Special Feature B

Finance, Growth And Economic Prosperity

by Ross Levine[1]

The Questions

Do financial institutions and markets contribute to economic growth and prosperity, or are they simply casinos where the rich come to place their bets? While there is little doubt that finance is a cornerstone of capitalism, there is considerable debate among political leaders and the public about the social productivity of the financial system. In this article, I take stock of a large body of research examining the role of financial systems in shaping economic growth, income inequality, poverty and the degree to which an individual's economic horizons are shaped by the wealth of the person's family or by the person's talent, energy and initiative.

The Overarching Answers

The evidence provides a clear message: Well-functioning banks and securities markets foster economic prosperity. By well-functioning, I refer to financial systems that effectively mobilise savings, screen borrowers and allocate those savings, monitor and govern the use of those savings by firms and individuals, provide mechanisms for individuals and firms to manage risk, and facilitate transactions. When financial systems perform these functions well, they promote growth and expand economic opportunities as described in Levine (1997, 2005). For example, when banks screen borrowers effectively and identify firms with the most promising prospects, this is a first step in boosting productivity growth. When they mobilise savings from disparate households to invest in these promising projects, this represents a second crucial step in fostering growth. Furthermore, when banks monitor the use of investments and scrutinise managerial performance, this is an additional ingredient in boosting the operational efficiency of corporations and reducing waste, fraud, and private rents earned by corporate insiders. But, that is not all. When securities markets ease the diversification of risk, this encourages investment in higher-return projects that might be shunned without effective risk management vehicles. And, when capital markets lower transactions costs, this facilitates trade and specialisation, which are fundamental inputs into technological innovation and economic growth.

However, when financial systems are underdeveloped and perform these functions poorly, they hinder economic growth and curtail economic opportunities. For example, if banks simply collect funds with one hand and pass them along to cronies with the other hand, this produces a less efficient allocation of resources that slows economic growth and limits the economic horizons of many people. If capital markets fail to exert sound corporate governance, this makes it easier for managers to pursue projects that benefit themselves rather than the firm and the overall economy. Thus, poorly functioning financial systems can become an effective tool for restricting credit—and hence opportunity—to the already rich and

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powerful rather than a mechanism for financing the best projects and entrepreneurial ideas. And, when securities markets create new, complex financial instruments and trick unsophisticated savers into buying them, this can boost the bonuses of financial engineers and executives while distorting credit allocation and attracting talented individuals into these socially unproductive activities.

Finance and Growth

Evidence shows that better functioning financial systems accelerate long-run economic growth. King and Levine (1993a, 1993b), Jayaratne and Strahan (1996), Demirgüç-Kunt and Maksimovic (1998), Levine and Zervos (1998), and Rajan and Zingales (1998) were early contributors to this research. Since then, investigators using many different research methodologies continue to find that countries with better-developed banks and stock markets enjoy much faster rates of long-run economic growth than economies with malfunctioning financial systems. This result does not reflect a 'chicken-and-egg' problem. It is not just that rich countries develop better banking systems. The evidence indicates that better financial systems accelerate economic growth.[2]

The evidence also explains that finance spurs growth by improving the allocation of resources, not by increasing the savings rate (e.g., King and Levine, 1993a; Beck *et al.*, 2000; Wurgler, 2000; Midrigan and Xu, 2014). While better financial systems more ably mobilise savings from individuals, the evidence indicates that banks and markets do not primarily boost economic growth by raising the savings rate; rather, they exert a first-order impact on the economy by getting resources to the most productive entrepreneurs and ensuring that those entrepreneurs use those resources efficiently.

Income Distribution and Poverty

Economic prosperity involves more than increasing the size of the economic pie. Part of evaluating the impact of finance on economic prosperity involves understanding how it shapes the sizes of the slices of the economic pie. Do better-developed banks and markets increase the overall size of the economy only by boosting the incomes of the rich? Do better functioning financial systems materially boost the living standards of lower-income households? Moreover, part of evaluating the impact of banks on economic prosperity involves focusing on economic opportunities. Do better-developed financial systems influence the degree to which the contours of an individual's economic possibilities are shaped by the individual's abilities versus the degree to which those opportunities are predetermined by the wealth and connections of the individual's family?

The evidence will surprise many: better-developed banks disproportionately help lower-income families and expand the economic opportunities available to economically disadvantaged individuals and groups, as shown in Beck *et al.* (2007) and Beck *et al.* (2010). To see how this works, again consider how finance shapes long-run growth. Better functioning financial systems boost growth by funnelling capital to the most promising entrepreneurs.[3] This does not mean that they funnel credit to those endeavours run by the wealthiest families. Rather, it means that better-developed financial systems boost growth by funnelling credit to those entrepreneurs with projects that have greater risk-adjusted expected returns. By reducing the connection between wealth and access to credit, better financial systems can expand the economic opportunities for low-wealth people, improve the efficiency of resource allocation, and spur growth. ***It is not growth versus expanding economic opportunities; it is growth by expanding economic opportunities.***

Crucially, research also uncovers the channels through which better-developed financial systems reduce income inequality. First, they do not reduce inequality by lowering the incomes of high-earners. Rather, better banking systems reduce income inequality by boosting the

2 See, for example Haber (1991), Beck *et al.* (2000), Brown *et al.* (2009), and the literature reviews by Levine (1997, 2005) and Popov (2018).

3 For the theory underlying this argument, see for example Greenwood and Jovanovic (1990) and Galor and Zeira (1993).

incomes of lower-income families by more than they boost the incomes of higher-income families (e.g., Beck *et al.*, 2007; Beck *et al.*, 2010).

Second, research shows that better-functioning financial systems lower inequality by spurring entrepreneurship and improving labour market conditions. This occurs as follows. As shown by Kerr and Nanda (2009), better banking systems lower the barriers to becoming an entrepreneur. This facilitates the entry of promising new firms, forcing the exit of unsuccessful incumbents and making the product market more competitive. The resultant intensification of product market competition means that workers—who account for the vast majority of people—look for work in a more dynamic competitive environment. A few large firms can no longer dictate terms to labour, and labour unions can no longer protect inefficient workers at the expense of more efficient ones.

Better banks create more competitive product markets, which in turn enhance competition for workers, boosting wages and lowering unemployment. As shown by Beck *et al.* (2010), it is through this labour market channel that better-functioning banking systems boost the incomes of lower-income families and narrow income inequality. Thus, banking systems shape the economic lives of almost everyone—***even those who never receive a loan, start a business, or purchase a security***—because almost everyone needs a job and that job search is materially shaped by the financial system.

It is worth emphasising that finance is special. While many other policy areas deserve attention, such as inflation, fiscal expenditures, taxes, international trade, cross-border capital flows, and the regulation of non-financial industries, finance exerts an especially robust impact on growth. In particular, King and Levine (1993a) show that the level of banking system development in 1960 predicted economic performance over the next half-century; but they also show that none of the other policy areas mentioned above has such predictive power. From cross-country comparisons, individual country studies, time series studies, and microeconomic studies, research confirms and reconfirms the impact of financial systems on economic prosperity. People do not enjoy substantial and enduring improvements in living standards over decades in the absence of well-functioning financial systems.

Financial Innovation, Growth, and Prosperity

What about financial innovation? Paul Volcker, the former chairman of the Board of Governors of the Federal Reserve System sceptically stated in 2009, "I wish someone would give me one shred of neutral evidence that financial innovation has led to economic growth—one shred of evidence." There are good reasons to believe that his scepticism about financial innovation is wrong. As described by Adam Smith, enhancing the wealth of nations requires increased specialisation and the development of novel technologies. The resulting increase in complexity makes it more difficult to screen borrowers, identify the most promising entrepreneurs and funnel credit effectively. As technological innovations cause the financial system to become less effective at selecting and financing firms, the efficiency of resource allocation declines and growth slows. Thus, to maintain the same rate of economic progress, financial systems must adapt to changing conditions and enhance the quality of their screening and other services to avoid becoming increasingly ineffective and ultimately obsolete.[4]

Historical examples and new econometric evidence show that: (i) better-functioning financial systems spur technological improvements; and (ii) continual innovations within capital markets are necessary for sustaining technological innovation. Just to mention a few examples, the creation of tradable debt contracts 6,000 years ago in Samaria made it easier to lend and less costly to borrow, which boosted specialisation and productivity. Ancient Rome developed a stock

[4] Laeven *et al.* (2015) develop a theoretical model that formalises this argument.

market to ease the mobilisation of savings for enormous mining projects. To finance oceanic explorations in the 16th to 18th centuries, banks and other financial market participants invented the joint stock company to facilitate risk diversification. And, financial innovations were necessary ingredients for the funding of the Industrial Revolution.

More recently, financial innovations fostered the rapid scientific and commercial advances in information, telecommunications and biotechnologies. During the second half of the 20th century, new, high-technology firms found it increasingly difficult to obtain financing. Commercial banks were reluctant to lend without a secure cash flow to repay the loan. It was difficult to issue securities in public markets because the technology was complex and difficult to evaluate. Venture capital firms arose to screen entrepreneurs and provide technical, managerial and financial advice to new high-technology firms.

In this way, financial innovation, i.e., the creation of venture capital firms, spurred technological innovation. The financing of biotechnology offers a still more recent example. As the frontiers of biotechnology advanced, the venture capitalist model did not work well because it did not have the requisite assembly of biologists, chemists, roboticists, engineers, and lawyers with expertise in the regulation of drugs to screen, monitor and guide new biotechnology endeavours. So, venture capitalists innovated by teaming with large pharmaceuticals companies that had the requisite expertise. In this way, financial innovation has facilitated technological innovation.

In terms of econometric evidence, research by Laeven *et al.* (2015) and many others, as reviewed in Aghion *et al.* (2018), indicate that financial innovation spurs technological change and economic growth. There is a symbiotic connection between technological innovation, finance, and financial innovation. Given all of the evidence, it is perhaps more appropriate to turn Volcker's sceptical query around and ask, "I wish somebody would give me a shred of evidence that the long-run link between financial innovation and growth has recently stopped."

Policies

The study of finance, growth, and prosperity offers a few important policy lessons, as stressed by Barth *et al.* (2004). In terms of the big general lesson, financial regulation is not just about preventing crises; it is also about cultivating financial systems that effectively mobilise savings, screen entrepreneurs, allocate savings to the most promising ones, monitor those businesses and induce them to use those savings efficiently, and provide first-rate risk management and transactions services. Financial regulation is about creating an environment that allows the financial system to innovate continuously to improve the quality of these financial services.

Research also provides three more specific lessons. First, competition among financial institutions and markets tends to improve the quality of the services provided by the financial system to the rest of the economy with positive effects on economic growth, the incomes of the poor and the availability of economic opportunities to people throughout society. Considerable evidence shows that when bank regulators remove impediments to competition, bank lending rates fall, deposit rates rise, bank profits fall, the proportion of past due loans falls, bank transparency increases, the efficiency of credit allocation soars, economic growth accelerates, new firms enter at a faster rate, old firms exit at a faster rate, inequality falls, poverty drops and income inequality shrinks (e.g., Beck *et al.*, 2010).[5]

Second, granting greater power to official supervisory and regulatory agencies often *damages* the operation of financial systems unless there are effective institutional

[5] For evidence on the impact of bank competition on transparency and fragility, see Jiang *et al.* (2016, 2017).

mechanisms for compelling these agencies to use their powers in the best interests of the public. As shown by Barth *et al.* (2004), bank regulatory and supervisory systems often use their powers to promote the interests of narrow political groups or wealthy individuals and too infrequently promote the interests of the public at large. Too often, there is ineffective governance of bank regulatory and supervisory agencies and these agencies are captured by narrow interests and fail to advance the public interest (e.g., Barth *et al.*, 2008). From the most developed economies to the least developed ones, and across centuries of experience, research shows us that it is often the regulatory agencies that discourage banks from effectively screening borrowers and allocating capital. It is often the regulatory agencies that compel banks to make loans that are politically appealing but that harm economic prosperity. Thus, too often it is the regulatory and supervisory agencies themselves that limit the ability of the most promising entrepreneurs to flourish. The evidence raises a cautionary flag about financial regulatory approaches that rely on the guiding hand of government officials.

Third, the evidence does favour a regulatory approach that forces banks to disclose more information, that ensures that bank owners and creditors have financial incentives to monitor and govern effectively, and that provides bank owners and creditors with the legal tools necessary to oversee bank executives. As emphasised by Barth *et al.* (2004, 2008), such a regulatory approach will not just involve forcing banks to disclose information in a timely, comparable and transparent manner. Such a regulatory approach will focus on enhancing private sector governance of banks, so that small shareholders and debtors have the incentives, information, legal backing and legal means to exert corporate control over banks.

In sum, a large and growing body of evidence demonstrates that finance exerts a powerful influence on living standards. They influence who can start a business and who cannot, who can expand a business and who cannot. They shape who can borrow to buy a house in a neighbourhood that is conducive to the cognitive and non-cognitive development of their children and who can and who cannot borrow to send their children to better schools. The financial system influences whether people look for work in a dynamic, competitive and growing economy, or whether people search for jobs in more stagnant economies in which a few, protected firms dominate labour markets. Although financial systems will never eliminate the advantages of being rich, better-developed financial systems reduce the advantages of wealth by expanding economic opportunities and boosting the dynamism of economies.

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