The purpose of finance: how efficient is the European finance industry?

This paper is a short summary of a recent draft paper on 'How efficient is the European finance industry?' by Dr Guillaume Bazot, assistant professor of economics at the University Paris VIII.

The paper is part of the Purpose of Finance initiative on which New Financial is collaborating with David Pitt-Watson, fellow in finance at Cambridge University, and Pension Insurance Corporation. You can read a draft version of the paper here. The final version of the paper will be published in October, when we will be hosting a dinner with Guillaume and a range of executives from different sectors of the banking and finance industry.

1) Setting the scene

Given the importance of finance in supporting growth and investment, it is surprising how little research addresses the basic question of how well the finance industry fulfils its basic purpose. One notable exception is *the work of Thomas Philippon*, professor of finance at NYU Stern, whose research has shown that in the US, the finance industry that helped fund the internet in the 21st century is no more efficient than the finance industry that funded the railroads more than a hundred years ago.

This draft paper by Guillaume Bazot builds on this debate by measuring the efficiency of the finance industry in Europe over the past 70 years. The paper compares the cost of the finance industry over time relative to the amount of money it has 'intermediated' (that is, the savings it has received and invested from the outside world). The study compares France, Germany, the UK and the US since 1950, and demonstrates that the finance industry has not delivered the sort of gains in efficiency that you might expect given its growth, the vast progress made by technology, the deregulation of markets, and the increase in competition.

The paper raises some challenging questions. The first is why, in the past, we have not considered or measured the efficiency of the industry. That would seem to be an important starting point for any discussion about the nature and structure of finance, how the industry fits into the wider economy, and the way in which it is regulated.

2) The value of finance

The basic purpose of finance is to keep people's money safe, provide an effective payment system, manage and pool risk, and move money from where it is to where it is needed. A basic level of financial development is a precondition for economic growth, and a more efficient financial system - so long as it remains in the service of society and the economy - drives growth and prosperity.

Historically, improvements in the efficiency of finance and the subsequent decrease in the costs of financial intermediation were a central factor in the rapid growth of the Netherlands in 16th and 17th centuries, and of the UK in the 18th century. Increased financial development and efficiency were a precondition for the industrial revolution and are two of the main defining factors in innovation and economic growth today. Given their importance, it is vital to better understand how developed and how efficient the financial industry is, and how that has changed over time.

3) The main conclusions

The main findings of the paper are that the finance sector has grown rapidly in absolute and relative terms since 1950. Relative to GDP, financial intermediation has roughly doubled in the UK and US to around 400%, and it has roughly tripled from a lower base in both France and Germany over the same period. However, the total cost of providing those services has also significantly increased: it has nearly tripled in the UK and the US relative to GDP and doubled in France and Germany.

This means that the unit cost of finance has remained broadly flat over the past 70 years. However, the trajectory of different financial systems since 1950 mean that each country has a slightly different story: the finance industry in the UK is significantly more efficient than in France, Germany, and the US, but this efficiency has not improved since 1950. The unit cost of finance in the US has increased slightly despite (or perhaps because of) a more marked shift towards market-based finance. The efficiency of the significantly less developed finance sector in Germany has flatlined, while the unit cost in France has fallen sharply over the period.

4) Defining the problem

Measuring the efficiency of the finance industry sounds complicated, but the principle is relatively simple. First, the paper measures the output of the finance industry in terms of intermediation and liquidity provision: the value of the savings that it gathers from the outside world and the value of the capital and investments that it provides (this includes savings, pensions and investments on one side; and the provision of bank credit and market-based financing on the other). Second, it measures the economic cost of the financial industry in terms of the profits that it makes and the salaries and bonuses that it pays. And third, to derive the unit cost of financial intermediation, it divides the cost into the output.

Like many measures in economics, this methodology is open to challenge: there is no single measure of the output of the finance industry; intermediation is only one aspect of the purpose and function of finance; and other functions such payments, safekeeping and risk-sharing are not included in the output side of the equation. However, separate data is not available on other aspects of finance, and the paper argues that intermediation represents the greatest cost in the finance industry, and that with the exception of the payments system, there is little evidence of disproportionately higher efficiency gains in the rest of the industry.

5) Measuring financial intermediation

The starting point for the paper is that financial intermediation is the most clearly measurable and most cost-intensive function of the finance industry. Given the different balance in different countries between savings and investments (higher levels of pensions and investing in the UK and US, and higher level of deposits in France and Germany) and between bank- and market-based finance, the paper measured financial intermediation and output in a number of ways relative to GDP: the provision of credit, the value of the stockmarket, and broad money (a measure of money supply in the economy). It then aggregated these into a single measure of financial intermediation relative to GDP.

6) The rise of intermediation

Financial intermediation has grown rapidly in every country relative to GDP since 1950, regardless of whether the money was intermediated by banks or by markets. However, each country retained its own particular characteristics: for example, household credit is relatively weak in France, banks hold large market shares in Germany, banks hold less market share in the US, and the intensity of intermediation is very high in the UK. There is evidence that the nature of the financial sector in each country has converged since the early 1990s, in part down to the growth of market-based finance and securities markets in developed markets. Overall, the level of intermediation doubled in the UK and the US to roughly 400% of GDP, and roughly tripled in France and Germany from a lower base.

7) Measuring the cost of finance

The paper's starting point for calculating the cost of the financial system is the 'cost added' approach, which can be measured in two ways: the sum of the industry's revenues minus its input costs, or the sum of its profits, pay and net taxes. One problem with this metric is that in national accounts it does not include capital gains from securities, which in the case of banks can be significant, particularly over the past 30 years as many banks have increased their securities and market activities. To address this, Bazot makes a number of adjustments, but has also shown that the overall trend is the same for both the adjusted and unadjusted figures. The figures were also adjusted for the trade balance in

financial services and the 'quality' or complexity of the intermediation undertaken (making a large loan to a government might be less costly than many smaller loans to higher-risk consumers).

8) A rising share of income
The paper shows that since 1950, whichever way you look at it, a growing share of national income in all four countries has been transferred to the financial sector. This might be expected given the growth in intermediation, but the consistency and scale of growth is surprising. In the UK and US, the income of the finance sector nearly tripled from around 3% of GDP to nearly 9% today (and in the UK it peaked at 11% just before and just after the financial crisis). In France, the finance sector has more than doubled to just under 8%, and in Germany it has more than doubled to just over 5%. In the UK and US, this growth accelerated from the late 1970s onwards (before shooting up in the UK from the late 1990s), while in France the growth has been more gradual. It is interesting to note that the income of the finance sector in Germany has remained static compared to GDP since the mid-1980s.

9) The unit cost of intermediation
Comparing the output of the finance sector over time with the income of the sector provides a measure of the changing unit cost of intermediation since 1950. There are three clear trends:

- The evolution of unit cost is not the same in each country: in the UK and Germany the unit cost of intermediation is roughly the same today as it was in 1950; in France it has fallen by more than a third (perhaps driven by the relaxation of state control), and in the US it has increased slightly, with most of that increase coming from the early 1980s onwards.
- The unit cost of finance seems to converge over time between countries, perhaps because of the globalisation of the industry and harmonisation of regulations from the 1980s onwards: France, Germany and the US are all clustered around 2% of financial output.
- The UK seems to have a very significant competitive advantage. It has a significantly and consistently lower unit cost than the other countries: its adjusted unit cost of just over 1% is roughly half the level of its peers.

10) The main drivers
The disappointing and perhaps surprising conclusion is that with the exception of France, there is limited evidence of any significant improvement in the efficiency of the finance industry in developed economies over the past 70 years. There are several potential explanations. First, the measurement of the costs of finance sector or its output maybe wrong. After all, despite the adjustments, the methodology is perhaps an oversimplification. However, Bazot ran different versions of the same analysis using different measures of both cost and output, and while the headline numbers were different, the trend in each market was the same.

Second, and more likely, is that the finance industry has captured a larger share of its income for itself (in other words, it has become less focused on serving the wider economy and more on generating profits for its own sake). The rapid growth in trading volumes over the past 30 years and the reliance on trading revenues of many large banks is hard to reconcile with a parallel demand from the wider economy for such levels of activity in financial markets.

While the unit cost of many aspects of finance may have fallen, the industry has more than made up for that decline by generating more profits from trading. This is also reflected in the wider shift to market-based finance, which has created ever longer chains of intermediaries taking a few cents off every dollar that is being intermediated. The increased complexity in the finance industry and asymmetry of information between customers and providers have also helped the industry maintain or increase its share of the income it generates. On a wider level, given the vital contribution that finance makes to people's everyday lives and to the wider economy, the paper suggests that more research and more focus is urgently required on the costs and efficiency of the financial industry.