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THE ASCENT OF MONEY

A Financial History of the World

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Introduction

Bread, cash, dosh, dough, loot, lucre, moolah, readies, the wherewithal: call it what you like, money matters. To Christians, the love of it is the root of all evil. To generals, it is the sinews of war; to revolutionaries, the shackles of labour. But what exactly is money? Is it a mountain of silver, as the Spanish conquistadors thought? Or will mere clay tablets and printed paper suffice? How did we come to live in a world where most money is invisible, little more than numbers on a computer screen? Where did money come from? And where did it all go?

In 2007 the income of the average American (just under $34,000) went up by around 5 per cent.[1] But the cost of living rose by 3.5 per cent in the same period. So in real terms Mr Average actually became just 1.5 per cent better off. Allowing for inflation, the income of the median household in the United States has in fact scarcely changed since 1990, increasing by just 7 per cent in eighteen years.[2] Now compare Mr Average's situation with that of Lloyd Blankfein, chief executive officer at Goldman Sachs, the investment bank. In 2007 he received $73.7 million in salary, bonus and stock awards, an increase of 25 per cent on the previous year, and roughly two thousand times more than Joe Public earned. That same year, Goldman Sachs's net revenues of $46 billion exceeded the entire gross domestic product (GDP) of more than a hundred countries, including Croatia, Serbia and Slovenia; Bolivia, Ecuador and Guatemala; Angola, Syria and Tunisia. The bank's total assets for the first time passed the $1 trillion mark.[3] Other Wall Street CEOs also made serious money, though not quite so much. According to *Forbes* magazine, Richard S. Fuld at Lehman Brothers earned $71.9 million, James Dimon at JP Morgan Chase $20.7 million and Kenneth D. Lewis of Bank of America $20.1 million, just ahead of Charles O. Prince of Citigroup ($19.9 million), John Mack at Morgan Stanley ($17.6 million) and John Thain of Merrill Lynch ($15.8 million). Yet Lloyd Blankfein was far from being the financial world's highest earner in 2007. Angelo R. Mozilo of Countrywide Financial was paid $102.8 million. And even that pales into insignificance alongside the vast sums earned by some hedge fund managers. The veteran speculator George Soros made $2.9 billion. Ken Griffin of Citadel, like the founders of two other leading hedge funds, took home more than $2 billion. The worst paid CEO in American finance in 2007 was James E. Cayne, who was paid $690,757, a drastic drop after the nearly $290 million he had earned over the previous nine years. Meanwhile, nearly a billion people around the world struggled to get by on just $1 a day.[4]

As it turned out, 2007 saw the start of the worst financial crisis the world has experienced since the Great Depression. In the space of a little more than a year, events occurred that made a mockery of the claim that the lavish compensation paid to financiers was justified by their exceptional skills, particularly in the realm of risk management. By the time I came to revise this book for its paperback edition Bear Stearns had been rescued from collapse by JP Morgan, Countrywide had been taken over by Bank of America, Merrill Lynch had suffered the same fate and Lehman Brothers had gone bust. Citigroup had lost $18.7 billion in 2008, wiping out most of its earnings since 2005, while Merrill Lynch had lost $35.8 billion, wiping out its earnings since 1996. Goldman Sachs and Morgan Stanley had both been forced to convert themselves from investment banks into bank holding companies, signaling the death of a business model that dated back to the 1930s. All the surviving banks had accepted capital injections from the US Treasury under the Troubled Asset Recovery Programme. Despite government assistance, however, their share prices continued to slide, raising the prospect of outright nationalization for at least some of them. By March 2009, shares in Citigroup, for example, had fallen from $55 in June 2007 to $2.59.

Are you angry that the world is so unfair? Infuriated by fat-cat capitalists and billion-bonus bankers? Baffled by the yawning chasm between the Haves, the Have-nots – and the Have-yachts? You are not alone. Throughout the history of Western civilization, there has been a recurrent hostility to finance and financiers, rooted in the idea that those who make their living from lending money are somehow parasitical on the 'real' economic activities of agriculture and manufacturing. This hostility has three causes. It is partly because debtors have tended to outnumber creditors and the former have seldom felt very well disposed towards the latter. It is partly because financial crises and scandals occur frequently enough to make finance appear to be a cause of poverty rather than prosperity, volatility rather than stability. And it is partly because, for centuries, financial services in countries all over the world were disproportionately provided by members of ethnic or religious minorities, who had been excluded from land ownership or public office but enjoyed success in finance because of their own tight-knit networks of kinship and trust.

Despite our deeply rooted prejudices against 'filthy lucre', however, money is the root of most progress. To adapt a phrase from Jacob Bronowski (whose marvellous television history of scientific progress I watched avidly as a schoolboy), the ascent of money has been essential to the ascent of man. Far from being the work of mere leeches intent on sucking the life's blood out of indebted families or gambling with the savings of widows and orphans, financial innovation has been an indispensable factor in man's advance from wretched subsistence to the giddy heights of material prosperity that so many people know today. The evolution of credit and debt was as important as any technological innovation in the rise of civilization, from ancient Babylon to present-day Hong Kong. Banks and the bond market provided the material basis for the splendours of the Italian Renaissance. Corporate finance was the indispensable foundation of both the Dutch and British empires, just as the triumph of the United States in the twentieth century was inseparable from advances in insurance, mortgage finance and consumer credit. Perhaps, too, it will be a financial crisis that signals the twilight of American global primacy.

Behind each great historical phenomenon there lies a financial secret, and this book sets out to illuminate the most important of these. For example, the Renaissance created such a boom in the market for art and architecture because Italian bankers like the Medici made fortunes by applying Oriental mathematics to money. The Dutch Republic prevailed over the Habsburg Empire because having the world's first modern stock market was financially preferable to having the world's biggest silver mine. The problems of the French monarchy could not be resolved without a revolution because a convicted Scots murderer had wrecked the French financial system by unleashing the first stock market bubble and bust. It was Nathan Rothschild as much as the Duke of Wellington who defeated Napoleon at Waterloo. It was financial folly, a self-destructive cycle of defaults and devaluations, that turned Argentina from the world's sixth-richest country in the 1880s into the inflation-ridden basket case of the 1980s.

Read this book and you will understand why, paradoxically, the people who live in the world's safest country are also the world's most insured. You will discover when and why the English-speaking peoples developed their peculiar obsession with buying and selling houses. Perhaps most importantly, you will see how the globalization of finance has, among many other things, blurred the old distinction between developed and emerging markets, turning China into America's banker – the Communist creditor to the capitalist debtor, a change of epochal significance.

At times, the ascent of money has seemed inexorable. In 2006 the measured economic output of the entire world was around $48.6 trillion. The total market capitalization of the world's stock markets was $50.6 trillion, 4 per cent larger. The total value of domestic and international bonds was $67.9 trillion, 40 per cent larger. Planet Finance was beginning to dwarf Planet Earth. And Planet Finance seemed to spin faster too. Every day $3.1 trillion changed hands on foreign exchange markets. Every month $5.8 trillion changed hands on global stock markets. Every minute of every hour of every day of every week, someone, somewhere, was trading. And all the time new financial life forms were evolving. In 2006, for example, the volume of leveraged buyouts (takeovers of firms financed by borrowing) surged to $753 billion. An explosion of 'securitization', whereby individual debts like mortgages are 'tranched' then bundled together and repackaged for sale, pushed the total annual issuance of mortgage backed securities, asset-backed securities and collateralized debt obligations above $3 trillion. The volume of derivatives – contracts derived from existing securities or transactions, such as interest rate swaps or credit default swaps (CDS) – has grown even faster, so that by the end of 2006 the notional value of all 'over-the-counter' derivatives (excluding those traded on public exchanges) was just over $400 trillion. Before the 1980s, such things were virtually unknown. New institutions, too, proliferated. The first hedge fund was set up in the 1940s and, as recently as 1990, there were just 610 of them, with $38.9 billion under management. At the end of 2006 there were 9,462, with $1.5 trillion under management. Private equity partnerships also went forth and multiplied. Banks, meanwhile, set up a host of 'conduits' and 'structured investment vehicles' (SIVS – surely the most apt acronym in financial history) to keep potentially risky assets off their balance sheets. It was as if an entire shadow banking system had come into being. If the last four millennia had witnessed the ascent of man the thinker, we now seemed to be living through the ascent of man the banker.

In 1947 the total value added by the financial sector to US gross domestic product was 2.3 per cent; by 2007 its contribution had risen to 8.1 per cent of GDP. In other words, approximately $1 of every $13 paid to employees in the United States now went to people working in finance.[5] Finance had become even more important in Britain, where it accounted for 9.4 per cent of GDP in 2006. The financial sector had also become the most powerful magnet in the world for academic talent. Back in 1970 only around 5 per cent of the men graduating from Harvard, where I teach, went into finance. By 1990 that figure had risen to 15 per cent.* By 2007 the proportion was even higher. According to the *Harvard Crimson*, more than 20 per cent of the men in the Class

* Revealingly, the increase for female graduates was from 2.3 to 3.4 per cent. The masters of the universe still outnumber the mistresses.

of 2007, and 10 per cent of the women, expected their first jobs to be at banks. And who could blame them? In recent years, the pay packages in finance had been nearly three times the salaries earned by Ivy League graduates in other sectors of the economy.

At the time the Class of 2007 graduated, it certainly seemed as if nothing could halt the rise and rise of global finance. Not terrorist attacks on New York and London. Not raging war in the Middle East. Certainly not global climate change. Despite the destruction of the World Trade Center, the invasions of Afghanistan and Iraq, and a spike in extreme meteorological events, the period from late 2001 until mid 2007 was characterized by sustained financial expansion. True, in the immediate aftermath of 9/11, the Dow Jones Industrial Average had declined by as much as 14 per cent. Within just over two months, however, it had regained its pre-9/11 level. Moreover, although 2002 was a disappointing year for US equity investors, the market surged ahead thereafter, exceeding its previous peak (at the height of the 'dot com' mania) in the autumn of 2006. By early October 2007 the Dow stood at nearly double the level it had reached in the trough of five years before. Nor was the US stock market's performance exceptional. In the five years to 31 July 2007, all but two of the world's equity markets delivered double-digit returns on an annualized basis. Emerging market bonds also rose strongly and real estate markets, especially in the English-speaking world, saw remarkable capital appreciation. Whether they put their money into commodities, works of art, vintage wine or exotic asset-backed securities, investors made money.

How were these wonders to be explained? According to one school of thought, the latest financial innovations had brought about a fundamental improvement in the efficiency of the global capital market, allowing risk to be allocated to those best able to bear it. Enthusiasts spoke of the death of volatility. Self-satisfied bankers held conferences with titles like 'The Evolution of Excellence'. In November 2006 I found myself at one such conference in the characteristically luxurious venue of Lyford Cay in the Bahamas. The theme of my speech was that it would not take much to cause a drastic decline in the liquidity that was then cascading through the global financial system and that we should be cautious about expecting the good times to last indefinitely. My audience was distinctly unimpressed. I was dismissed as an alarmist. One of the most experienced investors there went so far as to suggest to the organizers that they 'dispense altogether with an outside speaker next year, and instead offer a screening of Mary Poppins'.[6] Yet the mention of Mary Poppins stirred a childhood memory in me. Julie Andrews fans may recall that the plot of the evergreen musical revolves around a financial event which, when the film was made in the 1960s, already seemed quaint: a bank run – that is, a rush by depositors to withdraw their money – something not seen in London since 1866.

The family that employs Mary Poppins is, not accidentally, named Banks. Mr Banks is indeed a banker, a senior employee of the Dawes, Tomes Mousley, Grubbs, Fidelity Fiduciary Bank. At his insistence, the Banks children are one day taken by their new nanny to visit his bank, where Mr Dawes Sr. recommends that Mr Banks's son Michael deposit his pocket-money (tuppence). Unfortunately, young Michael prefers to spend the money on feeding the pigeons outside the bank, and demands that Mr Dawes 'Give it back! Gimme back my money!' Even more unfortunately, some of the bank's other clients overhear Michael's request. The result is that they begin to withdraw their money. Soon a horde of account holders are doing the same, forcing the bank to suspend payments. Mr Banks is duly sacked, prompting the tragic lament that he has been 'brought to wrack and ruin in his prime'. These words might legitimately have been echoed by

Adam Applegarth, the former chief executive of the English bank Northern Rock, who suffered a similar fate in September 2007 as customers queued outside his bank's branches to withdraw their cash. This followed the announcement that Northern Rock had requested a 'liquidity support facility' from the Bank of England.

The financial crisis that struck the Western world in the summer of 2007 provided a timely reminder of one of the perennial truths of financial history. Sooner or later every bubble bursts. Sooner or later the bearish sellers outnumber the bullish buyers. Sooner or later greed turns to fear. As I completed my research for this book in the early months of 2008, it was already a distinct possibility that the US economy might suffer a recession. A year later, as I revised this introduction for the paperback edition, it was now clearly suffering the most serious recession since the early 1980s, with a significant probability of a protracted depression. Was this because American companies had got worse at designing new products? Had the pace of technological innovation suddenly slackened? No. The proximate cause of the economic contraction of 2008–9 was financial: to be precise, a spasm in the credit system precipitated by mounting defaults on a species of debt known euphemistically as subprime mortgages. So intricate had our global financial system become, that relatively poor families in states from Alabama to Wisconsin had been able to buy or remortgage their homes with often complex loans that (unbeknown to them) were then bundled together with other, similar loans, repackaged as collateralized debt obligations (CDOs) and sold by banks in New York and London to (among others) German regional banks and Norwegian municipal authorities, who thereby became the effective mortgage lenders. These CDOs had been so sliced and diced that it was possible to claim that a tier of the interest payments from the original borrowers was as dependable a stream of income as the interest on a ten-year US Treasury bond, and therefore worthy of a coveted triple-A rating. This took financial alchemy to a new level of sophistication, apparently turning lead into gold.

However, when the original mortgages reset at higher interest rates after their one- or two-year 'teaser' periods expired, the borrowers began to default on their payments. This in turn signalled that the bubble in US real estate was bursting, triggering the sharpest fall in house prices since the 1930s. What followed resembled a slow but ultimately devastating chain reaction. All kinds of asset-backed securities, including many instruments not in fact backed with subprime mortgages, slumped in value. Institutions like conduits and structured investment vehicles, which had been set up by banks to hold these securities off the banks' balance sheets, found themselves in severe difficulties. As the banks took over the securities, the ratios between their assets and their capital leapt upwards. Central banks in the United States and Europe sought to alleviate the pressure on the banks with interest rate cuts and offers of loans through special 'term auction facilities'. Yet the rates at which banks could borrow money, whether by issuing commercial paper, selling bonds or borrowing from each other, remained substantially above the official Federal funds target rate, the minimum lending rate in the US economy. Loans that were originally intended to finance purchases of corporations by private equity partnerships were also only saleable, if at all, at large discounts. Having suffered enormous losses, many of the best-known American and European banks had to turn not only to Western central banks for short-term assistance to rebuild their reserves but also to Asian and Middle Eastern sovereign wealth funds for equity injections in order to rebuild their capital bases. But by early 2008 foreign investors were losing their appetite for bank stocks that persistently declined in price.

In retrospect, the transition from a subprime mortgage crisis to a full-blown global financial crisis took a surprisingly long time. Although American real estate prices had begun to decline as early as January 2007, the stock market continued to rise until October of that year. Even in May 2008 the Standard and Poor's 500 index was still only 10 per cent down from the previous year's peak. Although the National Bureau of Economic Research pronounced that a recession had begun in December 2007, American consumers were so deeply in denial that they did not reduce their spending until the third quarter of 2008. And it was not until after the fateful month of September 2008 that the 'Great Repression' ended and the American crisis mutated into a full-blown crisis of globalization, causing dramatic declines in the exports of Asian and European economies, as well as bursting the bubble in commodity prices that had been seen oil fetching more than $133 a barrel.

How on earth did this happen? How could men earning tens of millions end up losing tens of billions? How could a Republican administration end up nationalizing the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation and the insurance giant American International Group? Above all, how could a crisis in the American mortgage market precipitate not just an American recession but quite possibly a world depression? To answer these questions you need to understand at least six distinct though interrelated financial phenomena:

1. How so many American and European banks came to have such highly leveraged balance sheets, in other words how they ended up owing and lending so much more money than their underlying capital bases;
2. How a whole range of different kinds of debt, including mortgage debt as well as credit card debt, came to be 'securitized',

that is bundled together and then sliced up into different kinds of bond-like securities;

3. How the monetary policies of central banks came to be focused on a very narrow definition of inflation, ignoring the potential hazards of bubbles in stock prices and later real estate prices;
4. How the insurance industry, led by the giant American firm AIG, branched out of traditional risk coverage into the market for derivatives, effectively selling protection against highly uncertain financial risks;
5. Why politicians on both sides of the Atlantic sought to increase the percentage of households that owned their own homes, using a variety of inducements to widen the mortgage market; and
6. What persuaded Asian governments, and particularly that of the People's Republic of China, that they should help to finance the US current account deficit by accumulating trillions of dollars in international reserves.

All of this may seem arcane to some readers. Yet the ratio of a bank's capital to its assets, technical though it may sound, is of more than merely academic interest. After all, a 'great contraction' in the US banking system has convincingly been blamed for the outbreak and course of the Great Depression between 1929 and 1933, the worst economic disaster of modern history.[7] One purpose of this book, then, is to offer the lay reader an introduction to finance and, in particular, to financial history. It is a well-established fact, after all, that a substantial proportion of the general public in the English-speaking world is ignorant of finance. According to one 2007 survey, four in ten American credit card holders do not pay the full amount due every month on the card they use most often, despite the punitively high interest rates charged by credit card companies. Nearly a third

(29 per cent) said they had no idea what the interest rate on their card was. Another 30 per cent claimed that it was below 10 per cent, when in reality the overwhelming majority of card companies charge substantially in excess of 10 per cent. More than half of the respondents said they had learned 'not too much' or 'nothing at all' about financial issues at school.[8] A 2008 survey revealed that two thirds of Americans did not understand how compound interest worked.[9] In one survey conducted by researchers at the University of Buffalo's School of Management, a typical group of high school seniors scored just 52 per cent in response to a set of questions about personal finance and economics.[10] Only 14 per cent understood that stocks would tend to generate a higher return over eighteen years than a US government bond. Less than 23 per cent knew that income tax is charged on the interest earned from a savings account if the account holder's income is high enough. Fully 59 per cent did not know the difference between a company pension, Social Security and a 401(k) plan.*

Nor is this a uniquely American phenomenon. In 2006, the British Financial Services Authority carried out a survey of public financial literacy which revealed that one person in five had no idea what the effect would be on the purchasing power of their savings of an inflation rate of 5 per cent and an interest rate of 3 per cent. One in ten did not know which was the better discount for a television originally priced at £250: £30 or 10 per cent. As that example makes clear, the questions posed in these surveys were of the most basic nature. It seems reasonable to assume that

* 401(k) plans were introduced in 1980 as a form of defined contribution retirement plan. Employees can elect to have a portion of their wages or salaries paid or 'deferred' into a 401(k) account. They are then offered choices as to how the money should be invested. With a few exceptions, no tax is paid on the money until it is withdrawn.

only a handful of those polled would have been able to explain the difference between a 'put' and a 'call' option, for example, much less the difference between a CDO and a CDS.

Politicians, central bankers and businessmen regularly lament the extent of public ignorance about money, and with good reason. A society that expects most individuals to take responsibility for the management of their own expenditure and income after tax, that expects most adults to own their own homes and that leaves it to the individual to determine how much to save for retirement and whether or not to take out health insurance, is surely storing up trouble for the future by leaving its citizens so ill-equipped to make wise financial decisions. Indeed, I believe that today's crisis is in some measure to be explained by ignorance of financial history – and not only among ordinary people. The 'masters of the universe' also paid far too little heed to the lessons of the past, preferring to pin their hopes on elaborate mathematical models that proved to be false gods.

The first step towards understanding the complexities of modern financial institutions and terminology is to find out where they came from. Only understand the origins of an institution or instrument and you will find its present-day role much easier to grasp. Accordingly, the key components of the modern financial system are introduced sequentially. The first chapter of this book traces the rise of money and credit; the second the bond market; the third the stock market. Chapter 4 tells the story of insurance; Chapter 5 the real estate market; and Chapter 6 the rise, fall and rise of international finance. Each chapter addresses a key historical question. When did money stop being metal and mutate into paper, before vanishing altogether? Is it true that, by setting long-term interest rates, the bond market rules the world? What is the role played by central banks in stock market bubbles and busts? Why is insurance not necessarily the best way to protect yourself from risk? Do people exaggerate the benefits of investing in real estate? And is the economic inter-dependence of China and America the key to global financial stability, or a mere chimera?

In trying to cover the history of finance from ancient Mesopotamia to modern microfinance, I have set myself an impossible task, no doubt. Much must be omitted in the interests of brevity and simplicity. Yet the attempt seems worth making if it can bring the modern financial system into sharper focus in the mind's eye of the general reader.

I myself have learned a great deal in writing this book, but three insights in particular stand out. The first is that poverty is not the result of rapacious financiers exploiting the poor. It has much more to do with the *lack* of financial institutions, with the absence of banks, not their presence. Only when borrowers have access to efficient credit networks can they escape from the clutches of loan sharks, and only when savers can deposit their money in reliable banks can it be channelled from the idle to the industrious or from the rich to the poor. This point applies not just to the poor countries of the world. It can also be said of the poorest neighbourhoods in supposedly developed countries – the 'Africas within' – like the housing estates of my birthplace, Glasgow, where some people are scraping by on just £6 a day, for everything from toothpaste to transport, but where the interest rates charged by local loan sharks can be over eleven million per cent a year.

My second great realization has to do with equality and its absence. If the financial system has a defect, it is that it reflects and magnifies what we human beings are like. As we are learning from a growing volume of research in the field of behavioural finance, money amplifies our tendency to overreact, to swing from exuberance when things are going well to deep depression when they go wrong. Booms and busts are products, at root, of our emotional volatility. But finance also exaggerates the differences between us, enriching the lucky and the smart, impoverishing the unlucky and not-so-smart. Financial globalization means that, after more than three hundred years of divergence, the world can no longer be divided neatly into rich developed countries and poor less-developed countries. The more integrated the world's financial markets become, the greater the opportunities for financially knowledgeable people wherever they live – and the bigger the risk of downward mobility for the financially illiterate. It emphatically is not a flat world in terms of overall income distribution, simply because the returns on capital have soared relative to the returns on unskilled and semi-skilled labour. The rewards for 'getting it' have never been so immense. And the penalties for financial ignorance have never been so stiff.

Finally, I have come to understand that few things are harder to predict accurately than the timing and magnitude of financial crises, because the financial system is so genuinely complex and so many of the relationships within it are non-linear, even chaotic. The ascent of money has never been smooth, and each new challenge elicits a new response from the bankers and their ilk. Like an Andean horizon, the history of finance is not a smooth upward curve but a series of jagged and irregular peaks and valleys. Or, to vary the metaphor, financial history looks like a classic case of evolution in action, albeit in a much tighter timeframe than evolution in the natural world. 'Just as some species become extinct in nature,' remarked US Assistant Secretary of the Treasury Anthony W. Ryan before Congress in September 2007, 'some new financing techniques may prove to be less successful than others.' Such Darwinian language seems remarkably apposite as I write.

Are we on the brink of a 'great dying' in the financial world – one of those mass extinctions of species that have occurred periodically, like the end-Permian extinction that killed off 90 per cent of Earth's species, or the Cretaceous-Tertiary catastrophe that wiped out the dinosaurs? It is a scenario that many biologists have reason to fear, as man-made climate change wreaks havoc with natural habitats around the globe. But a great dying of financial institutions is also a scenario that we should worry about, as another man-made disaster works its way slowly and painfully through the global financial system. More than one experienced observer (not only the former Federal Reserve Chairman Alan Greenspan but also Henry Paulson, the former Treasury Secretary) have referred to the present financial crisis as 'a once in century event'. Certainly, at no time since the 1930s have so many financial institutions been threatened with extinction. But that should not be offered as an excuse by those who failed to anticipate the crisis. History is here to tell us that really big crises do happen, and sometimes more frequently than once a century.

For all these reasons, then – whether you are struggling to make ends meet or striving to be a master of the universe – it has never been more necessary to understand the ascent of money than it is today. If this book helps to break down that dangerous barrier which has arisen between financial knowledge and other kinds of knowledge, then I shall not have toiled in vain.