Finance and Growth: Too Much of a Good Thing?

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While theory does not predict an unambiguous relationship between finance and growth, over the past 20 years, economists have accumulated a substantial body of empirical evidence that financial sector deepening is a critical part of the economic development process. At the same time, the banking crisis literature has identified rapid credit growth as good predictor of systemic banking distress. Both findings are consistent with the theoretical literature, as the growth benefits of finance rely on maturity transformation and agency relationships, which makes it susceptible to fragility. This is a very important point that is often ignored both by analysts and policy makers.

The recent literature has also shown that finance can be pro-poor. Beyond cross-country evidence, country-level studies have shown that this relationship works mostly through labor market channels. By changing the structure of the economy and allowing more entry into the labor market of previously un- or underemployed segments of the population, finance helps reduce income inequality and poverty, but not by giving access to credit to everyone.[2] This is also consistent with cross-country evidence that financial deepening is positively associated with employment growth in developing countries (Pagano and Pica, 2012).

More recent research, however, has also pointed to important non-linear effects in the finance-growth relationship, which can only be partly explained by the inherent fragility of finance. Aghion et al. (2005) show that the relationship turns insignificant at higher levels of economic development, while Arcand, Berkes and Panizza (2012) show that the relationship even turns negative at very high levels of financial development. There also seems variation in the strength of the finance-growth relationship over time, with Rousseau and Wachtel (2011) showing that the relationship turned insignificant during the first decade of the 21st century.

What are the reasons for this insignificant or even negative relationship between finance and growth across high-income countries? Recent papers have put forward several explanations. In the following, I will focus on just two.

Who gets the credit?

One explanation focuses on the beneficiaries of the credit. While the theoretical and most of the empirical finance and growth literature has focused mostly on enterprise credit, financial systems in high-income countries provide a large share of their services, including credit, to households rather than enterprises. In several countries, household credit constitutes more than 80% of overall bank credit, including in Canada, Denmark, and the Netherlands, mostly mortgage credit. There has also been an increasing trend across high-income countries towards banks providing more credit to households rather than enterprises, driven partly by alternative financing sources for enterprises through financial markets, partly the higher cost efficiency with which banks have been able to provide consumer credit in recent times. Theory makes ambiguous predictions about the effects on the relationship between household credit and growth and initial empirical evidence shows an insignificant relationship between the two (Beck et al., 2012). While there is a positive and significant relationship between

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[2] See Beck, Levine, and Levkov (2010), Giné and Townsend (2004) and Ayyagari, Beck and Hoseini (2013).

enterprise credit and GDP per capita growth, household credit enters insignificantly across different specifications, suggesting that variation in the extent to which banks provide credit to households cannot explain growth variation across countries. Given the persistent increase in household credit in most high-income countries over the past 20 years, this might partly explain that the finance-growth relationship turns insignificant at high levels of economic development.

Financial systems – size vs. services

Another explanation posits that the financial system might actually grow too large relative to the real economy if it extracts excessively high informational rents and in this way attracts too much young talent towards the financial industry (Bolton et al., 2011; Philippon, 2010). Kneer (2013 a,b) provides empirical evidence for this hypothesis showing that industries relying more on human capital suffer more in their productivity as the financial system expands. This hypothesis thus clearly points to a trade-off between the intermediation function a financial sector provides to the real economy and a drain on talent needed by the same real economy. Again, such a trade-off seems more likely at high levels of financial development than in countries with emerging financial markets.

Related to this point is the question on the concept of the financial sector. While academics have focused mostly on the *facilitating role* of the financial sector, which consists of mobilizing funds for investment and contributing to an efficient allocation of capital in general, policy makers – especially before the crisis and more in some European countries than others - have often focused on financial services as a *growth sector in itself*. This view towards the financial sector sees it more or less as an export sector, i.e. one that seeks to build an – often – nationally centered financial center stronghold by building on relative comparative advantages, such as skill base, favorable regulatory policies, subsidies, etc. The differences between these two approaches towards the financial sector can also be illustrated with different measures that are being used to capture the importance of the financial system. Academic economists typically focus on Private Credit to GDP, which is defined as the outstanding claims of financial institutions on the domestic non-financial private sector relative to economic activity as crude and imperfect measure of the development and efficiency of the financial system as it captures the intermediation function of financial institutions. The financial center view, on the other hand, focuses on the financial sector's contribution to GDP or the share of the labor force employed in the financial sector.

Based on a sample of 77 countries for the period 1980-2007, Beck Degryse and Kneer (2014) find that intermediation activities increase growth and reduce volatility in the long run, while an expansion of the financial sectors along other dimensions has no long-run effect on real sector outcomes. Over shorter time horizons a large financial sector stimulates growth at the cost of higher volatility in high-income countries. While these results were obtained for the period before 2007, recent experiences - including the 2008 collapse of the Icelandic banking system and the collapse of the Cypriot banking system in 2012 - have confirmed the high risk of pursuing national financial centre strategies.

What have we learned?

First, the growth benefits of finance go hand in hand with its inherent fragility. Second, there are important non-linearities in the finance-growth relationship, with the relationship often insignificant in high-income countries, for reasons discussed above. On the other extreme, in low-income countries, financial systems might be too small and too shallow to have any positive impact. On a broader level, these findings imply that the growth benefits of financial deepening come from finance, not financiers, from banking and not from banks. While this might seem like an either trivial or very academic statement, it sends the strong message to policy makers that the focus should be on financial service provision more than about the interests of specific financial institutions or markets. Similarly, the concerns of regulators should be about systemic stability and maintaining financial service provision for the real sector, more than about saving individual financial institutions. This is also the idea behind the resolution and recovery plans, also known as living wills, to save parts of systemically important financial institutions that are critical for the functioning of the overall financial sector, shut down and liquidate non-critical parts and bail-in risk decision takers and junior claimants of the bank.

A new research agenda

What do these findings imply for the future research agenda? First, the non-linear relationship between finance and growth, with potential negative growth repercussions of over-sized financial systems raises the question of the optimal size of the financial system. Identifying the Goldilocks level of financial deepening – not too cold and not too hot – will be important. In recent work with different co-authors, I have tried to develop the concept of a financial depth frontier that indicates the constrained maximum sustainable size of the financial system in an economy, as a function of socio-economic and political traits and long-term institutional patterns. Such a concept also allows proper benchmarking of countries at different levels of income. Operationalizing the frontier concept with aggregate and micro-data to thus identify the location of a country's financial system vis-a-vis the frontier and the most effective policies to close the gap to the frontier, push out the frontier or prevent the system from moving beyond the sustainable maximum will be important (Barajas et al., 2013; Beck and Feijen, 2013). In doing so, the literature might also make progress on reconciling the long-term positive effects of finance with the negative short-term effects of rapid credit growth and thus bringing together the finance and growth with the banking crisis literature.

Another important area of research should be the role of competition and rents. We know that financial service provision by banks is based on private information creation, which in turn implies rents for these institutions. Competition has for a long time seen as undermining stability as it endangers banks' franchise value and thus entices them to take aggressive risks. However, we also know that financial innovation that is critical for financial deepening depends on competition and there is sufficient evidence that competition can be good for financial deepening and financial inclusion. Determining the right balance of competition and rents will be critical.

Finally, the role of government requires more attention. The relationship between finance, growth and fragility has always been influenced by government. On the one hand, governments have a critical role in providing the key factors for financial deepening in a society, including macroeconomic stability and the contractual framework. But is there a role for government beyond this in encouraging financial institutions and markets to grow and expand? How much can the government help in filling market gaps? An emerging literature has started to assess specific government interventions such as partial credit guarantee schemes, but a broader view is needed. On the other hand, governments have taken on the role of regulating financial systems, though the question on the optimal design of financial safety nets and the balance between market and regulatory discipline remains. Finally, governments face a conflict of interest to the extent that they are both arbiter over and user of financial services.

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