Lending to firms and individuals engaged in the production of goods and services—which most people would imagine was the principal business of a bank—amounts to less than 10% of the total in Western economies today. In Britain, it is less than 3%. The value of daily foreign exchange transactions is almost 100X the value of daily international trade in goods and services. Finance is not special (in the economy), and our willingness to accept uncritically the proposition that it is has done much damage. The functions of payments--matching borrowers with lenders, management of household financial affairs, and the control of risk—are the services that finance provides. The true value of this sector is the value of these services, not the returns recouped by those who work in it. So why is the industry so profitable—or appear so profitable?

Modern globalization of finance began with development of the Eurodollar market in London in the 1960s. In the immediate post-war era it was expected that America would remain the world's dominant creditor nation. But in the last 30 years the field of investment banking has been transformed from a field that was dominated by people who were good at meeting clients at the 19th hole, to people who were good at solving very difficult mathematical problems that were involved in pricing derivative securities.

The exercise of skills by people with an exaggerated idea of their relevance and competence in managing them plunged the global economy into the worst financial crisis since the Great Depression. Financialisation is composed of the substitution of trading and transactions for relationships, and the restructuring of finance businesses. A shift from agency to trading and from relationships to transactions, is a central aspect of the financialisation of Western economies in the past 4 decades.

The world of finance today is dominated by trading, and this a principal source of revenue and remuneration. Anonymous markets have replaced personal relationships. The global financial architecture was devised by the Allied Powers in 1944 at Bretton Woods, New Hampshire. Few of the consequences of regulatory policy changes were intended or had to do with any change in the needs of the real economy. It is not a coincidence that the University of Chicago was both then and today a leading center of the study of financial economics. Members of its faulty—Fisher Black and Myron Scholes—published a seminal paper on the valuation of derivatives. Much of the growth of the financial sector in the 3 decades that followed is the consequence of the growth of derivative markets.

Regulation has promoted the growth of a trading culture. Regulation Q (a limit on interest rates) has increased system complexity and taken transactions out of the regulatory net altogether. The SEC (Security and Exchange Commission) was formed and became a model for the regulation of financial markets around the world. The growth of securitization, not just of mortgages but of all kinds of financial claims, changed the nature of banking forever. These markets received a boost in the 1980s when Basel rules on bank lending tended to treat asset-backed securities more favorably than the assets that went into them. Then the banks 'reverse-engineered' their products to fit rating agencies' valuation models.

Alongside the traders, though with very different personalities, were the 'rocket scientists' of 'quants', research analysts with quantitative skills and advanced degrees—often from the former Soviet Union. Most traders and quants were employed by investment banks. George Soros would become the best-known hedge fund manager when he 'broke the Bank of England' in 1991 with a massive and successful bet against Britain's attempt to align its currency with those of France and Germany.

The Glass-Steagall Act of 1933 imposed the separating of commercial and investment banking. The house of Morgan was divided into JP Morgan, the commercial banking arm, and Morgan Stanley, an investment bank. The Federal Deposit Insurance Corporation (FDIC) would in the future insure depositors against losses from bank runs or bank failures. The bastions of finance developed 2 principal mechanisms—pension funds and life insurance on one hand and pooled investment funds on the other—by which investment is still intermediated today. The American finance sector, which had been publicly humiliated in 1933, became a powerful lobby which secured steady relaxation of restrictions. Separation of investment from commercial banking—the principle that had becomes synonymous in the public mind with the Glass-Steagall Act—was steadily weakened and finally repealed in 1999.

In 1960 most stocks and shares were held by private individuals. But pension funds grew in size as these funds and insurance companies collected individual savings diversified from bonds to shares. From the 1970s the structure of exchanges changed radically with multiple strands and causes. The monopoly of the New York Stoch Exchange (NYSE) was challenged first by NASDAQ, an electronic exchange established in 1971 by broker-dealers. Today there are multiple exchanges on which shares can be traded. The major investment banks established 'dark pools' which dispense with many of the transparency and disclosure requirements associated with trading on exchanges. In the 21st century the distinction between brokers—who acted for clients—and specialists—who made the market by matching buyers and sellers—has effectively disappeared.

With financialisation the risk-averse culture of mutual and partnership was replaced by competitive machismo in the public company. The practical effectiveness of risk control diminished. The scale and scope of trading increased rapidly when decision-makers gained more from good decisions than they lost from bad news. Most of the companies that failed in the global financial crisis were brought down by activities that were not their mainstream business.

The most important development in the structure of the industry was the global expansion of American investment

banks. Today banks such as Deutsche Bank, BMP Paribas and UBS have re-invented themselves along Anglo-American lines. The investment bankers—and in due course the traders—were on top. The Glass-Steagall Act was repealed for the more or less explicit purpose of allowing Well's Travelers Group to merge with Citicorp.

Politicians and the public began to suspect that the recurrent crises of the finance sector were not simply the result of unexpected and unpredictable events, but symptomatic of deep-seated problems with the culture of the financial service industry. They were right. Financial crises have their origins in human behavior.

America's economic power was challenged when the political crisis that began with the Yom Kippur Ware of 1973 led Arab states to impose drastic increases in the price of oil. Banks established a seemingly profitable business lending the petrodolloars earned by oil exporters back to the governments of oil importers. The Third World debt problem: Countries could not go broke, but need not pay. A clear precedent for the future was the US government and the IMF would intervene as needed to protect the balance sheets of large American banks. The zombie bank, insolvent but still trading would be a recurrent motif in the aftermath of the recurrent financial crises and would haunt the Japanese economy for 2 decades.

The immense American personal wealth of the 19th century was as much the product of financial manipulation as of productive activity. The urge to consolidate—a polite term for the attempt to create monopolies—is always strong in the business community and did not die with the introduction of anti-trust policies in the US. Jack Welch became CEO of America's largest industrial company, General Electric, in 1981. He announced that he would sell or close any business in which it was not number 1 or 2 in its sector--the right to manage a corporation was an asset that could be bought or sold. Neglect of 'shareholder value' exposed managers to the threat of hostile takeovers. (He would proclaim after retirement from GE that the shareholder value was 'the dumbest idea in the world.')

Those who planned or facilitated the relevant trades in the trading culture felt entitled to a share in the rewards, but not the losses and generally had no capacity to do so. The bonus culture, and a much-increased level of expectations about pay, spilled over into the rest of the corporate sector. Senior executives of large businesses observed the levels of remuneration being earned in the financial sector and raised their sights. Linking executive bonuses to share prices through options was legitimized by the need to pursue 'shareholder value.' Options allowed beneficiaries to participate in the upside but did not require them to share in the downside, a structure that encouraged the risky transformational change that proved so destructive to ICI and Citigroup and created an intensely short-term focus.

Objectives of managers and traders were materially different from those of the organizations for which they worked. This agency problem—companies being run for the benefit of a group of senior employees—was most acute in the financial sector but also infected the corporate sector more widely. The divorce of ownership and control has become the principal source of friction between companies and their shareholders. The combination of the bonus culture in the financial sector and its associated activities, a new generation of robber barons, and the multi-millionaire CEO has produced a reversal of the egalitarian trends of most of the 20th century.

Globalization has tended to increase income inequality within already rich countries, intensified competition and depressed earning for unskilled labor as low-tech manufacture relocated to low-wage countries. The divergence of experience between Britain and the USA on the one hand, and France and Germany on the other, is striking. The direct and indirect effects of financialization are key—the extraordinary levels of remuneration generated for the highest-paid of top corporate executives outside the financial sector. In the USA in 2005 45% of the top 1% and 60% of the top 0.1% executives were either corporate executives or employed in finance.

Fueled by securitization, credit card debt and other consumer lending increased rapidly. Home-owners were able to obtain 'equity release,' This credit expansion allowed consumption to continue growing even if incomes did not. Goldman was not creating wealth itself but benefiting from wealth created by other people and businesses. And this suspicion is at the center of many people's concerns about the role of the financial sector.

The Federal Reserve believed that financial institutions were able to measure and manage risk more effectively. Risks were spread more widely across a more diverse group of financial intermediaries within and across countries. The breathtaking scale of these misapprehensions proved no obstacle to the subsequent advancement of those who held them. The influence of economic theory on these changes and events was extensive and profound. Modern financial economics treats risk as a commodity like milk or coffee and has been the basis of financial economics for half a century.

This 'Greenspan doctrine' regards the exchange of risk as something to allocate to those investors most able and willing to take it. But trade is tricky because of 'information asymmetry'—people trade because they have different knowledge, or different perceptions of the same knowledge. The English traded risks; the Swiss mutualized them.

These 2 strands in the historic development of risk markets—laying bets on the interpretation of incomplete information and the socialization of individual risks—are still at the center of how risk and insurance markets operate today. And, London and Switzerland remain key centers of the global insurance market. Markets for securities are based on differences in information or perception of it between 2 parties, rather than difference in preferences and capabilities. This helps explain why profitability need bear no relation to the value added from financial activities.

Observing correctly that the market was often efficient, academics, investment professionals and corporate managers went on to conclude that it was *always* efficient. But trading in financial markets and innovation in business, are directed to the search for profit opportunities. There is a logical contradiction at the heart of EMH (efficient market hypothesis). There is no incentive to gather such information in the first place if all information were already in the price.

The reality of market behavior relies on conviction narratives—stories that traders tell themselves and reinforce in conversation with each other. Such narratives are the means by which we cope with every aspect of our lives. Chasing the dream with other people's money is irresponsible and often fraudulent. Uncontrolled gambling will increase society's exposure to risk. And so it is with wagering in financial markets. A similar prohibition on wagers without insurable interest might have restricted the growth of credit default swaps before they became too much of a good thing.

Prohibition of gambling turned the industry into a magnet for organized crime—as prohibition did with other industries, such as prostitution and trade in alcohol. The most successful strategies to regulate gambling have involved rigorous appraisal of the character of individuals and organizations involved. A better strategy has been to channel gambling into harmless, even irrelevant, activities—such as horse-racing and lotteries—and limit the opportunities for addicted gamblers and to forbid gambling with other people's money. These key insights were discarded as financialization exalted the role of the trader and the overseers of the financial world assured each other that activities which in reality represented irresponsible gambling constituted a new era of sophisticated risk management.

The immediate mistake was to believe that the risk transfer represented insurance rather than wagering. Its actual purpose and effect were to dump risk on those who understood less about it. Risks were less effectively managed as a result of the transfer. The larger mistake was to suppose that the risks that mattered in the first place do not impinge significantly on pedestrians on Main Street, who fear accident, illness and mortality, and worry about provision for old age. Relationship breakdown is costly financially, as well as personally. These risks are not dealt with through securities markets, but by social institutions: friends, family, government and its agencies.

Moral hazard is the tendency of people to take more risk when protected against it. We have a certain tolerance for risk and adjust our behavior accordingly. Public indemnity of the liabilities of risk-taking financial institutions encourages these institutions to take more risk. If potential creditors know they will be made whole, they have little incentive to undertake careful credit assessment. 'To big to fail' takes responsibility for the supervision of credit risks away from market participants and places it exclusively in the hands of regulators: a duty that they are incapable of discharging. Moral hazard in its application to the banking system is the well-founded concern that, if there is an expectation of government assistance for troubled financial business, the people who run and trade with these businesses will behave in ways that make the need for it more likely.

Insurance markets exist for risks that involve a substantial degree of randomness—which reduces the problem of information asymmetry. Our ability to insure against perils is jeopardized by the ever-increasing capacity to assemble and analyze large data sets which enable us to predict illness and death from genetic and environmental information. Some degree of compulsion—enforced by law, group membership or social solidarity—is necessary to establish pools of risk sufficiently broad for risk to be shared effectively. The expectation that modern advanced societies will assure everyone a minimum standard of living makes social provision and regulation inevitable.

The main protections from everyday risks come from family support and state-sponsored mutualization. Social security, low-cost housing, public agencies to respond to fires, floods, and other national catastrophes are public/private partnerships with governments offering emergency response and private insurers having a large role in long-term cleanup.

Commercial activity is based on exchange. But most exchange benefits from the services of intermediaries who provide logistics, identify goods and services, manage the supply chain, and provide information and advice. Finance presents itself as a uniquely complex mechanism of intermediation--and the internet has changed its nature.

Agents are employed for large, complex, or high value transactions, such as real estate or insurance, where information is imperfect. Well-conceived regulation can create an environment in which the twin mechanisms of regulation and reputation reinforce each other. The demand for transparency in finance is a symptom of the breakdown of trust. In the history of the mortgage market, mortgages were packaged into securitized instruments which were themselves subject to credit evaluation or rating agencies using models derived from history databases. Then transactions replaced trust and trading replaced agency. US mortgage lending was probably the most extensive attempt to substitute mechanized assessment processes for face-to-face assessment. A systematic chain of misrepresentation developed from borrower to mortgage adviser to lender to ratings agency to sellers of mortgage-backed securities to suppliers of capital.

The caliber and intellectual sophistication of people employed increased sharply and new technologies became available to support their decisions. Yet the quality of intermediation was worse—much worse. New skills were developed unrelated to the need of the end-users but related to the process of intermediation itself. The failure of the mortgage market is only the most conspicuous example of the consequences of replacing knowledgeable intermediation in favor of the supposed 'wisdom of crowds.' Financial economics mistook transactions based on differences in information for those based on differences in preferences and capabilities.

Liquidity is the capacity of a supply chain to meet a sudden or exceptional demand without disruption. Many of the banks managed their businesses badly and their capital bases were so small relative to the scale of their activities that they could not absorb even the most modest trading set-back. Businesses typically fail when the patience or credulity of creditors or shareholders is exhausted, which is what happened to these companies. The scale of financial market activity today would be impossible without the expectation—now proven to be reality—that both the liquidity and the solvency of banks are underpinned by government. The effect of official intervention was to aggravate moral hazard. By supporting an industry structure not well adapted to the needs of users, policymakers preserved not just the financial system but also the institutions that gave rise to the instability.

Understanding the sources of correlation requires qualitative as well as quantitative knowledge. Business risks are attributable both to the specifics of a particular business and to the prosperity of the general economy—specific and market risk. Market risk is usually measured by Beta, the correlation between the value of a particular stock and the movement of general share price indexes. The trading of mortgage-backed securities was an attempt to separate risk-taking from the provision of capital in the mortgage market. The fact that the list of banks which bought these securities was similar to those that sold them should have provided a warning.

Accidents that result from tailgating are triggered by some other immediate cause—an obstruction on the road or a mistake by another driver. The distribution of returns from tailgating shows a high probability of small gain and a low probability of large loss.

Leverage enables a modest risk to be divided into a debt element, which offers predictable returns with a low probability of substantial loss, and an equity element with high volatility of return. After debt has been removed from a package, what is left is an equity component with high volatility. The owners of assets are more likely to be people who have overestimated their value than those who have underestimated them—the problem is known as the 'winner's curse.' There is an overwhelming tendency to reward the upside of a trade more than the downside. This, in turn, creates a bias towards activities with high volatility of outcome. Deutsche Bank had liabilities more than 50X its equity capital. Even now politicians and the public are ready to believe that the bewilderingly complex transactions entered into by clever and vary highly paid people are the product of profound understanding rather than ignorance and confusion. For all the superficial sophistication, the masters of the universe had no real understanding of what was going on before their risk models failed.

Banking trade practice is capable of reduction to strict rules. *To depart from them is almost always extremely dangerous, and frequently fatal to the banking company which attempts it* (Adam Smith, 1776). Three broad styles of financial intermediation may be described as *investment, trading and analytics.* Those who engage in them are investors, traders and quants. The fundamental value of a security determines the returns available from it in the long run; over shorter periods the returns depend on the assessments of other traders. Evan as the value horizon has lengthened and business becomes more complex, the performance horizon of asset managers has shortened. The smartness that is rewarded is the smartness of the person who is adept at predicting the changing moods and mindsets of other traders. As investment banks have come to dominate market-making of this cycle of guidance and management as it became more and more divorced from the underlying realities of the business. Investors look at economic fundamentals; traders look at each other; quants' look at the data. [GIN looks at all 3]. The profits of the traders earned at the expense of other market users, a tax that they can best avoid by keeping trading to minimal levels.

Fund management fees are usually small percentages of large amounts. Chief executives want the best and generally what they are spending is other people's money. There is a strong perception of collective interest in maintaining the status quo. There are economies of scale in managing regulation. Consumer reluctance to switch providers is a major obstacle to competition in retail financial services. 'The Edge' is a gambling term and is the advantage investment banks gain from being at the center of the financial system. Clients of investment banks often believe that 'the Edge' is used for their benefit, but even those who are skeptical may find no practical alternative to dealing with these heavily conflicted firms. Market-making is intrinsically oligopolistic and incumbent advantages are hard to displace.

Another 'edge' is the advantage the financial institution enjoys over the regulator. Much of the complexity of modern financial services is the result of regulatory arbitrage, which was originally to exploit difference between the regulation of banks and insurance companies. The money market fund was a mechanism of regulatory arbitrage created for retail customers. Regulators rarely remove ineffective regulation. A more usual response is to elaborate the regulation in an attempt to remove or reduce the arbitrage opportunity. This begins a game of cat and mouse in which financial services companies are generally one or more steps ahead of the regulator. The outcome is regulation that become progressively more complex but rarely fully effective in achieving its intended purpose. The Cayman Islands and other 'tax havens' are as much regulatory havens as tax havens.

Resources devoted to arbitrage are a dispiriting waste as arbitrage is a significant contributor to the trading profits of financial institutions. The company that saves taxes gains, the advisers gain, the trader gains: the taxman loses. Fiscal arbitrage is a means of taking money out of the pockets of the public and transferring it to advisers, traders and the firms that employ them. Enron was an extensive user of accounting arbitrage and Arthur Anderson's involvement in auditing this process was the cause of their demise. "I'll be gone, you'll be gone," as they say in the trading system.

Embezzlement has the property for the weeks, months, or years that elapse between the commission of the crime and its discovery. Wealth may exist in the interval between creation and destruction of the illusion. The joy of *bezzle* is that 2 people each ignorant of the existence and role of the other can enjoy the same wealth. The accounts of financial institutions were once opaque and conservative. They are still opaque, but generally the opposite of conservative.

If you measure profit by marking to market, then profit is what the market thinks it will be. The tailgating problem arises whenever there is an activity that combines a high probability of a small profit with a low probability of a large loss. But that is the nature of lending. Traditionally, banks would squirrel profits away in anticipation of hard times. More recently, however, their senior management has had the opposite concern, seeking to justify their bonuses by declaring the largest profits possible. Financial institutions could buy southern European assets financed by funds raised in northern Europe. This opportunity was exploited so extensively by traders in French and German banks that the differential between interest rates on German and Greek bonds almost disappeared.

The *martingale* (in gambling) is a betting strategy which responds to every loss with a larger bet. Much of 3rd world debt, where promises to pay were simply rolled forward into the future, was similar. It is impossible to default on a promise to pay nothing. This and closely related Ponzi schemes break down when the supply of new investors is insufficient to meet the withdrawals of the old. Ponzi and Madoff went to prison because they lied. But the new economy bubble of 1992-2000 was a---perhaps legal—Ponzi scheme. In the self-referential world of finance, received opinions of organizations and colleagues were often repeated.

The persistence of bezzle is the product of a lack of concern for truth about where profits come from. As long as the music is playing, you've got to get up and dance. There have been substantial cross-subsidies from retail to the trading operations of financial conglomerates. After 2008, governments made explicit the assurances of support that had earlier been implicit. The money borrowed from destiny was paid to senior employees of banks. Large financial conglomerates were run for the primary benefit of the people who manage them—and they still are.

Return on Equity (RoE) is a seriously misleading measure of profitability for any company, but especially for a bank. And it is bizarre that its use should have been championed by people who profess particular expertise in financial and risk management. Modern financial conglomerates are not so much engines generating large profits as institutions that suck up public subsidy. The proliferation of poorly understood complexity in the financial sector was intentional: complex products were a source of profit. The key to a high return on equity is to have little equity in your capital base—high leverage.

When government stands behind you, it is not necessary to be profitable to be politically and economically powerful or to provide handsome rewards to senior employees. The provision of loan guarantees is an archetypal tailgate strategy. The European Central Bank's support for the liabilities of the financial system of the Eurozone is the largest martingale in history. Retail banking should be ringfenced from other aspects of bank operations. If banks had to pay for the insurance provided by the doctrine of 'too big to fail', the trading activities in which they privately engage would not take place, or at least not on the current scale.

The financial sector raises and allocates capital, directing money from savers to business, home-owners and governments. Expansion of the trade in securities related to existing houses, infrastructure and business grew, not the capital supporting it. The world the financiers inhabited was a self-referential one in which they talked and traded, mostly with each other. The complexities of financial markets sometimes originate in personal saving. When people talk about 'new sources of finance', they often confuse the channels of intermediation with the origin of funds.

At the beginning of the 20th century most households rented their homes. Tax advantages made owner-occupation an attractive means of saving and owners tend to be better occupiers. Delusions of grandeur played almost as large a role in the era of financialization as did avarice. American savings and loan deregulation was enlivened by a sprinkling of crooks. By 2006, Countrywide Financial accounted for 20% of all US mortgage lending. Mortgages packaged into bonds graded by rating agencies were effectively treated as less risky than the underlying mortgages. The demand for mortgage-backed securities was such that in the US sales securities people on commission pressed mortgages on anyone who could sign their name on an application. Excesses in mortgage securitization were the result of US government measures to widen home-ownership. In the US the transition from renting to owner-occupation had largely been accomplished by the 1960s.

'Synthetic mortgage-backed securities' were simply wagers on the value of packages of mortgages that had already been bought and sold by other people. CEO's of Countrywide and Fannie Mae, the world's worst mortgage insurer, were rewarded for their efforts with hundreds of millions of dollars. What was lost, in the end, was mostly other people's money.

The fundamental causes of the crisis in housing finance were to be found in changes in the structure of the housing finance sector. The weakening of the line between lender and borrower led to low-quality underwriting and poor management of delinquent mortgages. Lenders lost their money and borrowers their homes. Rating agencies were given a monitoring role by regulators that they were ill-equipped to perform and which they lacked an incentive to perform well. The problems originated in structural changes in the industry which followed from financial innovation (notably securitization) and the removal of restrictions on diversification by financial institutions. The people who ran these organizations

understand that their role was to help meet the housing need of the communities in which they operated. The shift in focus from the *purposes* of intermediation to the *process* of intermediation was also evident in other areas of capital allocation.

Since an equity investor who buys a shop or office outbids other equally well-informed investors, the packaging of property risk turned commercial property into a significant and frequent source of economic instability. Infrastructure is even worse. Most infrastructure has been built by government or its agencies. A history of political interference, lack of profitability, inadequate performance and wartime destruction meant that by 1950 most privately financed infrastructure had come into state ownership. A large part has been creamed off along the way by a private finance industry which has an interest in continuing to complicate the matter of raising long-term finance for government and its agencies.

Stock markets are not a way of putting money into companies, but for taking it out. Most business premises are offices, shops or warehouses that can be used for many purposes. The assets that matter to these are largely intangible: the brands and reputation of the company, the skills and capabilities of the people who work for it. While railways, car manufacturers and brewers needed additional funds to build new plants as they expanded, new companies today—such as Apple or Google—commonly become generators of cash, rather than users, early in their lifetime. A paradox of financialization is that the need for an active share market has diminished at the same time as the volume of trading has grown exponentially.

What is often called stewardship—the supervision of management by informed investors—is not incidental to equity investment, but its primary role. The tax-favored status of debt relative to equity encourages financial engineering directed at tax avoidance or regulatory arbitrage. The *Moneyball* phenomenon—the substitution of statistical methods for gut instinct and conventional wisdom—has improved outcomes in fields such as medicine and now finance, perhaps.

Two thirds of niche producers found in the US, Italy, Germany and Japan come from Germany and the German-speaking areas of Switzerland and Austria—called the *Mittlestand*, which has shown little interest in being brought to public markets. Germany exports per head are 4X those of the US and more than 10X those of China.

Governments around the world have attempted to emulate Silicon Valley with little success. Silicon Valley's particular combination of imaginative state support for core research and the training of highly qualified individuals, along with dynamic private secure innovation and enterprise—strikingly free from the influence of either established large corporations or conventional financing mechanisms—has not been effectively imitated.

The closest approximation may be in the high-technology start-up sector in Israel, which appears to rest in large part on the personal relationships and technical skills acquired in the Israeli defense forces.

Each of these industrial groups—the *Mittlestand,* the Valley, the Israeli electronics cluster—has proved effective in global competition, but each is the product of particularities of history, culture and environment which are probably irreproducible elsewhere. Geographical concentration and personal relationships matter. In the same way financialization has created a world of people who talk to each other and trade with each other, operate in a reality of the own creation, reward themselves generously for genuine if largely useless skills and yet have less to offer the real needs of the real economy than their less talented predecessors.

Most personal saving is intermediated. Households entrust their money to companies, financial institutions and government, which in turn hold assets on their behalf. The assets and claims of institutions represent other people's money. The value of Apple stock reflects not the negligible value of its operating assets, but the expectation of its future profits, even if it is an asset of uncertain value. Its 'intangible asset', or 'brand value' is a number calculated to make the stock market value of the company and the book value of its assets the same. To attach value to Apple stock far in excess of its book value is to recognize that a modern economy rests on design and ideas rather than on physical activity. However, valuation of claims based on beliefs about the future give opportunities for bezzle.

If you are a member of a company pension that has a trust fund backed by investments, your share of that fund will be included in reported household wealth. But the value of state pensions, which will be financed from future taxation, is not. The assets and liabilities of governments are assets and liabilities of everyone in general, but of no one in particular.

International flows of capital spread new technology and good management practice through the world. But the recent growth in global capital flows and balances (4X between 2000 and 2009) is the direct result of financialization.

The physical networks of transport, telecoms, and other utilizes were planned by engineers. Resilience and robustness were design objectives from the beginning. Payment systems evolved in a more haphazard way over a longer period of time. To the extent that there was design at all, it was the work of financiers and administrators—which is the primary reason why financial networks have repeatedly proved less stable than other infrastructure networks. Especially when the system fragility creates profit opportunities that serve the interest of many market participants.

Banks tend to see new technology as a means of reducing costs rather than to serve consumer needs more effectively. Apple marginalized music labels; YouTube, Facebook and Twitter sent newspapers into decline; Amazon redefined first bookselling and subsequently book production. But a combination of institutional complexity and bureaucratic inertia, buttressed by regulation, has prevented such disruptive change in money transmission. Major innovation is the result of the development of new systems rather than the evolution of old. Institutional inertia can slow technological change, but

rarely prevent it. Complete dematerialization of payments potentially deprives governments and established banking institutions of their traditional mechanisms of control.

Few people want to take out loans repayable on demand, but lots of people want to make deposits accessible on demand. So, the ability of intermediaries to provide liquidity is crucial. When the global financial crisis hit, the international financial system could not provide the liquidity on which it was predicated, and governments provided it instead. Today the deposit channel is clogged—especially in Europe—by a doomed attempt to build up reserves of capital and liquidity sufficient to support the scale of recent trading activities without the backstop of official support.

Most bank lending is residential mortgages for house purchase. Banks recognized that it must compete for 'talent' in salary and bonuses not only against other banks but with hedge funds. That means high pay and a bonus culture. These innovations proved to be a cancer which in little more than a decade spread through the once healthy institutions and destroyed them. When governments intervened, they effectively guaranteed all counterparty risk. But this fails to created the appropriate long-term response of a firewall, or ring-fence, between the deposit channel and the trading activities of banks.

Businesses and households use the deposit channel to facilitate their everyday transactions. Long-term savers select an investment channel where they assume a degree of risk in hopes of higher returns. Long time horizons and greater risk-tolerance fit together. Companies large enough to be quoted on a stock exchange are largely self-financing. Their relationship with the long-term investor is one of stewardship. This conflation of the rules of agent and trader is, in the investment channel as elsewhere, a key feature of financialization. Financialization has led to the emergence of large asset management companies. Managed intermediation has always been open to fraud and abuse and largely given way to transparent intermediation.

We don't get paid for activity, just for being right (Warren Buffet). The economic functions of the investment channel are to search for good investments for new savings; to secure the effective management of assets through stewardship; and to do these things while helping households transfer wealth across lifetimes and between generations.

Quarterly earning announcements of corporations are less financial statements than the outcome of a process of managing market expectations. Asset managers differ from other intermediaries in that they are rewarded not for transactions but in proportion to the value of funds under their management. The rise of passive investment management has been a response to excessive costs and conflicting objectives in the investment chain. Indexed funds have reduced annual costs to 25-50 basis points. A book advising readers to be their own doctor or lawyer would be irresponsible; yet I recommend that you be your own investment adviser.

The modern investment bank has retreated from search, the creation and discovery of new investment opportunities, into trading with other people's money for the benefit of its senior employees. The positions once occupied by financial advisers are either filled by sales people or better done by computers. Asset managers need to establish and demonstrate skills in both search and stewardship. They can fulfil these roles effectively only if they restore the trust relationships with savers and investees that have effectively disappeared from the financial system.

Regulation of finance fails to satisfy public demand and expectations and is deeply resented and strongly resisted by the industry. There is too much government involvement in the financial sector, not too little. The objective should be to address issues of structure and incentives rather than to intensify supervision and control.

Financial service organizations were led by those whose basic assumptions were founded on money as the goal, numbers as the answers, and technology as the intermediary. With financialization, the mechanisms of enforcement of trust within and between firms were broken by the erosion of values. In 1988, 7 of the top 10 banks in the world were Japanese, based on size of balance sheet. Misconceived regulation created the problem it was supposedly design to tackle—and then promoted more regulation in order to deal with the new issues that emerged.

One line of attack on the current extraordinary complexity is to give regulators more discretion, so that they can implement the spirit rather than the letter of the relevant rules. The modern framework of securities regulation finds its origins in the New Deal of the 1930 in response to the financial abuses that preceded the Depression. The primary objective of the SEC established by the 1933 legislation was to increase the quality and quantity of information available to the public. The mantras of current regulatory dialogue on both sides of the Atlantic are liquidity, price discovery and transparency.

The demand for transparency has led to the provision of more material of little value to users. This ever-increasing volume of data companies are required to produce find less and less value to users. Data is not information, understanding or wisdom. Insider trading remains a normal way of doing business in many European countries. But the focus of regulation policy has shifted from protection of consumers to protection of markets. It seems absurd to turn to bankers to sort out the mess that bankers have made. The finance sector spends more on lobbying than any other industry. The salary of Janet Yellen, chairman of the FED, is 1% of that of Jamie Dimon, chairman of JPMorgan, but the job makes her the 2nd most powerful woman in the world. It is difficult for regulatory agencies to hire and retain employees of high caliber and they usually fail to do so. Even the head of an agency may enjoy less access to the powerful than the senior executives of large corporations—if for no other reason than that the latter have considerably more largess to dispense.

Workers struggling with the demands of their job tend to focus on the things they can do, which differ from the things that need to be done. These issues explain, though they cannot excuse, the performance of agencies. In the face of similar inertia, it was left to the zealous New York State Attorney General, Elio Spitzer, to attempt to expose malpractice during the new economy bubble. The main forum for punishing wrongdoing on Wall Street has been the courts of New York. What hope is there that regulators, with far less information and resources, will do the job more effectively? In framing regulation, it is essential to be realistic about what it can achieve.

The Basel calculations of capital adequacy became a substitute for the prudential management of risk by banks themselves. The minimum standards of capital and behavior prescribed by regulation were interpreted as maxima and failures were observed in almost every advanced country. Among policy makers in Britain and the US there has been little political appetite for constraints on the financial services industry and often considerable political opposition. 'Light touch regulation' was the product not of idle regulators but of the demands of the industry transmitted through the political process. Regulators adopt the mindset of those they regulate because they are dependent on the industry not just for most of the information they use, but also for the frameworks within which that information is interpreted. Life is more comfortable if one is allied with the rich and powerful, and the regulated are always richer and more powerful than the regulators. This process may be described as 'intellectual capture.'

Airline regulation today is focused narrowly on safety and related issues, and the industry has developed what is know as a 'just culture', which encourages an openness about failure and a combination of collective responsibility for integrity and competitive responsibility for service. The concept of 'just culture' is now gaining traction in other areas of commercial activity of public concern, such as medicine. Can this be applied to the financial sector?

There has been little change in the structure or behavior of the industry, with the result that successive crises are more or less inevitable. Since 2008 the Fed has made funds available to banks to lend support to share prices. It is a fundamental principle of bad banking that it is convenient for everyone—borrower, lender, regulator—to pretend for as long as possible that doubtful loans will one day be repaid.

In 1996 California began a process of deregulating its electricity industry, centered round the creation of a wholesale market in electricity. In the summer of 2000 and 2001 businesses and social life was disrupted by blackouts and price hikes in electricity. The crisis ended in 2001 with the bankruptcy of Pacific Gas and Electric, intervention by federal energy regulators and finally the collapse, for different reasons, of Enron itself. Perhaps there is a lesson here for the finance sector.

There is a pressing need to maintain the integrity of the payment system. The principal vehicle is deposit protection. The use of public money should be limited to that. The official reaction to the failure of a financial institution should be resolution, not recovery. The remaining activities should be subject to the general processes of insolvent administration, and public funding should not in normal circumstances be involved.

Public debt has been much increased by the socialization of unmanageable private debts. Society can shift consumption from one generation to another only by investing in, or running down, the physical assets of the nation. The biggest items of public expenditure in most countries are healthcare and education, which are focused on the old and the young. Traditionally each member of state, employers and households took primary responsibility for one of what are often described as the 3 pillars of retirement security. Elderly people benefit from a basic, state-financed, retirement income (the 1st pillar), an earnings-related component (the 2nd pillar), and their own voluntary savings (the 3rd pillar). However, financialization has forced all businesses to take a more short-term view.

The financial risks of ordinary life are associated with employment, illness, mortality and longevity. The effect of financialization has been to transfer some of these that were assumed by employers—and hence collectivized—to individual households. This shift is probably the most important effect of financialization on risk management. Pensioners must now manage their own longevity risk—the possibility that they might live longer than average. Investment risk has been transferred from employer to employee. Investment returns are far more volatile than underlying economic conditions. Baby boomers have been effective in transferring wealth from both past and future generations to themselves.

Finance is especially attractive for fraudsters and shysters. Regulation is never the principal mechanism of consumer protection. In the main, we trust the supermarket to sell us wholesome food, the airline to seat us in a safe plane, and the doctor to give us honest advice. We trust them not because they are well regulated, but because we think they deserve our trust. Regulation works best when supplier reputation and state regulation reinforce each other.

But a few good men are insufficient to change an entire culture. To created confidence where it is not justified, even if it were possible, would damage rather than promote the consumer interest. In some industries, such as pharmaceuticals, product approval, or specification of the parameters within which product must be designed, is a mechanism of consumer protection. Many financial contracts which have little or no connection with the UK are made under English law. The strength of auxiliary services has reinforced the global financial primacy of London and New York.

In the US, employees in banking and finance earned $607b in 2011 and the income tax certainly far exceeded the $38b corporate income tax paid by their employers. The best paid 1% of employees at Barclays earn almost half of the total

remuneration of all the staff of the bank. All inequality is somewhat socially corrosive, but inequality that seems unconnected to desert is particularly corrosive. The most disturbing downside of the global success of London and New York is the corruption effects on society at large—a depreciation of ordinary morality and human values.

The origins of the problems that rightly concern the public are to be found in the structure of the industry and in the organization, incentives and culture of financial firms. In the absence of measures to address these more fundamental issues, 'more regulation' will provide the appearance of action with little significant effect on the behavior of the industry: the sound and fury, signifying little. With crass hypocrisy, political leaders have set their public faces against future bank rescues while their operatives have reassured markets that they do not mean what they say. President Obama could assert that the passage of Dodd-Frank meant 'no tax-funded bail-outs—period', while his Treasury secretary not only upheld the 'Geithner doctrine'—no significant financial institution would be allowed to fail---but also provided an extended defense of that position in his memoirs.

Securing the stability of existing institutions was exactly the right short-term response to the global financial crisis, and exactly the wrong long-term response. To stabilize—indeed to ossify—that structure is not a means of avoiding future crises, but a way of making them inevitable. The growth of financial activity has come from a massive expansion in the packaging, repackaging and trading of existing assets. The finance sector today does many things that aren't needed and fails to do many things that are.

A culture has developed in which any action, no matter how close to the borders of legality, is acceptable if it is profitable for the individuals engaged in it. The guiding purpose of the legal and regulatory framework should be to impose and enforce the obligations of loyalty and prudence, personal and institutional, that go with the management of other people's money. Change becomes effective only when the values appropriate to the handling of ther people's money are internalized by market participants themselves. Regulation based on detailed prescriptive rules has undermined rather than enhanced ethical standards by substituting compliance for values. Finance needs a different industry structure and altered personal and corporate incentives so that putting clients first leads to personal reward and business profit in the long run.

One reform suggestion that has been widely discussed is a tax on the value of all financial transactions. Levied at a low rate, such a tax would have little impact on the profitability of long-term investments but would kill the attractsion of high-frequency trading. What we need is not more regulation but better regulation with a different regulatory philosophy.

Re-establish short, simple, linear chains of intermediation. Restore focused, specialist institutions with direct links to financial users of financial services. Treat financial services as an industry like any other. Regulation should be targeted at specific issues.

The Roman empire failed because of the ultimately counterproductive consequences of the growth of complexity. Its increasing attention to ritual disconnected it from an external world and its incapacity to effect substantive self-criticism or self-repair. The lesson is to end unnecessary complexity and pay attention to management of unavoidable complexity. Stability and resilience require conscious and systematic simplification; modularity and redundancy allow failed elements to be by-passed. A linear financial system is one in which intermediaries deal with end-users, rather than each other, and are familiar with the needs of borrowers and/or lenders. Regulation should be focused on structural remedies whose implementation requires only limited use of judgement—rules that can be monitored by administrators of limited capacity.

The proper economic role of banks is to operate the deposit channel, directing short-term balances towards borrowers to reconcile safety of deposits with the long-term needs of users of capital. The first step is to ring-fence the deposit channel is a process of fragmentation. Financial intermediaries can act as custodians of other people's money, or they can trade with their own money, but they must not do both at the same time.

The asset manager should earn a fee calculated as a percentage of funds under management—a reward for idleness. The prohibition of gambling has failed almost everywhere it has been tried. Commissions generate a bias to action. It is hard to persuade people to pay much for the good advice to do nothing.

Regulatory agencies have chosen to follow the almost ineffectual route of imposing agreed penalties on corporations because they believe it is too hard to secure convictions against either individuals or firms. The appropriate principle should be: 'If you take the money, you take the rap.' The purpose should be to ensure that senior positions in financial institutions are taken only by people who understand and accept the burdensome obligations involved in handling other people's money. Personal responsibility is vital for reform. I have been struck by the number of people who want to do a better job, but find themselves frustrated by the system, the values and business imperatives of their employers, the unrealistic and inappropriate demands of their clients, and the regulatory framework imposed upon them.

It is hard to exaggerate the sense of entitlement that prevailed in the finance sector even after the global financial crisis. The belief that the profitability of an activity is a measure of its social legitimacy has not only taken root in the financial sector but has spread its poison throughout the business world. There is little to distinguish the creeds of Wall Street from the manifesto of a criminal gang. We must distinguish profit generation from wealth creation. The finance sector is today the strongest of all industrial lobbies. Economic power is used to secure political power, which enhances economic

power, in a self-reinforcing process. In many emerging economies, oligarchy is centered on the control of infrastructure and natural resources. The attack on the robber barons was an attempt to prevent the emergence of oligarchy in the US. But so long as regulatory policy is concerned with prescriptive rulebooks rather than with structure and incentives, little progress will be made.

The current policy trajectory is that of financial crises of increasing seriousness. That makes it certain that policy makers will get another chance—perhaps to make similar mistakes again.

[This is the best explanation I've found of what happened in 2008 and the culture that remains.] The functions of payments are the services that finance provides. Much of the growth of the financial sector in the last 3 decades is the consequence of the growth of derivative markets. Key insights were discarded as financialization exalted the role of the trader and the overseers of the financial world assured each other that activities which in reality represented irresponsible gambling constituted a new era of sophisticated risk management. The immediate mistake was to believe that the risk transfer represented insurance rather than wagering. Investors look at economic fundamentals; traders look at each other; quants' look at the data. [GIN looks at all 3]. Modern financial conglomerates are not so much engines generating large profits as institutions that suck up public subsidy. Expansion of the trade in securities grew, not the capital supporting it. The modern investment bank has retreated from search into trading with other people's money for the benefit of its senior employees. The objective should be to address issues of structure and incentives rather than to intensify supervision and control. Society can shift consumption from one generation to another only by investing in, or running down, the physical assets of the nation. A linear financial system is one in which intermediaries deal with end-users, rather than each other, and are familiar with the needs of borrowers and/or lenders. The belief that the profitability of an activity is a measure of its social legitimacy has not only taken root in the financial sector but has spread its poison throughout the business world.]