Finance and growth – lessons from the literature and the recent crisis

July 2, 2012

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This piece argues that by intermediating society's savings and allocating them to their best uses, financial systems have a critical function for economies' growth. However, financial sectors can also be a source of fragility. Critically, recent policy approaches towards the financial sector have focused more on the size of the sector rather than its intermediating function, which might have led to short-run growth at the expense of high volatility. Reducing the financial safety net subsidy and adjusting the regulatory framework strengthening incentives towards intermediation will not only make the financial system safer but also increase the growth benefits of finance for the real economy.

Finance and growth – the bright side

A large and by now well established literature has shown the critical importance of the financial system for economic growth. What started with simple cross-country regressions, as used by King and Levine (1993), has developed into a large literature using an array of different techniques to look beyond correlation and controlling for biases arising from endogeneity and omitted variables. Specifically, using instrumental variable approaches, difference-in-difference approaches that consider the differential impact of finance on specific sectors and thus point to a smoking gun, explorations of specific regulatory changes that led to financial deepening in individual countries, and micro- level approaches using firm-level data have provided the same result: financial deepening is a critical part of the overall development process of a country (see Levine, 2005 for an overview).

This literature has also provided insights into the channels through which finance fosters economic growth. Overall, the evidence has shown that finance has a more important impact on growth through fostering productivity growth and resource allocation than through pure capital accumulation (Beck, Levine and Loayza, 2010). Specifically, the availability of external finance is positively associated with entrepreneurship and higher firm entry as well as with firm dynamism and innovation.[2] Finance also allows existing firms to exploit growth and investment opportunities, and to achieve larger equilibrium size.[3] In addition, firms can safely acquire a more efficient productive asset portfolio where the infrastructures of finance are in place, and they are also able to choose more efficient organizational forms such as incorporation.[4] Finally, this line of research has shown that the impact of financial sector deepening on firm performance and growth is stronger for small and medium-sized than for large enterprises.[5] One can argue that the experience of the UK over the past three decades

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[2] Klapper, Laeven and Rajan (2006); Aghion, Fally and Scarpetta (2007); Ayyagari, Demirgüç-Kunt and Maksimovic (2011).

[3] Rajan and Zingales (1998); Beck et al. (2005, 2006a).

[4] Claessens and Laeven (2003); Demirguc-Kunt et al. (2006).

[5] Beck et al. (2005, 2008).

confirms these conclusions from broad cross-country studies, with financial deepening since the early 1980s supporting structural transformation and economic development.

Financial sector development is important not only for fostering the economic growth process, but also for dampening the volatility of the growth process. Financial systems can alleviate the liquidity constraints on firms and facilitate long-term investment, which ultimately reduces the volatility of investment and growth (Aghion et al., 2010). Similarly, well-developed financial markets and institutions can help dampen the negative impact that exchange rate volatility has on firm liquidity and thus investment capacity (Aghion et al. 2009). This is especially important in economies that depend heavily on natural resources and are thus subject to high terms of trade and real exchange rate volatility. It is important to note, however, the important difference between real and financial/monetary shocks, whereby the latter can be exacerbated by deeper financial systems (Beck et al., 2006b). Finally, financial development increases the effectiveness of monetary policy, widens the fiscal policy space and allows a greater choice of exchange rate regimes (IMF, 2012).

More recent research, however, has pointed to important non-linearities in the relationship between finance and growth. There is evidence that the effect of financial development is strongest among middle-income countries, whereas other work finds a declining effect of finance and growth as countries grow richer.[6] More recently, Arcand, Berkes, and Panizza (2011) find that the finance and growth relationship turns negative for high-income countries, identifying a value of 110 percent private credit to GDP as approximate turning point, with the negative relationship between finance and growth turning significant at around 150 percent private credit to GDP, levels reached by some high-income countries in the 2000s.

There are several, not exclusive, explanations for such non-linearities, as put forward by the recent literature and partly informed by the recent crisis. First, the measures of financial depth and intermediation the literature has been using might be simply too crude to capture quality improvements at high levels of financial development. In addition, the financial sector has gradually extended its scope beyond the traditional activity of intermediation towards so-called "non-intermediation" financial activities (Demirgüc-Kunt and Huizinga, 2010). As a result, the usual measures of intermediation services have become less and less congruent with the reality of modern financial systems, including in the UK. Second, some argue that the reason for the non-linearity of the finance-growth relationship might be that financial development helps catch up to the productivity frontier, but has limited or no growth effect for countries that are close or at the frontier (Aghion et al., 2005). Third, another reason for non-linearities might be the beneficiary of the credit as argued by Beck et al. (2012) who explore the differential growth effects of enterprise and household credit. Consistent with theory they find that the growth effect of financial deepening comes through enterprise rather than household credit. Most of the financial deepening in high-income countries, including in the UK, has come through additional household lending, which thus might explain the insignificant finance-growth relationship across high-income countries. Fourth, 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). Finally, and related, the financial system can grow too large due to the safety net subsidy we will discuss below that results in too aggressive risk-taking and overextending of the financial system.

[6] Rioja and Valev (2004a, 2004b) and Aghion, Howitt, and Mayer-Foulkes (2005).

Financial fragility – the dark side

The same mechanism through which finance helps growth also makes finance susceptible to shocks and, ultimately, fragility. Specifically, the maturity and liquidity transformation from short-term savings and deposit facilities into long-term investments is at the core of the positive impact of a financial system on the real economy, but also renders the system susceptible to shocks, with the possibilities of bank and liquidity runs. The information asymmetries and ensuing agency problems between savers and entrepreneurs that banks help to alleviate also can turn into a source of fragility given agency conflicts between depositors/creditors and banks. The opacity of banks' financial statement and the large number of creditors (compared to a real sector company) undermine market discipline and encourage banks to take too much risk, ultimately resulting in fragility (see Carletti, 2008, for an overview).

The role that finance has as a lubricant for the real economy thus likewise exacerbates the effect of financial fragility on the real economy. The failure of financial institutions can result in significant negative externalities beyond the private costs of failure; it imposes external costs on other financial institutions through different contagion effects and the economy at large. The costs of systemic banking distress can be substantial, as reported by Laeven and Valencia (2008), reaching over 50 percent of GDP in some cases in fiscal costs and over 100 percent in output loss. Cross-country comparisons have shown that during banking crises, industries that depend more on external finance are hurt disproportionately more, an effect that is stronger in countries with better developed financial systems.[7]

The external costs of bank failures have made banking one of the most regulated sectors and have led to the introduction of explicit or implicit safety nets across most countries of the modern world that – at a minimum - protect depositors, in many cases, especially during the recent crisis, also non-deposit creditors or even equity holders. It is this safety net subsidy, in turn, that induces aggressive risk-taking by banks as shown by multiple country-level and cross-country studies and that might also explain the overextension of the financial system (see, e.g. Demirguc-Kunt and Kane, 2002). It is important to note that this safety net subsidy does not have to be explicit, but can be very much an implicit one.

Which view 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

[7] Dell'Ariccia, Detragiache, and Rajan (2008) and Kroszner, Laeven, and Klingebiel (2007).

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. Policy discussions in the UK often seem to focus more on the latter concept rather than the former.

While there is strong evidence for the facilitating role of finance, there is less evidence for growth benefits from building a financial center.[8] But the recent crisis has certainly taught us the risks of such a financial center approach, which brings with it high contingent taxpayer liabilities that in a crisis turn into real taxpayer costs and that turn a banking crisis more easily into a deep recession and potentially into a sovereign debt crisis. Refocusing our attention on the facilitating and intermediation role of finance might be therefore useful.

Conclusions: harnessing finance's fragility for the benefit of society

Financial sector deepening is not a goal in itself, rather it is a tool for economic growth. While financial liberalization in the 1980s might have helped in structural transformation and economic development of the UK over the past three decades, the focus on the financial sector as a growth and export sector in itself, with a consequent regulatory bias and an implicit safety net subsidy, has not only contributed significantly to the current crisis but might also have exacerbated its extent. It is time to focus again on the facilitating rather than self-serving role of finance.

Post-crisis regulatory reform should have two complementary goals: making finance safe for taxpayers and society and maximizing the growth benefits of finance. By constructing a bank resolution framework that forces risk decision takers to internalize external failure costs to a larger extent, these reforms can also reduce the safety net subsidy that can partly explain why the financial system has grown so large in spite of decreasing if not negative marginal social returns to further financial deepening as discussed above. Focusing regulatory and other financial sector policy on the different services that the financial system provides for the real economy – payment, savings, credit and risk management – can help increase the growth benefits of the financial sector.

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[8] Some of these thoughts were first spelled out in joint work with Arnoud Boot and Hans Degryse. See Beck, Degryse and Kneer (2012) for some initial evidence.

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