, and seven years).
Settlement	Generally T+2.
Liquidity	Liquidity has been thin since mid-2007.

BRAZIL

MACRO BACKGROUND

The Brazilian economy has been in a period of relative stagflation in 2014, with the economy entering a recession in the first half of the year and inflation breaching the target ceiling of 6.5%. Brazil's growth outlook has come under scrutiny, not only from a structural growth standpoint but also based on the lack of stability in the policy framework. Investors may be increasingly concerned about the potential exhaustion of the demand-side growth model, which was successful during most of the last decade, because of increasingly evident restrictions on the supply side (including loss investment ratios and poor productivity). To help combat inflation, the Central Bank of Brazil (Bacen) initiated a tightening cycle in April 2103 that concluded a year later after a cumulative 275 bps of interest rate hikes, taking the Selic to 11%. A new hiking cycle began in October 2014, after the presidential elections, after "the intensification of relative prices' adjustments in the economy" caused the inflation outlook to deteriorate.

The biggest concern for Brazilian investors has been the liberalization of fiscal policy driven by a high degree of fiscal spending and whether this could translate into an eventual loss of the investment-grade rating. A shortfall in revenues due to weak growth has exacerbated the fiscal concerns, pushing the government to rely on nonrecurrent revenues to meet fiscal targets. For 2014, however, the budget law is set to be revised to reflect the inability to reach the 2% primary surplus target, and a primary surplus above 1-2% in 2015 may be difficult to achieve, in our view. In turn, the rating agencies have become more critical, with S&P downgrading Brazil one notch to BBB- in March 2014 and Moody's placing a negative outlook on the Baa2 rating in September 2014. Fitch continues to rate Brazil BBB with a stable outlook. Fiscal data and any comments from government officials regarding fiscal targets (for this and next year) are likely to remain the main drivers for rates and also to an extent for the BRL

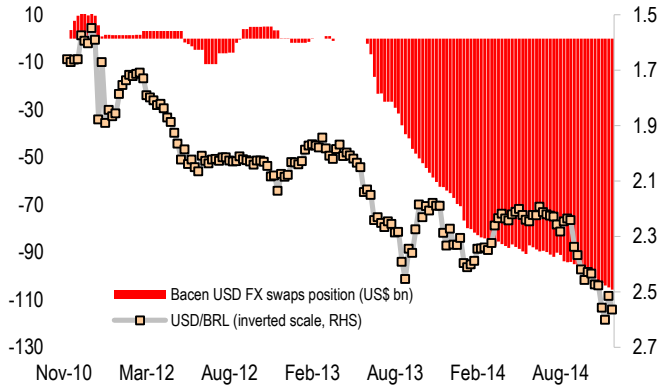
We do not expect the near-term economic outlook to be much different from the current situation, as overall challenges persist. With respect to growth, we believe the Brazilian economy is unlikely to recover in 2015 as the impact of interest rate hikes creates headwinds and the transition to a more investment-driven growth model materializes. As such, we expect growth to be marginal in 2015, not much greater than the 0.3% expected for 2014. Meanwhile, price adjustments on regulated items all but ensure that inflation will remain elevated in 2015, in our view. The outlook will largely depend on the depth of the most recent tightening cycle.

MONETARY POLICY

Monetary policy in Brazil is determined by the Central Bank of Brazil's Monetary Policy Committee, or Copom. Copom consists of eight members led by current Central Bank President Alexandre Tombini, and meets eight times per year to decide on changes to the benchmark Selic in order to meet the inflation target (as measured by the IPCA) of 4.5% with a 2-percentage-point band. The Central Bank of Brazil is not independent but rather a division of the Finance Ministry. Brazil's Central Bank has become more tolerant of higher inflation for the sake of faster growth and structurally lower rates and is much more active in preventing BRL appreciation (despite the IPCA being mostly in the upper half of the 2.5-6.5% inflation target range since 2010), while the government has become less focused on fiscal austerity (in part complicating the Central Bank's job of fighting inflation).

In addition to conducting monetary policy through the adjustment of the Selic, the Central Bank of Brazil has also been active in the foreign exchange market. While the BCB's stated purpose for intervention is to smooth FX volatility, it is widely perceived that the Central Bank has also been using intervention to limit the changes in relative prices. In August 2013, the Central Bank announced one of the biggest FX intervention programs in EM history, which was later extended in December 2013 and then again in June 2014. Throughout 2014 the BCB has been offering daily auctions of US$200 million in FX swaps from Mondays through Fridays. As of November 28, 2014, the Central Bank had built an FX swap position of US$105 billion. In addition to the daily FX swap auctions, the BCB offers rollovers of the existing swap auctions in variable size depending on market conditions.

Aggressive expansion in Bacen's FX swaps position



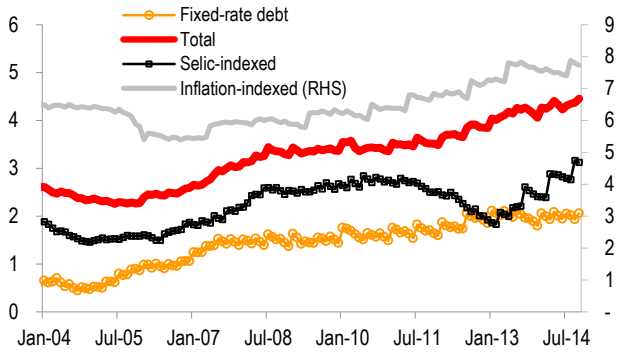
Data as of November 28, 2014. Sources: Bacen, Bloomberg, and Santander.

Lastly, the National Policy Council, consisting of the Minister of Finance, Governor of the Central Bank of Brazil, and the Minister of Planning, Budget and Management, meets once a month to discuss financial-related issues and is also responsible for determining the Taxa de Juros de Longo Prazo or TJLP on a quarterly basis, which serves as the base rate for lending through BNDES, in particular. The TJLP is officially calculated as the inflation target plus a risk premium. Since Q1 2013 the TJLP rate has stood at 5%.

LOCAL MARKETS

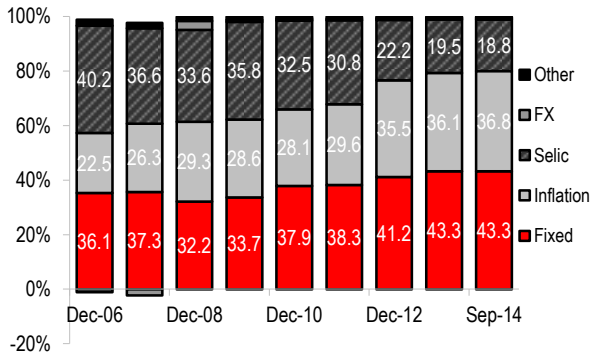
In recent years the government has continued the strategy of reducing participation of Selic floaters in exchange for fixed-rate debt while also increasing the average duration of outstanding debt through issuance of long-term inflation-linked debt. In 2014, the Treasury was able to continue extending the average maturity of the domestic debt stock, mainly because of the supply of longer-duration fixed-rate bonds as well as the reduction in the supply of shorter-dated zero-coupon LTNs. (Supply as of November 26 declined by about 5%.) Overall, the average maturity of the outstanding debt stock increased five months to 53.5 months in October 2014 compared with December 2013, an all-time high.

Avg maturity of domestic public debt (years)



Sources: Bacen and Santander.

Composition of domestic debt stock (% total)



Sources: Bacen and Santander.

The largest holder of domestic public debt continues to be financial institutions, but the concentration has dropped from 40% in 2008 to 26% at end October 2014. Holdings by local investment funds have also been on the decline, from 27% in 2008 to 21% in October 2014. Foreign holdings of local debt instruments reached a fresh high of 20.4% in October 2014, from about 11.5% in September 2010 (right before the IOF tax was increased from 2% to 6%) and 16.1% in December 2013. High Brazilian yields within the context of low global interest rates have made local bonds particularly attractive. Still, investors' ongoing concerns about Brazil's fiscal dynamics and a BRL under pressure may set a speed limit, in our view.

Composition of domestic public debt (BRL billions)

	Dec-06	Dec-07	Dec-08	Dec-09	Dec-10	Dec-11	Dec-12	Dec-13	Oct-14
DOMESTIC DEBT	**1,094**	**1,225**	**1,265**	**1,398**	**1,603**	**1,783**	**1,917**	**1,898**	**2,051**
LFT (Selic Indexed)	412	409	453	500	521	549	425	388	400
LTN (zero-coupon)	347	325	239	247	355	402	552	583	611
NTN-B (IPCA indexed)	167	242	299	330	374	454	602	617	691
NTN-C (IGP-M indexed)	66	66	59	58	65	62	66	67	70
NTN-D (USD indexed)	1	1	-	-	-	-	-	-	-
NTN-F (Fixed coupon)	48	132	168	224	254	280	237	207	240
Securitized debt	19	21	15	12	9	10	8	8	7
Agricultural debt bonds	4	5	5	5	4	4	3	3	3
Other	29	24	27	22	22	22	23	25	27
FOREIGN DEBT	**144**	**109**	**133**	**99**	**90**	**83**	**91**	**91**	**105**
Bonds	113	85	101	79	69	72	78	82	95
USD Globals	88	62	76	59	50	55	62	66	76
BRL Globals	7	11	11	11	7	4	2	3	6
EUR	16	12	13	9	12	12	14	14	14
Pre-Brady	1	0	0	0	0	0	0	-	-
Other	2	-	-	-	-	-	-	-	-
Contractual debt	31	24	32	20	21	12	13	9	10
World Bank & IADB	25	20	27	17	17	7	7	3	3
Banks & Agencies	6	4	5	3	4	5	6	6	6
TOTAL (Domestic & Foreign)	**1,237**	**1,334**	**1,397**	**1,497**	**1,693**	**1,866**	**2,008**	**1,989**	**2,155**

Data through October 2014. Sources: National Treasury and Santander.

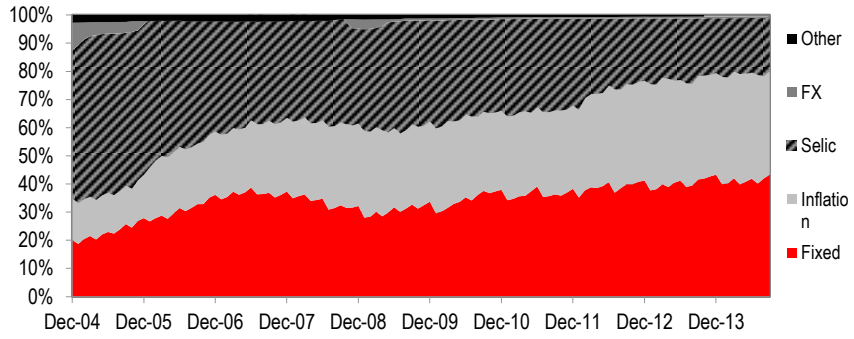
FIXED INCOME MARKET

The main Brazilian fixed income markets are the primary and secondary markets for government bonds and the derivatives market at the BM&F Exchange.

The Brazilian Treasury has developed an active and liquid market for its main issues, in both primary and secondary markets. The total amount of local debt in circulation (DPMFi) was about BRL2.0 trillion (roughly US$625 billion) in October 2014. The participation of fixed-rate bonds has been growing steadily over the last few years, becoming the largest share in June 2010 as it surpassed the LFTs, which are floating-rate bonds linked to the Selic rate (see following chart), and reaching 41.5% in October 2014.

BM&F Bovespa, the merger of the São Paulo Futures & Commodities Exchange (BM&F, *Bolsa de Mercadorias e Futuros*) and the São Paulo Stock Exchange (*Bovespa, Bolsa de Valores de São Paulo*), is one of the largest exchanges in the world. In addition to the liquid stock market, it offers a wide range of both financial (interest rates, foreign exchange, sovereign bonds, equity indexes) and nonfinancial (commodities such as corn, cotton, coffee, sugar, soybeans, etc.) derivatives, and also has its own clearinghouse for derivatives, foreign exchange, and government bonds.

Composition of domestic public debt (% of total debt outstanding)



Data through October 2014. Sources: Brazil Central Bank (Bacen) and Santander.

THE PRÉ (FIXED INCOME IN BRL) MARKET

Pré is the abbreviation for the expression in Portuguese for fixed rate (pré-fixado). This is the market for future rates denominated in BRL, the term structure of the Brazilian yield curve.

THE SELIC AND CDI RATES

Selic is the short name for the Special System of Settlement and Custody (*Sistema Especial de Liquidação e Custódia*), created in 1979 by an association between the Central Bank and ANDIMA, the National Association of Open-Market Institutions. In October 2009, ANDIMA merged with ANBID (the Brazilian investment banking association) to form a new entity called ANBIMA (Brazil Financial and Capital Market Association). Selic is the clearing system used for government securities in Brazil, and its operations are settled in real time. The Selic rate is the weighted average rate of overnight funding operations using federal government bonds as collateral. The target for the Selic rate is established at COPOM (Monetary Policy Committee) meetings and tracked daily by the Central Bank's open market desk.

The CDI rate is the equivalent of the Selic, but for operations registered at CETIP (Central Securities Depository and Derivatives Registrar—the equivalent of the Selic system, but for private sector securities). In this case, there are no collateral guarantees in the form of government bonds, and the rate refers to funding obtained through one-business-day interbank deposits. Like the Selic rate, the CDI is considered a local "risk-free" rate. Therefore, the Selic and CDI rates tend to be very close or even the same (the spread between the Selic and the CDI remained around 7 bps between November 2006 and November 2013). However, the spread has widened during some specific episodes, especially during 2013, when it averaged around 16 bps (between January and November 2013).

The CDI rate has been the main benchmark for Brazilian mutual and hedge funds, which usually measure their performance as a percentage of the CDI—the quotient of the fund's return during a certain period and the accumulated CDI during that same period. In this way, a hedge fund returning 120% of the CDI can be seen as outperforming (lately some hedge funds have been tracking even more aggressive benchmarks), while most of the fixed income mutual funds have usually achieved returns closer to 100% of the CDI.

INTEREST RATE COMPOUNDING

Interest rate compounding in the Brazilian local market is somewhat unusual, using a business-days/252 basis to calculate prices as opposed to the regular actual/360 basis. (A list of holidays can be found in Bloomberg under CDR BZ <Go> or on BM&F Bovespa's web page at http://www.bmfbovespa.com.br/en-us/rules/market-calendar/market-calendar.aspx?idioma=en-us.) In addition, interest is compounded exponentially.

THE CUPOM MARKET (LOCAL FIXED INCOME DENOMINATED IN USD)

Brazil used to have a very liquid market of fixed-rate instruments denominated in U.S. dollars (but settled in BRL), the so-called Cupom Cambial, or simply Cupom market. At the turn of this century (mainly in 2002), the outstanding amount of U.S. dollar-linked government bonds (NTN-Ds and NBC-Es) increased significantly, as they were issued to contain the depreciation of the exchange rate by providing a local hedge. These instruments were used by commercial banks as the underlying hedge in order to extend U.S. dollar-denominated loans to corporations, which were in turn strongly demanding an FX hedge. Speculative players with access to international capital markets used to borrow USD offshore and buy these bonds, cashing in on the huge spread (but running both default and convertibility risks). A similar play during those turbulent years consisted of buying the government bonds and matching their duration with BM&F FRC contracts, earning the difference (the premium of sovereign risk relative to the BM&F systemic risk) between the rates.

The Cupom Cambial market has become considerably less important in recent years. Since 2003, the demand for FX hedges decreased significantly, and the spread between local U.S. dollar-denominated rates and the costs of external borrowing (as well as the differential between the sovereign and the BM&F yield curves) plunged dramatically, making the "arbitrage" between private issues offshore and local government bonds less attractive. Finally, the Treasury stopped issuing domestic U.S. dollar-indexed debt and began liquidating its U.S. dollar-denominated liabilities through swaps.

REGULATORY AND TAX ISSUES

Historically there have been three taxes on financial operations in Brazil:

1. **Income Tax (IR).** Capital gains (earnings on equities and derivatives) are exempt from income tax. Since February 2006, capital gains on fixed income instruments (bonds) and fixed income mutual funds that have at least 98% of their assets allocated in Brazilian government bonds are also exempt. These rules are not applicable to countries that do not have income taxes or where these taxes are less than 20% (i.e., tax havens), in which case the rules are the same as for Brazilian residents: 20% on earnings from shares, mutual funds, fixed income, swaps, and derivatives, and 15% on interest on equity, with an exemption for dividends.

2. **Tax on Financial Activities (CPMF): The CPMF tax expired on December 31, 2007, and is no longer collected by the Federal Revenue Service.** Up until December 31, 2007, a 0.38% tax rate was charged on some classes of assets (fixed income, swaps, futures, and options) when money was transferred from one asset to another and on FX transactions. When the CPMF tax expired at the end of 2007, in order to replace at least part of the loss in fiscal revenues, the government increased the IOF tax charged on loans, insurance, and FX transactions (exports, imports of goods and services, and credit card payments). Although the CPMF no longer exists, there have been proposals to revive it, and investors should remain aware of this.

3. **Tax on Financial Transactions (IOF).** The IOF tax is a catch-all tax that may theoretically be levied on any type of financial transaction and is often used for regulatory purposes. The IOF is a regulatory tax and the rates can be increased or decreased by the executive branch from zero to 25% (ceiling) whenever officials decide to either contain or foster the inflow of foreign currency funds into the country, in accordance with the monetary and exchange policy goals adopted by the Brazilian government. For short-term positions held less than 30 days the IOF will be charged as per the following table.

Financial Transaction Tax Schedule

Number of Days	Tax (% of Return)	Number of Days	Tax (% of Return)
1	96	16	46
2	93	17	43
3	90	18	40
4	86	19	36
5	83	20	33
6	80	21	30
7	76	22	26
8	73	23	23
9	70	24	20
10	66	25	16
11	63	26	13
12	60	27	10
13	56	28	6
14	53	29	3
15	50	30	0

Source: BM&F Bovespa.

In addition to these taxes, the CVM charges a quarterly registration fee of BRL7,872 and, at the end of the calendar year, 0.1% on net equities of less than BRL4,100,000.

For a list of countries labeled as tax havens by the Brazilian tax authority, please see Brazil's Federal Revenue Service SRF IN 188.

LEGAL BACKGROUND

The body that oversees the local markets is the CVM (Brazilian Securities Commission), which is equivalent to the U.S. Securities and Exchange Commission. In 2005, in order to improve the infrastructure of the local markets and make them more attractive to foreign investors, the governmental regulatory bodies (CVM, the National Treasury, and the Central Bank) established a partnership with the main market agents (BM&F, the Futures & Commodities Exchange; Bovespa, the stock exchange; CBLC, the main clearinghouse; and ANBID, the association of investment banks). This partnership is called BEST (Brazil–Excellence in Securities Transactions). One important goal achieved by this partnership is that, since November 2006, a nonresident investor can obtain registration with the CVM (and, consequently, be able to trade in the local markets) in less than 24 hours. BEST has a useful website (http://www.bestbrazil.org.br), which includes information about future road shows and comprehensive practical investor guides in English. The Brazilian investment banking association ANBID and the national financial institutions association ANDIMA merged in October 2009 to form a new entity called ANBIMA (Brazil Financial and Capital Market Association). AMBIMA acts as a private regulatory organization and aims to regulate, jointly and constructively with the Brazilian public institutions, those in the financial and capital markets. AMBIMA publishes fund industry statistics and monthly rankings, taking the data sent by market participants on an ongoing basis.

Brazil's Central Bank resolution #2689 of January 2000 regulated the flow of foreign investors' money to all the products traded in Brazilian financial markets. These products include all the derivatives traded in BM&F, stocks, and government bonds.

There are three main legal requirements to be met by a foreign investor in Brazil:

1. Nominate a legal and fiscal representative in Brazil responsible for updating the registration of all assets within the CVM and the Central Bank. This representative can be a financial institution authorized by the Central Bank.

2. Obtain registrations with CVM, the Central Bank, and the Federal Revenue Service.

3. Choose one or more custodians (authorized by CVM) and brokers. The investor can place investments in more than one safekeeping account and with more than one custodian.

These procedures may look straightforward, but it is important that investors obtain advice from lawyers and fiscal consultants who are knowledgeable about Brazilian legal requirements.

LTN

LTNs (*Letras do Tesouro Nacional*) are fixed-income instruments issued by the National Treasury that account for about 30% of domestic public debt, or BRL611 billion (as of October 2014). Since 2007, the Treasury consolidated its issuance of fixed-rate bonds, focusing on 6-, 12-, 24-, and 36-month LTNs with maturities matching the quarterly DI futures (i.e., the first day of January, April, July, and October). LTNs are auctioned on a weekly basis. The shorter tenor is initially offered with a term to maturity of roughly nine months (with a fixed maturity date), which continues to be auctioned until six months before its maturity; once it reaches six months, another LTN is issued with a nine-month term.

Bloomberg ticker	BLTN <Govt>

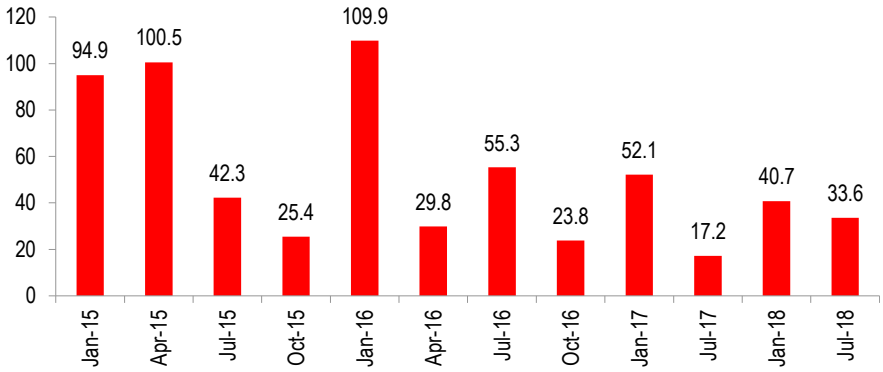
SUMMARY OF TERMS

Description	Short-term discounted Treasury bills.
Face value	BRL1,000.
Tenor	Current on-the-run issues are October ’15, October ’16 and July ’18. A new tenor may have a maturity of up to four years.
Coupon	Zero coupon.
Day count	Calculated on a business days/252-day basis.
Amortization	Bullet.

PRIMARY AUCTION

Auction schedule	The Treasury usually announces tenors and types of bonds it will offer in its weekly auctions at the beginning of each month. Traditional auctions normally occur every week on Thursdays. The terms of each auction are announced on the Wednesday immediately before the auction (and can be found in Portuguese at: www.tesouro.fazenda.gov.br/divida_publica/leiloes.asp). On Thursday, bids are submitted electronically through the OFPUB system to the Central Bank between 11:00 a.m. and 11:30 a.m. local time. Results are announced by 12:00 p.m. local time.
Bidding process	Each participating financial institution may submit no more than five bids. Each bid must indicate the amount and the price offered.
Allocation process	The allocation starts at the highest price and goes to the lowest. The Treasury has discretion to issue less (or more) than the announced amount. If the full amount offered in the competitive auction is sold, primary dealers will be entitled to buy additional LTNs in the second-round auction, at the average price reached in the competitive auction. The amounts eventually on offer in the second-round auction are announced together with the terms of the auction.

LTN outstanding by maturity (BRL billions—face value)



Data as of November 28, 2014. Source: Bloomberg.

SECONDARY MARKET

Trading

LTNs are among the most liquid Brazilian government debt instruments. According to data provided by the Central Bank, the average daily turnover in the secondary market in October 2014 for the April ’15 LTNs, the most liquid, was BRL1369 million. These highly liquid instruments were followed by average daily turnover of BRL1315 million for the Jan. ’15, BRL727 million for the July ’18, and BRL517 million for the Oct. ’15 LTNs.

Settlement

Settlement is usually T+1 (previously announced).

TRADING

LTNs are demanded by local mutual funds (mainly the strictly fixed income funds), because they are the easiest and safest way of taking nonleveraged positions in Brazilian rates.

Historically, the perception of Brazilian sovereign risk has been worse than the perception of BM&F systemic risk (which is quite odd, in our opinion, given that the largest share of collateral deposited at BM&F is in government bonds), so the LTN curve has usually traded above the DI curve. Although this gap is not stable over time, it provides some room for arbitrage, with players buying or short-selling LTNs and taking opposite positions in the DI future of the corresponding maturity—and choosing either to maintain the trade until maturity (thus earning the spread) or to trade the spread fluctuation in the market. In the local market, it is common to quote this operation as a spread between the curves in basis points (local brokers usually offer a complete bundle, long DI/short bond or vice versa). Another common way of expressing LTN prices is as a percentage of CDI, by the following formula:

$$\%CDI = \frac{\left[(1+LTN)^{\frac{1}{252}}\right]-1}{\left[(1+DI)^{\frac{1}{252}}\right]-1}$$

where LTN is the annualized discount rate of the LTN and DI is the market price of the DI future of the same maturity. Under this approach, a LTN quoted at more than 100% of CDI is being traded with a premium over the DI curve and at a discount for percentages under 100%.

NTN-F

NTN-Fs (Notas do Tesouro Nacional série F), like LTNs, are fixed income instruments issued by the National Treasury; they account for about 12% of domestic public debt, or BRL240 billion (as of October 2014). The differences reside in the cash flows (NTN-Fs pay semiannual coupons) and the tenors (NTN-Fs are longer-term securities). NTN-Fs were first issued in 2003 as part of a strategy to increase the share of fixed income instruments in the public debt profile and create a term structure of benchmark rates for long maturities in Brazil. The Treasury offers 3-, 5-, and 10-year NTN-Fs, with the 10-year being the longest currently available after the introduction of a new bond in January 2014 that is due on January 1, 2025.

Bloomberg ticker	BNTNF <Govt>

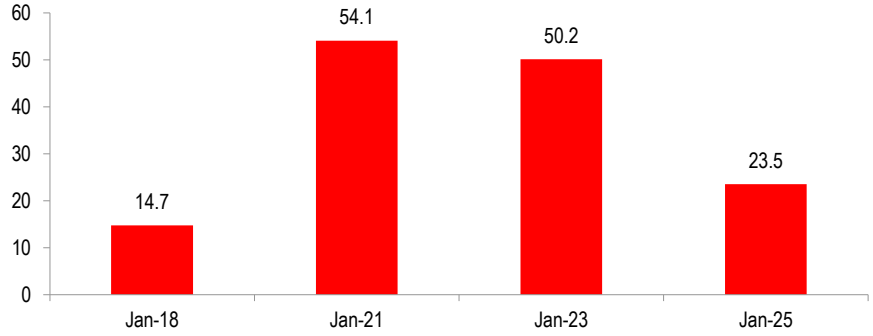
SUMMARY OF TERMS

Description	Long-term Treasury notes.
Face value	BRL1,000.
Tenor	Current on-the-runs mature in Jan. ’21 and Jan. ’25.
Coupon	10% semiannual, exponentially compounded (paid in January and July).
Day count	Calculated on a business days/252-day basis.
Amortization	Bullet (pays principal plus interest on maturity date).
Moody’s	Baa2.
S&P	BBB+.
Fitch	BBB.

PRIMARY AUCTION

Auction schedule	The Treasury usually announces tenors and types of bonds it will offer in its weekly auctions at the beginning of each quarter. Traditional auctions normally occur every other week on Thursdays. The terms of each auction are announced on the Wednesday immediately before the auction (and can be found in Portuguese at https://www.tesouro.fazenda.gov.br/pt/divida-publica-federal/leiloes). On Thursday, bids are submitted electronically through the OFPUB system to the Central Bank between 11:00 a.m. and 11:30 a.m. local time. Results are announced by 12:00 p.m. local time.
Bidding process	Each participating financial institution may submit no more than five bids. Each bid must indicate the amount and the price offered.
Allocation process	The allocation starts at the highest price and goes to the lowest. The Treasury has discretion to issue less (or more) than the announced amount. If the full amount offered in the competitive auction is sold, primary dealers will be entitled to buy additional NTN-Fs in the second-round auction, at the average price reached in the competitive auction. The amounts eventually on offer in the second-round auction are announced together with the terms of the auction.

NTN-F amount outstanding by maturity (BRL billions—face value)



Data as of November 28, 2014. Source: Bloomberg.

SECONDARY MARKET

Trading

The daily turnover of the 10-year benchmark Jan. ’25s, the most liquid of the NTN-F bonds, in October 2014 was BRL727 million. Liquidity for the Jan. ’23s and Jan. ’21s, was slightly lower at BRL441 million and BRL423 million, respectively. The total monthly average of the daily financial volumes among all NTN-F bonds was BRL2 billion in October, in-line with the same month the previous year. The further development of the long end of the DI futures market at the BM&F should help improve liquidity conditions in this market.

Settlement

Settlement is usually T+1.

LFT

LFTs (Letras Financeiras do Tesouro) are floating-rate instruments issued by the National Treasury. These bonds are indexed to the Selic rate and represent less than one-fifth (from about one-third in 2011) of domestic public debt, or BRL400 billion (as of October 2014). One of the Treasury's priorities has been to reduce the participation of LFTs in the total stock of government debt over the last few years, but 2012 probably was the most successful year in recent history when judged by that metric (outstanding volume in public hands fell by over 23% between December 2011 and September 2012). LFTs are usually traded with a premium over the Selic (the holder receives the Selic rate plus a fixed rate); however, given certain supply/demand imbalances, this premium turns into a discount on some (rare) occasions.

Bloomberg ticker	BLFT <Govt>

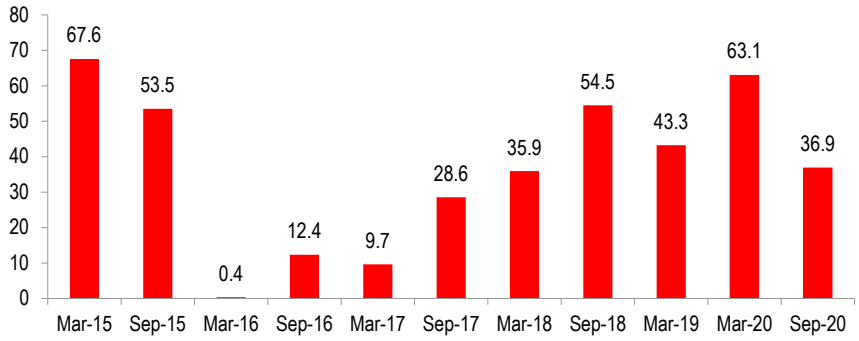
SUMMARY OF TERMS

Description	Floating-rate Treasury notes.
Face value	BRL1,000.
Tenor	Available in several maturities up to 10 years, with current maturities in the third month of each quarter. However, longer maturities can be issued.
Coupon	Coupons capitalize on a daily basis and are paid at maturity in a bullet payment. Thus, the instrument pays the average compounded return of the overnight (Selic) at the maturity date.
Day count	Calculated on a business days/252-day basis.
Amortization	Bullet.

PRIMARY AUCTION

Auction schedule	The Treasury usually announces tenors and types of bonds it will offer in its weekly auctions at the beginning of each month. Traditional auctions normally occur once a month on Thursdays. The terms of each auction are announced on the Wednesday immediately before the auction (and can be found in Portuguese at https://www.tesouro.fazenda.gov.br/pt/divida-publica-federal/leiloes). On Thursday, bids are submitted electronically through the OFPUB system to the Central Bank between 11:00 a.m. and 11:30 a.m. local time. Results are announced by 12:00 p.m. local time.
Bidding process	Each participating financial institution may submit no more than five bids. Each bid must indicate the amount and the price offered.
Allocation process	The allocation starts at the highest price and goes to the lowest. The Treasury has discretion to issue less (or more) than the announced amount. If the full amount offered in the competitive auction is sold, primary dealers will be entitled to buy additional LFTs in the second-round auction, at the average price reached in the competitive auction. The amounts eventually on offer in the second-round auction are announced together with the terms of the auction.

LFT amount outstanding by year of maturity (BRL billions)



Data as of November 28,2014. Source: Treasury (LFT includes both LFT-A and LFT-B).

SECONDARY MARKET

Trading

Trading occurs mainly in the OTC market. The total monthly average of the daily financial volumes among all LFT bonds rose to BRL3 billion in October 2014 from BRL2 billion the same month of the previous year. The daily turnover of the Mar. ’15, the most liquid issue, in October 2014 was BRL790 million. Liquidity in the Sept. 20s and was slightly lower at BRL683 million with a bigger drop off to the Sept. 15s at BRL320 million.

Settlement

Settlement is usually T+1.

TRADING

Since most mutual funds and hedge funds in Brazil use the CDI rate as a benchmark, LFTs play an important role for local portfolio managers. An LFT holder has a very liquid instrument, which will pay the full Selic rate (usually slightly higher than the CDI) plus a premium. Indeed, a whole category of mutual funds (the so-called “DI Funds”) invest most of their assets in LFTs.

As with LTNs, the return of LFTs is measured as a percentage of CDI (assuming the Selic is a proxy for the CDI):

$$\%CDI = \left[\frac{\left[\left(1+LFT\right)^{\frac{1}{252}}\right]-1}{\left[\left(1+DI\right)^{\frac{1}{252}}\right]-1}\right]+1$$

where LFT is the annualized premium (or discount) of the LFT and DI is the market price of the DI future of the same maturity.

NTN-B

These bonds started to be issued in significant amounts in late 2005, as part of the Treasury's strategy to reduce the vulnerability of the Brazilian debt profile, as they are linked to the IPCA, which tends to be less volatile than the IGP-M. In order to assure liquidity, the Treasury regularly holds buyback auctions. These bonds represent about one-third of domestic public debt, or BRL691 billion (as of October 2014), and have a wide variety of tenors, as the Treasury offers 3-, 5-, 10-, 20-, 30-, and 40-year NTN-Bs.

Bloomberg ticker	BNTNB <Govt>

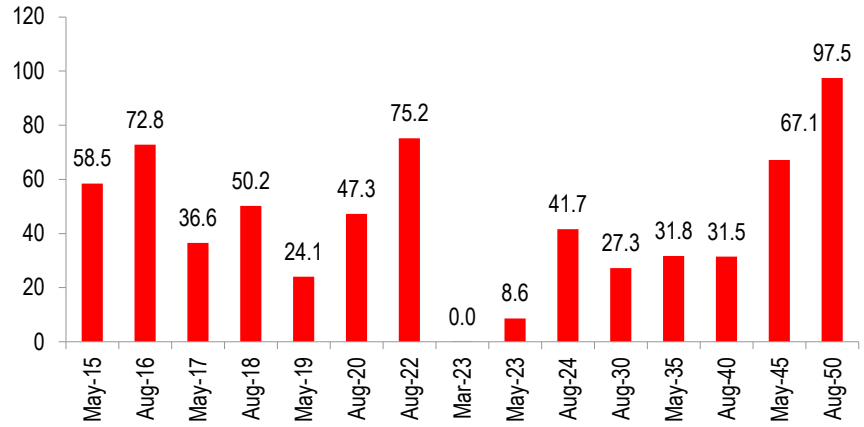
SUMMARY OF TERMS

Description	Long-term inflation-linked (adjusted by IPCA) Treasury notes.
Face value	BRL1,000.
Tenor	On-the-runs are May 2019, May 2023, August 2030, August 2040, and August 2050. Other tenors are available in the secondary market. Currently, bonds maturing in odd-numbered years mature in May, while those maturing in even-numbered years mature in August. The one exception here is shorter-term NTN-Bs, which can also have November maturities if they mature in odd-numbered years.
Coupon	6% per year with semiannual payments.
Day count	Calculated on a business days/252-day basis.
Amortization	Bullet (pays principal plus interest on maturity date).
Moody's	Baa2.
S&P	BBB+.
Fitch	BBB.

PRIMARY AUCTION

Auction schedule	NTN-Bs are usually auctioned twice a month. The Treasury usually announces tenors and types of bonds it will offer in its auctions at the beginning of each month. Traditional auctions normally occur every Tuesday. The terms of each auction are announced on the Monday immediately before the auction (and can be found in Portuguese at https://www.tesouro.fazenda.gov.br/pt/divida-publica-federal/leiloes). On Tuesdays, bids are submitted electronically through the OFPUB system to the Central Bank between 12:00 p.m. and 1:00 p.m. local time. Results are announced by 2:30 p.m. local time.
Bidding process	Each participating financial institution may submit no more than five bids. Each bid must indicate the amount and the price offered.
Allocation process	The allocation starts at the highest price and goes to the lowest. The Central Bank has discretion to issue less (or more) than the announced amount.

NTN-B amount outstanding by maturity (BRL billions)



Data as of November 28, 2014. Sources: Bloomberg and National Treasury.

SECONDARY MARKET

Trading

Liquidity has improved substantially, but at times still can be an issue for investors. The average daily turnover for NTN-Bs in the secondary market in October 2014 was BRL5.1 billion, up from BRL 4.7 billion in October 2013. The most liquid tenor in October 2014 was the Aug. ’50 (daily turnover of BRL932 million), followed by the Aug. ’18 (BRL 644 million), and the Aug. ’22 (BRL696 million). Liquidity is uneven in the long end of the curve, although the Treasury holds buyback and debt swap auctions at least once a month.

Settlement

Settlement is usually T+1.

NTN-B CALCULATIONS:

The base date for all NTN-Bs is July 15, 2000. Also, all calculations should be made without rounding up numbers (with all decimal places available).

The first step in calculating the price of an NTN-B is to establish the so-called UNV, or Updated Nominal Value, which reflects inflation accumulated through the life of the bond.

$$UNV = 1000 \times \left(\frac{IPCAindex_{k+1}}{IPCAindex_{k}} \right)$$

$IPCAindex_{k+1}$ = IPCA index number for the previous month.

$IPCAindex_{k}$ = IPCA index number for the month preceding the base date.

The Bloomberg ticker for the IPCA is: **BZPIIPCA <INDEX>**

For primary auction settlement dates other than the 15th of the month, the Treasury will publish the VNA in the auction announcement.

For calculations referring to secondary market trades, it is also necessary to apportion the IPCA of the current month on a pro rated basis. As usual, this apportionment is done considering business days only.

$$PRORATA = (1 + IPCA\%)^{\frac{bdSINCE15}{bdTOTAL}}$$

PRORATA = Apportionment of inflation of the current month, to the trade date.

IPCA% = IPCA inflation rate (in %) of the current month. If possible, this calculation uses the official IPCA index published by the IBGE. However, if the trade occurs before the release of the IPCA, the calculation must

use the IPCA forecast published by ANBIMA and prepared by its Macroeconomic Committee for that purpose. ANBIMA's IPCA forecast can be found at http://portal.anbima.com.br/informacoes-tecnicas/precos/indices-de-precos/Pages/ipca.aspx (in Portuguese).

bdSINCE = Number of business days between (and including) the 15th of the preceding month until (but not including) the day the trade settles.

bdTOTAL = Number of business days between (and including) the 15th of the preceding month until (but not including) the 15th of the current month.

The UNV is therefore:

$$UNV = 1000 \times \left(\frac{IPCAindex_{k+1}}{IPCAindex_k} \right) \times PRORATA$$

Also, remember that when considering the half-annual coupon payments based on the 6% annual coupon rate of the bond, in-line with Brazilian exponential interest-rate accrual conventions, the formula to be used is:

$$Coupon = 100 \times \left\{ \left[\left(\frac{i}{100} + 1 \right)^{\frac{6}{12}} \right] - 1 \right\}$$

where *i* is coupon rate of the bond (for NTN-Bs, 6%).

To obtain the actual coupon payment, multiply the coupon obtained above (in %) by the UNV of the payment date.

As usual, the price of the NTN-B is assessed by discounting all future payments by the bond's internal rate of return. Since it is an inflation linker, a real interest rate is used to discount flows, and the effects of inflation are accrued ex post.

To do so, use the formula:

$$PV = \sum_{i-1}^{n} \frac{\left[\left(\frac{i}{100} + 1 \right)^{\frac{6}{12}} \right] - 1}{\left(\frac{IRR}{100} + 1 \right)^{\frac{bdi}{252}}} + \frac{1}{\left(\frac{IRR}{100} + 1 \right)^{\frac{bdp}{252}}}$$

which discounts factors for the coupon and the principal payments by the bond's real internal rate of return using Brazilian business-day and exponential interest conventions.

i = coupon rate of the bond.

n = number of coupon payments of the NTN-B.

IRR = internal rate of return, or the effective annual rate.

bdi = business days from (and including) the settlement date to (but NOT including) the coupon payment date.

bdp = business days from (and including) the settlement date to the (but NOT including) maturity date.

The unit-price (price of the bond) of the NTN-B is then simply given by:

$$UP = PV \times UNV$$

Because of Brazilian conventions, usually the bond calculations cannot be done using financial calculators. To illustrate these calculations, we provide a numerical example below.

Remember that the NTN-B is traded on real-rate quotes.

The real interest rate of the NTN-B 2011 on November 28, 2008, was 9.794%.

To obtain the price, first calculate the UNV for November 28. Like all NTN-Bs, 2011s have a standard "base-date" (dated date) of July 15, 2000. The BRL1,000 face value is therefore adjusted by inflation starting on this date.

Using the IPCA index numbers (available on Bloomberg):

IPCAindex$_k$ = IPCA index number for the month preceding the "base date" = IPCA June 2000 = 1614.62

IPCAindex$_{k+1}$ = IPCA index number for the previous month = IPCA October 2008 = 2874.43

The UNV on November 15, 2008, is therefore:

$$UNV = 1000 \times \left(\frac{IPCAindex_{k+1}}{IPCAindex_k} \right) = 1000 \times \frac{2874.43}{1614.62} = 1780.2517.$$

We must then accrue inflation from November 15 through November 28. During that period there were 10 business days. Also, between November 15 and December 15 there are 20 business days. Finally, since the November IPCA was not officially published on November 28, to calculate the price, one must use the official forecast published by ANBIMA, which was 0.5%. Therefore, the UNV for November 28 is:

$$UNV = 1000 \times \left(\frac{2874.43}{1614.62} \right) \times 1.005^{\frac{10}{20}} = 1784.70$$

Turning to coupon payments, because of the exponential interest rate accrual convention, an annual coupon rate of 6% implies a half-annual coupon payment of ((1.06^0.5)-1)%, or about 2.956% every six months. Individual coupon payments will be equal to 2.956% of the updated UNV on May 15 and November 15.

To calculate the value of the bond, use a spreadsheet:

	Date	Bus Days from Nov. 28	Nominal Coupon/principal factor (A)	Discount Factor (based on real rate) (B)	Discounted Coupon Factor (A/B)	UNV	Discounted cash flow
Coupon	15-May-09	113	0.029563014	1.042787851	0.028349979	1784.70	50.60
Coupon	15-Nov-09	239	0.029563014	1.092660558	0.027055991	1784.70	48.29
Coupon	15-May-10	363	0.029563014	1.14406979	0.025840219	1784.70	46.12
Coupon	15-Nov-10	489	0.029563014	1.19878644	0.024660785	1784.70	44.01
Coupon+Principal	15-May-11	614	1.029563014	1.255654332	0.819941434	1784.70	1463.35
						Price:	**1652.36**
			Real Rate	9.794%			
			Where B = 1+real rate ^ (bus days/252)				

Source: Santander.

To calculate past returns, the investor should consider the change in price over a period, plus any coupon payments received during the period (the coupon rate of 2.965% multiplied by the UNV of the payment date).

NTN-C

The NTN-Cs (Notas do Tesouro Nacional, Série C) used to be the most liquid inflation-adjusted bonds in Brazil, playing an important role in the composition of local portfolios as a hedge for FX movements, given the sensitivity of the IGP-M to FX fluctuations (wholesale prices have a 70% weight in this inflation index). The Treasury stopped issuing NTN-Cs in 2006 and replaced them with IPCA-indexed NTN-Bs. Local pension funds still have large NTN-C holdings, but liquidity for this instrument is very limited. We do not anticipate any issuance of NTN-Cs in 2015.

Bloomberg ticker	BNTNC <Govt>

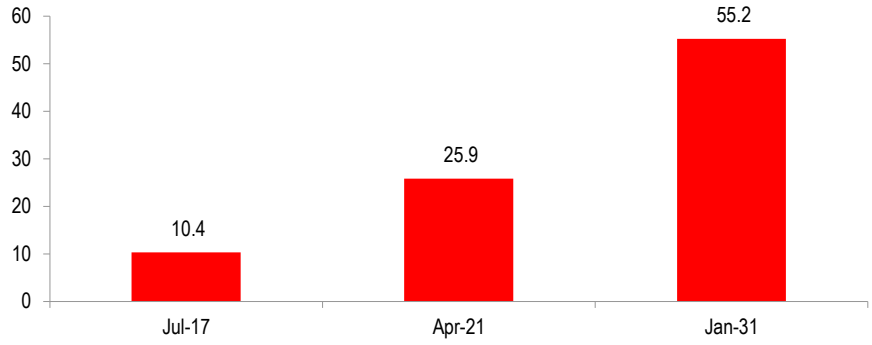
SUMMARY OF TERMS

Description	Long-term inflation-linked (adjusted by IGP-M) Treasury notes.
Face value	BRL1,000.
Tenor	July 1, 2017; April 4, 2021; January 1, 2031.
Coupon	Semiannual payment, 12% annually for the 2031 maturity and 6% annually for the other maturities.
Day count	Calculated on a business days/252-day basis.
Amortization	Bullet (pays principal plus interest on maturity date)

PRIMARY AUCTION

Auction schedule	No longer offered by the Treasury. The process was similar to NTN-Bs.

NTN-C amount outstanding by maturity (BRL billions)



Data as of November 28, 2014. Source: Bloomberg and National Treasury.

SECONDARY MARKET

Trading	The secondary market is not very liquid, as the majority of NTN-C holders tend to hold these securities to maturity.
Settlement	Settlement is usually T+1.

GLOBAL BONDS DENOMINATED IN BRL

Global bonds denominated in BRL were first issued by the government in September 2005, initiating the construction of an external interest rate curve denominated in local currency. The government added longer-tenor bonds to the new offshore curve in 2006 and 2007. There are currently four tenors outstanding, which mature in 2016, 2022, 2024, and 2028. After the Treasury had been absent since October 2010, it last issued this type of debt in April 2012, with a BRL 3.2 billion new issue of the BRL 2024.

Bloomberg ticker BRAZIL <Govt>

SUMMARY OF TERMS

Description Long-term Treasury bonds.

Face value BRL100.

Tenor January 5, 2016; January 5, 2022; January 5, 2024; and January 10, 2028.

Coupon 10.25% (Jan. ’28s), 12.5% semiannual (Jan. ’16s and Jan. ’22s) or 8.5% (Jan. ’24s), with linear compounding. Coupons paid in January and July of each year, with payments made in dollars according to the median spot exchange rate (PTAX) at the end of each coupon payment date.

Amortization Bullet (pays principal plus interest on maturity date).

PRIMARY AUCTION

Auction schedule There is no official schedule for external debt issuance. The Treasury does not use the international market for its borrowing needs, and debt issuance policy aims at providing benchmarks for a yield curve denominated in BRL.

Bidding process Generally, Treasury asks for bids on the same day as the announcement of the issuance.

SECONDARY MARKET

Trading The secondary market is still maturing, as the current amount outstanding is relatively low (around BRL2.9 billion for the 2016 bond, BRL2.2 billion for the 2022 maturity, BRL3.2 for the new 2024 bond, and BRL4.9 billion for the 2028 issue).

Settlement Settlement is usually T+3.

DI FUTURES

DI futures are listed in the BM&F and are among the most liquid instruments in this exchange—the daily turnover in January-November 2014 was BRL114 billion of notional value, a 29.1% decrease over the BRL162.3 billion seen in 2013. Daily liquidity in this market should normally exceed BRL50 billion/day (notional), with a long-term daily average since December 2005 of close to BRL 100 billion. The record low trading volume was BRL10.7 billion on September 6, 2010, two years after Lehman's collapse and a day before the celebration of Brazil's Independence Day. In contrast, the record high volume reached BRL659.8 billion on April 18, 2013, a day after the April 2013 COPOM meeting, when the Central Bank met expectations of a 25-bp Selic rate hike.

The benchmark BRL yield curve is constructed using the different futures contracts as vertices (a pretty easy task, as the DI contracts work like simple zero-coupon bonds), with the fixed-period points (1M, 1Y, etc.) obtained by interpolation. (The cubic-spline method has proved most accurate for Brazilian rates.[*])

Bloomberg ticker PCDI <Go>

SUMMARY OF TERMS

Reference

The DI contracts are futures on the average of the CDI rate, between the day of the trade and the maturity of the contract. One would make a profit by holding a receiver position in a DI contract until maturity if the average of the CDI rate in the period is below the original rate of the trade (the DI future rate). This is the equivalent of holding a long position in a zero-coupon bond financed daily at the CDI rate.

Contract

The size of the contract is BRL100,000 of notional.

Convention

DI futures are traded on a discount basis. The BRL100,000 notional value is discounted exponentially on a business days/252 basis by the traded discount rate. The trade convention is a bit counterintuitive, the opposite of what it would be in the bonds market: if you buy a DI contract, you pay the fixed discount rate (equivalent to short-selling a bond); when selling a DI contract, you receive the fixed rate (equivalent to holding a long position in a fixed-rate bond). In other words, the price activity is done in terms of yields, thus showing bids at rates lower than offers.

Action in DI market	Fixed rate (Pré)	Floating rate (CDI)	Equivalent position in fixed-rate bond
Buy	Pay	Receive	Short
Sell	Receive	Pay	Long

Maturity

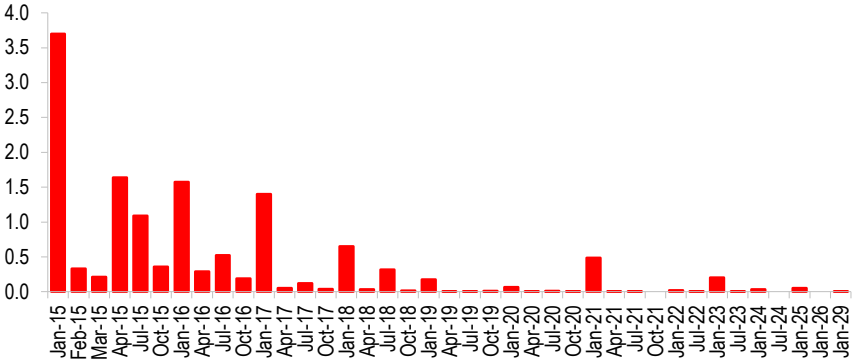
There are monthly maturities during the next four months, and then quarterly tenors maturing in January, April, July, and October. Liquidity is excellent in the first four contracts and more or less good up to the 24-month contract (usually the contracts maturing in January are more liquid than the intermediate ones), but maturities go up to 10 years.

Settlement

Expiration is on the first business day of the maturity month of the contract. Trading ends the day before expiration (although trading declines significantly after the corresponding COPOM meeting).

[*] See *Interpolação da curva de juros brasileira: métodos e medidas de desempenho*, by André d'Almeida Monteiro and Felipe Monteiro de Salles, Resenha BM&F #147.

Open DI futures contracts by maturity (BRL trillions, notional)



Data as of November 28, 2014. Sources: Bloomberg and BM&F.

DI futures are marked to market on a daily basis, with the profits and losses being credited or debited daily in the holders' accounts at BM&F. The value in BRL of the daily adjustments is given by the formulas below:

- For day trades:

$$AD_t = (AP_t - OP) \times N \text{, with } OP = \frac{100{,}000}{(1+r)^{\frac{n}{252}}}$$

where AD_t is the value of daily adjustment in BRL, AP_t is the closing price for the respective maturity, OP is the current price, N is the number of contracts traded, r is the discount rate of the trade, and n is the number of business days until the contract maturity.

- For previously opened positions:

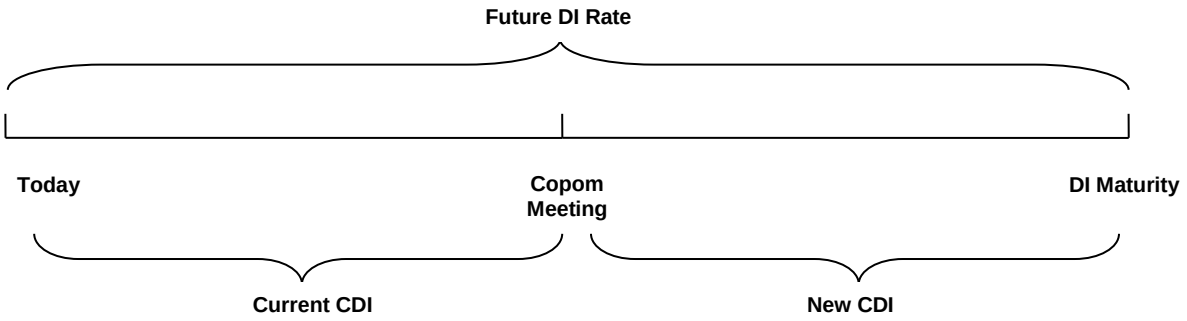
$$AD_t = [AP_t - (AP_{t-1} \times FC_t)] \times N \text{, with } FC_t = (1+CDI_{t-1})^{\frac{1}{252}}$$

where $AP_{t\text{-}1}$ is the closing price of the previous day, $CDI_{t\text{-}1}$ is the Cetip CDI rate of the previous day, and the other variables are the same as in the formula for day trades.

TRADING

- The short end

Trading in the short end of the curve usually consists on expectations on the future path of monetary policy. Especially in the first maturities, it is common to evaluate futures prices as a function of expected changes in the Selic rate at the upcoming COPOM meetings. The calculation involved in this kind of trade is illustrated graphically below:



As soon as we know the market price for the future DI and the current level of the CDI, it is relatively easy to calculate what the market is discounting for the new CDI (and, consequently, for the new Selic, as explained above), with just one assumption: that the CDI will remain unchanged until the meeting—not a big assumption, given the strong auto-regressive characteristic of the historical series. Thus, the calculation to be performed is the following (all rates in annualized terms, as traded in the market):

$$CDI_1 = \left[\frac{\left(1 + DI_F\right)^{\frac{T}{252}}}{\left(1 + CDI_0\right)^{\frac{T_1}{252}}} \right]^{\frac{252}{T_2}} - 1$$

where CDI_1 is the expected future CDI rate, DI_F is the market price of the corresponding DI Future, T is the number of business days between the reference date and the DI Future maturity, CDI_0 is the current CDI rate, T_1 is the number of business days between the reference date and the next COPOM meeting, and T_2 is equal to T minus T_1.

Example: On January 3, the DI Future maturing on February 1 is being traded at 11.12%. The current CDI rate is 11.09%. The next COPOM meeting will occur on January 23 (so the first day of the new Selic rate will be January 24, since the decision is made public after the market close). There are 15 business days until January 24 and 21 business days until February 1. Applying the formula above, we have:

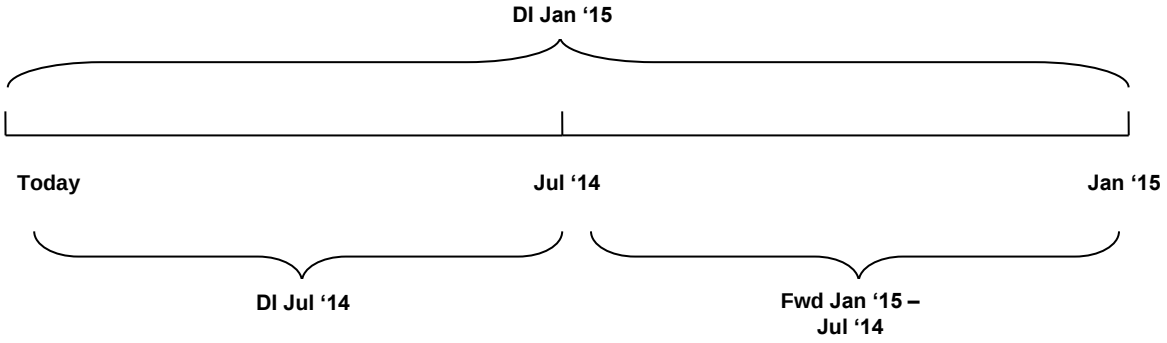
$$CDI_1 = \left[\frac{\left(1.1112\right)^{\frac{21}{252}}}{\left(1.1109\right)^{\frac{15}{252}}} \right]^{\frac{252}{6}} - 1 = 11.20\%$$

So, in this situation, the market is discounting an 11-bp hike of the Selic rate. Note that after the COPOM meeting, the plays on the next maturity of DI Futures tend to migrate to the following maturity, as the CDI will remain the same until the next COPOM meeting (unless there is an extraordinary change between meetings). It is also interesting to observe that since the COPOM changed the number of meetings per year from 12 (one monthly meeting) to the current 8, some "dead" tenors appeared in the DI curve, in the sense that for a whole month it is possible to have no changes in the overnight rate. For instance, with no monetary policy meeting in February 2009, the future CDI tends to be the same at the maturity of the Feb. '09 and Mar. '09 contracts. The

same calculation described above can be applied to subsequent maturities, only assuming that Bacen will confirm the market expectations. Nevertheless, as the term premium increases and distorts the pure expectations implied in the curve, this method can provide some misleading results. Thus, to find what longer tenors are pricing in terms of monetary policy, we recommend the construction of the cash flow of the contract until maturity and using a goal-seek function for the floating (CDI) rate for each meeting, which equalizes the P&L at maturity to zero.

- *Yield curve forwards*

Another useful way to look at the yield curve is using the implied forward rates within the maturities of the curve—i.e., the equivalent rate of a cash-neutral barbell portfolio. Graphically, we can represent them as below:



In this example, the forward rate between the Jul. '09 and Jan. '10 contracts can be understood as the market expectation (plus a risk premium) for the average Selic rate between the two maturities. In order to get exposure to this forward rate, you must sell the Jul. '09 contract and buy the Jan. '10 contract (or vice versa) on a cash-neutral basis, equivalent to buying a bond financed by a loan with a shorter maturity.

Similar to the expected-Selic calculation, the forwards can be obtained by discounting the rate of the shorter maturity from the rate of the longer one, as in the following formula:

$$Fwd = \left[\frac{\left(1 + DI_L\right)^{\frac{T}{252}}}{\left(1 + DI_S\right)^{\frac{T_1}{252}}} \right]^{\frac{252}{T_2}} - 1$$

where *Fwd* is the forward rate, DI_L is the market price of the longer DI future, T is the number of business days between the reference date and the longer DI future maturity, DI_S is the market price of the shorter DI future, T_1 is the number of business days between the reference date and the shorter DI maturity, and T_2 is equal to T minus T_1.

PRÉ-DI SWAPS

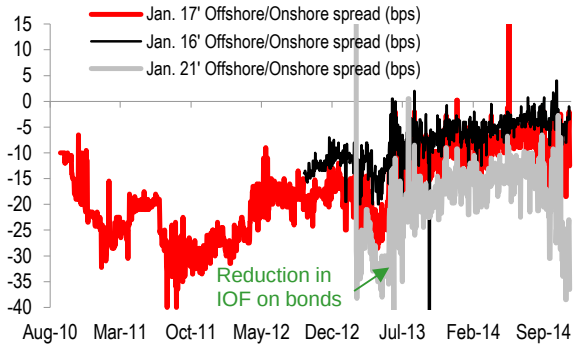
Pré-DI swaps are interest rate swaps in which one party agrees to pay a fixed income return (Pré) in order to receive a floating rate flow (DI) from a counterparty (and vice versa). This instrument is traded in the OTC market, with different maturities (usually matching the BM&F DI futures maturities). It is very hard to estimate the depth of this market, but anecdotal evidence suggests that it is as big as the BM&F market for DI futures.

There is a market for Pré-DI swaps both onshore (registered in the BM&F or Cetip) and offshore (by ISDA contracts). The offshore Pré-DI swaps are good alternatives for investors interested in Brazilian rates but with constraints on their actions in the local market.

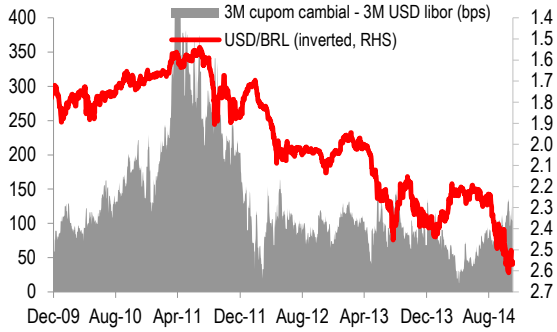
The mechanics of the market are very similar to the DI futures market—actually, the instruments are equivalent, diverging only in the cash flows. While the DI futures are marked to market on a daily basis, the swaps settle on a net basis at maturity. This equivalency is reflected in the prices: traditionally there has been a very tight spread of a few basis points between the DI Futures at BM&F and the offshore OTC market for Pré-DI swaps for the more liquid tenors.

Dealers face three main issues that have been eroding the communication channels between their onshore and offshore books, thus limiting their ability to absorb offshore flows: (1) dealers may have to cope with restrictions on sending BMF payments made in BRL to their offshore clients (cross-border risk); (2) like many subsidiaries or branches of foreign banks, dealers will have to pay the 6% IOF tax for any incremental collateral the BMF may ask from their offshore clients and/or headquarters office; and (3) any incremental offshore inflows through Pré-DI swaps cannot be replicated accurately, as the natural hedging mechanism for a DI position is taking the opposite trade in the local bond market, which is now restricted due to the 6% IOF tax.

Offshore Pré-DI swaps—BMF DI spread (bps)



Onshore Cupom 3M USD rate—3M USD Libor



Data as of December 3, 2014. Sources: Bloomberg, BM&F, and Santander.

The spreads between offshore Pré-DI swaps and onshore BMF DI futures have become more negative during times when the government and Central Bank have imposed a plethora of measures to curb foreign inflows, especially since late 2010. The widening spreads between Pré-DI swaps and onshore BMF DI futures reflect the increasing operational costs for dealers in managing their onshore and offshore books. These higher costs are also reflected in the higher spread between local Cupom U.S. dollar rates and U.S. dollar Libor rates. However, as dealers have learned to better manage their risks between books and the government decided to reduce the IOF tax on fixed income and FX derivatives in June 2013, the offshore-onshore spread has tightened substantially.

Bloomberg tickers BZSW <Go> and ICVS 89 <Go>

SUMMARY OF TERMS

Description Fixed-rate-for-floating-rate swap. There are no cash flows until maturity. As with the rest of the Brazilian fixed-income market, the CDI rate is geometrically compounded on a business days/252 basis.

Face value	Agreed between parties.
Tenor	Agreed between parties, usually corresponding to the BM&F DI futures maturities.

OVER-THE-COUNTER MARKET

Trading	Local banks trade this swap daily from 9:00 a.m. until 5:00 p.m. local time. Banks communicate with each other (or use an electronic system provided by a broker) through their trading desks, giving the price (bid/ask) and maturity.
Allocation process	The trade is completed when different institutions agree on price and maturity period. Then it is registered on the BM&F exchange or an ISDA contract is signed between the parties involved.
Settlement	Settlement is usually T+1.

PRÉ-CDI SWAPTIONS

Pré-CDI swaptions are options on Pré-DI swaps, where the investor buys or sells the right (but not the obligation) to enter into a Pré-DI swap at a specific date in the future. For an upfront fee (premium), the option buyer chooses the strike rate (the level at which it enters the Pré-DI swap), the length of the option period, and the tenor of the underlying swap (usually corresponding to the BM&F DI futures maturities).

SUMMARY OF TERMS

Description	Options on Pré-DI swaps.
Exercise type	European. If exercised, parties enter into a Pré-DI swap.
Exercise time	Before 12 p.m. official Brazil time on the expiry date.
Notional value	Agreed between parties. Amounts quoted in PV notional (discounted from swap maturity to expiry date at the strike rate) in BRL.
Maturity date	Agreed between parties, usually corresponding to the BM&F DI futures maturities.
Conventions	*Day count:* business days/252 *Strike:* exponential/252 *Volatility:* linear/252
Premium	Quoted in volatility or in basis points of PV notional. Received/paid at T+2 in USD; spot rate agreed between parties.

DI OPTIONS

DI options are traded in BM&F. There are four standardized types (all European), as follows:

Type 1: The underlying asset is the contract of DI future maturing three months after the option's tenor.

Type 2: The underlying asset is the contract of DI future maturing six months after the option's tenor.

Type 3: The underlying asset is the contract of DI future maturing one year after the option's tenor.

Type 4: The underlying asset is the contract of DI future maturing on a date specified by BM&F (usually they structure an option on the most liquid contract with the same maturity as the first DI futures contract).

This kind of option works as an option on a forward rate agreement (or a "swaption"), since its holder has a right to be exposed to a fixed rate at a future date. Therefore, the delta can be neutralized by buying (or selling) a DI future contract maturing on the date of the option expiration and selling (or buying), on a cash-neutral basis, another DI future contract maturing together with the underlying contract.

SUMMARY OF TERMS

Reference	Options on DI futures, series defined by BM&F.
Contract	Each option refers to one contract of DI futures. Some market players prefer trading the option bundled with the two contracts of DI futures needed to form a delta-neutral structure.
Maturity	Usually January, April, July, and October.
Exercise	The option can be exercised by its holder at the maturity date. On exercise, the option is automatically transformed into a position in DI futures—a call exercise implies buying a futures contract in rate terms, as we explained in reference to the convention of the DI future contract, equivalent to paying a fixed rate. A similar reasoning is applied to puts.
Settlement	Expiry is on the first business day of the maturity month of the contract. Trading ends the day before expiry.

IDI OPTIONS

The IDI is an index of the average rate on one-day deposits, calculated by BM&F. The index was set at 100,000 points on the date fixed by BM&F as beginning of the valuation (January 3, 2000), when it began to be corrected by the daily CDI rate, as follows:

$$IDI_t = IDI_{t-1} \times \left(\frac{i_{t-1}}{100} + 1 \right)$$

where IDI_t is the IDI index on the date "t", IDI_{t-1} is the IDI of the previous date and i_{t-1} is the CDI of the date "t-1".

BM&F offers European options on the future value of the IDI. The tenors and strikes are defined by BM&F—tenors usually coincide with the quarterly maturities of the DI futures. As they are defined, IDI options work like Asian options on the CDI rate, constituting an alternative to play either the implied future CDI or CDI volatility. (In this case, the delta should be neutralized by buying or selling DI futures contracts.) The liquidity of this market is relatively thin, with the positions concentrated among a few players.

Bloomberg ticker VDIX Index <Go>

SUMMARY OF TERMS

Reference Options on the average of the CDI rate between the trade date and the expiration date of the option.

Contract Strikes are defined by BM&F. Each point of IDI is equal to BRL1.0, to calculate the notional value. The market trades the premium in BRL for each strike/maturity.

Maturity Usually January, April, July, and October. Liquidity is concentrated in the first tenor.

Exercise The exercise is automatic at maturity, always when the liquidation value is positive (i.e., the IDI at the maturity date is greater than the strike).

Settlement Expiry is on the first business day of the maturity month of the contract. Trading ends the day before expiry.

IGP-M X CDI SWAPS

IGP-M x CDI swaps are inflation-linked swaps in which one party receives or pays a fixed rate (the IGP-M *Cupom* plus the variation of the IGP-M in the period), and in exchange pays or receives the overnight CDI rate. The swaps are registered at BM&F and traded on a date-to-date basis (for example, from August 18, 2009, to August 18, 2010), receiving the full IGP-M variation of the period (the example above would receive the variation of all 12 monthly indexes from August 2009 until July 2010 inclusive), independent of which day the trade is closed. This leads to a swap curve with a ladder shape, because the calculation discounts the same IGP-M for a decreasing fixed effective rate along the maturities. This characteristic also has a risk implication: it is very difficult to unwind a trade without a duration mismatch, as there is no market for intermediate maturities. The liquidity of this market tends to be greater in volatile times, with some players speculating on the future IGP-M readings and others looking to hedge against inflation.

SUMMARY OF TERMS

Description	Interest rate swap.
Face value	Flexible, usually multiples of BRL10 million.
Tenor	Usually one month, six months, one year, two years, three years, and five years.
Convention	Market trades the future fixed-rate (IGP-M) *Cupom*, which is equivalent to the Pré rate discounted by the expected future IGP-M, plus a risk premium.
Settlement	Settles on a net basis at maturity.

IPCA X CDI SWAPS

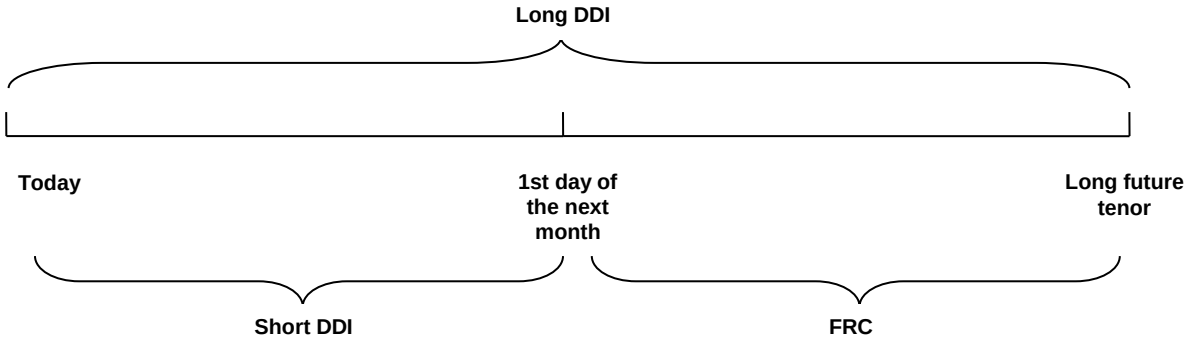
IPCA x CDI swaps are inflation-linked swaps in which one party receives or pays a fixed rate (the IPCA *Cupom*) plus the variation of the IPCA on the period, and pays or receives the overnight CDI rate. The swaps are registered at BM&F and traded on a date-to-date basis (for example, from August 18, 2009, to August 18, 2010), receiving the full IPCA variation of the period (the example above would receive the variation of all the 12 monthly indexes from August 2009 until July 2010 inclusive), independent of which day the trade is closed.

SUMMARY OF TERMS

Description	Interest rate swap.
Face value	Flexible, usually multiples of BRL10 million.
Tenor	Usually one month, six months, one year, two years, three years, and five years.
Convention	Market trades the future fixed-rate (IPCA) *Cupom*, which is equivalent to the Pré rate discounted by the expected future IPCA, plus a risk premium.
Settlement	Settles on a net basis at maturity.

FRC FUTURES

FRC futures are forward rate agreements of a USD fixed rate, launched by BM&F. Once traded, a contract of FRC is automatically converted into two contracts of DDI (another BM&F instrument). A DDI contract is equivalent to a cross-currency *Cupom* x CDI swap, paying (or receiving) a fixed rate in USD and receiving (or paying) the compounded CDI rate. The FRC contract simply combines two DDI contracts (one maturing on the first business day of the following month and another on the desired future tenor) to create a synthetic contract free of CDI and FX risk—its holder is exposed only to the forward *Cupom* rate. Before the settlement of the shorter contract, the holder of an FRC position has to roll it forward; otherwise, when the short leg matures, there will be exposure to both CDI and FX. The diagram below illustrates the mechanics of this market:



Bloomberg ticker GDA <Crncy> CT

SUMMARY OF TERMS

Reference FRC contracts are forward rate agreements in USD fixed-rate terms, but settled in BRL.

Contract The size of the contract is US$50,000 of notional.

Convention The market trades the forward rate in USD, with BM&F responsible for converting the position in DDI contracts. The trade convention is the same as for the DI future market: if you buy an FRC contract, you pay the fixed discount rate; in the case of selling a FRC contract, you receive the fixed rate.

Maturity There are monthly maturities for the nearest four sequential months and then quarterly tenors maturing in January, April, July, and October. Maturities go up to 10 years, but the scarce liquidity is concentrated within the first two years.

Settlement Expiry is on the first business day of the maturity month of the contract. Trading ends two business days before the expiration.

FRC contracts are marked to market on a daily basis, with profits or losses being credited or debited daily in the holders' accounts at BM&F. The value in BRL of the daily adjustments is given by the formulas below (to be applied for each DDI contract):

- *For day-trades:*

$$AD_t = (AP_t - OP) \times ER_{-1} \times 0.5 \times N \text{, with } OP = \frac{100{,}000}{\left(\frac{n}{360} \times i\right) + 1}$$

where AD_t is the value of daily adjustment in BRL, AP_t is the closing price for the respective maturity, OP is the price of the trade, N is the number of contracts traded, i is the discount rate of the trade, ER_{-1} is the exchange rate BRL/USD of the previous day (Ptax), and n is the number of days until the contract maturity date.

- *For previously opened positions:*

$$AD_t = [AP_t - (AP_{t-1} \times FC_t)] \times N \times ER_{-1} \times 0.5 \text{, with } FC_t = \frac{(1 + CDI_{t-1})^{\frac{1}{252}}}{\left(\frac{ER_{t-1}}{ER_{t-2}}\right)}$$

where AP_{t-1} is the closing price of the previous day, CDI_{t-1} is the CDI rate of the previous day, and the other variables are as in the formula for day trades.

USD FUTURES

The BM&F has a very liquid market for futures of USD/BRL exchange rates, with daily turnover normally exceeding BRL25 billion of notional. The monthly turnover in January-November 2013 was BRL36.4 billion of notional value (equivalent to US$17 billion), a 9.9% increase over the BRL33.1 billion seen last year. Liquidity is concentrated in the first maturity, but it is possible to set up positions in longer tenors through a synthetic operation. The pricing of the forward exchange rate contract, by interest rate parity, is:

$$FWD = \frac{(1 + DI)}{(1 + Cupom)} \times Spot$$

where *FWD* is the future exchange rate, *DI* is the rate in BRL for the period, *Cupom* is the rate in USD for the period, and *Spot* is the FX spot price. Thus, if you go long (receive) Pré rates (by selling a DI Future contract) and short *Cupom* rates (by buying a FRC contract and selling a USD Future maturing on the same date as the short leg of the FRA), the two transactions combined result in a cash flow identical to a short position in a future on the foreign currency.

Bloomberg tickers DCY <Index> CT and UCA <Crncy>CT

SUMMARY OF TERMS

Reference Nondeliverable forwards (liquidated in BRL) on the BRL/USD exchange rate.

Contract The size of the contract is US$50,000 of notional.

Convention The market trades the future exchange rate multiplied by 1,000, using a tick of 0.5 to get the equivalent notional. There are also transactions of forward points (FRP), where the counterparts trade the number of pips over the closing PTAX of the day.

Maturity First business day of each month. Usually there are open series maturing in the three nearest months and in January of the following year.

Settlement Expires at the maturity of the contract. Trading ends one business day before expiration.

USD futures at BM&F are marked to market on a daily basis, with the difference between the closing price of the current day and the closing price of the previous day (multiplied by the number of contracts involved) being credited/debited in the holder's account at BM&F.

The BM&F has options on the USD futures contracts, maturing on the same day as the underlying contract. The exchange also offers structured operations of exchange rate volatility, a bundle trade consisting of an option and the equivalent future contract to have a delta-neutral structure.

There is a well-developed offshore over-the-counter market for BRL NDFs, although liquidity has declined here as more foreign participants have increased their participation in the onshore market. The players who have access to both markets can trade the spread between the local USD future and the offshore NDF (by buying a contract onshore and selling the equivalent offshore, or vice versa). This spread tends to reflect the cross-border risk, or convertibility risk. However, since the increase in the IOF tax in October 2010, the onshore/offshore spread has widened, reflecting the increased convertibility risks that such a measure entails.

SCC (CROSS-CURRENCY SWAPS)

SCCs are contracts created in 2002 by a partnership between the Central Bank and BM&F, in an attempt to contain the devaluation of the BRL, as the market had no more appetite for USD-linked bonds. SCCs are simply cross-currency Cupom x CDI swaps, which pay the FX change plus the Cupom rate and receive the compounded return of CDI. In 2002, the Central Bank would go short in the FX leg, providing liquidity in USD for the market (with effects equivalent to selling USD spot or issuing USD-linked bonds). From early 2006 to 2007, the Central Bank resumed the SCC auctions on a daily basis, this time trying to depreciate the local currency by going long the FX leg of the swap. The Central Bank used these currency swaps as one of its responses to the 2008 crisis, but its net position on FX converged back to zero by the end of 2010.

During most of 2011, Bacen resumed the SCC auctions on a daily basis (as it did in 2006 and 2007) as a means to depreciate the local currency by going long the FX leg of the swap. The Central Bank's net position of SCCs or FX swaps started at zero in December 2010 and peaked at a long US$11.4 billion position by April due to an aggressive supply of reverse FX swaps (equivalent to USD purchases) to counter a stronger BRL. However, in September 2011, due to the escalating European debt crisis, the Central Bank radically changed its stance, starting to offer USD exposure (short USD leg of the swap). This change in the Central Bank's stance in the SCC market reduced its net negative USD exposure toward US$1.4 billion by the end of 2011.

Bacen then shifted gears once again by the summer of 2012 (in the Southern Cone), as it moved its FX swaps exposure into negative territory (offering USD to the market), with a rapid move from 1.7 in early 2Q12 to about 2.1 later in the quarter, reaching a record low of about US$11 billion in short positions in July. By early December, the Central Bank let the remaining contracts expire and offered some USD via FX swaps, finally moving to a moderately short net position of around US$215 million. Over the course of 2013, the Central Bank started to sell FX swaps more aggressively since June ahead of market anticipation to a potential change in the speed of bond purchases by the U.S. Fed. The Central Bank's FX swaps exposure to the market exploded with the announcement of the FX intervention policy in August, reaching a record high of US$105.7 billion on November 28, 2014.

SUMMARY OF TERMS

Reference	Cross-currency *Cupom* x CDI swaps, issued by BM&F and with the Central Bank as a counterpart.
Contract	The size of the contract is US$50,000 of notional.
Convention	SCCs are traded on a discount basis, using the linear actual/360 convention.
Maturity	Defined by the Central Bank, usually up to five years.
Settlement	Expires at the maturity of the contract. Trading ends two business days before the expiration.

PRIMARY AUCTION

Auction schedule	The Central Bank can auction SCCs on any business day; however, the auction must be announced on the previous day after the market close.
Bidding process	Each participating financial institution may submit no more than five bids. Each bid must indicate the amount and the price offered.
Allocation process	The allocation starts at the highest price and goes to the lowest. The Central Bank has discretion to issue less (or more) than the announced amount.

SECONDARY MARKET

Trading	As with the USD-linked bonds, the liquidity in the secondary market is quite thin. However, it has improved somewhat since the Central Bank resumed the use of this instrument for FX policy purposes.

Settlement

Settlement is usually T+1. Like the FRC contracts, SCCs are marked to market on a daily basis.

CHILE

MACRO BACKGROUND

After a period of low growth by Chilean standards (GDP is expected to increase 1.7% in 2014), the Central Bank (BCCh) estimates that activity will reaccelerate in 2015, with GDP expanding 3-4%. The pillars of this rebound in growth would, we believe, be an improvement of net exports (thanks to the weaker currency and slightly stronger global demand), an ambitious program of public investment and concessions, and the maintenance of a lax monetary policy (the BCCh cut reference rates by 150 bps to 3% during 2014). Inflation, in turn, is expected to fall significantly in 2015, to 3% annually, after the very pronounced spike up to 5.7% y/y recorded in October 2014. The depreciation of the Chilean peso, the effects of the recently passed tax reform on sugary and alcoholic beverages, and specific supply restrictions in key fresh foodstuffs led CPI inflation to exceed the upper limit of BCCh's target band, at 2-4%, in 2014. However, widening output gap conditions and the expected decline in domestic gasoline prices could exert downward pressure on inflation throughout 2015, in our view.

In the political space, the Bachelet administration is moving forward in the implementation of a wide set of reforms, as promised during the presidential campaign of 2013. After the Congressional approval of the tax reform (whose main feature is the increase in tax rates on corporate profits) in August, the government is now working on an ambitious education reform (aimed at fostering public education at the primary, secondary, and university levels), and, I our opinion, will likely propose new legislation affecting the labor market by early 2015 (including measures to improve the bargaining power of unions). In recent months, authorities have also launched a 2015 fiscal budget that includes a larger fiscal deficit, with public spending increasing by around 10% in real terms, with a special focus on public investment and infrastructure projects.

MONETARY POLICY

The Central Bank is an independent institution known as Banco Central de Chile (or BCCh), which is made up of five board members who serve for 10-year terms. Board members are appointed by the president of Chile and approved by the Senate. BCCh conducts monetary policy based on an inflation targeting regime that seeks to keep CPI expectations between 2-4% with a midpoint target of 3% over a two-year horizon. To do so, the Central Bank adjusts the overnight target rate, also known as the *Tasa de Política Monetaria* or TPM, during monthly meetings. Note that the Finance Minister may attend these monetary policy meetings but he is not a voting member. Also, the Central Bank releases "antecedents," or background information, a day before the monetary policy meeting, after market close.

The UF

The UF, or *Unidad de Fomento*, is Chile's inflation-linked currency. It was established in the late 1960s and gained further prominence in the 1980s during Chile's hyperinflation period. Chile was a pioneer in inflation indexation, and the use of the UF has transcended all layers of the financial system. As is the case for the UDI in Mexico, the UF's value is derived from the consumer price index. It is adjusted daily, and the factor of adjustment is the geometric average of the change in CPI between the 10th day of the previous month and the 9th day of the current month. UF values can be found on Bloomberg under CHUF <Index>.

LOCAL MARKETS

As of October 2014, Chile's gross bond debt was estimated at US$52.4 billion, of which 92% was domestic bonds (including both Treasury and Central Bank bonds). This accounted for 20% of GDP. The local fixed income market in Chile consists of both Treasury and Central Bank bonds, each denominated in pesos and an inflation-linked unit called the UF (*Unidad de Fomento*). Chile also has a large local corporate bond market that is primarily denominated in this inflation-linked currency.

Indeed, a primary characteristic of the Chilean fixed income market is that indexation is widespread: a large part of debt instruments is denominated in UF. Despite recent efforts by the Central Bank and the government to increase the weight of peso-denominated assets in the local market, the participation of inflation-linkers indexed to the UF remains quite high, with about 75% of Treasury bond stock, 70% of Central Bank stock, and 95% of corporate bond stock denominated in this inflation-protected unit. In 2014, Treasury issuance in UF was 45% of the total.

As of October 2014, Central Bank bonds (sans short-term bills) of CLP11.3 trillion (US$19 billion) outstanding are broken down 70% in inflation-linked units (UFs) and 30% in pesos. The average maturity of UF Central Bank bonds is approximately seven years, while the average maturity of CLP-denominated Central Bank bonds is 3.3 years. In turn, outstanding Treasury paper totaled CLP17 trillion (US$28.8 billion). Treasury paper is broken down into 75% inflation-linked and 25% nominal. The average maturity of Treasury inflation-linked paper was 12 years, while the average maturity of nominal paper was 10 years.

Although the government of Chile recently issued external bonds in EUR and USD for around US$2 billion, the proportion of external bonds in Chile remains very small. As of June, the total outstanding stock is US$4.3 billion, less than 8% of the total public debt (11% if we include December's issuance). Since 2010 there were only five issues in global markets, for a total amount of US$4.8 billion in the 10-year segment and US$0.8 billion in the 30-year segment.

Central Bank amount outstanding (US$ million)

Tenor	CLP	%	UF	%	Total
2y	3,967	21%	6,564	34%	10,531
5y	1,378	7%	3,375	17%	4,753
10y	412	2%	1,275	7%	1,686
20y			1,158	6%	1,158
30y			1,158	6%	1,158
Total	**5,756**	**30%**	**13,529**	**70%**	**19,286**
Number of instruments	**14**		**20**		**34**
Avg size of instruments (US$ mn)	**411**		**676**		**567**

Does not include short-term bills (PDBC paper). Data from October 2014. Sources: BCCh and Santander.

Treasury amount outstanding (US$ million)

Tenor	CLP	%	UF	%	Total
2y	1,782	6%	4,015	14%	5,797
5y	2,553	9%	5,015	17%	7,567
10y	806	3%	6,436	22%	7,242
20y	1,390	5%	2,789	10%	4,179
30y	640	2%	3,426	12%	4,066
Total	**7,171**	**25%**	**21,681**	**75%**	**28,852**
Number of instruments	**10**		**23**		**33**
Avg size of instruments (US$ mn)	**717**		**943**		**874**

Data from October 2014. Sources: Ministry of Finance and Santander.

Treasury/Central Bank bonds

In terms of local debt, in January 2014 the BCCh announced that it would not issue any debt in domestic markets, so the Treasury was the only provider of new sovereign paper. At that time, the key reason behind the BCCh announcement was the need to avoid a "crowding out effect," leaving room for private sector companies to obtain financing at the lowest possible rates. As a result, and given persistently low GDP growth rates in recent quarters, the BCCh may continue to be absent from local debt markets in 2015 (the formal announcement is slated for January 2015). Treasury bond issuance in 2014 is estimated at CLP1.8 trillion and UF62 million, reaching a total of around US$5.7 billion.

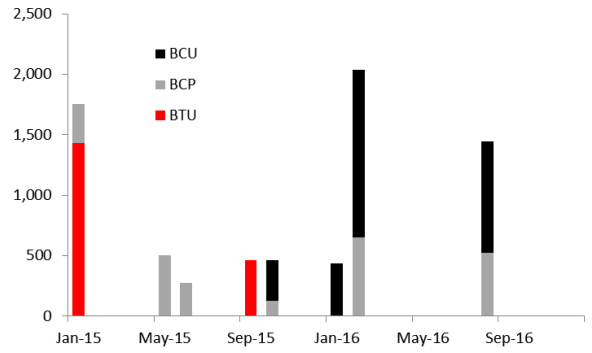
In regard to the primary market, the Treasury normally conducts two monthly auctions, starting in February and ending in December (although in 2014 auctions started later, in May, due to the change in administration). In 2014, the average size in nominal paper was CLP100 billion per auction (around US$180 million), and UF3.4 million per auction (around US$140 million).

In 2015, maturities of government paper are estimated at CLP2 trillion (or US$3.5 billion), of which 64% would come from UF bonds and 36% from CLP bonds. Santander expects total local bond issuance (gross) in

2015 to reach US$6.7 billion, thus implying that the net supply of local debt may increase by 7% (US$3.2 billion in new paper vs. an outstanding supply as of mid-2014 of US$48 billion), mostly on the CLP-denominated segment.

Both Central Bank and Treasury bond auctions are handled by the Central Bank. In terms of secondary trading, both bonds trade via the Santiago-based Bolsa de Comercio and via over-the-counter trading (OTC). Exchange trading represents approximately two-thirds of total bond trading, with OTC trading accounting for the rest.

2015/2016 Central Bank/Treasury maturities



In US$ billion. Sources: BCCh, Hacienda, and Santander.

Public sector borrowing requirements (US$ bn)

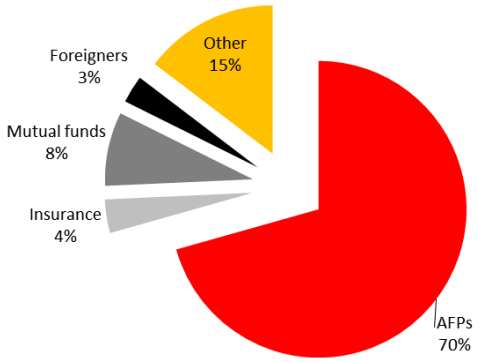
	2013	2014E	2015F*
Fiscal balance (Treasury)	1.6	5.0	6.4
Amortization (Treasury)	4.2	3.5	3.4
PSBR	***5.9***	***8.5***	***9.8***
Minus: Sale of assets	1.4	2.4	1.4
Minus: Usage of SWF	0.0	0.0	0.0
Minus: Global bond issuance	0.0	0.3	1.7
Gross BTP/BTU issuance	***4.5***	***5.7***	***6.7***
Plus: Gross BCCh issuance	3.4	0.0	0.0
Gross local bond issuance	***7.9***	***5.7***	***6.7***
Minus: Amortizations BTP/BTU/BCP/BCU		2.0	3.5
Net local bond issuance	***7.9***	***3.7***	***3.2***

Data as of November 2014. Santander estimates for 2014 and 2015. Sources: Hacienda and Santander.

Key market players. On the demand side, the government bond market is dominated by a small group of large buy-and-hold investors such as pension funds and insurance companies. As of October 2014, pension funds (AFPs) held around US$34 billion in Treasury and Central Bank-issued domestic bonds, 71% of the total outstanding supply of around US$48 billion (up from 61% at the end of 2013). As a percentage of assets under management (AUM), government bonds make up 21% of AFP holdings, whereas they were 35% of holdings in 2000. All in all, Chile's pension funds' assets under management (AUM) as of October 2014 totaled CLP97.3 trillion (US$164 billion, around 64% of GDP), growing by around 11% annually over the past two years (in CLP terms).

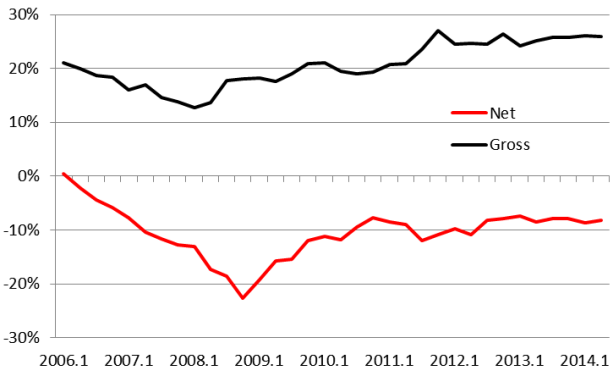
According to present regulations, AFP's foreign assets must be higher than 30% but lower than 80% of total AUM, of which 50% has to be hedged into local currency. On holdings of government bonds, the range is 30-40% (for the riskiest funds, A type) to 50-80% (for the safest funds, E type).

Local institutional investor AUM



Treasury and Central Bank debt. Data through October 2014. Sources: SVS, Asociacion de Aseguradores de Chile, Sperintendencia AFP, and Santander.

Govt debt (Treasury/Central Bank), % of GDP



Data through June 2014. Sources: Hacienda and Santander.

The AUM of local insurance companies amounted to CLP26 trillion (around US$44 billion) as of June 2014. AUM have been growing rapidly in recent years, although in 2014 growth has been around 0% vs. 2013. As a

share of GDP, AUM of insurance companies are stable at around 17%. A large portion of AUM of insurance companies are in bonds and debentures (65%), especially corporate issues. Local government bonds (Treasury and Central Bank) represent around 4% of their total AUM.

Mutual funds have also been an important player in local government bonds: we estimate that 7.5% of total Central Bank and Treasury paper are in hands of this type of investor. The AUM of mutual funds was CLP27 trillion (US$45 billion) at the end of October 2014 (+9% vs. 2013), of which 84% are debt instruments. Their holdings of Treasury and Central Bank paper are estimated at CLP2.3 trillion, or 9% of their total AUM, down from 7% four years ago. Mutual funds' government bond holdings are fairly evenly distributed: US$829 million in BCPs, US$1.1 million in BCUs, US$982 million in BTPs, and US$980 million in BTUs.

Historically, foreign participation in the Chilean bond market has been low, following many years of a complicated registration process and uncertainties about the application of the tax on capital gains for nonresidents. However, after an incipient increase in 2014 just after the implementation of the new Article 104, authorities expect foreign participation to grow further in the coming years. Official government numbers on foreign holdings do not exist, but market estimates of foreign participation in the local government bond market are in the 2-4% range of the outstanding supply (this does not include offshore involvement in Global Depositary Note program). Nevertheless, foreigners still prefer to focus their participation in the swaps market for the time being. Liquidity in the bond market is estimated at US$800 million daily, including Central Bank/Treasury paper in CLP/UF segments.

Interest rate swaps

The presence of international banks and a wide range of end users have made the Chilean interest rate swaps market more dynamic than the bond market. Many players use this curve as a vehicle to express their views on monetary policy and inflation expectations. Foreign investors continue to prefer the offshore derivatives markets over the onshore bond market because of liquidity and simplicity in execution. While the local regulator enabled the local pension funds (AFPs) to participate in the derivatives market several years ago, AFP activity in interest rate swaps in general is limited. Even without the participation of pension funds, volume in the swap market is relatively high. In the entire rate derivatives market, we estimate volumes in 2014 at US$14 billion monthly, up from the US$11-12 billion of 2012-13, based on the notional value of swaps traded (2014's number in DV01 terms is around US$145,000 daily for all interest rate swaps in Chile). Liquidity is decent up to the 10-year tenor (it tends to be higher between the one- and five-year tenors), while longer-dated tenors such as 15 and 20 years are generally quoted on an ad hoc basis.

REGULATORY AND TAX ISSUES

To invest in the local bond market, foreign investors must first obtain a *Rol Unico Tributario* (RUT), or tax identification number. This process is supervised by the *Servicio de Impuestos Internos* (SII, the Chilean tax authority). For investors to obtain this tax ID, the SII provides a simplified mechanism under which the tax ID can be obtained from the local custodian agency, bank, or broker. The investor must fill out a form that is then numbered by the authorized custodian bank or broker. This form must be signed by both parties.

The simplified tax ID has some disadvantages, such as reducing the holder's universe of possible investments and restricting transactions with certain tax havens. Also, the SII establishes that the investor must sign a custody agreement with a bank or broker in order to have a legal representative in Chile for tax purposes. The local custodian is responsible for withholding and paying taxes as well as for keeping a register book of income and flow of funds. Additionally, the custodian must have the necessary documentation that proves that the investor is a nonresident.

Taxes

Starting in 2014, a new regulation has been implemented, affecting taxes on fixed income instruments. These are the main considerations stemming from the new article 104 of the Single Funds Act:

1. Article 104 of the Chilean Income Tax Act treats capital gains as nonincome, and therefore, not subject to the 35% income tax. This only applies if the domestic and foreign issuers and investors meet certain requirements.
2. Now virtually all Central Bank and Treasury paper are eligible for the new Article 104 regulation (before only bonds issued prior to 2010 were eligible); all corporate bonds issued in Chile can also be

eligible if requested by the issuer company, including Huaso bonds (local bonds issued by nonresident issuers).

3. Transactions eligible for the new Article 104 now include OTC transactions (before, only transactions conducted via a stock exchange were allowed).
4. The local custodian agent is now responsible for retaining a 4% withholding tax on coupon payments for nonresident investors (previously, it was the issuer).
5. Taxes will be calculated on the basis of a fiscal interest rate, equivalent to the yield of issuance for corporate bonds and the coupon rate for Treasury and Central Bank bonds (previously, there was a tax penalty for issuing below par).

In any case, investors are encouraged to consult their legal advisors and custodians regarding tax regulations under Chilean law, which are subject to change.

BCU

BCUs (Bonos del Banco Central de Chile denominados in Unidades de Fomento) are inflation-indexed securities issued by the Central Bank. They are denominated in Unidades de Fomento (UFs). In 2014 the BCCh decided not to issue any kind of debt during the year, leaving the Treasury as the only sovereign issuer in the local market. The same may happen in 2015.

Bloomberg ticker	BCUCL <Govt>

SUMMARY OF TERMS

Issuer	Central Bank of Chile.
Nominal value	BCUs are placed in denominations of 500, 1,000, 5,000, and 10,000 UFs.
Tenors	2-, 5-, 10-, 20-, and 30-year tenors have been issued, with the largest outstanding amounts currently in the 2-, 5- and 10-year sectors. In 2014, total BCU issuance was zero.
Coupon	Semiannual and transformed into CLP at the prevailing CLP/UF rate. The older series included coupons of 3% and 5% in real terms, while all of the current on-the-run bonds of all tenors have a 3% coupon.
Day count	Calculated on an actual/365 day basis.
Amortization	Bullet.
Primary auctions	The Central Bank publishes issuance calendars one month ahead on the 9th of the preceding month. The full calendar of auctions is expected to be released by early 2015.
Outstanding amount	As of October 2014, total outstanding BCU paper is 327 million UF (CLP8 trillion, US$13.5 billion). Maturities in 2015 amount to UF8 million, or 2% of the total outstanding stock.
Moody's rating	Aa3.
S&P rating	AA+.
Fitch rating	AA-.

BTU

BTUs (*Bonos de la Tesorería General de la República en Unidades de Fomento*) are inflation-indexed securities issued by the Treasury. They are denominated in *Unidades de Fomento* (UFs).

Bloomberg ticker	CHILBT <Govt>

SUMMARY OF TERMS

Issuer	Treasury of the Republic of Chile.
Nominal value	500 UFs.
Tenor	5-, 7-, 10-, 20-, and 30-year maturities have been issued. In 2014, the Treasury was active in auctioning paper in all the above-mentioned tenors except the 5 year. In 2014, 45% of issuance was in the 10-year sector, 37% was in the 20-year sector, and 19% in the 30-year sector.
Coupon	Semiannual and transformed into CLP at the prevailing CLP/UF rate. All the on-the-run series have a 3% coupon in real terms.
Day count	Calculated on an actual/365-day basis.
Amortization	Bullet.
Primary auctions	In 2014, the Treasury issued BTU paper for almost UF62 million (CLP1.5 trillion, US$2.5 billion), below the UF66 million of the previous year. The full calendar of auctions is expected to be released by early 2015.
Outstanding amount	As of October 2014, the outstanding amount of BTUs was UF524 million (CLP13 trillion, or US$21.7 billion). Maturities in 2015 amount to UF45 million, or 9% of the total outstanding stock
Moody's rating	Aa3.
S&P rating	AA+
Fitch rating	AA-

BCP

BCPs (*Bonos del Banco Central de Chile en pesos*) are fixed-rate bonds issued by the Central Bank. In 2014 the BCCh decided not to issue any kind of debt during the year, leaving the Treasury as the only sovereign issuer in the local market. The same may happen in 2015.

Bloomberg ticker	BCPCL <Govt>

SUMMARY OF TERMS

Issuer	Central Bank of Chile.
Nominal value	BCPs are placed in denominations of CLP5 million, CLP50 million, CLP100 million, and CLP200 million.
Tenor	In the past, the Central Bank has issued 2-, 5-, and 10-year tenors. In 2014, total BCP issuance was zero.
Coupon	Series issued before 2007 included coupons of both 6% and 8% on a semiannual basis, while the series issued after 2010 pays a 6% semiannual coupon.
Day count	All are calculated on an actual/365-day basis.
Amortization	Bullet.
Primary auctions	The Central Bank publishes issuance calendars one month ahead on the 9th of the preceding month.
Outstanding amount	As of October 2014, the outstanding amount of BCPs was about CLP3.4 trillion (US$5.8 billion). Maturities in 2015 amount to CLP737 billion, or 22% of the total outstanding stock
Moody's rating	Aa3
S&P rating	AA+
Fitch rating	AA-

BTP

BTPs (*Bonos de la Tesorería General de la República en Pesos*) are fixed-rate bonds issued by the Treasury.

Bloomberg ticker	BTPCL <Govt>

SUMMARY OF TERMS

Issuer	Treasury of the Republic of Chile.
Nominal value	CLP5 million.
Tenor	In 2014, 5-, 10-, 20- and 30-year BTP paper was issued. A new benchmark for the particular tenors being issued is created each year.
Coupon	Semiannual. Currently both outstanding issues have a 6% coupon.
Day count	Calculated on an actual/365-day basis.
Amortization	Bullet.
Primary auctions	In 2014, the Treasury issued BTP paper in 5-, 10-, 20- and 30-year tenors; placing a total of CLP1.8 trillion (US$3.1 billion). In 2014, 21% of issuance was in the 5-year sector, 35% was in the 10-year sector, 30% in the 20-year sector, and 15% in the 30-year sector. In the beginning of 2015, the Treasury will publish its auction calendar for the year.
Outstanding amount	As of October 2014, the outstanding amount of BTP was CLP4.3 trillion (US$7.2 billion). There are no maturities of this type of paper in 2015.
Moody's rating	Aa3
S&P rating	AA+
Fitch rating	AA-

PDBC

PDBCs (*Pagarés Descontables del Banco Central de Chile*) are zero-coupon securities issued by the Central Bank.

Bloomberg ticker PDBC90d <Index> or PCBC30d <Index>, depending on the tenor

SUMMARY OF TERMS

Issuer Central Bank of Chile.

Nominal value PDBCs are placed in denominations of CLP5 million, CLP50 million, CLP100 million, and CLP200 million.

Tenor There are 30-, 60-, 90-, 180-, and 360-day securities available, but in 2014 only 30-, 90- and 180-day paper was issued.

Interest Zero coupon.

Primary auctions Placed through competitive auctions or via direct sales several times per month. The Central Bank regularly places these instruments on the basis of a monthly calendar published by the Central Bank. In 2014, a total of CLP35 trillion were issued in one-month, three-month, and six-month paper (or US$58 billion).

Outstanding amount As of November 2014, the outstanding amount of the PDBCs was about CLP3.1 trillion (US$5.4 billion), down from CLP3.9 trillion in December 2013.

CLP-DENOMINATED INTERNATIONAL BONDS DUE 2020

Maturity	August 5, 2020.
Face value	CLP50,000,000 and integral multiples of CLP500,000 above that amount.
Coupon	5.50% semiannual. Calculated on a 30/360-day count basis.
Amortization	Bullet.
Governing law	New York.
Settlement	T+3.
Payment currency	Principal and interest are paid in U.S. dollars, as calculated by translating CLP amounts into USD at the average Dólar Observado rate calculated on the third business day preceding the interest or principal payment date. Average Dólar Observado rate is defined as the average of the rates published on the Central Bank's website or via PCRCDOOB <Index> on Bloomberg for the five business days preceding the calculation date.
Outstanding amount	CLP434 billion (or US$730 million).
Additional features	Includes collective action clauses that permit Chile to amend payment of key provisions of the bonds with the consent of 75% of aggregate principal amount of outstanding bonds.
Moody's rating	Aa3
S&P rating	AA-
Fitch rating	A+

CÁMARA SWAPS

The *Cámara* swap is a fixed-for-floating par swap that trades over the counter, where the investor receives or pays a floating leg indexed to the *Indice de Cámara Promedio* and in exchange pays or receives a fixed rate. The fixed rate may be expressed in nominal terms (nominal versus *Cámara* swaps) or in UF terms (UF versus *Cámara* swaps).

Bloomberg ticker BTMM CL <Go> & BSAC 6 <Go>

SUMMARY OF TERMS

Reference

The *Índice de Cámara Promedio* (ICP) is an index that captures the cost of financing a position in the local fixed income market at the overnight rate represented by the *Tasa Cámara Interbancaria Promedio* (TCIP), which is the interbank rate reported by the Central Bank. The ICP is determined every business day by the *Asociación de Bancos e Instituciones Financieras* (ABIF) and communicated to all financial intermediaries before 10:00 a.m. local time by the *Sistema Nacional de Comunicaciones Financieras* (Sinacofi).

The Cámara index was set at 10,000.00 on September 2, 2002. It grows every day according to the following formula (which was updated in 2006):

$$ICP_i = ICP_{i-1} \times \left(1 + TCIP_{i-1} \times \frac{n}{360}\right)$$

where ICP_i is value of the ICP on day i, $TCIP_{i-1}$ is the TCIP on the working day prior to day i, and n is the number of days to apply the $TCIP_{i-1}$ (usually one, except for Mondays and any working day following a holiday when it corresponds to the number of nonworking days plus one). The index is rounded to two decimal places.

A series of the ICP published by Sinacofi (which, as of November 17, 2014, stood at 16,225.19) can be found on Bloomberg under the ticker CLICP <Index>.

Convention

For tenors under 12 months, cash flow exchanges usually occur at maturity on an actual/360-day basis. For tenors over a year, cash flows usually take place every six months on an actual/360-day count. In order to calculate the annualized rate for a nominal vs. Camara swap over a specific period, the following formula is applied:

$$TNA = \left(\frac{ICP_1}{ICP_0} - 1\right) \times \frac{360}{T_1 - T_0}$$

where TNA is the average nominal annual rate, ICP_1 is the value of the ICP at maturity of the period, ICP_0 is the value of the ICP at the beginning of the period, T_1 is the maturity date of each period, T_0 is the initial date of each period, and T_1-T_0 is the interest payment period. The rate is rounded to two decimal places.

For UF fixed for floating swaps, the following calculation needs to be done to obtain the rate in UF:

$$TRA = \left[\frac{\left(\left(\frac{TNA * (T_1 - T_0)}{360} \right) - \left(\frac{UF_1}{UF_0} - 1 \right) \right)}{\left(\frac{UF_1}{UF_0} \right)} \right] \times \frac{360}{T_1 - T_0}$$

where *TRA* is the average real annual rate, *TNA* is the average nominal annual rate calculated as indicated above, UF_1 is the value of the UF at maturity of the period, UF_0 is the value of the UF at the beginning of the period, T_1 is the maturity date of each period, T_0 is the initial date of each period, and T_1-T_0 is the interest payment period.

For UF vs. Cámara swaps, a historical series of the UF can be found on Bloomberg under the ticker CHUF <Index>.

Maturity

For both the nominal and inflation-adjusted curves there are the following maturities: 3, 6, and 9 months, 1 through 10 years (with one-year increments, but also including 1.5 years), 15 years, and 20 years.

Liquidity

Liquidity is relatively high between the 1- and 5-year sectors, but 10-year maturities are also quoted, while longer-dated tenors like 15- and 20-year are generally quoted on an ad hoc basis only. Liquidity has continued to improve this year, reaching around US$70,000 DV01 in nominal swaps, and US$45,000 in UF swaps. For nominal swaps 40% of liquidity is concentrated in tenors up to 2 years, 35% between three and five years, and 25% between five and ten years. The typical quote for tenors between one and five years for the CLP and UF fixed is now equivalent to US$7,500-10,000 DV01 with a 5-bp spread.

CLP vs. USD LIBOR CROSS-CURRENCY SWAPS

The CLP/LIBOR swap is an offshore cross-currency swap for which the investor pays or receives the fixed rate in CLP and in exchange receives or pays the floating rate in six-month LIBOR. Payment dates are based on an actual/360-day count basis. The first six-month USD LIBOR rate is set in advance, thereafter reset semiannually, and is subject to the modified following-business-day convention. Payments are based on a notional principal amount, the value of which is fixed in exchange-rate terms at the swap's inception. When the swap matures, a final payment representing the change in the value of the swap's notional principal is made between parties to the swap. Swaps are often traded simultaneously with a one-month NDF (nondeliverable forward) to offset the FX delta of the swap. Liquidity now reaches US$25,000 DV01 daily, with an average ticket size of US$10 million.

SUMMARY OF TERMS

Reference	This is a cross-currency swap in which the fixed leg is denominated in CLP and the floating leg is denominated in USD. The USD reference rate is six-month LIBOR.
Conventions	Semiannual, actual/360 basis.
Settlement	Effective date is T+2.

UF vs. USD LIBOR CROSS-CURRENCY SWAPS

The UF/USD LIBOR swap is an offshore cross-currency swap based on the Chilean UF consumer inflation index, where the investor pays or receives the fixed rate in UF and in exchange receives or pays the floating rate in six-month USD LIBOR. Payment dates are based on an actual/360 day-count basis. The first six-month USD LIBOR rate is set in advance, thereafter reset semiannually, and is subject to the modified following-business-day convention. Fixed-rate payments are based on a UF notional amount, while the floating-rate payments are based on a USD notional amount. Swaps are often traded simultaneously with a one-month NDF to offset the FX delta of the swap.

SUMMARY OF TERMS

Reference	This is a cross-currency swap in which the fixed leg is denominated in UF and the floating leg is denominated in USD. The USD reference rate is six-month LIBOR.
Conventions	Semiannual, actual/360-day basis.
Settlement	Effective date is T+2.

INFLATION FORWARDS (INFLATION INSURANCE) UF/CLP

The inflation-forwards market is intended to reduce the risk of volatility in inflation, by buying/selling at a future date an agreed-upon amount of UF units at a given price. On the maturity date, the contract is closed by exchanging the difference between the agreed-upon value and the actual value of the UF. Inflation forecasts are used to build contracts that have a maturity date where there is no available CPI. The calculations are done by adjusting on a daily basis, and the factor of adjustment is the same as that used for the actual calculation of the UF index, but just using forward dates with CPI forecasts.

UF1 = UF0 x [(1 + CPI) ^1/d]

UF0 = UF of current date (known)

UF1 = UF of future date

d = number of days between future and current date

This product enables different traders to take positions on inflation, so that after arbitrage among the main players has taken place, the market eventually converges toward a single inflation view. It is also used to hedge nominal flows against inflation, or in other words, to convert nominal flows into UF or inflation-linked flows. The structure is a zero coupon and is traded in the OTC market, where the biggest share is taken by brokers. The main players are both local and offshore banks, while pension funds may not trade directly in this market.

SUMMARY OF TERMS

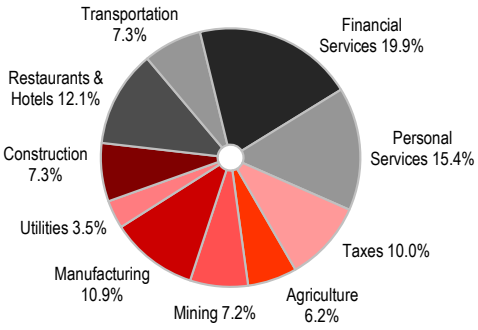
Bloomberg ticker	BSAC4 <Go>
Reference	This is an onshore future contract on the UF index. The maturity date is usually the ninth calendar day of each month (or the immediately prior business day), the day before the new CPI is incorporated into the UF index.
Maturity	Future values are calculated using each player's inflation forecasts for every single month over the next 18 months. There are thus contracts for 1 through 18 months, but the most liquid are 1, 2, and 11 months.
Conventions	Actual/360-day basis used to convert into a rate and compare to swaps.
Settlement	Effective date is T+1.

COLOMBIA

MACRO BACKGROUND

While the economies of Chile and Peru looked fairly soft in 2014, Colombia managed to grow at a faster pace of close to 5% supported by public works spending that continues to boost the construction sector as well as by strong household consumption. Moreover, Colombia has relatively low exposure to the Chinese market relative to its LatAm peers (11% of Colombian exports go to China versus 27% that go to the U.S.), though the decline in oil prices has put real GDP growth at risk for 2015. Indeed, petroleum exports and their derivatives represented 55% of all exports from Colombia in 2014, and lower oil prices combined with subdued production could hurt already weak exports. On the positive side, we believe that the Cartagena refinery that was shut down in March 2014 will likely come back into operation in 2Q15 (April or May) or 4Q15 at the latest. The refinery was halted as part of a project to expand its refining capacity, which Ecopetrol proposes will rise from 80 kbpd to 165 kbpd. According to BanRep, the reopening of the refinery in 2Q15 could add 0.5 pp and 0.2 pp to additional aggregate growth in 2015 and 2016, respectively (or 0.1 pp and 0.7 pp, if it opens in 4Q15.)

Supply-side GDP breakdown



Sources: Haver, DANE, and Santander.

GDP growth proxy vs. leading indicator series

Sources: Haver, DANE, BanRep, and Santander.

In order to offset the impact of lower oil prices on fiscal accounts, the government presented a tax reform proposal to Congress aimed at meeting a shortfall of COP12.5 trillion in revenue by extending the financial transactions tax and net wealth tax. As of November 2014, the tax reform proposal intends to charge companies (with net wealth of greater than COP5 billion) a maximum marginal net wealth tax rate of 1.3% in 2015, 1% in 2016, 0.75% in 2017, and 0% in 2018. Moreover, it looks like the wealth tax will not be calculated based on the firms' capital bases at the beginning of 2015, but rather will be reset each year. That said, the wealth tax on individuals has not changed, remaining at a maximum rate of 1.5% on net wealth of COP5 billion or more, through the end of 2018. The government will also increase the corporate income tax gradually over the next four years. It plans to install a surcharge on the 9% CREE (income tax for equality) of 4% in 2015, 6% in 2016, 7% in 2017, and 9% in 2018. This surcharge would apply to corporations with annual profits exceeding COP800 million. In our view, the CREE is a less distortive tax for entities, as it is a tax on profits rather than on the net wealth of a company, though it is difficult to anticipate how these changes will affect private investment. Finally, the reform will extend the financial transactions tax (also known as 4x1000) for the next four years, through 2018.

Note that in 2015, we could hear more about a potential pension fund reform, which seems to have been postponed in 2014 to concentrate personnel resources on the tax reform proposal mentioned above. However, we also believe there may be less government incentive to tackle the issue given that USD/COP is trading above the 2200 level as of December 2014.

MONETARY POLICY

The Central Bank is an independent body known as *Banco de la República* (or BanRep), which consists of

seven board members (including the Minister of Finance) who are appointed for four-year terms. Board members can serve a maximum of up to three terms, and are appointed by the president of Colombia. Note that the governor of the board is appointed by the other board members (five members not including the Minister of Finance). BanRep follows an inflation targeting regime that seeks to keep CPI expectations between 2-4% (3% midpoint) with a two-year time frame, primarily conducting monetary policy by adjusting the overnight lending rate during monthly meetings. The Central Bank also uses an average of four core inflation indicators rather than any one particular core CPI estimate when deciding on changes to the overnight rate.

BanRep actively intervenes in the FX market. BanRep accumulated US$4 billion in reserves via daily open market purchases from January to November 2014 (compared to a total of US$6.8 billion in full year 2013). U.S. dollar buying helped raise total international reserves at the Central Bank to US$47.1 billion in 2014. Note that reserves as a percentage of GDP are still low relative to Colombia's LatAm peers at 12% of GDP, but this is still one of the highest levels on record. In response to rising costs and a stronger USD outlook going into 4Q14, the Central Bank reduced the size of its intervention program to buying "up to" US$1 billion for the October-December period, down from buying "up to" US$2 billion between July-September but in-line with its "up to" US$1 billion of buying between April-June.

LOCAL MARKETS

Local currency-denominated debt represents 72.5% of total government debt as of September 2014, compared to only 27.5% for foreign currency-denominated debt. This breakdown has been more or less stable since the end of 2012, though it has been the government's intention to reduce external debt further to 22% over the next few years, in order to limit the foreign currency risk of buying dollars to make payments on maturing bonds. That said, the government prefinanced some of its estimated US$3 billion of 2015 borrowing needs by selling US$1 billion of dollar-denominated debt on October 21, 2014. This included reopening the Feb-2024 and Feb-2044 external bonds for US$500 million each. Previously, the government had also sold US$2 billion of 10Y bonds (Feb-2044) on January 21, 2014.

Meanwhile, Colombia has not returned to the Global TES market since issuing a 2023 (10Y) maturity bond in September 2012. Global TES bonds are peso-denominated bonds that are payable in dollars, allowing holders to get exposure to COP via an asset that is clearable on both Euroclear and Clearstream. We discuss this market further in our products section ("Global TES") below.

Sources & uses national government 2015 (COP millions)

Sources	**50,561**	**Uses**	**50,561**
Disbursements	**44,471**	**Financial deficit**	**19,398**
External	9,975	External interest	4,466
Bonds	5,868	Domestic Interest	13,416
Multilaterals/Other	4,107		
Internal	**34,497**	**FEPC**	**811**
TES	34,477		
Auctions	23,700	**BanRep losses**	**566**
Public entities	9,100		
FEPC and Others	1,677	**Sentences**	**300**
Others	19		
Accrual adjustments	384	**Amortizations**	27,075
		External	5,060
Treasury operations	100	Internal	22,015
Initial availability	5,605	**Final availability**	2,410
In pesos	4,453	*In pesos*	1,689
In US$	1,152	*In US$*	721

Source: Ministry of Finance.

Local TES market

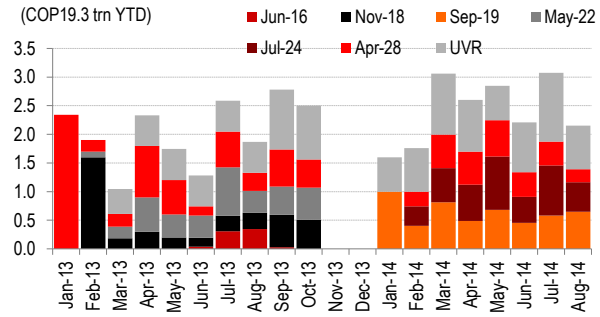
Local government debt is generally broken down into nominal and inflation-linked paper. Inflation-linked debt

is denominated in real value units, or UVR for its acronym in Spanish, and currently makes up 25.7% of all local government bonds as of September 2014. Local fixed-rate bonds represent 71.2%, while COP variable-rate (IPC) bonds make up 0.01% and the rest are categorized as other. The average duration of the TES UVR bonds is 5.29, while the average duration for local fixed-rate TES bonds is 4.48. The total daily average volume in the local fixed-rate TES market was above US$810,000 DV01 in 2014 as measured by the Colombia stock exchange (BVC) and BanRep's electronic trading system (SEN), supported by an increase of foreign investors in this market in 2014. The most liquid bonds on the local TES curve are currently the Jun '16s, Nov '18s, Sept '19s and Jul '24s.

Issuance. In local TES fixed rate bonds, Colombia has been transparent about building out the curve in the 5-, 10-, and 15-year maturities, while in the UVR bonds, the Treasury focuses on the 5-, 10-, and 20-year maturities. Issuance is structured such that a new bond maturity for each part of the curve will be available every two years. For example, in 2015 and 2016, the government will issue bonds that mature in 2020 as the 5Y benchmark. Local fixed-rate TES bonds mature in even-numbered years, while TES UVR bonds mature in odd-numbered years.

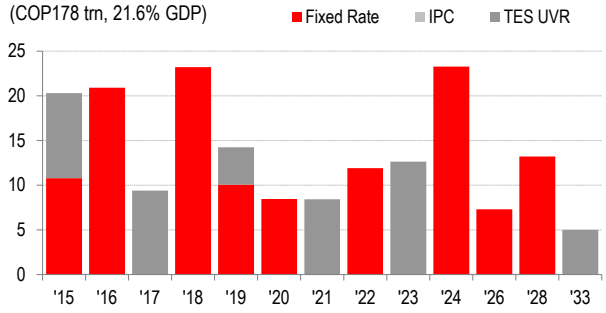
In terms of domestic TES issuance, the government issued COP19.3 trillion via both competitive and noncompetitive auctions (including via the exercise of "green shoe" options, which allow market players to buy additional securities after the regular bond auction) in 2014, comprising COP12.5 trillion of COP-denominated bonds and COP 6.8 billion of UVR bonds. The issuance plans for 2014 were completed well ahead of the schedule of the previous year despite the amount having been increased in June 2014 from an original plan of COP18.2 trillion. Comparatively, the government plans to auction COP23.7 trillion in local TES bonds in 2015, though this number may come down given the debt swaps at the end of 2014. Indeed, debt service for 2015 has been reduced from around COP22.9 trillion in midyear 2014 to COP20.6 trillion as of October 2014.

Issuance in 2014 by maturity



Sources: Ministry of Finance and Santander.

Amount outstanding of local TES bonds



Sources: Ministry of Finance and Santander.

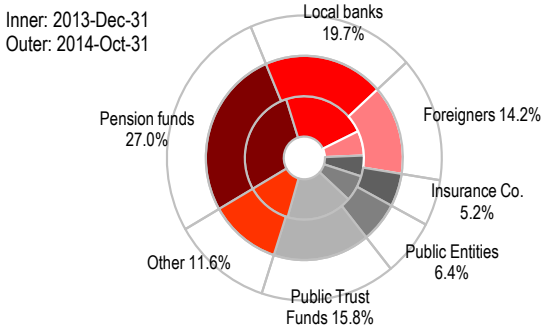
Key market players. Pension funds and local banks are the biggest players in local TES bonds, accounting for 27.0% and 19.7% of the market, respectively, as of October 2014. That said, most of the sovereign local debt that pension funds hold is currently denominated in inflation-linked UVR units, after a steady rotation away from fixed-rate TES in late 2013 and early 2014. Pension fund holdings (including mandatory, voluntary, and severance) total COP170 trillion (US$84 billion) in assets under management, of which 34% are invested in local TES bonds. The pace at which the pension fund system's AUM is growing has slowed from a rate of about 11% y/y at the end of 2013 to around 8% in 2014.

In terms of fixed-rate TES alone, foreigners currently hold more of these bonds than any other investor, following the increase of Colombia's weight to around 8% (from 3.24% in February 2014) in the JP Morgan GBI-EM Global Diversified bond index in March 2014. Reforms in 2012 and 2013 relaxed taxes on foreign bond income and increased the accessibility of the local bond market, which allowed the bond indices to be rebalanced. It is difficult to estimate the total net size of funds benchmarked to the index, though anecdotally estimates suggest it is around US$190 billion. As of October 2014, foreign participation in the local fixed-rate TES market is 19.9% (COP25.9 trillion, or US$12.7 billion) of the amount outstanding, compared to 19.7% for pension funds and 18% for commercial banks. If we include TES UVR bonds, foreign participation falls to 14.2% of the total TES market. We believe foreign participation is likely concentrated in countries that have

tax treaties with Colombia that allow them to avoid payment of income taxes. (Spain and Switzerland are two examples.)

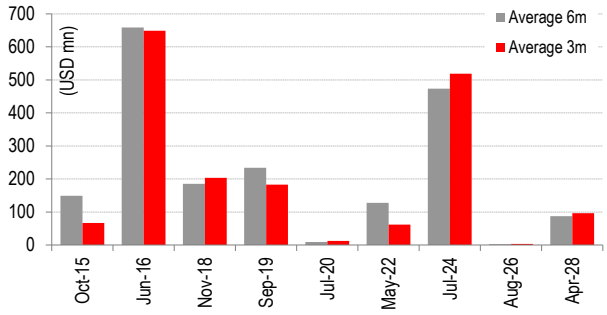
Note that official government numbers on TES holdings do not include "TES NDF" trades in which a foreign investor enters into a total-return swap with a local counterparty to replicate a TES holding without actually owning the paper. TES NDF do not have tax or FX implications. Firm numbers regarding the size of foreign participation in this product are not available but have likely increased since the JP Morgan bond index reweighting in March 2014, though we expect numbers are still relatively low. Aside from local TES bonds and the TES NDF product previously discussed, foreign investors continue to have several options for accessing Colombia's local rates market, including global TES as well as global depositary notes (GDNs) for local bonds.

Local TES bondholders



Sources: Ministry of Finance and Santander.

Average daily liquidity in TES fixed rate bonds



Sources: BVC, SEN, Bloomberg, and Santander.

Market makers program. Colombia's market-makers program (*Esquema de Creadores de Mercado*), launched in 1997, specifies up to 20 predetermined financial institutions (banks, financial corporations, and brokerages) as market makers or market-maker candidates ("*Aspirantes*") each year. In order to become a market maker, minimum capital and credit-rating requirements must be met. Market makers/market-maker candidates are required to participate in primary auctions, as well as to maintain an active participation at various parts of the curve in the secondary market (i.e., 70% of the time that the market is open each week). As of September 2014, 10 local institutions were designated as market makers, while 3 other financial institutions were authorized as market-maker candidates. Market makers are ranked based on the following criteria: 20% based on primary market participation, 40% based on secondary market volumes, and 40% based on presence on the trading screens. Institutions occupying the lowest spot in the rankings will be excluded from the program in the following year.

Monetary Control TES

Since November 2012, the Ministry of Finance has been issuing short-term local TES paper called "Monetary Control TES," which is designed to withdraw liquidity from the economy and to increase the capacity of the Central Bank to sterilize dollars purchased as part of the FX intervention program. All proceeds from this issuance are deposited in a lockbox with the Central Bank, and are not used to finance spending. Therefore, we have not included these securities in our calculation for government debt, although they clearly do add to the supply of government paper. The maturities of the new TES range from 90 days, 120 days, 1Y, 2Y, and 3Y. No issue will exceed COP1.5 trillion, and will not be included in the market-making points system; therefore, we expect this paper to remain illiquid and likely trade at a higher yield than the short-end TES issues despite its essentially prefunded nature. As of October 2014, the total principal of monetary control TES was US$6.5 billion.

Fixed Income Futures Market

The *Bolsa de Valores de Colombia* (local stock exchange) launched a bond futures market on September 1, 2008, in order to provide a hedging vehicle for the TES market, as well as to increase the depth and liquidity of the local interest rate market. The three kinds of contracts include the short-term (launched on February 16, 2009), medium-term (launched September 1, 2008), and long-term versions (launched on February 16, 2009). There are quarterly expiries of future contracts (March, June, September, December), and each contract has a

size of COP250 million. The short-term has a synthetic 2Y annual bond with a coupon rate of 10% as an underlying asset, which is calculated based on a number of fixed-rate TES bonds with duration close to two years. The medium-term has a synthetic 5Y annual bond with a coupon rate of 11% as an underlying asset, which is calculated based on a number of fixed-rate TES bonds with duration close to five years. The long-term has a synthetic 10Y annual bond with a coupon rate of 8% as an underlying asset, which is calculated based on a number of fixed-rate TES bonds with duration close to 10 years. Liquidity levels in the futures markets are only a fraction of the liquidity seen in the cash TES bond market.

IBR (Indicador Bancario de Referencia) Overnight Rate

In concert with the private sector, the Central Bank started calculating an overnight reference rate at the beginning of 2008 as a way to provide a more reliable indicator of monetary conditions within the local money market. Both an overnight and a one-month tenor were set initially, and in July 2012 a three-month indicator was established. The indicator is calculated and published by BanRep using a group of eight of the biggest money market banks, which report on a daily basis for the overnight rate (and weekly in the case of the one-month rate). Banks are asked to submit the interest rate at which they are indifferent to either lend or borrow overnight funds (or one-month).

BanRep then calculates the median from the numbers provided. In the case of the 1m and 3m swaps, the IBR is based on the market price of interest rate swaps. That is, the swap takes the form of an overnight index swap (OIS). Instead of any exchange of pesos, those below the median receive fixed rate and pay overnight IBR, while those above the median will pay fixed and receive overnight IBR. In the case of both 1m and 3m IBR, the notional value of the swap will be COP3 billion. Since inception, the IBR has accurately reflected the conditions in the money market and has seen success in being adopted as a reference rate for floating-rate bond issuance. Several local banks are now making IBR-linked loans to corporate customers. An IBR-linked swap market designed to more accurately reflect monetary policy rate expectations was also introduced. We discuss this market further in our products section ("IBR Swap"), which follows.

REGULATORY AND TAX ISSUES

For foreign investors, Decree 4800 (passed on December 29, 2010) permits direct access to the local market through a local administrator. Prior to this decree, access to local markets had often required the establishment of a "foreign investment fund" (FIF, also known as a Foreign Capital Investment Fund or FCIF), which was the only vehicle for portfolio investments. Such limited direct access to the market is no longer the case, as Decree 4800 modified the existing regulatory framework pertaining to international investors originally established in Decree 2080 of 2000. The decree removed the FIF requirement and granted international investors the right to make investments themselves with the use of a local broker dealer or fiduciary.

Moreover, the decree extended an investor's choices from just fixed income securities, such that investors can engage in both repo and other securities lending, and they can trade derivatives onshore. This has helped to level the playing field for international investors engaged in portfolio investment in Colombia. Foreign investors are subject to the same compliance rules as local investors. Foreign investors can trade only on markets regulated by the Colombian Superintendency of Finance.

Foreign investment funds, or FIFs, nevertheless do continue to operate in accordance with Decree 4800. With FIFs, local institutions (such as a trust company or authorized brokerage firm) serve as the custodians, administrators, and legal representatives of these funds. Funds can be set up as individual or institutional portfolios. Historically, foreign investors often opted for institutional "omnibus" funds. This type of fund is formed by a recognized dealer/international intermediary that brings together several foreign investors through subaccounts. Otherwise, access to the local Colombian market can be facilitated via a broker or credit-linked notes.

FIFs are required to register all foreign investment activities in the country on a trade-by-trade basis through a local administrator, indicating the following details: type of fund, NIT (fiscal ID), amount and type of operation (entrance/repatriation of capital, profits, income, etc.), as well as the unique objective of the investment (portfolio investment); FX operations must also be registered on an individual basis and done only through authorized local intermediaries. Reinvestment of proceeds from sales and income is permitted without prior repatriation. In any case, specific information must be provided and reinvestment must be registered with

the Central Bank. Foreigners can open accounts in COP only and may not take speculative trades in the FX market. Offshore investors are allowed to hedge their transactions up to the amount invested in securities and through authorized foreign exchange intermediaries. The mechanisms available to hedge trades are limited to forwards, swaps, and options (calls and puts) and must be done for a minimum period of four days in order to be considered hedging transactions.

Taxation

Regarding taxation, some important changes were made in 2012 and 2013 with regard to offshore investors and local bond ownership. First among these is a reduction of the general tax rate applied to foreign investors' bond profits. At the end of 2012, the administration of President Juan Manuel Santos passed a comprehensive tax reform law (Law 1607) that included new rules lowering the income tax on bond profits for foreign portfolio investors from a tax rate of 33% to a rate of 14% for non-tax-haven residents. The rate is 25% for foreign investors located in tax havens. Note that a list of 44 tax havens was published on October 7, 2013, under Decree 2193, including Hong Kong, Macao, Grenada, the Bahamas, and the Cayman Islands. Taxes are applied to realized cash flows and do not include profits from currency appreciation.

The government also passed Decree 2318 on October 22, 2013, which amends articles 25, 26, and 27 (and repeals articles 30, 31, and 32) of Decree 700. The decree addresses some key concerns of foreign investors regarding greater transparency and clarity over how income taxes are calculated for gains earned on local TES bonds. The decree recognizes foreign portfolio investors as non-self-withholding agents and local custodians as withholding agents on behalf of foreign investors. Some of the key changes to the tax calculation methodology follow.

1. Taxes are no longer payable monthly. Prior to the reform, investors were required to pay monthly taxes on accrued interest on a bond from additional funds set aside for these payments, adding a layer of complexity to the transaction. The modified rule means that "withholding is performed only at times at which revenue on the bond is actually received," specifically under two scenarios: (a) when a coupon is paid and/or (b) when the bond is sold.
2. Calculation of the cost basis seems clearer. One of the main complications that arose prior to Decree 2318 was that depending on whether a bond trading at a premium was sold before or after a coupon payment was made, a foreign investor could be responsible for higher taxes than what that investor might rightfully be liable for. Now we seem to have two straightforward scenarios:
    a. If a bond is sold prior to the collection of a coupon payment, the withholding will be the difference between the dirty sale price and the dirty purchase price such that the 14% tax will be applied only if there is a net gain. A net loss could be used against other assets in a particular portfolio.
    b. If a bond is sold after the collection of a coupon payment, the withholding will be the difference between the dirty sale price and the clean purchase price (that is, the purchase price of the bond minus the accrued interest) such that the 14% tax will be applied only if there is a net gain. A net loss could be used against other assets in a particular portfolio.

Note that we use the 14% general tax rate in the two cost-basis scenarios above, but the tax rate could in fact be 25% or lower for foreign investors domiciled in tax havens depending on the double-taxation treaty of a particular country. Investors are encouraged to consult their legal advisors regarding tax regulations under Colombian law, which are subject to change.

TES

TES B *(Títulos de Tesorería Clase B)* are public debt instruments issued by the Colombian government. They can be denominated in COP, USD, or UVR (real value units); however, USD-denominated TES have not been sold in several years. TES securities are currently issued at a fixed rate for original maturities between 1 and 15 years, and inflation-linked for original maturities from 2 to 20 years. Instruments of original maturity of one year or longer pay an annual coupon and amortize in full on the designated maturity date.

As of October 31, 2014, the total amount of TES outstanding was COP202 trillion (US$98.2 billion).

Composition of TES B outstanding

Type	Total outstanding (COP billion)	Total outstanding (USD million)	% of total
COP fixed-rate	143,646	69,812	71%
UVR	49,543	24,078	25%
COP variable rate (IPC)	14	7	0%
Other	8,797	4,275	4%
Total	202,000	98,173	100%

Data as of October 31, 2014. Sources: Ministry of Finance and Santander.

In addition to regular TES auctions, the Colombian government usually places a significant amount of total annual TES issuance through obligatory and voluntary underwritings by public sector companies.

Obligatory underwriting (*Inversiones forzosas*). All public entities that are financially dependent on the central government are obliged to subscribe to TES during the first five days of each month. The minimum amount to be subscribed will be equal to the daily average of all cash and deposits held by these entities during the previous month in financial instruments other than TES. The yield is the same as that of the cutoff rate in the latest auction held, and although this can be done with any type of TES, the government has usually used one-year fixed-rate COP-denominated TES.

Voluntary underwriting (*Inversiones convenidas*). Based on its domestic financing needs, the central government makes preliminary agreements with decentralized public entities for those entities to subscribe to TES. These TES are placed at the cutoff rate of the last auction held of each instrument, while the amount and timing are based on the conditions specified in the agreements. In order to avoid distortions in the secondary market, companies are obliged to keep the paper underwritten at least until the next auction of each instrument before negotiating these in the secondary market.

PRIMARY AUCTION

Auction schedule

Early in the year, Colombia's Ministry of Finance provides the auction schedule with all auction dates and maturities for the full year. Colombia's Central Bank (BanRep) will announce the maturity, coupon, and amount of the instruments to be offered the day before the auction. Auctions usually take place on Wednesdays for long-term tenors (TES "Class B"). Bids are submitted to the Central Bank between 9:30 and 10:00 a.m. local time, with results announced on the same day after the completion of the auction.

Bidding process

Placement is made via a Dutch-style auction procedure. The Ministry of Finance determines the cutoff rate, which will be the same for all bids accepted. Only market makers (and designated candidates for the program) are authorized by the Ministry of Finance to directly participate in the auctions. Depending on demand, a second noncompetitive auction may be held. If demand is greater than twice the amount offered in the first round, the government can place an additional 65% of the initial offering; if demand is greater than 1.2 times but less than twice the amount offered, the government can place an additional 40% of the initial offering. Only market makers that bid successfully in the original auction will be allowed to participate in this second-round placement. All TES placed in the second round will have the same yield as those approved in the first auction.

Bid format

Bids are submitted in terms of annualized interest rate (to three decimal places). Each bid must also indicate the nominal amount desired and the city in which the transaction will be carried out. Market makers/aspiring market makers can make as many bids as desired as long as the sum of all the bids does not exceed the total amount being auctioned. Participants will not be allowed to submit bids when the difference between the maximum and minimum rates exceeds a specified level.

Allocation process

The Ministry of Finance has discretion to issue less than the announced amount of the auction of each tenor; settlement is T+0.

Placement agent

Banco de la República (Colombia's Central Bank); all primary market operations are transacted through the *Sistema Electrónico de Negociación* (SEN).

SECONDARY MARKET

Trading

TES can be negotiated in the secondary market through three different mechanisms. The most important for local market makers is the electronic negotiation system (SEN) administered by the Central Bank, where only the Central Bank, market makers, and candidates for the market makers program can participate. This is the only blind negotiation mechanism in which the settlement of all the operations is carried out electronically by the Central Bank. Significant volumes are also traded in Colombia's securities exchange market via the *Mercado Electrónico Colombiano* (MEC). TES are also traded in OTC operations or through private brokers.

Trading hours

Trading hours are from 8:00 a.m. to 3:40 p.m. local time if traded on T+0 and from 8:00 a.m. to 5:00 p.m. if traded on T+5.

Settlement

Settlement is usually on the same day (T+0) or next day (T+1), but can go to a maximum of (T+5) and is always done in book-entry form for dematerialized or immobilized securities at depositories. In order to execute T+0 transactions, clients should provide the local trust company with the corresponding instructions to settle the trades no later than 10:00 a.m. Colombia time. Foreign investors are required to appoint a local custodian. All transactions in government securities are settled and cleared exclusively through the Centralized Securities Deposit (DCV), which is administered by BanRep. FX instructions should be included either in the instructions or in a separate message that must be sent immediately after the instructions.

TES by holder and maturity (COP millions)

Group	TES peso	TES UVR	TES CM*	Total	Percentage
Pension Funds	25,597,793	25,884,151	269,736	51,751,680	27.0%
Foreigners	25,916,688	1,319,168	19,363	27,255,219	14.2%
Commercial Banks	23,543,204	6,482,357	7,761,424	37,786,985	19.7%
Public Fiduciaries	24,713,813	3,842,882	1,845,306	30,402,001	15.9%
Public Entities	11,835,889	28,515	498,153	12,362,557	6.5%
Insurance Companies	3,517,553	6,167,585	381,008	10,066,146	5.3%
Public Financial Institutions	5,840,053	2,909,852	602,103	9,352,008	4.9%
“Prima Media” Funds	3,108,023	511,521	255,000	3,874,544	2.0%
Mutual Funds	1,749,629	321,608	1,198,029	3,269,266	1.7%
Ministry of Finance	2,146,352	62,902	0	2,209,254	1.2%
Financial Corporations	920,098	401,771	69,613	1,391,482	0.7%
Banco de la Republica	1,750	781	0	2,531	0.0%
Other	1,220,334	289,966	227,375	1,737,675	0.9%
Total	**130,111,179**	**48,223,059**	**13,127,110**	**191,461,348**	**100%**

*TES CM = Monetary Control TES.

Based on data as of October 31, 2014. Sources: Ministry of Finance and Santander.

TES FIXED-RATE (LOCAL COP-DENOMINATED)

Fixed-rate TES B (*TES Clase B Tasa Fija*) are COP-denominated instruments issued by the Colombian government with maturities of one year and longer. Currently, the fixed-rate curve extends out 15 years after the issuance in 2012 of a bond maturing in April 2028.

Bloomberg ticker COLTES <Govt>

SUMMARY OF TERMS

Description Long-term coupon-bearing government debt instruments.

Face value COP500,000, and multiples of COP100,000 above that amount.

Maturity 1, 2, 3, 4, 5, 7, 10, 12, and 15 years.

Coupon Annual.

Day count Calculated on an NL/365-day basis (i.e., actual/365-day using 28 days for February, even during leap years).

Amortization Bullet.

Auctions Usually carried out on Wednesdays, during the second and/or third "monetary weeks" of the month (that is, the second and/or third week of each month containing at least three business days).

Moody's rating Baa2

S&P rating BBB+

Fitch rating BBB+

Nominal bond secondary market liquidity

Maturity	Coupon (%)	Duration (yrs)	Avg daily volume (USD mn)	Avg daily volume USD DV01	Total outstanding (USD mn)
28-Oct-15	8	0.90	148	13,256	5,318
15-Jun-16	7.25	1.47	587	88,124	10,315
24-Oct-18	11.25	3.38	3	1,099	6,404
21-Nov-18	5	3.69	181	63,403	5,045
11-Sep-19	7	4.18	234	100,209	4,965
24-Jul-20	11	4.49	9	4,872	4,165
4-May-22	7	5.84	122	72,097	5,877
24-Jul-24	10	6.75	469	377,016	11,470
26-Aug-26	7.5	8.09	2	1,843	3,600
28-Apr-28	6	9.04	86	68,958	6,520
Total			**1,841**	**790,877**	**63,679**

Average daily volume for six months prior to December 3, 2014. Includes trades executed on exchanges and does not include auctions or OTC transactions. Sources: SEN, MEC, Ministry of Finance, Bloomberg, and Santander.

TES UVR (INFLATION-LINKED BONDS)

TES UVR (TES Clase B Unidades de Valor Real Constante) are fixed-rate bonds denominated in UVR (real value units). Principal and interest payments are calculated in UVR and paid in COP based on the value of the UVR unit on the payment date. Currently, the UVR curve extends out about 20 years after the 2013 issuance of a March 2033 maturity bond.

Bloomberg ticker COLTES <Govt>

UVR Index calculations

UVR_t = UVR value in COP after t calendar days have passed since the 16th of the month m.

$UVR_{15,m}$ = UVR value in COP on the 15th of the month m.

m = month in which the change in the CPI index of the previous month is applied to calculate the UVR value.

I_{m-1} = monthly percentage change in the CPI index in month m-1.

t = number of days since 15th of the month m.

D_m = number of days in month m.

Bloomberg ticker UVR <Index>

SUMMARY OF TERMS

Description Long-term coupon-bearing government debt instruments denominated in UVRs.

Face value UVR10,000, and multiples of UVR1,000 above that amount.

Maturity 1, 3, 5, 7, 10, and 20 years.

Coupon Annual.

Day count Calculated on an NL/365 basis (i.e., actual/365-day using 28 days for February, even during leap years).

Amortization Bullet.

Auctions Usually carried out on Wednesdays, during the first and/or third "monetary weeks" of the month (that is, the first and/or third week of each month containing at least three business days).

Moody's rating Baa2

S&P rating BBB+

Fitch rating BBB+

Fixed-rate TES in UVR

Bond maturity	Coupon (%)*	Duration (yrs)	Total outstanding (USD mn)	Original term
25-Feb-15	7	0.23	4,687	12
17-May-17	4,25	2.34	4,627	8
17-Apr-19	3.5	4.06	2,053	5
03-Mar-21	3.5	5.62	4,146	8.6
23-Feb-23	4.75	6.86	6,232	17
25-Mar-33	3	13.77	2,472	15
Total			**24,217**	

*Coupon adjusted by UVR index, based on data as of October 31, 2014. Sources: Ministry of Finance, SEN, Bloomberg, and Santander.

TES IPC (FLOATING-RATE)

TES IPC are inflation-indexed bonds denominated in COP with a floating-rate coupon equal to IPC inflation (Índice de Precios al Consumidor) plus a fixed spread. Currently, the IPC curve has an average duration of 0.1.

Bloomberg ticker COLTES <Govt>

Coupon calculation *Coupon rate* = (1 + *IPC*) x (1 + *margin*) – 1.

Coupon rate = rate used to calculate the yield of the security.

IPC = 12-month variation in the IPC published by DANE that is prevailing at the time of the coupon payment.

Margin = yield margin, set at the auction.

SUMMARY OF TERMS

Description COP-denominated floating-rate coupon-bearing bonds linked to inflation.

Face value COP500,000, and multiples of COP100,000 above that amount.

Maturity One month to 1 year.

Coupon Annual.

Day count Calculated on an NL/365 basis (i.e., actual/365 using 28 days for February, even during leap years).

Amortization Bullet.

S&P rating BBB+

SHORT-TERM TES IN COP

Short-term TES (*TES corto plazo or TCOs*) are COP-denominated instruments issued by the Colombian government with maturities of less than one year. In 2012, issuance of these securities was suspended in response to an improvement in the government's liquidity position. However, issuance could reopen in the future.

Bloomberg ticker	COLTC <Govt>

SUMMARY OF TERMS

Description	Short-term government debt instruments.
Face value	COP500,000, and multiples of COP100,000 above that amount.
Maturity	90, 119, and 180 and 357 days.
Coupon	Zero coupon.
Auctions	Carried out on Thursdays.
S&P rating	A-2.

GLOBAL TES

To date, Colombia has issued five global bonds that are denominated in pesos but pay interest and principal in U.S. dollars. The Global TES 2010 (which was initially issued in November 2004 and reopened on January 21, 2005) was the first nominal rate bond denominated in local currency to be issued by a sovereign in a global format. Colombia's second offering in this sector, the Global TES 2015, was initially issued in February 2005 and reopened on three occasions (December 2005, March 2006, and August 2006). The third offering was the Global TES 2027, issued in June 2007 as a 20-year bond as part of an exchange transaction, where the government used the proceeds of the offering to purchase USD-denominated securities. Finally, in September 2012, the government issued a fifth bond, the Global TES 2023. Global TES offer international investors offshore exposure to peso FX risk via an asset that is clearable through Euroclear and Clearstream. Global TES are included in the market-makers program, but are not yet tradable in the local electronic trading system (SEN).

Bloomberg ticker	COLOM <Govt>
Moody's rating	Baa2
S&P rating	BBB
Fitch rating	BBB

GLOBAL TES 2015

Maturity	October 22, 2015.
Face value	COP5,000,000 and integral multiples of COP1,000,000 above that amount.
Coupon	12.00% annual.
Day count	Calculated on an actual/365-day basis.
Amortization	Bullet.
Governing law	New York.
Settlement	T+3.
Payment currency	Principal and interest paid in U.S. dollars, as calculated by translating COP amounts into U.S. dollars at the average representative market rate on the rate calculation date (i.e., the third business day preceding each payment). The average representative market rate corresponds to the average of the representative market rates for each of the 20 business days prior to the rate calculation date; representative market rates are available on Bloomberg at TRM <Index>.
Additional features	Include collective action clauses that permit Colombia to amend payment provisions of the bonds with the consent of 66.66% of the aggregate principal amount of outstanding bonds.

GLOBAL TES 2021

Maturity	April 14, 2021.
Face value	COP5,000,000 and integral multiples of COP1,000,000 above that amount.
Coupon	7.75% annual.
Day count	Calculated on an actual/365-day basis.
Amortization	Bullet.
Governing law	New York.
Settlement	T+3.
Payment currency	Principal and interest paid in U.S. dollars, as calculated by translating COP amounts into U.S. dollars at the average representative market rate on the rate calculation date (i.e., the third business day preceding each payment). The average representative market rate corresponds to the average of the representative market rates for each of the five business days prior to the rate calculation date; representative market rates are available on Bloomberg at TRM <Index>.
Additional features	Include collective action clauses that permit Colombia to amend payment provisions of the bonds with the consent of 75% of aggregate principal amount of outstanding bonds.

GLOBAL TES 2023

Maturity	March 21, 2023.
Face value	COP5,000,000 and integral multiples of COP1,000,000 above that amount.
Coupon	4.375% annual.
Day count	Calculated on an actual/365-day basis.
Amortization	Bullet.
Governing law	New York.
Settlement	T+3.
Payment currency	Principal and interest paid in U.S. dollars, as calculated by translating COP amounts into U.S. dollars at the average representative market rate on the rate calculation date (i.e., the third business day preceding each payment). The average representative market rate corresponds to the average of the representative market rates for each of the 20 business days prior to the rate calculation date; representative market rates are available on Bloomberg at TRM <Index>.
Additional features	Include collective action clauses that permit Colombia to amend payment provisions of the bonds with the consent of 66.6% of aggregate principal amount of outstanding bonds.

GLOBAL TES 2027

Maturity	June 28, 2027.
Face value	COP5,000,000 and integral multiples of COP1,000,000 above that amount.
Coupon	9.85% annual.
Day count	Calculated on an actual/365-day basis.
Amortization	Bullet.
Governing law	New York.
Settlement	T+3.
Payment currency	Principal and interest are paid in U.S. dollars, as calculated by translating COP amounts into U.S. dollars at the average representative market rate on the rate calculation date (i.e., the third business day preceding each payment). The average representative market rate corresponds to the average of the representative market rates for each of the 20 business days prior to the rate calculation date; representative market rates available on Bloomberg at TRM <Index>.
Additional features	Include collective action clauses that permit Colombia to amend payment provisions of the bonds with the consent of 75% of aggregate principal amount of outstanding bonds.

IBR SWAP

The IBR swap is a fixed versus floating swap based upon the overnight *Indicador Bancario de Referencia* (IBR). In the swap, one side receives a fixed rate and the other pays the geometric average of overnight rate fixings for the life of each coupon period. The swap trades as a zero coupon overnight index swap in tenors up to 18 months; OIS tenors are 3, 6, 9, 12, and 18 months. From two years and longer it trades with quarterly coupon payments. Both OIS and coupon swap formats use an actual/360-day count. In coupon swap format the tenors are 2, 3, 4, 5, 7, 8, 10, 15, and 20 years. However, it appears that the 2-, 5-, and 10-year points are absorbing most of the liquidity. Because this swap trades offshore in a nondeliverable format, it is not subject to the same taxation as a long TES position. Therefore, IBR swaps have traditionally traded below comparable maturity TES bonds.

SUMMARY OF TERMS

Reference	Overnight IBR published daily by Banco de la Republica.
Conventions	Quarterly; actual/360-day.
Maturity	The curve extends out to 20 years, but liquidity is focused on the short end.
Liquidity	Bid-ask spreads in the inter-dealer market are typically 10-20 bps.
Settlement	T+2.

COP vs. USD LIBOR CROSS-CURRENCY SWAPS

The COP versus LIBOR swap is an offshore cross-currency swap, where the investor pays or receives a fixed rate in COP and in exchange receives or pays the six-month USD LIBOR floating rate. Payment dates are based on an actual/360-day-count convention. The first six-month USD LIBOR rate is set in advance, thereafter reset semiannually, and is subject to the modified-following-business-day convention. Payments are based on a notional principal amount, the value of which is fixed in exchange-rate terms at the swap's inception. When the swap matures, a final payment representing the change in the value of the swap notional principal is made between parties to the swap. The official FX rate for payments is fixed two business days prior to the payment date, based on the average representative market rate (TRM).

SUMMARY OF TERMS

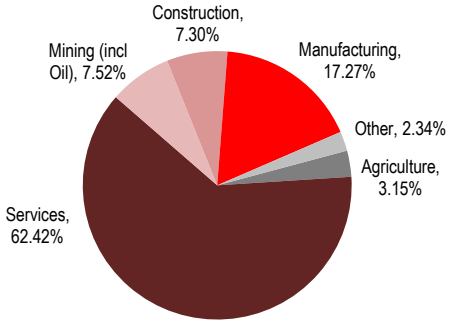
Reference	This is a cross-currency swap in which the fixed leg is denominated in COP and the floating leg is denominated in USD. The USD reference rate is 6-month LIBOR.
Conventions	Semiannual; actual/360-day.
Maturity	The curve extends out to 15 years, but liquidity is concentrated in the 2- to 10-year sector.
Liquidity	A typical quote for tenors between 2 and 10 years is US$10 million, with bid-ask spreads in the inter-dealer market of about 10-20 bps.
Settlement	T+2.

MEXICO

MACRO BACKGROUND

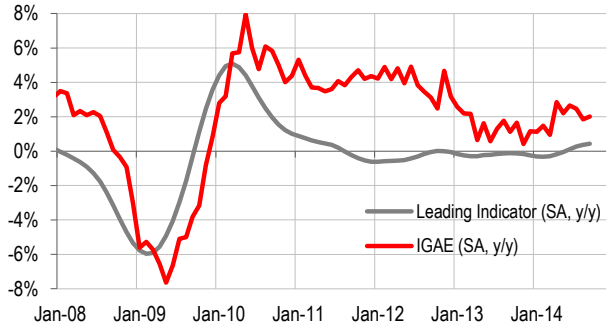
Despite sanguine expectations early in 2014, economic recovery in Mexico failed to pick up momentum from the outset, starting with new taxes that bruised consumer confidence early in the year and capped by slower productivity growth and oil uncertainty at the end of the year. Regardless, we believe economic expansion in 2015 could be supported by the low base effect of the previous year, alongside pending big infrastructure projects and developments in the energy reform story. That said, there are execution risks on this front, including the complexity of these projects and the government's diminishing political capital in the face of growing security concerns in the country. Nevertheless, our local economists believe the drivers of a more sustained correction are falling into place, led by strong U.S. demand and a weak peso encouraging manufacturing activity, while private spending should get a boost from a stimulative fiscal shift plus the high likelihood of a minimum wage hike. Note that manufacturing represents 17.3% of supply-side GDP, while services represent 62.4%. Oil and gas extraction meanwhile represents only 6.2% of economic activity and about 10% of total exports, though taxes on oil income do make up around a third of Mexico's fiscal budget.

Supply-side GDP breakdown



Sources: Haver, INEGI, and Santander.

GDP growth proxy vs. leading indicator series



Sources: Haver, INEGI, and Santander.

Energy reforms. Potentially one of the most transformational efforts for Mexico's economy is the energy reform initiated in 2013. Since the secondary legislation on constitutional changes to this sector was approved by Congress in August 2014, the government has been embarking on a fairly rapid execution of the new energy rules. Mexico currently has the sixth largest reserves of nonconventional shale gas and oil in the world, but currently produces nothing from such sources. Such a reform could have a diverse set of implications on several variables: fiscal, growth, inflation, and competitiveness. The energy bill goes beyond hydrocarbons and also opens the electricity sector, which could reduce costs per gigawatt, making manufacturing more competitive.

That said, there has been a sharp fall in oil production over the past few years (after peaking at 3.4 million barrels/day in 2004) along with a decline in proven reserves, although production has actually tended to stabilize since late 2009. Oil production fell from 2.52 million barrels/day in 2013 to 2.44 million as of October 2014, below government estimates, though we do not anticipate a further decline. The government's goal is for Pemex production alone to reach 2.4 million barrels/day in 2015.

The expected next steps regarding the energy reform are: (1) Round One bidding process for oil and gas fields starting in February 2015; (2) awarding of contracts starting in May 2015, beginning with the least technically challenging areas first; and (3) completion of contract awards by September 2015. As offshore rigs take an average of 10 years to reach maturity, we believe shale gas and oil are probably a more compelling short-term investment story that would result in faster production increases. It bears mentioning that the breakeven costs for extracting oil from deep-water sources are still relatively low.

MONETARY POLICY

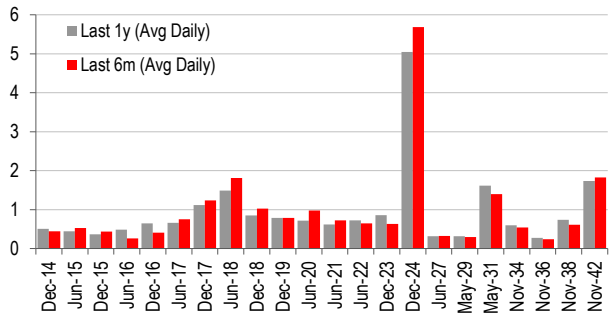
The Central Bank is an independent institution known as Banco de México (or Banxico), which consists of one governor and four deputy governors, all of whom are appointed by the president of Mexico. The governor of the Central Bank is appointed for a six-year term, while the deputy governors serve eight-year terms. Note that the term of the current governor of Banxico, Agustín Guillermo Carstens, started on January 1, 2010, and will end on December 31, 2015, though he can be reappointed for another term. Banxico follows an inflation-targeting regime that seeks to keep CPI expectations between 2-4% with a target of 3%, primarily conducting monetary policy by adjusting the *tasa de fondeo bancario* or overnight rate (also known as the Fondeo or O/N rate, for short). The Fondeo rate was adopted as the operational objective for implementing monetary policy on 21 January 2008, replacing the previous objective known as "el corto." The Central Bank conducts eight monetary policy meetings per year.

LOCAL MARKETS

As of September 2014, domestic sovereign debt represents 80.4% of total net government debt, very close to the 81% seen in December 2013. The government mainly issues four types of local sovereign debt: nominal bonds known as MBonos, inflation linked UDIBonos, short-term instruments known as Cetes, and development bonds called Bondes D. Among these, MBonos represent more than 42% of the total local currency government debt supply, with an amount outstanding of MXN2,376 billion, compared to 18-20% for each of the other bond types. The average duration of the MBono curve is 5.95 years, while the average duration of the UDIBono curve is 8.70 years. Excluding the Bondes D bonds, which are primarily used in daily open market operations to manage liquidity, federal local debt totals MXN4.2 trillion or US$313 billion (around 25% GDP). Moody's upgraded Mexico's long-term sovereign local currency debt to A3 in February 2014, following S&P's upgrade of these bonds to A in December 2013.

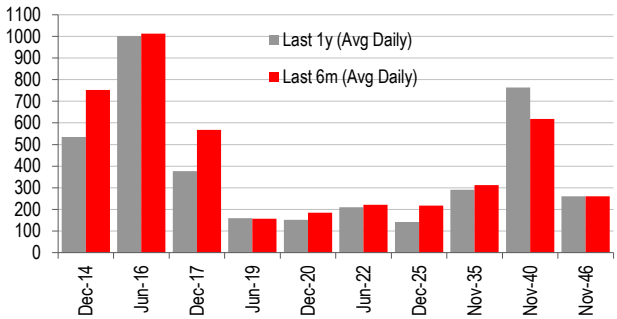
Liquidity on the MBono curve is concentrated predominantly in the 10Y benchmark Dec-24s, although the Jun-18s are also very liquid (currently the 3Y benchmark, but previously 5Y) as are the long end May-31s and Nov-42s (currently the 30Y benchmark). We expect liquidity for the new 5Y benchmark Dec-19s will improve over time. On the UDIBono curve, liquidity is concentrated in the front end of the curve with strong local institutional participation, while foreign investors are more involved in the long end.

Average daily volume in MBonos (MXN bn)



As of November 2014. Sources: Banxico and Santander.

Average daily volume in UDIBonos



As of November 2014. Sources: Banxico and Santander.

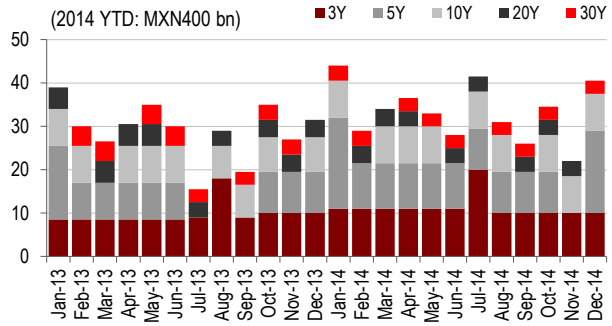
Issuance. In 1H14, the government decreased the duration of its debt issuance by focusing the bulk of its debt sales in the 3Y and 5Y benchmark bonds as well as shorter-term Cetes. This was due to the uncertainty driven by an external backdrop of U.S. Fed tapering at the time coupled with heavy positioning by offshore investors along the MBono curve. The government revised this strategy in 2H14, reducing its bond sales in shorter-duration bonds.

Relative to 2013, MBono issuance in 3Y and 5Y bonds increased substantially to MXN136 billion (up from MXN117 billion) and MXN130.5 billion (up from MXN88 billion), respectively. Of the total MBonos outstanding, bonds up through the 5Y benchmark currently make up 48.9% of the curve as opposed to 45.5%

in 2013. The placement of 10Y MBono bond issues also increased but more modestly from MXN73.5 billion to MXN76.5 billion. At the moment, the 10Y benchmark MBono Dec-24s represent 7.4% of the MBono supply, which is only behind the Jun-18s at 8.6% in terms of the size of their total supply. Sales of 20Y and 30Y bond issuances were decreased to MXN29 billion (from MXN39 billion) and MXN28 billion (from MXN31 billion), respectively. The size of UDIBono long-end bond auctions was also reduced in favor of augmenting the front-end supply, though the effect was less pronounced. The government sold UDI12 billion 3Y bonds in 2014 compared to UDI10.7 billion, while they reduced 30Y bond sales to UDI7.3 billion from UDI8 billion.

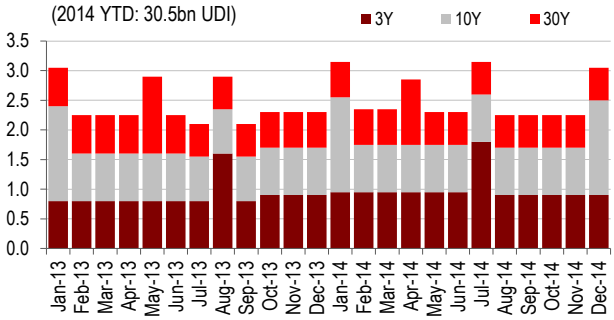
In 2014, the government held three syndicated bond auctions, which were carried out independent of what was explicitly mentioned in its quarterly issuance plans. This was part of the government's new "Debt Syndication Scheme" as a complementary device to conduct issuance operations with more flexibility. Because the auctions can be conducted at any time during the year with an adjustable size, the government can use syndicated auctions to support better liquidity conditions in the secondary market and make sure new issues are eligible for inclusion on global bond indices. Announcements for syndicated bond auctions are made a week prior to the bond sale. The first placement in 2014 was of a new 20Y nominal bond maturing on 23 November 2034 with a coupon of 7.75%. This was followed by a 30Y UDIBono issue placed in June maturing November 8, 2046, with a coupon of 4%. Finally, the government sold a new 5Y benchmark MBono in 4Q14 to mature December 11, 2019 with a coupon of 5%.

MBono auction composition by tenor



As of November 2014. Excludes syndicated transactions.
Sources: Banxico, Finance Ministry, and Santander.

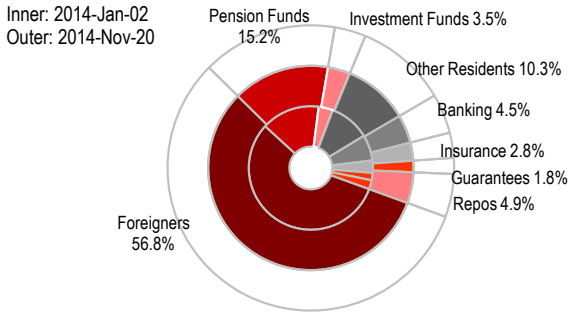
UDIBono auction composition by tenor



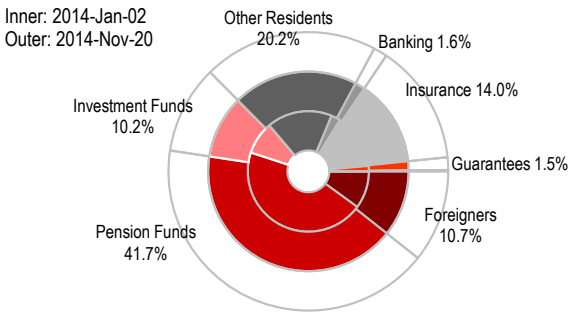
As of November 2014. Excludes syndicated transactions.
Sources: Banxico, Finance Ministry, and Santander.

Key market players. Foreign investors currently make up the largest group of bond holders owning local fixed-rate bonds (MBonos), growth that was initially triggered by Citi's inclusion of these bonds in its World Global Bond Index, the WGBI, in October 2010. Recall that Citi initially announced the inclusion of Mexican bonds in its index in March 2010, because the securities satisfied all three of its criteria: size, credit, and barriers to entry. During both 2011 and 2012, offshore inflows into the local bond market increased significantly, and as of November 2014, offshore positioning in the MBono market represents 56.4% (equivalent to MXN1,339 billion) of the total amount outstanding. Prior to the inclusion of Mexico, foreign participation represented only 28% of this market. Note that only three other EM countries are included in the WGBI: Malaysia, Poland, and South Africa. Moreover, despite the tapering of QE3 by the Fed, we have not seen a significant reversal of these flows, which we believe is due to other supportive factors. This includes the relative improvement in country risk driven by the aggressive structural reform agenda delivered by President Peña Nieto, which we believe could help Mexico receive another upgrade to its sovereign bond rating at some point.

Bondholders in the MBonos market*



Bondholders in the UDIBonos market*



*Data through November 20, 2014. Sources: Ministry of Finance and Santander.

The minimum size for individual MBonos in the WGBI was established at MXN10 billion, with 19 bonds meeting that requirement when Citi issued its March 2010 press release. At that time, the market weight of the Mexican bonds in the WGBI was established at 0.64%, but that has increased to 0.71% in December 2012, 0.79% in December 2013, and 0.88% as of October 2014. All of the current MBono issues have an outstanding volume substantially higher than Citi's required MXN10 billion.

It is difficult to estimate the total funds benchmarked to the WGBI, which makes it a daunting task to gauge the potential market-weight investment in the Mexican market. At the time South Africa was included in the index in 2012, for example, estimates for funds benchmarked to the WGBI ranged from US$2 trillion to US$4 trillion. That said, we are inclined to believe that not all investors are WGBI-focused, as there is a quite diverse set of investors, including real money and hedge fund firms. Of those who are focused on the index, we believe the majority are overweight in Mexico, at least from the anecdotal evidence we have seen in our institutional client base.

Meanwhile, in the UDIBonos market, foreign participation increased in 2014 to around 11% (UDI23 billion) of the bonds outstanding from 9% at the beginning of the year but still below the 2013 average of 12.5%. Local pension funds (with assets under management of around MXN2.3 trillion or US$169.5 billion) remain the main owners of inflation-linked bonds, however, with over 51% (UDI107 billion) of the total supply. Note that pension funds also hold about 15% of the MBono bond market.

Market makers program. In order to increase market liquidity, the Ministry of Finance designates as market makers a number of financial intermediaries that meet certain quantitative criteria. Market makers are selected based on their trading volume with clients and in the interbank market, in addition to their participation in the primary auctions. The list of market makers is announced every three months, including eight market makers for MBonos (all banks) and four for UDIBonos (also banks) as of December 2014. New market makers are allowed to begin operations on the first business day of the next month. Market makers are required to provide a constant two-way market in all fixed-rate securities across the curve, and must participate in every Cetes and fixed-rate Bonos auction with a minimum established amount.

As part of local sovereign bond auctions, financial institutions that qualify as market makers for government securities have the right to take part in a "green shoe auction" which allows them to buy additional securities after a regular weekly bond auction. This green shoe option is offered one business day after an auction and permits market makers to jointly buy an additional 25% of the total amount initially auctioned at the weighted average auction price of a particular bond. However, if collective market maker demand is greater than this size, the green shoe auction is allocated according to the total amount of eligible bids made by each market maker, as outlined by Banxico.

Market makers also have the benefit of borrowing securities from Banco de México. The repo and securities lending regulatory framework has been in place for a few years now, but activity is still incipient. Each market maker is allowed to borrow from the Central Bank any series of Cetes or Bonos for a total of up to 2% of the total amount of securities outstanding or 4% of the outstanding of each particular series. Banks can provide as collateral almost any government bond, including IPAB bonds and BREMs, and the repo is rolled over on a daily basis. The program, which was created in September 2000, currently has eight market makers, which means that the system as a whole can be short up to 32% of the outstanding of each series of Bonos.

REGULATORY AND TAX ISSUES

There are no restrictions on offshore investors to buy and sell local sovereign bonds, which includes no taxes on entry or exit. Local residents are responsible for a 0.6% withholding tax on local government bond income, but foreign investors are exempt from withholding tax on local sovereign debt that is acquired and paid abroad. That said, foreign investors are subject to withholding taxes on corporate bonds. Note too that the Mexican peso is a convertible currency, and its forwards market is fully deliverable, unlike most other LatAm FX. Investors are encouraged to consult their legal advisors regarding tax regulations under Mexican law, which may be subject to change.

MBONOS

The so-called MBonos (Bonos de Desarrollo Tasa Fija) are fixed-rate MXN-denominated instruments issued by the Mexican government. The Ministry of Finance, with the Central Bank acting as its placement agent, announces its auction schedule on a quarterly basis. The main auction guidelines have consisted of both reopening outstanding series to enhance liquidity and issuing new references to build a more complete curve.

New references announced in 2014 include the introduction of a 20Y tenor maturing 23 November 2034 with a coupon of 7.75% as well as a 5Y tenor maturing 11 December 2019 with a coupon of 5%, both initially issued via syndication. At the time of writing of this report, the Ministry of Finance's 2015 Annual Borrowing Program had not been released. However, we expect the number of outstanding MBono tenors to remain around 22, with the reopening policy continuing for all tenors. The longest tenor on the curve should continue to be the MBono 30Y benchmark (maturing on November 13, 2042, issued in April 2012).

Bloomberg tickers	MBONO <Govt>, SINV1

SUMMARY OF TERMS

Description	Medium- and long-term coupon-bearing MXN-denominated debt instrument.
Face value	MXN100.
Maturity	3, 5, 10, 20, and 30 years. Shorter tenors are available in the secondary market.
Coupon	Semiannual.
Day count	Calculated on an actual/360-day basis.
Moody's rating	A3.
S&P rating	A.
Fitch rating	A-.

PRIMARY AUCTION

Auction schedule	Weekly. On Tuesday, bids are submitted to Banco de México by 1:00 p.m. local time. Results are announced within an hour after bids are submitted (usually 1:30 p.m.).
Bidding process	Banco de México can choose either Dutch (single price/rate) or modified discriminating (U.S. Treasury-style) auction. The former is currently being used. Each participating financial institution may submit as many bids as desired. All bids must be competitive. Bids from one financial entity cannot be for more than 60% of the whole lot offered.
Bid format	Bids are submitted in terms of price. Each bid must indicate the amount and the price up to five decimal places.
Allocation process	Banco de México has discretion to issue less than the announced amount at the auction of each tenor. Settlement is T+2.
Placement agent	Banco de México.

SECONDARY MARKET

Trading Secondary market liquidity has been improving secularly, with the benchmarks not always being the on-the-run issues (see following table). Trading occurs over the counter. The outstanding balance as of December 2014, was MXN2,376 billion (around US$174 billion).

Settlement Can be same-day, T+1, T+2, T+3 or T+4.

Secondary market liquidity

Maturity	Coupon	Avg daily traded volume, last 12m (MXN mn)	Amount outstanding (MXN million)	Amount outstanding (USD billion)	% of Total trading	% of Total outstanding
Dec-14	9.5	508	101,129	7.4	2.39%	4.26%
Jun-15	6	440	91,036	6.7	2.07%	3.83%
Dec-15	8	374	100,723	7.4	1.76%	4.24%
Jun-16	6.25	409	140,469	10.3	1.92%	5.91%
Dec-16	7.25	591	126,332	9.3	2.78%	5.32%
Jun-17	5	661	117,829	8.6	3.11%	4.96%
Dec-17	7.75	1,139	158,889	11.6	5.35%	6.69%
Jun-18	4.75	1,564	204,064	14.9	7.35%	8.59%
Dec-18	8.5	903	107,197	7.9	4.24%	4.51%
Dec-19	5	1,134	15,009	1.1	5.33%	0.63%
Jun-20	8	712	93,107	6.8	3.34%	3.92%
Jun-21	6.5	638	110,444	8.1	3.00%	4.65%
Jun-22	6.5	724	108,111	7.9	3.40%	4.55%
Dec-23	8	819	92,368	6.8	3.85%	3.89%
Dec-24	10	5,215	175,902	12.9	24.51%	7.40%
Jun-27	7.5	337	87,642	6.4	1.59%	3.69%
May-29	8.5	332	93,761	6.9	1.56%	3.95%
May-31	7.75	1,560	138,037	10.1	7.33%	5.81%
Nov-34	7.75	581	38,853	2.8	2.73%	1.63%
Nov-36	10	259	61,006	4.5	1.22%	2.57%
Nov-38	8.5	675	105,657	7.7	3.17%	4.45%
Nov-42	7.75	1,706	108,889	8.0	8.01%	4.58%
TOTAL		**21,283**	**2,376,451**	**174.1**		

Data as of November 20, 2014. Sources: Bloomberg, Central Bank of Mexico, and Santander.

UDIBONOS

UDIBonos (*Bonos denominados en UDIs*) are medium- and long-term coupon-bearing debt instruments issued by the Mexican government. They are denominated in Investment Units (UDIs) and converted into MXN at the UDI rate as of the settlement date (each coupon payment is likewise transformed into MXN at the prevailing UDI/MXN exchange rate). Created in April 1995 to protect investor savings during the aftermath of the Tequila crisis, UDIs are a daily inflation projection based on the current consumer price index and published one business day after the biweekly CPI is released. Consequently, they have a 15-day lag to the CPI. As in the case of other inflation-adjusted indices, daily UDI observations are obtained by calculating the geometric average of the reference period inflation. The Central Bank publishes CPI numbers twice a month, usually on the 9th day of the month (corresponding to the second two weeks of the preceding month) and also on the 24th (corresponding to the first two weeks of the current month). The value of the UDI on December 4, 2014, was 5.2598—more than five times its initial value of 1.00 on April 4, 1995. Thus, since that date, there has been more than 525% inflation. UDI values can be found in Bloomberg under MXUDI<Index>.

Since 2007, the government has increased its efforts to develop the inflation-linked UDIBono market as a way to diversify the domestic debt profile and provide a more relevant benchmark for private sector issuance in housing and infrastructure. The government introduced a new three-year issue in 4Q07, and increased the amount of issuance at the long end of the curve in 2010, but had to partially reverse it in 2H11 due to the European debt crisis. The 20-year UDIBono was suspended in 2009, while auctions have continued at the 3-, 10-, and 30-year tenors. New references announced in 2014 include the introduction of a 30Y tenor maturing November 8, 2046 with a coupon of 4%, first issued via syndication. In order to encourage higher trading volumes in the secondary market, UDIBonos were incorporated in the market makers program in 2009; there are four market makers as of December 2014. In addition, Hacienda has indicated that it will look at measures to help make the price discovery process more efficient in this market.

Bloomberg ticker	MUDI <Govt>, SINV 1

SUMMARY OF TERMS

Description	Long-term coupon-bearing UDI-denominated debt instrument.
MXN conversion	Conversion from UDIs to MXN at the UDI rate effective as of the settlement date.
Face value	100 UDI.
Maturity	The government currently issues 3-, 10-, and 30-year tenors, although other maturities (5- and 10-year) have been issued in the past.
Coupon	Fixed real rate paid semiannually.
Day count	Calculated on an actual/360 basis.
Moody's rating	A3.
S&P rating	A.
Fitch rating	A-.

PRIMARY AUCTION

Auction schedule Auctions are held as per the quarterly auction schedule published by Hacienda. When held, bids are submitted to Banco de México by 12:15 p.m. local time on Tuesdays. Results are announced at about 1:30 p.m. local time.

Bidding process Each participating financial institution may submit as many bids as desired. Each bid must indicate the amount and the offering price.

Bid format Bids are submitted in terms of price, up to five decimal places.

Allocation process Usually the allocation starts from the highest price and moves to the lowest. However, since September 2005 allocation has been done at a single price. Banco de México has discretion to issue less than the announced amount of the auction.

Placement agent Banco de México.

SECONDARY MARKET

Trading UDIBonos are traded in the secondary market at their "clean" price up to five decimal points. Accrued interest must be settled separately. Trading occurs over the counter. Given the large share of OTC transactions, total trading volume is difficult to determine. Based on secondary market trading via brokers and through trading platforms, the average daily trading volume across the UDIBono curve over 12 months was around MXN3.7 billion at the end of 2014. As a reference, the outstanding balance on 20 November 2014, was UDI208 billion (MXN1,088 billion, or around US$80 billion).

Settlement Settlement can be same day, T+1, T+2, T+3 or T+4.

CETES

Cetes (*Certificados de la Tesorería*) are short-term discounted Treasury bills issued by the Mexican government. Every quarter, the Ministry of Finance announces revisions to the auction structure. Currently, 28-, 91-, 182-, and 364-day Cetes are being auctioned. Other tenors have been issued in the past. For many years 28-day Cetes have been the benchmark rate for the domestic market. However, the Ministry of Finance has increased the amount auctioned in the 182-day Cetes (relative to other bond tenors), in order to enhance its liquidity, and migrated the benchmark interest rate to this six-month reference, more in-line with international markets. In 2014, Hacienda issued Cetes bonds with alternating ranges of MXN5-9 billion (later MXN4-9 billion in 2H14) of the 28-day tenor every week and MXN8-12 billion (MXN7-12 billion in 2H14) of the 91-day tenor every week. Issuance of both 182-day Cetes and 364-day Cetes started at a size of MXN11.5 billion in 1Q14 before decreasing to MXN11 billion in the remaining quarters of 2014.

Bloomberg ticker	MCET <Govt>, SINV 1

SUMMARY OF TERMS

Description	Short-term discounted Treasury bills.
Face value	MXN10.
Tenor	Currently 28-, 91-, 182-, and 364-day paper. However, longer and shorter maturities can be issued.
Coupon	Zero coupon.
Day count	Calculated on an actual/360-day basis.
Fitch rating	A-.

PRIMARY AUCTION

Auction schedule	Auctions occur weekly, except for the 364-day Cetes, which is auctioned every four weeks. On Tuesdays, bids are submitted to Banco de México by 1:00 p.m. local time. Results are announced within an hour after bids are submitted (usually 1:30 p.m.).
Bidding process	Each participating financial institution may submit as many bids as desired. Each bid must indicate the amount and the discount offered up to two decimal points. All bids are competitive.
Allocation process	The allocation starts from the highest price and moves to the lowest. Banco de México has discretion to issue less than the announced amount of the auction.

SECONDARY MARKET

Trading	Cetes have traditionally been the most liquid government debt instruments in Mexico. Trading occurs over the counter. Given the large number of OTC transactions, total daily trading volume is difficult to determine. The outstanding balance as of November 20, 2014, was MXN932 billion (US$69.6 billion).
Settlement	Settlement can be same day, T+1, T+2, T+3 or T+4.

BONDES

Bondes (*Bonos de Desarrollo*) are medium-term floating-rate debt instruments issued by the Mexican government and denominated in Mexican pesos. There are five different types of Bondes: LP, LT, LS, L, and the newer D series. These series vary depending on the benchmark to which they are indexed, chiefly 1-, 28-, 91-, and 182-day Cetes. The Ministry of Finance has prioritized the issuance of fixed-rate bonds since 2004. It has been reducing gradually the issuance of floating-rate securities in order to leave that market segment for the IPAB to refinance its liabilities. In 1H06 it stopped issuing the LS series (the so-called Bondes 182) and introduced the D series as a result of the US$9 billion prepayment to multilateral entities. In addition to shortening the duration of fixed-rate debt offered in weekly auctions, Mexico increased issuance of Bondes D as part of its response to the effects of the 2008 financial crisis. However, these two changes were reversed in 2010, given the normalization of local markets and the economy.

Bloomberg ticker MBOND <Govt> for D series and MBON <Govt> for the rest

SUMMARY OF TERMS

Face value MXN100.

Maturity For the D series 1-, 2-, 3-, 4-, and 5-year tenors have been issued. Currently, Banxico is only issuing 5-year bonds.

Coupon In the LP series the coupon is paid every 91 days at the maximum of either the inflation rate or the prevailing coupon rate (the latter is determined by adding a spread to the 91-day Cetes rate). In the LT series the coupon is paid every 91 days based on the 91-day Cetes plus a spread. In the LS series the coupon is paid every 182 days at the maximum of the inflation rate or the prevailing coupon rate (the latter is determined by adding a spread to the 182-Cetes rate). The L series pays its coupon every 28 days at the higher of 28-day Cetes and the short-term promissory note rate. Finally, Bondes D offer the same structure as Banxico's BREMs (used for open market operations), which will be phased out gradually. They are linked to the official overnight rate (MXBRBA <Govt>); the coupon rate, paid every 28 days, is the compounded average of the daily overnight rate during the relevant 28-day period.

Day count Calculated on an actual/360-day basis.

Auction schedule Every second Tuesday, bids are due to Banco de México before 1:00 p.m. local time. Results are announced within an hour after bids are submitted (usually 1:30 p.m.). Auctions of Bondes D are completely independent of Banxico's open market operations.

Auction process Each participating financial institution may submit as many bids as desired. Every bid must indicate the amount and the price up to five decimals. Banco de México has discretion to issue less than the announced amount of the auction and can choose either a Dutch or U.S. Treasury style (which is the current practice). Noncompetitive bids are not allowed.

SECONDARY MARKET

Trading Trading occurs over the counter. Given the large share of over-the-counter transactions, total trading volume is difficult to determine. As a reference, the outstanding balance for all Bondes as of November 20, 2014, was MXN1,101 billion (US$82 billion), of which 100% corresponded to the D series.

Settlement Settlement can be same-day, T+1, T+2, T+3, or T+4.

STRIPS

In 2005, the Ministry of Finance announced the creation of a strips market. Investors have the right to strip the coupons and trade them separately from the principal on all outstanding fixed-rate MBonos and inflation-adjusted UDIBonos. The nominal value of the coupons from both principal and interest will be MXN10 for fixed-rate Bonos and UDI10 for UDIBonos. Each stripped coupon formed from the principal and interest will have an identification code formed with the letters "MP" and "MC," respectively, in the case of MBonos and "SP" and "SC" in the case of UDIBonos. All codes will be followed by the maturity date in yy/mm/dd format. The amount of segregated Bonos stood at MXN8.90 billion (US$652 million) for MP and MXN5.1 billion (US$376 million) for MC as of December 4, 2014. For UDIBonos, the corresponding figures were UDI5.1 billion (MXN27 billion or US$2 billion) for SP and UDI3 billion (MXN16 billion or US$1.2 billion) for SC.

Bloomberg ticker For MBonos, MBONOR <Govt> for principal strips and MBONOS <Govt> for interest strips

Bloomberg ticker For UDIBonos, MUDIR <Govt> for principal strips and MUDIS <Govt> for interest strips

The minimum amount of titles to strip (or reconstitute, for that matter) will depend on the coupon of the instrument, according to the following table. The purpose is to obtain a coupon payment related to each lot that represents a multiple of 10, either MXN or UDIs.

Determining the minimum number of titles to strip

Coupon (%)	Number of titles in lot	Coupon (%)	Number of titles in lot
5.0	720	8.0	450
5.5	7,200	8.5	7,200
6.0	600	9.0	400
6.5	7,200	9.5	7,200
7.0	3,600	10.0	360
7.5	480	10.5	2,400

Source: Ministry of Finance.

As an example, if a market participant wanted to strip a five-year Bono with an 8% coupon as of 2004, it would have to create a lot of 450 titles. The transaction would result in the following characteristics and structure:

Strip of a five-year Bono with an 8% coupon

Date	Identification code	Coupon days	Coupon	Cash flow per lot in MXN	Number of titles per stripped coupon
Dec. 30, 2004	MC041230	182	8.0%	1,820	182
June 30, 2005	MC050630	182	8.0%	1,820	182
Dec. 29, 2005	MC051229	182	8.0%	1,820	182
June 29, 2006	MC060629	182	8.0%	1,820	182
Dec. 28, 2006	MC061228	182	8.0%	1,820	182
June 28, 2007	MC070628	182	8.0%	1,820	182
Dec. 27, 2007	MC071227	182	8.0%	1,820	182
June 26, 2008	MC080626	182	8.0%	1,820	182
Dec. 24, 2008	MC081224	181	8.0%	1,810	181
Principal	MP081224			45,000	4,500

Source: Ministry of Finance.

BPA, BPAT, AND BPA182

The IPAB (Institute of Protection for Bank Savings) issues three types of securities: BPAs, BPA182s, and BPATs. BPAs (*Bonos de Proteccion al Ahorro*) are floating-rate MXN-denominated instruments issued by IPAB with Banco de México as financial agent. These bonds have a similar structure to the federal government's Bondes and have the same fiscal treatment. The IPAB is tapping the floating-rate bond market as the government gradually decreases its issuance of Bondes (as a percentage of total government bond supply), with a focus on prioritizing net issuance of the BPA182, which has seen a rapid increase in the amount of circulation since Lehman's collapse. That said, the total supply of BPA182s in circulation has fallen by around 7% during 2014. All IPAB instruments trade with a spread (*sobretasa*) over the reference rate of the coupon.

Bloomberg ticker MBPA <Govt>

SUMMARY OF TERMS

Face value MXN100.

Maturity One- and three-year tenors (BPAs), five years (BPATs), and seven years (BPA182), but could be technically issued in any tenor in multiples of 28-day periods. During 4Q12 the IPAB announced plans to carry out weekly auctions of MXN1,100 million BPA182s, MXN1,500 million BPATs, and MXN1,400 million BPAs.

Coupon BPAs are very similar to 28-day Bondes. They pay interest every 28 days at the greater of the 28-day Cetes auction yield or the most representative gross annual rate that the Central Bank announces for one-month notes for corporations. BPATs pay interest every 91 days at the greater of the 91-day Cetes auction yield or the most representative gross annual rate that the Central Bank announces for three-month notes for corporations. BPA182s have the same structure as Bondes LS. The coupon is paid every 182 days at the maximum of the inflation rate or the prevailing coupon rate, which is obtained by adding a spread over the 182-day Cetes auction yield.

Auction schedule Every Wednesday, bids are to be made to Banco de México before 10:00 a.m. local time. Results are announced at 1:00 p.m. local time.

Auction process Each participating financial institution may submit as many bids as desired. Every bid must indicate the amount and the price up to five decimals. Banco de México has discretion to issue less than the announced amount of the auction and may choose either a Dutch or U.S. Treasury style. Currently, BPAs are auctioned U.S. Treasury style.

SECONDARY MARKET

Trading is over the counter and settlement is same-day, T+1, T+2, T+3, and T+4. Repurchase agreement transactions can be carried out in-line with the applicable regulatory framework set by the Central Bank. As of November 20, 2014, the outstanding amount of BPAs was MXN9.9 billion (US$724 million), the outstanding amount of BPATs was MXN5 billion (US$367 million), and the outstanding amount of BPA182s was MXN377.9 billion (US$27.7 billion).

To value the bond in the primary auction, it is assumed that the Cetes reference rate will be constant throughout the life of the instrument.

TIIE SWAPS

The TIIE swap is a fixed-for-floating par swap that trades over the counter, where the investor receives or pays a floating leg indexed to the 28-day TIIE rate and in exchange pays or receives a fixed rate. The MexDer (the Mexican Derivatives Exchange, see market description below) started offering exchange-traded TIIE swaps as of the beginning of 2007. According to press reports, the initiative is a response to a perceived growth in demand for exchange-traded instruments instead of OTC derivatives, driven by greater scrutiny of OTC instruments by regulators.

Bloomberg tickers MXSW & SINV2 <Go>

SUMMARY OF TERMS

Reference The swap market has evolved based on the 28-day reference and is indexed to the 28-day TIIE (*Tasa de Interés Interbancaria de Equilibrio*). The TIIE is Mexico's interbank rate. The Central Bank conducts a daily survey of the equilibrium rate from 15 banks corresponding to a MXN350 million firm quote, out of which at least six quotes will be selected randomly by the Central Bank. A 5-bp differential is used for TIIE fixing, and the intersection of the seven quotes in ascending order (by adding 5 bps) and in descending order (by subtracting 5 bps) is the TIIE rate. If there is no intersecting point, then the average of the best bid and best offer is the TIIE rate. It is published by the Central Bank every day in the Official Gazette and at www.banxico.org at 12:30 p.m. local time. This rate is valid for the next business day, and the 28-day count begins on the next business day after the trade. Banks whose bid is at least 5 bps higher/lower than the average have to borrow/lend money from/to Banxico for the amount submitted within 28 days. It is this approach that differentiates TIIE fixing from LIBOR fixing, eliminating any incentives to misreport the equilibrium rate. TIIE rates can be found on Reuters page MEX06 and on Bloomberg at MXIBTIIE <Index> and MXIB91DT <Index>.

Convention Cash flow exchanges occur every 28 days (thus there are 13 payments in a year).

Day count Calculated on an actual/360-day basis.

Maturity 3-month (3 x 28 days), 6-month (6 x 28 days), 9-month (9 x 28 days), 1-year, 2-, 3-, 4-, 5-, 7-, 10-, 15-, and 20-year tenors are generally listed on the broker screens. Liquidity up to the 10-year tenor is generally good, and 15- and 20-year maturities are starting to be quoted more regularly.

Regulation Swap contracts in Mexico are governed by the standard ISDA agreement.

Settlement They settle in Mexican pesos on a T+1 basis. There is no exchange of notional.

Liquidity The typical quote for tenors between one and 10 years is for US$10,000 DV01 with a 1-2 bp spread. Much larger tickets can be quoted on demand.

Cross-currency Either the fixed or the floating leg of the swap can be denominated in USD, effectively converting the contract to a cross-currency swap. The USD reference rate is LIBOR, which is considered as if it traded on an actual/360-day basis. The cross-currency swap is quoted as a spread over LIBOR. Thus, the swap is structured as a 28-day TIIE versus one-month LIBOR +/- a spread, where LIBOR is truncated to accrue also on a 28-day basis without any further rate adjustment.

TIIE SWAPTIONS

TIIE swaptions are options on TIIE interest rate swaps where the investor buys or sells the right (but not the obligation) to enter into a TIIE swap at a specific date in the future at a particular fixed rate. For an upfront premium, the option buyer can select the strike rate (that is, the level at which it would enter the TIIE swap), the length of the option period, and the tenor of the underlying swap.

Bloomberg ticker	SINV3 <Go>

SUMMARY OF TERMS

Description	Options on TIIE interest rate swaps.
Option Style	European. If exercised, parties enter into a TIIE swap.
Notional value	Agreed between parties.
Maturity	Agreed between parties. 1 month (28 days) to 5 years, with 1 month, 3 months, 6 months, 1 year, and 2 years among the more common maturities.
Underlying	1 month to 20 years, with 1-, 2-, 5-, and 10-year TIIE among the more common tenors.
Premium	Received/paid upfront.

UDI vs. USD LIBOR CROSS-CURRENCY SWAPS

The UDI vs. USD LIBOR swap is an offshore cross-currency swap, where the investor pays or receives a fixed rate based on the UDI index and in exchange receives or pays the six-month USD LIBOR floating rate. Payment conventions are based on an actual/360 day-count basis, with payments taking place semiannually. Fixed-rate payments are based on an UDI notional amount, while the floating-rate payments are based on a USD notional amount. Principal amounts are exchanged at the beginning and the end of the contract.

Bloomberg ticker SINV6 <Go>

SUMMARY OF TERMS

Reference This is a cross-currency swap in which the fixed leg is denominated in UDI and the floating leg is denominated in USD. The USD reference rate is six-month LIBOR.

Conventions Semiannual/semiannual, actual/360.

Settlement T+2.

UDI vs. TIIE SWAPS

In an UDI vs. TIIE swap, the investor pays or receives a fixed rate based on the UDI and in exchange receives or pays the 28-day TIIE floating rate. Payment dates are based on an actual/360 day-count basis, with the fixed-rate payment occurring every six months and the floating-rate payment taking place every 28 days. Fixed-rate payments are based on an UDI notional amount, while floating-rate payments are based on a notional MXN amount. Principal amounts are only exchanged at the end of the contract.

Bloomberg ticker SINV6 <Go>

SUMMARY OF TERMS

Reference This is a swap in which the fixed leg is denominated in UDI and the floating leg is denominated in MXN.

Conventions 182-day UDI/28-day TIIE, actual/360.

Settlement T+2.

MEXDER

The MexDer (*Mercado Mexicano de Derivados, S.A. de C.V.*) is the options and futures market in Mexico. It began operation on December 15, 1998. Underlying securities in all MexDer contracts refer to financial variables, which include currencies (namely the USD and EUR), equity indices (Bolsa's IPC), stocks, debt instruments, and interest rates (TIIE, Cetes, MBonos). Although activity is still mainly concentrated in the TIIE futures market, its participation fell fairly rapidly from about 98% in 2004 to an all-time low of 27% in 2014. The participation of the TIIE market has fallen for the sixth consecutive year, while overall trading volume of futures has been declining since the peak year of 2006. Other futures contracts, such as those based on the U.S. dollar, have become increasingly important over the past few years, with all the contracts based on the greenback garnering about 51% of the total volume (compared with just 1.4% back in 2007). In contrast, the sum of all the contracts on MBonos (including M3, M5, M10, M20, and M30) represented only about 12% of the total contracts traded YTD in October 2013.

Bloomberg ticker MMDD <Go>

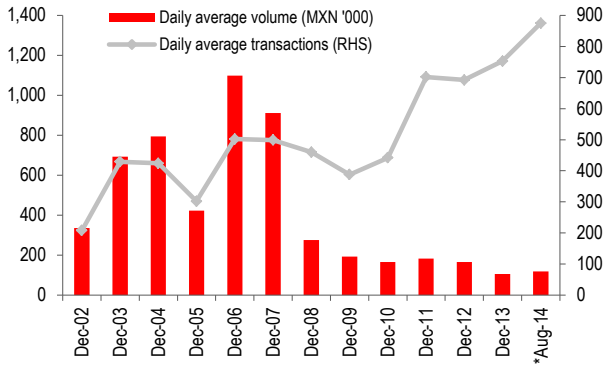
Please see the next page for the characteristics of some of the most important fixed income futures contracts.

MexDer also has a 2- and 10-year TIIE interest rate swap futures contract (Bloomberg ticker SWTA <Cmdty> CT) that provides another trading/hedging vehicle for investors. The contract size is MXN1 million notional, with monthly or quarterly maturities for up to one year, but liquidity is still very low. MexDer also started offering 2-year and 10-year TIIE cross-currency swaps that have so far seen only very modest trading volumes. In addition, MexDer started providing futures contracts on 5- and 30-year MBonos, which work exactly the same as the existing contracts on 3-, 10-, and 20-year MBonos. The most liquid MBono futures contracts are the M10 and M20 (for contract details, see table on next page).

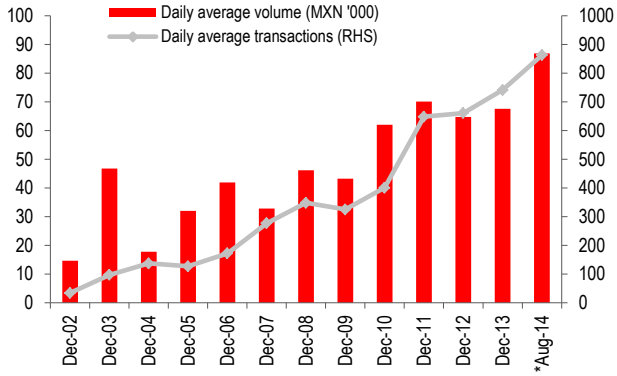
As published in the Official Gazette ("*Miscelánea Fiscal*") on October 12, 2005, income received by foreign investors from derivative operations is tax exempt if the underlying securities are debts related to TIIE or government securities. Beneficiaries of the exemption have to reside in a country that has signed a tax treaty with Mexico.

Liquidity in the MexDer is relatively poor and has only improved in contracts other than the 28-day TIIE, particularly currencies. A few years ago, various pension funds were not allowed to trade TIIE swaps OTC but were allowed to trade TIIE futures, which boosted liquidity in this contract. Current regulation lets pension funds trade OTC TIIE swaps, but many do not have the operational and systems requirements in place to be able to execute such transactions. Trading volumes in 28-day TIIE futures have fallen since the 2006 peak, while other contracts, especially those related to currencies (USD and EUR), have seen an increase in both trading volumes and number of transactions over the last few years, now taking a more substantial share of total volume (about 51% in 2013, compared with less than 2% back in 2007). The challenge is to extend this trend to the other financial futures contracts. The following graphs summarize the evolution of the activity in the MexDer in recent years.

All financial futures contracts*



All contracts excluding 28-day TIIE futures*



*Data through October 2014. Sources: MexDer and Santander.

Characteristics of some of the most important fixed income futures contracts

Contract Bloomberg Ticker	28-day TIIE DOA <Cmdty> CT	91-day Cetes GMA <Cmdty> CT	M10 Bono DWA <Cmdty> CT	M20 Bono VYBA <Cmdty> CT	USD DSA <Crncy> CT
Size	MXN100,000	10,000 Cetes	1,000 Bonos	1,000 Bonos	10,000 USD
Tenors	Monthly maturities up to 10 years	Monthly maturities during 12 months and then quarterly maturities during 24 quarters (seven years)	Quarterly maturities during 12 quarters (three years)	Quarterly maturities during 12 quarters (three years)	Monthly maturities during 12 months and then quarterly maturities during 16 quarters (nine years)
Code	TE28 plus month and year of maturity (e.g., TE28 FB05)	CE91 plus month and year of maturity (e.g., CE91 FB05)	M10 plus month and year of maturity (e.g., M10 DC05)	M20 plus month and year of maturity (e.g., M20 DC05)	USD plus month and year of maturity (e.g., DEUA DC05)
Quote	In annual yield with two decimals	In annual yield with two decimals	In MXN in terms of price with three decimals	In MXN in terms of price with three decimals	USD value expressed in MXN with four decimals
Minimum price change	1 basis point	1 basis point	MXN0.025	MXN0.025	0.0001 USD/MXN
Trading hours	7:30 a.m. to 2:00 p.m. Mexico City time				7:30 a.m. to 2:00 p.m. Mexico City time
Last trading day	The business day preceding the primary auction held on the week of the third Wednesday of each month	The day of the primary auction held during the week of the third Wednesday of each month	Last business day of the maturity month of the contract	Last business day of the maturity month of the contract	The contract matures on the third Wednesday of the month, and the last trading date will be the Monday of that week. (If this is a nonbusiness day, it then falls on the immediately preceding business day.)
Settlement	The first business day after the maturity date, settled in cash	The first business day after the maturity date, nondeliverable	Settlement is fully deliverable	Settlement is fully deliverable	Second business day after the maturity day
Eligible bonds for delivery			Any MBono with at least 8 years (2,913 days) left to maturity and no more than 10 years (3,640 days) left to maturity. The dirty price of the Bono will be adjusted by a conversion factor published by Mexder.	Any MBono with at least 17 years (6,188 days) left to maturity and no more than 22 years (8,008 days) left to maturity. The dirty price of the Bono will be adjusted by a conversion factor published by Mexder.	

Sources: Bloomberg and MexDer.

PERU

MACRO BACKGROUND

Economic growth disappointed in 2014, suffering from a significant terms of trade shock due to weaker global demand, decrease in mining output, and a stall in public and private investment. Prior to the slowdown that began in late 2013, growth averaged 6.6% during the 2005-2013 period, driven in large part by domestic demand. All in all, growth in 2014 likely has been closer to 3% than the 6% we previously anticipated. Throughout 2014, inflation remained mostly above the target, as food prices and supply-side shocks kept consumer prices elevated. Core inflation excluding all food and energy prices was more contained, however, remaining below 3% throughout the course of the year and trending downward. With core inflation still in check, and in order to support growth, the Central Bank of Peru (BCRP) cut rates by 25 bps in July and again in September in addition to lowering reserve requirements on an almost monthly basis. The Central Bank believes headline inflation will converge to the center of the 2±1% target range in 2015.

Concerns over global growth, and particularly China, had a material impact on global commodity prices. In turn, not only did economic growth in Peru weaken but also the external accounts. The rolling-12-month trade balance moved to a deficit in May 2014 and reached as low as a US$1.6 billion deficit from a peak surplus of US$10.8 billion in March of 2012. As a result the current account deficit widened to an average of 5.5% GDP in the first three quarters of 2014 from a 4.5% deficit in 2013 and a 3.3% deficit in 2012.

The potential growth rate is still estimated to be around 5.5-6.0%, according to our economists, and in 2015 we expect growth to move closer to this figure although still be somewhat below it. Over the next few years growth should be boosted by the completion of important mining projects that government officials and market participants expect will significantly boost output. Among these are the Toromocho and Las Bambas mines. In addition, the impact of the easing of monetary policy in 2014 and expansionary fiscal policy should be a key driver for growth in 2015, in our opinion.

MONETARY POLICY

The Central Reserve Bank of Peru, or BCRP as it is known by its Spanish acronym (Banco Central de Reserva del Peru, BCRP), targets inflation of 2% with a margin of error of 1% and is legally independent. The Bank is governed by a board of directors comprising seven members. The government names four members of the central bank board including the president and Congress appoints three directors all serving five-year mandates. The current governor, Julio Velarde, has held the post since 2006, serving under two different administrations. The BCRP uses the reference rate and also macroprudential measures—namely, reserve requirement—to conduct monetary policy. In particular, BCRP has been reducing domestic currency reserve requirements to help stimulate credit growth in nuevo soles and away from foreign currency.

In November 2013, the Central Bank cut the reference rate by 25 bps to 4%, after keeping the reference rate at 4.25% since May 2011; it again cut the rate by 50 bps in Q314. The reference rate had previously remained fixed at 4.25% from May 2011 through October 2013, with the BCRP less concerned about inflation and more preoccupied with speculative capital inflows and credit growth, which the government has informally been trying to keep below 15%.

Given the high level of dollarization in the Peruvian economy, the BCRP is also active in managing the exchange rate. In particular, the dollarization ratio of outstanding credit remains around 40%, with a large proportion being mortgage- and auto-related loans that are denominated in dollars, leaving households vulnerable to sharp movements in the exchange rate. Moreover, the dollarization of the banking sector remains high, at around 38%. Against this backdrop, BCRP intervened heavily in the FX markets throughout 2014, selling a total of nearly US$2.5 billion through mid-November in addition to FX swaps and CDRs. As of end-October, total reserves stood at US$63.5 billion (over 30% of GDP), giving the Central bank ample firepower to continue intervention.

LOCAL MARKETS

Total public debt as of September 2014 was PEN105.9 billion, or 18.5% of GDP, down from 46% of GDP at

year-end 2000. Gross domestic public debt (including all local debt owed by federal and municipal governments, banks, etc.) amounted to 53.0% of total debt, or 9.8% of GDP. Local sovereign bonds make up 6.8% of GDP, and global sovereign bonds make up just short of 4.8% of GDP.

On the public sector financing front, the key principles driving debt management follow:

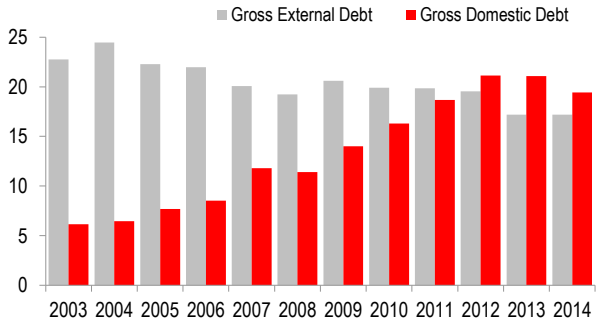
Develop local markets by increasing PEN-denominated debt.

1) Maintain liquid reserves in order to combat market instability.
2) Maximize profits of public resources and reduce costs of liquidity.
3) Maintain a healthy structure for financing contingent liabilities.
4) Reduce external debt.
5) Maintain the sustainability of net public sector debt.

In addition, the government introduced a multiyear strategic financing plan for 2013-16 focusing on the following four long-term goals (aligned with developing the local capital market by strengthening public debt markets and securities).

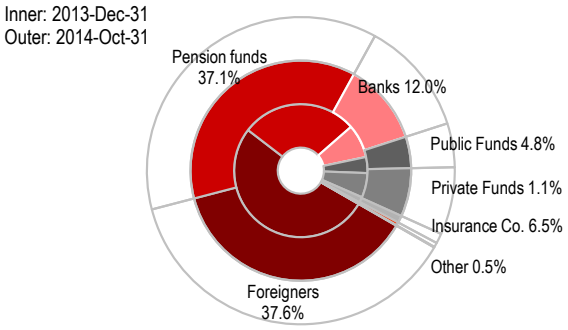
1) Making active public debt management part of the government's financial mandate as well as implementing effective liquidity risk management strategies.
2) Encouraging greater macroeconomic and financial stability by attracting a more diverse set of investors to the market, as well as by increasing the percentage of soles-denominated fixed-rate bonds as part of the de-dollarization strategy for the economy.
3) Supporting the maturation of the securities market by improving "trade transparency, competitiveness, and liquidity in the public debt securities market" as well as developing fair access to invest in those securities.
4) Cultivating stronger integration of various institutions in the financial system by allowing microfinance organizations to tap public debt securities for treasury management purposes and enhancing the money market using public debt as the underlying security in repurchase agreements.

Public debt (US$ billions)



Gross external debt includes all debt owed overseas such as Paris Club, multilateral, and sovereign external debt. Data through September 2014. Sources: BCRP and Santander.

Soberanos holdings by group (%)



Inner pie represents data as of December 31, 2013. Outer pie represents data as of October 31, 2014. Sources: MEF and Santander

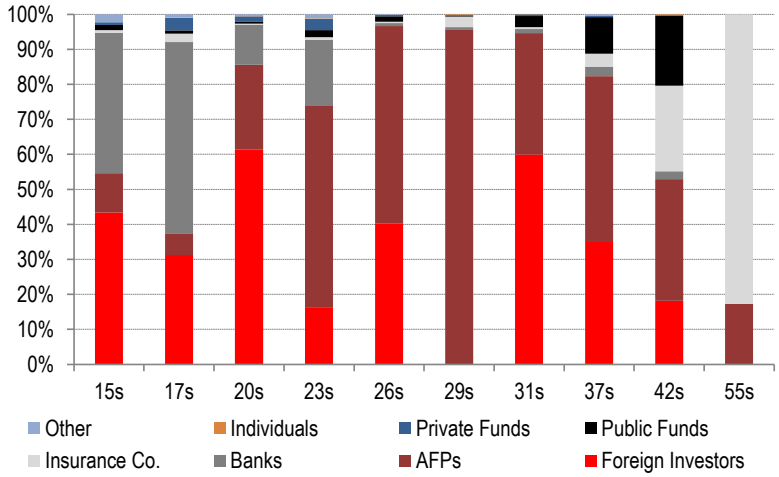
The local sovereign fixed income market in Peru consists of PEN-denominated Soberano bonds issued by the Ministry of Economy and Finance (MEF), in both fixed-rate coupon and inflation-linked (*Valor Adquisitivo Constante,* or VAC) varieties. The total amount outstanding of these bonds is PEN38.8 billion (equivalent to US$13.4 billion) as of September 30, 2014, of which 93% are nominal fixed-rate bonds and 7% are inflation-linked bonds.

Starting in June 2013, the government adopted a weekly public debt auction program. However, many of the scheduled auctions are often declared void. The current auction schedule is as follows:

- First Tuesday of the month: maximum of PEN20 million three-month and nine-month Treasury bills.

- First and third Thursday of the month: minimum of PEN20 million Soberano 23 and 55s and VAC (inflation-linked) 30s and 54s.
- Second and fourth Thursday of the month: minimum of PEN20 million Soberano ’17 and ’29s and VAC (inflation-linked) ’21 and ’40s.
- Third Tuesday of the month: maximum of PEN20 million 6-month and12-month Treasury bills.
- Liability Management Auctions on the 22nd of December 2014, March 2015 and June 2015 to repurchase outstanding Soberano ’20 and ’26s and VAC ’16 and ’19s.

Soberanos holdings by maturity (% of total)



Data through October 31, 2014. Sources: MEF and Santander.

Soberanos holdings by group (% of total)

	Fixed	*UVR*	*'15*	*‘17*	*'20*	*'23*	*'26*	*'29*	*'31*	*'37*	*'42*	*'55*	*Total*
Total PEN mn	**35,780**	**2,546**	**1,687**	**2,145**	**9,047**	**3,734**	**4,389**	**949.98**	**4,290**	**4,750**	**4,251**	**321**	**38,326**
AFPs	37.2	34.74	11.21	6.22	24.18	57.7	56.33	95.65	34.66	47.32	34.83	17.3	37.05
Banks	11.53	19.03	40.14	54.68	11.44	18.89	0.86	0.6	1.23	2.76	2.19	0	12.03
Insurance Co.	4.67	41.49	0.79	2.35	0.34	0.76	0.38	3.05	0.48	3.69	24.46	82.7	7.11
Public Funds	4.83	1.54	1.47	0.95	0.59	1.99	1.55	0.32	3.23	10.43	20.06	0	4.62
Private Funds	1.13	0	0.71	3.57	1.46	3.22	0.43	0.11	0.45	0.46	0.05	0	1.05
Individuals	0.06	0	0	0.04	0.01	0.16	0	0.19	0.01	0	0.29	0	0.06
Other	0.5	0	2.3	0.98	0.57	1.17	0.17	0	0	0.36	0	0	0.47
Foreign Investors	40.06	3.2	43.38	31.21	61.41	16.11	40.28	0.08	59.94	34.98	18.12	0	37.61

Data through October 31, 2014. Sources: MEF and Santander.

KEY MARKET PLAYERS

In 2014 there was a major shift in the holdings of local fixed-rate Soberano bonds as foreigners largely exited the local Soberano market. Foreign holdings of Soberanos hovered around 57% for most of 2013 before declining at the end of the year to 52%. In 2014 the decline in holdings was more pronounced as the participation of nonresidents declined to 37.6% of the total Soberano market, including fixed- and inflation-linked debt. Foreign holdings are concentrated in the front end and belly of the curve, with the Soberanos ’20s and ’31s the most liquid bonds With the fall in foreign participation, local pension funds (AFPs) are now a bigger player, capturing 37% of the market at end-October 2014. Banks are the next largest player with 12%.

Every maturity of the fixed-rate Soberano bonds is available as a global depositary note (GDN), which can be settled in U.S. dollars via Euroclear or DTC. These GDNs are fully fungible with the underlying bonds. The ability to transact Soberanos via GDNs contributes to the popularity of these bonds among foreign investors, which are still the biggest holders of fixed-rate Soberano bonds despite exposure falling to 40% as of October 2014, from nearly 58% a year earlier. Foreign holdings remained stable during the sell-off that began in May 2013, as many foreign investors experienced difficulties in exiting the Soberano market without incurring significant losses. However, as liquidity improved in 2014, foreign investors took the opportunity to exit their positions and a weakening of the PEN further detracted investors.

REGULATORY AND TAX ISSUES

Under current tax law, profits derived from government securities are exempt from local income tax and withholding taxes. Bond transactions between domestic financial accounts are subject to the Financial Transactions Tax (ITF), which imposes a charge of 0.05%. Depending on how the FX side of the trade is structured, the ITF should apply to international investors, including those with a local custody account. Investors are encouraged to consult their legal advisors regarding tax regulations under Peruvian law, which are subject to modification. Updated regulatory documents can be found on the MEF web page (www.mef.gob.pe).

BONOS SOBERANOS

FIXED-RATE BONOS SOBERANOS

Fixed-rate *Bonos Soberanos* are PEN-denominated instruments issued by Peru's Ministry of Finance (MEF). Currently, the fixed-rate curve extends out 40 years to February 2055.

Bloomberg ticker PERUGB <Govt>

SUMMARY OF TERMS

Description PEN-denominated fixed-rate coupon-bearing bonds.

Face value PEN1,000.

Maturity Currently up to 40 years: the government is focused on retapping the August '17s, September '23s, February '29s, and February 2055s at primary auctions through June 2015.

Coupon Semiannual.

Day count Calculated on a 30/360-day basis.

Amortization Bullet.

Moody's rating A3.

S&P rating A-.

Fitch A-.

Fixed-rate PEN-denominated sovereigns

Bond	Maturity date	Coupon	Issue date (opening)	Original term (years)	GDNs (% of total stock)	Outstanding stock (PEN mn)
May-15	5-May-15	9.91%	5-May-05	10.0	30.89%	1,686.6
Aug-17	12-Aug-17	8.60%	8-Jul-05	12.1	19.86%	2,145.4
Aug-20	12-Aug-20	7.84%	18-Jul-05	15.1	33.35%	9,047.5
Sep-23	12-Sep-23	5.20%	22-Jun-12	11.2	8.17%	3,734.1
Aug-24	12-Aug-24	5.70%	7-Nov-14	10.0	n/a	7,411.6
Aug-26	12-Aug-26	8.20%	3-May-06	20.3	31.51%	4,388.7
Feb-29	12-Feb-29	6.00%	10-Jul-13	20.3	0.00%	950.0
Aug-31	12-Aug-31	6.95%	24-Apr-08	23.3	44.46%	4,290.2
Aug-37	12-Aug-37	6.90%	26-Jul-07	30.0	26.06%	4,750.0
Feb-42	12-Feb-42	6.85%	27-Jan-10	32.0	8.82%	4,250.7
Feb-55	12-Feb-55	6.71%	9-Jul-14	40.6	0.00%	3,21.3
Total						**43,551.32**

*Trades in August '37s can settle offshore. Data as of October 30, 2014. Sources: MEF and Santander.

INFLATION-LINKED BONOS SOBERANOS (VAC BONDS)

Bonos Valor Adquisitivo Constante (VAC bonds) are PEN-denominated instruments issued by Peru's Ministry of Finance (MEF) that pay coupons and principal indexed to inflation. The methodology used by the MEF for this purpose is the so-called *Valor Adquisitivo Constante* (VAC), which is the ratio between the *Índice de Reajuste Diario* (IRD) of the bond series payment date and the IRD of the issuance date. A daily IRD series is calculated and published by the Central Bank (http://www.bcrp.gob.pe/transparencia/normas-legales/circulares/indice-de-reajuste-diario.html) at the beginning of each month based on the City of Lima CPI index data, reaching a value of 8.15818 as of November 3, 2014. Currently, the VAC curve extends out 34 years, with liquidity concentrated at the back end of the curve: October '24, January '35, and August '46. However, VAC bond trading activity remains thin.

Bloomberg ticker PERUGB <Govt>

Coupon calculation $$Coupon = V \times r \times \frac{i}{n}$$

Principal to be paid on maturity = $V \times r$

V: nominal value of the bond on the issuance date

r: adjustment factor = $IRD_{\text{payment date}}/IRD_{\text{issuance date}}$

i: annual spread over VAC

n: number of coupon payments in each year

SUMMARY OF TERMS

Description PEN-denominated inflation-indexed bonds.

Face value PEN1,000.

Maturity Currently up to 40 years. The government is focused on retapping the 24s, 30s, 40s, and 54s at biweekly primary auctions.

Coupon Semiannual.

Day count Calculated on a 30/360-day basis.

Amortization Bullet.

Inflation-linked PEN-denominated sovereigns (VAC bonds)

Bond	Maturity date	Coupon	Issue date (opening)	Original Term (yrs)	Outstanding stock (PEN mn)
Apr-16	14-Apr-16	5.90% + VAC	14-Apr-04	12	43.7
Jun-16	8-Jun-16	6.84% + VAC	8-Jun-04	12	18.6
Feb-18	12-Feb-18	4% + VAC	10-Jul-13	5	149.3
Jul-19	13-Jul-19	7.40% + VAC	13-Jul-04	15	14.0
Oct-24	13-Oct-24	6.8399% + VAC	13-Oct-04	20	875.2
Feb-30	13-Feb-30	2.8893% + VAC	22-Aug-14	15	22.0
Jan-35	31-Jan-35	7.39% + VAC	31-Jan-05	30	911.0
Feb-40	13-Feb-40	3.1412% +VAC	15-Aug-14	26	10.5
Aug-46	12-Aug-46	3.83% +VAC	28-Nov-06	40	410.0
Feb-54	12-Feb-54	3.2669% +VAC	31-Jul-14	40	91.5
Total					**2,545.9**

Data as of October 31, 2014. Sources: Economy and Finance Ministry and Santander.

PRIMARY AUCTION

Auction schedule Auctions take place in accordance with a preliminary schedule provided by the MEF early in the year.

Bidding process Bids are usually received from 11:00 a.m. to 1:00 p.m. local time. Primary auctions of a new series are made at par. In a new series, the variable is the interest rate or coupon, while price is the variable in a reopening. Specific details are set by the MEF prior to the auction.

Allocation process A Dutch-style auction is currently used, with the MEF determining the cutoff rate. When there is investor demand for more than the original amount offered, second and third rounds can take place. If excess demand is 25-100% of the initial offering, the government can place an additional 25% of the initial offering. If the excess demand is above 100% of the initial offering, the MEF can place up to an additional 50%. Only market makers that bid successfully in the original auction will be allowed to participate in the second- and third-round placements. All bonds placed in subsequent rounds will have the same yield as those approved in the first auction.

Placement agent MEF.

SECONDARY MARKET

Trading Most trading occurs via trade order management systems designated by the MEF: DATATEC (which is the most widely used system), CIMD, and ELEX. The fixed-rate August 2037 *Soberanos* can also be settled offshore.

Settlement T+1.

Registration Carried out electronically by the Caja de Valores y Liquidaciones (CAVALI ICLV SA). Foreign investors are required to appoint a local custodian.

URUGUAY

MACRO BACKGROUND

Since 2003, Uruguay experienced strong growth due to favorable external conditions and large-scale FDI projects attracted by the country's stable macroeconomic environment and business-friendly investment climate. However, since 2012, real growth moderated from average 6% p.a. rates to 3-4% readings—more in-line with historical standards and potential growth estimates—amid worsening prospects for emerging markets and hard landings for main trading partners Argentina and Brazil. From a demand-side perspective, exports and investment weakened, dragging down industrial output and construction. In contrast, consumption remains robust based on low unemployment—slightly above the 6% rate—and strong real wage increases that continue to hover around 3-4% p.a.

Apart from activity slowdown, macroeconomic imbalances widened in recent years in a context of loose fiscal policy, strong domestic demand, and weakened export competitiveness. As a result, the overall public sector deficit stood at 3.2% of GDP as of this past September (with the primary surplus in negative territory for the first time since 2001), the current account deficit neared 6% of GDP as of 2Q14, and consumer price inflation continues to exceed 8% readings, well above the 3-7% target. As a result, near-term risks are mostly to the downside. In this context, our real GDP growth estimate for 2015 is 2.7% although with a negative bias. Still, downside risks are mitigated by strong liquidity buffers in the public sector, moderate indebtedness of both firms and households, and reduced currency mismatches within the public sector and households.

Policy challenges include implementing a tighter fiscal policy stance and moderate wage growth in a context of strong labor market rigidities. Such measures would support monetary policy in taming inflation while smoothing the negative impact on employment from the activity slowdown. In our view, additional policy efforts should focus on improving Central Bank forward guidance so as to anchor inflation expectations. Supply policies should attempt to close infrastructure gaps in areas such as roads and ports, stimulating progress in energy where the country is accomplishing higher diversification of sources away from highly unstable hydraulic and costly crude oil alternatives. Finally, reversing a decline in education standards and an increase in crime levels appears as critical in enhancing potential GDP growth.

Former President Tabaré Vázquez will assume office on March 1, 2015, after being elected in second-round elections held this past November 30. As a result, the left-wing Frente Amplio (FA) will govern for a third period in row, something unprecedented for political parties since the return to democracy in 1985. In addition, the FA managed to hold simple majorities in Congress. Still, new authorities will face the challenge of regaining a macroeconomic balance while containing social dissatisfaction that could surge if the economic context worsens further.

MONETARY POLICY

After the abandonment of the crawling-peg exchange rate regime in June 2002, the government implemented a floating exchange rate system combined with an indicative inflation target currently set between 3% and 7%. Since then, inflation has remained in single-digit territory despite high dollarization of loans, which hampers the effectiveness of monetary policy.

Currently, monetary policy guidelines are communicated to the market through a brief statement released after Monetary Policy Committee (COPOM) meetings on a quarterly basis. The COPOM comprises a total of six Central Bank members, including all three board members appointed by Congress and three key policy managers. The COPOM acts in coordination with the Economic Coordination Committee that functions within the orbit of the Ministry of Finance.

On June 6, 2013, the Ministry of Finance and the Central Bank introduced changes in monetary policy that included (1) the removal of the reference interest rate (TPM) as a monetary policy tool, in substitution for a monetary aggregates benchmark, (2) the widening of the inflation target band, from the previous 4-6%, and (3) the introduction of a new policy time frame of 24 months as opposed to the previous time frame of 18 months.

Since then, authorities have tightened monetary policy, moderating monetary aggregates to an 8% y/y rise as of the third quarter of the year from a 12% y/y increase a year ago, which resulted in higher local currency

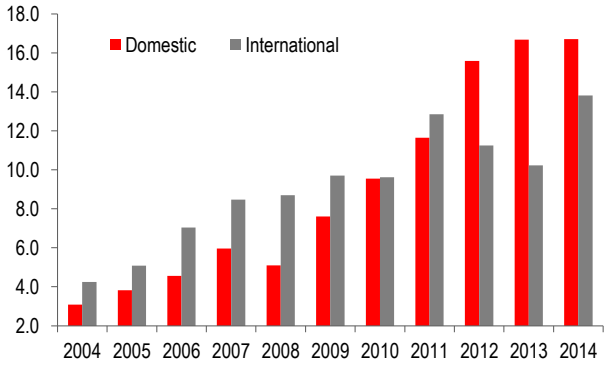
interest rates. For 4Q14, authorities target a 9-10% y/y increase in M1 (including physical money, demand, and saving accounts).

Still, inflation remains high relative to regional standards, standing at 8.1% y/y as of October 2014, in a context of loose fiscal and wage policies that foster domestic demand and increase labor costs, continuing the poor track record since 2011. Moreover, core readings edged near 10% y/y as of October 2014, according to our estimates, likely ignited by accommodative demand policies, in our opinion. In our view, authorities would do well to strengthen their commitment to reaching the inflation target in upcoming years so as to continue developing local currency markets, still in their early stages. Enhancing communication with market participants and reinforcing Central Bank independence would likely contribute positively, in our view.

LOCAL MARKETS

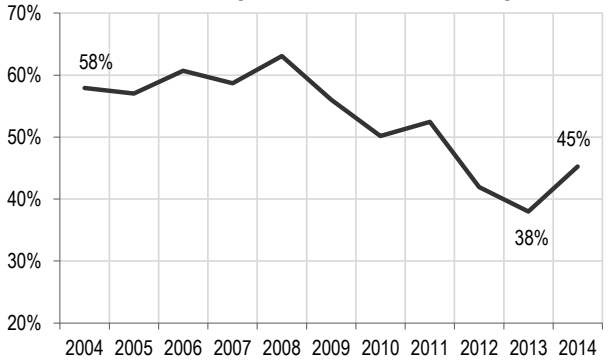
As of October 2014, the outstanding supply of public bonds amounted to US$30.5 billion, of which US$16.7 billion was domestic bonds (i.e., bonds issued under local law, including both Treasury and Central Bank instruments) and US$13.8 billion was international sovereign bonds. As of June 2014, securities accounted for 80% of total public sector debt.

Public sector securities



In USD billions. Data as of October 2014. Includes state-owned companies and banks. Source: BCU.

International debt (% share of total debt)



As % of total debt. Data as of October 2014. Includes state-owned companies and banks. Source: BCU.

Issuance. In the past year to October, total net bond issuance accounted for US$3.5 billion based on US$3.6 billion net issuance of international debt. As a result, the share of international debt rose from 38% of liabilities in 2013 to 45% as of this October, breaking the declining trend exhibited during the past decade amid peso weakening and monetary tapering in the U.S. Still, domestic issuance remains a significant financing source, in-line with persistent demand from pension funds, financial institutions, local individuals, and nonresidents, which together hold 22% of total domestic debt.

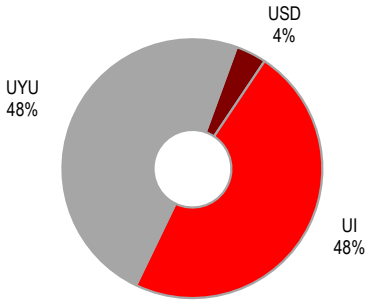
Domestic debt issued by the Central Bank, both UYU and inflation-linked denominated (UI), accounted for 63% of total domestic instruments as of November 2014 compared with 37% for Treasury instruments. Domestic debt was 96% peso denominated as of that date, while inflation-linked securities accounted for 48% of total domestic debt, below the 60% exhibited a year ago. In a context of a strengthening U.S. dollar and higher investor preference for shorter-tenor instruments, demand for UI securities declined in 3Q14, forcing authorities to accept lower financing amounts than originally tendered, as they failed to validate higher UI yields requested by market participants.

Domestic public sector debt

	Nov. 2014	Current situation
UYU Central Bank Bills (LRM-UYU)	6.5	On the run
UI Central Bank Bills (LRM-UI)	2.0	Off the run
UI Central Bank Notes	1.3	On the run
UYU Treasury Notes	1.0	On the run
UI Treasury Notes	3.8	On the run
UI Treasury Bonds	0.3	Off the run
USD Treasury Bonds	0.6	On the run
Total	**15.4**	

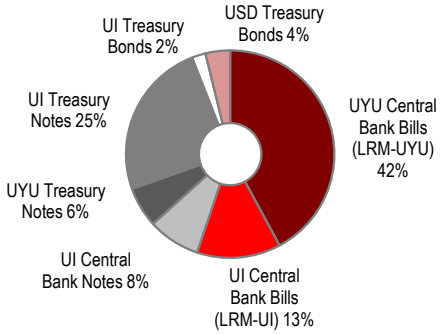
In USD million. As of November 2014. Excludes state-owned companies and banks. Sources: BCU and Santander.

Domestic debt by currency of denomination



Data as of November 2014. Excludes state-owned enterprises and banks. Sources: BCU and Santander.

Composition of domestic debt



Data as of November 2014. Excludes state-owned enterprises and banks. Sources: BCU and Santander.

Every five years, each new government official assuming office must present a five-year plan to the legislature specifying the fiscal needs for the overall period. This plan is presented by the executive branch of the government six months after the start of the presidential term in March. Since 2004, annual debt issuance has been capped by law, subject to fiscal needs that are reviewed on an annual basis at midyear.

Although the authorities do not have to meet specific time frames to present their annual financing policy, the Debt Management Unit, under the authority of the Ministry of Finance, publishes quarterly reports announcing indicative guidelines for the financial program. However, such a program usually undergoes changes during the year, as happened in 2013 and 2014 when debt issuance results were announced. In 2013, authorities issued US$2.6 billion, more than doubling the amounts originally announced. Similarly, this year, they will likely end up issuing US$2.3 billion, almost three times the amount announced at the start of the year (US$0.8 billion) following a combination of a deteriorated primary fiscal balance and higher reserve accumulation than originally planned.

According to the Debt Management Unit, Treasury financing needs for 2015 amount to US$2.4 billion, of which US$ 0.8 billion is announced, to be covered through lower reserves and US$1 billion through bond issuance. However, issuance is likely to end up higher, particularly considering persistently low global financing costs.

The authorities currently announce auction schedules for both Treasury and Central Bank instruments through a weekly calendar. This schedule is available at http://www.bcu.gub.uy/Politica-Economica-y-Mercados/Documents/Calendario%20Deuda/calendario_deuda.pdf under the title *Calendario Tentativo de Colocación de Títulos Emitidos por el BCU*. Tendered amounts announced in the weekly calendar can be increased at the Central Bank's discretion on the day of the auction. In addition, since 2013, the Debt Management Unit publishes biannual auction calendars in its site: http://deuda.mef.gub.uy/coming-auctions under the title *Coming Auctions*.

Key market players. Local pension funds (also called AFAPs) are the most important players in the local fixed income market. As of October 31, 2014, their total AUM stood at US$10.1 billion, equivalent to 18% of GDP, of which 69% was invested in global and domestic sovereign bonds (US$6.9 billion). Considering domestic debt only, AFAP holdings reached US$4.5 billion, which accounted for 44% of total AUM and 27% of total sovereign domestic debt. In general, AFAPs follow a buy-and-hold investment strategy due to the limited depth of secondary markets and also because the current pension system based on individual saving accounts is in its middle stages (i.e., at a stage where it is not yet paying too many pensions), as the current partially capitalized system was implemented in 1996 from a pay-as-you-go regime.

Major international banks have a presence in the Uruguayan banking system. Local bank penetration is confined to the state-owned Banco de la República Oriental del Uruguay with roughly 40% of total market share.

Money market

Money market instruments are mostly overnight transactions (repos, call money, certificates of deposit) and short-term local currency BCU bills and certificates. Bidders are mostly pension funds and banks. Banks make use of monetary instruments generally to regulate their excess liquidity in pesos in a context of relatively low demand for local currency loans from the private sector. (The credit market is highly oriented to firms and is U.S. dollar currency denominated.) Currently, BCU primary bill auctions amount to roughly UYU3 billion weekly (equivalent to approximately US$130 million). Trading activity in formal secondary markets such as the Electronic Stock Exchange (ESE) hovered around US$22 million daily in the past year, although larger trades can be closed over the counter (OTC) with counterparties such as brokers, banks, or pension funds. In addition, the Central Bank occasionally provides liquidity through repo transactions, particularly at times of severe financial distress such as occurred during the September 2008 turmoil.

Fixed income market

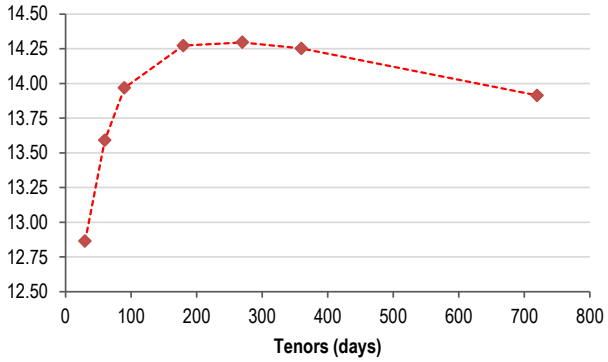
Sovereign global bonds are denominated in different currencies (USD, EUR, JPY, CLP, and local currency [mostly inflation linked]), while sovereign domestic bonds are both dollar and local-currency-denominated, although the former are off the run. Corporate bonds accounted for barely 0.1% of total secondary market trading within the ESE in the past year.

Local peso-denominated securities comprise two main categories: fixed-rate bonds and inflation linkers. Tenors currently go up to 11 years. Within the past decade, inflation-linked instruments (also called UI bonds) became increasingly relevant in the local market, although in 2013-14 they lost strength amid strong peso depreciation, shorter-duration investment strategies, and, albeit likely to a lesser extent, increased volatility of CPI readings as authorities contain (and even lower) public tariffs as a temporary way of subduing inflation readings. The Central Bank currently issues LRM-UI at one and two-year tenors, for between UI100 and 200 million weekly (equivalent to between US$12.5 million and US$25 million weekly). Currently, the Treasury alternates 6-year and 11-year UI notes every month, issuing UI200 million in the first case (US$25 million) and UI120 million at 11-year tenors (equivalent to US$15 million).

As per fixed-rate peso instruments, the Central Bank issues between UYU2 billion and UYU3 billion weekly up to two-year tenors (equivalent to US$85-130 million), while Treasury auctions in UYU are off the run since 2012.

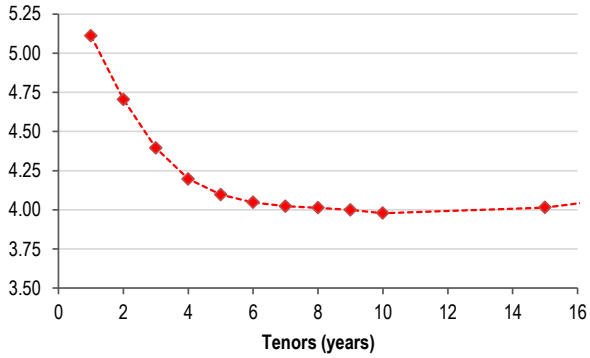
Both UYU and UI yield curves rose sharply since mid-2013, slightly declining since May. Currently, local rates curve are relatively flat near 14% and 4%, respectively, up from 9.5% and 2% by mid-2013. Such an increase reflected a combination of factors that included (1) higher peso weakening and FX volatility against a background of monetary tapering in the U.S., (2) high domestic inflation readings in a context of robust domestic demand and high wage increases, (3) the implementation of a new monetary policy framework that eliminated the Monetary Policy Rate (TPM) in favor of a monetary aggregates target, and (4) a more restrictive monetary policy amid rising consumer price inflation. In recent weeks, the Central Bank and the Treasury failed to meet originally tendered amounts as they refused to accept higher UI yields requested by market participants.

UYU Yields (% as of 1 Dec 2014)



Source: ESE.

UI Yield Curve (% as of 1 Dec 2014)



Source: BEVSA.

On the derivatives front, FX forwards, cross-currency swaps (UYU fixed versus USD LIBOR), and USD interest rate swaps (fixed versus LIBOR) are locally available on an OTC basis.

REGULATORY AND TAX ISSUES

Uruguay regulations ensure the free mobility of capital flowing into or out of the country. No capital controls or restrictions on security holdings are currently in place other than the verification of legal origin of funds. Firms and individuals can hold accounts denominated in major world currencies, including the U.S. dollar, as all of them are legal tender.

In order to invest in domestic instruments, foreign investors must open an account with a local custodian agency, bank, or broker. To do this, it is necessary to fill out a form and a custody agreement with the bank or broker in order to have a legal representative in Uruguay for tax purposes. The local custodian is responsible for withholding and paying taxes on behalf of the investor and must have the necessary documentation that proves that the investor is a nonresident.

Nonresident investors have traditionally received the same treatment as residents in terms of foreign currency and security holdings. However, since August 2012, nonresidents investing in Central Bank instruments are subject to a tax that forces them to place 30% of the amount invested in domestic securities within the monetary authority with no interest rate compensation. (The tax was lowered in September 2014 from the previous 50%.) Tax requirements are marginal because they only apply to new investments since the day measures were launched: August 16, 2012. As a result, nonresidents investing in domestic Central Bank securities are subject to the tax if total balances exceed those held on such a date. However, if a nonresident investor reduces its holdings below the initial balance as of the day the new measure was implemented (because of amortization, for example), local financial agents can reallocate such "unused" marginal reserve requirements among other investors that want to increase their bond holdings. In such a case, investments are not subject to tax. Considering that peso market yields currently stand at 13.5%, the measure roughly represents a 3.1-pp tax on UYU investments.

Treasury securities are currently not subject to the referred tax after the recent elimination of a 30% tax on nonresidents that was in effect from June 2013 through September 2014.

The tax on nonresidents was introduced by the authorities in the second half of 2012 in an attempt to contain the rising capital inflows and peso strengthening occurring at that time, particularly following the country's recapture of investment-grade status in mid-2012. Capital inflows persisted during the first half of 2013, motivating an increase on the Central Bank holdings tax from 30% to 50% and its extension to Treasury investments (30%). However, strong peso depreciation between May 2013 and December 2014 forced authorities to remove the tax on Treasury placements and lower the tax imposed on Central Bank instruments back to the original 30%, a tax that could be eventually lowered or eliminated in the event of additional potential strain on FX markets.

The oversight of financial institutions, pension funds, insurance companies, and stock exchanges (the Electronic Stock Exchange, BEVSA, and the Montevideo Stock Exchange, BVM) is carried out by the *Superintendencia de Servicios Financieros* (Superintendency of Financial Services) at the Central Bank of Uruguay (BCU).

Financial transactions made by nonresidents in Uruguay are subject to the following taxes:

1. **Income tax on capital gains and interest earnings.** Set at a 12% rate for both resident and nonresident investors, this is levied on the capital gains obtained when the instrument is sold and on the interest coupon of the instrument. Nonresident Income Tax is calculated with grossing up, which implies that the 12% rate applies to the capital gain and interest earnings plus the tax amount. The tax rate on interest received declines to 3% for instruments issued beyond three-year tenors, tendered through public offer, and quoted within stock markets. Sovereign bonds are exempt from income tax.
2. **VAT.** Set at 22% for fees related to custody services.
3. **Reserve requirement imposition on nonresidents investing in Central Bank securities.** Nonresidents investing in Central Bank instruments outside a certain quota, fixed by the monetary authority in August 2012, must place 30% of total holdings within the Central Bank.

Before undertaking any transaction, investors are encouraged to seek counsel from their legal advisors regarding tax regulations under Uruguayan law, which may be subject to change.

A NOTE ABOUT THE UI (*UNIDAD INDEXADA*)

The UI (*Unidad Indexada*) is an inflation-linked unit of accounting denominated in Uruguayan pesos (UYU). Like the UF in Chile and the UDI in Mexico, the UI quotes on a daily basis, and the factor of adjustment is the change in the previous month registered by the consumer price index (CPI), linearly distributed between the sixth day of each month and the fifth day of the following month.

The UI was officially created by decree in June 2002 (Decree 210/002) in order to develop long-term local-currency financing, which was nonexistent at that time in a country with less than a decade of price stability. In 2004, the UI acquired legal force through Law No. 17.761 of May 19. The UI proved successful in the development of long-term local currency instruments, thus allowing for a reduction in high dollarization and currency mismatches run by both the public and private sectors. With inflation insurance provided by the UI, long-dated local currency loans surged, particularly related to household mortgages and infrastructure financing.

The value of the UI index was set at UYU1 as of June 1, 2002, and reached UYU2.95 as of November 27, 2014. The underlying index of the UI is the CPI published by the INE (National Institute of Statistics) on the second business day of every month. UI values can be found in Bloomberg under URUDUD <Index> or at the INE website: http://www.ine.gub.uy. The INE provides a daily quote for each day of the following month, including weekends, according to the following formulas included in Law No. 17.761.

Between the first and the fifth day of that same month:

$$UI_{d,M} = UI_{5,M-1}\left[\frac{CPI_{M-2}}{CPI_{M-3}}\right]^{\frac{d+D_{M-1}-5}{D_{M-1}}}$$

Between the sixth and the last day of that same month:

$$UI_{d,M} = UI_{5,M}\left[\frac{CPI_{M-1}}{CPI_{M-2}}\right]^{\frac{d-5}{D_M}}$$

Where $UI_{d,M}$ means the value of the UI in the day d of the month M. D_M means the number of calendar days of the month M; CPI_M corresponds to the CPI value (consumer price index value) of the month M; therefore, the ratio between CPI_{M-1} and CPI_{M-2} corresponds to the inflation rate in the previous month.

FOREIGN EXCHANGE MARKET

Central Bank intervention in the FX market is discretionary in response to monetary policy considerations and the explicit target of minimizing exchange rate volatility. In addition, operations executed by the state-owned *Banco de la República Oriental del Uruguay* (BROU) occasionally set trends in the market, given its high market share in the banking system and its role as exclusive foreign currency agent of the government and public enterprises. No local FX options market is available in Uruguay.

SPOT

Bloomberg ticker	UYU <Curncy>
Main market reference	BEVSA.
Quotation convention	2 decimal points.
Most liquid currency pair	UYU/USD.
Minimum size	US$100,000.
Available quotes	US$1.5 million to US$2.0 million.
Trading volume (daily)	US$19 million (past year to October 2014, Electronic Stock Exchange).
Settlement	T+0.

FX FORWARDS

Currency pairs	USD/UYU, EUR/USD, USD/BRL.
Tenors	Up to one year.
Settlement	Nondeliverable in U.S. dollars; local NDFs are settled in UYU or USD at maturity date.
Fixing convention	BCU closing for UYU/USD, Bloomberg for other currencies.
Market convention	Not uniform, varies upon investor request.
Minimum size	US$100,000.
Available quotes	US$1.5 million to US$2.0 million in UYU/USD, no limits in other currencies. All subject to specific counterparty limits.
Trading volume (daily)	US$5 million (past year to October 2014, Electronic Stock Exchange).
Legal documentation	Local (for both outright and NDF).

CENTRAL BANK BILLS (LETRAS DE REGULACIÓN MONETARIA)

The Central Bank currently issues two types of bills/*letras de regulación monetaria*: those nominated in UYU at a fixed rate (LRM-UYU) and those linked to inflation (LRM-UI).

Since year-end 2011, the Central Bank manages the front end of the UYU and UI curves, while the Treasury has a more active role at the mid- and back end of such curves.

LRMs are auctioned on a weekly basis: those denominated in UYU usually along the week and inflation-linked instruments toward the end of the week. Both can be exclusively traded in local clearing houses and have to be paid in pesos with received installments in UYU. Prior to 2014, bills could be paid either in pesos or in the equivalent U.S. dollars as authorities attempted to avoid further UYU strength by preventing foreign currency sales within FX markets. However, the measure was reversed this year given strong peso weakening.

LRM-UYU

Letras de Regulación Monetaria del Banco Central in pesos (or LRMs, the Central Bank's monetary regulation bills) are UYU-denominated zero-coupon bills, with tenors up to 24 months.

Outstanding stock of LRM-UYU instruments was US$6.5 billion as of November 2014, thus representing the main domestic security, accounting for 42% of total local debt. Average maturity of LRM-UYU stood at 0.7 years, below the 0.9-year reading a year ago.

Availability of LRM-UYU tenors is at the discretion of the Central Bank and subject to monetary policy considerations. The Central Bank is currently issuing most tenors along the peso curve.

Nonresidents investing in LRM-UYU must place 30% of total holdings at the Central Bank as part of capital controls implemented by authorities back in 2012, unless such investments do not add to overall nonresident balances as of August 16, 2012, in which case tax imposition is not mandatory. As of past September, nonresident holdings of LRM-UYU amounted to 20% of total outstanding.

Bloomberg ticker	UTB <Govt>

SUMMARY OF TERMS

Description	Short-term UYU-denominated Central Bank bills. As of November 2014 there were 47 outstanding series of UYU-denominated LRMs, totaling UYU152.6 billion (US$6.5 billion).
Tenor	Usually 30, 90, 180, 360 and 720 days. Maturities vary upon Central Bank discretion.
Coupon	Zero coupon.
Day count	Actual/365 basis.
Rating	Short-term local currency: A-3 (S&P). Long-term local currency: BBB- (S&P), Baa2 (Moody's), BBB (Fitch).

PRIMARY AUCTION

Auction schedule The BCU announces a weekly calendar of UYU LRM auctions at http://www.bcu.gub.uy/Politica-Economica-y-mercados/Documents/Calendario%20Deuda/calendario_deuda.pdf, under the title *Calendario Tentativo de Colocación de Títulos Emitidos por el BCU*. Tendered amounts announced in the weekly calendar can be increased at Central Bank discretion on the day of the auction, based on market demand conditions. Bids are submitted to the Central Bank electronically through the Valnet system until the closing time previously announced in the auction terms. Results are announced about one hour after the auction closing time. Daily amounts currently stand at roughly UYU660 million (equivalent to US$28 million).

Minimum value Minimum denomination is UYU100,000, increasing at multiples of UYU10,000.

Bidding process Each participating financial institution may submit as many bids as desired as long as the total does not exceed the amount tendered by the BCU. Bids must indicate the amount and the price offered in UYU.

Allocation process The allocation system is the Dutch (single price) method. The BCU has discretion to issue less or more than the announced amount (up to 50% more of the original tender).

Settlement T+0 for instruments up to 180 days tenor. T+1 for auctions beyond 180-day tenor.

SECONDARY MARKET

Trading Most of the volume traded on formal markets takes place at the Bolsa Electrónica de Valores (BEVSA), although OTC trading is also available, especially for larger trades.

Settlement Usually T+0 for securities up to 180-day tenor and T+1 for securities beyond that tenor.

LRM-UI

Letras de Regulación Monetaria en Unidades Indexadas (UI) del Banco Central (or LRM-UI) are inflation-linked zero-coupon bills at 12- and 24-month tenors.

LRM-UI are denominated in UI and converted into UYU at the settlement date, at the corresponding UYU/UI exchange rate. The UYU/UI exchange rate is available in Bloomberg at UYI <Crncy>.

Total outstanding of LRM-UI amounted to an equivalent of US$2 billion as of November 2014—below US$4.2 billion a year ago—and accounting for 13% of total domestic debt (25% a year ago). Average maturity is 0.7 years, similar to readings a year ago.

Nonresidents investing in LRM-UYU must place 30% of total holdings at the Central Bank as part of capital controls implemented by the authorities in 2012. However, if such investments do not add to overall nonresident balances as of August 16, 2012, such tax imposition is not mandatory. Nonresidents hold a minor 3% of total outstanding of LRM-UI.

Bloomberg ticker UTB UI <Govt>

SUMMARY OF TERMS

Description	Short-term inflation-linked Central Bank bills. As of November 2014, there were 26 LRM-UI outstanding series, totaling UI16 billion (equivalent to US$2 billion).
Tenor	1- and 2-year tenors.
Coupon	Zero coupon.
Day count	Actual/365 basis.
Rating	Short-term local currency: A-3 (S&P). Long-term local currency: BBB- (S&P), Baa2 (Moody's), BBB (Fitch).

PRIMARY AUCTION

Auction schedule	The BCU currently announces a weekly calendar of UYU LRM auctions at http://www.bcu.gub.uy/Politica-Economica-y-mercados/Documents/Calendario%20Deuda/calendario_deuda.pdf, under the title *Calendario Tentativo de Colocación de Títulos Emitidos por el BCU*. Tendered amounts announced in the weekly calendar can be increased at Central Bank discretion on the day of the auction, based on market demand conditions. Bids are submitted to the Central Bank electronically through Valnet system until the closing time previously announced on the auction terms. Results are announced about one hour after the auction closing time. Weekly auctions currently stand between UI100 and UI200 million (equivalent to US$12.5 million and US$25 million, respectively).
Minimum value	Minimum denomination is UI100,000 in primary markets, increasing at multiples of UI10,000.
Bidding process	Each participating financial institution may submit as many bids as desired as long as the total amount does not exceed the amount tendered by the BCU. Each bid must indicate the amount and the price offered in UI, but payment to the BCU can be done in either local currency or U.S. dollars at the exchange rate prevailing on the day of the auction as per BCU closing..
Allocation process	The allocation system is the Dutch (single price) method. The BCU has discretion to issue less or more than the announced amount (up to 50% more of the original tender).
Settlement	T+1.

SECONDARY MARKET

Trading	Most of the volume traded takes place at the Bolsa Electrónica de Valores (BEVSA) or OTC.
Settlement	Usually T+1.

Prior to 2010, the Central Bank also issued inflation-linked notes at longer tenors and with semiannual coupons. As a result, there are 11 series of BCU UI Notes, currently off the run, with a total outstanding of UI10 billion as of November 2014, equivalent to US$1.2 billion and representing 8% of total domestic debt (average maturity: 2.7 years).

Bloomberg ticker for UI BCU Notes: UNBCU <Govt>

UYU TREASURY BILLS

Since 2011, the Treasury does not issue Treasury bills based on its ongoing strategy of extending total debt average maturity.

TREASURY NOTES (UI AND UYU)

This category comprises two different types of notes: those denominated in pesos (UYU Treasury Notes) and those denominated in *Unidades Indexadas/inflation-linked unit* (UI Treasury Notes).

The total outstanding of UYU Treasury Notes was UYU22 billion (US$1 billion) as of November 2014, representing 6% of total domestic debt. Average maturity was 1.1 years. Since mid-2013, UYU notes are off the run in a deliberate decision of the Treasury not to validate higher local currency rates on the front end of the curve.

Notas del Tesoro en Unidades Indexadas (or UI Treasury Notes) are medium- to long-term coupon-bearing instruments issued by the Uruguayan Treasury. UI Treasury Notes are converted into UYU at the settlement date, at the corresponding UYU/UI quote. (Each coupon payment is also transformed into UYU at the corresponding settlement date.)

The Treasury began issuing UI-linked instruments in 2002 in order to develop a local currency yield curve (especially longer tenors) in an attempt to reduce high dollarization levels in the Uruguayan economy.

Currently, the Treasury issues UI notes at 6- and 11-year tenors. Total outstanding of UI Treasury Notes amounted to UYU30 billion (US$3.5 billion) as of November 2014, representing 25% of total domestic debt. Average maturity stands at 4.9 years. There are currently 12 outstanding series, 2 of them on the run (series 20 and 21). Each of them is issued every two months.

Treasury notes must be paid in pesos with received installments in UYU. Prior to 2014, bills could be paid either in pesos or in the equivalent U.S. dollars. However, such a measure was reversed this year given strong peso weakening.

Bloomberg ticker	UNT <Govt>

UYU TREASURY NOTES

SUMMARY OF TERMS

Issuer	Treasury of the Republic of Uruguay.
Description	Fixed-rate coupon-bearing notes.
Tenors	Currently off the run.
Coupon	Semiannual.
Day count	Calculated on a 30/365-day basis.
Amortization	Bullet.
Rating	Long-term local currency: BBB- (S&P), Baa2 (Moody's), BBB (Fitch).

PRIMARY AUCTION

Auction schedule	The BCU leads auctions on behalf of the Treasury. The BCU usually announces the auction schedule at the beginning of each week. Auctions of UYU Treasury Bills take place once a month, usually on Tuesdays or Wednesdays of the third or fourth week. Bids are submitted electronically to the BCU through the Valnet system. Results are announced approximately one hour after the auction closing time.
Minimum value	Minimum denomination is UYU100,000, increasing at multiples of UYU10,000.

Bidding process Each participating financial institution may submit as many bids as desired as long as the total does not exceed the amount tendered. Bids must indicate the amount and the price offered in UYU.

Allocation process The allocation system is the Dutch (single price) method. The BCU has discretion to issue less or more than the announced amount (up to 200% of the original amount tendered).

Settlement T+1.

SECONDARY MARKET

Trading Most of the volume traded on domestic markets takes place OTC. Formal trading occurs mostly within the Bolsa Electrónica de Valores (BEVSA) although usually at lower trading volumes.

Settlement T+0 or T+1.

UYU Treasury Notes

	ISIN Code	Maturity	Coupon	Issue date (opening)	Org term (yrs)	Outstanding (UYU bn)	Outstanding (USD bn)
UYU Treasury Note Series 2	UYNA00002UY7	27-Jan-16	9,5	27-Jan-11	5	6,4	0,3
UYU Treasury Note Series 4	UYNA00004UY3	21-Mar-15	10,5	21-Mar-12	3	4,0	0,2
UYU Treasury Note Series 5	UYNA00005UY0	21-Mar-17	11,0	21-Mar-12	5	4,0	0,2
UYU Treasury Note Series 6	UYNA00006UY8	22-Aug-15	10,25	22-Aug-12	3	8,4	0,4
Total						**22,8**	**1,0**

Data as of November 25, 2014. Sources: BCU and Santander.

UI TREASURY NOTES

SUMMARY OF TERMS

Issuer	Treasury of the Republic of Uruguay.
Description	Inflation-linked fixed-rate coupon-bearing notes.
UYU conversion	Conversion from UI into UYU takes place at the UI quote effective as of the settlement date.
Tenors	6 and 11 years.
Coupon	Semiannual, calculated on a 30/360-day basis. Coupons are specified in UI.
Amortization	Bullet.
Rating	Long-term local currency: BBB- (S&P), Baa2 (Moody's), BBB (Fitch).

PRIMARY AUCTION

Auction schedule	The BCU leads auctions on behalf of the Treasury. The BCU usually announces the auction schedule at the beginning of each week. Auctions of UI Treasury Notes take place once a month, alternating between 6- and 11-year tenors. Bids are submitted electronically to the BCU through the Valnet system, in terms of the price in UI (dirty price) and until the closing time announced in the auction schedule. Results are announced approximately one hour after the auction closing time. Auctions currently amount to UI200 million (equivalent to US$25 million) for 6-year tenor notes and UI120 million (equivalent to US$15 million) for 11-year tenors, each of them issued every two months.
Minimum value	UI Notes are placed in minimum denominations of UI100,000, increasing at multiples of UI10,000.
Bidding process	Each participating financial institution may submit as many bids as desired up to the original tendered amount. Each bid must indicate the amount and the price offered in UI, although final payment to the BCU can be done in Uruguayan pesos or U.S. dollars at the exchange rate prevailing on the auction date as per BCU closing.
Allocation process	The allocation system is the Dutch (single price) method. The authorities have discretion to issue less or more than the announced amount (up to 200% of the original tender).
Settlement	T+1.

SECONDARY MARKET

Trading	At their clean price up to two decimal points.
Settlement	Usually T+1.

UI Treasury notes *checking – is Cpn column correct now, with commas?]*

Bond	ISIN Code	Maturity	Cpn	Issue Date (Opening)	Org term (yrs)	Outstanding (UI bn)	Outstanding (USD bn)
UI Treasury Notes Series 2	UYNA00002UI0	23-Dec-14	7.00	23-Dec-04	10	0.6	0.1
UI Treasury Notes Series 10	UYNA00010UI3	05-Jan-17	4.25	05-Jan-07	10	1.7	0.2
UI Treasury Notes Series 12	UYNA00012UI9	07-Mar-20	4.25	07-Mar-08	12	1.3	0.2
UI Treasury Notes Series 13	UYNA00013UI7	25-May-25	4.00	25-May-10	15	4.6	0.6
UI Treasury Notes Series 14	UYNA00014UI5	10-Jun-20	4.00	10-Jun-10	10	4.8	0.6
UI Treasury Notes Series 15	UYNA00015UI2	14-Jun-15	4.00	14-Jun-10	5	2.5	0.3
UI Treasury Notes Series 16	UYNA00016UI0	27-Jan-19	3.25	27-Jan-11	8	6.0	0.8
UI Treasury Notes Series 17	UYNA00017UI8	16-Jun-16	2.75	16-Jun-11	5	2.0	0.3
UI Treasury Notes Series 18	UYNA00018UI6	23-Aug-17	2.25	16-Jun-11	5	3.5	0.4
UI Treasury Notes Series 19	UYNA00019UI4	27-Sep-22	2.50	27-Sep-12	10	2.5	0.3
UI Treasury Notes Series 20	UYNA00020UI2	30-Apr-20	3.50	30-Apr-14	6	0.6	0.1
UI Treasury Notes Series 21	n/a	26-Nov-25	4.00	25-Nov-14	11	0.0	0.0
Total						**30.0**	**3.8**

Data as of November 25, 2014. Sources: BCU and Santander.

UI TREASURY BONDS

Bonos del Tesoro en Unidades Indexadas (or UI Treasury bonds) are medium- and long-term coupon-bearing instruments issued by the Uruguayan Treasury. They are denominated in UI (Unidades Indexadas) and converted into UYU at the UI quote as of the settlement date. (Each coupon payment is also transformed into UYU at the prevailing UI/UYU quote.) UI Treasury bonds offer fixed-rate coupons (plus the inflation adjustment), except the 2018 series (step-up structure).

The Treasury began issuing domestic UI bonds in 2002 in order to develop a local currency yield curve (especially longer tenors) and reduce high dollarization levels in the Uruguayan economy. However, since 2005 such issuance is off the run. Currently there are two domestic outstanding series (maturing in 2018 and 2020), rarely traded in secondary markets. Total outstanding currently amounts to US$0.3 billion, roughly 2% of total domestic securities (average maturity of 3.8 years). Bloomberg ticker: UNT<Corp>.

As per global UI bonds, the government started issuing such instruments in August 2004. Currently there are five series, maturing in 2018, 2027, 2028, 2030, and 2037, totaling US$5.6 billion outstanding as of November 2014 (average maturity of 14.3 years.) Secondary markets for global UI bonds tend to be deeper than those for domestic securities. However, global issuance is not very frequent and can occur every two to three years considering the relatively small size of the Uruguayan Treasury amid international markets.

GLOBAL BONDS

Bloomberg ticker	URUGUAY <Corp>

SUMMARY OF TERMS

Issuer	Republic of Uruguay.
Description	UI-denominated coupon-bearing bond.
Tenor	Between 10 and 30 years.
Coupon	Semiannual.
Day count	Calculated on a 30/360-day basis.
Amortization	Bullet or sinkable.
Law	New York, London.
Rating	Long-term local currency: BBB- (S&P), Baa2 (Moody's), BBB (Fitch).

PRIMARY AUCTION

Auction schedule	On announcement. Issued through book-entry system.
Minimum value	Not uniform. Usually US$1,000, increasing at multiples of US$1,000.

SECONDARY MARKET

Trading	At their clean price up to two decimal points (payment to be settled at dirty price).
Settlement	Usually T+3.

UI Treasury global bonds

Bond	ISIN Code	Original Issue Dt	Maturity Date	Outstanding		Cpn	Capital Repayment	Interest Payments
				(UI bn)	(US$ bn)			
Global UI 2018	US760942AT98	14-Sep-06	14-Sep-18	4.9	0.6	5.0	Bullet	Semiannual
Global UI 2027	US760942AU61	3-Apr-07	05-Apr-27	7.4	0.9	4.25	5-Apr-25 - 1/3	Semiannual
							5-Apr-26 - 1/3	
							5-Apr-27 - 1/3	
Global UI 2028	US917288BD36	15-Dec-11	15-Dec-28	17.2	2.2	4.375	10-Jul-26 - 1/3	Semiannual
							10-Jul-27 - 1/3	
							10-Jul-28 - 1/3	
Global UI 2030	USP80557AD64	10-Jul-08	10-Jul-30	8.1	1.0	4	26-Jun-28- 1/3	Semiannual
							26-Jun-29 - 1/3	
							26-Jun-30 - 1/3	
Global UI 2037	US760942AV45	26-Jun-07	26-Jun-37	7.1	0.9	3.7	26-Jun-35 - 1/3	Semiannual
							26-Jun-36 - 1/3	
							26-Jun-37 - 1/3	
Total				**44.7**	**5.6**			

Data as of November 2014. Sources: MEF and Santander.

DOLLAR TREASURY BONDS (DOMESTIC LAW)

In 2002, the government halted domestic issuance of Bonos del Tesoro Nacional en Dólares in an attempt to develop local currency markets. In July 2009, issuance of 10-year bonds was resumed, but cancelled a few months later (in November).

Currently, there are 23 series of dollar Treasury bonds, but none of them on the run. Dollar Treasury bonds accounted for 4% of total domestic debt as of November 2014, totaling US$0.6 billion with an average maturity of 4.2 years (excludes outstanding series issued prior to 2003, not tendered in the debt exchange offer of that year).

Dollar Treasury Bonds are USD-denominated bonds issued by the Uruguayan Treasury under local law. The Central Bank acts as the leading agent for the Treasury, announcing the auction schedule any time a new issuance takes place. This category comprises medium- and long-term securities, including zero-coupon securities, fixed-rate bonds, step-up fixed-rate instruments, and floating-rate bonds.

Bloomberg ticker UTF <Govt>

UYU vs. USD LIBOR CROSS-CURRENCY SWAPS

The UYU versus LIBOR swap is an offshore cross-currency swap (XCS), where the investor pays or receives a fixed rate in UYU and in exchange receives or pays the six-month USD LIBOR floating rate. For instance, a client with a debt in U.S. dollars, paying interest on a LIBOR + spread basis, can enter a XCS if he/she wants to exchange the debt cash flows into local currency. For this swap, both the FX rate at the day of the contract and a local currency interest rate must be agreed between the client and the bank.

This kind of swap is traded over the counter (tailor-made). Payment dates are based on an actual/360 day-count convention. The first six-month USD LIBOR rate is set in advance. Usually the fixing date is two days before the settlement date and thereafter resets semiannually. At inception the FX reference is the spot rate and subsequent quotes are set according to local currency interest rates prevailing in the market.

SUMMARY OF TERMS

Reference	The USD reference rate is six-month LIBOR. FX rate at inception is the spot quote, and local currency rates are those set by counterparties, based on prevailing market rates.
Conventions	Semiannual, actual/360.
Maturity	The curve extends up to three years, but liquidity is mostly concentrated in the one- to two-year sector and is subject to specific counterparty policies.
Liquidity	OTC, tailor-made contracts.

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