

**An Analysis of the Banking System Structure in Chile, Colombia and  
Peru in Light of the Creation of the Integrated Latin American Market  
– MILA Market**

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## **I. Introduction**

In 2009 the Santiago, Colombia and Lima stock exchanges, along with the main depository trust companies of Chile, Peru and Colombia, signed an agreement to integrate the stock markets of the three countries. In a combined effort of the private sector and government authorities, the Integrated Latin American Market (MILA Market) started operations in the second quarter of 2011.

The objective of the MILA market is to integrate and foster the financial businesses of its participants by providing them liquidity, more diversification opportunities and financing options in a one-stop shop context, in order to become the most attractive market in the region. The recent financial reform in Mexico provides for the possibility of the Mexican Stock Exchange to enter into agreements with other exchanges. It is expected that Mexico will enter the MILA market soon, as its stock exchange seeks approval from its regulatory authorities in the first semester of 2014, further contributing to the integration of the Latin-American stock market.

The MILA market is delineated under the more general political objective of economic integration being pursued by Chile, Colombia, Mexico and Peru through the Pacific Alliance. The Pacific Alliance is an agreement that started in the second quarter of 2011 with the objective to attain a deep integration among these countries through the free flow of goods, services, capital and labor.

It was created in part to counter-balance the importance of Mercosur<sup>1</sup>, and specifically Brazil, in the Latin American region. Brazil's size, in terms of population, GDP, and assets under management as well as its performance in terms of economic growth, have allowed it to attract more capital flows, both as Foreign Direct Investment and Portfolio Investment than any other country in the region. By fostering this alliance, Chile, Colombia, Mexico and Peru will become an attractive alternative for investors around the world (Table 1).

**Table 1: Capital Flows and Assets under Management (\$ in billions)**

	Foreign Direct Investment	Portfolio Investment	Assets under Management
Brazil	\$ 76.1	\$ 16.5	\$ 1,618.0
Chile	30.3	10.4	249.6
Mexico	17.2	81.3	317.9
Colombia	15.6	7.4	106.9
Peru	12.2	4.9	52.1
<i>Pacific Alliance</i>	<i>75.4</i>	<i>104.1</i>	<i>726.7</i>

Source: International Monetary Fund, BCG "Capturing Growth in Adverse Times: Global Asset Management 2012", Bank Superintendence of each country.

As of December 2013 MILA's market capitalization was \$601.9 bn, of which 44.2%, 35.8% and 20.0% correspond to companies from Chile, Colombia and Peru, respectively<sup>2</sup>. Volumes of negotiation have been increasing, reaching \$6.3 bn in December 2013, of which Chile accounts for 70%<sup>3</sup>.

Although the MILA market platform has not been very active – investors prefer to use the local brokers with whom they already have an established relationship and pension funds need a more liquid platform in order to not affect prices –, the effects of

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<sup>1</sup> Mercosur is an agreement among Brazil, Argentina, Paraguay, Uruguay, Bolivia and Venezuela, in the same line of the Pacific Alliance.

<sup>2</sup> MILA News No.27, January 2014.

<sup>3</sup> Ibid.

the integration have been positive as they extend to local transactions of foreign stocks in terms of access and tax effects.

In addition to this, the MILA market has had other effects in the structure of the financial system of the three countries. In particular, several M&A transactions have taken place across the three countries in both, the real and financial sector which can be seen as the preparation of these companies for the long term effects of the integration.

In the past, Chilean corporations have had presence in Peru but less so in Colombia. After the incursion of Falabella, both the retail company and the bank, Colombia has seen the entry of Cencosud, a major retailer that acquired the operations of Carrefour in the country, and Corpbanca, a commercial bank that acquired two mid-size banks in the country, among others. At the same time, Peru's largest financial holding, Credicorp, expanded its presence in both Chile and Colombia, mainly through its capital markets unit. Finally, one of Colombia's major financial groups, Grupo Sura, acquired the pension and insurance businesses of ING in Chile, Peru and Mexico.

Given the integration effects that will result from the Pacific Alliance, the potential impact of the MILA market, and the effect we have already seen in the change in structure of the financial system in these countries, it is important to analyze the current structure of the banking system in each country from a historical perspective in order to identify the main similarities and differences in terms of development, concentration and performance.

We argue that although some differences still exist in certain microstructure aspects in the banking systems of these countries, the similarities among them will allow their systems to integrate smoothly. Furthermore, it is likely that these differences will be

reduced as the Colombian and Peruvian banking institutions catch up with the standards of the Chilean banks. The major risks we consider exist are related to some regulatory issues and currency risk.

The document is divided into five parts including this introduction. Section 2 presents a summary of the main financial reforms in the three countries in the past forty years; section 3 describes the structure and aggregate performance of their financial systems; section 4 analyses the differences across the banking system in Chile, Peru and Colombia using bank specific data; and section 5 concludes.

## **II. Major Financial Reforms in Chile, Colombia and Peru**

Colombia is the largest of the three countries both in terms of population and GDP; however, Chile is the largest in terms of loans and market capitalization (Table 2). One reason that could help explain this is the fact that Chile has implemented financial reforms well before Colombia and Peru have done so, which may have contributed to the development of its financial system at an earlier period.

**Table 2: General Macroeconomic Figures**

	Chile	Colombia	Peru
GDP in US \$bn	\$268	\$370	\$197
Population (in millions)	17	47	30
Total Loans / GDP	69.4%	32.6%	25.6%
Market Capitalization / GDP	116.9%	70.9%	49.2%

Source: Bank Superintendence of each country, Trading Economics-The World Bank Group, S&P Global Stock Markets Factbook

In recent history, the main reforms in Chile started in the mid 1970's after the country left the Andean Pact in order to pursue a different economic model, while Peru and Colombia stayed committed to the import substitution strategy. The main reforms

consisted in the privatization of many corporations, the loosening of restrictions on mandatory credits and on price liberalization, where interest rates were allowed to fluctuate and were agreed on by the parties in many transactions.

These reforms incentivized a large credit expansion in the country throughout the second half of the 1970's and the first years of the 1980's. Afterwards, the Chilean financial system was severely hit by the fighting of inflation in the United States, which resulted in an increase in interest rates, and by the Mexican crisis. Coupled with the fact that the financial liberalization was not accompanied by a strengthening in the regulatory framework, the impact of the external factors resulted in a severe crisis in the Chilean financial system<sup>4</sup>.

In spite of the harsh and costly effects of the crisis it is important to note the increase in the depth in the financial system at this time. As presented by Reinstein and Rosende (2001), total loans over GDP increased from 32.1% in 1978 to 70.3% in 1982. After the financial crisis, regulation pursuing more market discipline was implemented in 1986, which strengthened capital requirements, tried to limit risk taking in the banking sector and increased transparency through more information disclosure.

A few years after the financial liberalization started, in 1980, the reform of the pension system in Chile was also put into place. This major reform implied the transition from a defined benefit system to a defined contribution system. One of the main impacts of this reform to the financial system is the disintermediation of the banking sector. The newly created private pension funds were allowed to invest in a wide array of securities; this allowed investors to go directly to the capital markets to satisfy their financing needs.

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<sup>4</sup> Reinstein and Rosende (2001)

In fact, as presented by Acuña and Iglesias (2001), the number of issuers in the Chilean capital market increased from 270 to 375 from 1980 to 1997.

The latest major banking reform in Chile occurred in 1997. This reform continued to enhance the risk management of the banks through more powers given to the supervisory authority and also diversified the business by allowing banks to participate, through subsidiaries, in factoring, securities trading, and equity underwritings and also by allowing more international activities, such as loans to foreign companies for businesses outside Chile<sup>5</sup>.

In contrast to the early Chilean reforms, Colombia and Peru's major reforms started in the early 1990's. Both reforms tackled the general objective of opening the economy, incentivizing foreign direct investment, and on the financial sphere, they dealt with the liberalization of interest rates, the reduction of the reserve requirement and of mandatory investments, and the transition towards a model of universal banking. In both countries, the reforms resulted in an increase in financial depth. The loan to GDP ratio went from around 10% to 30% and from 29% to 44%, between 1991 and 1997 in Peru<sup>6</sup> and Colombia<sup>7</sup>, respectively.

Following the Chilean model of a defined contribution private pension system, both, Colombia and Peru reformed their pension systems in 1993. They created the private pension fund system and administrators, but in contrast to Chile, the existence of the public defined benefit system was not closed and currently both systems coexist. In spite of this, the system contributed to the development of capital markets in each

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<sup>5</sup> Ibid

<sup>6</sup> Marchini (2004)

<sup>7</sup> Uribe and Vargas (2002)

country, given the less restrictive investment guidelines for the pension savings when compared to the government managed defined benefit system.

The disintermediation of the banking sector achieved by the introduction of the defined contribution pension system is possibly more dynamic in Chile when compared to Colombia and Peru – and perhaps will continue to be – due to the low levels of government debt in this country. The Government Debt to GDP ratio<sup>8</sup> in Chile is 12.2%, whereas it reaches 21% in Peru and 32.3% in Colombia as of the third quarter of 2012; this lower public debt levels reduce the potential crowding out of private investments and allow for more private securities issuance.

These regulatory histories are one of the major determinants of both, the similarities and differences in the structure and performance of the financial systems of these three countries; we will see this more in depth in the next section.

### **III. Structure and Performance of the Banking Systems of Peru, Chile and Colombia**

Colombia, Chile and Peru are characterized by a relatively concentrated banking system with a small number of institutions. As of December 2012 Colombia had 23 banks and total assets of \$177 bn, Chile had 24 banks and total assets of \$253 bn and Peru had 16 banks and totals assets of \$80 bn. One of the main differences in the banking systems is the presence and size of foreign banks, with Chile and Peru having a larger foreign bank sector than that of Colombia (Table 3).

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<sup>8</sup> Source: World Bank

**Table 3: General Characteristics of the Banking System**

	Chile	Colombia	Peru
Number of Banks	24	23	16
Number of Branches	2,279	6,127	1,792
Population per Branch	7,635	7,687	16,814
Number of Foreign Banks	12	8	10
% Assets of Foreign Banks	35.4%	23.7%	44.6%

Source: Bank Superintendence of each country, Trading Economics-The World Bank Group

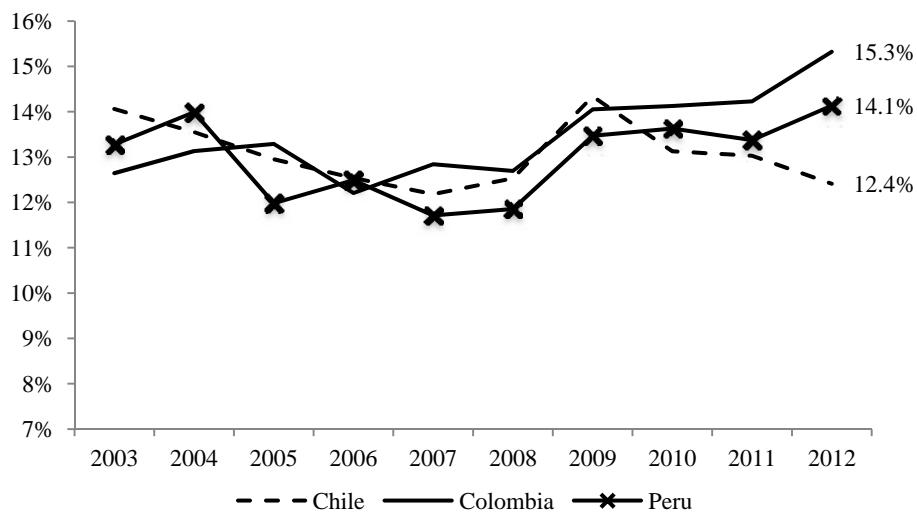
In the three countries financial conglomerates are a dominant structure. In Chile, excluding the state-owned bank, three of the four largest banks belong to a domestic financial conglomerate and account for 42% of total loans; Colombia presents a similar structure with three of the four domestic financial conglomerates accounting for 64% of total loans; Peru, however, has a higher presence of foreign banks with only two domestic financial groups in the top four, although these two banks alone account for 45% of total loans.

The similarities present in the structure of the financial system can also be seen in the performance of the banking industry as a whole, although major differences still exist, especially in Chile when compared to Colombia and Peru. To illustrate this we decided to analyze classic financial ratios to measure profitability, efficiency and leverage.

We first decided to focus on the capital-related ratios, given the leverage characteristics of the banking system and the importance of regulatory capital, even more so in light of the recent Basel III regulation. Exhibit 1 presents the regulatory capital ratio for the aggregate of the banking system in the three countries. Although these numbers are not comparable across countries due to the different regulations, we find many similarities across the three countries. First, they are always well above the minimums

required of 8%, 9% and 10% in Chile, Colombia and Peru<sup>9</sup>, respectively and when we look at specific bank data from 2001 to 2012, all banks individually are well above the minimum required at all moments in time as well. Second, on average, foreign banks present higher regulatory capital ratios in all three countries, including in Colombia, where foreign banks must be established as subsidiaries and constitute capital in the country (Table 4).

**Exhibit 1: Aggregate Regulatory Capital Ratio**



Source: Bank Superintendence of each country, author's calculations

**Table 4: Regulatory Capital Ratio – Domestic versus Foreign**

	Domestic	Foreign
Chile		
<i>Min</i>	9.5 %	10.2 %
<i>Median</i>	12.4	29.3
<i>Max</i>	118.2	649.4
Colombia		
<i>Min</i>	9.2 %	9.9 %
<i>Median</i>	12.4	13.8
<i>Max</i>	32.8	99.4
Peru		
<i>Min</i>	9.9 %	10.4 %
<i>Median</i>	12.4	14.9
<i>Max</i>	22.5	105.9

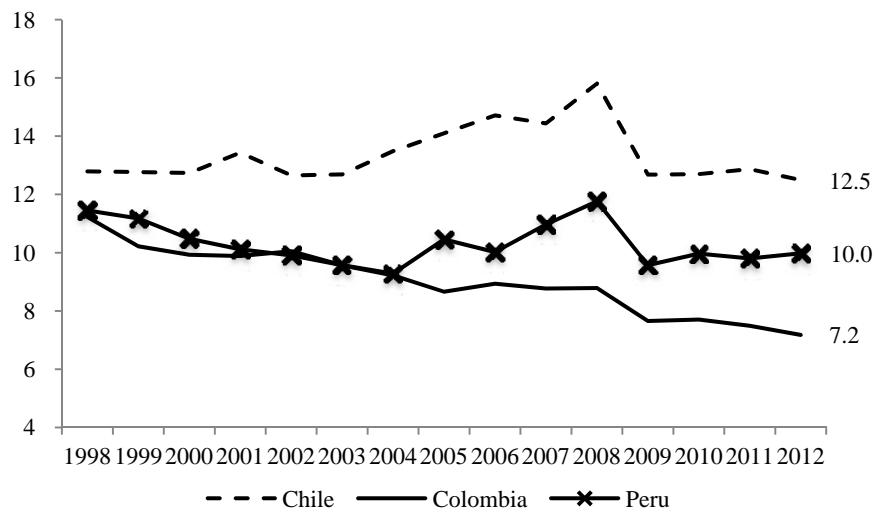
<sup>9</sup> In 2009 Peru started to increase its minimum regulatory capital till it reached 10%; before, the required minimum was 9.1%.

Source: Bank Superintendence of each country, author's calculations

In order to be able to compare across countries we focused in the Assets to Equity ratio, which is less affected by regulatory requirements (Exhibit 2). We find that, on average, Chilean banks are more levered than Colombian and Peruvian banks, which may indicate a more efficient use of their resources, however leverage levels are well below those found in developed countries. In contrast, Colombia presents the lowest leverage – 7.2x in 2012 – and this ratios has been consistently decreasing in the past 11 years. This pattern might be the result of two phenomena, on the one hand the changes in regulatory capital requirements and the banks' expectations of further changes has led them to adjust their capital structure; on the other hand, the increased internationalization of major Colombian banks and their entry to the US market through ADRs, have drove them to achieve international standards in terms of capital requirements.

**Exhibit 2: Leverage - Assets to Equity Ratio (number of times)**

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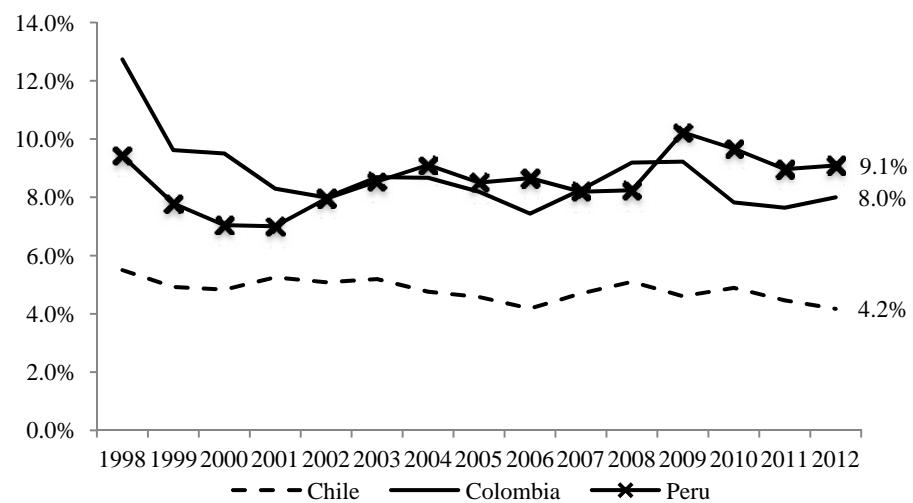
Source: Bank Superintendence of each country, author's calculations

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As a proxy to measure the level competition in the banking system, which directly impacts the development of financial systems, we calculated the *ex-post* Net Interest Margin (NIM), as the difference between Interest Income and Interest Expenses as a percentage of Total Loans. Although imperfectly, the NIM could be a proxy for the cost of intermediation, what Bernanke (1983) defines as CCI – Cost of Credit Intermediation – which measures the costs of channeling funds from savers to borrowers. A high NIM could imply increased borrowing costs or low returns for savers, discouraging the use of the banking system and making more expensive (and scarce) the flow of funds from savers to investors. Exhibit 3 presents the differing levels and evolution of the NIM in Chile, Colombia and Peru from 1998 to 2012 for the aggregate banking sector.

**Exhibit 3: Net Interest Margin**

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Source: Bank Superintendence of each country, author's calculations

In general we can see that in the past 14 years there has not been a marked trend up or down in the evolution of the margin in the three countries. Another important fact is the disparity of the NIM between Chile when compared to Peru and Colombia. The lower margins in Chile could be the result of the increased competition from foreign institutions

in the system, which has pushed local banks to converge to their higher management and governance standards. In addition to this, Chile has lower reserve requirements, a factor that greatly impacts the level of interest margins.

In contrast, the numbers of Colombia and Peru are more in line with what is observed in Latin America. The high levels of interest margins in Latin America and its determinants have been subjects of study for many years. Brock and Rojas-Suarez (2000) compiled a series of working papers on the subject with the aim of understanding the reasons behind the structure of the margin in different Latin-American countries. Most of these research efforts focused in the 1990's and early 2000's but still a decade later, margins are high when compared to other regions of the world.

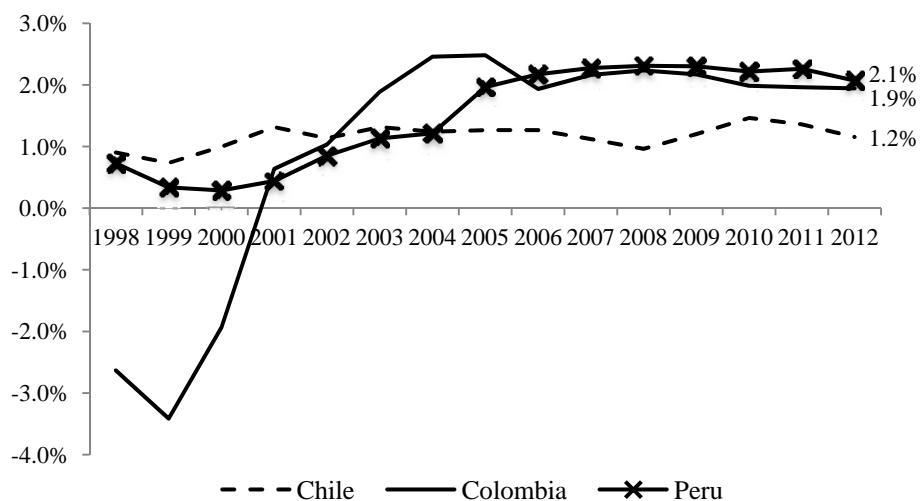
Among the determinants of interest margins microeconomic factors have been the most cited. Brock and Rojas-Suarez (2000) associate high bank interest rate spreads with bank-specific inefficiencies. Barajas, Steiner and Salazar (2003) combine microeconomic and macroeconomic factors to find the determinants of high spreads, and attribute high margins to high levels to inflation, financial taxation, high administrative costs and low competition levels. Chortareas, Garza-Garcia and Girardone (2012) in a study with data from different Latin-American banking markets from 1999 to 2006, find that concentration has no effect in interest margins whereas cost efficiency reduces it and bank capitalization increases it. In the next section we will look at some individual bank level data to try to identify some of the main determinants of the higher margins in Peru in particular.

Regarding profitability, as measured by the Return on Assets (ROA), we can see that Chile has a lower ROA and that Colombia and Peru present more similar levels. At

the same time, the volatility of the ratio is higher for the latter two, especially for Colombia (Exhibit 4). The large negative number in this country is the result of the financial crisis and recession experienced in 1998-1999. Colombia's economy contracted, with real GDP falling -4.0% in 1999, whereas Chile presented a -0.6% contraction and Peru grew 0.9%. The higher profitability levels in Peru and Colombia might be the result of the higher NIM of the banks in these countries, as a result of the market power of the largest banks. We expect institution from Chile to try to capture the higher returns in these countries, aided by the integration efforts in the region.

**Exhibit 4: Return on Assets**

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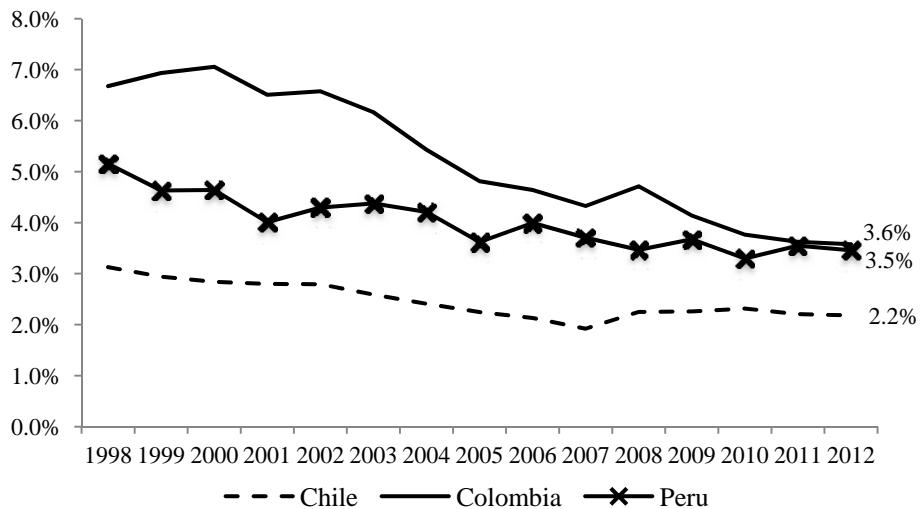
Source: Bank Superintendence of each country, author's calculations

As a proxy for management efficiency we focused on performance on the cost side. We calculated the Cost Efficiency Ratio as Administrative Expenses / Assets. Once again, levels and trends are similar for Peru and Colombia; in particular we see a major reduction in this ratio in the case of Colombia to the point that it has catch-up the average levels of Peru. The higher costs in Peru might be another determinant of the high NIM in

the country. Chile's ratio is the lowest and, although at a lesser extent, it has also decreased in the past 14 years (Exhibit 5).

**Exhibit 5: Cost Efficiency – Administrative Costs to Assets**

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Source: Bank Superintendence of each country, author's calculations

In general, we can see more similar indicators of performance for Colombia and Peru when compared to Chile, in spite of the differences in the structure of their financial systems. The higher profitability ratios in Colombia and Peru, coupled with higher inefficiencies, allow for Chilean companies to look for opportunities in these markets in order to capture higher margins. This process has already started and will be facilitated by the current and potential for further integration. This transnational integration will likely result in the convergence of the main financial ratios as well as management practices among these countries.

#### **IV. Micro-Structure of the Banking Systems of Colombia, Chile and Peru**

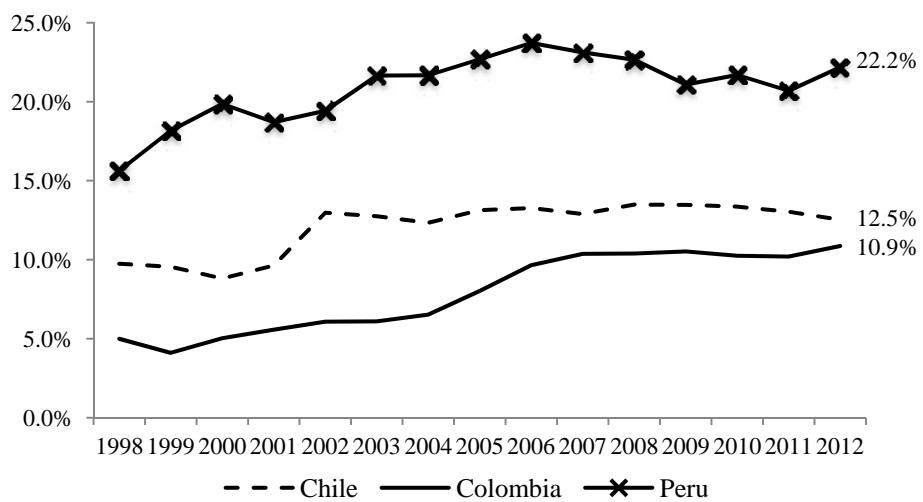
For this section we use bank-specific data from the regulatory filings and the annual reports of the banks in Chile, Colombia and Peru for the period 1998-2012. Where

possible, we try to compare across countries<sup>10</sup> and we also analyze within country patterns.

From the aggregate analysis of the previous section we identified the Peruvian financial system to be the one with the highest NIM. In order to first determine if the high margin is the result of a less competitive market, we used concentration as a proxy for competition and calculated the Herfindahl-Hirschman Index (HHI) over total deposits for Chile, Peru and Colombia from 1998 till 2012 (Exhibit 6).

**Exhibit 6: Deposits Herfindahl-Hirschman Index (HHI)**

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Source: Bank Superintendence of each country, author's calculations

Results show that the Peruvian Banking system is in fact the most concentrated of the three and it has been so during all the period of analysis. Surprisingly, Colombia presents a lower HHI than Chile, this would imply that other variables might be the causes of the high margin; notwithstanding, it is important to note that the HHI for Colombia was calculated using data from each bank, which does not take into account the fact that there are four banks that belong to the same financial group and, when taken

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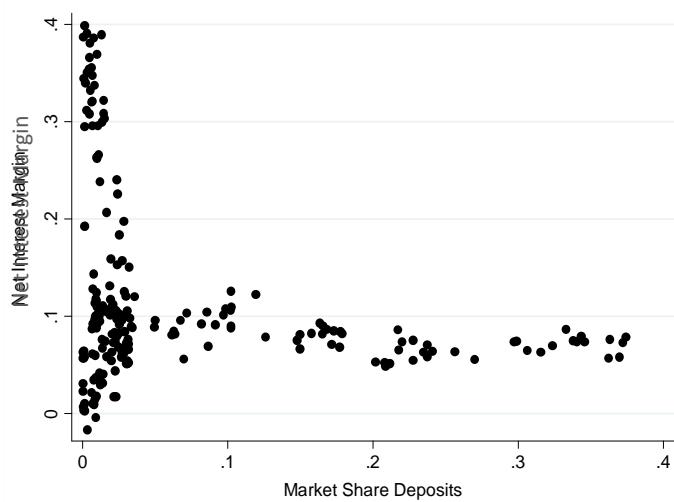
<sup>10</sup> For some variables, like past due loans is not possible to compare across countries, since the number of days to classify a loan as past due varies for each of them.

together, become the largest bank of the country. Finally, it is important to note that the HHI index of each country has been steadily increasing, which signals further consolidation in the banking system.

To further explore the effect of bank concentration on competition, the NIM and pricing power in Peru, we looked at banks' individual data of deposits' market share and NIM. We find a negative correlation between these two variables of -0.22 for the whole sample and this number is negative for every year. Furthermore, we did not find a consistent pattern from these two variables, for instance, banks with a very low market share have really high and really low NIM, and as market share increases, the NIM remains practically unchanged (Exhibit 7). Although the high level of concentration may explain the higher NIM of Peru when compared to Chile and Colombia, it fails to explain the differences across the banks in the country.

**Exhibit 7: Peru – Deposits Market Share versus NIM**

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Source: Bank Superintendence of each country, author's calculations

When looking at the NIM in bank-specific data for domestic versus foreign banks, we find that the median for foreign banks is lower than for domestic banks in Peru and

Colombia and is higher in the case of Chile. The latter might be the result of including in our sample branches of foreign banks in Chile, which have very small balance sheets which in turn results in very high ratios. In the case of Colombia and Peru we find a stronger difference in the median for the Peruvian sample (Table 5).

**Table 5: Net Interest Margin Sample Median for Chile, Colombia and Peru**

	Chile	Colombia	Peru
Domestic	4.9%	9.0%	9.9%
Foreign	5.2%	8.8%	8.9%

Source: Bank Superintendence of each country, author calculations

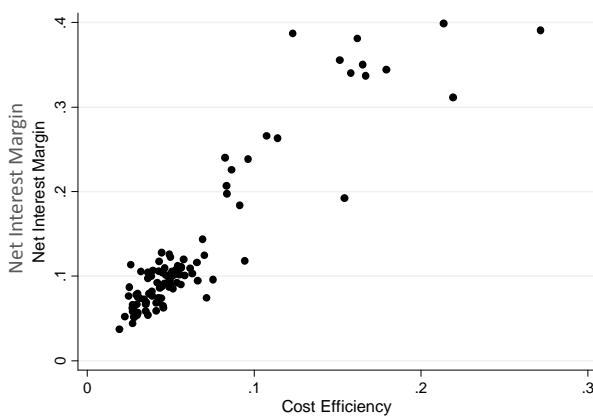
The other main factor that international literature has found to be a major determinant of banks spreads is related to the internal management policies of the company, which can be approximated by the cost efficiency ratio. We identified a stronger positive relationship between the NIM and the Efficiency Ratio – higher administrative costs result in higher NIM – for domestic banks, which may imply that local banks transfer their administrative costs to their customers at a higher extent (Exhibit 8).

We also found a positive relationship between these two variables in the case Colombia, which is consistent with what previous results have found for this country, see Barajas, Steiner and Salazar (2003). The relationship for the Chilean banks is weaker, which could be due to the fact that the Chilean system operates at lower levels of cost efficiency, at a point where differences might not be as relevant to explain differences in the NIM.

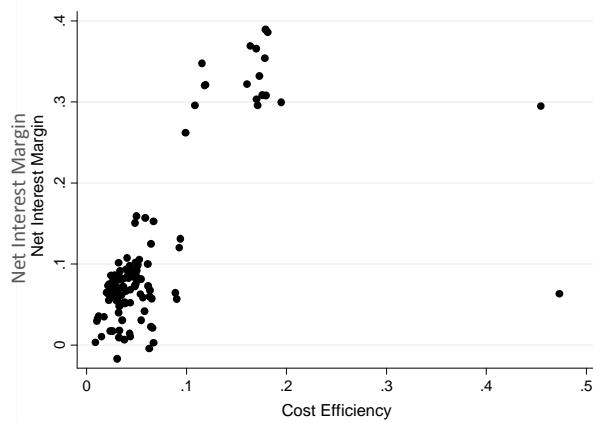
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**Exhibit 8: Peru – Deposits Market Share versus NIM**

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8.A. Domestic Banks



8.B. Foreign Banks

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Source: Bank Superintendence of each country, author's calculations

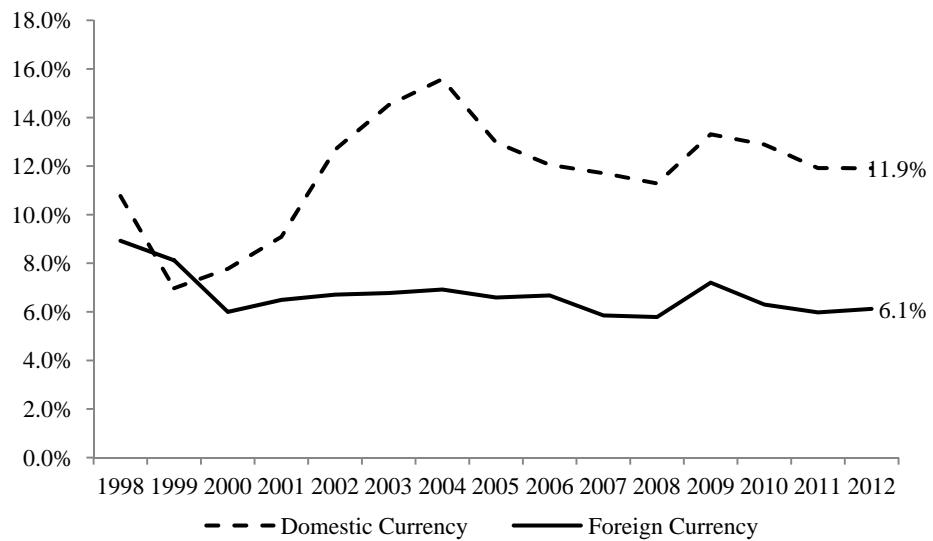
One feature that differentiates Peru from Chile and Colombia is the foreign currency component of its business. After the hyperinflation at the end of the 1980's, the government allowed the public to save in US dollars, in order to restore confidence and protect their savings. The result of this policy was the increased dollarization of the Peruvian economy.

From 1998 to 2004 loans in foreign currency accounted for more than 70% of total loans, this proportion started to decline in 2005 and reached 48.7% in 2012. Exhibit

9 shows the NIM for each type of currency for the aggregate banking system; on average, the Domestic Currency NIM is 500 bps higher than the Foreign Currency NIM.

**Exhibit 9: Peru – Net Interest Margin in Domestic and Foreign Currency**

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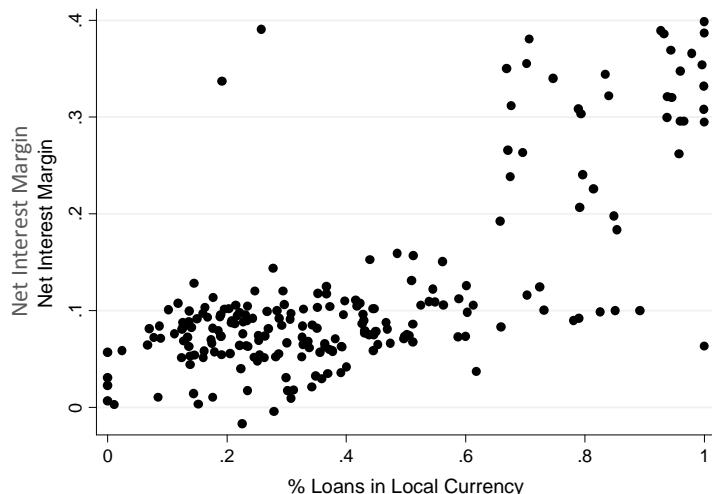
Source: Bank Superintendence of each country, author's calculations

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In addition to the aggregate results, we found a positive relationship per bank on the percentage of loans in domestic currency and the NIM (Exhibit 10). The lower foreign currency NIM can be a result of the need for the active and passive rate in US dollars to be in line with foreign rates. Another explanation is related to the portfolio composition of the banks, as most of the domestic currency loans are personal loans, which offer products with a higher spread.

**Exhibit 10: Peru – Net Interest Margin versus % Loans in Domestic Currency**

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Source: Bank Superintendence of each country, author's calculations

Results from this section show the potential to capture current higher margins and existent inefficiencies in the Peruvian banking system through increased competition, a process that can be facilitated by the current integration initiatives in the Pacific Alliance. With Net Interest Margins and Return on Assets being twice as high in Colombia and Peru when compared to Chile, we can expect companies from the latter to look for opportunities to capture the higher margins, which may in turn lead local players to respond to this competition via growth and improved efficiency, among others.

## V. Conclusion

The agreements pursued by Chile, Mexico, Colombia and Peru in the context on the Pacific Alliance will likely result in further economic and financial integration among these countries. The creation of the Integrated Latin America Market – MILA – and the recent waive of M&A transactions among Chile, Peru and Colombia are a result of this expectation.

In this context, we wanted to analyze the current structure of the banking systems in Chile, Colombia and Peru from a historical perspective in order to assess their preparedness for this integration and in order to identify the main differences across them that should eventually need to be assessed by the regulatory authorities.

The higher economic development and the earlier financial reforms in Chile, both in the banking and in the pension systems, have allowed it to be one step ahead in terms of financial system development and efficiency when compared to Colombia and Peru. However, these two countries have pursued similar regulatory approaches and their recent dynamic economic activity have allowed them to start to catch-up with their more developed neighbor.

We expect further financial integration among these three countries, and with Mexico eventually, with companies trying to capture the higher margins and existing inefficiencies in Peru and Colombia. We also believe that the banking systems have many similarities that can ease this integration and are also resilient and well capitalized to deal with the integration.

The major risks will likely be related to foreign currency and the divergent regulations, especially the ones related to reserve requirements as well as the implementation of Basel II and III. For the former, it is likely that as the transnational transactions continue and the MILA market becomes more active, a derivative markets to hedge this currency risk will arise. For the latter, increased international regulatory efforts and Memorandums of Understanding among the regulatory agencies, could help reduce these differences.

## References

- Acuña, R., and A. Iglesias. 2001. "La Reforma a las Pensiones." Pp. 430-490 in *La Transformación Económica de Chile*, eds. F. Larraín and R. Vergara. Santiago de Chile: Centro de Estudios Públicos.
- Barrantes, L. 1998. "Determinantes del margen de intermediación en el caso peruano." Revista Estudios Económicos No.3, Banco Central de Reserva del Perú.
- Beck, T. A. Demirgürç-Kunt and R. Levine. 2006. "Bank concentration, competition and crises: First Results." *Journal of Banking and Finance* 30:1581-1603.
- Bernanke, B. 1983. "Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression." *American Economic Review* 73:3:257-276
- Chortareas, G. J.G. Garza-García and C. Girardone. 2012. "Competition, efficiency and interest rate margins in Latin American banking." *International Review of Financial Analysis* 24:93-103.
- Estrada, D., E. Gómez., and I. Orozco. 2006. "Determinants of Interest Margins in Colombia." Borradores de Economía No.393, Banco de la República de Colombia.
- Fuentes, R., and M. Basch. 2000. "Macroeconomic Influences on Bank Spreads in Chile, 1990-95" Pp. 153-180 in *Why so high?* eds. P. Brock and L. Rojas-Suárez. Washington, D.C.: Latin American Research Network, Inter-American Development Bank.
- Lopez, A. 1995. "Las últimas décadas: un proceso lento e interrumpido de liberación financiera." Borradores de Economía No.27, Banco de la República de Colombia.
- Marchini, G. 2004. "El sistema financiero peruano: 1970-2004." México y la Cuenca del Pacífico Vol.7. No.23.
- Marshall, E. 2007. "Transition to Basel II: Policy Lessons of the Chilean Experience." Economic Policy Papers No.21, Central Bank of Chile.
- MILA News, January 2014, No.27
- Ospina, S.P. 1995. "Los efectos de la regulación en el margen de intermediación de las tasas de interés en Colombia." Borradores de Economía No.28, Banco de la República de Colombia.
- Reinstein, A., and F. Rosende. 2001. "Reforma Financiera en Chile." Pp. 341-390 in *La Transformación Económica de Chile*, eds. F. Larraín and R. Vergara. Santiago de Chile: Centro de Estudios Públicos.

- Rojas, J. 2000. “Trends in Peruvian Bank Spreads, 1991-96” Pp. 211-251 in *Why so high?* eds. P. Brock and L. Rojas-Suárez. Washington, D.C.: Latin American Research Network, Inter-American Development Bank.
- Rojas, J., and L. Vilcapoma. 1996. “Los efectos de la regulación en el margen de intermediación de las tasas de interés en Colombia”. Documentos de Trabajo No.124, Departamento de Economía, Pontificia Universidad Católica del Perú.
- Steiner, R., A. Barajas., and N. Salazar. 2000. “Macroeconomic Influences on Bank Spreads in Chile, 1990-95.” Pp. 117-151 in *Why so high?*, eds. P. Brock and L. Rojas-Suárez. Washington, D.C.: Latin American Research Network, Inter-American Development Bank.
- The Boston Consulting Group. 2012. “Capturing Growth in Adverse Times.” Report, Global Asset Management 2012.
- Uribe, J.D., and H. Vargas. 2002. “Financial Reform, Crisis and Consolidation in Colombia.” Borradores de Economía No.204, Banco de la República de Colombia.
- Vergara, R. 2013. “Desafíos de la Regulación Financiera en Chile.” Presentation for the 1er Seminario de Políticas Públicas Santander: “Mercado de Capitales: Nuevas Reglas Nuevo Juego”.
- Warman, F. 2013. “Integración del capital regulatorio en países latinoamericanos y efectos de Basilea III.” Documentos de Investigación No.14, Centro de Estudios Monetarios Latinoamericanos (cemla).