

Debate

On the Social Efficiency of Finance**Gerald Epstein**

ABSTRACT

The rise in the economic and political power of finance over a number of decades is hardly in dispute these days. While there is now considerable agreement among economists that unregulated finance has the potential to contribute to financial instability and financial crises, there is much less agreement about the long-term impacts of modern finance on capital accumulation and distribution. This contribution, focused on the USA, explores some of these relations under the heading of the ‘Social Efficiency of Finance’, a term used here to mean the impact of financial institutions and relations on income and wealth distribution and on the development of the economy. The author describes some key dimensions of the rise of ‘roaring banking’ in the USA in recent decades, outlines specific ways in which this financialized system has affected accumulation, distribution and growth, and presents some results of a simple ‘bottom-line’ analysis of the cost of this financial system in the US, reaching the conclusion that the ‘social efficiency’ of modern finance in the US is very low.

INTRODUCTION

The decades-long rise in the economic and political power of finance is little in dispute these days. The Great Financial Crisis of 2007–08, which devastated the economies and political structures of numerous countries and several regions, including the European Union, has laid to rest most mainstream economists’ views — developed in the neoliberal age after the elections of Margaret Thatcher and Ronald Reagan — that unregulated finance is ‘efficient’ and ‘benign’. But the political power of finance remains largely in force in many parts of the globe, as the Republican-led government in the United States rushes to dismantle the rather weak Dodd–Frank

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regulatory apparatus passed by the US government in the wake of the crisis, as key European countries face regulatory competition in trying to secure footloose financial business in the wake of Brexit, and developing countries continue trying to attract financial investment and financial business, seemingly oblivious to the costly lessons to be learned from 2007–08 and multiple prior developing country financial crises (Akyuz, 2014; IMF, 2017). In short, the Great Financial Crisis (GFC) evidently put only a temporary dent in the power of finance as an economic, political and social force. This is in stark contrast to the epoch after the Great Depression of the 1930s, when, as my colleague James Crotty is fond of saying, ‘the bankers were put back in their cages’ (personal communication).

While there is now much agreement among heterodox and mainstream economists that unregulated finance has the potential to contribute to financial instability and financial crises, there is much less agreement about the long-term impacts of modern finance on capital accumulation and distribution (see Jayadev, Mason and Schröder, this issue, for an interesting contribution). Most mainstream economists fall back on their convenient but simplistic and often incorrect assumption that the ‘short run’ — when all kinds of things can go wrong (such as unemployment and financial crises) — can be neatly separated from the ‘long run’, when the forces of price flexibility, preferences and the profit motive will make virtually all right with the macro-economy.

For their part, heterodox economists understand that the forces acting on accumulation and distribution are complex and difficult to sort out. Many, perhaps coming from a classical or a ‘fundamentalist’ Marxian perspective, are likely to see financial matters as reflections, rather than causes, of longer-term capitalist dynamics. Some are especially sceptical of the notion that state policies such as financial regulation or de-regulation are anything more than epiphenomena, and argue that they therefore cannot account for key developments such as the rise of finance. For these heterodox economists, the idea that different regulatory regimes can produce different degrees of ‘social efficiency of finance’ is misguided since, after all, both the nature of finance and the role of the state are themselves nothing more than reflections of deep underlying forces of exploitation, accumulation and distribution.¹

Others, however — myself included — tend to see the role of the state as both determinative of and also determined by the dynamics of capitalist accumulation. In this perspective, state regulation of finance and other aspects of capitalism are contested terrains in capitalist economies and can play an important role in structuring capital accumulation and distribution (Epstein, 2015). Moreover, they are unlikely to do this in a way of the government’s choosing. To paraphrase a great economist, governments make history, but

1. See the range of perspectives in Subasat (2016), especially Freeman (2016) and Roberts (2016), and the somewhat different but related chapter by Toporowski (2016).

not in any way they would like. These arrangements and policies are formed according to conditions inherited from the past and their impacts will depend on a range of important dynamics occurring in the underlying economy. Still, some of these institutions and policies will matter; they will have an impact on the dynamics themselves, often producing ‘contradictions’ that propel the system in one direction or another. In short, the type and extent of regulation of finance will matter, and sometimes matter a lot. But, of course this is only part of the story. This is my operating framework of analysis. Considering how long these debates among heterodox economists have gone on, they are unlikely to be settled anytime soon, if ever, and needless to say, I will not settle them here. The proof of the pudding has got to be in the usefulness of the ‘entry point’ for illuminating some of the key forces at work. So let us see.

Some key questions to discuss are the following: how can we understand the structure and dynamics of the modern financial system and its inter-connections with households and businesses; and what are the impacts of these relationships on distribution and growth? We can also explore the role that government policy has played in structuring these relationships. In this contribution to the Forum 2018 Debate on ‘Financialization and Economic Development’, I will explore some of these relations under the heading of ‘the Social Efficiency of Finance’. By this, I roughly mean the impact of financial institutions and relations on income and wealth distribution and on the development of the economy. I mostly focus on the US, simply because that is the case I know the best. Moreover, the US has been one of the world leaders in the pursuit of financial liberalization and the development of ‘modern finance’, which I will refer to here as ‘roaring banking’. As for Europe and elsewhere, there has been a great deal of excellent work on these and related issues by economists mostly from Europe under the umbrella of the FESSUD initiative, headed up by Malcolm Sawyer (see FESSUD, 2017, for a summary report). There is no point in my simply re-hashing their fine and varied work on many of these issues in the European and broader context.

An increasingly popular term in these discussions is ‘financialization’. In this article I will use this term as a convenient shorthand for the increasing role and power of finance and financial motives, including in the structuring of everyday life (Epstein, 2005). Without getting deeper into the definitional weeds than that, I will use the term in this rather broad way. For the purposes of this article, ‘roaring banking’ is how I refer to the modern, speculative financial institutions and ‘financialization’ will refer to the broader influence of finance in other sectors of the society and economy, including in non-financial corporations, households and, where relevant, the ‘state’.

The rest of the article is organized as follows. I will first describe some key dimensions of the rise of roaring banking in the US in recent decades. Next, I explore some specific ways in which this financialized system has affected accumulation, distribution and growth, before presenting some results of a

simple ‘bottom line’ analysis of the cost of this financial system in the US. The final section concludes.

DIMENSIONS OF ROARING BANKING IN THE UNITED STATES

I call the era of banking in the US starting roughly in 1980 the era of ‘roaring banking’. This is in contrast to the highly regulated, post-New Deal period of the 1940s through the 1970s when banks were quite restricted in the kinds of risks they could take, had public missions such as providing housing finance or long-term credit and, through restrictions on competition, interest rate ceilings and other mechanisms, were more or less guaranteed a moderate rate of return. This was the era of ‘boring banking’.

If one takes a broad perspective on roaring banking, one can identify many different dimensions. One is the sheer size and scale of financial markets. The growth of finance relative to the size of the economy since 1980 or so has been nothing short of spectacular. A few pieces of data illustrate this point well, starting with profits of financial institutions. In the US, financial profits as a share of GDP hovered around 10 per cent in the 1950s. By the early 2000s, financial profits constituted about 40 per cent of total profits in the US, a historical high. After a sharp decline during the GFC of 2008, financial profits recovered to above 30 per cent of profits, well above the average for the post-war period (Epstein and Montecino, 2015).

Naturally, with profits having grown so significantly, the size of the financial sector is likely to have been growing as well. Financial sector assets relative to GDP amounted to less than 200 per cent from 1950 to 1985. By 2008, they had more than doubled, to well over four times the size of the economy. After a short dip following the GFC, financial sector assets had grown to be almost 500 per cent of GDP by 2015 (*ibid.*).

Trends in the UK are similar to those in the US, with both the size and the profitability of the financial sector growing substantially in the post-war period until the GFC, and with resumed growth since that time. Indeed, since the crisis, growth of financial assets in the UK has outpaced that of the US, Germany and Japan, relative to GDP (Lapavistas, 2013: 205–11). More generally, the size of the financial sector and financial profits relative to the size of the economy has grown substantially in most European countries over this period.²

Another dimension, and one that characterizes financialization in many countries, has been an increase in the financial activities and financial orientation of non-financial corporations (NFCs). De Souza and Epstein (2014) present data on the financial activities of NFCs in six financial centres — the US, the UK, France, The Netherlands, Germany and Switzerland. They

2. See the series of FESSUD reports entitled ‘Studies in Financial Systems’: <http://fessud.eu/studies-in-financial-systems/>

show that in all six countries — with the possible exception of France — NFCs significantly reduced their dependence on external borrowing for capital investment. Indeed, in three of the countries (the UK, Germany and Switzerland) NFCs became net lenders, rather than net borrowers, indicating an increasing role for financial lending as a profit centre for NFCs in these countries. Lapavistas (2013) found similar trends for the US, the UK, Germany and Japan.

Why these companies have reduced their net borrowing, and what the implications of this activity are, is a matter of ongoing research and debate. Some argue that the main cause is the lack of profitable investment opportunities in the non-financial sectors of the economy. This could be due to shorter-term forces of insufficient aggregate demand, longer-term forces of ‘secular stagnation’, Marxian dynamics associated with the falling rate of profit, or changes in the nature and motives of the modern corporation, in which governance structures and incentives have led CEOs to adopt more financialized behaviours (e.g., Davis, 2013; Stockhammer, 2004). This complex array of explanations still needs to be sorted out; it seems unlikely that a single factor will be sufficient to explain all countries’ experiences.

A key aspect of roaring banking that analysts agree has been particularly pernicious has been the vast increase of debt levels in many countries and many sectors (Admati and Hellwig, 2013; Taylor, 2012; Turner, 2013; see also Bortz and Kaltenbrunner, this issue). Debt, or leverage, is an accelerator that enables the financial system to generate a credit bubble. This in turn allows some actors, such as private equity and hedge funds, to extract wealth from companies, that can quicken the pace of economic activity more generally, and act as an accelerator on the way down after the bubble bursts, leading to distress, deflation and bankruptcy (Fisher, 1933; Jarsulic, 2013; Minsky, 2008).

Playing a key role in the development of roaring banking and financialization more broadly is financial innovation; in fact some authors argue that financial innovation itself *is* financialization (Vercelli, 2013). To be sure, financial innovation has played a major part in the development of recent financial practices that contributed significantly to the massive growth in financial activities and that ultimately contributed to the financial crisis (FCIC, 2011; Greenberger, 2013; Jarsulic, 2013; Stout, 2011; Vercelli, 2013). Among these key financial innovations have been securitization and structured financial products such as asset-backed securities (ABS); collateralized debt obligations (CDOs); the growth of credit derivatives, such as credit default swaps (CDS) that both facilitated and then became embedded in these structured products themselves; and innovation in wholesale funding such as repo and reverse repo transactions — all facilitated by complex utilization of collateral that greased the wheels of the whole system. These financial innovations have implications that are global in scope. The Bank for International Settlements (BIS) in Basel reports that the global use and level of trading in these instruments has grown spectacularly over the last

several decades (BIS, 2016). This process of financial innovation has clearly helped to drive financialization, both within countries and globally.

Financialization and Non-Financial Corporations

As indicated above, there are other significant dimensions of the increased financial activities which relate to non-financial corporations. Among the most noteworthy are the increased role of financial activities as a determinant of the pay packages of top management of NFCs, including, most importantly, the corporate CEO. Perhaps most significant of these are stock options and other stock-related pay for NFC management. In the USA, where this is especially prevalent, CEOs on average receive 72 per cent of their compensation in the form of stock options and other stock-related pay (Galston and Kamarck, 2015; Lazonick, 2015a, 2015b).

This focus on stock price leads NFCs to use their revenue to buy back stocks in order to raise the stock prices and increase their compensation (Cheng et al., 2015). Lazonick refers to this pressure as leading to management policies of ‘downsize and distribute’ — a dramatic shift from an earlier strategy of ‘retain and reinvest’, by which management would retain profits and re-invest back into the human and technological capital of the firm (Lazonick, 2013, 2015a; see also Almeida et al., 2016). The numbers in the case of the US are staggering. Using a sample of 248 companies that have been listed on the S&P 500³ since 1981, Lazonick reports that, in 1981, firms used 2 per cent of net income for stock buybacks. Between 1984 and 1993, such purchases averaged 25 per cent of net income; from 1994 to 2003 this rose to 37 per cent; and from 2004 to 2013, they used a full 47 per cent of net income for stock buybacks (Lazonick, 2015a, 2015b). Some particularly large, well-known US corporations used an even higher percentage of their income for buybacks.

This concentration on stock price is often seen as a prime example of ‘shareholder value’ ideology, which some view as the very essence of financialization (Aglietta and Bretton, 2001; Froud et al., 2006). Shareholder value ideology, promoted in the mainstream of the economics profession by Michael Jensen, among others, argues that since shareholders own the corporations (they are the ‘risk-bearing residual claimants’), the goal of the corporation management should be to maximize the corporate value for shareholders. However, legal scholar Lynn Stout shows that, in the US at least, shareholders do not really own the corporations, nor do they all share the values embodied in the Jensen ideal (Stout, 2012). Thus, the whole basis of the idea of maximizing shareholder value by focusing only on stock prices is problematic from the start. Nonetheless, operationalizing this myth does often lead to a destructive, short-term orientation by management.

3. Standard and Poor’s stock market index of US stocks.

The problem of short-termism is one of the most commonly discussed failings of financialized capitalism.⁴ By ‘short-termism’ is meant a short time horizon by economic leaders in making production, investment and financing decisions. This short-termism might lead to under-investment in long-gestation but highly productive and profitable (in the long run) investments, under-investment in labour development, under-investment in research and development activities, and over-investment in activities that generate short-run profits but that might generate long-run risks and/or losses (Dallas, 2012; Graham et al., 2005). The same kinds of pressures face portfolio managers for pension funds and other institutional investors, leading to a similar focus on short-term returns, sometimes at the risk of longer-term investments (Parenteau, 2005). Evidence of short-termism includes the reduced holding period of equities in financial markets, as well as survey evidence that managers will cut profitable long-term investments to reach short-term profit goals, and that investors have higher rates of required returns for longer-term investments than is necessary (see Haldane and Davies, 2011).

This short-term oriented behaviour is alleged to affect NFC management not simply because of the direct incentives facing corporate CEOs, but also because of the pressure from outside investors and financial institutions (Crotty, 2017; Jayadev, Mason and Schröder, this issue). These include pension funds and related institutional investors (Parenteau, 2005) and also private equity firms (Appelbaum and Batt, 2014) and hedge funds (Dallas, 2012). These financial institutions use access to debt and financial engineering to extract value in the short run from NFCs, possibly at the expense of investment, taxpayers and labour.

Financialization and Households

As the Great Financial Crisis of 2008 clearly demonstrated, the process of financialization has not only caught financial and non-financial institutions within its orbit, but households as well. After all, the epicentre of the financial crisis in the US was in the home mortgage market and to some extent one segment of that market, the so-called ‘sub-prime mortgage market’. Costas Lapavitsas (2013) and others have argued that the process of financial incorporation of households led to the ‘financial expropriation’ of these households by financial businesses, an expropriation most clearly and obviously expressed by the massive loss in housing wealth experienced by poor people and minorities in the US as a result of the crisis (Engel and McCoy, 2011; Taub, 2014). The financialization of poverty in emerging and developing economies has also been proceeding apace and has been

4. Of course, the critique of short-termism in speculative financial markets goes all the way back to Keynes in *The General Theory* (1936).

the subject of important research (see, for example, Mader, 2015, and his contribution to this issue).

The incorporation of households into the ‘circuits’ of financialization goes beyond the intensive use of mortgages to buy homes — sometimes, as we saw in 2008, with catastrophic consequences. The use of credit cards and other forms of consumer credit, and the widespread indebtedness of students through student loans, also constitute strands in the web of connections that households now have with the financial markets (Kuttner, 2013; Warren, 2014). Of course, as the seminal work of anthropologist David Graeber reminds us, the exploitative and socially entangled networks of debt relations go back at least 5,000 years (Graeber, 2011).

THE IMPACTS OF ‘ROARING BANKING’ AND ‘FINANCIALIZATION’

The massive literature on the great financial crisis has made it pretty clear that the behaviours of roaring banking, including the huge increase in private debt, the use of securitization and complex financial products, the widespread use of complex over-the-counter (OTC) derivatives, and pernicious fraud and corruption, all contributed to the financial crisis and therefore, quite obviously, undermined stability. Combined with financialization more broadly, the question is: what have their impacts been on the macroeconomy? Fortunately, there has been a good deal of empirical work on these issues, especially among heterodox economists.

Financialization and Investment

Stockhammer (2004) pioneered the theoretical analysis of the impact of financialized manager motives on investment. He showed that finance-oriented management might choose to undertake lower investment levels than managers with less financialized orientations. He presented macro-level econometric investment equations that were consistent with this impact in several OECD countries. Orhangazi (2008) used firm-level data to study the impact of financialization on real capital accumulation in the United States. He used data from a sample of NFCs from 1973 to 2003, and found a negative relationship between real investment and financialization. Orhangazi explained his results by exploring two channels of influence of financialization on real investment: first, increased financial investment and increased financial profit opportunities may have crowded out real investment by changing the incentives of firm managers and directing funds away from real investment. Second, increased payments to the financial markets may have impeded real investment by decreasing available internal funds, shortening the planning horizons of the firm management and increasing uncertainty.

Davis (2013) provided further evidence of the negative impact of financialization on real investment. She also studied a sample of non-financial firms, showing a significant difference between large and smaller firms in the degree to which they receive financial income as a share of total income. Larger firms appear to be more financialized in this sense. Using a firm-level panel, Davis investigated econometrically the relationship between financialization and investment, exploring the implications of changes in financing behaviour, increasingly entrenched shareholder value norms, and rising firm-level demand volatility for investment by NFCs in the US between 1971 and 2011. Importantly, Davis found that shareholder value norms were associated with lower investment, though this relationship tended to be true primarily for larger firms. These results are consistent with the concerns expressed by heterodox analysts and others that financialization will tend to reduce real investment.

Employment, Human Capital, R&D and Wages

An increasing chorus of analysts among heterodox economists including William Lazonick (2009, 2013, 2014), Eileen Appelbaum and Rosemary Batt (2014) and iconoclasts Andrew Haldane and Richard Davies (2011), as well as more mainstream economists (e.g. Galston and Karmarck, 2015) have expressed concerns that ‘short-termism’ associated with financialization may be coming at the expense of investments in human capital, research and development (R&D), employment and productivity growth. There is some empirical work that is supportive of these fears. In a set of surveys of corporate managers, Graham et al. (2005) showed that many chief financial officers are willing to sacrifice longer-term investments in R&D and valued employees in order to meet short-term earnings per share targets. In a panel econometric study using firm-level data, Almeida et al. (2016) similarly found that managers are willing to trade off investments and employment for stock repurchases that allow them to meet earnings per share forecasts. Based on a survey of econometric studies of private equity firms, Appelbaum and Batt (2014) concluded that large firms that use financial engineering to extract value from target companies have a particularly negative impact on investment, employment and R&D in these companies. In short, there is significant empirical evidence that short-termism and other aspects of financial orientation have negative impacts on workers’ well-being, productivity and longer-term growth. And, as many of these studies emphasize, these activities do NOT maximize shareholder value, but often increase incomes for some managers and shareholders, partly at the expense of other shareholders of the firms and partly at the expense of other stakeholders, such as workers and taxpayers.

Income Distribution

This raises the issue of the overall impact of roaring banking and financialization on income distribution. A key issue here is where do financial profits come from (Pollin, 1996)? Are they the result of provision of services by finance to the rest of the economy, as is asserted by most mainstream economic theory? Or do most profits come from the extraction of income and wealth by finance from workers, taxpayers, debtors and other creditors? Iren Levina proposes that much financial income comes from access to capital gains in financialized markets and therefore does not necessarily reflect a zero-sum game, as implied by those who argue that financial returns are extracted rather than the result of increased wealth (Levina, 2014). This issue of the source of financial income is extremely difficult to sort out theoretically and there is no consensus on this topic (see Kay, 2015; Lapavitsas, 2013).

There has been some empirical work to look at the impact of financialization on income and wealth distribution. Descriptive analysis in the US indicates that the top earners — the 1 per cent or even 0.01 per cent of the income distribution — get the bulk of their incomes from CEO pay or from finance (Bakija et al., 2012). Econometric work looking at the relationship between financialization and inequality is also growing. Tomaskovic-Devey and Lin (2011) present an econometric model indicating that since the 1970s, between US\$ 5.8 trillion and US\$ 6.6 trillion were transferred to the finance sector from other sectors in the economy, including labour and taxpayers. Lin and Tomaskovic-Devey (2013), using a sectoral econometric analysis for the US, find that in time-series cross-section data at the industry level, an increasing dependence on financial income, in the long run, is associated with reducing labour's share of income, increasing top executives' share of compensation, and increasing earnings dispersion among workers. They do a counterfactual analysis that suggests that financialization could account for more than half of the decline in labour's share of income, 9.6 per cent of the growth in officers' share of compensation, and 10.2 per cent of the growth in earnings dispersion between 1970 and 2008.

Dunhaupt (2013) finds a negative relationship between financialization and labour share in a larger set of countries. She uses a time-series cross-section data set of 13 countries over the time period 1986–2007. The results suggest that there is indeed a relationship between increasing dividend and interest payments of NFCs and the decline of the share of wages in national income. Other factors that contributed to the decline relate to globalization and a decrease in the bargaining power of labour.

Roaring Banking, Financialization and Economic Growth

As the massive recession stemming from the great financial crisis makes clear, there is no linear relationship between the size and complexity of

financial markets and economic growth. Several econometric studies have suggested an inverted U-shaped relationship between the size of the financial sector and economic growth: a larger financial sector raises the rate of economic growth up to a point, but when the financial sector gets too large relative to the size of the economy, economic growth begins to decline (see for example, Cecchetti and Kharroubi, 2012; Tomaskovic-Devey and Lin, 2011). To the extent that this relationship is true, economists are still searching for the explanation. One argument is that as the financial sector increases in size, because of its relatively high pay levels, it pulls talented and highly educated employees away from other sectors that might contribute more to economic growth and productivity. As a university professor teaching economics since the 1980s, I can verify that many of my undergraduate students had the dream of going to work on Wall Street. Perhaps some of them could have contributed more elsewhere. The next section will present estimates of these impacts in the United States.

THE SOCIAL EFFICIENCY OF ROARING BANKING IN THE UNITED STATES

The combination of financialization and roaring banking seems not to be a great recipe for sustained economic growth, equitable income distribution, efficiency and financial stability. The question is: when we put together the data on their impacts on the macroeconomy, what is the bottom line? What impact do they have on ‘social efficiency’? This section describes my effort to provide some broad quantitative answers to this question in the context of the United States over the last several decades.

What has this flawed financial system cost the US economy? How much have American families, taxpayers and businesses been ‘overcharged’ as a result of these questionable financial activities? In a study by Juan Montecino and myself, we estimated these net costs by analysing three components: (1) rents, or excess profits; (2) misallocation costs, or the price of diverting resources away from more productive activities; and (3) crisis costs, meaning the cost of the 2008 financial crisis (Epstein and Montecino, 2016). Adding these together, we estimate that the US financial system will impose an excess cost of as much as US\$ 22.7 trillion between 1990 and 2023, making finance in its current form a net drag on the American economy.

It is important to note that these are ‘net costs’ in the sense that they are the costs minus the benefits of the financial system at the margin. For example, in the case of the misallocation costs, our estimates include the costs of the financial sector being ‘too big’ compared with the optimal size for growth as estimated in the ‘Too Much Finance’ literature (see, for example, Arcand et al., 2015). In the case of the costs of the financial crisis, it is the estimated costs of the forgone output due to the financial crisis, relative to the non-crisis economy, discounted by plausible estimates of how much the

financial crisis is due to the operations of the financial system (see Atkinson et al., 2013). The rents are estimates of excess payments based on Philippon and Reshef (2012) and Wang (2011). Strictly speaking, these ‘rents’ might not be costs to the economy as a whole, but they are certainly costs to about 99.9 per cent of the population. (See the discussion below for more details.)

First, we estimate the rents obtained by the financial sector. Through a variety of mechanisms including anti-competitive practices, the marketing of excessively complex and risky products, government subsidies such as financial bailouts, and even fraudulent activities, bankers receive excess pay and profits for the services they provide to customers. By overcharging for products and services, financial firms grab a bigger slice of the economic pie at the expense of their customers and taxpayers. We estimate that the total cost of financial rents amounted to between US\$ 3.6 trillion and US\$ 4.2 trillion between 1990 and 2005.

Second are misallocation costs. Roaring banking does not just grab a bigger slice of the economic pie; its structure and activities are often destructive, meaning it also shrinks the size of that pie by reducing growth. This is most obvious in the case of the financial crisis, but speculative finance harms the economy on a daily basis. It does this by growing too large, utilizing too many skilled and productive workers, imposing short-term orientations on businesses, and starving some businesses and households of needed credit. We estimate that the cost of misallocating human and financial resources amounted to US\$ 2.6–3.9 trillion between 1990 and 2005. Adding rent and misallocation costs, we show that, even without taking into account the financial crisis, the financial system cost between US\$ 6.3 trillion and US\$ 8.2 trillion more than the benefits it provided during the period 1990–2005.

Finally, on top of this is the massive cost of the financial crisis itself, which most analysts agree was largely associated with the practices of speculative finance. If we add conservative Federal Reserve estimates which put the cost of the crisis in terms of lost output at US\$ 6.5–14.5 trillion (Atkinson et al., 2013), it brings the total amount of ‘overcharging’ to somewhere between US\$ 12.9 trillion and US\$ 22.7 trillion.

Please note that these large sums are almost certainly an *underestimate* of the costs of financialization because we are estimating only the costs imposed by roaring banking, and not the costs of financialization more broadly. In particular, we are not directly estimating the impacts of shareholder value orientation of NFCs as discussed above. To do so would be beyond the scope of this article.⁵

5. We are perhaps indirectly picking up some of these costs in our estimates of the costs of ‘too much finance’; see below.

Components of the Analysis

This section offers more details on the analysis summarized above.

Financial Rents

Financial rents are the excess incomes that operators and investors in the financial sector receive over and above the incomes they would need in order to induce them to supply their financial products or services. Financial engineers who make twice as much income as they would if they were regular engineers, or financial CEOs who make 10 times as much as they would if they applied their talents to manufacturing firms, much less government service or teaching, are earning rents. Banks that earn much more than the average rate of return are also likely to be earning rents (excess profits). The sources of these rents — high pay for bank CEOs and traders, and excess returns to shareholders — are not completely understood but we know many of the factors that contribute to these rents. They operate at the macroeconomic level, the industrial level and at the microeconomic level, that is, at the level of the firm and the customer.⁶

At the macroeconomic level, the key factors are the overall growth of the economy, but most important are asset price booms and busts. When asset prices boom, as they did in the 2000s, this creates excess returns that CEOs and traders — what James Crotty calls ‘rainmakers’ — do their best to grab and cash in before the asset bubble crashes. Shareholders also try to cash in on these asset bubbles and grab the profits.⁷ The government’s commitment to bail out the ‘too big to fail’ banks was a crucial factor in underwriting the high rents and excess profits of the financial system. Bankers could utilize an excessive amount of debt (leverage) by borrowing and by taking positions in derivatives and other complex securities which also contained leverage, knowing that if the bets went bad, they were likely to be bailed out by the taxpayers. So the over US\$ 20 trillion of committed bail-out funds played a crucial role in generating these rents and excess profits (Better Markets, 2012; Felkerson, 2011; Kane, 2012). Tax subsidies of other kinds are also rampant in finance (Carow et al., 2011) and these serve to increase rents accruing to bankers and shareholders.

At the industry level, there are a number of factors that help to determine the level of rents. One is the degree of competition, or lack thereof, in key activities. For example, in the over-the-counter derivatives market, the top

6. Crotty (2017) has written the most insightful analysis of the sources of banker rents at the bank level. Kay (2015), Piergiorgio and Haldane (2009) and Wang (2011) have provided useful insights into the sources of excess finance profits.

7. See Levina (2014) for an insightful analysis of asset appreciations as a source of financial profit. Accounting conventions allowed banks to book profits even before they were realized (Crotty, 2017; Kay, 2015).

six banks control more than 95 per cent of the business. Such a highly concentrated market is likely to exercise a significant amount of market power and, therefore, enjoy high ‘market power’ rents. This issue of market power is related to a second key factor: regulatory policy and enforcement. The credit derivatives market was allowed to be so lucrative and concentrated because of legislative and regulatory rules and enforcement that allowed the market to develop and flourish (see, for example, Greenberger, 2013), including the destruction of the Glass–Steagall Act which allowed highly leveraged, short-term funded banks to engage in this market. A third industry-level determinant of rents is the nature and degree of enforcement of transparency and anti-fraud laws that are supposed to govern financial transactions, such as those that governed the buying and selling of asset-backed securities and mortgage products.

To estimate banker rents, we draw on the well-known empirical work of Thomas Philippon and Ariel Reshef, who developed a data series on wages in finance relative to other industries in the US over a 100-year period from 1906 to 2006 (Philippon and Reshef, 2012). They define banker rents as the wages in finance over and above those that can be explained by what economists take to be standard determinants of wages — that is, the remuneration to education, skill levels and other standard factors, had these employees worked in non-financial sectors of the economy. Philippon and Reshef report that these rents grew dramatically after the 1990s.⁸ We utilize their basic results and apply them in our calculations of rents.

Excess Profits

Financial profits also began to grow rapidly starting in the early 1990s and then grew even more rapidly in the go-go years before the crisis of the 2000s. By 2005, banks were receiving US\$ 400 billion per year in profits. The question is: how much of this is *rent*, or *excess profits*? A number of economists have tried to address this question, including Crotty (2008); Epstein and Crotty (2013); Haldane and Madouros (2012); Haldane et al. (2010); Kay (2015) and Wang (2011).

In Epstein and Crotty (2013) we study the sources of profits of the major investment banks prior to the financial crisis. We find that well over 50 per cent of these reported profits were due to trading and other speculative activities in the years leading up to the financial crisis. It might be thought that this type of risk taking provides a service to the economy and so the returns from such risk taking should not be seen as excess profit but as a payment for a service. But as Wang — and others including Haldane, Crotty and Kay — make clear, this view is mistaken. The key to understanding the issue is to distinguish, as Haldane does, between ‘risk taking’ and

8. Philippon and Reshef (2012: 1567, Table II) control for numerous determinants of pay.

‘risk management’. Risk management involves research and due diligence designed to identify the riskiness of loans and other investments; it includes discovering and providing information that can help investors assess investments. Risk bearing, per se, does not add income to the economy but simply shares it from one person or time period to another.

Studying the broader universe of banks, Wang and her co-authors have estimated the share of financial profits that are illusory in this sense: they represent excess profits from *risk taking*, rather than from the provision of *risk management* and related financial services (Wang, 2011; see also Basu et al., 2011). Wang’s results suggest that the capital share of value added in finance is around one-third lower once one adjusts for the riskiness associated with them. She also estimates the rate of return on fixed assets taking into account these risk characteristics and finds the rate of return to be almost two-thirds less than the non-risk adjusted return (17.8 versus 6.8) (Wang, 2011: Table 1). Thus the excess profitability of finance from this perspective is somewhere between one-third and two-thirds. Based on these estimates — though admittedly somewhat arbitrarily — I ‘split the difference’ and use a figure of one-half to indicate that roughly half of the profits of these financial institutions are excessive in the sense used by Wang and co-authors and Haldane.

Thus, the analyses of Wang and Basu et al. provide a way of estimating the excess profits due to the inappropriate treatment of risk by these financial institutions. This metric can be used to assess the total compounded excess profits over the period 1990–2005. Total compounded profits equal almost US\$ 4.6 trillion over the period. We estimate that roughly half of this, or US\$ 2.28 trillion, reflects excess profits or rents. This is in fact a conservative figure given the highly speculative activities undertaken by much of the financial sector in the run-up to the great financial crisis.⁹

Misallocation of Resources to Finance

The second cost is the cost of lower incomes that arise from allocating too many financial and human resources to the speculative financial sector and away from other activities that are more productive at the margin. The economics literature has come to call this ‘too much finance’, after one of the best-known academic papers in this area (Arcand et al., 2015; see also Cecchetti and Kharroubi, 2012, 2015). This literature shows that countries with financial sectors that are ‘too big’ tend to have lower economic growth. While this literature analyses, in the first instance, the size of the financial

9. The main interest of Basu et al. (2011) and Wang (2011) in these metrics is to identify the over-estimation of bank profits in national income accounts due to the inappropriate treatment of income associated with risk bearing rather than risk management. But as Haldane and Davies (2011) and Wang (2011) suggest, many of these same considerations apply to the treatment of excess profits at the industrial level as I analyse it here.

sector, its results are most likely also picking up the low-productivity types of financial activities in which speculative financial systems engage. Using this literature, we estimate the growth costs to the US economy of having a financial system that is ‘too large’ and mis-oriented. Here, the counterfactual is a financial system that is ‘the appropriate size’ and operates in a more socially efficient manner, using, as this literature does, other financial systems or times as a baseline.

In recent years, a number of econometric studies have linked the size of the financial sector to economic growth and have found that, to use their terms, there can be ‘too much finance’. Epstein and Crotty (2013) estimate that the financial sector in the US was roughly two times too big to be justified by its contributions to the economy. Arcand et al. (2015) and Cecchetti and Kharroubi (2012, 2015) have identified an inverted U-shaped relationship between the size of finance measure by the level of private credit in the economy relative to GDP and per capita economic growth. Arcand et al. estimate a ratio of around 90 per cent private credit to GDP as the turning point; they also estimate the loss in economic growth associated with levels above this 90 per cent threshold. Much work by others has confirmed this inverted U-shaped relationship, and demonstrated that it did not exist prior to the 1980s, suggesting that this negative impact is likely due to the characteristics of modern finance (Sturm and Epstein, 2014).

Where do these costs of ‘too much finance’ come from? Long ago James Tobin remarked: ‘I confess to an uneasy Physiocratic suspicion, perhaps unbecoming in an academic, that we are throwing more and more of our resources, including the cream of our youth, into financial activities remote from the production of goods and services, into activities that generate high private rewards disproportionate to their social productivity’ (Tobin, 1984: 14). This is a succinct statement of a probable key driver of the allocation costs of ‘too much finance’.

Over the period 1990–2005, the US financial system was, on average, far beyond the private credit threshold that the above-mentioned authors identify for maximum economic growth. Indeed, the average ratio of US private credit to GDP was 130 per cent — well above the 90 per cent level. We take this figure and apply the estimates in the literature to estimate the negative impacts of this excessive ‘size’ of finance on the rate of economic growth over this time period. We then estimate how much higher economic growth in this period would have been if there had not been ‘too much finance’, and accumulate the cost of forgone growth as before.

The Great Financial Crisis

Speculative finance not only leads to excess incomes and causes slower long-run economic growth because of the misallocation of financial and human resources, but also imposes costs on society — sometimes very substantial

Table 1. The Cumulative Costs of Finance, 1990–2005 (billions of 2014 US\$)

	Lower Bound	Higher Bound
(1) Excess Income and Rents (1990–2005)	3,680.5	4,235.2
Excess Wages	1,397.2	–
Excess Profits	2,283.3	–
(2) Growth Costs from Misallocation (1990–2005)	2,658.6	3,981.0
(3) Recession Costs	6,566.5	14,549.7
Grand Total	12,905.6	22,765.9

Notes and Sources: The excess income and rents calculations (row 1) are based on estimates reported in Philippon (2015) and Philippon and Reshev (2012). Excess wages are calculated as the difference between average wages in finance and a competitive benchmark based on relative human capital levels between the financial and non-financial sector. Excess profits assumes that half of all financial sector profits reflect non-productive activities such as risk taking (as opposed to risk management). The higher bound of excess income was calculated based on figures on the user cost of finance reported by Philippon (2015). Row 2 reports the cumulative costs due to slower growth as a result of having ‘too much finance’. Estimates are based on the results reported in Arcand et al. (2015) and Cecchetti and Kharroubi (2012). The lower bound figure is based on specification 1 of Table 1 in Cecchetti and Kharroubi (2012), while the higher bound figure is based on specification 2 of Table 2 in Arcand et al. (2015). The cumulative sums in rows 1 and 2 assume a rate of return of 2%. Row 3 reports the cumulative output loss due to the 2007–09 financial crisis based on Atkinson et al. (2013).

costs — because of the large financial crises it periodically causes. Large financial crises lead to high unemployment, lower output, less on-the-job training, and significant psychological and social suffering. So in order to give a fair assessment of the costs of our current financial system, we must incorporate the costs of financial crises associated with the excessive speculation and destructive economic activities that are now well understood to have been key to the recent economic crisis.

Some economists argue that the GFC had multiple causes and so it would be incorrect to attribute all the costs of the crisis to finance (see, for example, the essays in Subasat, 2016). Nonetheless, there is growing evidence that recessions associated with financial crises are worse than ‘normal’ recessions (for example, Fatas and Mihov, 2013; Jorda et al., 2013). Similarly, there is evidence that recessions associated with large debt ‘overhangs’ are also worse than those without them (*ibid.*). We therefore use a range of estimates of the total costs in terms of forgone output to estimate the costs due to ‘roaring banking’ of the GFC.

The Bottom Line

What is the big-picture, bottom-line cost of roaring banking in the US? Table 1 presents conservatively estimated lower-bound (left-hand column) and higher-bound (right-hand column) costs. (We do not say upper-bound because we believe even the higher-bound cost is likely to be an underestimate.) We calculate these costs for the period 1990–2005. In the case of the costs of the crisis, we include the likely costs moving forward to 2023

since that is when, building on the work of the Federal Reserve, we assume the US economy will rejoin its pre-crisis growth path.

The rows indicate the category of cost: the first rows (1) are the banker rents and excess profits. These are calculated in two ways. The left-hand column shows the estimates based on rent estimates and profit estimates separately as described above. The right-hand column estimate is based on Philippon's (2015) estimates of user cost of finance for the period 1990–2005, compared with the lower estimated costs in the period of regulated finance (1960–80). These costs are estimated to be in the range of US\$ 3.6 trillion to US\$ 4.2 trillion (Row 1). Row (2) presents the estimated costs from misallocation of capital and costly finance practices in terms of lost economic growth, as estimated from the work of Cecchetti and Kharroubi and Arcand et al. These costs are estimated to range from US\$ 2.6 trillion to almost US\$ 4 trillion. Finally, we use results from the Dallas Federal Reserve Bank to estimate the costs of the Great Financial Crisis to the economy (Atkinson et al., 2013). Based on their results, we estimate the costs to be from US\$ 6.5 trillion to US\$ 14.5 trillion (Row 3).

CONCLUSION

Table 1 clearly shows how inefficient this system is. The higher-bound level of rents and excess profits going to the financial sector as a whole are estimated to be about US\$ 4.2 trillion. Yet it costs society as much as US\$ 23 trillion of costs to deliver that excess income to finance — more than US\$ 5 for every US\$ 1 transferred to finance. This is a very high cost of 'roaring banking'. Indeed, this is the very essence of the 'social inefficiency' of finance.

This socially inefficient financial system needs to be dramatically downsized and restructured. Of course, this will be no easy task. The financial system has enormous staying power, politically. For some financial centres, such as New York, London, Hong Kong and others, the financial sector generates significant amounts of high-paying jobs and spillover incomes for the local economy. Of course, a big chunk of these incomes is generated by rents and tax subsidies paid by almost everyone else, as discussed above. This redistribution of rents and tax subsidies essentially provides transfers to these cities by shrinking the overall size of the economic pie through waste and economic crisis. Nevertheless, these financial centres benefit from the redistribution of the pie, and in order to get political buy-in from these important centres, there have to be other engines for employment and prosperity.

What is true of these financial centres is also true more generally. Many economies suffer from relatively high unemployment and stagnant wages. Some analysts argue that this financialized system is necessary for producing bubbles to keep economies going in the face of the strong headwinds of stagnation (see, for example, Brenner, 2003). But, even if this is true, there are

clearly more efficient and less costly ways of providing decent employment and living wages. Most important in the current epoch are investments in the ‘Green Transition’ from fossil fuels to renewable energy. As my colleague Robert Pollin has shown, this transition would generate millions of jobs and, in many cases, decent wages (Pollin, 2015). There is a keen need for restructured financial institutions and new financial instruments to provide financing for such investments as complements for key government financing and other government policies, such as reasonable carbon pricing (Boyce, 2013; Epstein, 2015; Pollin, 2015). By reducing the size of ‘too big to fail’ banks, imposing financial transaction taxes, implementing asset-based reserve requirements, establishing ‘Green Banks’ and other initiatives, a restructured finance could help make the green transition and generate jobs and sustainable growth as well. This is just one — but one very important — example of how restructuring finance can be a much better alternative to roaring banking and bubble finance for job creation and socially useful investment.

In summary, roaring banking and its associated bubble finance are not necessary for capitalist accumulation. Far from it. By contributing to misallocation of resources, financial instability, increasing rents and inequality, and by failing to adequately contribute to solving major social problems such as climate change, they are undermining the very foundations of sustainable accumulation and development of any form. But unless we muster the political power to put the financiers ‘back in their cages’, as Jim Crotty put it, ‘roaring banking’ and ‘bubble finance’, with all their attendant ills, is what we will have.

REFERENCES

- Admati, A. and M. Hellwig (2013) *The Bankers’ New Clothes*. Princeton, NJ: Princeton University Press.
- Aglietta, M. and R. Bretton (2001) ‘Financial Systems, Corporate Control and Capital Accumulation’, *Economy and Society* 30(4): 433–66.
- Akyuz, Y. (2014) ‘Internationalization of Finance and Changing Vulnerabilities in Emerging and Developing Economies’. UNCTAD Discussion Papers No. 2017. Geneva: United Nations Conference on Trade and Development.
- Almeida, H., V. Fos and M. Kronlund (2016) ‘The Real Effects of Share Repurchases’, *Journal of Financial Economics* 119(1): 168–85.
- Appelbaum, E. and R. Batt (2014) *Private Equity at Work: When Wall Street Manages Main Street*. New York: Russell Sage Foundation.
- Arcand, J-L., E. Berkes and U. Panizza (2015) ‘Too Much Finance’, *Journal of Economic Growth* 20(2): 105–48.
- Atkinson, T., D. Luttrell and H. Rosenblum (2013) ‘How Bad Was It? The Costs and Consequences of the 2007–09 Financial Crisis’. Staff Papers No. 20. Dallas, TX: Federal Reserve Bank of Dallas.
- Bakija, J., A. Cole and B.T. Heim (2012) ‘Jobs and Income Growth of Top Earners and the Causes of Changing Income Inequality: Evidence from US Tax Return Data’. Williamstown, MA: Williams College. <https://web.williams.edu/Economics/wp/BakijaColeHeimJobsIncomeGrowthTopEarners.pdf>

- Basu, S., R. Inklaar and C. Wang (2011) 'The Value of Risk: Measuring the Services of Commercial Banks', *Economic Inquiry* 49(1): 226–45.
- Better Markets (2012) 'The Cost of the Wall Street-caused Financial Crisis Is More Than 12.8 Trillion Dollars'. Washington, DC: Better Markets Inc. https://bettermarkets.com/sites/default/files/Cost%20of%20The%20Crisis_2.pdf
- BIS (2016) 'Triennial Central Bank Survey: Foreign Exchange Turnover in April 2016'. Basel: Bank for International Settlements. www.bis.org/publ/rpfx16fx.pdf
- Boyce, J.K. (2013) *Economics, the Environment and our Commonwealth*. Cheltenham and Northampton, MA: Edward Elgar Publishing.
- Brenner, R. (2003) *The Boom and the Bubble: The US in the World Economy*. London: Verso.
- Carow, K.A., E.J. Kane and R.P. Narayanan (2011) 'Safety-net Losses from Abandoning Glass–Steagall Restrictions', *Journal of Money, Credit and Banking* 43(7): 1371–98.
- Cecchetti, S. and E. Kharroubi (2012) 'Reassessing the Impact of Finance on Growth'. BIS Working Paper No. 381. Basel: Bank for International Settlements.
- Cecchetti, S.G. and E. Kharroubi (2015) 'Why Does Financial Sector Growth Crowd Out Real Economic Growth?'. BIS Working Paper No. 490. Basel: Bank for International Settlements.
- Cheng, Y., J. Harford and T. Zhang (2015) 'Bonus-driven Repurchases', *Journal of Financial and Quantitative Analysis* 50(3): 447–75.
- Crotty, J. (2008) 'Structural Causes of the Global Financial Crisis: A Critical Assessment of the "New Financial Architecture"', *Cambridge Journal of Economics* 33(4): 563–80.
- Crotty, J. (2017) *Capitalism, Macroeconomics and Reality*. Cheltenham and Northampton, MA: Edward Elgar Publishing.
- Dallas, L.L. (2012) 'Short-termism, the Financial Crisis and Corporate Governance', *Journal of Corporation Law* 37(2): 264–363.
- Davis, L.E. (2013) 'Financialization and the Non-financial Corporation: An Investigation of Firm-level Investment Behavior in the US, 1971–2011'. Department of Economics Working Paper No. 2013-08. Amherst, MA: University of Massachusetts.
- Dunhaupt, P. (2013) 'The Effect of Financialization on Labor's Share of Income'. Working Paper No. 17/2013. Berlin: Institute for International Political Economy.
- Engel, K.C. and P.A. McCoy (2011) *The Sub-prime Virus: Reckless Credit, Regulatory Failure and Next Steps*. New York: Oxford University Press.
- Epstein, G. (ed.) (2005) *Financialization and the World Economy*. Cheltenham and Northampton, MA: Edward Elgar Publishing.
- Epstein, G. (2015) 'A Contested Terrain Approach to Central Banking', in L-P. Rochon and S. Rossi (eds) *The Encyclopedia of Central Banking*, pp. 105–07. Cheltenham and Northampton, MA: Edward Elgar Publishing.
- Epstein, G. and J. Crotty (2013) 'How Big Is Too Big? On the Social Efficiency of the Financial Sector in the United States', in R. Pollin and J. Wicks-Lim (eds) *Capitalism on Trial: Explorations in the Tradition of Thomas Weisskopf*, pp. 293–311. Cheltenham and Northampton, MA: Edward Elgar Publishing.
- Epstein, G. and J.A. Montecino (2015) 'Banking from Financial Crisis to Dodd–Frank: Five Years On, How Much Has Changed?'. PERI Working Paper. Amherst, MA: University of Massachusetts.
- Epstein, G. and J.A. Montecino (2016) 'Overcharged: The High Cost of High Finance'. New York: Roosevelt Institute.
- Fatas, A. and I. Mihov (2013) 'Recoveries'. Paper prepared for the conference 'Fulfilling the Full Employment Mandate', Boston Federal Reserve, Boston, MA (12–13 April).
- FCIC (2011) 'The Financial Crisis Inquiry Report'. Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States. Washington, DC: US Government Printing Office.
- Felkerson, J. (2011) '\$29 Trillion: A Detailed Look at the Fed's Bailout of the Financial System'. Paper No. 698. Annondale-on-Hudson, NY: Levy Economics Institute of Bard College. www.levyinstitute.org/pubs/wp_698.pdf

- FESSUD (2017) 'Financialisation, Economy, Society and Sustainable Development: An Overview'. FESSUD Working Paper Series No. 206. Leeds: FESSUD at Leeds University Business School. <http://fessud.eu/wp-content/uploads/2012/09/Financialisation-Economy-Society-and-Sustainable-Development-An-Overview-Working-Paper-Series-No.206-April-2017.pdf>
- Fisher, I. (1933) 'The Debt Deflation Theory of Great Depressions', *Econometrica* 1: 337–57.
- Freeman, A. (2016) 'Booms, Depressions and the Rate of Profit: A Pluralist, Inductive Guide', in T. Subasat (ed.) *The Great Financial Meltdown: Systemic, Conjunctural or Policy Created*, pp. 73–95. Cheltenham and Northampton, MA: Edward Elgar Publishing.
- Froud, J., J. Sukhdev, A. Leaver and K. Williams (2006) *Financialization and Strategy: Narrative and Numbers*. New York: Routledge.
- Galston, W.A. and E.C. Kamarck (2015) 'More Builders and Fewer Traders: A Growth Strategy for the American Economy'. Washington, DC: The Brookings Institution.
- Graeber, D. (2011) *Debt: The First 5000 Years*. Brooklyn, NY: Melville House.
- Graham, J.R., C.R. Harvey and S. Rajgopal (2005) 'The Economic Implications of Corporate Financial Reporting', *Journal of Accounting and Economics* 40(1–3): 3–70.
- Greenberger, M. (2013) 'Derivatives in the Crisis and Financial Reform', in M.H. Wolfson and G.A. Epstein (eds) *The Handbook of the Political Economy of Financial Crises*, pp. 467–90. Oxford and New York: Oxford University Press.
- Haldane, A. and R. Davies (2011) 'The Short Long'. Speech, May. London: Bank of England. www.bankofengland.co.uk/archive/Documents/historicpubs/speeches/2011/speech495.pdf
- Haldane, A. and V. Madouros (2012) 'The Dog and the Frisbee'. Speech, 31 August. London: Bank of England. www.bankofengland.co.uk/archive/Documents/historicpubs/news/2012/075.pdf
- Haldane, A., S. Brennan and V. Madouros (2010) 'What is the Contribution of the Financial Sector: Miracle or Mirage?', in A. Turner (ed.) *The Future of Finance: The LSE Report*, pp. 87–120. London: London School of Economics and Political Science. <https://harr123et.files.wordpress.com/2010/07/futureoffinance5.pdf>
- IMF (2017) *Global Financial Stability Report: Getting the Policy Mix Right*. Washington, DC: International Monetary Fund.
- Jarsulic, M. (2013) 'The Origin of the US Financial Crisis of 2007: How a House-price Bubble, a Credit Bubble and Regulatory Failure Caused the Greatest Economic Disaster since the Great Depression', in M.H. Wolfson and G.A. Epstein (eds) *The Handbook of the Political Economy of Financial Crises*, pp. 21–46. Oxford and New York: Oxford University Press.
- Jorda, O., M. Schularick and A.M. Taylor (2013) 'When Credit Bites Back', *Journal of Money, Credit and Banking* 45(s2): 3–28.
- Kane, E. (2012) 'The Inevitability of Shadowy Banking'. Paper presented at Federal Reserve Bank of Atlanta Financial Markets Conference, 'Financial Reform: The Devil's in the Details', Atlanta (10 April).
- Kay, J. (2015) *Other People's Money: The Real Business of Finance*. New York: Public Affairs Publisher.
- Keynes, J. (1936) *The General Theory of Employment, Interest and Money*. London: Macmillan.
- Kuttner, R. (2013) *Debtor's Prison: The Politics of Austerity vs. Possibility*. New York: Alfred A. Knopf.
- Lapavistas, C. (2013) *Profiting without Producing; How Finance Exploits Us All*. London: Verso Books.
- Lazonick, W. (2009) *Sustainable Prosperity in the New Economy: New Business Organization and High-tech Employment in the United States*. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Lazonick, W. (2013) 'From Innovation to Financialization: How Shareholder Value Ideology Is Destroying the US Economy', in M.H. Wolfson and G.A. Epstein (eds) *The Handbook*

- of the *Political Economy of Financial Crises*, pp. 491–511. Oxford and New York: Oxford University Press.
- Lazonick, W. (2014) ‘Profits without Prosperity’, *Harvard Business Review* September. <https://hbr.org/2014/09/profits-without-prosperity>
- Lazonick, W. (2015a) ‘Stock Buybacks: From Retain-and-reinvest to Downsize-and-distribute’. Washington, DC: Brookings Institution.
- Lazonick, W. (2015b) ‘Buybacks: From Basics to Politics’. Air Special Report. Cambridge, MA: The Academic-Industry Research Network. www.theairnet.org/v3/backbone/uploads/2015/08/Lazonick-Buybacks-Basics-to-Politics-20150819.pdf
- Levina, I.A. (2014) ‘A Puzzling Rise in Financial Profits and the Role of Capital Gain-like Revenue’. PERI Working Paper No. 347. Amherst, MA: University of Massachusetts.
- Lin, K. and D. Tomaskovic-Devey (2013) ‘Financialization and US Income Inequality: 1970–2008’, *American Journal of Sociology* 118(5): 1284–329.
- Mader, P. (2015) ‘The Financialization of Poverty’, in P. Mader *The Political Economy of Microfinance: Financializing Poverty*, pp. 78–120. Basingstoke: Palgrave Macmillan.
- Minsky, H. (2008) *Stabilizing an Unstable Economy*. New York: McGraw Hill.
- Orhangazi, Ö. (2008) ‘Financialisation and Capital Accumulation in the Non-financial Corporate Sector’, *Cambridge Journal of Economics* 32(6): 863–86.
- Parenteau, R.W. (2005) ‘The Late 1990s’ US Bubble: Financialization in the Extreme’, in G.A. Epstein (ed.) *Financialization and the World Economy*, pp. 111–48. Cheltenham and Northampton, MA: Edward Elgar Publishing.
- Philippon, T. (2015) ‘Has the US Finance Industry Become Less Efficient? On the Theory and Measurement of Financial Intermediation’, *American Economic Review* 105(4): 1408–38.
- Philippon, T. and A. Reshef (2012) ‘Wages and Human Capital in the US Finance Industry: 1909–2006’, *The Quarterly Journal of Economics* 127(4): 1551–609.
- Piergiorgio, A. and A. Haldane (2009) ‘Banking on the State’. Speech, 6 November. London: Bank of England. www.bankofengland.co.uk/archive/Documents/historicpubs/speeches/2009/speech409.pdf
- Pollin, R. (1996) ‘Contemporary Economic Stagnation in World Historical Perspective’, *New Left Review* 1/219: 109–118.
- Pollin, R. (2015) *Greening the Global Economy*. Cambridge, MA: MIT Press.
- Roberts, M. (2016) ‘Monocausality and Crisis Theory: A Reply to David Harvey’, in T. Subasat (ed.) *The Great Financial Meltdown: Systemic, Conjunctural or Policy Created*, pp. 55–72. Cheltenham and Northampton, MA: Edward Elgar Publishing.
- de Souza, J.P. and G. Epstein (2014) ‘Sectoral Net Lending in Six Financial Centers’. PERI Working Paper No. 346. Amherst, MA: University of Massachusetts.
- Stockhammer, E. (2004) ‘Financialisation and the Slowdown of Accumulation’, *Cambridge Journal of Economics* 28(5): 719–41.
- Stout, L. (2011) ‘Derivatives and Legal Origin of the 2008 Credit Crisis’, *Harvard Business Law Review* 1: 1–38.
- Stout, L. (2012) *The Shareholder Value Myth: How Putting Shareholders First Harms Investors, Corporations and the Public*. Oakland, CA: Berrett-Koehler Publishers.
- Sturn, S. and G. Epstein (2014) ‘Finance and Growth: The Neglected Role of the Business Cycle’. PERI Working Paper No. 339. Amherst, MA: University of Massachusetts.
- Subasat, T. (ed.) (2016) *The Great Financial Meltdown: Systemic, Conjunctural or Policy Created*. Cheltenham and Northampton, MA: Edward Elgar Publishing.
- Taub, J. (2014) *Other People’s Houses; How Decades of Bailouts, Captive Regulators, and Toxic Bankers Made Home Mortgages a Thrilling Business*. New Haven, CT: Yale University Press.
- Taylor, A. (2012) ‘The Great Leveraging’. Basel: Bank for International Settlements.
- Tobin, J. (1984) ‘On the Efficiency of the Financial System’, *Lloyds Bank Review* 153: 1–15.

- Tomaskovic-Devey, D. and K. Lin (2011) 'Income Dynamics, Economic Rents, and the Financialization of the US Economy', *American Sociological Review* 76(4): 538–59.
- Toporowski, J. (2016) 'The Crisis of Finance and the Crisis of Accumulation: It Was Not a "Lehman Brothers Moment"', in T. Subasat (ed.) *The Great Financial Meltdown: Systemic, Conjunctural or Policy Created*, pp. 236–47. Cheltenham and Northampton, MA: Edward Elgar Publishing.
- Turner, A. (2013) 'Debt, Money and Mephistopheles: How Do We Get Out of this Mess?'. Occasional Paper No. 87. Washington, DC: Group of Thirty.
- Vercelli, A. (2013) 'Financialization in a Long-Run Perspective: An Evolutionary Approach', *International Journal of Political Economy* 42(4): 19–46.
- Wang, C. (2011) 'What is the Value Added of Banks?'. Voxeu.org, 8 December. <http://voxeu.org/article/what-value-added-banks>
- Warren, E. (2014) *A Fighting Chance*. New York: Metropolitan Books.

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