

# Issues in cross-border funding of Chilean banks

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## Introduction

This note looks at the evolution of the external liabilities of the Chilean banking sector over the years 2007–10. This period coincides with increased international investment by Chilean pension funds – a traditional source of wholesale funding for Chilean banks – the global financial crisis of late 2008 and early 2009, and the post-crisis recovery that took place after the second half of 2009. The note looks at the volume of liabilities, their composition and the terms at which Chilean banks obtained financing. It also explores differences between foreign and locally owned banks.

At the onset of the global financial crisis, Chilean banks had been gradually increasing their dependence on foreign liabilities. Despite this upward trend, foreign liabilities were still a relatively low share of total liabilities, and largely short-term, tied to trade finance. During the crisis, financing conditions deteriorated, with spreads rising and maturities shortening considerably. This being said, however, Chilean banks never saw a full closure of their sources of funding, despite the fact that no additional liability insurance was introduced by the authorities.

Since mid-2009, conditions have gradually improved, although spreads over Libor are still above 2008 levels. In addition, in recent months the largest banks have been actively seeking alternative sources of financing in the form of syndicated loans and offshore bond issuance. Due to a relatively well developed derivatives market, this has been achieved without increasing bank currency mismatches.<sup>2</sup>

Moving forward, the main challenge comes from the trend of pension funds investing a larger share of their assets offshore. As this happens banks will probably need to rely increasingly on non-resident funding. This can come either directly, via cross-border lending or bonds issued abroad, or indirectly, through increased investment by non-residents in local bond markets.

## The evolution of external liabilities of Chilean banks

Broadly speaking, there are three periods in the recent evolution of cross-border financing by Chilean banks.

During 2007 and until late 2008, there was a period of increased dependence on cross-border liabilities (Graph 1). This first period coincided with a gradual increase in pension fund assets invested offshore, brought about in turn by an increase in the legal maximum for these investments (Graph 2). Pension funds in Chile are large (with assets under management of over 70% of GDP), and have historically been an important source of bank

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<sup>1</sup> The views in this note represent those of the authors and not necessarily those of the Board of the Central Bank of Chile.

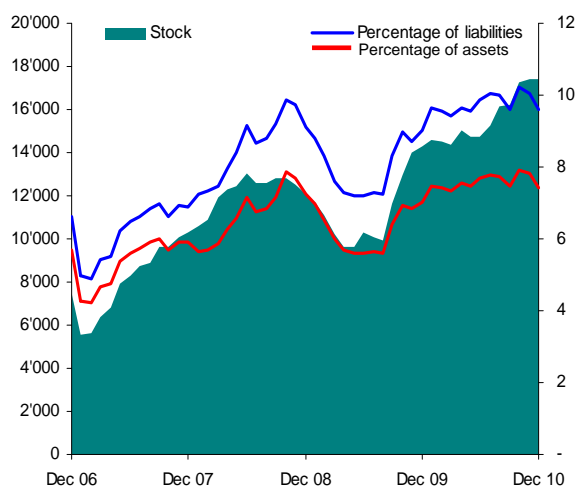
<sup>2</sup> See the Central Bank of Chile's most recent *Financial Stability Report* for details.

finance. For example, as of June 2008, 24% of bank time deposits were from pension funds, which resulted in 11% of bank liabilities being held by the funds (Table 1).

Graph 1

**External funding of banks in Chile**

In millions of US dollars and per cent

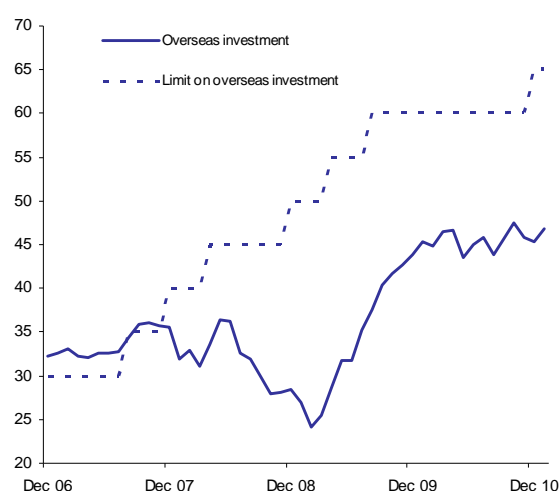


Source: Central Bank of Chile and Superintendence of Banks and Financial Institutions.

Graph 2

**Pension funds' overseas investments**

Percentage of funds



Source: Superintendence of Pension Funds.

Table 1

**Consolidated balance sheet data of banks**

	Jun 2008		Dec 2010		Jun 2008		Dec 2010	
	USD millions	%	USD millions	%	USD millions	%	USD millions	%
<b>Liabilities</b>	<b>203'275</b>		<b>211'725</b>		<b>203'275</b>		<b>211'725</b>	
Demand deposits	27'227	13.4	38'107	18.0				
Time deposits	92'128	45.3	88'980	42.0				
<b>Pension funds</b>	<b>22'317</b>	<b>11.0</b>	<b>6'052</b>	<b>2.9</b>				
Other	69'812	34.3	82'928	39.2				
External debt	14'159	7.0	13'446	6.4				
Bonds	15'875	7.8	23'341	11.0				
Other	40'423	19.9	31'179	14.7				
Capital and reserves	13'461	6.6	16'673	7.9				
<b>Assets</b>	<b>203'275</b>		<b>211'725</b>		<b>203'275</b>		<b>211'725</b>	
Loans	141'023	69.4	148'629	70.2				
Financial instruments	23'437	11.5	28'617	13.5				
Net derivatives	1'384	0.7	-268	-0.1				
Other	37'430	18.4	34'748	16.4				

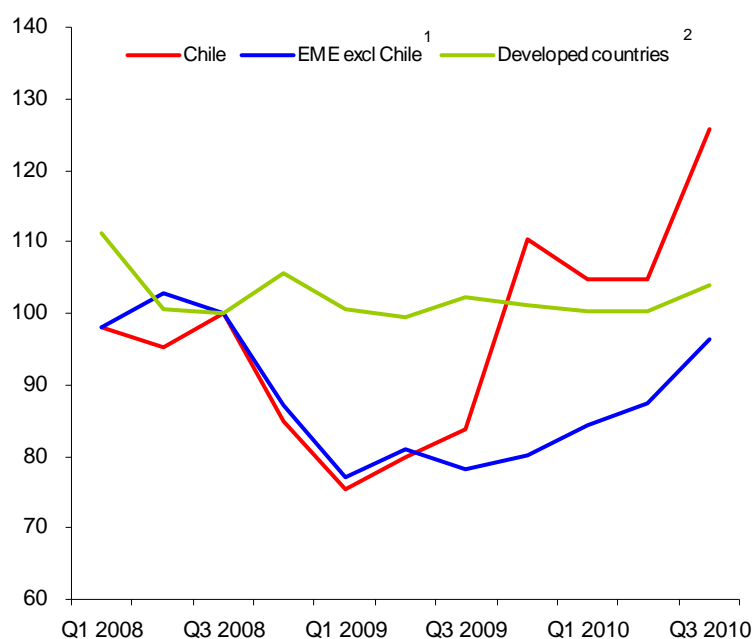
Source: Superintendence of Banks and Financial Institutions.

This increase in foreign liabilities came to a halt in the last quarter of 2008. On the one hand, banks faced tougher borrowing conditions abroad (see section on terms), with falling maturities and rising spreads. On the other hand, pension funds sold foreign assets and reinvested the funds locally – increasing the share of bank deposits in their assets and reducing their need for foreign debt. No additional government insurance was provided to

Chilean banks in this period, and government policy concentrated on providing liquidity backstop mechanisms for banks in US dollars in the form of swaps and public sector deposits.

This second, “external crisis”, phase lasted until mid-2009, after which external funding conditions improved and stocks of foreign liabilities began to increase. Foreign liabilities reached 10% of total debt in late 2010, similar to the maximum share observed in 2008. What is notable in the Chilean case is the speed of this recovery. In dollar terms, the percentage drop in cross-border bank borrowing in Chile was similar to that observed in other emerging economies. However, by the third quarter of 2009 cross-border lending to Chilean banks (according to the BIS statistics) had returned to pre-crisis levels – a much more rapid turnaround than the average emerging economy in the sample (Graph 3).

Graph 3  
**Cross-border bank lending vis-à-vis banking sector**  
 Q3 2008 = 100



<sup>1</sup> Includes Argentina, Brazil, Colombia, Mexico, Peru, Venezuela, Malaysia, Korea, Philippines, China, India, Indonesia, Singapore, Thailand, Pakistan, Lithuania, Bulgaria, Hungary, Poland, Slovenia, Turkey, Latvia, Czech Rep, Romania, Estonia, Russia, Slovakia and Ukraine. <sup>2</sup> Includes Australia, Canada, Iceland, Japan, Switzerland, New Zealand and US.

Source: BIS locational banking statistics.

This three-stage pattern is common across groups of banks. This is apparent in Graph 4, which separates banks into four clusters that share common business strategies (large, medium, consumer loan and investment banks) and reports foreign liabilities as a percentage of total liabilities for the three clusters that actively tap international markets or lenders.<sup>3</sup> Where we do see a difference is across ownership. Focusing on the medium-sized banks for

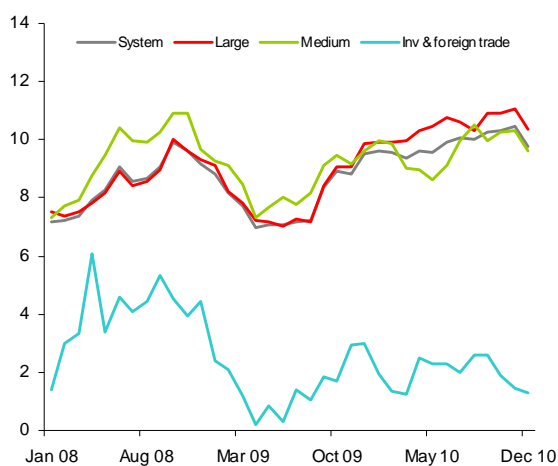
<sup>3</sup> Consumer loan banks do not hold foreign debt.

comparability, locally owned banks experience a larger drop in their share of foreign liabilities, suggesting better access to foreign debt for foreign banks through or due to their parent banks in this period of financial stress (Graph 5).<sup>4</sup> It is worth noting that the parent companies of these banks are all banks that fared relatively well in the initial stages of the subprime crisis.

Graph 4

**External funding by cluster**

Percentage of liabilities

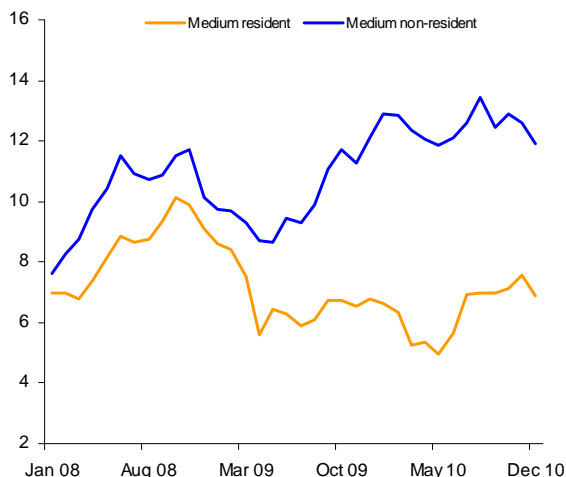


Source: Superintendencia of Banks and Financial Institutions.

Graph 5

**External funding by ownership: medium-sized banks**

Percentage of liabilities



Source: Superintendencia of Banks and Financial Institutions.

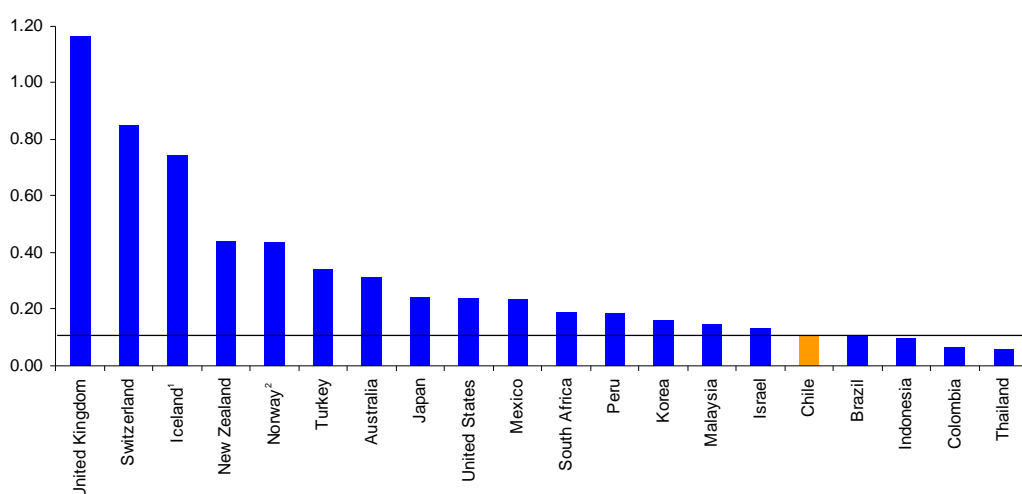
Despite their recent growth, from a cross-country perspective foreign liabilities are still relatively small as a share of the total liabilities of the Chilean banking system (Graph 6). However, this is likely to change over time as pension funds gradually continue to reduce their home bias.

<sup>4</sup> Foreign banks are those in which non-residents hold a controlling share of voting rights.

Graph 6

### Foreign liabilities of banks

Percentage of claims on private sector, average 2008–Q3 2010



<sup>1</sup> Last data available: Q3 2008. <sup>2</sup> Last data available: Q4 2006.

Source: IMF, *International Financial Statistics*.

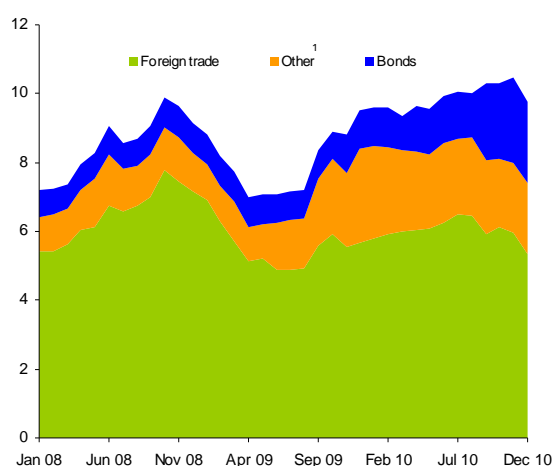
## Composition of foreign liabilities

Most of the external liabilities of Chilean banks are related to trade credit, although general purpose credit lines and bond issuance have grown significantly over the past year. As a result, a large share of external debt is short-term (Graphs 7 and 8).

Graph 7

### Composition of external funding

Percentage of liabilities



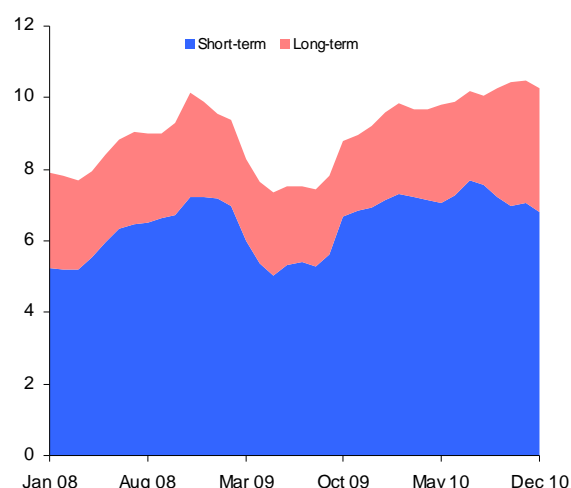
<sup>1</sup> Mostly general purpose credit lines.

Source: Superintendencia of Banks and Financial Institutions.

Graph 8

### Maturity of external funding<sup>1</sup>

Percentage of liabilities



<sup>1</sup> Residual maturity.

Source: Superintendencia of Banks and Financial Institutions.

Large banks rely more heavily on cross-border bond issuance and less on credit lines than medium-sized banks. In turn, within the medium-sized banks, credit lines are a more important source of financing for foreign-owned banks, which results in longer maturities and lower rollover needs than for locally owned medium banks (Table 2)

Table 2  
**Composition of external funding by cluster and ownership – Dec 2010**

Percentage of liabilities

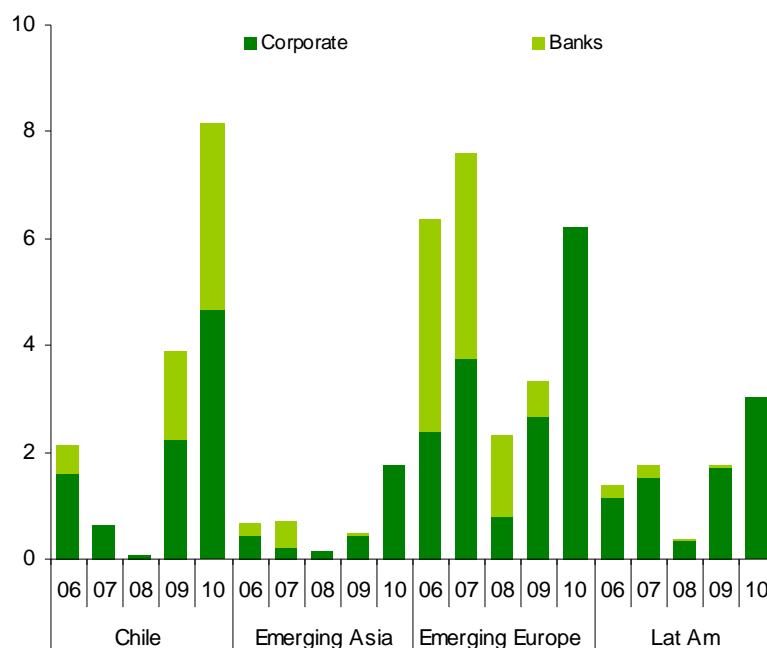
	Trade credit	Bonds	Credit Lines	Total	Short-term <sup>1</sup>
All	5.4	2.4	2.0	<b>9.8</b>	6.8
Large	5.7	3.4	1.2	<b>10.4</b>	6.3
Medium	5.2	0.3	4.1	<b>9.6</b>	8.9
<i>Medium foreign</i>	5.3	0.0	6.6	<b>11.9</b>	11.1
<i>Medium local</i>	5.0	0.7	1.2	<b>6.9</b>	6.4

<sup>1</sup> Residual maturity.

Source: Superintendencia de Banks and Financial Institutions.

Moreover, in the second half of 2010 large Chilean banks increasingly tapped international bond markets. This pattern is in line with record levels of issuance by emerging market banks and non-financial firms over this period (Graph 9). Although the context of global capital flows provides a series of policy challenges, a rising share of long-term debt or bond finance appears as a potentially welcome development, inasmuch as it involves diversifying sources and increasing maturity.

Graph 9  
**Offshore bond issuance by EMEs**  
 Percentage of GDP



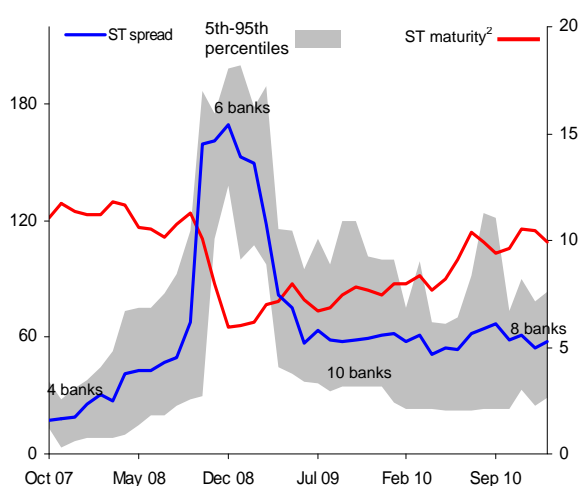
Source: JPMorgan Chase.

## Terms of foreign debt

Not surprisingly, the terms at which Chilean banks access international debt markets follow the same three stages described above. After a period of low spreads (over Libor), Chilean banks saw the spreads on their short-term variable rate debt (the most common form of debt for Chilean banks) rise by over 150 basis points in October 2008. Starting in April 2009, spreads gradually fell to 70 basis points, remaining at this level until the end of 2010. The stability in the last period is remarkable, given the evolution of sovereign spreads in May 2010 after concerns over Greece and, to a lesser extent, in December 2010, following the events in Ireland (Graph 10). Figure 10 also shows how the dispersion of spreads between banks has remained close to the levels observed in August 2008, but above the levels seen in late 2007. Part of this can be explained by the broader set of banks that borrowed in international markets during 2009 and 2010. Graph 11 shows a scatter plot of spreads and terms for long-term external banking debt for the sample period. This market did remain in practice closed between late 2008 and late 2009 – with recent contracts taking place at similar terms but at higher spreads than in 2007 and early 2008.

Graph 10

**Cost of short-term external loans<sup>1</sup>**  
Weighted average, in basis points  
Right-hand scale shows months to maturity

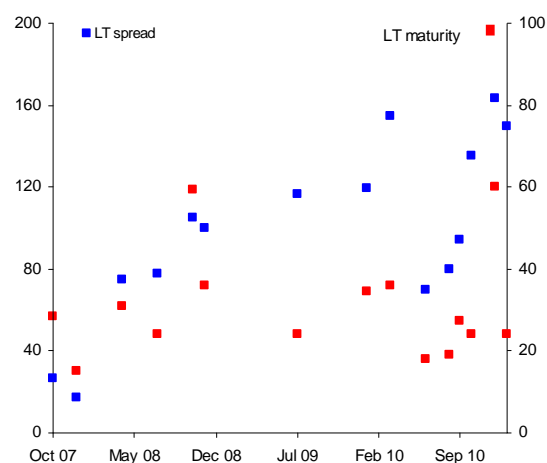


<sup>1</sup> Short-term variable rate bank loans. <sup>2</sup> Moving quarter average.

Source: Central Bank of Chile.

Graph 11

**Cost of long-term external loans<sup>1</sup>**  
Weighted average, in basis points  
Right-hand scale shows months to maturity



<sup>1</sup> Long-term bank loans; excludes bonds.

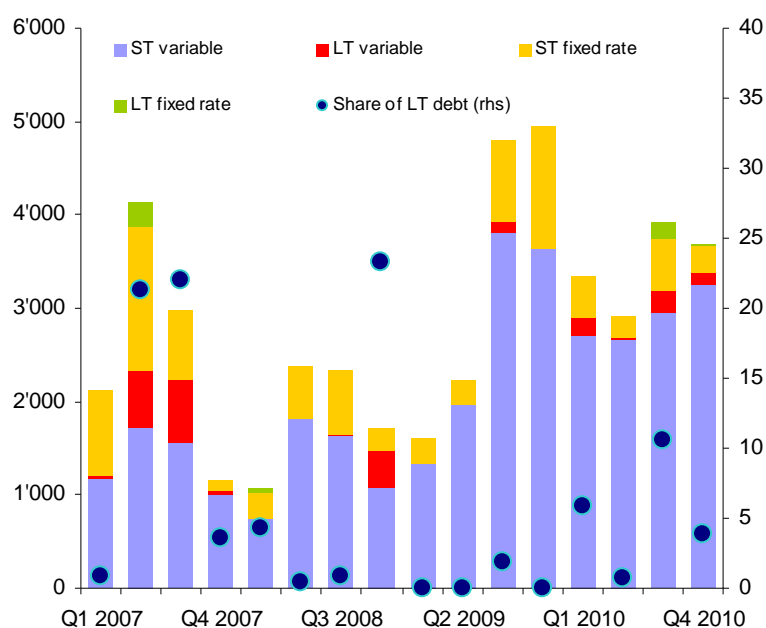
Source: Central Bank of Chile.

As spreads rose, the maturity of short-term variable debt fell from 13 to six months. After mid-2009, terms gradually increased to close to 10 months (Graph 10). As mentioned above, the share of long-term debt in gross debt was a minor share of debt flows for most quarters in our sample (Graph 12).

Graph 12

**Foreign debt flows by term and interest rate**

In millions of US dollars; excludes bond issuance



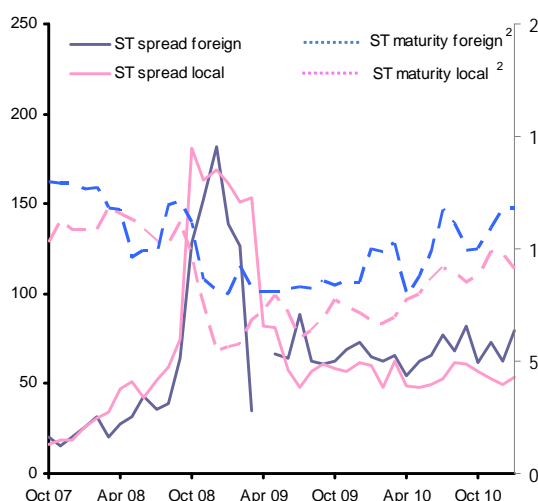
Source: Central Bank of Chile.

The pattern of spreads and maturities observed in short-term variable rate debt is broadly prevalent across bank clusters and ownership (Graphs 13 and 14).

Graph 13

**Cost of external financing by ownership<sup>1</sup>**

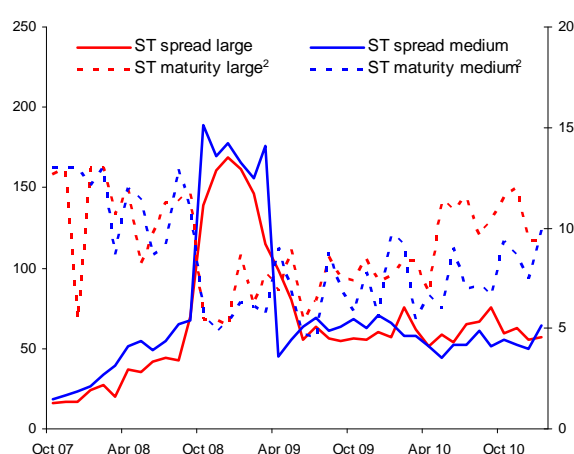
Weighted average, in basis points  
Right-hand scale shows months to maturity



Graph 14

**Cost of external financing by cluster<sup>1</sup>**

Weighted average, in basis points  
Right-hand scale shows months to maturity



<sup>1</sup> Short-term variable rate bank loans. <sup>2</sup> Moving quarter average.

Source: Central Bank of Chile



All in all, Chilean banks saw rising spreads and shortening maturities after October 2008. Interestingly, spreads on short-term debt fell as early as April 2009, with maturities taking considerably longer to approach pre-crisis levels.

Table 3 Spreads and maturities of short-term loans <sup>1, 2</sup> In basis points, months					Table 4 Determinants of credit spreads Dependent variable spread over Libor Loan-level data				
Trade credit		Credit lines			Variable	A	B	C	D
Spread	Term	Spread	Term						
All	50	6	73	13	Term	0.02***	0.02***	0.02***	-0.01*
					ln (amount)	0.05***	0.05***	0.05***	0.03
Large	55	13	80	13	Foreign	0.01	0	0.02*	-0.27**
					Medium	0.05**	0.04*	0.06***	0.18**
Medium	42	6	60	6	Trade loan	-0.16	-0.16***		
					State bank		-0.10**	-0.09***	
Medium foreign	40	6	51	6	R2	0.23	0.24	0.37	0.23
					N	1163	1163	1011	147
Medium local	53	6	85	13	Sample	S2 2009 to S2 2010			S2 2008 to S1 2009

<sup>1</sup> Loans with terms of 13 months or less. <sup>2</sup> Median of second semester of 2010.  
Source: Central Bank of Chile.

\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.  
Columns A, B and D are OLS estimates for dollar-denominated floating rate short-term loans. Column C is a subsample of trade-related dollar-denominated floating rate short-term loans. Sample period shown in table. Constant included but not reported.  
Source: Authors' calculations based on Central Bank of Chile data.

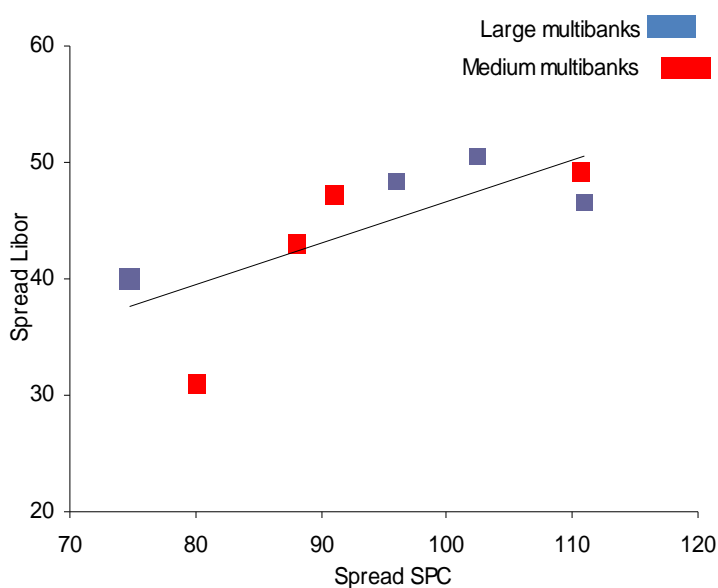
A more detailed look at debt contracted during 2010 shows that larger banks pay higher spreads than medium-sized ones, but take on longer-term loans. Within medium banks, foreign-owned subsidiaries pay lower spreads on both trade credit and general purpose credit lines, and tend to have shorter terms (Table 3). To disentangle the confounding effects of terms, ownership and size on spreads, Table 4 reports the results of a simple regression of credit spreads on loan and bank characteristics using individual loan data for those loans contracted between the second semester of 2009 and the second semester of 2010. We restrict the sample to floating rate loans denominated in US dollars. After controlling for the term of the loan and a dummy for whether the loan is trade-related, we find no significant difference between foreign and local banks (the dummy for foreign banks is not statistically significant at conventional confidence levels). Medium-sized banks, on the other hand, pay significantly higher spreads – 5 basis points higher (column A). This result is robust to controlling for the state-owned bank (column B) or restricting the sample to only trade-related credits (column C). We do find, however, that during the “crisis period”, from the fourth quarter of 2008 to the first quarter of 2009, foreign-owned banks paid significantly lower spreads, which is consistent with the smaller drop in foreign debt as a share of liabilities discussed above (column D).

Finally, Graph 15 shows that during 2010 there was a high correlation between the spreads paid on a subset of comparable cross-border bank loans and spreads over overnight index swaps of bank prime borrowing rates in domestic markets. This suggests that foreign lenders are evaluating risk on similar terms to local agents.

Graph 15

**Local versus foreign spread – sample<sup>1</sup>**

Simple average for 2010, basis points



<sup>1</sup> Only foreign trade USD loans with terms of 0–180 days and floating rate.

Source: Central Bank of Chile.

## Discussion

Since mid-2009, Chilean banks have been once again increasing their use of foreign credit as a source of funding. This is due to improving external conditions and increased offshore investment by Chilean pension funds. To a large extent, this new wave of external borrowing has taken place on similar terms to those observed prior to 2008: mostly short-term external debt related to trade credit. This leads to a series of policy challenges.

First, despite the fact that Chilean banks were not shut out of external borrowing after October 2008, the cost of external funds rose and maturities shortened, particularly for smaller, locally owned banks. Moreover, liquidity hoarding due to concerns by banks about their ability to roll over debt led the Central Bank to provide US dollar swaps. Hence, the crisis has provided a stark illustration of the funding liquidity risk (as well as the interest rate risk) associated with cross-border bank lending. As has been extensively discussed, when faced with domestic solvency or liquidity problems, banks immediately curtail foreign lending. It is therefore important for recipient banks to diversify funding sources and actively extend the maturity of foreign debt to reduce this risk. Careful thought should therefore be given to current liquidity and market risk regulation so as to evaluate whether it provides adequate protection from events such as those observed in late 2008.

Second, recent external bond issuance is a favourable development for the Chilean banking sector. Indeed, it appears to be a potential “silver lining” in the current environment of low returns in developed economies and lower perceived risk in emerging markets. In Chile, however, only a small sample of banks has tapped international debt markets so far. Discussion with market participants indicates that fixed costs are a key deterrent for smaller

banks. This being the case, policymakers should help promote stable sources of long-term external funding for medium-sized banks. The alternative of large banks intermediating these funds to other banks is worrying from a systemic perspective, as it compounds too big to fail concerns. The safer alternative is for medium-sized banks to rely on domestic bond issuance, purchased by residents and non-residents. The challenge is to further develop domestic bond markets in a context in which many countries are concerned with the risks of “excess” cross-border capital flows.

One option for doing so is to allow for the development of covered bonds. In Chile, legislation has recently been passed that allows the creation of bonds that remain on balance sheet but are backed by a pool of mortgages in the event of bank liquidation.