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NIALL FERGUSON

The Ascent of Money

A Financial History of the World

PENGUIN BOOKS

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From Empire to Chimerica

Just ten years ago, during the Asian Crisis of 1997–8, it was conventional wisdom that financial crises were more likely to happen on the periphery of the world economy – in the so-called emerging markets (formerly known as less developed countries) of East Asia or Latin America. Yet the biggest threats to the global financial system in this new century have come not from the periphery but from the core. In the two years after Silicon Valley's dot-com bubble peaked in August 2000, the US stock market fell by almost half. It was not until May 2007 that investors in the Standard & Poor's 500 had recouped their losses. Then, just three months later, a new financial storm blew up, this time in the credit market rather than the stock market. As we have seen, this crisis also originated in the United States as millions of American households discovered they could not afford to service billions of dollars' worth of subprime mortgages. There was a time when American crises like these would have plunged the rest of the global financial system into recession, if not depression. Yet until late 2008 Asia seemed scarcely affected by the credit crunch in the US. Indeed, some analysts like Jim O'Neill, Head of Global Research at Goldman Sachs, argued that the rest of the world, led by booming China, was 'decoupling' itself from the American economy.

If O'Neill is correct, we are living through one of the most astonishing shifts there has ever been in the global balance of financial power; the end of an era, stretching back more than a century, when the financial tempo of the world economy was set by English-speakers, first in Britain, then in America. The Chinese economy has achieved extraordinary feats of growth in the past thirty years, with per capita GDP increasing at a compound annual growth rate of 8.4 per cent. But in recent times the pace has, if anything, intensified. When O'Neill and his team first calculated projections of gross domestic product for the so-called BRICs (Brazil, Russia, India and China, or Big Rapidly Industrializing Countries), they envisaged that China could overtake the United States in around 2040.[1] Their most recent estimates, however, have brought the date forward to 2027.[2] The Goldman Sachs economists do not ignore the challenges that China undoubtedly faces, not least the demographic time bomb planted by the Communist regime's draconian one-child policy and the environmental consequences of East Asia's supercharged industrial revolution.[3] They are aware, too, of the inflationary pressures in China, exemplified by soaring stock prices in 2007 and surging food prices in 2008. Yet the overall assessment is still strikingly positive. And it implies, quite simply, that history has changed direction in our lifetimes.

Three or four hundred years ago there was little to choose between per capita incomes in the West and in the East. The average North American colonist, it has been claimed, had a standard of living not significantly superior to that of the average Chinese peasant cultivator. Indeed, in many ways the Chinese civilization of the Ming era was more sophisticated than that of early Massachusetts. Beijing, for centuries the world's largest city, dwarfed Boston, just as Admiral Zheng He's early-fifteenth-century treasure ship had dwarfed Christopher Columbus's *Santa*

Maria. The Yangtze delta seemed as likely a place as the Thames Valley to produce major productivity-enhancing technological innovations.[4] Yet between 1700 and 1950 there was a 'great divergence' of living standards between East and West. While China may have suffered an absolute decline in per capita income in that period, the societies of the North West – in particular Britain and its colonial offshoots – experienced unprecedented growth thanks, in large part, to the impact of the industrial revolution. By 1820 per capita income in the United States was roughly twice that of China; by 1870, nearly five times higher; by 1913 nearly ten times; by 1950 nearly twenty-two times. The average annual growth rate of per capita GDP in the United States was 1.57 per cent between 1820 and 1950. The equivalent figure for China was -0.24 per cent.[5] In 1973 the average Chinese income was at best one twentieth of the average American. Calculated in terms of international dollars at market exchange rates, the differential was even wider. As recently as 2006, the ratio of US to Chinese per capita income by this measure was still 22.9 to 1.

What went wrong in China between the 1700s and the 1970s? One argument is that China missed out on two major macroeconomic strokes of good luck that were indispensable to the North-West's eighteenth-century take-off. The first was the conquest of the Americas and particularly the conversion of the islands of the Caribbean into sugar-producing colonies, 'ghost acres' which relieved the pressure on a European agricultural system that might otherwise have suffered from Chinese-style diminishing returns. The second was the proximity of coalfields to locations otherwise well suited for industrial development. Besides cheaper calories, cheaper wood and cheaper wool and cotton, imperial expansion brought other unintended economic benefits, too. It encouraged the development of militarily useful technologies – clocks, guns, lenses and navigational instruments – that turned

out to have big spin-offs for the development of industrial machinery.[6] Many other explanations have, needless to say, been offered for the great East–West divergence: differences in topography, resource endowments, culture, attitudes towards science and technology, even differences in human evolution.[7] Yet there remains a credible hypothesis that China's problems were as much financial as they were resource-based. For one thing, the unitary character of the Empire precluded that fiscal competition which proved such a driver of financial innovation in Renaissance Europe and subsequently. For another, the ease with which the Empire could finance its deficits by printing money discouraged the emergence of European-style capital markets.[8] Coinage, too, was more readily available than in Europe because of China's trade surplus with the West. In short, the Middle Kingdom had far fewer incentives to develop commercial bills, bonds and equities. When modern financial institutions finally came to China in the late nineteenth century, they came as part of the package of Western imperialism and, as we shall see, were always vulnerable to patriotic backlashes against foreign influence.[9]

Globalization, in the sense of a rapid integration of international markets for commodities, manufactures, labour and capital, is not a new phenomenon. In the three decades before 1914, trade in goods reached almost as large a proportion of global output as in the past thirty years.[10] In a world of less regulated borders, international migration was almost certainly larger relative to world population; more than 14 per cent of the US population was foreign born in 1910 compared with less than 12 per cent in 2003.[11] Although, in gross terms, stocks of international capital were larger in relation to global GDP during the 1990s than they were a century ago, in net terms the amounts invested abroad – particularly by rich countries in poor countries – were much larger in the earlier period.[12] Over a century ago,

enterprising businessmen in Europe and North America could see that there were enticing opportunities throughout Asia. By the middle of the nineteenth century, the key technologies of the industrial revolution could be transferred anywhere. Communication lags had been dramatically reduced thanks to the laying of an international undersea cable network. Capital was abundantly available and, as we shall see, British investors were more than ready to risk their money in remote countries. Equipment was affordable, energy available and labour so abundant that manufacturing textiles in China or India ought to have been a hugely profitable line of business.[13] Yet, despite the investment of over a billion pounds of Western funds, the promise of Victorian globalization went largely unfulfilled in most of Asia, leaving a legacy of bitterness towards what is still remembered to this day as colonial exploitation. Indeed, so profound was the mid-century reaction against globalization that the two most populous Asian countries ended up largely cutting themselves off from the global market from the 1950s until the 1970s.

Moreover, the last age of globalization had anything but a happy ending. On the contrary, less than a hundred years ago, in the summer of 1914, it ended not with a whimper, but with a deafening bang, as the principal beneficiaries of the globalized economy embarked on the most destructive war the world had ever witnessed. We think we know why international capital failed to produce self-sustaining growth in Asia before 1914. But was there also some connection between the effects of global economic integration and the outbreak of the First World War? It has recently been suggested that the war should be understood as a kind of backlash against globalization, heralded by rising tariffs and immigration restrictions in the decade before 1914, and welcomed most ardently by Europe's agrarian elites, whose position had been undermined for decades by the decline in

agricultural prices and emigration of surplus rural labour to the New World.[14] Before blithely embracing today's brave, new and supposedly 'post-American' world,[15] we must be sure that similar unforeseen reactions could not pull the geopolitical rug out from under the latest version of globalization.

Globalization and Armageddon

It used to be said that emerging markets were the places where they had emergencies. Investing in far-away countries could make you rich but, when things went wrong, it could be a fast track to financial ruin. As we saw in Chapter 2, the first Latin American debt crisis happened as long ago as the 1820s. It was another emerging market crisis, in Argentina, that all but bankrupted the house of Baring in 1890, just as it was a rogue futures trader in Singapore, Nick Leeson, who finally finished Barings off 105 years later. The Latin American debt crisis of the 1980s and the Asian crisis of the 1990s were scarcely unprecedented events. Financial history suggests that many of today's emerging markets would be better called re-emerging markets.* These days, the ultimate re-emerging market is China. According to Sinophile investors like Jim Rogers, there is almost no limit to the amount of money to be made there.[16] Yet this is not the first time that foreign investors have poured money into Chinese securities, dreaming of the vast sums to be made from the world's most populous country. The last time around, it is worth remembering, they lost as many shirts as Hong Kong's famous tailors can stitch together in a month.

* The term 'emerging markets' was first used in the 1980s by the World Bank economist Antoine van Agtmael.

The key problem with overseas investment, then as now, is that it is hard for investors in London or New York to see what a foreign government or an overseas manager is up to when they are an ocean or more away. Moreover, most non-Western countries had, until quite recently, highly unreliable legal systems and differing accounting rules. If a foreign trading partner decided to default on its debts, there was little that an investor situated on the other side of the world could do. In the first era of globalization, the solution to this problem was brutally simple but effective: to impose European rule.

William Jardine and James Matheson were buccaneering Scotsmen who had set up a trading company in the southern Chinese port of Guangzhou (then known as Canton) in 1832. One of their best lines of business was importing government-produced opium from India. Jardine was a former East India Company surgeon, but the opium he was bringing into China was for distinctly non-medicinal purposes. This was a practice that the Emperor Yongzheng had prohibited over a century before, in 1729, because of the high social costs of opium addiction. On 10 March 1839 an imperial official named Lin Zexu arrived in Canton under orders from the Daoguang Emperor to stamp out the trade once and for all. Lin blockaded the Guangzhou opium godowns (warehouses) until the British merchants acceded to his demands. In all, around 20,000 chests of opium valued at £2 million were surrendered. The contents were adulterated to render it unusable and literally thrown in the sea.[17] The Chinese also insisted that henceforth British subjects in Chinese territory should submit to Chinese law. This was not to Jardine's taste at all. Known to the Chinese as 'Iron-Headed Old Rat', he was in Europe during the crisis and hastened to London to lobby the British government. After three meetings with the Foreign Secretary, Viscount Palmerston, Jardine seems to have persuaded him

'Iron-Headed Old Rat': William Jardine, co-founder of Jardine, Matheson

that a show of strength was required, and that 'the want of power of their war junks' would ensure an easy victory for a 'sufficient' British force. On 20 February 1840 Palmerston gave the order. By June 1840 all the naval preparations were complete. The Qing Empire was about to feel the full force of history's most successful narco-state: the British Empire.

Just as Jardine had predicted, the Chinese authorities were

James Matheson, Jardine's partner in the opium trade

no match for British naval power. Guangzhou was blockaded; Chusan (Zhoushan) Island was captured. After a ten-month stand off, British marines seized the forts that guarded the mouth of the Pearl River, the waterway between Hong Kong and Guangzhou. Under the Convention of Chuenpi, signed in January 1841 (but then repudiated by the Emperor), Hong Kong became a British possession. The Treaty of Nanking, signed a year later after another bout of one-sided fighting, confirmed this cession and also gave free rein to the opium trade in five so-called treaty ports: Canton, Amoy (Xiamen), Foochow (Fuzhou), Ningbo and Shanghai. According to the principle of extraterritoriality, British subjects could operate in these cities with complete immunity from Chinese law.

For China, the first Opium War ushered in an era of humili-

ation. Drug addiction exploded. Christian missionaries destabilized traditional Confucian beliefs. And in the chaos of the Taiping Rebellion – a peasant revolt against a discredited dynasty led by the self-proclaimed younger brother of Christ – between 20 and 40 million people lost their lives. But for Jardine and Matheson, who hastened to acquire land in Hong Kong and soon moved their head office to the island's East Point, the glory days of Victorian globalization had arrived. Jardine's Lookout, one of the highest points on Hong Kong island, was where the company used to keep a watchman permanently stationed, to spy the sails of the firm's clippers as they sailed in from Bombay, Calcutta or London. As Hong Kong flourished as an entrepôt, opium soon ceased to be the company's sole line of business. By the early 1900s Jardine, Matheson had its own breweries, its own cotton mills, its own insurance company, its own ferry company and even its own railways, including the Kowloon to Canton line, built between 1907 and 1911.

Back in London, an investor had myriad foreign investment opportunities open to him. Nothing illustrates this better than the ledgers of N. M. Rothschild & Sons, which reveal the extraordinary array of securities that the Rothschild partners held in their multi-million-pound portfolio. A single page lists no fewer than twenty different securities, including bonds issued by the governments of Chile, Egypt, Germany, Hungary, Italy, Japan, Norway, Spain and Turkey, as well as securities issued by eleven different railways, among them four in Argentina, two in Canada and one in China.[18] Nor was it only members of the rarefied financial elite who could engage in this kind of international diversification. As early as 1906, for the modest outlay of 2s 6d, British investors could buy Henry Lowenfeld's book *Investment: An Exact Science*, which recommended 'a sound system of averages, based upon the Geographical Distribution of Capital'

as a means of 'reduc[ing] to a minimum the taint of speculation from the act of investment'.[19] As Keynes later recalled, in a justly famous passage in his *Economic Consequences of the Peace*, it required scarcely any effort for a Londoner of moderate means to 'adventure his wealth in the natural resources and new enterprises of any quarter of the world, and share, without exertion or even trouble, in their prospective fruits and advantages'.[20]

At that time there were around forty foreign stock exchanges scattered throughout the world, of which seven were regularly covered in the British financial press. The London Stock Exchange listed bonds issued by fifty-seven sovereign and colonial governments. Following the money from London to the rest of the world reveals the full extent of this first financial globalization. Around 45 per cent of British investment went to the United States, Canada and the Antipodes, 20 per cent to Latin America, 16 per cent to Asia, 13 per cent to Africa and 6 per cent to the rest of Europe.[21] If you add together all the British capital raised through public issues of securities between 1865 and 1914, you see that the majority went overseas; less than a third was invested in the United Kingdom itself.[22] By 1913 an estimated $158 billion in securities were in existence worldwide, of which around $45 billion (28 per cent) were internationally held. Of all the securities quoted on the London Stock Exchange in 1913 nearly half (48 per cent) were foreign bonds.[23] Gross foreign assets in 1913 were equivalent to around 150 per cent of UK GDP and the annual current account surplus rose as high as 9 per cent of GDP in 1913 – evidence of what might now be called a British savings glut. Significantly, a much higher proportion of pre-1914 capital export went to relatively poor countries than has been the case more recently. In 1913, 25 per cent of the world's stock of foreign capital was invested in countries with per capita incomes

of a fifth or less of US per capita GDP; in 1997 the proportion was just 5 per cent.[24]

It may be that British investors were attracted to foreign markets simply by the prospect of higher returns in capital-poor regions.[25] It may be that they were encouraged by the spread of the gold standard, or by the increasing fiscal responsibility of foreign governments. Yet it is hard to believe there would have been so much overseas investment before 1914 had it not been for the rise of British imperial power. Somewhere between two fifths and half of all this British overseas investment went to British-controlled colonies. A substantial proportion also went to countries like Argentina and Brazil over which Britain exercised considerable informal influence. And British foreign investment was disproportionately focused on assets that increased London's political leverage: not only government bonds but also the securities issued to finance the construction of railways, port facilities and mines. Part of the attraction of colonial securities was the explicit guarantees some of them carried.[26] The Colonial Loans Act (1899) and the Colonial Stock Act (1900) also gave colonial bonds the same trustee status as the benchmark British government perpetual bond, the consol, making them eligible investments for Trustee Savings Banks.[27] But the real appeal of colonial securities was implicit rather than explicit.

The Victorians imposed a distinctive set of institutions on their colonies that was very likely to enhance their appeal to investors. These extended beyond the Gladstonian trinity of sound money, balanced budgets and free trade to include the rule of law (specifically, British-style property rights) and relatively non-corrupt administration – among the most important 'public goods' of late-nineteenth-century liberal imperialism. Debt contracts with colonial borrowers were, quite simply, more likely to be enforceable than those with independent states. This was why,

as Keynes later noted, 'Southern Rhodesia – a place in the middle of Africa with a few thousand white inhabitants and less than a million black ones – can place an unguaranteed loan on terms not very different from our own [British] War Loan', while investors could prefer 'Nigeria stock (which has no British Government guarantee) [to] . . . London and North-Eastern Railway debentures'.[28] The imposition of British rule (as in Egypt in 1882) practically amounted to a 'no default' guarantee; the only uncertainty investors had to face concerned the expected duration of British rule. Before 1914, despite the growth of nationalist movements in possessions as different as Ireland and India, political independence still seemed a distinctly remote prospect for most subject peoples. At this point even the major colonies of white settlement had been granted only a limited political autonomy. And no colony seemed further removed from gaining its independence than Hong Kong.

Between 1865 and 1914 British investors put at least £74 million into Chinese securities, a tiny proportion of the total £4 billion that they held abroad by 1914, but a significant sum for impoverished China.[29] No doubt it reassured investors that, from 1854, Britain not only ruled Hong Kong as a crown colony but also controlled the entire Chinese system of Imperial Maritime Customs, ensuring that at least a portion of the duties collected at China's ports was earmarked to pay the interest on British-owned bonds. Yet even in the European quarters of the so-called treaty ports, where the Union Jack fluttered and the *taipan* sipped his gin and tonic, there were dangers. No matter how tightly the British controlled Hong Kong, they could do nothing to prevent China from becoming embroiled first in a war with Japan in 1894–5, then in the Boxer Rebellion of 1900 and finally in the revolution that overthrew the Qing dynasty in 1911 – a revolution partly sparked by widespread Chinese disgust at the extent of

foreign domination of their economy. Each of these political upheavals hit foreign investors where it hurts them the most: in their wallets. Much as happened in later crises – the Japanese invasion of 1941 or, for that matter, the Chinese takeover in 1997 – investors in Hong Kong saw steep declines in the value of their Chinese bonds and stocks.[30] This vulnerability of early globalization to wars and revolutions was not peculiar to China. It turned out to be true of the entire world financial system.

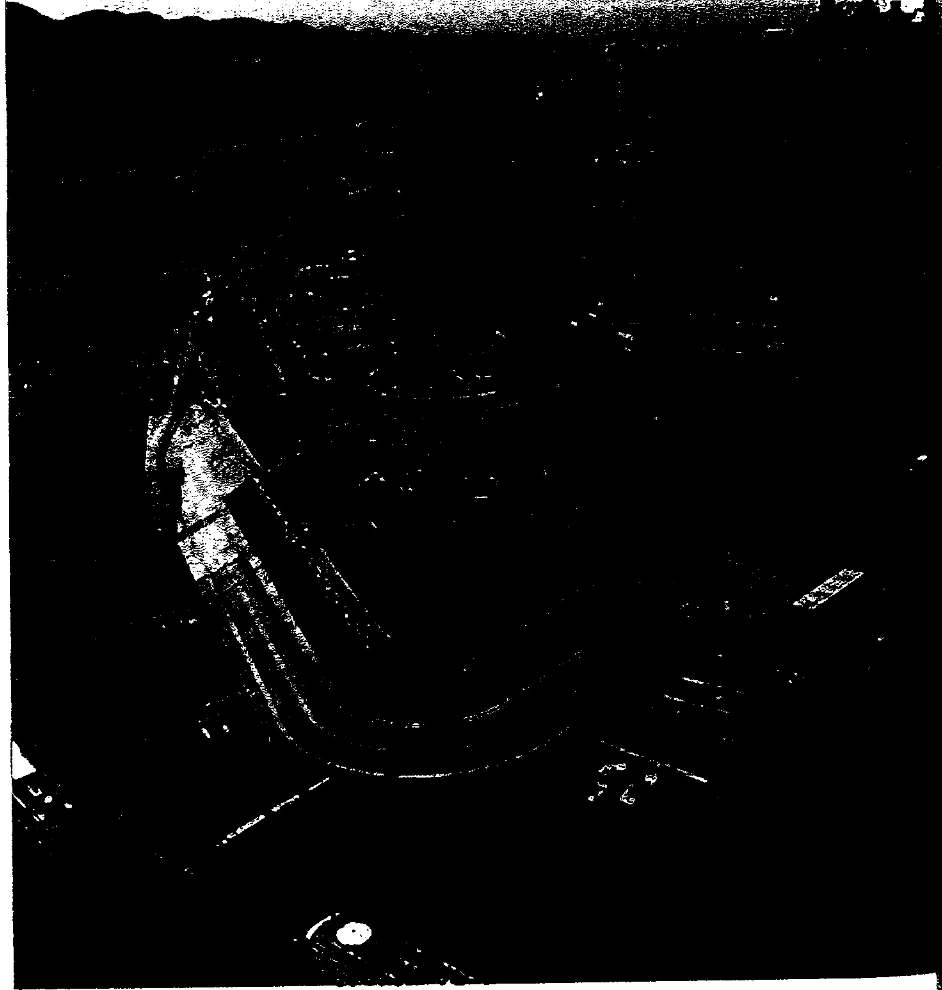
The three decades before 1914 were golden years for international investors – literally. Communications with foreign markets dramatically improved: by 1911, a telegraphic message took just thirty seconds to travel from New York to London, and the cost of sending it was a mere 0.5 per cent of the 1866 level. Europe's central banks had nearly all committed themselves to the gold standard by 1908; that meant that they nearly all had to target their gold reserves, raising rates (or otherwise intervening) if they experienced a specie outflow. At the very least, this simplified life for investors, by reducing the risk of large exchange rate fluctuations.[31] Governments around the world also seemed to be improving their fiscal positions as the deflation of the 1870s and 1880s gave way to gentle inflation from the mid 1890s, which reduced debt burdens in real terms. Higher growth also raised tax revenues.[32] Long-term interest rates nevertheless remained low. Although the yield on the benchmark British consol rose by over a percentage point between 1897 and 1914, that was from an all-time nadir of 2.25 per cent. What we would now call emerging market spreads narrowed dramatically, despite major episodes of debt default in the 1870s and 1890s. With the exception of securities issued by improvident Greece and Nicaragua, none of the sovereign or colonial bonds that were traded in London in 1913 yielded more than two percentage points above

consols, and most paid considerably less. That meant that anyone who had bought a portfolio of foreign bonds in, say, 1880 had enjoyed handsome capital gains.[33]

The yields and volatility of the bonds of the other great powers, which accounted for about half the foreign sovereign debt quoted in London, also declined steadily after 1880, suggesting that political risk premiums were falling too. Before 1880, Austrian, French, German and Russian bonds had tended to fluctuate quite violently in response to political news; but the various diplomatic alarums and excursions of the decade before 1914, like those over Morocco and the Balkans, caused scarcely a tremor in the London bond market. Although the UK stock market remained fairly flat following the bursting of the 1895–1900 Kaffir (gold mine) bubble, the volatility of returns trended downwards. There is at least some evidence to connect these trends with a long-run rise in liquidity, due partly to increased gold production and, more importantly, to financial innovation, as joint-stock banks expanded their balance sheets relative to their reserves, and savings banks successfully attracted deposits from middle-class and lower-class households.[34]

All these benign economic trends encouraged optimism. To many businessmen – from Ivan Bloch in Tsarist Russia to Andrew Carnegie in the United States – it was self-evident that a major war would be catastrophic for the capitalist system. In 1898 Bloch published a massive six-volume work entitled *The War of the Future* which argued that, because of technological advances in the destructiveness of weaponry, war essentially had no future. Any attempt to wage it on a large scale would end in 'the bankruptcy of nations'.[35] In 1910, the same year that Carnegie established his Endowment for International Peace, the left-leaning British journalist Norman Angell published *The Great Illusion*, in which he argued that a war between the great powers had

The Tokyo-Yokohama earthquake of 1923, one of many disasters to befall Japan's insurance industry in the mid twentieth century.



… and Chongqing after China's economic ascent.

become an economic impossibility precisely because of 'the delicate interdependence of our credit-built finance'.[36] In the spring of 1914 an international commission published its report into the outrages committed during the Balkan Wars of 1912–13. Despite the evidence he and his colleagues confronted of wars waged *à l'outrance* between entire populations, the commission's chairman noted in his introduction that the great powers of Europe (unlike the petty Balkan states) 'had discovered the obvious truth that the richest country has the most to lose by war, and each country wishes for peace above all things'. One of the British members of the commission, Henry Noel Brailsford – a staunch supporter of the Independent Labour Party and author of a fierce critique of the arms industry (*The War of Steel and Gold*) – declared:

> In Europe the epoch of conquest is over and save in the Balkans and perhaps on the fringes of the Austrian and Russian empires, it is as certain as anything in politics that the frontiers of our national states are finally drawn. My own belief is that there will be no more wars among the six great powers.[37]

Financial markets had initially shrugged off the assassination by Gavrilo Princip of the heir to the Austrian throne, the Archduke Franz Ferdinand, in the Bosnian capital Sarajevo on 28 June 1914. Not until 22 July did the financial press express any serious anxiety that the Balkan crisis might escalate into something bigger and more economically threatening. When investors belatedly grasped the likelihood of a full-scale European war, however, liquidity was sucked out of the world economy as if the bottom had dropped out of a bath. The first symptom of the crisis was a rise in shipping insurance premiums in the wake of the Austrian ultimatum to Serbia (which demanded, among other things, that Austrian officials be allowed into Serbia to seek evidence of

Britain and the United States formal convertibility was maintained, but it could have been suspended if that had been thought necessary. (The Bank of England was granted suspension of the 1844 Bank Act, which imposed a fixed relationship between the Bank's reserve and note issue, but this was not equivalent to suspending specie payments, which could easily be maintained with a lower reserve.) In each case, the crisis prompted the issue of emergency paper money: in Britain, £1 and 10s Treasury notes; in the United States, the emergency currency that banks were authorized to issue under the Aldrich-Vreeland Act of 1908.[46] Then, as now, the authorities reacted to a liquidity crisis by printing money.

Nor were these the only measures deemed necessary. In London the bank holiday of Monday 3 August was extended until Thursday the 6th. Payments due on bills of exchange were postponed for a month by royal proclamation. A month-long moratorium on all other payments due (except wages, taxes, pensions and the like) was rushed onto the statute books. (These moratoria were later extended until, respectively, 19 October and 4 November.) On 13 August the Chancellor of the Exchequer gave the Bank of England a guarantee that, if the Bank discounted all approved bills accepted before 4 August (when war was declared) 'without recourse against the holders', then the Treasury would bear the cost of any loss the Bank might incur. This amounted to a government rescue of the discount houses; it opened the door for a massive expansion of the monetary base, as bills poured into the Bank to be discounted. On 5 September assistance was also extended to the acceptance houses.[47] Arrangements varied from country to country, but the expedients were broadly similar and quite unprecedented in their scope: temporary closures of markets; moratoria on debts; emergency money issued by governments; bailouts for the most vulnerable institutions. In all these respects, the authorities were prepared to go much further than

they had previously gone in purely financial crises. As had happened during the previous 'world war' (against revolutionary and then Napoleonic France more than a century before), the war of 1914 was understood to be a special kind of emergency, justifying measures that would have been inconceivable in peacetime, including (as one Conservative peer put it) 'the release of the bankers . . . from all liability'.[48]

The closure of the stock market and the intervention of the authorities to supply liquidity almost certainly averted a catastrophic fire-sale of assets. The London stock market was already down 7 per cent on the year when trading was suspended, and that was before the fighting had even begun. Fragmentary data on bond transactions (conducted literally in the street during the period of stock market closure) give a sense of the losses investors had to contemplate, despite the authorities' efforts. By the end of 1914, Russian bonds were down 8.8 per cent, British consols 9.3 per cent, French *rentes* 13.2 per cent and Austrian bonds 23 per cent.[49] In the words of Patrick Shaw-Stewart of Barings, it was 'one of the most terrific things London had been up against since finance existed'.[50] This, however, was merely the beginning. Contrary to the 'short war' illusion (which was more widespread in financial than in military circles), there were another four years of carnage still to go, and an even longer period of financial losses. Any investor unwise or patriotic enough to hang on to gilt-edged securities (consols or the new UK War Loans) would have suffered inflation-adjusted losses of –46 per cent by 1920. Even the real returns on British equities were negative (–27 per cent).[51] Inflation in France and hyperinflation in Germany inflicted even more severe punishment on anyone rash enough to maintain large franc or mark balances. By 1923 holders of all kinds of German securities had lost everything, though subsequent revaluation legislation restored some of their original capital. Those with

substantial holdings of Austrian, Hungarian, Ottoman and Russian bonds also lost heavily – even when these were gold-denominated – as the Habsburg, Ottoman and Romanov empires fell apart under the stresses of total war. The losses were especially sudden and severe in the case of Russian bonds, on which the Bolshevik regime defaulted in February 1918. By the time this happened, Russian 5 per cent bonds of the 1906 vintage were trading at below 45 per cent of their face value. Hopes of some kind of settlement with foreign creditors lingered on throughout the 1920s, by which time the bonds were trading at around 20 per cent of par. By the 1930s they were all but worthless.[52]

Despite the best efforts of the bankers, who indefatigably floated loans for such unpromising purposes as the payment of German reparations, it proved impossible to restore the old order of free capital mobility between the wars. Currency crises, defaults, arguments about reparations and war debts and then the onset of the Depression led more and more countries to impose exchange and capital controls as well as protectionist tariffs and other trade restrictions, in a vain bid to preserve national wealth at the expense of international exchange. On 19 October 1921, for example, the Chinese government declared bankruptcy, and proceeded to default on nearly all China's external debts. It was a story repeated all over the world, from Shanghai to Santiago, from Moscow to Mexico City. By the end of the 1930s, most states in the world, including those that retained political freedoms, had imposed restrictions on trade, migration and investment as a matter of course. Some achieved near-total economic self-sufficiency (autarky), the ideal of a de-globalized society. Consciously or unconsciously, all governments applied in peacetime the economic restrictions that had first been imposed between 1914 and 1918.

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The origins of the First World War became clearly visible – as soon as it had broken out. Only then did the Bolshevik leader Lenin see that war was an inevitable consequence of imperialist rivalries. Only then did American liberals grasp that secret diplomacy and the tangle of European alliances were the principal causes of conflict. The British and French naturally blamed the Germans; the Germans blamed the British and French. Historians have been refining and modifying these arguments for more than ninety years now. Some have traced the origins of the war back to the naval race of the mid 1890s; others to events in the Balkans after 1907. So why, when its causes today seem so numerous and so obvious, were contemporaries so oblivious of Armageddon until just days before its advent? One possible answer is that their vision was blurred by a mixture of abundant liquidity and the passage of time. The combination of global integration and financial innovation had made the world seem reassuringly safe to investors. Moreover, it had been forty-four years since the last major European war, between France and Germany, and that had been mercifully short. Geopolitically, of course, the world was anything but a safe place. Any reader of the *Daily Mail* could see that the European arms race and imperial rivalry might one day lead to a major war; indeed, there was an entire subgenre of popular fiction based on imaginary Anglo-German wars. Yet the lights in financial markets were flashing green, not red, until the very eve of destruction.

There may be a lesson here for our time, too. The first era of financial globalization took at least a generation to achieve. But it was blown apart in a matter of days. And it would take more than two generations to repair the damage done by the guns of August 1914.

Economic Hit Men

From the 1930s until the late 1960s, international finance and the idea of globalization slumbered – some even considered it dead.[53] In the words of the American economist Arthur Bloomfield, writing in 1946:

> It is now highly respectable doctrine, in academic and banking circles alike, that a substantial measure of *direct* control over private capital movements, especially of the so-called hot money varieties, will be desirable for most countries not only in the years immediately ahead but also in the long run as well . . . This doctrinal *volte-face* represents a widespread disillusionment resulting from the destructive behaviour of these movements in the interwar years.[54]

At Bretton Woods, in New Hampshire's White Mountains, the soon-to-be-victorious Allies met in July 1944 to devise a new financial architecture for the post-war world. In this new order, trade would be progressively liberalized, but restrictions on capital movements would remain in place. Exchange rates would be fixed, as under the gold standard, but now the anchor – the international reserve currency – would be the dollar rather than gold (though the dollar itself would notionally remain convertible into gold, vast quantities of which sat, immobile but totemic, in Fort Knox). In the words of Keynes, one of the key architects of the Bretton Woods system, 'control of capital movements' would be 'a permanent feature of the post-war system'.[55] Even tourists could be prevented from going abroad with more than a pocketful of currency if governments felt unable to make their currencies convertible. When capital sums did flow across national borders, they would go from government to government, like the Marshall

Aid* that helped revive devastated Western Europe between 1948 and 1952.[56] The two guardian 'sisters' of this new order were to be established in Washington, DC, the capital of the 'free world': the International Monetary Fund and the International Bank for Reconstruction and Development, later (in combination with the International Development Association) known as the World Bank. In the words of current World Bank President Robert Zoellick, 'The IMF was supposed to regulate exchange rates. What became the World Bank was supposed to help rebuild countries shattered by the war. Free trade would be revived. But free capital flows were out.' Thus, for the next quarter century, did governments resolve the so-called 'trilemma', according to which a country can choose any two out of three policy options:

1. full freedom of cross-border capital movements;
2. a fixed exchange rate;
3. an independent monetary policy oriented towards domestic objectives.[57]

Under Bretton Woods, the countries of the Western world opted for 2 and 3. Indeed, the trend was for capital controls to be tightened rather than loosened as time went on. A good example is the Interest Equalization Act passed by the United

* The total amount disbursed under the Marshall Plan was equivalent to roughly 5.4 per cent of US gross national product in the year of General George Marshall's seminal speech, or 1.1 per cent spread over the whole period of the programme, which dated from April 1948, when the Foreign Assistance Act was passed, to June 1952, when the last payment was made. If there had been a Marshall Plan between 2003 and 2007, it would have cost $550 billion. By comparison, actual foreign economic aid under the Bush administration between 2001 and 2006 totalled less than $150 billion, an average of below 0.2 per cent of GDP.

States in 1963, which was expressly designed to discourage Americans from investing in foreign securities.

Yet there was always an unsustainable quality to the Bretton Woods system. For the so-called Third World, the various attempts to replicate the Marshall Plan through government-to-government aid programmes proved deeply disappointing. Over time, American aid in particular became hedged around with political and military conditions that were not always in the best interests of the recipients. Even if that had not been the case, it is doubtful that capital injections of the sort envisaged by American economists like Walt Rostow* were the solution to the problems of most African, Asian and Latin American economies. Much aid was disbursed to poor countries, but the greater part of it was either wasted or stolen.[58] In so far as Bretton Woods did succeed in generating new wealth by expediting the recovery of Western Europe, it could only frustrate those investors who saw the risk in excessive home bias. And, in so far as it allowed countries to subordinate monetary policy to the goal of full employment, it created potential conflicts even between options 2 and 3 of the trilemma. In the late 1960s, US public sector deficits were negligible by today's standards, but large enough to prompt complaints from France that Washington was exploiting its reserve currency status in order to collect seigniorage from America's foreign creditors by printing dollars, much as medieval monarchs had exploited their monopoly on minting to debase the currency. The decision of the Nixon administration to sever the final link with the gold standard (by ending gold convertibility of the dollar)

* Rostow, the author of *The Stages of Economic Growth: A Non-Communist Manifesto* (1960), offered economic and strategic advice in roughly equal measure to the Democratic administrations of the 1960s. As the equivalent of National Security Adviser to Lyndon Johnson, he was closely associated with the escalation of the Vietnam War.

sounded the death knell for Bretton Woods in 1971.[59] When the Arab-Israeli War and the Arab oil embargo struck in 1973, most central banks tended to accommodate the price shock with easier credit, leading to precisely the inflationary crisis that General de Gaulle's adviser Jacques Rueff had feared.[60]

With currencies floating again and offshore markets like the Eurobond market flourishing, the 1970s saw a revival of non-governmental capital export. In particular, there was a rush by Western banks to recycle the rapidly growing surpluses of the oil-exporting countries. The region where the bankers chose to lend the Middle Eastern petrodollars was an old favourite. Between 1975 and 1982, Latin America quadrupled its borrowings from foreigners from $75 billion to more than $315 billion. (Eastern European countries also entered the capital debt market, a sure sign of the Communist bloc's impending doom.) Then, in August 1982, Mexico declared that it would no longer be able to service its debt. An entire continent teetered on the verge of declaring bankruptcy. Yet the days had gone when investors could confidently expect their governments to send a gunboat when a foreign government misbehaved. Now the role of financial policing had to be played by two unarmed bankers, the International Monetary Fund and the World Bank. Their new watchword became 'conditionality': no reforms, no money. Their preferred mechanism was the structural adjustment programme. And the policies the debtor countries had to adopt became known as the Washington Consensus, a wish-list of ten economic policies that would have gladdened the heart of a British imperial administrator a hundred years before.* Number one was to impose fiscal

* Here is a brief overview of the ten points, based on John Williamson's original 1989 formulation: 1. Impose fiscal discipline; 2. Reform taxation; 3. Liberalize interest rates; 4. Raise spending on health and education; 5. Secure property rights; 6. Privatize state-run industries; 7. Deregulate

discipline to reduce or eliminate deficits. The tax base was to be broadened and tax rates lowered. The market was to set interest and exchange rates. Trade was be liberalized and so, crucially, were capital flows. Suddenly 'hot' money, which had been outlawed at Bretton Woods, was hot again.

To some critics, however, the World Bank and the IMF were no better than agents of the same old Yankee imperialism. Any loans from the IMF or World Bank, it was claimed, would simply be used to buy American goods from American firms – often arms to keep ruthless dictators or corrupt oligarchies in power. The costs of 'structural adjustment' would be borne by their hapless subjects. And Third World leaders who stepped out of line would soon find themselves in trouble. These became popular arguments, particularly in the 1990s, when anti-globalization protests became regular features of international gatherings. When articulated on placards or in rowdy chants by crowds of well-fed Western youths such notions are relatively easy to dismiss. But when similar charges are levelled at the Bretton Woods institutions by former insiders, they merit closer scrutiny.

When he was chief economist of the Boston-based company Chas. T. Main, Inc., John Perkins claims he was employed to ensure that the money lent to countries like Ecuador and Panama by the IMF and World Bank would be spent on goods supplied by US corporations. 'Economic hit men' like himself, according to Perkins, 'were trained ... to build up the American empire ... to create situations where as many resources as possible flow into this country, to our corporations, and our governments':

> This empire, unlike any other in the history of the world, has been built primarily through economic manipulation, through cheating, through fraud, through seducing people into our way of life, through the economic hit men ... My real job ... was giving loans to other countries, huge loans, much bigger than they could possibly repay ... So we make this big loan, most of it comes back to the United States, the country is left with debt plus lots of interest, and they basically become our servants, our slaves. It's an empire. There's no two ways about it. It's a huge empire.[61]

According to Perkins's book, *The Confessions of an Economic Hit Man*, two Latin American leaders, Jaime Roldós Aguilera of Ecuador and Omar Torrijos of Panama, were assassinated in 1981 for opposing what he calls 'that fraternity of corporate, government, and banking heads whose goal is global empire'.[62] There is, admittedly, something about his story that seems a little odd. It is not as if the United States had lent much money to Ecuador and Panama. In the 1970s the totals were just $96 million and $197 million, less than 0.4 per cent of total US grants and loans. And it is not as if Ecuador and Panama were major customers for the United States. In 1990 they accounted for, respectively, 0.17 per cent and 0.22 per cent of total US exports. Those do not seem like figures worth killing for. As Bob Zoellick puts it, 'The IMF and the World Bank lend money to countries in crisis, not countries that offer huge opportunities to corporate America.'

Nevertheless, the charge of neo-imperialism refuses to go away. According to Nobel prize-winning economist Joseph Stiglitz, who was chief economist at the World Bank between 1997 and 2000, the IMF in the 1980s not only 'champion[ed] market supremacy with ideological fervour' but also 'took a rather imperialistic view' of its role. Moreover, Stiglitz argues, 'many of the policies that the IMF has pushed, in particular premature capital market liberalization, have contributed to global instability ... Jobs have

markets; 8. Adopt a competitive exchange rate; 9. Remove barriers to trade; 10. Remove barriers to foreign direct investment.

Jaime Roldós Aguilera of Ecuador . . .

. . . and Omar Torrijos of Panama: Allegedly victims of the 'economic hit men'

been systematically destroyed . . . [because] the influx of hot money into and out of the country that so frequently follows after capital market liberalization leaves havoc in its wake . . . Even those countries that have experienced some limited growth have seen the benefits accrue to the well-off, and especially the very well-off.'[63] In his animus against the IMF (and Wall Street), Stiglitz overlooks the fact that it was not just those institutions that came to favour a return to free capital movements in the 1980s. It was actually the Organization for Economic Cooperation and Development that blazed the liberalizing trail, followed (after the conversion of French socialists like Jacques Delors and Michel Camdessus) by the European Commission and European Council. Indeed, there was arguably a Paris Consensus before there was a Washington Consensus (though in many ways it was building on a much earlier Bonn Consensus in favour of free capital markets).[64] In London, too, Margaret Thatcher's government pressed ahead with unilateral capital account liberalization without any prompting from the United States. Rather, it was the Reagan administration that followed Thatcher's lead.

Stiglitz's biggest complaint against the IMF is that it responded the wrong way to the Asian financial crisis of 1997, lending a total of $95 billion to countries in difficulty, but attaching Washington Consensus-style conditions (higher interest rates, smaller government deficits) that actually served to worsen the crisis. It is a view that has been partially echoed by, among others, the economist and columnist Paul Krugman.[65] There is no doubting the severity of the 1997–8 crisis. In countries such as Indonesia, Malaysia, South Korea and Thailand there was a very severe recession in 1998. Yet neither Stiglitz nor Krugman offers a convincing account of how the East Asian crisis might have been better managed on standard Keynesian lines, with currencies being allowed to float and government deficits to rise.

In the acerbic words of an open letter to Stiglitz by Kenneth Rogoff, who became chief economist at the IMF after the Asian crisis:

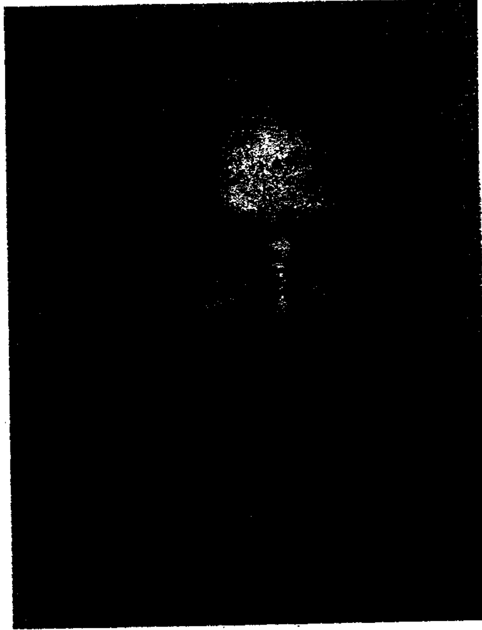
> Governments typically come to the IMF for financial assistance when they are having trouble finding buyers for their debt and when the value of their money is falling. The Stiglitzian prescription is to raise . . . fiscal deficits, that is, to issue more debt and to print more money. You seem to believe that if a distressed government issues more currency, its citizens will suddenly think it more valuable. You seem to believe that when investors are no longer willing to hold a government's debt, all that needs to be done is to increase the supply and it will sell like hot cakes. We at the – no, make that we on planet Earth – have considerable experience suggesting otherwise. We earthlings have found that when a country in fiscal distress tries to escape by printing more money, inflation rises, often uncontrollably . . . The laws of economics may be different in your part of the gamma quadrant, but around here we find that when an almost bankrupt government fails to credibly constrain the time profile of its fiscal deficits, things generally get worse instead of better.[66]

Nor is it clear that Malaysia's temporary imposition of capital controls in 1997 made a significant difference to the economy's performance during the crisis. Krugman at least acknowledges that the East Asian financial institutions, which had borrowed short-term in dollars but lent out long-term in local currency (often to political cronies), bore much of the responsibility for the crisis. Yet his talk of a return of Depression economics now looks overdone. There never was a Depression in East Asia (except perhaps in Japan, which could hardly be portrayed as a victim of IMF malfeasance). After the shock of 1998 all the economies affected returned swiftly to rapid growth – growth so rapid, indeed, that by 2004 some commentators were wondering

if the 'two sisters' of Bretton Woods any longer had a role to play as international lenders.[67]

In truth, the 1980s saw the rise of an altogether different kind of economic hit man, far more intimidating than those portrayed by Perkins precisely because they never even had to contemplate resorting to violence to achieve their objective. To this new generation, making a hit meant making a billion dollars on a single successful speculation. As the Cold War drew to its close, these hit men had no real interest in pursuing an American imperialist agenda; on the contrary, their stated political inclinations were more often liberal than conservative. They did not work for public sector institutions like the IMF or the World Bank. On the contrary, they ran businesses that were entirely private, to the extent that they were not even quoted on the stock market. These businesses were called hedge funds, which we first encountered as an alternative form of risk manager in Chapter 4. Like the rise of China, the even more rapid rise of the hedge funds has been one of the biggest changes the global economy has witnessed since the Second World War. As pools of lightly regulated,* highly mobile capital, hedge funds exemplify the return of hot money after the big chill that prevailed between the onset of the Depression and the end of Bretton Woods. And the acknowledged *capo dei capi* of the new economic hit men has been George Soros. It was no coincidence that when the Malaysian prime minister Mahathir bin Mohamad wanted to blame someone other than himself for

* Since the term was first used, in 1966, to describe the long-short fund set up by Alfred Winslow Jones in 1949 (which took both long and short positions on the US stock market), most hedge funds have been limited liability partnerships. As such they have been exempted from the provisions of the 1933 Securities Act and the 1940 Investment Company Act, which restrict the operations of mutual funds and investment banks with respect to leverage and short selling.



George Soros: hedge fund *capo dei capi* and master of reflexivity

the currency crisis that struck the ringgit in August 1997, it was Soros rather than the IMF that he called 'a moron'.

A Hungarian Jew by birth, though educated in London, George Soros emigrated to the United States in 1956. There he made his reputation as an analyst and then head of research at the venerable house of Arnhold & S. Bleichroeder (a direct descendant of the Berlin private bank that had once managed Bismarck's money).[68] As might be expected of a Central European intellectual – who named his fund the Quantum Fund in honour of the physicist Werner Heisenberg's Uncertainty Principle – Soros regards himself as more a philosopher than a hit man. His book

The Alchemy of Finance (1987) begins with a bold critique of the fundamental assumptions of economics as a subject, reflecting the influence on his early intellectual development of the philosopher Karl Popper.[69] According to Soros's pet theory of 'reflexivity', financial markets cannot be regarded as perfectly efficient, because prices are reflections of the ignorance and biases, often irrational, of millions of investors. 'Not only do market participants operate with a bias', Soros argues, 'but their bias can also influence the course of events. This may create the impression that markets anticipate future developments accurately, but in fact it is not present expectations that correspond to future events but future events that are shaped by present expectations.'[70] It is the feedback effect – as investors' biases affect market outcomes, which in turn change investors' biases, which again affect market outcomes – that Soros calls reflexivity. As he puts it in his most recent book:

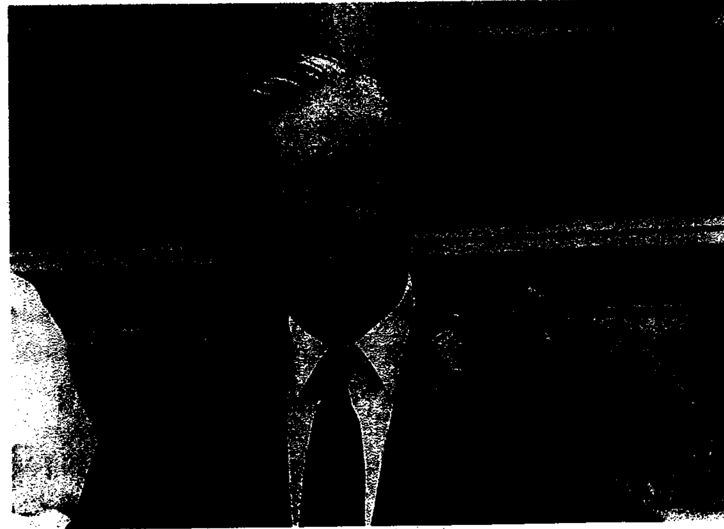
> . . . markets never reach the equilibrium postulated by economic theory. There is a two-way reflexive connection between perception and reality which can give rise to initially self-reinforcing but eventually self-defeating boom-bust processes, or bubbles. Every bubble consists of a trend and a misconception that interact in a reflexive manner.[71]

Originally devised to hedge against market risk with short positions,* which make money if a security goes down in price, a hedge fund provided the perfect vehicle for Soros to exploit his insights about reflexive markets. Soros knew how to make money from long positions too, it should be emphasized – that is, from buying assets in the expectation of future prices rises. In 1969 he

* Technically, according to the US Securities and Exchange Commission, a short sale is 'any sale of a security which the seller does not own or any sale which is consummated by the delivery of a security borrowed by, or for the account of, the seller'.

was long real estate. Three years later he backed bank stocks to take off. He was long Japan in 1971. He was long oil in 1972. A year later, when these bets were already paying off, he deduced from Israeli complaints about the quality of US-supplied hardware in the Yom Kippur War that there would need to be some heavy investment in America's defence industries. So he went long defence stocks too.[72] Right, right, right, right and right again. But Soros's biggest coups came from being right about losers, not winners: for example, the telegraph company Western Union in 1985, as fax technology threatened to destroy its business, as well as the US dollar, which duly plunged after the Group of Five's Plaza accord of 22 September 1985.[73] That year was an *annus mirabilis* for Soros, who saw his fund grow by 122 per cent. But the greatest of all his shorts proved to be one of the most momentous bets in British financial history.

I admit I have a vested interest in the events of Wednesday 16 September 1992. In those days, moonlighting as a newspaper leader writer while I was a junior lecturer at Cambridge, I became convinced that speculators like Soros could beat the Bank of England if it came to a showdown. It was simple arithmetic: a trillion dollars being traded on foreign exchange markets every day, versus the Bank's meagre hard currency reserves. Soros reasoned that the rising costs of German reunification would drive up interest rates and hence the Deutschmark. This would make the Conservative government's policy of shadowing the German currency – formalized when Britain had joined the European Exchange Rate Mechanism (ERM) in 1990 – untenable. As interest rates rose, the British economy would tank. Sooner or later, the government would be forced to withdraw from the ERM and devalue the pound. So sure was Soros that the pound would drop that he ultimately bet $10 billion, more than the entire capital of his fund, on a series of transactions whereby he



The force of destiny: Chancellor the Exchequer Norman Lamont announces sterling's exit from the European Exchange Rate Mechanism, 16 September 1992

effectively borrowed sterling in the UK and invested in German currency at the pre-16 September price of around 2.95 Deutschmarks).[74] I was equally sure that the pound would be devalued, though all I had to bet was my credibility. As it happened, the City editor of the newspaper I wrote for disagreed. That night, having been given something of a browbeating at the leader writers' morning conference with the editor, I went to the English National Opera, to hear Verdi's *The Force of Destiny*. It proved a highly appropriate choice. Someone announced at the interval that Britain had withdrawn from the ERM. How we all cheered – and no one louder than me (except possibly George Soros). His fund made more than a billion dollars as sterling slumped – ultimately by as much as 20 per cent – allowing Soros to repay the sterling he had borrowed but at the new lower exchange rate

and to pocket the difference. And that trade accounted for just 40 per cent of the year's profits.[75]

The success of the Quantum Fund was staggering. If someone had invested $100,000 with Soros when he established his second fund (Double Eagle, the earlier name of Quantum) in 1969 and had reinvested all the dividends, he would have been worth $130 million by 1994, an average annual growth rate of 35 per cent.[76] The essential differences between the old and the new economic hit men were twofold: first, the cold, calculating absence of loyalty to any particular country – the dollar and the pound could both be shorted with impunity; second, the sheer scale of the money the new men had to play with. 'How big a position do you have?' Soros once asked his partner Stanley Druckenmiller. 'One billion dollars,' Druckenmiller replied. 'You call that a position?' was Soros's sardonic retort.[77] For Soros, if a bet looked as good as his bet against the pound in 1992, then maximum leverage should be applied to it. His hedge fund pioneered the technique of borrowing from investment banks in order to take speculative long or short positions far in excess of the fund's own capital.

Yet there were limits to the power of the hedge funds. At one level, Soros and his ilk had proved that the markets were mightier than any government or central bank. But that was not the same as saying that the hedge funds could always command the markets. Soros owed his success to a gut instinct about the direction of the 'electronic herd'. However, even his instincts (often signalled by a spasm of back pain) could sometimes be wrong. Reflexivity, as he himself acknowledges, is a special case; it does not rule the markets every week of the year. What, then, if instincts could somehow be replaced by mathematics? What if you could write an infallible algebraic formula for double-digit returns? On the other side of the world – indeed on the other side of the financial galaxy – it seemed as if that formula had just been discovered.

Short-Term Capital Mismanagement

Imagine another planet – a planet without all the complicating frictions caused by subjective, sometimes irrational human beings. One where the inhabitants were omniscient and perfectly rational; where they instantly absorbed all new information and used it to maximize profits; where they never stopped trading; where markets were continuous, frictionless and completely liquid. Financial markets on this planet would follow a 'random walk', meaning that each day's prices would be quite unrelated to the previous day's but would reflect all the relevant information available. The returns on the planet's stock market would be normally distributed along the bell curve (see Chapter 3), with most years clustered closely around the mean, and two thirds of them within one standard deviation of the mean. In such a world, a 'six standard deviation' sell-off would be about as common as a person shorter than one and a half feet in our world. It would happen only once in four million years of trading.[78] This was the planet imagined by some of the most brilliant financial economists of modern times. Perhaps it is not altogether surprising that it turned out to look like Greenwich, Connecticut, one of the blandest places on Earth.

In 1993 two mathematical geniuses came to Greenwich with a big idea. Working closely with Fisher Black of Goldman Sachs, Stanford's Myron Scholes had developed a revolutionary new theory of pricing options. Now he and a third economist, Harvard Business School's Robert Merton, hoped to turn the so-called Black-Scholes model into a money-making machine. The starting point of their work as academics was the long-established financial instrument known as an option contract, which (as we saw in Chapter 4) works like this. If a particular stock is worth, say, $100 today and I believe that it may be worth more in the future,