

# Finance is just another industry

## Keynote speech

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Almost 30 years ago, Larry Summers wrote of “ketchup economics”, a disparaging comment on the state of finance theory. “Ketchup economists” he explained, considered whether a quart bottle of ketchup sold for twice the price of a pint bottle of ketchup, but did not delve further into the supply and demand for ketchup.

Summers was criticising the self-referential nature of financial economics, which has generated a literature of its own, substantially divorced from the mainstream of economic thinking. That observation might equally be made of monetary economics, and it is a reflection of the financial world as a whole. Those who work in finance talk to each other, speak a language largely incomprehensible even to other business people and – to an extent that defies the imagination – trade with each other. The total value of foreign exchange dealings exceeds the value of international trade in goods and services by a factor of almost one hundred. Total exposure under derivatives contracts is estimated by this institution at \$700 trillion – two to three times the value of all the assets in the world.

I am a general economist who has from time to time strayed into the world of ketchup. All industries I have encountered think their circumstances are unique, and of course there is always something in that claim, though rarely as much as people in the industry think. But one of the tasks of the business economist is to bring to bear on the study of each industry lessons which have been learned in other industries. This is rarely done in finance, but it is what I want to do this evening, and I hope to draw lessons from the dairy industry, from nuclear power, from aviation and from electricity. I want to renew Summers’ challenge of 30 years ago.

I have described the extraordinary value of secondary market trading that characterises finance today. We are entitled to ask, “What is it all for?” What are the economic and social purposes of this activity? To make an assessment, we need to begin by identifying the services which finance does, or might, provide to households and to businesses outside the finance sector.

Modern societies need finance. The evidence for this is wide-ranging and conclusive, and the relationship is clear and causal. The first stages of industrialisation and the growth of global trade coincided with the development of finance in countries such as Britain and the Netherlands.<sup>2</sup> If we look across the world today, statistical evidence associates levels and growth of income per head with the

<sup>1</sup> London School of Economics.

<sup>2</sup> See L. Neal, *The rise of financial capitalism: international capital markets in the age of reason*, Cambridge University Press, 1990.

development of finance.<sup>3</sup> Even modest initiatives in facilitating payments and providing small credits in poor countries can have substantial effects on economic dynamism.<sup>4</sup>

And we have experienced a controlled experiment of sorts, in which Communist states suppressed finance. The development of financial institutions in Russia and China was arrested by their revolutions of 1917 and 1949. Czechoslovakia and East Germany had developed more sophisticated financial systems before the Second World War, but Communist governments closed markets in credit and securities in favour of the centrally planned allocation of funds to enterprises. The ineffectiveness and inefficiency of this process contributed directly to the dismal economic performance of these states.

A country can only be prosperous if it has a well functioning financial system, but that does not imply that the larger the financial system a country has, the more prosperous it is likely to be. It is possible to have too much of a good thing. Financial innovation was critical to the creation of an industrial society; it does not follow that every modern financial innovation contributes to economic growth. Many good ideas become bad ideas when pursued to excess.

Finance can contribute to society and the economy in four principal ways. First, the payments system is the means by which we receive wages and salaries, and buy the goods and services we need; the same payments system enables business to contribute to these purposes. Second, finance matches lenders with borrowers, helping to direct savings to their most effective uses. Third, finance enables us to manage our personal finances across our lifetimes and between generations. Fourth, finance helps both individuals and businesses to manage the risks inevitably associated with everyday life and economic activity.

These four functions – the payments system, the matching of borrowers and lenders, the management of our household financial affairs, and the control of risk – are the services which finance does, or at least can, provide. The utility of financial innovation is measured by the degree to which it advances the goals of making payments, allocating capital, managing personal finances and handling risk.

Most people who work in finance are concerned with the first two of these functions. They operate the payments system, they help households with their personal finances. They are not aspiring Masters of the Universe. Mostly, they earn modest salaries. Half of the employees of Barclays Bank earn less than £25,000 (\$40,000) per year. But Barclays also employs 530 “code staff” – people with executive functions – who earn an average of £1.3m each, and there are 1443 who earn more than £500,000 (\$800,000). It is likely that “the one per cent” in Barclays Bank earn a total approaching half of the total wage and salary bill of the bank.

Most of these people are employed in wholesale rather than retail finance. Their activities relate mainly to the other objectives of the financial system – capital allocation and risk management. How well are these tasks performed?

<sup>3</sup> See R Levine, 2005, “Finance and growth: theory and evidence”, in P Aghion and S Durlauf (eds), *Handbook of Economic Growth*, vol 1, no 1, pp 865–934, 2005.

<sup>4</sup> See M Robinson, *The microfinance revolution: sustainable finance for the poor*, World Bank, 2001.

In an ill judged interview with the *Sunday Times* in 2009, Lloyd Blankfein, CEO of Goldman Sachs, claimed that his company was doing “God’s work”.<sup>5</sup> The Deity’s purpose was “to help companies to grow by helping them to raise capital. Companies that grow create cash. This, in turn, allows people to have jobs that create more growth and more wealth. It’s a virtuous cycle”.<sup>6</sup> If you asked the occupants of the executive floors of the buildings on Wall Street or in the City of London to explain what the finance industry contributed to the real economy, their answers would echo Mr Blankfein’s (although perhaps without divine blessing). The financial sector raises and allocates capital.

Lloyd Blankfein explained that the work his company engaged in was “to help companies grow by helping them to raise capital”.<sup>7</sup> There are two mistakes here. “Helping companies grow by helping them to raise capital” was not, in fact, an important part of the business of Goldman Sachs. Raising capital for companies through underwriting and issuance of new debt and equity have together accounted for less than 10% of the company’s net revenues in the last five years.<sup>8,9</sup> Goldman’s profits are mainly derived from secondary market trading in equities and FICC.

The other mistake is to think that the companies who are the typical clients of Goldman Sachs grow by raising external capital. While major corporations once used the London and New York stock exchanges and other capital markets to raise funds to expand their businesses, this has not been true for many years.

ExxonMobil is both the most profitable company in the United States and the biggest private investor. Massive expenditure on exploration and development and on infrastructure is necessary every year to exploit new energy resources and bring oil products to market. In 2013, ExxonMobil invested \$20 billion. That figure was in itself a significant fraction of total investment by US corporations. Exxon got all of that money from its own internal resources. In 2013, ExxonMobil spent \$16 billion buying back its own shares, in addition to the \$11 billion the company paid in dividends to shareholders. The company’s short- and long-term debt levels were virtually unchanged. It raised no net new capital at all.

Nor was 2013 an exceptional year. Over the five years up to and including 2013, the activities of the corporation generated almost \$250 billion in cash, around twice the amount it invested. ExxonMobil did not raise any new capital in these five years either. Instead the company spent around \$100 billion buying back securities it had previously issued.

Oil exploration, production and distribution are capital-intensive. Many modern companies need very little capital. The stock market capitalisation of Apple – the total market value of the company’s shares – is over \$500 billion. Although the corporation has large cash balances – currently around \$150 billion – it has few other tangible

<sup>5</sup> J Arlidge, “‘I’m doing ‘God’s work.’ Meet Mr. Goldman Sachs”, *The Sunday Times*, 8 November. It was not only Goldman which benefited from divine inspiration; Jeff Skilling claimed to have been doing God’s work at Enron. See B McLean and P Elkind, *The smartest guys in the room: the amazing rise and scandalous fall of Enron*, Penguin, 2003. .

<sup>6</sup> See Arlidge, op cit.

<sup>7</sup> See Arlidge, op cit.

<sup>8</sup> Goldman Sachs, 2013 Annual Report.

<sup>9</sup> Goldman Sachs, 2011 Annual Report.

assets. Manufacturing is subcontracted. Apple is building a new headquarters building in Cupertino at an estimated cost of \$5 billion<sup>10</sup> which will be its principal physical asset. The corporation currently occupies a variety of properties in that town, some of them owned, others leased. The flagship UK store on London's Regent Street is jointly owned by the Queen and the Norwegian sovereign wealth fund.<sup>11</sup> Operating assets therefore represent only around 3% of the estimated value of Apple's business.

The first companies to obtain listings on modern markets were companies like railroads and breweries with large requirements for capital for very specific purposes. Building a railway is expensive, and once you have built it the only thing you can do with it is run trains. You cannot do much in a brewery except buy and drink beer. These early utilities and manufacturing corporations raised large amounts of money in small packets from private individuals.

But both the commercial world and the financial world have changed. Today most business premises are offices, shops or warehouses that can be used for many purposes. The companies that operate from these buildings do not need to own them and usually do not. As at Apple, the assets that matter to these businesses are largely intangible – the brands and reputation of the company, the skills and capabilities of the people who work for it. While railroads, car manufacturers and brewers needed additional funds to build new plant as they expanded, new companies today – like Apple or Google – commonly become generators of cash, rather than users, early in their lifetime. When Facebook, unusually, raised \$16 billion in fresh funds in its initial public offering, the company stated in the prospectus that it had no real idea what it would do with the money.<sup>12</sup>

And the nature of share ownership has changed. The external shareholders of companies are no longer dispersed private individuals, who needed a public marketplace if they were to achieve liquidity and a fair price for their holdings. Shareholdings are now concentrated in large institutions.<sup>13</sup> A paradox of financialisation is that the need for an active share market has diminished at the same time as the volume of trading has grown exponentially.

In an economy dominated by large corporations, the allocation of capital to investment projects is not decided by investors or financial institutions. Nor should it be. Neither shareholders nor investment banks are competent to determine the scale and content of ExxonMobil's capital expenditure programme. The decisions about how much to invest, and where to spend it, are made by the corporation itself: that is the job its senior executives have been trained and selected to do.

Let me turn to risk management. Sitting in this room tonight is Ragu Rajan, who famously challenged the standard risk paradigm of "ketchup economists" at the 2005 Jackson Hole symposium. He queried the value of recent innovation in financial

<sup>10</sup> See P Burrows, 'Inside Apple's plans for its futuristic, \$5 billion headquarters', *Businessweek*, 4 April 2013.

<sup>11</sup> See D Thomas, 'Crown Estate to sell Regent Street stake', *Financial Times*, 4 November 2010.

<sup>12</sup> "We intend to use the net proceeds to us from our initial public offering for working capital and other general corporate purposes; however, we do not currently have any specific uses of the net proceeds planned" - Facebook, Form S-1 Registration Statement, United States Securities and Exchange Commission, 1 February 2012.

<sup>13</sup> See P Gompers and A Metrick, 'Institutional investors and equity prices', *The Quarterly Journal of Economics*, vol 116, no 1, February 2001, pp 229–59.

services and warned of troubles ahead. Rajan's discussant, Don Kahn, made a robust defence of these innovations. "By allowing institutions to diversify risk, to choose their risk profiles more precisely, and to improve the management of the risks they take on, they have made institutions more robust."<sup>14</sup> He went on to explain that "these developments have also made the financial system more resilient and flexible – better able to absorb shocks without increasing the effects of such shocks on the real economy".

If Kohn was critical, he was at least polite: Larry Summers described Rajan's views as "Luddite", and likened his thinking to those who would substitute runners and horses for cars and aeroplanes. Complexity, Summers argued, was inseparable from progress.<sup>15</sup>

Greenspan claimed, with the support of his colleagues, that the effect of such innovation was to allocate risk to those investors most able and willing to take it. This proposition was wrong on two levels. The immediate mistake was to believe that the risk transfer he saw represented insurance rather than wagering. Its purpose and effect was not to spread risk more effectively by passing it to those better equipped to handle it, but to dump it on those who understood less about it. Risks were not more, but less, effectively managed as a result of the transfer.

But the larger mistake was to suppose that the risks under discussion at Jackson Hole were the risks that mattered in the first place. The error emerges immediately on parsing Summers' analogy between modern financial innovation and advances in transport. Successive waves of innovation in transport have brought us railways, cars and planes. These innovations have transformed the daily lives of ordinary people. No one could say the same of forward exchange rates, credit default swaps or collateralised debt obligations.

As the symposium proceeded at Jackson Hole, Hurricane Katrina was about to sweep into New Orleans. It would kill 2,000 people and inflict \$100 billion of property damage. But that was not the kind of risk that the participants had in mind when they reassured themselves that risk management had reached new levels of sophistication. They were concerned with the risks associated with volatile securities prices.

The risks that engaged the Jackson Hole symposium – securities default, changing share values, fluctuating exchange rates – do not impinge significantly on Main Street. All of them are risks generated within the financial system itself.

The risks that do concern Main Street are different. They are risks associated with redundancy and unemployment. The pedestrians on Main Street worry about provision for old age, and fear illness and mortality. Relationship breakdown is costly financially as well as personally. These risks are not dealt with through securities markets: they are mostly handled outside the financial system altogether. Such risks are dealt with – to the extent that they are dealt with at all – by social institutions: friends and family, and by government and its agencies.

<sup>14</sup> See D Kohn, "Commentary: Has financial development made the world riskier?", proceedings of the Federal Reserve Bank of Kansas City Jackson Hole symposium, August 2005, pp. 371–379.

<sup>15</sup> See L Summers, "General discussion: Has financial development made the world riskier?", proceedings of the Federal Reserve Bank of Kansas City Jackson Hole symposium, August 2005, pp 387–97.

Market institutions cannot manage these risks, except at the margin. The reasons come under the headings of asymmetric information, adverse selection and moral hazard.

The word liquidity is widely – almost obsessively – used in financial markets, but often without any precise or particular meaning. A casual search of investment dictionaries and encyclopaedias for definitions of liquidity will reveal as many definitions as sources.

The concept of liquidity I will use draws on a homely analogy. In the Edinburgh of 50 years ago, fresh milk was delivered daily. Except at Christmas. The milkman would make a double delivery on Christmas Eve. My father would ask each year how the cows were persuaded to produce twice as much milk. This feeble joke was part of our family Christmas ritual.

The dairy's problem was not, in fact, very difficult. The fresh milk was not so fresh: it had not come from the milking shed that morning. Stocks could be built up, or run down. In the days before Christmas, milk which would normally have been sent to manufacture other dairy products was diverted to household use.

At ordinary times, our demand for milk was stable. But sometimes we would have visitors and need extra milk. My mother would usually tell the milkman the day before, but if she forgot the milkman would have extra supplies on his float to meet our needs. Of course, if all his customers did this, he wouldn't have been able to accommodate them. But that was never likely to happen – except at Christmas, and the dairy made contingency plans for that.

The ready availability of everyday produce is, in this sense, an illusion. An illusion widely, and productively, employed in modern economics. Liquidity is the capacity of a supply chain to meet a sudden or exceptional demand without disruption. This capability is achieved, as it was by the milkman, in one or both of two ways: by maintaining stocks, and by the temporary diversion of supplies from other uses. When the supply chain lacks liquidity, consumers need to maintain stocks for themselves – they keep a spare pint of milk in the fridge. The financial analogue of the spare pint is the necessity for businesses and households to maintain monetary balances. In extreme cases of illiquidity, households end up hoarding cash under the bed. These supply chain inefficiencies may be costly, in both the milk supply chain and the money market.

Nothing illustrates the self-referential nature of the dialogue in modern financial markets more clearly than this constant repetition of the mantra of liquidity. End users of finance – households, non-financial businesses, governments – do have a requirement for liquidity, which is why they hold deposits and seek overdraft or credit card facilities and, as described above, why it is essential that the banking system is consistently able to meet their needs.

But these end users – households, non-financial businesses, governments – have very modest requirements for liquidity from securities markets. Households do need to be able to realise their investments to deal with emergencies or to fund their retirement, businesses will sometimes need to make large, lumpy investments, governments must be able to refinance their maturing debt. But these needs could be met in almost all cases if markets opened once a week – perhaps once a year – for small volumes of trade. As the milkman has discovered, surges in demand are mostly either the result of uncorrelated decisions – the car purchases or round the world

cruise – or predictable events. Christmas reduces our capacity to save as it increases our thirst (not just for milk).

The need for extreme liquidity, the capacity to trade in volume (or at least trade) every millisecond, is not a need transmitted to markets from the demands of the final users of these markets, but a need, or a perceived need, created by financial market participants themselves. People who applaud traders for providing liquidity to markets are often saying little more than that trading facilitates trading – an observation which is true, but of very little general interest. Let me turn to a different analogy.

The overriding need for system stability is embedded in the thinking of everyone engaged in electricity supply. And anyone who thinks electricity supply less complicated than the financial system knows little about the complexities of maintaining the stability of an electricity grid. It has not been usual to think about the financial system in the systemic way which is natural to operators of other networks. And despite recent experience of the consequences of system failure, it is still not usual to think in this way.

The organisational sociologist Charles Perrow has studied the robustness and resilience of engineering systems in different contexts, such as nuclear power stations and marine accidents.<sup>16</sup> Robustness and resilience require that individual components of the system are designed to high standards. Demands for higher levels of capital and liquidity are intended to strengthen the component units of the financial system. But the levels of capital and liquidity envisaged are inadequate – laughably inadequate – relative to the scale of resources required to protect financial institutions against panics such as the global financial crisis.<sup>17, 18</sup> More significantly, resilience of individual components is not always necessary, and never sufficient, to achieve system stability. Failures in complex systems are inevitable, and no one can ever be confident of anticipating the full variety of interactions which will be involved.

Engineers responsible for interactively complex systems have learnt that stability requires conscious and systematic simplification, modularity which enables failures to be contained, and redundancy which allows failed elements to be bypassed. None of these features – simplification, modularity, redundancy – were characteristic of the financial system as it had developed in 2008. On the contrary. Financialisation had greatly increased complexity, interaction and interdependence. Redundancy – as, for example, in holding capital above the regulatory minimum – was everywhere regarded as an indicator of inefficiency, not of resilience.

In Perrow's analysis, systems lack robustness if they are interactively complex – everything depends on everything else – and tightly coupled – the tolerance for error is low. The interactive complexity and tight coupling of a nuclear power station is an inescapable consequence of prevailing technology. Paradoxically, attempts to increase resilience by incorporating many layers of safety provision may make the system less robust by increasing its complexity. An assembly line is complex but not

<sup>16</sup> See C Perrow, *Normal accidents: living with high-risk technologies*, Basic Books, 1984.

<sup>17</sup> See A Admati and M Hellwig, *The bankers' new clothes: what's wrong with banking and what to do about it*, Princeton University Press, 2013, pp 176–83.

<sup>18</sup> See D Miles, J Yang and G Marcheggiano, "Optimal bank capital", *The Economic Journal*, vol 123, no 567, 2013, pp 1–37.

interactively complex – it depends on a linear sequence of events in which each step logically follows the preceding one. Such a process may be tightly or loosely coupled. The moving belt of the traditional car plant demonstrates tight coupling, while the normally leisurely processing of a book from manuscript to publication is loosely coupled – no one is surprised at the author’s late delivery, nor is the production process upset.

Robust systems are typically linear. The term “regulatory capture” is generally associated with the Chicago Nobel Laureate in Economics George Stigler,<sup>19</sup> but the history of the phenomenon is much older. Regulation of US railroads was introduced as a result of popular agitation, particularly from farming interests, against what were believed to be excessive charges. Railroads naturally began by opposing limits on their freedom to set their own prices, and when the Republicans gained control of the White House they looked to the new Attorney General to abolish or emasculate the newly established Interstate Commerce Commission. But Richard Olney counselled otherwise. He told the roads to bend the Commission to serve their interests. It was good advice. By the time the Commission was finally abolished in 1995 it was generally perceived to be representing not the public, but the firms it regulated.

Perhaps the most extensively studied case of regulatory capture is the airline industry. Regulation of airline safety is self-evidently necessary – few people want to see unsafe planes flying over major cities, or have time or capacity to inspect the quality of maintenance before they board a plane. But the supervision of safety came to extend to control of more and more aspects of airline operation – after all, a company under competitive or financial pressure may skimp on flight safety. By the 1970s, airline regulators effectively operated a cartel on behalf of incumbent firms. The industry notoriously collaborated on the definition of a sandwich, to prevent members checking on regulated prices by competing on food quality.

A coalition of left and right in the US achieved the dismantling of this structure in the 1970s, one side claiming that the process was a racket operated for the benefit of large corporations and the other that consumers would be far better served by the operation of a free market. There was substantial truth in both claims, and a regulatory historian, Alfred Kahn,<sup>20</sup> was appointed Chairman of the Civil Aeronautics Board, where he accomplished the unusual feat of winding up the agency which he headed.

The rapid growth of low-cost carriers followed, first in the US and then in other parts of the world. Regulation is focused narrowly on issues of real public interest, and the industry has developed what is known as a “just culture”,<sup>21</sup> which encourages an openness about failures and sense of collective responsibility which has contributed to the impressive recent safety record of the sector – a concept gaining traction in other areas of commercial activity of public concern, such as medicine.

We need a finance sector to manage our payments, finance our housing stock, restore our infrastructure, fund our retirement and support new business. But very little of the expertise that exists in the finance industry today relates to the facilitation

<sup>19</sup> See G Stigler, “The theory of economic regulation”, *The Bell Journal of Economics and Management Science*, vol 2, no 1, spring 1971, pp 3–21.

<sup>20</sup> See A Kahn, *The economics of regulation*, MIT Press, 1970.

<sup>21</sup> See S Dekker, *Just Culture*, Ashgate, 2012.



of payments, the provision of housing, the management of large construction projects, the needs of the elderly or the nurturing of small businesses. The process of financial intermediation has become an end in itself.

The expertise that is valued is understanding of the activities of other financial intermediaries. That expertise is devoted not to the creation of new assets, but to the rearrangement of those that already exist. High salaries and bonuses are awarded not for fine appreciation of the needs of users of financial services, but for outwitting competing market participants. In the most extreme manifestation of a sector which has lost sight of its purposes, some of the finest mathematical and scientific minds on the planet are employed to devise algorithms for computerised trading in securities which exploit the weaknesses of other algorithms for computerised trading in securities.

Finance exists to serve households and businesses. Individuals and companies engaged in finance should have specific knowledge of at least some of the needs of these users of the financial system. We need focused financial businesses with a clear productive purpose and a management system, governance regime and capital structure appropriate to that purpose. We should aim to restore and nourish the rich variety of institutions and organisational forms that existed in the finance sector before the 1980s.

It is possible to have a smaller, simpler, financial services system that is better adapted to the needs of the non-financial economy – an efficient payments system, effective capital allocation, greater economic stability, security in planning and managing our personal finances, and justified confidence in the people who advise us. We will not wake up tomorrow, or next year, and find such a reality. Is it therefore pointless to articulate that vision? I do not think so. My experience in public policy, business and the academic world has led me to believe in the truth of Keynes' remarks on the long-run power of ideas.

"Madmen in authority, who hear voices in the air, are generally distilling their frenzy from some academic scribbler of a few years back."<sup>22</sup> Today, thank goodness, we have few "madmen in authority". The ideas here are intended to represent a guide for the democratic politicians who will be confronted with the next financial crisis. We need a restructuring of the finance industry, to provide a provisional blueprint for how thoughtful policymakers might prepare for the next crisis, and an illustration of how they might have used the control of the finance sector they achieved in the aftermath of the crisis to more useful, and long-lasting, effect.

<sup>22</sup> J Keynes, *The general theory of employment, interest and money*, Macmillan, 1936, p 383.

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