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SOCIALLY USELESS?

The Crucial Contribution of Finance
to Economic Life

By Philip Booth and
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Executive summary

- Animosity towards the business of finance is ancient and persistent. Because finance creates intangible value, its contribution to society is still invisible to many observers – including former regulator Lord Turner, who described large swathes of the sector as ‘socially useless’.
- Such claims are unfounded and dangerous. Not only that, but the oft-proposed remedy – increased statutory regulation – may heighten rather than mitigate the exposure of taxpayers and households to recessions and speculative bubbles.
- Financial firms serve many useful functions which individuals and households could scarcely undertake on their own. These functions include maturity transformation, matching lenders and borrowers at low cost, facilitating the transfer of risk and consumption across time and between people, monitoring, and diversification of investments.
- The best analogy for the financial sector is probably supermarkets. It would be possible to prepare dinner by visiting a chicken farmer to buy a chicken, a market gardener to buy a cabbage, and so on. But such a process would be very time-consuming and involve high opportunity costs. Banks reduce the transaction costs of financial activity, enabling people to spend their time more productively.
- Gross value added (GVA) by the UK financial sector amounted to £124 billion in 2016. Of this, 50 per cent is exported. Contrary to the claims of critics, the sales and trading activity which is alleged to be self-serving accounts at most for 10 to 13 per cent of financial services business in Britain.
- It is often argued that private-sector finance is short-term oriented. Whilst there is some evidence that shareholders may be heavily discounting distant profits, the reasons for this could be policy uncertainty and not irrationality as is commonly suggested. Moreover, the valuations of tech firms – whose positive cash flows lie far in the future – and low

yields on corporate bonds suggest that investors are patient by historical standards.

- Much financial regulation is based on the notion that, in a free market, providers 'dupe' consumers. But regulatory intervention is often grossly miscalculated. The Financial Conduct Authority's recent interest cap on payday loans shrank the market by between three and five times more than the regulator expected. Markets are not perfect, but regulation is often a very poor substitute.
- The much-cited literature linking financial growth and adverse economic outcomes is simply too crude to warrant drawing clear policy conclusions. Studies linking financialisation with inequality are similarly ambiguous: the top ten countries for their share of finance in GDP are a mixture of high-, medium- and low-inequality countries.
- Complex financial instruments and speculation, both unpopular in the wake of the 2008 crash, are not harmful on their own. In fact they help to transfer risks to those who can best bear it, whilst giving greater income certainty to vulnerable people. Until and unless the value of finance is properly understood, public policy will fail to harness its benefits and may well endanger public welfare.

Introduction

Public animosity towards the business of finance is ancient and persistent. Ignorance of fundamental features of finance, such as risk and the opportunity cost of money, led the medieval Christian church to proscribe or severely constrain the charging of interest, as Muslim clerics still do.

This, in turn, fuelled prejudice against people who, pushed out of other occupations and less constrained by their own creeds, became financiers. Matters have improved since the time of Shakespeare's Shylock. But suspicion of finance persists and is periodically stoked by financial crises and other events. Because finance creates intangible value, its contribution to society is still invisible to many observers – including, even, the prominent former financial regulator, Lord Adair Turner, who famously claimed that (much) financial activity is 'socially useless'.

Such claims are unfounded and dangerous.

They are unfounded because a closer look at financial activity in developed countries reveals that little of it is unrelated to customer needs. They are dangerous because the doctrine that the financial sector is useless beyond an arbitrary threshold may lead to policies that restrict people's ability to lend, borrow and insure themselves or raise the costs of those activities.

And relying on statutory regulation to address the perceived problems of finance, as is typically suggested, may heighten rather than mitigate the exposure of taxpayers and households to adverse events such as recessions and speculative bubbles. It may also encourage financiers to develop instruments that are designed not to serve customers' needs but to get around or profit from increasingly complex regulations. Much is indeed wrong with the current finance industry. But government intervention is responsible for many of the problems.

This is what we argue. But first we need to review the complaints of those who doubt the social value of finance.

Criticisms of the financial sector

In 2009, Lord Adair Turner claimed that the financial sector had become too big, much of what went on in it being 'socially useless'. He pointed to 'fixed income securities, derivatives, trading and hedging, and possibly also asset management and share trading' as areas that were oversized. Though he emphasised that it was difficult for a regulator to know in advance which activities it would be beneficial to restrict, he did suggest a tax on financial activities to reduce the size of the financial sector to its optimal level (Turner 2009).

Lord Turner is not unusual in his dim view of finance. Attacks come from many quarters. In a speech to the United Nations in 2015, Pope Francis said: 'beginning in 2008 the trend of food prices has changed: doubled, then stabilized, but always with higher figures in comparison to the preceding period. [...] we cannot overlook financial speculation: for example, the high prices of wheat, rice, corn, soy, which fluctuate on the stock market, perhaps they are linked to profits and, therefore, the higher the price the greater the profit.'¹ Archbishop Welby of the Anglican Church has called for a financial sector that serves society rather than rules it.²

In a book that was acclaimed widely on the left, political scientist David Marquand criticises the financial sector and its growth, blaming financial firms for inequality and rent seeking (Marquand 2015). Zingales (2015) also argues that successful rent-seeking by financial firms has over-expanded the sector, backed up by ill-designed regulation and financial guarantees from the government. Both Marquand and Zingales suggest that the US is the most extreme example of financial sector over-expansion.

1 See: https://w2.vatican.va/content/francesco/en/speeches/2015/june/documents/papa-francesco_20150611_fao.html

2 <http://www.independent.co.uk/news/uk/home-news/banks-must-serve-society-not-rule-it-says-incoming-archbishop-justin-welby-8451320.html>

Cecchetti and Kharroubi (2015) have followed a different approach, more rooted in positive economics than political economy. Their results lead them to accept that a deepening of the financial sector is important for economic growth. But they argue that, at a certain size, it becomes detrimental to the real economy.

Lack of confidence in the financial sector also comes from financiers themselves, who often describe the value of what they do in an apologetic way. For example, *Banking on Trust*³, produced by a group of leading bankers, fund managers and other financial professionals, argues that the banking sector should exist to serve the real economy, implying that it currently fails to do so and that financial services have no value in themselves beyond channelling capital to industry.

Neither the critics mentioned above nor any other reasonable person doubt that some financial activities are socially useful. But they seem to have a limited understanding of how finance benefits society and, as a result, mistake valuable financial services for merely self-serving or parasitic practices by financiers.

To expose this error, we first rehearse the fundamental functions of financial services. Then we consider some of the more difficult cases, such as those referred to by Lord Turner, and explain the value they provide to their consumers. That these complex products provide value should come as no surprise. If they were worthless, why would they exist? This is the first question you might expect critics of these products to answer. In fact, they do not address it at all.

3 <http://www.meteos.co.uk/wp-content/uploads/BankingFutures-Report-1-February-2016.pdf>

What are the functions of the financial sector?

'A large part of what we think of as economic activity is designed to accomplish what high transactions costs would otherwise prevent'
Ronald Coase, Nobel Prize Lecture, 1991

Financial markets and institutions broadly fulfil the following functions (see, for example, Levine 2005):

- Maturity transformation: enabling borrowers to borrow over long terms whilst savers can access their funds easily
- Reducing the cost of matching lenders and borrowers
- Facilitating money transfers and payments
- Monitoring investments and corporate governance after finance has been provided
- Risk reduction through diversification
- The transfer of different forms of risk to those who wish to hold them
- The transfer of consumption across time

The traditional description of the function of banks and the financial system more generally is that they resolve a 'constitutional weakness' in the economy (Hicks 1939). Some households seek a secure and generally liquid method of saving, while other households and companies need a secure source of funds, which they often need to access for long periods. Banks can lend long term while managing deposits in such a way that households can always have access to them, thus achieving the maturity transformation which is valuable to both. Securities markets do a similar job. Debt and equity instruments are mechanisms through which companies raise funds. Those securities provide liquidity for the saver because ownership rights can be traded on secondary markets.

Financial institutions reduce transaction costs

Financial institutions exist to reduce the cost to businesses of raising capital and the costs to individuals of postponing consumption. The institutions involved in this process include pension funds, banks, investment trusts, mutual funds, investment banks, insurance companies and myriad alternative finance providers. Financial institutions specialise in reducing transactions costs such as the cost of screening the risk of the ventures in which people are investing, the cost of finding entities that want capital, the costs of transferring ownership of investment interests and the costs of diversification. Innovation in the financial system should be seen in the context of its potential usefulness in performing these functions.

Thanks to the existence of financial markets, households can spread risk across a range of institutions and also across a range of potential borrowers. Risks can be pooled so that investors are less exposed to the failure of individual investment projects. If investment takes place through institutions, the investor need only analyse the soundness of the institution and not of the underlying investments.

Financial intermediaries can also monitor and discipline risk taking on a continual basis. Banks can monitor companies that have borrowed from them when deciding whether to continue lending (Diamond 1984). And purchasers of securities (particularly of equities) can discipline corporate executives by exercising voting rights or by selling shares.

All the above functions reduce transaction costs of various types. The financial system also reduces transaction costs in the narrow sense of making it cheaper to transfer a financial interest from one person to another. Through the use of standardised, and often tax-efficient, securities sold on exchanges (or 'second hand' markets), financial institutions allow people to access their capital at any time. The bank deposit system allows the transfer of financial interests in a similarly efficient way. Without the ability to transfer ownership in this way, the cost of capital to companies would be much greater and households would be reluctant to save.

Banks, in particular, organise their business in a way that facilitates money transmission for the purpose of exchanging goods, services and financial interests. Banks could involve themselves in money transmission alone (narrow banking), without being involved in lending money to businesses and other households. However, in most banking systems, the roles of money transmission, bank lending and financial intermediation go hand-in-hand. The cost of alternatives to transmitting money in this way would be prohibitive.

Financial institutions, like institutions in other markets, are continually evolving and subject to innovation. Recently, peer-to-peer lending networks have emerged, enabling households to diversify their risk while omitting the intermediary partly or entirely. Mobile money transfers have developed in Africa as a way to transfer money without using the banking sector, which has been difficult for households and businesses to access efficiently (see Mbiti and Weil 2011). In China, 2,000 platforms intermediate £100 billion of peer-to-peer lending (Weinland 2017). Exchange traded funds allow extraordinary degrees of diversification of investment portfolios with minimal cost to the investor.

In addition, insurance companies reduce the risks faced by households and companies. They do this by pooling the insured risks and also, to a limited extent, by transferring the risks from the insured party to the owners of the insurance company.

The best analogy for the financial sector is probably supermarkets. It would be possible to prepare dinner by visiting a chicken farmer to buy a chicken, a market gardener to buy a cabbage, another farmer to buy some potatoes, and so on. However, such a process would be incredibly time consuming and involve the sacrifice of a huge amount of real economic activity. Like financial institutions, supermarkets exist to reduce transaction costs.

A thought experiment is useful in communicating the benefit of finance. Imagine an unintermediated system in which a household wished to save for retirement and to protect against the risk of the main earner dying. The latter is almost impossible to envisage. The former would be extremely costly.⁴ The household would need to analyse different investment projects, taking a lot on trust. The household would be able to invest in only two or three projects. To liquidate an investment, the household would need to undertake complex legal processes, if indeed it were possible at all. Saving for retirement would be much riskier and probably impossible for all but the very wealthy.

The financial sector makes possible for everybody activities that in the past were possible only for the wealthiest. It is a pro-poor industry.

4 This is why, in the old days, for poor households the only – imperfect – way of providing for old age and the early death of the breadwinner was to have lots of children and to have them early.

Is the financial sector useful in practice?

When we drill down into the financial sector, its social usefulness becomes clearer. Of the total value added by the UK financial sector – £124 billion in 2016 according to Tyler (2017) – approximately 50 per cent is exported. Although there are also imports of financial services, the UK has a huge trade surplus in the sector of £44 billion or 3 per cent of national income (*ibid.*). Even if the financial services output of the UK economy is socially useless, the fact that much of it is exported, thus providing the income to buy other services and consumer and investment goods, significantly reduces the power of that argument. And, it raises the question of why people in other countries would buy financial products that are useless.

Financial services provide just over 3.1 per cent of all the jobs in the UK despite producing 7.2 per cent of gross value added in the economy.⁵ The UK's financial sector is one of the economy's most productive, and its retrenchment since the crisis explains some of the stagnation in productivity growth during that period. Compensation in the financial sector, at 6.9 per cent of all compensation, is in line with the sector's contribution to value creation, despite frequent media accounts to the contrary.

The financial services sector is also diverse, contrary to images conjured up since the financial crisis of an industry that mainly produces opaque and complex products. For example, approximately a fifth of the UK financial sector is made up of insurance services and pension funds, which are important for protecting against household and business risks and for providing income protection in old age (Burgess 2011).

It is difficult to measure the recorded value of the set of services to which commentators such as Turner refer when they discuss the social utility of

5 <https://www.ons.gov.uk/economy/grossdomesticproductgdp/compendium/unitedkingdomnationalaccounts/bluebook/2015-10-30/chapter02theindustrialanalyses>

the sector. Recent analysis by consultancy Oliver Wyman (2016) suggests that sales and trading activity constitutes 10 to 13 per cent of all gross value-added (GVA) by the UK financial services sector. Some of that is not the sort of short-term speculative activity which critics of finance usually have in mind, but even if all of it were objectionable, attempts to argue that this activity overwhelms or distorts the economy are enormous exaggerations. On the contrary, retail and business banking, asset management, insurance and market infrastructure form the bulk of financial services in Britain, together accounting for over 80 per cent of financial services GVA.

Are financial markets short-term oriented?

Because securities are turned over many times during their lives and are often owned for short periods of time, investment markets are often thought to be 'short-termist'. However, there is a great deal of confusion in discussions of short-termism. There are three quite different aspects of this criticism which tend to be conflated. The first involves supposed short-termism on the part of investors and shareholders, who, it is said, discount future cash flows at high rates and thus value future cash flows a lot less than they value cash flows closer to the present (Haldane 2011).⁶

Secondly, there is the alleged short-term orientation of managers of companies, driven by quarterly performance measurement, which has nothing to do with discount rates and all to do with reporting requirements and managers' remuneration.⁷ If this is a problem, the long-term investment may still take place (because it will add value to the company), but the company might be managed badly, with a focus on short-term numbers, such as immediate turnover and profit. Finally, there is the question of fund managers turning over securities rapidly, only holding them for a short period of time and looking for returns in the short term. The policy implications, if any, of the three aspects of this question are different.

Myopic investors

The first of the three allegations is the most serious because, if true, it would distort investment in the real economy. Haldane (2011) suggests that investor short-termism is driven by myopia, but that is only one possible cause of the apparent high discount rate companies apply when deciding whether to invest in new projects with distant cash flows. More distant pay-offs involve greater risk and uncertainty, as conditions may change before longer-term investment provides positive cash flows.

⁶ There may be, in the language of behavioural economics, 'hyperbolic discounting' by investors, or their rates of time preference may have changed.

⁷ Investor short-termism will, in an efficient market where agents act in the interest of principals, also be reflected in short-termism by managers. But manager short-termism in this case is only a symptom – they are doing what the owners want.

However, even assuming that Haldane's hypothesis is true, are investors irrationally myopic or do they simply have a rational preference for nearer-term cash flows? The mere fact that investors discount more distant profits at higher interest rates tells us nothing. It would, for example, be expected that investors would develop relatively stronger preferences for nearer-term cash flows as the population ages.

Alternatively, increased policy uncertainty relating to the regulatory environment in which firms are operating might increase risk premiums that investors demand for investments with longer-term payoffs. Baker et al. (2016) suggest that the finger of short-termism should be pointed at central banks such as the Bank of England. They find that policy uncertainty, a very important source of which is government institutions, is associated with greater stock price volatility and reduced investment and employment in a range of sectors. Their findings apply to the United States as well as to other large economies.

If the driver were irrational myopia, there might be scope for policy intervention in the form of a choice architecture that enables individuals to better understand future versus present cash flows (Thaler and Sunstein 2003). But if rational investor preferences have simply shifted, then there is no ground for policy intervention. If the cause is government policy uncertainty, then the solution is to reform and reduce intervention by government – or, at least, to ensure that the framework in which policy is determined is coherent and consistent.⁸

But, we should question the whole idea of the alleged short-term focus of financiers. If we look at the history of investment from the 19th century onwards, irrational myopia did not seem to be an obvious problem. Even in the early 21st century, it could be argued that there was over-investment rather than under-investment in more speculative and long-term ventures such as the tech sector – indeed, this seemed to replicate the pattern of 19th century railways investment.⁹

Looking at current-day trends, it is difficult to draw the conclusion that investors are myopic. Venture capitalists take on average five years to exit their investment via mergers and acquisitions and seven years for initial public offerings (CB Insights 2013). Twitter, for instance, took 77 months

8 Recent examples of how government action might have raised the cost of capital include the UK government's policy of imposing price caps on energy companies and a whole array of actions in relation to the residential rented housing market such as increases in transactions taxes, limits on the deductibility of interest from financing costs, and regulations implemented in the name of tenant protection.

9 For an excellent discussion of this see Miller (2003).

from first funding to listing on the public market. Seventy-five per cent of Amazon's market value is justified by profits anticipated more than a decade hence.¹⁰ Indeed, there is a whole sector of investment markets described as 'unicorns' which contains start-up companies with a market value of over \$1 billion. There are around 250 such companies, with a combined market value of around \$750 billion. In other words, investors are being patient and attaching a high value to uncertain long-term profits.

In the UK, regulation might discourage investments with risky long-term returns. Most notably, the regulation of pension funds discourages equity investment. However, there is certainly no clear evidence of irrational preferences for short-term cash flows: a 16-year bond issued by GlaxoSmithKline currently has a gross redemption yield of only 2.5 per cent. Those who suggest that investors are short-termist must demonstrate, firstly, that investors do demand higher returns from long-term projects and, secondly, that this is not an expression of genuine preferences or caused by existing government policy. In relation to the first, the evidence is unconvincing, and in relation to the second, non-existent.

Short-termist management

What about the behaviour of company managers? Are they obsessed with results in the next quarter instead of focusing on the long-term prosperity of the business? Unfortunately, regulation in the EU and in the UK has encouraged or required quarterly reporting, though such regulations have now been relaxed. Whether quarterly reporting really does make a difference to investment is a moot point. Nallarreddy et al. (2017), for example, suggest otherwise.

However, as discussed in Sternberg (2004) the purpose of corporate governance is to ensure that the agents (managers) fulfil the objectives of the principals (owners). If the objectives of the owners are long term, owners should develop corporate governance arrangements that reflect that. In turn, stock exchanges are incentivised to develop rules for quoted companies that lower the cost of capital, thus providing an environment which is conducive to companies issuing shares and having them traded on the exchange (see Arthur and Booth 2010). Unfortunately, legislation and corporate governance codes that focus on information provision, including those relating to fair value accounting, may encourage managers to pursue short-term objectives contrary to the interests of shareholders (see Kay 2012). Historical experience suggests that the solution is to

10 See: <https://www.economist.com/news/business/21717069-firms-are-increasingly-accused-failing-look-ahead-misdiagnosis-corporate>

allow owners and stock exchanges the maximum freedom to develop the framework of rules that ensure managers are accountable to owners in the ways preferred by owners (Stringham 2015). This may mean relaxing existing government regulation which requires a short-term focus from managers.

Short-termist trading

When it comes to the rapid turnover of securities as a supposed manifestation of short-termism, it is also difficult to make a convincing case that this is a problem, though it is asserted that the phenomenon leads to owners who are less engaged with the company. While it is difficult to calculate a figure for the average holding period of a share, a few months is often suggested.¹¹ It is questionable how relevant this is. Many of the trades that lead to such a low average are undertaken by particular investors who add liquidity and reduce anomalies within markets but whose function is not to invest the capital of savers. On the other hand, passive (index) funds hold 13 per cent of the market and seek to minimise turnover so as to lower fund charges.¹²

Moreover, there is a tradeoff between patient capital deployed to generate cash flows over the long run, and the need for accurate price signals and price discovery by agents. In other words, efficient markets require short- as well as long-term-oriented participants. In fact, efficient markets tend to benefit unsophisticated investors, especially those invested in passive funds, because such investors cannot hope to benefit easily from the mispricing that might occur in less liquid markets.

Holding shares for short periods of time is not an inevitable feature of financial markets, as is demonstrated by two of the most admired types of investing currently in operation: value investing of the sort undertaken by Warren Buffett, and venture capitalism which focuses on innovative firms. Neither can be described as short-term-oriented. Buffett's Berkshire Hathaway has an average holding period of one year, with 20 per cent of its stocks held for longer than two years (Hughes, Liu and Zhang 2010).

However, let us assume that fund managers are interested in short-term capital gains from shares and that this is behind the tendency to turn

11 For an interesting discussion of the issue in relation to the US market see: <http://www.politifact.com/virginia/statements/2016/jul/06/mark-warner/mark-warner-says-average-holding-time-stocks-has-f/>

12 See: <https://www.economist.com/news/business/21717069-firms-are-increasingly-accused-failing-look-ahead-misdiagnosis-corporate>

shares over quickly. The question in which the fund manager is interested is 'what actions by the company will lead to short-term capital gains?'. The answer to this question depends on investors' views about the different value of long-term versus short-term projects and cash flows. This simply takes us back to the discussion above. If investors like long-term projects, investing in short-term projects will be bad for a share's value and lead fund managers to sell the share. The debate about the turnover of shares adds nothing to the discussion.

Perhaps the shareholder-owned PLC model is narrowly focused and does not give rise to good long-term stewardship by shareholders. Diversity in ownership structures, which could involve employee ownership or different classes of shares which might have different rights attached depending on the length of time for which they are held, might be beneficial.¹³ Although the public shareholder model has proved remarkably resilient over time, there should certainly be no regulatory impediment to such diversity of ownership structures.

The most obvious policy response should be to remove those regulations that encourage rapid turnover of shares and short-term metrics in management reporting. Indeed, even the Kay Review (Kay 2012), which took a sceptical view of modern investment management techniques, argued that the long-term ownership of shares was discouraged by regulation such as quarterly reporting, mark-to-market accounting and the way regulators monitor risk and set capital for insurers and pension funds.

Given the unintended consequences of so much legislation in this field, the government itself should take a more patient approach. A more stable policy framework would help long-term investment. Regulations that penalise insurance companies and pension funds for holding instruments other than government bonds and which penalise risk taking should be removed. And regulations that require managers to report regularly to shareholders using metrics that can be highly volatile are an unnecessary intervention in the relationship between shareholders and managers.

13 Some of these issues are discussed in Keohane (2013).

Is the financial sector ‘duping’ consumers and investors?

Zingales (2015) has argued that financial firms are harming consumers and investors through mis-selling. This is the justification for a large amount of consumer finance regulation in the UK.

Zingales suggests that such ‘duping’ can take the form of predatory sales, whereby customers are sold products they do not understand and would not buy if they did, and of bundle sales in which one of the components in the bundle is harmful but overlooked by unsophisticated buyers.

There are two facets to this focus on ‘market failures’ and ill-served consumers. The first is what economists would call a ‘joint hypothesis’ problem. We do not have unregulated consumer financial markets. In 2011 alone, the UK financial regulator introduced regulation or issued guidance, advice, discussion documents or consultations totalling 4.3 million words. This is more than five times the number of words in the Bible. This output included a 585-page consultation on the regulation of the mortgage market, which then led to a 312-page document on regulations relating to the sale of mortgages in 2012.

Given this reality, we cannot know whether it is the market or compliance costs and reduced competition caused by regulation that are the problem – or whether the vagaries of the market and the problems of regulation reinforce each other. Most importantly, we also cannot know in advance whether regulation will improve a market. The perfectly informed regulator is just as much a textbook fiction as the perfectly informed consumer.

Consider the case of predatory lending in the market for payday loans. Because of its political salience, there are many empirical studies of the welfare effects of this form of credit. Yet the evidence is mixed. Payday loans appear to increase bankruptcy rates among marginal borrowers (Skiba and Tobacman 2008). On the other hand, payday loans appear to make it easier for people to meet unexpected expenses (see Morse 2011).

When the Financial Conduct Authority (FCA) placed an interest rate cap on payday loans in 2015, it expected the volume of loans to drop by 11 per cent and the number of payday customers to decline by 21 per cent. The actual figures in the first year of operation of the cap were 56 and 53 per cent, respectively. Given that the FCA's intervention was calculated (on the basis of behavioural modelling) to only lead to the exclusion from the market of payday borrowers who were deemed to be harmed by the loans (FCA 2014), there is little doubt that some people who benefited from borrowing have now been shut out of the market. Indeed, the typical payday borrower is now somebody who is better-off and who borrows for longer than before the intervention. Some people at the lower end of the income scale who can no longer borrow but for whom payday loans might have been important in emergencies have been hurt by the cap.

This particular regulatory intervention has had detrimental consequences because it is impossible to design regulation that only targets perceived problems whilst leaving well-functioning parts of the market unaffected. Regulators simply do not have the knowledge to be able to distinguish between people who will benefit and those who will suffer from the regulation and the interventions cannot be sufficiently fine-tuned. This is in the nature of markets and regulators. Many other unintended consequences of regulation stem from seeing markets in a static context. In fact, markets are dynamic entities in which participants are continually looking for improvements on the status quo.

The dynamics of financial markets are demonstrated by developments in asset management. This is often cited as a market that fails customers. Indeed, the UK government recently introduced a price cap in the pensions fund management market (see Booth and Davies 2015). The problem that is often highlighted is that actively managed mutual funds tend to underperform their benchmarks over long periods while charging higher fees than passive funds. Research shows that 90 per cent of active fund managers fail to outperform.¹⁴ There is a powerful case that putting savings into a mutual fund is a fool's errand if there are cheaper alternatives (see Bogle 2007).

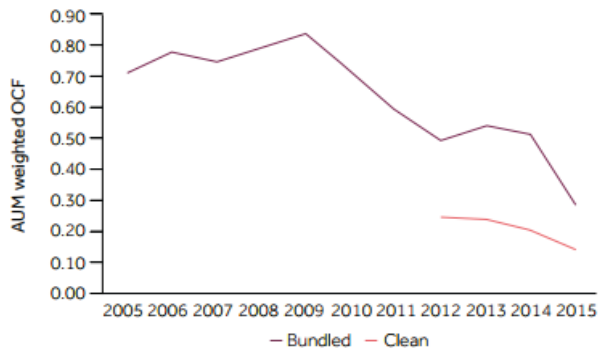
Yet, the emergence of cheaper alternatives is precisely what has occurred as evidence of the sub-optimality of active investing has mounted. As of 2016, index tracker funds accounted for 28.5 per cent of assets under management in the United States.¹⁵ This is up from less than five per cent

14 <https://www.ft.com/content/e139d940-977d-11e6-a1dc-bdf38d484582>

15 See <http://uk.businessinsider.com/moodys-investor-services-report-on-active-and-passive-investment-2017-2?r=UK&IR=T>

twenty years ago. The creation of index funds was a direct consequence of the development of portfolio theory and the efficient markets hypothesis (Markowitz 1952; Fama 1970).¹⁶ It is a clear case of the modern financial theory, which is often criticised, improving real-world outcomes. Exchange traded funds are a derivative innovation, which now allow extraordinary degrees of diversification into asset classes such as infrastructure and venture capital at costs of around 0.1-0.3 per cent of fund values. This is perhaps one-tenth of the level of fund charges 20 years ago.

Figure 1. Trends in fund charges for index-tracking funds



Source: Financial Conduct Authority (2017)

Regulators tend to take a snapshot view of markets, rather than viewing them as an evolutionary process which, through competition, innovation and trade, leads to better outcomes over time. The static view of financial markets biases regulators in favour of intervention, because it fails to consider that perceived imperfections act as a spur for innovation and new entry.

The Financial Conduct Authority's (2017) report on competition in the asset management industry, for instance, raises concerns about fund charges by active managers, which are found to be clustered and to have changed little since 2005. Does this mean that competition in asset management is limited? It is difficult to argue that it is, given the aforementioned growth of index funds, whose charges are declining rapidly. Moreover, the value proposition of active managers is not a low price but the outperformance of a benchmark. If investors continue to patronise them even in the presence

¹⁶ Bogle (2007) gives an account of how studying under Paul Samuelson motivated him to consider the potential of a tracker fund.

of cheap indexed alternatives, the only conclusion is that they believe that their particular manager will outperform. The costs and benefits of that decision are born by investors themselves, so there are no obvious grounds for intervention.

Any market requires a degree of information asymmetry to develop dynamically. What spurs individuals to inform themselves, thereby putting downwards pressure on prices, is the fact that the uninformed pay more. Ryanair travellers can thank those who check in luggage and buy food on board for at least part of their consumer surplus. The same is true for current account add-ons such as unauthorised overdraft fees.

This is not to suggest that a situation where consumers are uninformed is better than one in which they are better informed. There might be particular regulatory interventions that will increase welfare in consumer financial markets beset by information asymmetries. But the starting point should be a realisation that markets are institutional settings in which information is discovered and communicated.

Does financial sector growth harm economic growth?

In recent years, it has been suggested that having a large financial sector is a drag on growth. Famously, George Osborne wanted to rebalance the economy away from finance and towards manufacturing. In his 2012 Budget, he called for Britain to be carried ahead by a 'march of the makers'.

For many years, the leading study of the relationship between finance and growth was that by King and Levine (1993) who examined 80 countries in the 1960-1989 period. Their analysis showed a strong positive relationship between measures of financial development and economic development.¹⁷ Their study also found financial development to be a good predictor of *future* economic growth. Subsequent papers bolstered the argument that both bank credit and stock market depth positively affected growth.¹⁸

But a few recent studies have contradicted the consensus. Cecchetti and Kharroubi (2012) find a significant negative relationship between average credit-to-GDP ratios and economic growth for a panel of developed and emerging countries between 1980 and 2009. In a subsequent paper (Cecchetti and Kharroubi 2015), they find a negative relationship between credit growth and income growth.

An obvious reason for the discrepancy is the different time periods of the studies. Panel (a) in Figure 2 shows credit as a share of GDP in some of the largest economies in 1960-1989, the time frame of King and Levine (1993). Panel (b) shows the same indicator for the period 1980-2009, which is the one Cecchetti and Kharroubi (2015) consider.

17 King and Levine (1993) used private credit to GDP, financial liabilities to GDP and private bank assets as indicators of financial development; and per capita GDP growth, growth in the capital stock, investment and allocative efficiency as indicators of economic development.

18 See Levine (2005) for a review of those studies.

Figure 2(a). Domestic private credit as a percentage of GDP, selected countries, 1960-1989

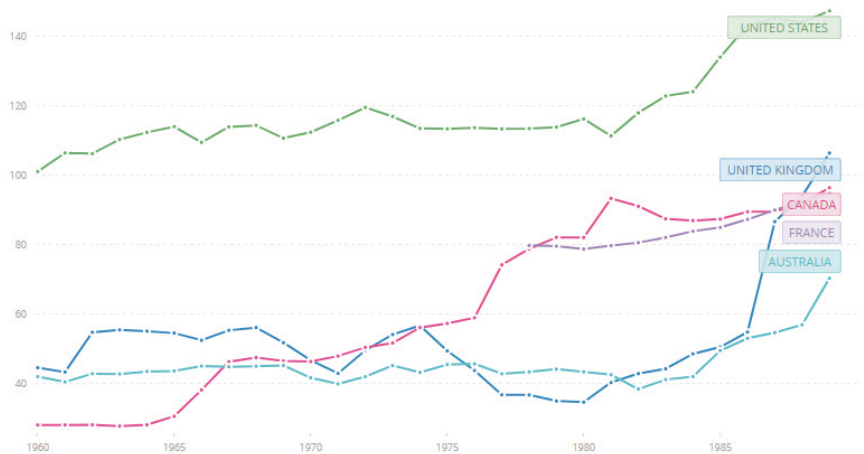
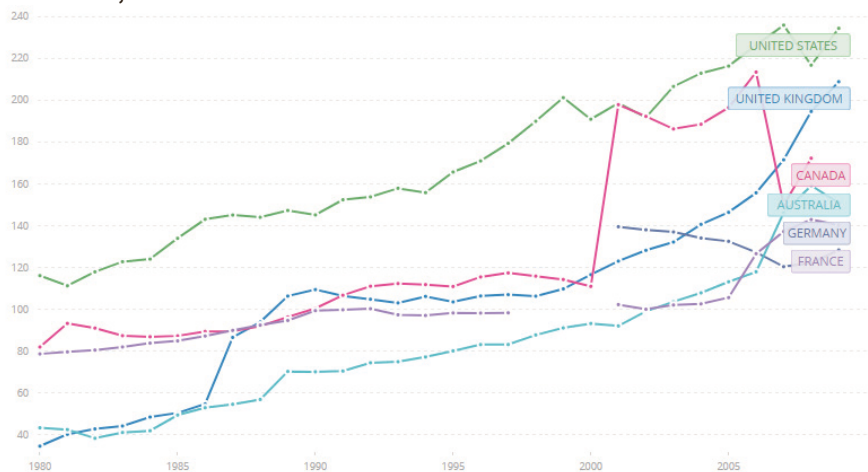


Figure 2(b). Domestic private credit as a share of GDP, selected countries, 1980-2009



Source: World Bank

The 1990s and 2000s were decades of substantial expansion of private credit. Despite finding themselves at quite different levels of credit-to-GDP, all the developed countries in Figure 2 experienced strong credit growth in the 20 years to 2009 and ended the period at a much higher level. This is in

contrast to the stability in credit-to-GDP ratios observed in countries during most of the period analysed by King and Levine (1993). Even the country that shows the earliest steady increase in credit extension, Canada, only did so from the late 1970s.

Why is this significant? The later period saw capital markets liberalisation around the world, banking deregulation in many jurisdictions (see Martín-Aceña 2013; Guiso et al. 2004) and, most notably, the advent of the single currency in many EU countries. Eleven out of the twenty countries studied in Cecchetti and Kharroubi (2015) are euro zone members, with all bar Greece having joined at the outset.

It is well known that euro membership altered capital flows between the member countries, spurring lending from the core (Germany, France and the Netherlands) to the periphery (Spain, Greece, Italy, Ireland) (Lane 2013). The effect of euro membership is thus potentially significant, yet the drivers of credit flows are complex and multiple. They may include mispricing due to declining nominal interest rates in the periphery, misallocation by politically influenced banks, and a belief by core country banks that periphery treasuries would not let borrowers fail. As these are factors distinct from credit growth, it is surprising that the impact of the euro was omitted as a variable in Cecchetti and Kharroubi's (2015) regressions.

The authors highlight changes in credit growth and productivity growth in two countries, Spain and Ireland, and show a negative correlation. But both countries experienced large housing credit bubbles from the late 1990s, which in the case of Spain was largely driven by state-owned banks under political direction (Martín-Aceña 2013; IMF 2012). Even if one controls for real estate sector employment, as Cecchetti and Kharroubi do, we are left with a financial sector which was to a large extent not driven by market signals but political allocation. The drivers of the relationship between finance and growth in Spain's case are likely to be distinct from those in more market-driven banking systems, such as Britain's or Germany's. Thus, credit growth may be more a symptom than a cause of growth-depressing afflictions.

Indeed, in many respects the euro was transformative. Its adoption would be expected to increase capital flows due to much reduced transactions costs. It would increase the potential for credit growth as countries with higher levels of savings (such as Germany) could finance borrowing in other countries (such as Spain) more cheaply. One would therefore expect to see credit growth in a new single currency area. Even before the euro

was adopted, EU capital markets were integrating, a process that began in the 1980s. It just so happened that many (though not all) of the euro zone countries were also relatively slowly growing countries for reasons that had nothing to do with credit growth.

Overall, we can conclude that this newer literature tells us little. There are too many variables changing simultaneously; different forms of credit will have different effects; the role of government in the credit system can sometimes be considerable; and credit can be artificially promoted by central bank monetary policy.

Does the financial sector create inequality?

A key criticism of many who have argued that there is a problem with modern finance is that the financial sector is too big. This is frequently linked to an alleged rise in inequality.¹⁹ In the book by David Marquand mentioned earlier, the financial sector and its growth was strongly criticised. Marquand (2015) blamed the financial sector for inequality and rent-seeking, citing the US as being at the extreme end of a financialised economy. Marquand's work was intended to be somewhat polemical, though his reputation has meant that it has been taken seriously as an academic study. In any case, more sophisticated analyses have made similar points to those of Marquand about the link between finance and inequality. For example, Denk and Cournede (2015), writing for the OECD, argue that the growth of the financial sector was a contributor to inequality, though this is explained to a large extent by the high levels of pay in the sector rather than any adverse impact on the poor. Turbeville (2015) has produced a very detailed analysis of the growth of finance in the US and concluded that the sector has been important in promoting inequality. Turbeville's analysis suffers from focusing on one era in one country.

Looking at international data, there does not seem to be any obvious relationship between the size of the financial sector and inequality. If Luxembourg is excluded as being a special case of a tiny country with a huge financial sector, the largest financial sectors in the world as a proportion of national income are in Switzerland, Australia, the Netherlands, the US, the UK, Iceland, Ireland, Belgium and Denmark, in that order (Tyler 2017).²⁰ In all these countries, the share of the financial sector is between 5 per cent and 10 per cent of GVA. The US is not at the extreme, as Marquand suggests. Furthermore, these countries are a mix of high-, medium- and

¹⁹ Globally, inequality is falling, as it is in the UK although in about two-thirds of OECD countries, inequality is rising.

²⁰ With the addition of Luxembourg, these countries made up the ten largest financial sectors as measured by gross value added as a proportion of national income in 2015.

low-income inequality countries. Indeed, three of the OECD's eight most equal countries are in this top ten list.

The OECD analysis of financialisation suggests that, in certain circumstances, the growth of the financial sector can raise inequality. There are reasons to take these results with a pinch of salt: they are only weakly statistically significant, and the regressions do not account for trends across countries which might have increased both inequality and credit extension, such as declining real interest rates since the mid-1990s.

Even with this caveat, it is worth considering the policy recommendations. One of them is that the sector should be required to hold high capital buffers, to which we would object for various reasons.²¹ However, its other two policy recommendations are that implicit subsidies should not be given to the financial sector and that tax systems should not artificially discourage the use of equity capital. These would be supported by anybody who believes in a genuinely liberalised financial sector. If the financial sector is encouraged by implicit subsidies – such as government guarantees and activities of central banks that effectively prevent bankruptcy and protect insiders – then we would expect the financial sector to have grown beyond the socially optimal size. However, the response to this should not be to attack the financial sector but to remove the subsidies so that the financial sector takes the full costs of its activity into account, as well as the benefits.²²

21 For example, it would reduce the probability of failure, thus entrenching large established players within the sector. And it would impair lending, thereby reducing the trend growth rate.

22 See Lilico (2010) on how deposit insurance reform could reduce the implicit subsidy to banks.

Are complex financial instruments the real problem?

It is sometimes difficult to understand exactly what those who are criticising the financial sector object to. However, they are unlikely to object to life insurance or the provision of current account services or business lending.²³ Simply to make the case that finance is useful does not go far enough. We must also ask whether the market has somehow brought about an industry which produces complex products which have no social value.

Popular accounts of the causes of the financial crisis – such as the film *The Big Short*, based on the book of the same title – have promoted the notion that complex financial instruments and the trading related to them have no social use. Not only that, it is argued that they can actively harm society by imposing hidden risks on depositors and taxpayers if things go wrong, without any upside. Any derivative product with a three-letter acronym – such as mortgage-backed securities (MBS), collateralised debt obligations (CDOs) and credit default swaps (CDS) – is now likely to arouse public suspicion. But this suspicion is misplaced, because these instruments are demonstrably valuable.

Securitisations, which were implicated in the financial crisis, provide opportunities for the diversification of risk and for the movement of risk outside the banking system. This was widely welcomed by central banks before the financial crisis (see, for example, Greenspan 2005). Furthermore, such instruments broaden considerably the range of investors who can finance different types of projects to the benefit both of users of capital (who obtain a lower cost of capital) and of savers. Individuals buying houses, for example, are likely to see lower costs of mortgage finance. The securitisation of housing loans or of loans that fund infrastructure provides opportunities for pension funds and life insurance companies, among others, to finance these activities which would otherwise be financed

²³ It is, however, the case that the FCA is currently looking at stricter regulation of bank overdraft charges as part of its review of high-cost credit (FCA 2016).

through the banking sector. This enables those financial institutions to diversify risk and provide investors with relatively secure long-term returns which are higher, for example, than those from government bonds.

The instruments listed above serve other important purposes. Mortgage-backed securities bundle together residential housing loans, creating a liquid instrument which is diversified and can be sold on, thus freeing up capital for the originating bank to lend. Collateralised debt obligations are a more general form of this type of instrument, and they typically incorporate different tranches which offer different levels of risk. Finally, credit default swaps are a form of insurance which can help to make markets more stable in times of stress, as insurance is intended to do.

An account of the causes of the 2008 financial crisis is beyond the scope of this paper.²⁴ However, it is important to record here why MBS and CDS caused problems for financial institutions. It was US government policy at that time to encourage home ownership, which led to over-issuance of mortgages and an increase in the eventual non-repayment rate. This policy also increased the rate of securitisations, and favourable risk-weighting of real estate loans by the international Basel regulations made them attractive for banks to hold (Kling 2009). Finally, because rating agencies are a government-sanctioned cartel which were encouraged by regulation to give higher ratings to securitised issues, the competitive incentive to give accurate assessments of the quality of mortgages was muted.

It should not be argued that market participants did not make mistakes: they did. One of the purposes of markets is to hold people to account for their mistakes. That this did not happen should be regarded as a failure of policy. But the view was widely shared that securitisation could spread risk round the financial system, as well as having the benefits cited above. For example, Paul Tucker, who was promoted to Deputy Governor of the Bank of England shortly after the crisis, said in a speech as late as April 2007: 'So it would seem that there is a good deal to welcome in the greater dispersion of risk made possible by modern instruments, markets and institutions.'²⁵ Indeed there was good reason to welcome this trend. The financial crisis itself does not render the whole concept of securitisation or the derivative instruments based on such securities intrinsically problematic.

24 One is available in Booth (ed.) (2009).

25 <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb070211.pdf>

It was not the creation or existence, nor even the volume, of complex instruments which magnified the effects of the crash. Rather, it was the distorted signals that government policy gave market participants, together with a legal framework within which the banking system operated, that prevented banks and their financiers from suffering the losses caused by their mistakes.

Is financial speculation self-serving and socially damaging?

Speculators have long been heaped with opprobrium. Pope Francis's attack on commodity speculation noted above is one in a long line of critiques. Speculation is often associated with the use of derivative instruments such as futures, options and swaps and there has been a huge growth in the use of such instruments in the past few years, although data suggest a recent decline in such transactions, including in the UK. The total nominal outstanding in derivatives markets currently stands at over \$1.2 quadrillion, though this vastly overstates the economic exposure because some positions aren't exercised and many offset each other.

Critiques of speculation do not only come in polemical form. Nobel prize winning economist Robert Shiller (2017) describes common-place discussions of speculation in the US in the 1920s and 1930s. Nakrosis (2013) examines objections to speculation in moral theology. Discussion of the issues in moral theology goes back at least 800 years and probably further. Nakrosis's conclusions are interesting, because he notes that speculation can have economically valuable effects and, in those cases, it should not be assumed to be morally wrong. However, even in circumstances where it is morally wrong, it does not follow that it should be made illegal or even made more difficult via regulation or taxes, if those we aim to protect would thereby be harmed. This applies in general to the regulation of finance. For example, if banning payday loans led some users to resort to loan sharks and expose themselves to much greater hazards it would not be prudent to implement a ban.

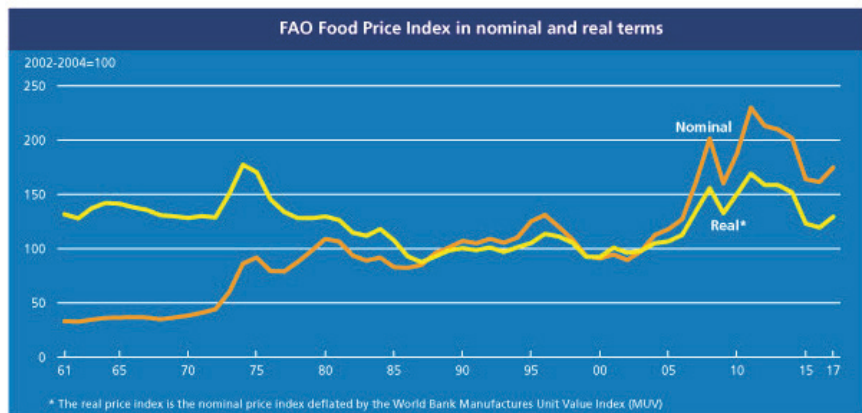
Following the 2009 financial crash, the Archbishop of York had strong words to say about speculators, commenting: 'To a bystander like me, those who made £190 million deliberately underselling the shares of HBOS, in spite of its very strong capital base, and drove it into the bosom of Lloyds TSB Bank, are clearly bank robbers and asset strippers'.

Commentators often relate speculation to problems in the real economy that are faced by people trying to make a living from the production of non-financial goods and services. Pope Francis argued that speculation in financial instruments that is related to food markets led to higher prices which were allegedly necessary to deliver profits to the speculators.

In fact, it is difficult to think of any plausible mechanism by which prices can be driven ever-higher by speculation motivated by the desire for more profit. When commodity derivatives are traded, there are two sides to the trade. One side benefits from the price going up and the other side benefits from the price going down. There is no net gain from prices going up as far as the speculators are concerned, just a different distribution of gains between the different types of speculators.

As is shown by Figure 3, food prices have not systematically risen as the availability and use of speculative instruments has increased.

Figure 3. FAO Food Price Index, 1961-present



In real terms, food prices seem to be stabilising at lower levels, not higher levels. Of course, spikes occasionally occur due to natural or policy-related factors or a combination of both. In 2008, for example, the rush to bio-fuels reduced food supply (Swaminathan 2013).

There is, though, a separate and important question of whether speculation increases volatility in commodity prices. This might create pinch points where some people are unable to access food. This question will be discussed below.

Speculation, derivatives and hedging – the example of food

Financial instruments can be used to manage risk by those operating in the real economy. This is not speculation as such, though the creation of the instruments may lead to or require speculators to create liquidity. For example, a farmer or a food processor might wish to buy or sell commodities they do not currently have in order to protect themselves against price changes that can be disruptive to their business. They can do that using derivatives. A farmer producing cocoa may wish to sell produce at a price that is fixed today before his crop is harvested. This is simply a form of insurance (hedging). In the same way, a processor might wish to buy cocoa at a price that is fixed in advance so they can develop their marketing strategy, fix price lists, and so on.

Futures or forward contracts can develop to meet these needs. They exist in all sorts of markets and have existed since ancient times. However, if we leave it to farmers and processors to simply make arrangements between themselves, there are several disadvantages. There will be relatively few buyers and sellers of the contracts; both will be locked into contracts which might not turn out to be appropriate as situations change; the contracts will probably be expensive; one party will be at the risk of the other party failing financially; and so on. As a result of these risks and other obstacles, futures markets develop that allow buying and selling of forward interests, increasing efficiency and making prices more stable for producers. Furthermore, the use of financial instruments allows speculators to assume risks, and to pass them on, which might otherwise have been borne by vulnerable manufacturers and farmers. Speculators and others in financial markets can then diversify those risks.

From hedging to trading

Once such futures are developed, it is difficult to prevent people from buying and selling them even if they are not farmers, processors or others with an interest in insuring themselves against volatility in food prices. Indeed, the general availability of such instruments is important to ensure that the market is liquid.

So, the question arises, does such trading in commodity futures cause problems in food markets? It is difficult to see how it could.

The benefits of such instruments can be illustrated by an example. Assume that people expect a rise in the price of wheat by 50 per cent over six months and that the current price is now \$100 per tonne. Let's also assume that there is a futures contract available that allows a trader to agree today

a price at which they will buy a tonne of wheat in six months' time. Given that the traders expect the wheat price to be \$150 in six months' time, it is highly likely that the futures contract will settle on a price of around \$150. In six months' time, the buyer of the future will have to buy a tonne of wheat from the seller of the future for \$150.²⁶ Assume a hedge fund buys that contract. Depending on the nature of the contract, in six months' time, the hedge fund would pay \$150 and receive an amount of money equal to the price of a tonne of wheat (in practice, the settlement and closing of the contract might be done differently). The buyer – or speculator – gains from any increase in the price of wheat above the price at which he bought the futures contract. This arrangement is not connected to the market for wheat: there is no mechanism that allows futures speculation to influence the underlying price of wheat in this example. The hedge fund has just taken a bet on the price of wheat. We may approve or disapprove of such bets, but the wheat market is unaffected.

Now assume there is speculation in the futures contract and a strong demand for the contract at the current price. The futures contract might now rise in price to \$200. This means that, in six months, the buyer receives the difference between the price of a tonne of wheat and \$200. If the price of wheat does not rise to 200 within six months those who have bought the future will make a loss and those who have sold it will make a profit. Perhaps this is what the Pope has in mind, though it should be noted, again, that there are two sides to the transaction. The question is whether this type of speculation can affect the price of wheat.

There are various ways in which the price of wheat can react to and follow the price of the future. In other words, there are ways in which speculation can drive up prices, at least in theory. For example, traders could somehow corner the market in wheat and withdraw it from the market in order to keep the price up so that they make profits on their futures contracts. In some circumstances this would be illegal, but it is, in fact, impossible in relation to the vast majority of commodities and there is no real evidence of it ever happening. In general, futures traders never have access to the underlying commodity and it would be very difficult to access sufficient quantities to affect the price.

²⁶ Certain practicalities have been omitted such as the treatment of interest and the fact that at the end of the contract settlement does not take place in such a 'clunky' way. In fact, the contract is designed so that the holder receives the difference between the price of a tonne of wheat and \$150.

Secondly, the speculation in the futures market might somehow affect decisions to produce wheat, thus driving up the price of the underlying commodity. However, such production decisions are likely to have the opposite effect. If farmers see that the futures price is high, it gives them an opportunity to lock in a high price for their produce today. They might be able to plant today and sell wheat futures to guarantee them the high price. But this should increase food production and therefore bring down food prices and reduce volatility in prices.

Lastly, farmers might store their wheat when the futures price is higher than the current price instead of bringing it to market immediately.²⁷ They might do this because they could effectively lock in a price of \$200 to be received in six months' time by selling the wheat future. Most futures markets are in storable commodities and some, such as metals, can be stored indefinitely. So, if a farmer sees the wheat futures price at \$200, he might sell the future and put the wheat in storage, thereby locking in the futures price.

If there are people going hungry now, this might be thought a bad thing. However, in general, the effect is benign. The futures market facilitates the storage of commodities so that they can be sold at a time when there are shortages and higher prices. Although the person producing commodities is taking the wheat off the market now, he is bringing it back on to the market when the price is even higher. The futures market helps him to do that.

Financial speculation in commodities is likely to have the following effects. It will:

- Make it easier for farmers to get information about prices
- Make it easier and cheaper for them to manage their own risk
- Leave farmers less exposed to price changes

All of this is especially true of poorer farmers, who without liquid futures markets would have no cheap way of obtaining price signals and reacting to them.

And it could have the following effects:

- Encourage increases in production in times of shortage
- Encourage storage in times of relative surplus

27 This phenomenon is widespread enough in the oil market to have its own name: contango. See <http://www.investopedia.com/terms/c/contango.asp>

The idea that speculation and derivatives in food and other commodities might reduce supply in times of shortage and increase volatility seems possible but implausible, and the evidence seems to back up the implausibility. As one study puts it: 'In theory, feedback effects are possible; in practice, no empirical proof has been found. Studies show that in recent years, storage levels for soft commodities did not increase as prices rose. The levels stayed steady, or even dropped'.²⁸ Price volatility in commodities where there are no futures markets (such as tungsten) has, in recent years, increased more than volatility in commodities where there are futures markets.

The financialisation of commodities markets and the use of derivatives that are related to them could potentially lead to price spikes and increases in volatility at specific times. This might happen if information were unevenly distributed or if markets were operating inefficiently. However, the evidence for this is weak.²⁹ Similar conclusions were drawn in a major study of oil market speculation. Though the possibility was left open that some forms of speculation were more damaging than others, no evidence was found for a causal link between financial markets and oil price rises (Fattouh et al. 2012).

Benefits from speculation

Returning to the 'robber barons' who short-sold bank shares, as it happens, this is one of the more obvious situations where speculation can bring significant benefits. If information is discovered that suggests a company is over-valued, for example in relation to the credit risk on a bank loan book, it is better that such information is reflected in the share price as quickly as possible so that action is taken. The main beneficiaries of a reduced ability to short-sell are those in board rooms whose mistakes go unpunished by markets for longer. As Copeland and Booth (2009) point out, if short-sellers had been more active when RBS announced plans to takeover ABN Amro, taxpayers might have been spared some of the costs of rescuing the bank in 2008.

The situations in which short-sellers can distort markets by forcing prices down to the extent that a firm may face bankruptcy are extremely limited and could only occur in specialist and illiquid markets. In liquid markets, if short-selling leads to lower share prices, other investors who disagree

28 <https://www.db.com/cr/en/concrete-Agricultural-speculation-and-commodity-prices---is-there-a-link.htm>

29 See https://www.db.com/cr/en/docs/zef_dp_161.pdf

with the short-sellers are likely to buy the stock. Short-sellers also provide greater liquidity in markets by ensuring that a greater volume of stock is available for those who wish to buy. There is widespread evidence for this, including during a period when the FSA banned short-selling during the financial crisis.³⁰ Indeed, increased liquidity makes market manipulation more difficult and this is arguably a side-benefit of the development of derivatives and speculation.

Perhaps one of the greatest benefits of short-selling is its ability to bring an end to government policy that is causing damage by distorting markets. The most obvious example is the Exchange Rate Mechanism (ERM) crisis in 1992, when the short-selling of the pound allowed the over-valuation of sterling in the ERM to be exposed. This brought about an end to the extreme monetary policy that was designed to prevent sterling from finding its proper market value. Following sterling's exit, there were 61 consecutive quarters of economic growth.

It can be argued that the creation of exchange rate regimes that are susceptible to such one-way bets is undesirable per se and that action taken by markets to undermine them is beneficial. However, at the very least, in these cases speculation acts to restore equilibrium exchange rates in a system where governments have taken actions that attempt to impose inconsistent policy environments that damage the real economy.

30 See: <https://www.lseg.com/sites/default/files/content/documents/short-selling-restriction-market-quality-december-2008.pdf>

Conclusion

The value of financial markets is under-appreciated. The ability of the financial services industry to enable important economic activity as a result of its role in reducing transaction costs is crucial to modern economic life. The sector does not exist only to serve the 'real' economy, as is often asserted. Financial services are important in their own right. The industry is particularly important for the less-well-off, for whom procuring the benefits that financial markets bring would be prohibitively expensive. The financial sector makes up around 7.5 per cent of the UK economy and around half of its output is exported, with the proceeds generally being used to finance the import of manufactured goods. The idea that finance dominates the economy cannot be sustained. However, the sector is extremely productive relative to other sectors of the economy and deliberate attempts to restrain its growth must effect overall productivity.

The under-appreciation of finance is important as it makes it easier for politicians to justify policies that undermine the sector, as demonstrated during George Osborne's tenure as Chancellor of the Exchequer.

Of course, serious critics of financial markets whose work is rooted in economics understand the value of the basic functions of the sector. Restating and explaining those functions is important, but insufficient. The more careful and detailed criticisms relate to whether the financial sector promotes inequality; whether it extracts value from the economy; whether the sector promotes short-termism; whether its products are worthwhile; and whether some of the activities of the sector are destabilising of the real economy.

We have examined each of those claims and, at the very least, there are serious shortcomings in the arguments. Evidence is generally partial or non-existent. In some cases, the evidence might be a little more compelling, but it is difficult to know what the obvious policy conclusions from this line of analysis would be. For example, it is suggested that because higher wages are paid in finance, the industry may exacerbate inequality. But, of course, this is likely to be true with many industries that tend to employ highly

qualified people. The sector may provide more employment opportunities for people with particular qualifications, but it is difficult to sustain an argument that this is a bad thing or that anybody suffers.

This does not mean that the policy conclusions of some of those who criticise finance are wrong. Indeed, financial markets may well be incentivised to do the wrong things or do the right things badly or to develop structures that cause problems as a result of misguided regulatory and tax policy. There are policies which those who favour free financial markets would support and which would also command sympathy from those sceptical of financial markets. This is because some interventions in financial markets implicitly subsidise particular kinds of activity or skew it in a particular direction.

For example, bank deposits carry a state guarantee which is effectively unlimited. This lowers banks' cost of capital and will lead them to extend more credit than they would without state deposit insurance. It also reduces monitoring of the sector. Secondly, there is an implicit subsidy to large financial institutions if it is believed that their significance makes their potential failure an event to be avoided at all costs. This lowers the required return from creditors and investors, since the probability that they will lose their capital is reduced by the implicit bailout guarantee. This implicit subsidy will, in turn, encourage banks to grow bigger. Haldane (2012), speaking at the IEA's Beesley Lectures, estimated the implicit subsidy provided by governments to the world's largest banks at \$70 billion annually between 2002 and 2007.³¹

It is generally suggested that this implicit subsidy is addressed by requiring banks and other financial institutions to have capital buffers such that they will hardly ever fail. However, this prevents effective competition and stops incumbents being undermined by new entrants. It would be better to demand a legal framework that allowed all financial institutions to be wound up safely if they failed. Progress has been made towards this. Sarin and Summers (2016) note that CDS spreads for the big global banks have stayed substantially above pre-crisis levels in the aftermath of the crash, which suggests there has been some reduction in the market's perception of an implicit guarantee. However, this progress has clearly been insufficient given the continued regulatory obsession with ensuring that failures do not occur.

³¹ To estimate the implicit subsidy, Haldane used the difference between 'standalone' and 'support' credit ratings.

The experience of the financial crisis points to other policy reforms. The US government should not underwrite securitised housing debt and, more generally, should play no part in the housing finance market. We should also remove the tax discrimination against equity finance, an issue that was mentioned in Vickers (2011: 81). The Kay Review (Kay 2012) also cited tax discrimination against equity investment as a problem in modern financial markets, as well as suggesting that regulations surrounding insurance company and pension fund capital were problematic.

Perhaps the most important conclusion is that it is important for critics of the present operation of financial markets to understand the dynamic nature of competition. The question we should ask ourselves is not whether markets produce outcomes that reflect the perfect competition model of textbooks. The most important questions are different. Firstly, we need to consider whether the market process leads firms to respond to changes in consumer demands over time. Secondly, we need to ask whether other ways of organising economic activity in the financial sector are more effective. Certainly, there is no evidence from the crash or the period since that the spawning of new regulations or the detailed involvement of the state in the banking system leads to better results.

It is careless for people in positions of influence to disparage financial services without adequate empirical evidence. Suspicion of finance has over the centuries led to interventions – such as bans or ceilings on interest, limits to banks' balance sheet and geographic expansion, and statutory prohibitions of certain forms of trading – which have made people worse off. At the same time, a lack of understanding of the implications of certain policies – such as mortgage loan subsidies, deposit insurance, and officially sanctioned credit ratings – has often destabilised the financial system, with long-standing damage to people's savings and business activity.

As household wealth and individual lifespans increase, finance will only become more important. Unless those who make policies dispense with unwarranted prejudice against it, the recent history of financial instability is bound to be repeated. And, at the same time, modern economies will not benefit as they could from the immense social contribution that a diversified, sophisticated and dynamic financial system can deliver.

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