

An extract from

THE PIT & THE PENDULUM

A MENAGERIE OF SPECULATIVE FOLLIES

PART I



DAVID W. HARDING | JAMES W. HOLMES



THE PIT
&
THE PENDULUM
A MENAGERIE OF SPECULATIVE FOLLIES

WINTON



THE MURKY DEPTHS OF EXCHANGE ALLEY

1690s FINANCIAL REVOLUTION

1688–1696

WAR, REVOLUTION AND SPANISH TREASURE ARE THE BACKGROUND TO A STREAM OF STOCK MARKET BUBBLES IN 1690S LONDON. SPECULATORS, TAKING LARGE GULPS OF CREDIT, GOT DEEPLY INVOLVED WITH A NUMBER OF NEW INVENTIONS AND DOMESTIC VENTURES. BUT IN THE TREACHEROUS WATERS OF 17TH CENTURY CAPITALISM, MANY LOST THEIR WAY AND WERE ATTACKED BY SHARKS.

‘THIS DESTRUCTIVE HYDRA; THIS NEW CORPORATION OF HELL!’

DANIEL DEFOE ON STOCK-JOBGING, 1703

Captain Phips discovers
treasure

1686

1687

Start of the
Nine Years War

1688

1689

1690

1691

Flotation of Royal Lustring
Company

1692

1693

Lottery
mania

1694

1695

Flotation of
Darien Company

1695

1696

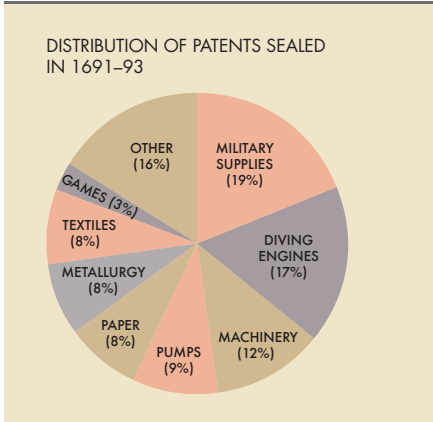
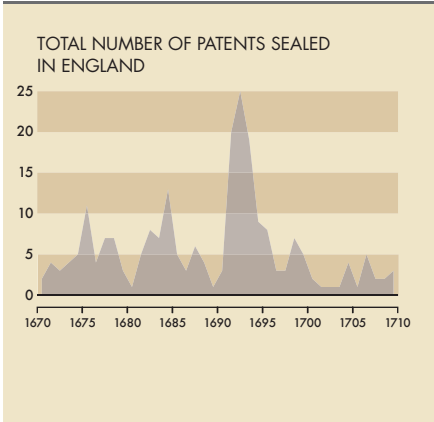
Establishment of
the Bank of England

BRISK TRADE



The 1680s were for England a time of plenty. The economy was booming, thanks to a run of good harvests, lucrative foreign trade, more relaxed attitudes towards wealth and the arrival of Dutch and Huguenot immigrants who brought with them capital and skills. Credit was easier to obtain than ever, following the emergence of an active market in merchants' bills of exchange (credit notes). The great trading companies benefited from this prosperity and were able to post stellar returns, igniting a burst of speculative interest in the nascent stock market – then based in London's Exchange Alley – which resulted in a new breed of company promoters known as 'projectors'. These projectors were to play an important role in the coming manias.

In 1686, Captain Phips formed a company to salvage treasure from sunken vessels. He literally struck gold in September that year when he located the wreck of the *Nuestra Señora* in the Bahamas and recovered over 17,000 kg of treasure, allowing him to pay his investors a 10,000%



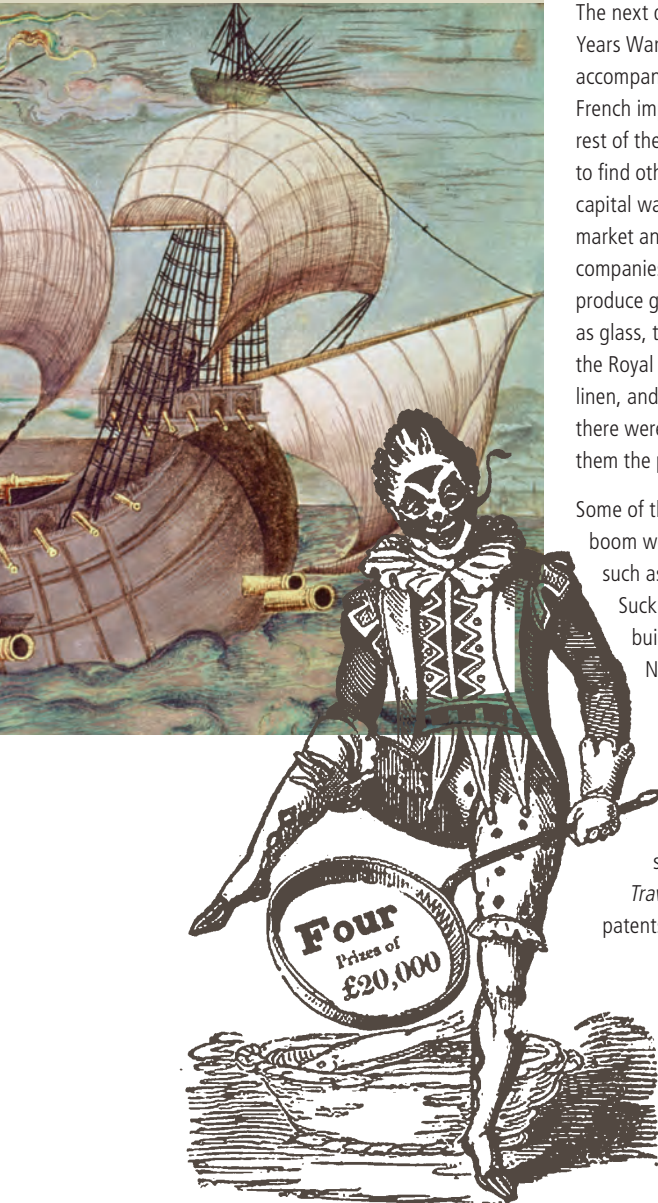
ABOVE LEFT | 'The Ass Age' (1707). Satire on the Act of Union to which the failure of the Darien Expedition contributed. Also lampoons the projectors of the period

ABOVE | *Nuestra Señora*

TOP RIGHT | Halley's diving bell (c.1691)

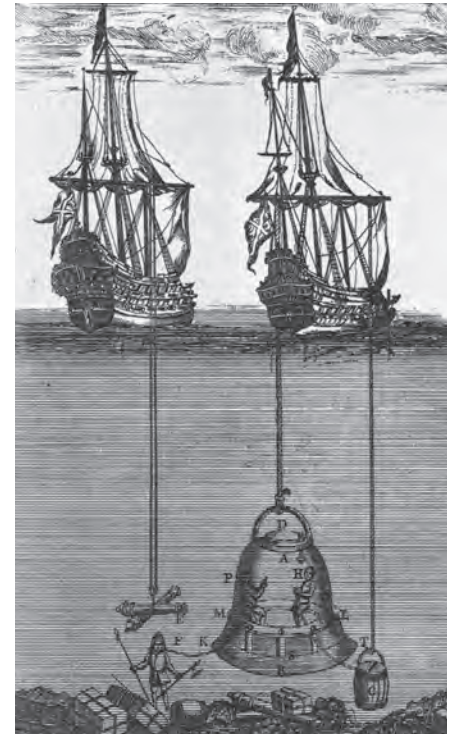
RIGHT | Lottery advertisement

FRENCH CONNECTION UK



The next displacement was the start of the Nine Years War with France in 1688. The war (and an accompanying Act of Parliament which forbade French imports) disrupted England's trade with the rest of the world, compelling English merchants to find other uses for their capital. Much of this capital was ploughed into the nascent stock market and fuelled a boom in domestic joint stock companies, many of which had been established to produce goods formerly supplied by France, such as glass, textiles and papers. Among them were the Royal Lustring Company which manufactured linen, and the White Paper Company. By 1695, there were over 140 joint stock companies, 80% of them the product of the previous seven years.

Some of the companies promoted during the boom were based on serious and prescient ideas, such as the quaintly named Company for the Sucking Worm Engine which proposed to build the world's first fire engine, and the Night Engine Company which sought to manufacture burglar alarms. However, the vast majority of the 'companies' were little more than fraudulent attempts by projectors to exploit what was fashionable. Projectors, as satirised in the third book of *Gulliver's Travels*, typically floated companies with patents for inventions, but these 'inventions'



were usually of a spurious nature. The possession of a patent also meant little: they were easily obtained, involved no technical examination and said little about an invention's technological and scientific worth. Indeed, they became little more than a marketing gimmick, which is precisely why genuine inventors, concerned with secrecy, tended to shun them. The role of patents in these 'projects' was satirised by a contemporary who said of a proposed mouse-trap that it would 'invite all Mice in, nay Rats too, whether they will or no; a whole share before the Patent, is fifteen Pound; after the Patent, they will not take sixty.'

A SETTLEMENT IN PANAMA

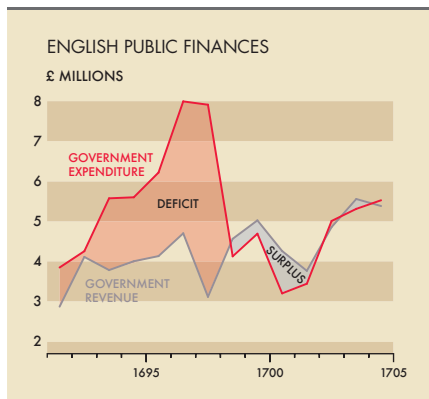
The most notable promotion of the period, however, did not involve a patent for an invention but was rather an Edinburgh-based venture to establish a Scottish colony on the Isthmus of Panama. The flotation of the Darien Company in late June 1695 ignited a wild speculative frenzy throughout Scotland, raising over a quarter of the currency in circulation. Darien shares were also offered in London, Hamburg and Amsterdam, making it the first international share offering. Another novel feature of the flotation was the directors' decision to make loans to shareholders against the collateral of their stock, an example which was not lost upon John Law, the Scottish architect of the Mississippi Bubble twenty years later. Unfortunately, the flotation's success was not reflected in the Company's subsequent performance. The great majority of the settlers



OUT OF STOCK

perished in Panama within a few years and the Company's shareholders lost everything, subduing nationalist sentiment and weakening resistance to the Act of Union with Britain in 1707.

Rational expectations played little part in the manias. Despite notable advances in the quantification of risk in the late 17th century, much of the speculation was driven by emotion and a gambling mentality which, according to Daniel Defoe, drove up stock prices to 300%–400% of their 'intrinsic value'. Another contemporary speculator acknowledged that 'things have no Value in themselves, it is opinion and fashion which brings them into use and gives them a Value.' Given the odds against their success, speculation in the wreck salvaging companies was almost entirely irrational but, given Phip's discoveries, the nation experienced 'a general bias towards enslaving judgement to success'.



The government's large budgetary deficits due to the Nine Years War contributed to the introduction of state lotteries in 1694 and 1697 as a means of raising more revenue

Eventually the stock market boom, which had begun with the diving mania and then extended to other areas, came to an end. Despite recent financial innovations such as the establishment of the Bank of England and the creation of the national debt, which had been designed to tap the financial resources of the nation, the costs of war proved intolerable.

Then as now, people vilified stock jobbers in the immediate aftermath and sought to regulate them out of existence. 'They can ruin men silently', wrote a contemporary observer, 'undermine and impoverish, fiddle them out of their money, by the strange, unheard-of engines of interest, discount, transfers, tallies, debentures, shares, projects, and the devil and all of figures and hard names.' In 1697 a law was passed to 'refrain the number and ill practices of brokers and stock-jobbers', mirroring Sir John Barnard's Act (1734) following the South Sea Bubble and the SEC Act following the 1929 Wall Street Crash. This legislation restricted the total number of brokers to 100. Jobbers were also made to pay an annual subscription, were no longer allowed to deal on their own account or charge excessive commission, and all stock purchases and exchanges had to be registered quickly in a bid to prevent forward contracts. Yet, in the absence of adequate enforcement, these regulations were widely flouted and forward sales continued as before.

Despite the speculative excesses, the 1690s was a period of rapid financial and technological innovation. Many of Britain's key financial institutions were formed during this time and revolutionised state finance. The increase in trading also gave rise to regular printed stock lists for the first time. ❖

EXCHANGE ALLEY

MUCH OF THE LIVELIEST trading in securities during the 17th and 18th centuries took place in the coffeehouses of Exchange Alley in the City of London (today known as Change Alley). The stockjobbers of Exchange Alley, many of whom had been expelled from the Royal Exchange for their raucous behaviour, soon gained notoriety for their sharp practice and were commonly blamed for every known evil. A contemporary pamphleteer paints the scene:

'Here assembled the sharper and the saint, here jostled one another the Jew and the Gentile; here met the courtier and the citizen; here the calmness of the gainer contrasted with the despair of the loser; and here might be seen the carriage of some minister, into which the head of his broker was anxiously stretched, to gain the intelligence which was to raise or depress the market. In one corner might be witnessed the anxious, eager countenance of the occasional gambler, in strange contrast with the calm, cool demeanour of the man whose regular trade it was to deceive. In another, the Hebrew measured his craft with that of the Quaker, and scarcely came off victorious in the contest.'



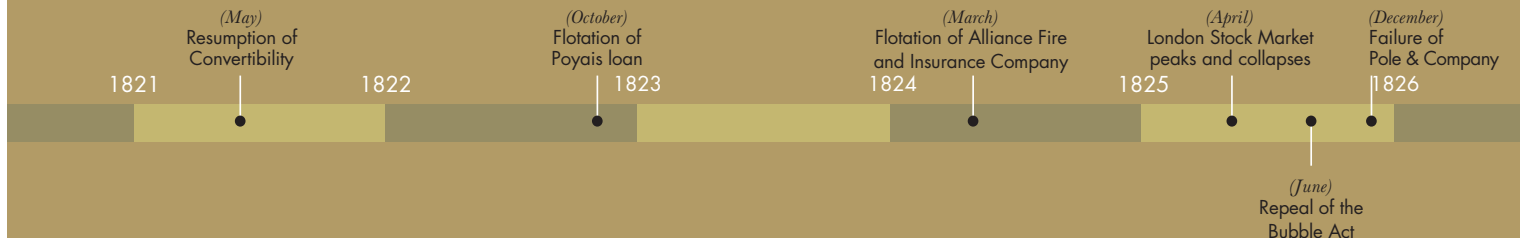
IN QUEST OF AZTEC GOLD

PANIC OF 1825

ARMED WITH CHEAP BANKNOTES AND A ROMANTIC DISPOSITION, BRITISH SPECULATORS VENTURED DEEP INTO THE JUNGLE OF LATIN AMERICAN INVESTMENTS DURING THE EARLY 1820S IN THE QUEST FOR THE CONTINENT'S LEGENDARY TREASURE MINES. YET ALL THEY FOUND WERE PROFIT-SUCKING LEECHES AND ACCURSED PYRAMID SCHEMES.

'WE FEAR THAT THE FOLLY OF MAN IS
NOT SUBJECT MATTER FOR LEGISLATION.'

BENJAMIN DISRAELI



TROPICAL DELIGHT

After the Napoleonic Wars, the British government and Bank of England followed deflationary economic policies to restore the convertibility of Bank of England banknotes to gold at pre-war (1797) levels. Parliament passed the Resumption Act in 1819 and the convertibility of BoE notes resumed in 1821, but country banks continued to issue unbacked paper notes. This surplus of cheap, unbacked credit fuelled domestic speculative investments in Latin American sovereign debt and mining stocks, and domestic joint-stock companies.

After gaining independence from Spain, several South American nations, starting with Colombia, issued bonds in March 1822. These became very popular amongst British investors as they paid much higher rates on interest than British government Consols and were issued at steep discounts. However, many of these issues were Ponzi schemes, whose proceeds went primarily to British 'contractors' with what remained often being frittered away on fighting wars with neighbouring countries. Moreover, investors found it difficult to distinguish the more trustworthy issuers, so all the issues were similarly priced at punitively low levels. This meant that the market was dominated by low quality sovereign issuers such as Peru, rather than higher quality issuers such as Brazil which could resort to internal sources of funds or borrow more cheaply from a narrower group of knowledgeable investors. Indeed, there was such little information on the issuers that in 1822 a fictitious country called Poyais was able to float a loan successfully on the London market, priced at almost the same level as the issues of real countries such as Chile and Colombia.

RIGHT | 'Poyais royalty in quad, or the cacique waiting for bail', satire on Gregor MacGregor

OPPOSITE | Satire on company projectors



A ROYAL STITCH UP

THE SCOTTISH ADVENTURER Gregor MacGregor set himself up as the leader of a small, fictitious territory called Poyais (modern-day Nicaragua). His Highness MacGregor visited London in early 1821, intending to sell land rights and titles of nobility and encourage emigration to his country. Finding a growing appetite for foreign loans, MacGregor arranged to float a £600,000 Poyaisian loan with a 6% coupon. The issue was a tremendous success, and the bonds sold at a hefty premium. In early 1823, 200 colonists arrived in St Joseph, the Poyaisian capital. Instead of the promised grand Baroque city, they found a malarial swamp surrounded by belligerent Indians. Only 50 colonists got back to Britain. MacGregor, meanwhile, fled to France with his family and the proceeds of the bond issue.

unconcerned to declare in his Budgetary Speech in early 1825 that ‘We may safely venture to contemplate with instructive admiration the harmony of its proportion and the solidity of its basis.’ Apart from complacency and inaction, the lack of an official response was partly due to the government’s concern that the ‘remedy would be worse than the disease, if, in putting a stop to this evil [i.e. speculation], they put a stop to the spirit of free enterprise.’ A handful of public figures including the Prime Minister and the prominent banker Alexander Baring did give the alarm, though to little effect.

CURSE OF THE GOLDEN IDOL

Then, for reasons which are not entirely clear but may relate to the Bank of England’s decision to raise interest rates in April 1825, Real del Monte Mining Co. – the leading South American miner – buckled. Its share price plummeted from £1,550 on April 1825 to £200 by the summer, presaging a major stock market crash in London. In the following weeks, other mining stocks fell and new flotations failed. The most spectacular decline was that of the Bolivar Mining Association, whose shares fell from £28 to £1. Information on South American sovereign issuers had also improved markedly in the preceding months, leading to a sharp decline in the prices of lower quality sovereign debt issues.

By now, a major financial crisis was imminent. Alarmed at the amount of unbacked money issued by private banks, the Bank of England decided in August 1825 to reign in lending and beef up its gold reserves – which had declined to only 20% of the value of its banknotes in circulation – by raising interest rates still further. It refused to discount even Baring and Rothschild notes. These credit contractions, combined with the regular seasonal tightness caused by tax remittances from country banks to London, led to a spate of country bank failures in September, October and November.

CAUGHT IN THE QUICKSAND

The next stage of the crisis was much more dramatic. On 13 December, the London bank Pole, Thornton & Co. collapsed, dragging down forty correspondent country banks with it. This time the Bank of England itself came under threat and sought to suspend convertibility to protect its almost empty gold reserves. As a strong supporter of free trade, the Prime Minister did not allow this but permitted the bank to raise its discount rate to the legal maximum of 5% and to issue a previously undiscovered stock of £1 notes which had been in an old vault. These measures provided immediate relief but only a large infusion of gold (300,000 gold sovereigns) from the Banque de France in February, brokered by Nathan Rothschild, saved the bank and averted the suspension of convertibility.

However, this gold loan came too late for many country banks and firms. The previous autumn’s wave of bankruptcies continued into 1826, reaching a peak in April, by which time 73 of England’s 770 country banks had failed. Many of the companies established in the sanguine days of 1824 and early 1825 disappeared. 624 companies were floated in 1824 and 1825, with a capitalisation of £372m. By 1827, only 127 of these remained, with a capitalisation of £100m but a market value of only £9m.

LEARNING FROM MISADVENTURE

Despite the immediate pain suffered by many investors and the collapse of numerous firms, the Panic of 1825 was beneficial for the British economy. The policy reforms made in the wake of the crisis made the economy more flexible and less vulnerable to exogenous shocks, and laid the basis for Britain’s dominance of international finance until WWI. In July 1826, joint stock banks were allowed to establish branches throughout the country, rather than relying on correspondent country banks. This made the bills market more efficient and allowed banks to monitor their operations more effectively. British commerce also benefited from the overhaul of the tax system, the repeal of the Bubble Act and the rewriting of the Bankruptcy Laws in 1831. More importantly, the Bank of England learnt for the first time how to act as a lender of last resort. Thanks to these factors, the national funded debt declined for the rest of the century (except in 1827) and the British government enjoyed the lowest borrowing costs of any European government throughout the 19th century, allowing it to mobilise resources and wage its wars more cheaply.

THE HISTORY OF SAMUEL TITMARSH

In Thackeray's *The History of Samuel Titmarsh* and the *Great Hoggarty Diamond* (1841), Samuel Titmarsh is a clerk at the West Diddlesex Fire & Life Insurance Company, which had been established during the 1825 boom by Mr Brough. Mr Brough is a successful turkey trader but has become involved in foreign government debt and domestic company promotion, puffing concerns as varied as The Ginger Beer Company, The Patent Pump Company and The Consolidated Baffin's Bay Muff and Tippet Company in addition to the Diddlesex Company. Initially, these speculations pay off and Mr Brough becomes one of the richest men in London, regaling 'the great people of the land at his villa in Fulham'. Soon, however, the Diddlesex begins experiencing difficulties after the death of some of its policyholders and the loss by fire of some assured buildings. 'Life insurance companies go on excellently for a year or two after their establishment, but... it is much more difficult to make them profitable when the assured parties begin to die.' Eventually the Diddlesex collapses and Mr Brough escapes to France, taking a million pounds with him and leaving Samuel to face the music. Samuel becomes bankrupt and is sent to a debtors' prison but is rescued by his family, whilst Mr Brough is tracked down and loses everything, having to sell all his possessions to pay his creditors. The moral of the story is that the City is a rewarding place for hard workers such as those engaged in trade but punishes speculators (promoters and investors). ❖

NATHAN ROTHSCHILD

NATHAN ROTHSCHILD, born in Frankfurt in 1776, emigrated to England in 1799 and spent the first ten years exporting textiles back to Germany. In 1809 he moved into banking and wholeheartedly dedicated himself to his new career, claiming 'I do not read books, I do not play cards, I do not go to the theatre, my only pleasure is business.' His big break came in 1815 when he was commissioned by the British government to help finance the renewed war effort against Napoleon, though this very nearly proved his undoing. Anticipating a lengthy war, Rothschild had supplied Wellington's forces on the Continent with vast quantities of gold for the purpose of buying provisions. So when Wellington vanquished Napoleon at Waterloo, ending the war sooner than had been expected, Rothschild's gold became redundant and started to decline in value. Facing ruin, Rothschild took a desperate gamble by staking all the gold on a rise in Consols. The gamble paid off, allowing Rothschild to establish a bank and set himself up as a dominant player in London's increasingly international bond market.





ALL ABOARD THE GRAVY TRAIN

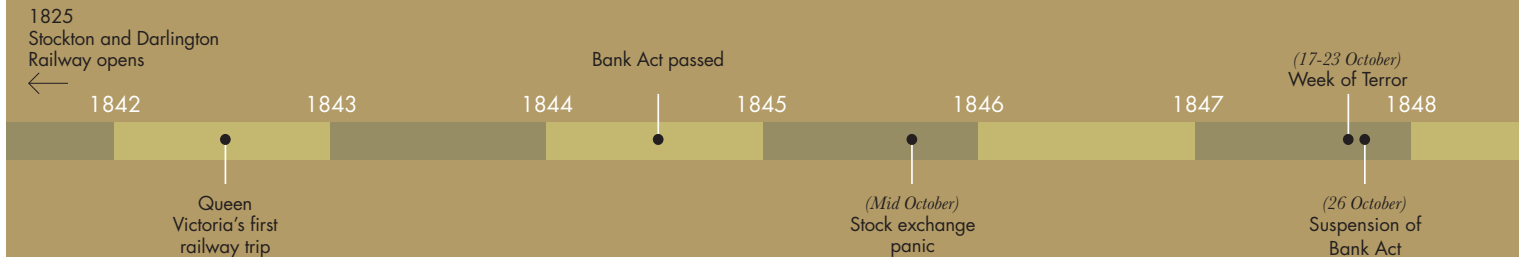
RAILWAY MANIA

1845–1847

AFTER QUEEN VICTORIA'S FIRST RAILWAY TRIP IN 1842, STEAM TRAVEL, STILL A NEW PHENOMENON, SEIZED THE PUBLIC IMAGINATION AND LED TO A SPECULATIVE BOOM IN RAILWAY STOCKS. AS INVESTMENT DECISIONS DECOUPLED FROM REALITY, THE BOOM SOON BECAME A RUNAWAY TRAIN WHICH SLAMMED INTO THE BUFFERS IN OCTOBER 1845.

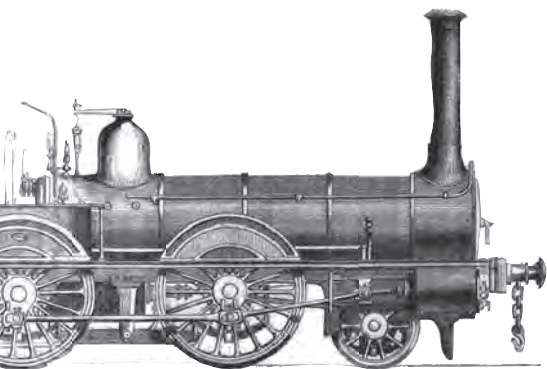
'THE COUNTRY IS AN ASYLUM OF RAILWAY LUNATICS.'

WORDSWORTH



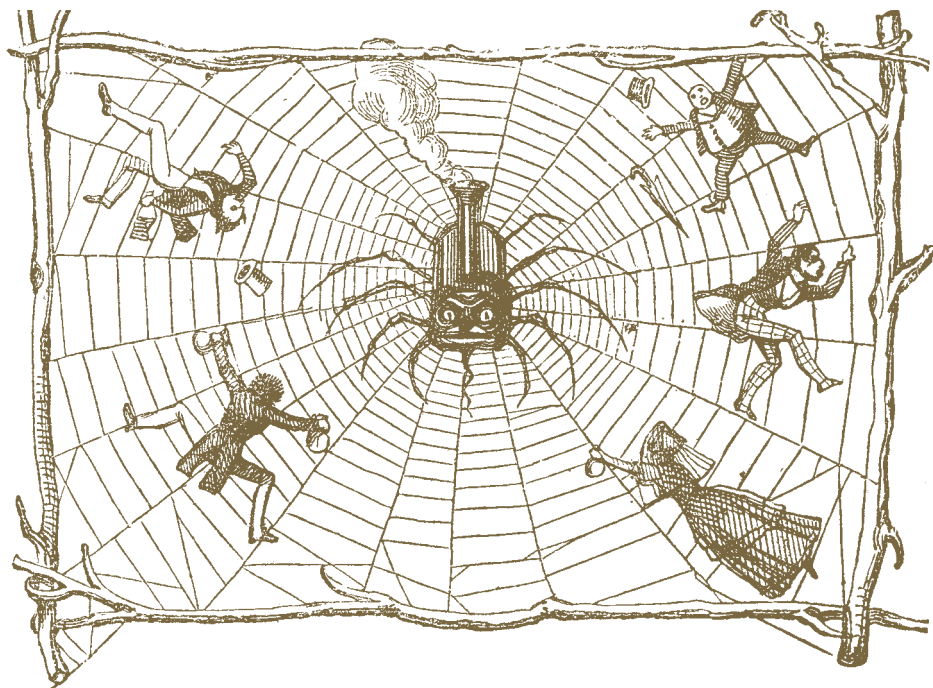
GETTING A FULL HEAD OF STEAM

When steam engines first appeared in the 1820s, they were met with widespread hostility. It was feared that they would prevent hens from laying eggs and cattle from grazing, that their noxious fumes would blacken the fleeces of sheep, and that passengers travelling at breakneck speeds of 12.5 mph would be atomised. Landowners were also concerned that locomotives would shatter the tranquillity of their estates and injure land values. Notwithstanding such apprehensions, there were two early speculative flurries: the first following the establishment of the Stockton and Darlington Railway in 1825, and the second after the opening of the Liverpool and Manchester Railway six years later. Yet both of these were fairly short lived and by the late 1830s, with 2,000 miles of track in place, many felt the national network was complete. Journey times from London to Glasgow had been reduced to 24 hours, prompting the *Railway Times* to ask: 'What more could any reasonable man want?'



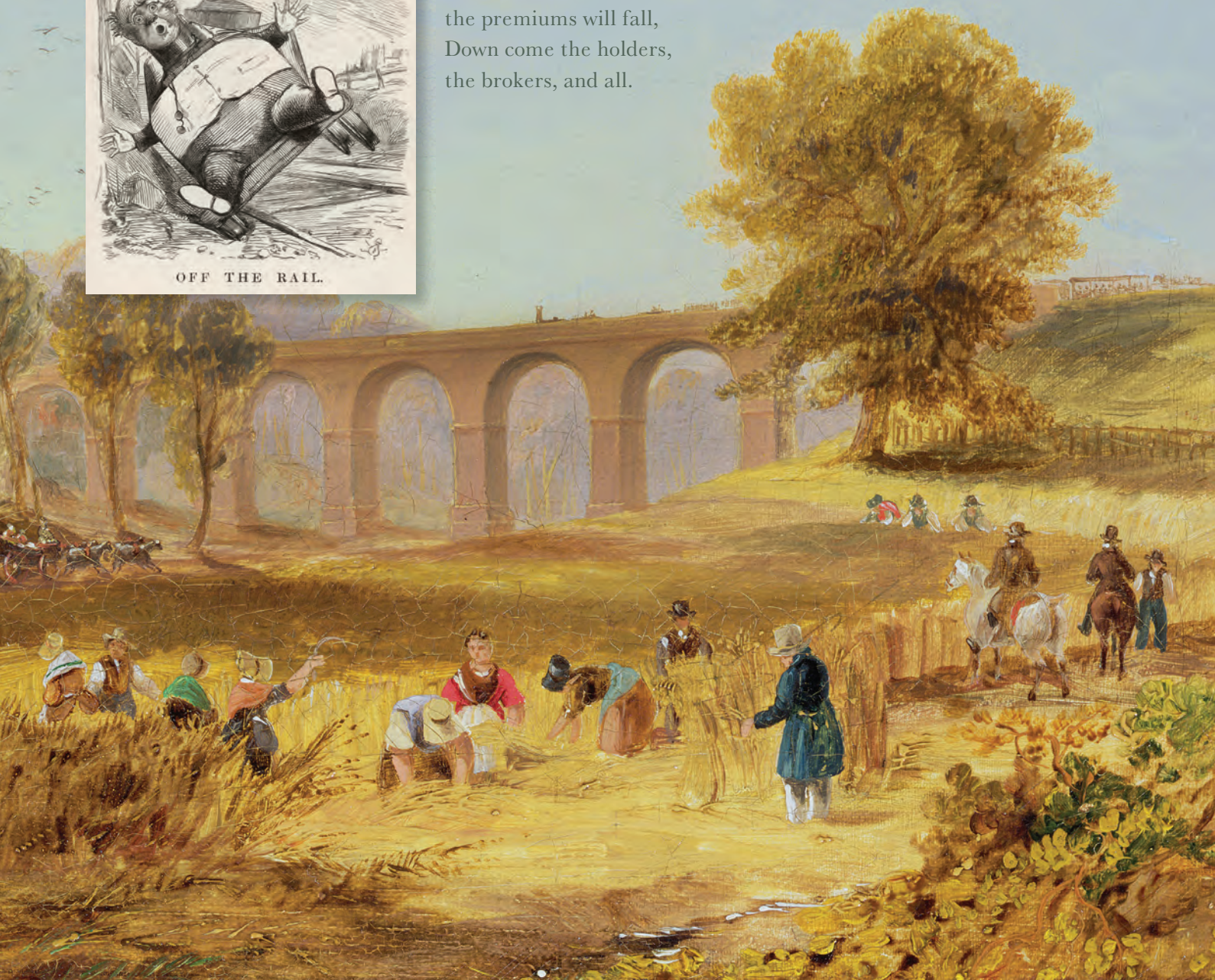
By the early 1840s, speculative interest in the railways was beginning to pick up again. Much of the earlier opposition had diminished and most could now see the benefits of steam travel compared to other modes of transport, and when Queen Victoria made her first train trip in 1842 railways became quite the rage. Investors fawned upon railway companies, lured by their plummy dividends, and commonly believed they would be 'safe in midst of panic', encouraging promoters to rush through plans for new lines and issue new scrip. Share subscriptions sold instantly and commanded huge premiums, even for the most dubious projects.

Railway schemes were typically projected in the following way. Advertisements for a new company would flood the newspapers, including a list of 'committeemen' (company trustees) and the promise of a 10% dividend. If the subscription went well, the committeemen would retain a large share allocation, creating a scarcity, and then get their friends in the railway press to 'puff' the stock, whereupon they would sell it at a premium. Although the committeemen were wont to be billed as upstanding members of the local community, they were often, according to *The Times*, 'the most notorious scamps, alias swindlers', whose sole interest was personal gain. Many politicians were also in on the game, acting as committeemen and hawking their parliamentary votes in return for shares.





Hush-a-by, broker,
at Capel Court top,
When the wind's raised
the premiums will stop,
When there's a breeze
the premiums will fall,
Down come the holders,
the brokers, and all.



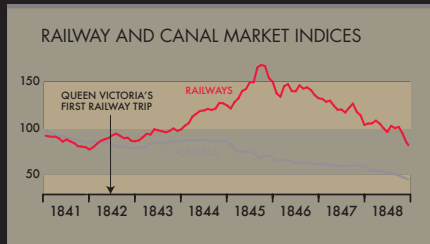
EMERGENCY ANNOUNCEMENTS

Some public figures, notably Alexander Baring and William Gladstone, urged caution and called for tighter regulation but their appeals fell upon deaf ears – hardly surprising, given that most MPs were in on the game. Prime Minister Peel refused to intervene, believing that the previous year's Bank Act (which stipulated that notes must be fully convertible) had prevented all undue speculation.

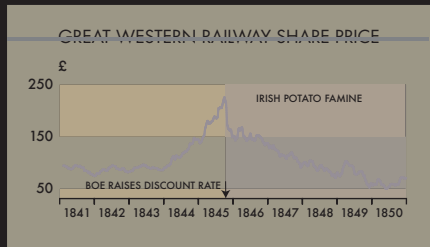
Speculation had reached fever pitch by summer 1845. By June there were twelve schemes coming before Parliament each week and plans for over 8,000 miles of new track. The whole country was consumed with railway mania, and heaving with 'railway hotels, office-houses, lodging-houses, boarding-houses; railway plans, maps, views, wrappers, bottles, sandwich-boxes, and timetables...'; as Charles Dickens observed in *Dombey and Son*. Speculative fervour pervaded all sections of society and blurred class divides. 'Men who were known to have been penniless a year before, suddenly kept their broughams or started barouches. Valuable diamonds gleamed from fingers which had hitherto been guiltless of the bright adornment.' Female speculators also became a common sight, 'Duchesses' delicate fingers handled scrip; old maids inquired with trembling eagerness the price of stocks; young ladies' eyes ceased to scan the marriage list – deserting this for the table of shares, and startling their lovers with questions respecting the operations of bulls and bears.'



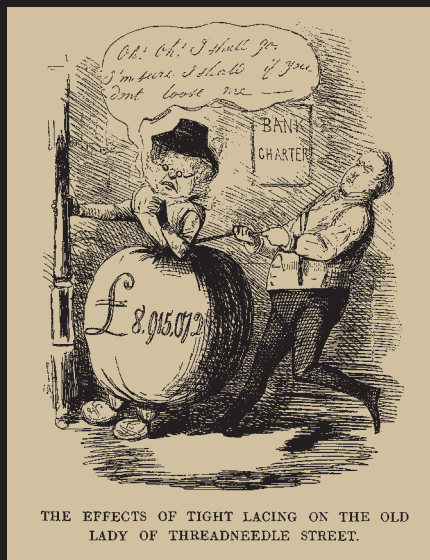
RUNNING OUT OF STEAM



After Queen Victoria's railway trip, railway shares became more actively traded than canal shares



Great Western's share price collapsed in October 1845 after the Bank of England raised its discount rate and the onset of the Irish potato famine



As the summer wore on, the railways began to lose their gloss. It was becoming increasingly clear that many had speculated beyond their means and were in no position to meet the capital calls that were now being made. For example, a parliamentary report found that two brothers who had subscribed for £37,500 of stock were the 'sons of a charwoman living in a garret off a guinea a week'. There was also growing evidence of fraud, lovingly exposed by *The Economist* and *The Times*. Both publications, despite carrying dozens of railway advertisements, began to launch blistering tirades against the railway companies and the cynicism of their investors. A letter in *The Times* stated, 'There is not a single dabbler in scrip who does not steadfastly believe – first, that a crash sooner or later, is inevitable; and secondly, that he himself will escape it... No-one fancies that the last mail train from Panic Station will leave him behind.'

By early October, shares were beginning to decline as investors were forced to liquidate stock to meet the calls; on 14 October, a failed speculator shot himself in Hyde Park, crystallising investors' apprehensions. To cap it all came the news of the Irish potato blight. So when the Bank of England raised interest rates by 0.5% a few days later, share premiums evaporated and there was an 'avalanche' in prices, with the shares of the Great Western – Britain's largest operator – 'down 40% from their August peak'. Summing up the débâcle, *The Times* triumphantly exclaimed: 'The dismal mockery of intelligence and discretion serves only to reveal the inward void. A mighty bubble of wealth is blown before our eyes, as transient, as contradictory to the laws of solid material, as confuted by every circumstance of our actual condition, as any other bubble which man or child ever blew before.'

THE BIG SWOLLEN GAMBLER



GEORGE HUDSON, the corpulent chairman of the York & North Midland, became the icon of the railway mania, controlling over 1,000 miles of railway by 1844. Hudson first became involved in railways when he met George Stephenson and persuaded him to turn York into a railway hub. After joining the York & North Midland in 1842, he started to build a huge empire through a series of mergers. His management style was characterised by a combination of ostentation, penny pinching, rule bending and bullying. He charged the highest tariffs but kept tight control of costs – several fatalities can be attributed to this. Hudson misled investors by paying generous dividends (and his 'expenses') from the company's capital and keeping the accounts secret. Investors did not feel the need to probe too deeply in the fat years but after the bubble burst, Hudson's fraudulent behaviour came to light. Publicly shamed, he fled to the Continent and died a poor man.



VIENNA'S RAILWAY MANIA

RAILWAY MANIA was by no means confined to Britain; in Austria in 1837 it took on an even more dramatic form. 'In Austria, the people are almost mad on the subject of railroads. At a meeting held in Vienna, the place being found too small for the crowd, which was estimated at 30,000 at least, Prince Swartzenburg granted the use of his palace. Still the pressure was so great that the doors were forced in, walls scaled, limbs broken, and even bloodshed. The efforts of a battalion of grenadiers, a detachment of light horse, and 200 police officers, were insufficient to keep the crowd back, and with the flats of their swords produced no effect. — Several of the military were also hurt.'

OFF THE RAILS

Britain's railway investors reaped a bitter crop that autumn, not unlike Ireland's potato farmers: 'The affected potato assumes a dark hue, and by that same token of his blue look may the scripholder be distinguished. The potato, again, it is recommended should be taken to the mill and ground. The unfortunate speculator, in like manner, finds that... he has brought his nose to the grindstone... On one hand, we hear of potatoes being thrown to the cattle; on the other, we have rumours of speculators having "gone all to the dogs".'

Given the crushing burden of the continued share calls, the government passed a dissolution act allowing railway companies to be dissolved if at least three-quarters of shareholders agreed. Yet despite the act, declining share prices and growing disillusionment, railway building continued, though this was mostly based on schemes which had been launched before the October crash. By summer 1846, bankruptcies were at an all time high and Britain was mired in economic gloom, with middle-class families in particular suffering: 'No other panic was ever so fatal to the middle class. It reached every hearth, saddened every heart in the metropolis. Entire families were ruined. There was scarcely an important town in England but what beheld some wretched suicide. Daughters delicately nurtured went out to seek their bread. Sons were recalled from academies. Households were separated: homes were desecrated by the emissaries of the law.'



LEFT | German satire on the opening of a new railway line showing a party on the left and unhappy speculators on the right, c.1840



THE RAILWAY TIMES TABLE

*Numerate the sum total advertised
to be raised by railway bubbles -
Subtract the small sum from it by which
you hope to make your fortune -
Add to this your gullibility, and then
Multiply the whole by your avaricious
views, a fractional plan plus dividend,
or an algebraic minus will at once tell
you how far you have cut a "good figure"
in the prevailing humbug of the day.*

From 'Bubble Railway Mathematical Paper',
20 October 1845



A DANGEROUS CHARACTER.

Pellicioni. 1840. "Come, it is told that you were taken to the House of Commons after twenty years."

ABOVE LEFT | The Wigan rail crash, 1873

PANIC STATIONS

By early October 1847, the Bank of England's bullion reserves had fallen to dangerously low levels, reaching crisis point on Monday 17 October, when there was a sharp fall in Consols as everybody sought refuge in gold. The following day, four major banks failed and by the end of the so-called 'week of terror', the Bank of England had such low reserves that another run would have been fatal. On Saturday 23 October, a group of prominent financiers visited Downing Street and entreated the Prime Minister to suspend the Bank Act (i.e. the full convertibility of banknotes) which was

causing such misery in the City. Two days later, their request was granted and the crisis rapidly dissipated.

The railway mania was not entirely negative. As well as Britain being left with a first rate transport system, the high amount of railroad construction (1844–47) provided employment for hundreds of thousands of Irish navvies during the potato blight, representing a transfer of capital from middle-class investors to the needy.



BASKING IN AN INDIAN SUMMER

BOMBAY SHARE MANIA

1865

AFTER DISRUPTIONS TO CONFEDERATE COTTON EXPORTS DURING THE AMERICAN CIVIL WAR RESULTED IN SKY-HIGH PRICES FOR INDIAN COTTON AND LARGE INFLOWS OF SILVER INTO BOMBAY. THIS ARGENT MANNA ENCOURAGED A SPECULATIVE MANIA IN BANKS, FINANCIAL ASSOCIATIONS AND LAND RECLAMATION COMPANIES WHICH IMPOLED WHEN AMERICAN COTTON CAME BACK ON TAP.

‘IF THERE WAS AT ANY TIME ANYWHERE AN “OPEN SESAME”
IN REALITY IT WAS IN BOMBAY.’

DINSHA WACHA



MIDSUMMER MADNESS

The Union's blockade of Confederate cotton exports in 1862 sent world cotton prices shooting up as English textile mills desperately sought new sources. This resulted in immense profits for Bombay's cotton merchants and massive silver inflows into Bombay. Even the poorer inhabitants of the city joined in the bonanza, tearing up their old mattresses to extract the cotton stuffing, for 'King Cotton was the great deity at whose shrine the merchant and the trader, the rich and the poor, high and low, master and servant, all paid Pooja.' By mid-1863, Bombay had received so much

silver that 'peasants unable to conceal, or use, or comprehend the sudden influx of wealth, jumped from tireless cart-wheels of solid wood to wheels bound round with silver tires.'

These windfall gains resulted in a spate of new company projections. First, several banks were established. Then came a land reclamation company which aimed to redevelop a boggy area on Bombay's outskirts known as Back Bay. Its £1,000 shares were immediately forced up to £3,500. Next was a 'financial association' which was formed to assist new schemes and

advance money on shares. Its shares went up to a 90% premium. The success of these schemes touched off a mad hurly-burly of speculation and commercial expansion.

'Companies were started for every imaginable purpose, banks and financial associations, land reclamation, trading, cotton cleaning, pressing and spinning companies, coffee companies, shipping and steamer companies, hotel companies, livery stable companies and companies for making bricks and tiles.'



CHIEFTANS AND WHITE ELEPHANTS

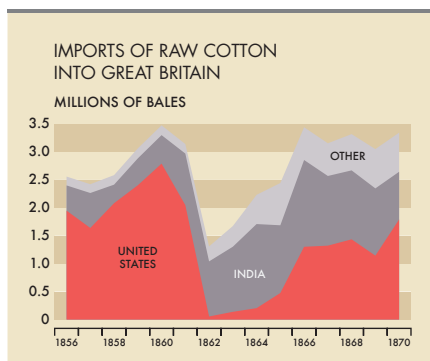
Many of these companies were highly dubious and of little intrinsic worth but this did not seem to concern most investors. 'People were eager only to pursue the will-o'-the-wisp of a handsome fortune. They were infatuated enough to believe that thousands could be made with the rapidity of the prophet's gourd.' Investors were much more concerned with short-term capital gains than steady dividends and long-term potential. 'Men went mad with the lust of premiums, felt as the first Californian diggers did when it seemed that a week's exertion could give them ease for life – as if even the time for food and sleep were stolen from them by hostile powers. What puerility to wait for dividends when one rise in the shares themselves meant gain beyond merchants' dreams.' Another contemporary puts it even more colourfully:

'The ignorant pack of geese in the share-bazaar – the vulgar folk in search of Fortune – was so tempted by the bait of the dividend, that it madly went on buying shares and paying the call.'

Predictably, many of the geese became ensnared in swindles and quack ventures and were promptly plucked by Bombay's 'share kings' – the promoters and speculators behind the new ventures. Yet investors continued to offer themselves up, believing there was 'a patent Eureka to be worked', and were beguiled by the share kings' claims of 'achieving miracles in alchemy, or the science of converting rubbish into gold.' Few could resist the share kings' wheedling: 'Come one, come all, ye who would desire to enrich yourselves beyond the dreams of avarice. There is but one royal road to acquire gold, and we are its patentees.' In this way 'crowds after crowds would gather around them and go home rejoicing for the time, believing that at last the key to riches was found.' And in return the share kings 'exact[ed] unlimited sacrifice and incense at the foot of their golden throne from thousands of their blind votaries'.

MONSOON SEASON

Then catastrophe struck. In June 1865, the American Civil War ended, causing cotton prices in Liverpool to slump. This caught out India's exporters, who, expecting the high prices to continue, had already drawn against the drafts on their cotton shipments. Consequently, they were sent heavy re-drafts from England, putting many out of business. Investors were likewise wrong-footed. Many had bought their shares as time bargains for delivery on 1st July, allowing them to pay huge premiums without putting any money down. After the cotton shock, however, it soon became clear that they would not be able to meet their obligations and that the vast structure of speculation had been built on sand. All share prices began to decline, putting the banks and financial associations which had lent against these securities under increasing pressure. Finally the day of reckoning came and on 1 July, panic swooped down upon Bombay, talons fully extended:



The Union's blockade of Confederate cotton exports shifted the import demand to India

LEFT | Back Bay, Bombay (1855)

RIGHT | President Lincoln (left) and Jefferson Davis (right), President of the Confederacy, battling over cotton



'It was indeed a black day. Even nature seemed to have assisted in heightening the gloom of depression which hung all over the city like a vast funeral pall. People conversed in whispers in the streets with woe-begotten looks as if to say "we shall yet see what we shall see". There was no saying then what tomorrow might bring forth, who might or might not fail, the Bombay commercial world being so out of joint. The names of the best and the highest in that world were not deemed safe from the prevailing peril.'

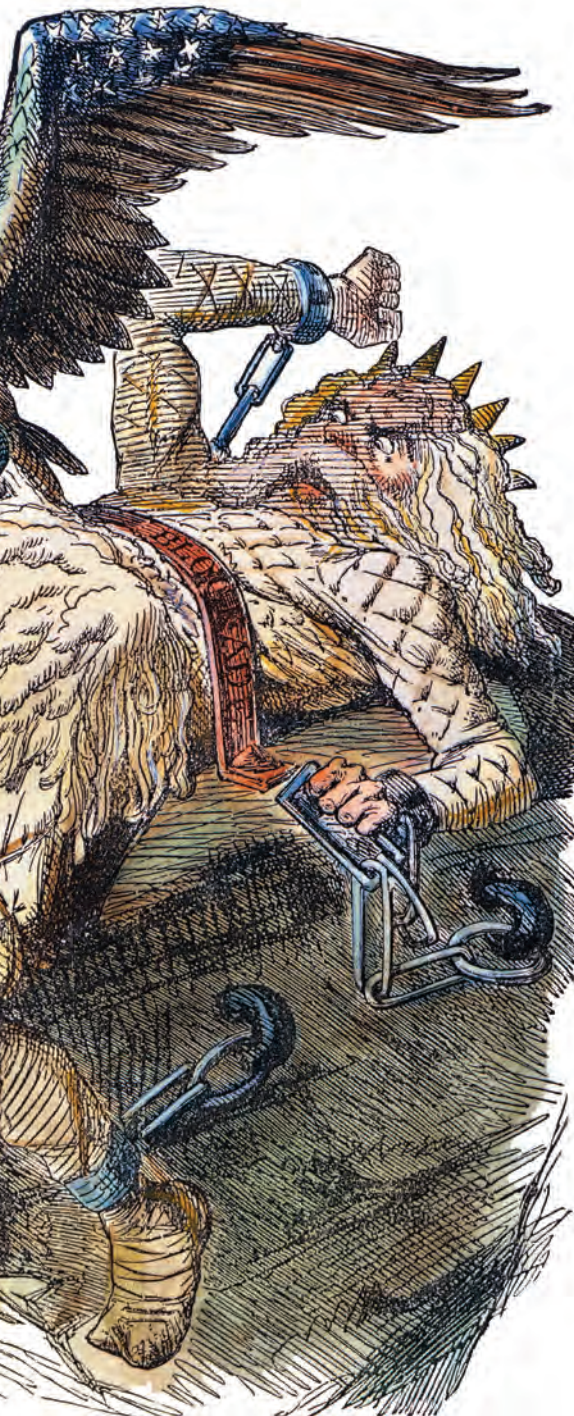
'It came with all the characteristic suddenness and swiftiness and all the titanic force and velocity of the avalanche, sweeping away in its fatal course many an old institution and mercantile firm, and burying the hundreds of mushroom monetary organisations which had enjoyed an ephemeral sunshine awhile. It also engulfed thousands of people, rich and poor alike, in distress and misery from which but a fraction have been known to have recovered. There could not have been a more complete wreckage of capital and credit than the one which overtook Bombay at the very heel of the close of the American Civil War.'

Yet, despite the exquisite agony suffered by Bombay that summer, the memory of the whole affair was

soon sunk in oblivion. Half a century later a veteran of the share mania wrote: 'An obelisk or a pillar to commemorate the financial folly of Bombay would not have been a bad idea. It might have adorned the tale of those erratic days and pointed a moral for future generations of men in search of wealth at the shortest notice. No; not a trace is left. Not even the vad tree is to be seen as the trysting-place which offered a grateful shade in the mid-day sun to quite a swarm of brokers, panting and perspiring. All has vanished like the baseless fabric of a vision, leaving not a vestige behind.' He ends his memoirs on the following poignant note: 'There have been commercial panics elsewhere; but probably no community ever went so entirely mad as Bombay did in 1864. It is pitiful to think of the blighted careers, the lives once full of promise, but now condemned to a hopeless and degrading bondage which must date their ruin from the fatal year 1865. Seventy millions came into Bombay and what became of it?'

The Bombay share mania may have bitten the dust but from that dust sprang the Bombay Stock Exchange. And despite the enormous waste involved, Bombay's land reclamation companies made barren wastes habitable. ❖





KING OF THE SHARE KINGS: MR ROYCHUND

THE MOST PROMINENT and potent of Bombay's share kings during the mania of 1864–65 was Mr Premchund Roychund. He has been described in the following way:

'He was reputed to be the possessor of an "Open Sesame" which might have been envied by the romantic Ali Baba of the Arabian Nights' Tales. No enchanter in Wonderland or Dreamland could have worked greater golden miracles by the magic of his consummate financial skill than Mr Premchund, the veritable Golden Calf of the glorious days of 1864 at whose shrine the rich and the poor, the young and the old, the official and the non-official alike paid fervid pooja.'

'To the vulgar in search of sordid silver he was the very incarnation of a hundred Mammons rolled into one. He was the one Chemiagar [Master Alchemist] who could turn dust into the yellow metal, the one unrivalled magician who could by his magic wand transmute the sands of Back Bay into solid nuggets of gold wherewith to pave the way to Paradise.'

'To myriads of the mad crowds of Bombay of those days he was like unto the Croesus of old-world renown unsurpassable and unsurpassed. Wherever you went you heard but one cry: "There is but one Golden God and his prophet is Premchund!" Premchund. Premchund, Premchund, that was the name that deafened your ears from morn to eve. It was familiar to every man, woman and child in the street. Aye, it was known even to that proverbial "oldest inhabitant" living in the remotest corner of this "tight little island" to whom the hubbub of the outer world was as naught. His ubiquity was phenomenal. In the "City", so to say, you would meet him at every turn during a working day.'



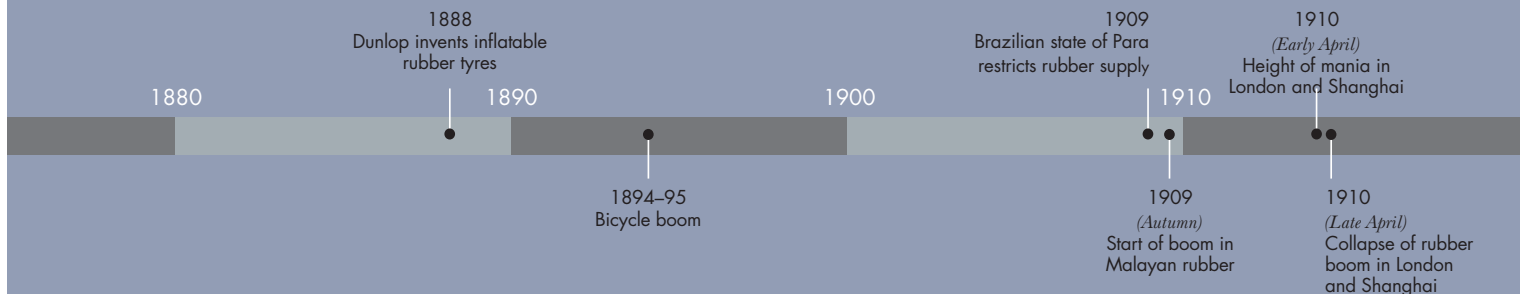
STRETCHED BEYOND BELIEF

RUBBER BOOM OF 1910

HIGH RUBBER PRICES PROMPTED A SPECULATIVE MANIA IN THE SHARES OF MALAYAN RUBBER PLANTATIONS. AT FIRST, THE MANIA WAS CONFINED TO LONDON BUT BY EARLY 1910 SHANGHAI WAS ALSO CAUGHT UP IN THE SWELL. IN LATE APRIL, HOWEVER, THE OVERSTRETCHED RUBBER MARKET SUDDENLY SNAPPED, HURTING INVESTORS IN THE PROCESS.

‘[THE RUBBER BOOM SURPASSES] ANY PREVIOUS BOOM KNOWN IN OUR GENERATION, ECLIPSING THE KAFFIR BOOM AND... COMING PERILOUSLY NEAR TO THE SOUTH SEA BUBBLE.’

SELANGOR COMMITTEE, 1910



BURNING RUBBER

There had been growing demand for rubber ever since John Dunlop's invention of the pneumatic tyre in 1888 and the bicycle boom of 1894–95. Although much of this demand was initially met by Brazil's Amazonian producers, burgeoning rubber prices increasingly lured Malayan producers into the game, and every year saw the number of their plantations steadily increase. In 1909, however, the rubber world was shaken by two events. The world's primary producer, the Brazilian state of Para, in a bid to increase the price of its rubber decided to restrict supply. Meanwhile, US demand for rubber soared following the advent of mass produced cars. Prices skyrocketed and Malaya's producers reaped fabulous profits, allowing them to pay their shareholders spectacular dividends.

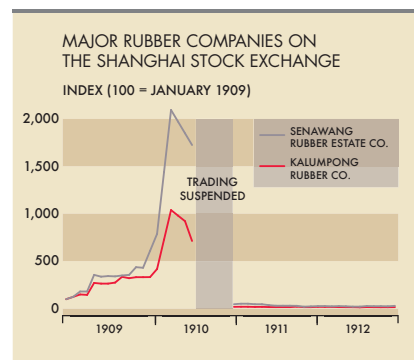
Inevitably, this heady mixture of high rubber prices, rising share prices and huge dividends did not pass unnoticed. In London, a new rubber exchange was established in Mincing Lane and promoters immediately set about forming and floating new Malayan rubber companies, many of which were highly questionable, with nothing behind their prospectuses. Even when this was not the case, new plantations could pay no dividends for 4–5 years, when the rubber would come on line. And there was no guarantee that rubber prices would stay so high. Nevertheless, these new issues became very popular, not least because they were available 'at special' (i.e. on credit), which meant

that investors could buy today and sell for a profit at a later date without actually paying anything. By autumn 1909, the market had a 'sleepy presence in which a handful of dealers made wide prices... [in] a crowded and very wide-awake section' and dealers abandoned other markets 'to take their chances of making money in the abundance of rubber business'. In early 1910, boom turned into mania and by April investor rationality had gone into full retreat. At this stage even 'clergymen and ladies [had become] prominent operators as "bulls", "stags", or "both".' According to *The Economist*:

'From all parts of the country, poured in orders to buy, buy, buy. A broker's office this week was no place for the casual caller, and jobbers thought themselves happy if they got so much as a sandwich between ten in the morning and five at night. The market itself was sheer Bedlam. Brokers over and over again abandoned the attempt to deal, and wrote down their orders for jobbers to execute. The jobbers, making money at the rate of one to five pounds per minute, drove frantically into the crowd, which was radiating heat like a furnace, and made prices gaily in shares of which they scarcely know the name.'

The Economist was not alone in its wonderment at the lunacy that had descended upon London. Another contemporary account testifies to the

hectic scenes in the City in the first weeks of April: 'The banks taking in the subscriptions were rushed by mobs of men, women and children. Brokers, clerks, commissionaires, messenger boys and street porters fought their way to the counters to throw in their applications.' Within the Rubber Exchange, the atmosphere was even more torrid: 'From the Consol Market end of the House a seething mass of brokers and dealers can be seen swaying hither and thither, shouting, perspiring, and "booming" like maniacs.' As yet more brokers arrived, 'hundreds of members having a "flutter" on private account rush in to see how the market looks. If it has a runaway appearance they treat themselves to a few more of their pet gambles, but if it sags they unload a few hundreds.'





The author of this account concluded that it was 'quite evident that the rubber boom has reached its South Sea Island stage. All bounds of reason and safety have been passed, and the only reason why the collapse holds off is that a large proportion of the dealing has been done on the deferred payment plan.' Even if the abnormally high rubber prices of April 1910 held indefinitely, investors' finances would not, and the boom would soon end because 'there are too many "wild men" in it, too many small gamblers, and, worst of all, too many West End plungers.'



RIGHT | Scene at London's Rubber Exchange, March 1910





THE CHINA SYNDROME

A few months earlier, Shanghai had caught the rubber infection from London and was now running a high temperature in its turn. Following London's example, the 'honoured businessmen' of Shanghai set up numerous new Malayan rubber companies and issued what were in many cases highly mendacious prospectuses. These prospectuses frequently included disingenuous claims about oil prospects on the concerned estates, whilst others grossly overstated the amount of acreage under rubber. Sometimes the promoters went even further in their efforts to beguile prospective investors. On one estate 'raw stumps were stuck into the ground and described as one year rubber'.

Chinese and expatriate investors also took their cue from their lunatic brethren in London, and plunged headlong into the rubber shares. Shanghai's clubs and bars became veritable rumour mills, fuelling speculation, and soon the entire city had developed an unhealthy obsession with rubber.

At the height of the mania, in early April, there were riotous scenes as 'all the Smiths in town ran amuck... and insisted on buying shares "forward" at fancy prices. For five weeks brokers had their clothes almost torn off their backs by excited plungers who desired to buy shares "forward" at three of four hundred per cent premium.' Britain's representative in China reported that money 'came pouring in from all parts of China, even, it is said, from the Imperial Palace in Peking. Foreign residents in the outports, who had never gambled in their lives, sent in the savings of years for investment in companies whose name they did not even know, and Chinese officials, in charge of Government and railway funds, recklessly cast them into the melting pot in the sure and certain hope of

making their fortune.' Every broker at Shanghai's Stock Exchange was having a field day and was 'a willing minister to this gambling spirit', and some openly acknowledged that they were strongly inclined to make 'any amount of money out of it' – 'it' referring to investors' credulity.

SNAP

In late April, however, the rubber boom in London suddenly ground to a halt when US demand temporarily slackened and world rubber prices fell in consequence. On the back of this, London's money markets tightened and the bears came out in force. To add to the distress, the king had just died. London's Rubber Exchange immediately let out a whoosh of hot air and sank to the ground. Reacting to developments in London, the rubber shares being traded in Shanghai underwent a similar fate, and Shanghai's Stock Exchange, shortly beforehand a hive of activity, sank into a deep torpor that lasted for several years. Unlike London, however, several of Shanghai's brokers were convicted of gambling, the punishment for which was 80 blows with the *chang* (a heavy bamboo cane) and exile to a place 3,000 li (1,500 km) from Shanghai. Still, no doubt all of those who had made great losses in the debacle found themselves soothed by Shanghai's 'Rubber King' (a major operator called R. H. Gore-Booth and one of the few to have profited from the boom) when he glibly stated, 'The trees are growing all the time and the shares becoming more valuable.'

Despite the speculative excesses of 1910, the rubber boom significantly advanced the economic development of Malaya, and had it not been for the boom, the world would have been inadequately supplied with this vital commodity in the following decades, especially during World War I when it came into high demand. ❖



ORIGAMI FINANCE

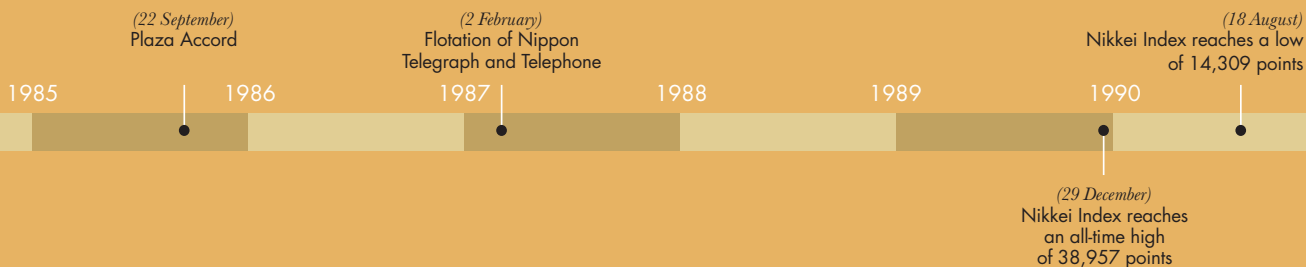
THE JAPANESE ASSET PRICE BUBBLE

1985-1990

IN THE 1980S, JAPANESE SPECULATORS TOOK ADVANTAGE OF INCREASED BANK LENDING TO CRAFT THEIR EXTRAVAGANT DESIGNS UPON THE STOCK AND PROPERTY MARKETS. ALTHOUGH THESE INVESTMENTS OFTEN LOOKED GOOD ON PAPER, PRICES BECAME UNSUSTAINABLE AND IN EARLY 1990 THE MODEL ECONOMY BEGAN TO UNFOLD, LEAVING INVESTORS TORN UP.

'ONE DAY PEOPLE ENGAGED IN THE MONEY GAME
ARE GOING TO INCUR THE WRATH OF GOD.'

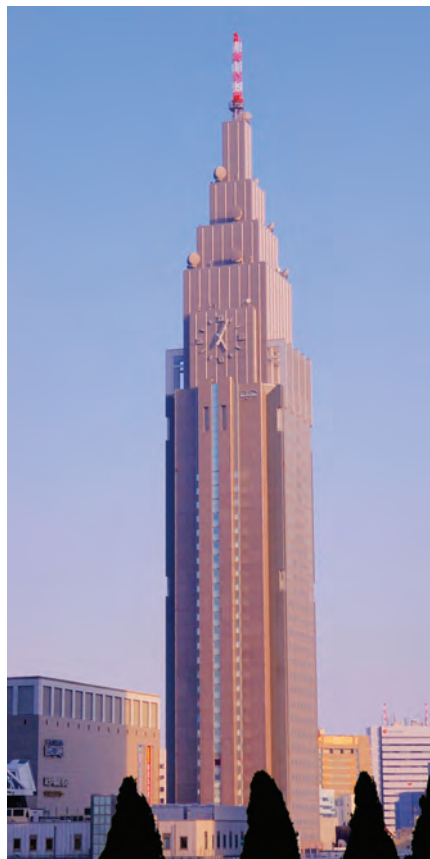
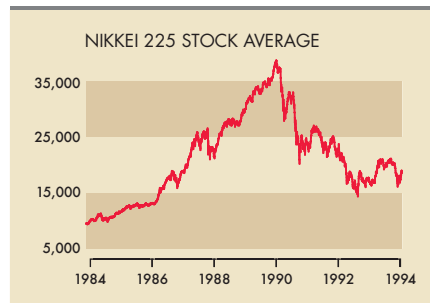
CHAIRMAN OF NIPPON TELEGRAPH AND TELEPHONE, 1987



PAPER MERCHANTS

There had been growing demand for rubber ever The US, alarmed at the growing deficit in its current account, successfully petitioned other leading economies at the Plaza Accord in September 1985 to intervene in currency markets to depreciate the dollar. The yen-dollar exchange rate lowered over the next two years by more than 50%, driving a wave of consumerism in Japan. However, the strong exchange rates also threatened to undermine Japan's export-led economy. Interest rates were lowered and the Ministry of Finance introduced measures aimed at providing industry with cheap capital. Japanese companies were encouraged to engage in corporate speculation and *zaitech* or financial engineering, allowing them to boost their capital expenditure and to boast larger paper profits. The government could also claim that the post-war economic miracle was still alive. However, these reforms actually resulted in a vast misallocation of resources and contributed to the subsequent asset price bubble.

Even more cheap credit came on tap in late 1987, thanks to a clause in the Basel Agreement, which allowed Japanese banks to link their lending to the rising stock market and boom in real estate. Essentially, banks were permitted to count part of the profit from their shareholdings towards the minimum capital ratio stipulated by Basel. Banks also lent against the collateral of land and property, in the expectation that land prices would continue to rise indefinitely, extrapolating from the 5000% increase in prices between 1956 and 1986. Of course both these practices set up a feedback loop of rising prices expanding credit, which raised prices yet further.



ORIGAMI CRANES

The strong yen, low interest rates, *zaitech* and the willingness of banks to lend, led to a speculative boom in real estate and the domestic stock market. Western investors, believing that Japanese shares were becoming overvalued, began to reduce their exposure, but the bubble continued to expand even through Black Monday on 19 October 1987, when markets in Hong Kong, Europe and the US crashed. Stocks were valued with little regard to their fundamentals: a company's land assets and the overall performance of their sector were more important factors. The average price earnings ratio of Japanese companies in 1987 was already high at 90, yet some sectors and companies had much higher ratios. Fishery and forestry stocks were 319 times earnings. Japan Air Lines, which was then undergoing privatisation, sold for more than 400 times annual earnings and Nippon Telegraph & Telephone reached 1,200 times earnings that year. Land values had also rocketed. By late 1989, one square metre of office space in central Tokyo would set you back at least \$3,000, and it was estimated that the grounds of Tokyo's Imperial Palace were worth more than all the real estate in Canada.

Speculation also spilt over into other kinds of asset. When a Kobe prostitute died from AIDS in January 1987, shares in condom manufacturers swelled, as did those of pornographic film producers and the Nippon Meat Packers, which claimed to have extracted an anti-AIDS agent from chicken bile. There was also a speculative frenzy in golf clubs, primarily due to their underlying land assets. Secondary markets in golf club membership certificates soon appeared and Nikkei even developed a golf club membership index. Japanese speculators also dominated the world's art markets in the mid-to-late '80s, paying outlandish prices for famous works.



In 1987, Yasuda Fire & Marine paid \$40m for Van Gogh's *Sunflowers*, nearly three times more than had ever been paid for a painting.

The bubble years also saw a dramatic rise in Western-style consumerism. A gourmet boom (*gurume buumu*) took off as affluent Japanese eschewed traditional food in favour of imported foreign cuisines. Fashion-conscious (*bodi-con*) women wore shorter skirts, like the flappers of the 1920s, and many young people spent their evenings in nightclubs, paying as much as \$300 for a glass of whisky-flavoured water. A number of incredibly opulent hotels sprang up in Tokyo including one where guests were offered a choice of seven stuffings for their pillows, including pearls.

PAPER CUTS

When the Nikkei index peaked at nearly 40,000 at the end of 1989, it was up 27% on the year and nearly 500% on the decade. Despite predictions that the index would double again over the next five years, the market began to lose steam as soon as the New Year began, and the fall became more precipitous after the Bank of Japan began to raise interest rates (motivated by the its governor's desire to deflate property prices) – though there was never the sharp collapse characteristic of other crashes. As the descent continued, the scale of market manipulation practised during the bubble by several major brokerages, banks and leading speculators became ever more apparent, with a wave of financial scandals breaking during the summer of 1990.

Despite a brief rally in October 1990, the Nikkei continued its downward course, reaching a low of 14,309 in August 1992 and, by the end of 1992, Tokyo property prices had fallen by 60% from their peak. By this time, Japan had sunk into the recession that would blight it for the next decade. There was too much productive capacity – a legacy of the excessive capital expenditure during the 1980s – and not enough consumer demand. Interest rate reductions had little effect: as Keynes had observed half a century earlier, monetary adjustments in deflationary conditions are like pushing on a string.

The collapse of the bubble led to a long-lasting revulsion against the stock market – in 1998, over 60% of Japanese assets were held in cash, despite the fact that many banks were offering savers negative real interest rates!

Japan witnessed one of the most dramatic real estate booms in modern history. Of course many of the values were pie in the sky but the boom left its mark in Tokyo's impressive skyline and Japan's many golf clubs. ❖



BUBBLE SPECULATORS

THE THREE MOST PROMINENT SPECULATORS during the bubble were Nui Onoue, Susumu Ishii and Mitsuhiro Kotani. Onoue, who came to be known as the 'Bubble Lady' and the 'Dark Lady of Osaka', had run two restaurants in Osaka, but after borrowing over 3 trillion yen (\$23bn) in the late 1980s, became the largest shareholder of several blue-chip companies. By 1989, she was thought to be worth half a trillion yen. Onoue belonged to an esoteric Buddhist cult and held regular séances with her brokers, using the spirits to guide her speculations. Eventually she met her come-uppance in 1991, after it was discovered that she had used over \$2bn of forged 'certificates of deposit' to obtain loans from the Industrial Bank of Japan.

Mitsuhiro Kotani was the head of the Koshin Speculator Group and was in the business of exchanging stock tips for favours – typically, loans to fund his speculative ventures. On one occasion, he exacted a 30 billion yen (\$224m) loan from the Janome Sewing Machine Company, on whose board he sat, by threatening to take out a contract on the company's president. But by 1992, the tables had turned and Kotani was declared bankrupt, with debts of nearly \$2bn.

Susumu Ishii was the head of Japan's second largest crime syndicate and was the archetypal corporate gangster or 'economic yakuza'. Ishii sought to diversify his gang's activities and founded Hokusho Sangyo in 1985, a real estate company with links to senior politicians. He ploughed 170 billion yen (\$1.3bn) of the company's funds into the stock market, yielding fabulous returns. But the bursting of the bubble in 1990 eroded his wealth and he died the following year.



ABOVE | DVD cover for *Bubble Fiction* (2007); in this film an inventor contrives a time-travelling washing machine in which she goes back to 1990 in a bid to prevent the bursting of the real estate bubble

ZAITECH

FROM THE MID-1980s, Japanese companies began to augment their revenues with *zaitech* (financial engineering). The Ministry of Finance allowed companies to open *tokkin* accounts, which were special tax-free accounts for shareholdings. The Ministry also permitted companies to issue warrant bonds on the London Eurobond market. Warrant bonds – corporate bonds with an attached warrant – appealed to issuers because rapidly rising share prices meant that interest payments could be very low. As they were mostly issued in dollars, the appreciating yen meant that swapping them back into yen could result in negative interest payments. In other words, companies were being paid to borrow money! Warrant bonds created a circular arrangement, like South Sea Company shares, where higher share prices would increase the worth of the warrant bonds, leading to even higher share prices. Similarly, high profits from *zaitech* led to higher share prices, which increased the use of *zaitech*. Although the proceeds of warrant bond issues were primarily used for stock market speculation, they did result in huge capital investments (\$3.5 trillion in total). However, much of this capital expenditure was misdirected and saddled the country with excess productive capacity throughout the 1990s.



WWW.WINTONCAPITAL.COM