Martín Redrado: Financial intermediation through institutions or markets?

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1. Introduction

The significance of the financial system development for long-term economic growth has been deeply emphasized by the literature over the past fifteen years. This has found strong theoretical and empirical evidence, based on the ability of financial intermediaries to: (i) select the most productive projects, (ii) monitor and control the debtors during the project lifespan, (iii) diversify the risks and (iv) minimize the costs of mobilizing savings.

Bank credit and to a lesser extent corporate bonds exceed equity financing all over the world. However, during the past 35 years banks have lost share in capturing family financial wealth in favor of equity and bond markets. The trend is stronger in industrial countries, but is also seen in many emerging markets. Regardless, firms still finance most of their investments with retained earnings (a recent paper from the Central Bank of Argentina shows that self-financing is still the preferred approach by firms worldwide).

This fact – also known as pecking order where firms choose own funds first, then debt, and equity last of all – reflects the existence of asymmetric information problems and intermediation costs, which make own funds more economical than third-party funds.

This paper aims at analyzing how financial innovation brings for complementarities between institutions and markets and its implications for monetary policy. Rather than the advantages associated to each type of channel, it is stressed that the total financial depth is what really matters, especially for emerging markets. Recent financial development and its relationship with macroeconomic stability is also briefly explored.

2. Banks or capital markets?

Financial instruments, markets and institutions appear with the purpose of mitigating informational asymmetries and transaction costs, including the costs of acquiring information, enforcing contracts and exchanging goods and financial claims. In so doing, the financial infrastructure contributes in the diversification of risk, capital allocation, monitoring of borrowers, and a smooth running of the payments system.

Recent studies highlight the skills that markets have to broaden access to finance by, providing funding for economic agents beyond the banking system, and to mobilize large scale capital flows, to become a significant factor in economic growth. In this manner, in recent years the dominant position in the above debate shifted from "pro-bank" to "promarket". This vision gained even more strength due to the setbacks suffered by Japanese banks during the nineties and to the spectacular performance of the world capital markets as from the second half of that decade.

While banks extract information about firms more efficiently, when a firm joins the public debt market it reduces the information asymmetries permanently, diminishing the intervention costs and sidestepping the comparative advantages of the banks regarding the extraction of information. That is why once they are part of the capital market corporations tend to remain there rather than resorting to the banking system.

The supporters of the market-based financial systems also assert that the markets reduce the inherent inefficiencies associated with banks, to promote a higher economic growth. Their position is based on the fact that large banks might block innovation by taking advantage of the information to which they have access and protect the incumbent firms with which they have a close relationship from possible competition. Large banks with few regulatory restrictions on their activities might also collude with firms against other creditors and block efficient corporate governance.

From what we have seen so far, the literature could not resolve which of the two systems is better prepared to stimulate long term growth. In order to settle the debate, Ross Levine gathers information

from 48 countries over the 1980-1995 period and carries out several regressions in order to explain the average per capita growth rate in terms of different measurements of the relative importance of markets compared to banks, and controlling for the usual variables in this kind of tests. As a measurement of the relative importance of the markets, he uses variables like the ratio of market capitalization to private sector credit and the ratio of trading turnover to loans.

In all cases the results were not significant, indicating that the financial system structure seem to be irrelevant towards growth. Actually, the addition of market capitalization to bank loans is positive and highly significant. Levine's conclusion, what he calls the "financial services view", is that what matters is the total financial depth, irrespective of the division between banks and markets, which seems to provide settlement to the discussion.

3. Towards complete financial markets: the importance of complementarities

Then the arguments in favor and against each system ultimately aim at their contribution to economic growth. In this sense, the empirical evidence reveals that both the capital markets and the banking system promote long term economic growth, because both have a positive impact on the growth rate of the economy, capital accumulation and productivity improvements.

From the empirical evidence it is evident that banks supply services that differ from those the capital markets provide. As a result, both are important and necessary in an economy. In fact, the firms in countries with developed banking systems and capital markets grow faster and are more prosperous than those where either both or one of the two kinds of intermediary are undeveloped or are not operating correctly.

Banks and in general holders of non-tradable claims like venture capitalists, provide an advisory service that markets cannot. However, the opportunity cost of capital on the latter is lower. Therefore, each intermediary dominates a different niche: a large and established corporation will resort directly to the market in order to obtain funds, because it has a good rating and is unwilling to pay intermediation costs; on the other hand, a company that lacks a strong reputation is more likely to require the advisory skills of the bank (or venture capitalist) and probably can even get cheaper funding from them, at the cost of providing more information on technology and operations, with the understanding that its financier will not have incentives to make that information public.

The process of choosing the appropriate creditor also changes noticeably during the business cycle. When the risk-free rate and/or bank profits decline, corporations with the requisite conditions resort to the debt market to find finance, rather than going to the financial system. In fact, a fall in the tax-free rate reduces the cost of incurring debt on the debt market, which makes it more attractive. Conversely, falling bank profits lead to frictions among depositors and increases the opportunity cost of banking capital, which is reflected by increases in the cost of banking finance. In fact, capital markets usually acts as a back-up tool to keep financing going in recession periods, where banking credit (procyclical) becomes scarce.

Banks usually provide savings and credit instruments in early stages of development, while capital market instruments emerge as the financial depth increases, new corporate or investor requirements arise and the degree of sophistication of both investors and financial agents grows. Capital markets facilitate the banking business by increasing the available options for risk management (e.g. allow them to hedge risks more effectively) while, at the same time, the banking activity provides for deeper capital markets. In Allen and Gale words the relationship is "symbiotic".

As a consequence, the ability to replace and complement each other provides the economy with a powerful tool to deal with both real and external shocks and contributes to achieve financial stability.

In this sense, instead of posing an alternative between banks and capital markets, it appears to be more reasonable to highlight the convenience of achieving complementarities between both forms of intermediation, with each of them concentrating on the market segments for which they are fittest. In the emerging countries case, in particular, for long term growth it may be more relevant to search for a way to increase financial depth, rather than catering for the possible choice between banks and capital markets.

4. Implications for monetary policy

Differing degrees of capital markets participation relative to the banking system in the financial intermediation of an economy alter the significance of the monetary policy transmission channels. Specifically, a heavier weighting of the capital markets will increase the relevance of the asset prices channel compared with the credit channel.

In this context, as a central banker it is worthwhile to reflect: What should a central bank do about the variations in asset prices in order to develop monetary policy and implement it? The first aspect is whether the monetary authority should bear in mind the asset prices directly (per se), do so indirectly due to the potential impacts on goods inflation or financial stability, or ignore them.

Until now, stylized facts show that the sharp increases in asset prices combined with a rapid and sustained growth of credit precede the financial crisis, with their subsequent disruptive impacts on real output, so that ignoring them does not seem to be a sound strategy.

However, financial innovation should not be ignored when defining the monetary policy design, which implies extremely complex analytical and practical issues: a) the central bank capacity to identify bubbles; b) whether it is capable of identifying if an event is temporary or permanent; c) uncertainty regarding the impact of asset prices on aggregate demand and inflation; d) the efficacy and relevance of the impact of the monetary policy on the asset markets; c) the asymmetries in the central bank responses (predicament to halt falls than to discourage rises).

There is thus some agreement that it is not recommendable for the monetary authority to have an explicit target for asset inflation and to react systematically towards it. However, it has to cater for its development because the large oscillations in these markets have been associated with crises. In other words, an emphasis on risk management with stress testing is needed.

My view is that we need to bear in mind the volatility of asset prices to design policies, but doing so in an informal and indirect way so as not to include it in the reaction function in a systematic manner. In this context some relevant questions appear: If the weighting of the asset price channel is raised, should its relevance in the monetary authority's reaction function increase?; If the capital markets become more important in intermediating savings, is the degree of supervision of agents on that market adequate for the financial stability purpose? Is this degree of regulation comparable to that of the banking system?

In recent years innovations in technology, the creation of new financial instruments and the subsequent appearance of new markets, as well as the abundant liquidity that there is in the world economy, have eroded the banking system's role as a financial intermediary, in favor of the financial markets.

Banks continue to serve as financial intermediaries, transferring capital and managing risks between debtors and depositors, but their share of the financial market grows is ever smaller. Regulatory restrictions, the growth of commercial securities, the development of markets for derivatives and for high-yield bonds, and the expansion of asset securitization were the main factors behind the displacement of the banking system. Likewise, improvements in information technologies made it easier for agents to assess the quality of the securities that are offered on the capital markets, favoring direct corporate finance by the public. In this sense, the information technology eroded the comparative advantage of banks by reducing the transaction costs and allowing other non-bank financial intermediaries to assess credit risk efficiently with statistical methods.

While banks declined there was a parallel rise of financial markets, which have become steadily more complete. The greater "completeness" of markets, regarded as the expansion of the set of different kinds of available instruments and the reduction of transaction costs, brings with it a number of benefits that cannot be disregarded. In the first place, it enables the economic agents to insure for a broad range of risks, which is significant to reduce volatility. Moreover, it makes it easier for investors to fine tune their portfolios, which moderates the risk premium required on them and reduces the cost of capital for all agents. Finally, it enables the transformation of risks into negotiable instruments, which allows for their atomization.

In fact, financial innovation has blurred the borders between typical commercial banking, investment banking, insurance and asset management. The whole system has become more interdependent, and old actors whose roles were eroded by new and upcoming stars have found new niches. Thus, commercial banks make loans that they repackage and sell to hedge funds, mutual funds and insurance companies (frequently bypassing investment banks), but hedge funds also do a lot of

trading that improve the revenues of investment banks. Many companies bypass commercial banks completely and rely for funding in their initial stages on venture capitalists, that eventually resource to investment banks to float the companies in the stock market. All this in a framework where it is ever more common to observe financial institutions that diversify risks by transforming into massive financial supermarkets that provide services usually associated with commercial banks, investment banks and asset management.

This state of affairs certainly means a huge challenge on central bankers and financial regulators. For us these developments might mean the sudden vanishing of a good part of what we knew about the transmission mechanisms by which monetary policy affects the real side of the economy and inflation, and especially its lags. The global financial imbalances, the lack of response of long term rates to tightening, the tame response of prices to the dollar devaluation against the euro, are all events hard to reconcile with the traditional knowledge. For regulators, the actual diversification of risks, and the resilience of the system to large shocks are questions of utmost interest that, however, do not have a proper answer at the moment. In the first case because its hard to know who owns what in terms of risk nowadays, and the other case because we can tell for sure if the shocks we have seen so far were really large enough. The collapse of LTCM in 1998, the dotcom bust in 2000, the Amaranth crash were very large shocks indeed, and the fact that we are wondering today whether they were large enough is, in itself, reason for satisfaction, if not complacency.

5. Impact of intermediation on emerging economies

In this context, emerging economies exhibit better macroeconomic management, which has significantly contributed to improving their financial position, as reflected by narrower spreads. However, the reasons for today's narrow spreads in emerging markets are, in my opinion, beyond market changes resulting from structured products or credit default swaps or the emerging countries' mostly sound fundamentals.

In my view, many of the reasons lie in the gradual adjustment of global imbalances. An expectation that the US dollar will depreciate is leading investors to seek assets in other currencies. This is reflected in a clear trend towards developing local assets (mainly Asia but also Latin America) and, consequently, in narrower spreads and stock markets hitting record highs – in short, it results in higher funding opportunities for the emerging world.

Such a process – which takes place gradually and is coupled with a transition towards a more diversified asset portfolio for central banks – offers great opportunities but also poses significant challenges for our countries, where financial development is incipient.

Although they exhibit advances, Latin American countries appear to be lagging behind in terms of financial depth, not only compared to the developed countries but also when compared with other emerging economies like those in Eastern Asia.

Latin American countries exhibit a lesser relative degree of banking penetration. This situation reflects both supply issues and problems inherent to the demand side. These demand difficulties relate to a large degree of informality in corporate operations, or cultural issues which mean that at times the economic agents exclude themselves from this market on their own free will.

Bank loans to the private sector in Latin America is typically below 30% as fraction of GDP, while it is 175% in UK, 167 in Spain, and fluctuates closely to 100% in France, Japan, Italy, Canada, Australia and Germany. In emerging Asia, where contract enforcement is probably better than in Latin America, Thailand´s ratio is 88% and Korea´s 100.

The development of capital markets appears to be even more incipient. These markets are relatively illiquid, fragmented and incomplete, because the instruments that enable them to diversify (or transfer) risks are scarce, and, in particular, the capital markets are concentrated on government securities.

Indicators for 2004 show that while the turnover traded on the domestic capital markets was 6.1% of the GDP in Latin America, it accounted for 92.2% in the G-7 markets and for 104.5% in East Asia. On the other hand, during that year equity financing was 0.5% of the GDP in the region, compared with 1.5% in the G-7 countries and 5.9% in Asia. Between the years 1990 and 2004 Latin America suffered a decline in the number of listed corporations which contrasts with the growth trend observed in the G-7 countries and East Asia.

The domestic corporate bond markets exhibited a similar situation, as the amount of the bonds issued in 2004 was equivalent to 10.7% of the GDP in the Latin American countries, compared with averages of 47.7% in the G-7 countries and of 36.3% in the emerging Asian countries. Capitalization as a fraction of GDP is again lower than 30% in Latin America, while typically ranges from 80 to 140% of GDP in developed countries. In emerging Asia, Thailand´s market capitalization is 68% of GDP, 60% in India and 73% in Korea.

In addition, the transactions carried out on the secondary market with government bonds are scarce when they are compared to those carried out on developed markets. Although the sovereign bonds are the assets with most liquidity, their level is not comparable to the mature markets.

These characteristics are reflected in higher costs to issue and trade in these economies than in the developed economies, which feeds back to the shortage of products on domestic markets, because the greater integration of the capital markets leads the domestic agents to place funds on the international markets.

6. How should financial depth be increased in emerging economies?

Emerging economies, on top of dealing with a potential adjustment in global economic conditions have to confront our own uncertainties both at the micro and macro levels as the financial markets are being developed.

In terms of building a regulatory and supervisory framework, it is key to develop common risk-focused approaches with a robust stress testing and a sounder market infrastructure, which allows for intermediaries to properly identify, transfer, transform and redistribute risk, enabling them to adjust to any financial or real shock.

The main challenge to deepen the financial system is focused on generating a long-term domestic currency market, for which the fundamental requirement is to reduce the macroeconomic volatility so typical of the region. This development could be the most important buffer to cover against the new risks that emerge from financial innovation.

For this purpose, the key consists in strengthening the pillars of what we might call the ***new economic paradigm, with several anti-cyclical components***:

- **Fiscal solvency** (primary surplus and improved liability management).
- **Monetary prudence and consistency** (inflation at low and controlled levels).
- **Accumulation of international reserves** (insurance against external shocks).
- **More flexible foreign exchange regimes**
- **Reduction of net foreign debt**
- **Trade dynamism** (diversifying destinations and products).
- **Diminishing currency mismatches.**

Any policy design must have the flexibility necessary to be capable of responding to the appearance of new risks, bearing in mind the propagation that they might have on the rest of the economic sectors.

Specifically, one of the major tasks in our countries is to foster bank penetration and to deepen credit in domestic currency. In general, our countries exhibit low levels of financial services usage when compared to other regions. For this purpose transparency and information dissemination is very relevant.

It is necessary to design a regulatory framework which on one hand enables finance to be granted to non-traditional sectors, but which does not disregard the risks that the financial institutions incur. In this sense, supervision plays a fundamental role, as does the possibility of allowing for the requirements of a prudential nature that are imposed on financial institutions not to be uniform, but instead consider the particular characteristics of each institution.

Because it has been shown that advances in technology have enabled both the inclusion of new products and lower costs mechanisms must be generated in order to stimulate the incorporation of technological progress. For example, a debtor's risk assessment with mathematical methods (credit scoring) allows for a more efficient credit allocation.

On the other hand, communication and policy coordination should be fostered between the different agencies with a role in direct or indirect regulation of financial markets. This coordination is necessary for the development of certain financial instruments that improve risk allocation.

Central banks also have a specific interest in the improvement of domestic bond markets, in particular for public sector debt. One reason for this is that more complete markets reflect the relationship between borrowing costs and terms. Making an explicit yield curve reveals information about the expectations that the economic agents have, which is essential for business decisions.

Recent experience has shown that the development of bond markets must be based on placing funds in domestic currency, which is not only relevant for the transmission of the monetary policy but also as a mechanism to reduce external vulnerability.

Associated with this, the recent **de-dollarization** process should also be highlighted. In the past financial dollarization enabled the generation of a long term currency in a context of much distrust in the domestic currency as a result of long periods with high inflation. Although this allowed for a greater financial development (as long term instruments reappeared and by generating more liquidity) it proved to be vulnerable to the reversals of capital flows, in particular when accompanied by exchange rate rigidity. Although the balance sheets of the financial intermediaries did not exhibit a mismatch in the asset and liability denominations, there was another concrete mismatch: the revenues of debtors in dollars were not always denominated in that currency. This example shows that there are no shortcuts for deepening the financial markets. The de-dollarization should act in this direction, while the prudential regulation bears in mind possible mismatches that exceed the denomination of the financial instruments (for instance: limiting loans in foreign currency to export activities only or to those who generate foreign currency revenues).

Carrying out the policies mentioned above does not mean blindly following certain recipes that must be applied always and under any circumstances. This acknowledges that there are different ways of putting into practice the adequate policies to achieve a stable and deep financial market. Moreover, it is not only necessary to identify the adequate economic policies for a country under specific circumstances, but correct timing is also crucial when implementing the measures. The pace at which policies are implemented cannot be independent from the structural characteristics, nor the economic and social environment in any particular country. Therefore, the pace selected should allow for maximizing the chances that the process undertaken will be successful. In summary, in several cases the choices of adequate policies to attain a predictable economic environment calls for an adequate combination of credibility and flexibility.

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