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Subject: Comments on "Understanding and measuring finance for productive investments"

A well-functioning financial system, of a banking sector in particular is vital to economic growth and prosperity; but finance is also a cause of instability and prolonged recession, as evidenced by the global financial crisis. As of 2016, we are still in the unwinding of what was arguably the biggest financial crisis since the 1930s. We have entered into an era that has too much rather than too little finance. The majority of bank credit does not finance real economic activity by nonfinancial firms, rather it flows to the real estate and other asset markets, which has driven up the prices for property and other assets and has very little growth effect.[1]

Against this background, the research initiated by the Bank of England (the Bank thereafter) on "Finance for productive investment" is highly relevant. At the Sustainable Finance Lab, a leading Dutch academic platform, I follow the Bank's contribution with great interest. I share the Bank's thoughts on the need and merit to understand and measure finance for productive investment and appreciate the effort the Bank has put in to gather enormous pieces of information. Developing a set of preliminary indicators to monitor finance for productive investment that could be published regularly is incredibly helpful but by no means an easy task. This discussion paper represents an important first step. The main comments I have are threefold.

Firstly, regarding the definition of productive investment, it provides a useful benchmark. Especially it explicitly brings in externalities and recognizes that investments yielding positive private returns may not be socially productive. Although appealing, it is a very broad concept. There are significant conceptual and empirical challenges to operationalize this concept. In practice, marginal expected social returns will have to be proxied by average realized private returns. Therefore, investments that generate higher returns to firms are considered to be productive. This may be problematic especially if those returns are capital gains, not wages and profit.

[1] Jorda, O., M. Schularick, and A.M. Taylor (2016) The great mortgaging: housing finance, crises and business cycles, Economic Policy, 31(85), 107-152; Bezemer, D., M. Grydaki and L. Zhang (2016) More mortgages, lower growth? Economic Inquiry, 54(1), 652-674.

A useful starting point may be to make the distinction between "real" vs. "financial" capital. It is necessary to drop the traditional assumption that the major role of finance is to provide credit to firms to finance tangible capital investments in new means of production. As Box 4 (p.32) shows, banks mainly finance the purchase and transfer of existing real estate and other financial assets, which has inflated prices for real estate, stocks and bonds. The speculation that capital gains would continue further encourages borrowers to take on more debts. Eventually when the debt-driven financial bubble bursts, banks are forced to rein in their lending due to the losses of the collateral value attached to the property, thereby harm the economy even more.

From the corporate perspective, corporate managers, as well as money managers and fund managers, may also seek to produce financial returns (using internal and external funds) for themselves, as well as their owners and creditors. The main objective is to generate capital gains through for example, stock buybacks, leveraged buyouts and mergers & acquisitions, while squeezing out higher profits by downsizing and outsourcing labor and cutting back on long-run projects. These actions would yield higher financial returns for the firms. *But they are not the type of productive investments the authors aim to capture.* Therefore, it is important to note that there is no one-to-one mapping between PNFC lending and productive investments. Information that distinguishes between funding "real" capital, i.e. productive investment and "financial" capital, i.e. speculative investment by PNFCs will be useful to refine the definition of productive investment.

In all, while you are interested in measuring the type of investments that contributes to enlarging the capacity of the economy in "real" terms, you end up measuring the "financial" returns of these investments. Since "finance for productive investments" is a largely unobservable concept, you would then have to establish clearly how what you do measure relates to the concept of productive investment by looking at their impact on productive capacity. One suggestion could be to examine the discrepancy between the amount of new finance available and the amount of new capital formation.

Secondly, concerning the capital gap, I feel that without systematic econometric evidence, some of the conclusions need to be drawn with caution. For example, the aggregate analysis in light of international comparison does not substantiate that the UK does or does not have a deficiency in the level of capital. It is unclear which country (groups) should constitute the benchmark for the UK and what is the hypothesis under scrutiny here.

Furthermore, *"differences in the level of rates of return across industries (or firms) do not indicate whether capital is able to move across sectors or whether new investment has taken advantage of these opportunities...(p.17)."* The differences might be driven by omitted industry (or firm) risk factors that have not been identified and accounted for. Some industries (or firms) might be inherently more risky than others. Thus the differences in the level of returns might be an indication of efficient pricing rather than an indication of inefficient allocation. You could supplement information on for instance the (rank) correlation between the return on capital and entry-exit rates, or the volatility of profit to gauge the relative riskiness of industries (or firms).

Moreover, the construction of the rate of returns rely heavily on the accounting data, which are subject to measurement problems. Alternatively, price-based measures, such as Tobin's Q could be more accurate as the market price is usually observable.

In all, the assessment of the capital gap does not provide many insights. The true assessment would require you to specify a counterfactual scenario with projects that are denied funding but should have gotten it. This is difficult, as it requires considerable detail on something that has not occurred. This cannot be read from average capital/labor ratios or the average returns.

How to address this? One way to proceed is to collect micro deal-level data on finance and track who gets funding and who is denied funding. And then to track for those that get funding, what is it spent on. What are the impacts of the funding on the productive capacity of firms and the economy at large? I hope such data could be obtained from the financial institutions who keep records on the borrower and the deal information.

Lastly, regarding the nature of investments, many productive investment decisions have long-term consequences and are made under deep uncertainty. It is very difficult to ascertain *ex-ante* whether an investment is productive or not. It is well established that equity financing is more suited to deal with deep uncertainty. The current tax regime in favor of debt has pushed us towards too much debt- and too little equity-finance. Therefore, the right mix of financing may also have important implications when measuring financing for productive investments.

Thank you once more for sharing this stimulating document with us.

The Sustainable Finance Lab is open to exploring how we can contribute to research and policy advocacy in order to promote finance for productive investment. If you would like to have a conversation on this, please feel free to contact me.