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SHORTLIST

The First GREAT DEPRESSION and the Making of the MODERN WORLD

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1873

The First GREAT DEPRESSION and the Making of the MODERN WORLD

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To my grandchildren, India, Hayes, and Riz,
who remind me that history is never finished.

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Contents

Introduction *xiii*

Part One

THE BOOM: 1867–1871

1. In Bonds We Trust *3*

2. The Gods of Our Time *11*

3. An American Rothschild? *23*

4. God's Chosen Instrument *33*

5. The Greatest Financial Event in History *41*

Part Two

EUPHORIA: 1871–1873

6. Drunken Cities *61*

7. Ingenious Mendacity *75*

8. Blind Capital *89*

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Part Three

THE BUST: 1873–1876

9. The Desolate Home of the Ruined Gamester *109*

10. A Financial Thunderbolt *124*

11. The Crimes of 1873 *146*

12. Chaff Before an Autumnal Gale *165*

13. Palace Intrigues *177*

Part Four

THE AFTERMATH: 1876–1886

14. "The Jews Themselves Are to Blame" *191*

15. Stealing the Election *207*

16. The Bondholders' War *218*

17. Le Krach de l'Union Générale *233*

18. We Don't Need to Make Money *241*

Epilogue Brussels, 1892 *253*

Acknowledgments *275*

Notes *279*

Bibliography *309*

Illustration Credits *323*

Index *325*

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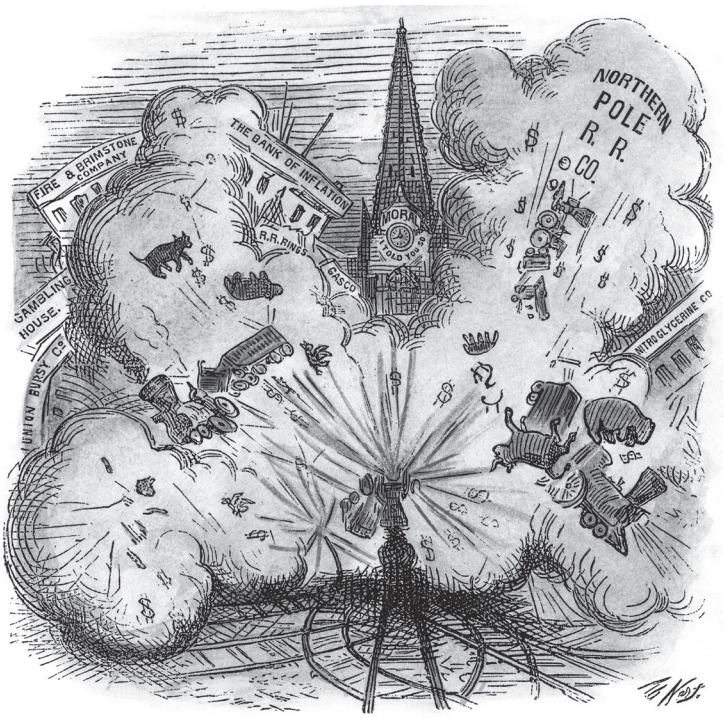
Translating Sums of Money

This book is full of financial figures in a variety of currencies. To keep things simple and help the reader, I have converted amounts that would normally be expressed in other currencies (for example pounds sterling or German marks) into U.S. dollars—except in those cases where the context clearly requires otherwise.

Understanding the significance of economic numbers from the 1870s and relating them to today's dollars is not a straightforward exercise. Not only have prices risen enormously since then, but the U.S. and European economies have also grown gigantically. Financial magnitudes that relate to an individual's economic situation are best translated by adjusting for changes in the cost of living. As a rule of thumb, to compensate for the effects of inflation, multiply by a factor of 25. Thus the cost of James de Rothschild's country château at Ferrières of $5 million would be the equivalent today of $125 million, only a third less than the most expensive house sale in Britain to date.

By contrast, in order to grasp the true significance of sums of money that relate to the economic situation of whole countries—such as the size of the indemnity imposed on France after the Franco-Prussian war—it is most useful not simply to make allowances for changes in the cost of living but instead to adjust for changes in the size of economies. To translate such figures into comparable 2026 magnitudes, multiply by a factor of 1,200. Thus the $500 million that went into U.S. railway bonds annually during the boom years of the early 1870s would today be the equivalent of $600 billion, roughly what is projected to be invested by major tech companies in 2026.

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The "Long and "Short" of it is a general "Bust" up in the "Street."

A Thomas Nast cartoon titled "The 'Long' and 'Short' of It Is a General 'Bust' Up in the 'Street'" depicts the aftermath of Wall Street's "Black Friday" on September 19, 1873, triggered by the failure of Jay Cooke & Co., a major backer of the Northern Pacific railroad.

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Introduction

When the Vienna Stock Exchange collapsed on Friday, May 9, 1873, few people were taken by total surprise. For months, observers had been sounding alarms about how the market was becoming untethered from reality—the value of stocks listed on the exchange had gone up an eyewatering 300 percent over the previous three years—and predicting that it was bound to eventually implode. Hundreds of newly minted companies had been floated on the exchange, and the volume of stock trading had exploded. For a while, it seemed as if everyone in Vienna had succumbed to a kind of collective madness. People from every stratum of society—not just the usual middle-class doctors and lawyers with savings to spare but waiters from the coffeehouses on the Ringstrasse and shoeshine boys from the Graben, even archdukes and generals, duchesses and their housemaids—had joined in the frenzy of gambling, buying stocks on margin with money they did not possess. The speculative fever was not restricted to stocks alone. The bubble had in fact originated in the real-estate market. Beginning in the late 1860s, prime Viennese properties had started climbing in price, and by the early 1870s, they were doubling in value every eighteen months.

What did come as a shock, though, when the stock market finally tumbled that Friday, was the sheer velocity of the fall. Bank stocks, the most speculative segment of the market, went down a staggering 45 percent

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in a single day, which the papers promptly dubbed, not very originally, "Black Friday."* While the turmoil on the exchange created wider ripples (for example, the Bank of England, which set credit conditions for much of the world, did briefly tighten by raising its base rediscount rate from 3 to 7 percent), the reverberations proved to be short-lived. Within weeks, international bankers were dismissing the crash in Vienna as an isolated event, a much-needed correction in a single market that had lost its moorings.

Four months later, however, in early September, financial troubles emerged across the Atlantic in New York, suggesting that perhaps more profound, systemic forces were at work beneath the surface prosperity of the global economy. Jay Cooke & Co.—the preeminent American investment bank with branches in Philadelphia, New York, and Washington, D.C.—had fatally overextended itself after making loan commitments that it could now no longer meet. In a desperate bid for survival, the firm tried to raise additional funds but, despite offering extremely generous terms to potential investors, found no takers. Jay Cooke, the bank's founder and namesake, insisted, in total denial of reality, that his institution faced only temporary liquidity problems and remained fundamentally sound. No one else, not even any of his partners, was persuaded. Within a few days, the bank shuttered its doors and declared bankruptcy.

The collapse of this one institution had a devastating impact; in one fell swoop it dramatically changed the psychology of investors, setting in motion a scramble for cash that metastasized into a full-blown run on the New York banking system. The New York Stock Exchange took the unprecedented step of suspending trading entirely—the market would remain closed for ten days. To calm Wall Street, the president and his

* There had already been a "Black Friday" for the New York Stock Exchange on September 24, 1869. In the decades that followed, it became common parlance to call market crashes "black" days. The Wall Street crash of 1929 saw a sequence of such days in quick succession: Black Thursday (October 24), Black Monday (October 28), and Black Tuesday (October 29). Monday, October 19, 1987, when the U.S. stock market fell by a record 22 percent in one day, also came to be known as Black Monday.

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secretary of the Treasury were compelled to step in by providing emergency liquidity to the market. While the most visible sign of distress was the implosion of the stock market, the real trouble, its true epicenter, in fact lay in the bond market, particularly railway bonds. Within five years, more than half of the $2.2 billion in railway bonds listed on the New York Stock Exchange would default, leaving investors with losses of almost $600 million.

The contagion of fear now shifted, reversing course and crossing back over the pond. On September 20, as the news from New York arrived in Europe, German and Dutch investors who had put money into American railroads took flight. A wave of panic selling hit exchanges across Europe, including in Berlin, Amsterdam, and Brussels, which in turn reignited the selling in Vienna. On November 1, the Vienna Stock Exchange took another giant tumble. Over the next three years, both the Berlin and Vienna stock markets would plummet by 40 percent. In the meantime, the scare spread to other markets closely linked to those in central Europe, such as those of Switzerland and Italy, though Europe's two largest markets, those of London and Paris, remained strangely immune.

The turmoil on the stock exchanges of Vienna, Berlin, and New York had its most immediate impact on the economies of central Europe and the United States. It took a little while for it to register across the wider world. The transmission went through London, the world's financial capital, as bankers, chastened by the mounting risks of default, slashed their lending. By 1876, the volume of loans channeled from Britain to the rest of the world had fallen by 80 percent. Only a couple of years before, British and French banks had competed with reckless abandon to lend money to the poorer countries of the world. Now with their supply of new credit cut off, these countries found it impossible to keep servicing their existing debts. Fifteen non-European nations, collectively owing more than $2 billion, suspended interest payments. The two biggest defaulters—Ottoman Turkey, with $1.1 billion outstanding, and Egypt, with nearly $500

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million—faced particularly severe consequences. The autocrats at the helm of these two countries—Abdülaziz, sultan of the Ottoman Empire, and his cousin and vassal Ismail Pasha, khedive of Egypt—who had mortgaged their nations during the boom years to finance their extravagances, paid dearly. Sultan Abdülaziz was deposed in a palace coup on May 30, 1876. A few days later, on June 4, he was found dead in his private chambers at Çırağan Palace in Constantinople, where he, his family, and selected members of his harem were being held prisoner. Both of his wrists had been slashed—an apparent suicide with a pair of scissors, though the circumstances were highly suspicious. The Egyptian, Khedive Ismail, survived somewhat longer. But he, too, was ultimately deposed. In the summer of 1878, he was replaced by his son Tawfiq and sent into luxurious exile at a royal palace nestled on the slopes of Mount Vesuvius, outside Naples.

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Despite the profound changes in the financial landscape since then, it is remarkable how so many elements of the preceding story—the real-estate bubble, stock-market mania, careless lending, cascade of defaults, financial disruptions ricocheting across the ocean, drastic austerity programs, and ensuing social unrest—carry such a familiar ring. The events of 1873 are now largely forgotten. But to the generation growing up in the early twentieth century, 1873 loomed as large in the public consciousness as the Great Crash of 1929 does today. And like the Great Crash, it was viewed as having set the stage for a twenty-year period of economic upheaval that in its day even came to be known as the Great Depression.

The year 1873 marked the first truly significant global financial crisis. Like so many of the cataclysms that were to hit the capitalist world over

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the next 150 years—the Great Depression of the 1930s, for instance, and the global financial crisis of 2008—the crisis of 1873 was foreshadowed by an extraordinary boom. The two and a half decades from 1848 to 1873 represented the first worldwide economic expansion in Western history, fueled by a massive spread in international trade and a jump in capital investment. This quarter century, which would prove to be the first era of globalization, was dominated by four powers—Britain, the United States, France, and Germany—which collectively grew by 80 percent over those twenty-five years.

Britain remained the world's dominant economic force, serving as the manufacturing, financial, and trading powerhouse at the hub of the global system. The fastest-growing economy, however, was that of the United States, which nearly tripled, despite an intervening civil war, and stood poised to overtake Britain's as the world's largest. France and the recently unified Germany occupied third and fourth place with nearly equal economies, roughly two-thirds the size of Britain's and America's.

When the financial collapse came in 1873, the global economy was struck not by a single shock but by a cascading chain of them, originating in different parts of the world—in Europe, in the United States, and in developing countries—each with distinctive causes yet all feeding upon one another as financial chaos in one corner of the globe successively contaminated other parts of the world.

And yet what is also notable, and what makes 1873 so distinctive, is that the immediate economic impact of all the financial turbulence proved to be relatively modest. Though it was being buffeted by one shock after another, the global economy seemed to possess a natural resilience that allowed it to rebound. Of the four major economic powers, only the United States experienced a significant downturn, with a peak-to-trough decline of barely 6 percent in industrial production. While the other great powers—Germany, Britain, and France—experienced a few years of stagnation,

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none faced any significant decline in industrial production or a deep recession. As a result, economic historians now reject the once-common characterization of the aftermath of 1873 as a great depression.

In fact, the Crisis of 1873 might have easily gone down in history as just one in the long series of minor setbacks that peppered the nineteenth century, leaving little lasting damage, had the governments of the major economic powers not simultaneously blundered, amid all the financial tumult, into a precipitous and totally unnecessary reordering of the global currency system. This proved to be a self-inflicted wound that generated a giant squeeze in the volume of global liquidity, and it had enormous unintended economic, social, and political consequences that would unfold for decades.

It first started when the government of Germany sold a large portion of the country's silver reserves, a tactical move principally aimed at undercutting France, Germany's recent adversary in the Franco-Prussian War of 1870. What initially began as a localized and limited clash between two rival nations quickly spiraled out of control, and within a couple of years, every country in continental Europe had abandoned silver as a foundation of its monetary system. It also happened to coincide with a correspondingly ill-considered move by the United States to suspend the use of silver as a form of money.

For centuries, silver had been one of the two principal monetary metals. The effect of such a far-reaching and abrupt shift from a "bimetallic" currency system—a system built around a combination of gold and silver—to one based on gold alone was to place half the world's monetary reserves under a vast cloud of uncertainty. In normal circumstances, a more resilient global economy might have been able to withstand the jolt of such a sudden contraction in international money. But coming right in the middle of a global financial crisis, it proved disastrous.

Most importantly, it triggered a massive deflation in prices that would reverberate for the next quarter century. Over the following six years, prices across the world dropped by 20 to 25 percent. In the United States,

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still in the process of readjusting after the Civil War, the deflation cut even deeper—the prices of wholesale goods plummeted by 35 percent. Though prices would stabilize briefly in the late 1870s and early 1880s, the fall would resume thereafter and continue until the mid-1890s, by which time overall prices had fallen by one-third and wholesale prices by more than one-half. According to one economic historian, it was "the most drastic deflation in the memory of man. . . . In the long history of money and prices from the Middle Ages to the present, there is nothing like it." Most shockingly, almost all of it, according to Nobel Prize–winning economist Milton Friedman, can be blamed on that single blunder—the global demonetization of silver.

The effects of lower prices were not all bad. It meant that everything became cheaper. The growing legions of working- and lower-middle-class people in towns and cities—all those schoolteachers, clerks, and small-time shopkeepers—found that even though their wages had fallen, the money they earned went further, and their standard of living improved. The lowering of prices was also a boon for thrifty middle-class savers who had invested in government bonds, which gained massively in value as the purchasing power of money appreciated. But the twenty-five-year price decline squeezed profits, as wages failed to dip in parallel, and the burden of existing debts was magnified. The resulting low profitability of businesses damaged the incentive to invest, leaving the global economy suffering from a profound and simmering underlying malaise.

Most significantly, the ubiquitous fall in prices created a giant redistribution of wealth from debtors to creditors. Coming in the wake of a quarter century's buildup of debt, this transfer—from businessmen and farmers (who owed money and saw their debt burdens double in real terms) to the bankers, financiers, and rentiers who had lent to them, and who now received a whopping and unanticipated windfall as lower prices boosted the real value of the loans they had made—was extraordinarily large. The impact on society was wide-ranging. It left the losers, who came from

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every stratum of society and could be found in every country on every continent—Midwestern American farmers, mineowners in the West, Southern cotton planters, central European artisans and shopkeepers, landowning Prussian aristocrats—deeply aggrieved. Watching bankers and financiers, the very groups most to blame for the crisis, profit so inordinately from the deflation that trailed in the aftermath of the crunch only further inflamed populist ire. Faith in the economic order that had powered mid-Victorian prosperity crumbled.

The financial crisis of 1873 and the two-decade deflation that followed did more than inflict economic pain. As falling prices strained the social fabric, the buoyant optimism of boom years gave way to a pervasive mood of pessimism. Liberal economic principles—free trade chief among them—were discarded and replaced by protectionism. Around the world, people were driven by a widespread sense of resentment at the injustice of things, and politics took a darker turn. Every country had its own story.

In the United States, the Grant administration's ineffectual response to the combination of economic disarray and deflation led to the fracturing of the Republican Party, seemingly unassailable after the Civil War. In a stunning reversal, the Republicans lost the House in the midterm elections of 1874—the second-largest swing in the House's history. Faced with a resurgence in the fortunes of the Democratic Party, the Republicans barely clung to their hold on power in the election of 1876, taking the Electoral College by a single vote, the result of a corrupt backroom deal that awarded the presidency to Rutherford B. Hayes in exchange for his withdrawal of federal troops from the South, prematurely ending Reconstruction. By enabling the Democrats to reassert control in the South, this bargain led very directly to the rise of Jim Crow. The Democratic comeback ushered in two decades of political stalemate, with the country almost evenly divided between the two parties. The 1876 election was followed by three presidential elections—in 1880, 1884, and 1888—in which, despite intense partisanship and high turnout, the popular margin

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separating the two parties hovered under 1 percent, and neither party was able to hold on to the presidency for more than a single term; the party in power lost the election four out of the next five times.

In central Europe, a different type of scourge emerged from the convulsions. The hundreds of thousands of novice investors who had lost their savings in the German and Austrian stock-market crashes sought scapegoats for their own greed and folly. Goaded by a group of rabble-rousing pamphleteers, they increasingly directed their anger against Jews. In the decades after 1873, a wave of antisemitism swept over Europe, cutting across class lines and poisoning the political climate in ways that echo through history. Meanwhile, the debt defaults by the governments of Turkey and Egypt upended the strategic map of the Middle East. The Ottoman Empire—branded "the Sick Man of Europe" by Tsar Nicholas I in the 1850s—entered its final death throes. Torn by rebellion and facing bankruptcy, Turkey suffered military defeat at the hands of the Russians. The subsequent Carthaginian peace resulted in Turkey's losing most of its empire in Europe—a catastrophic blow that cost it a third of its population and more than half of its potential tax base. In exchange for getting its debt restructured and its obligations more than halved, Turkey had to submit to putting much of its public finances under the control of foreigners. Egypt fared even worse. In what critics called a "bondholders' war," it was invaded and occupied by Britain, which turned it into a virtual colony while forcing it to honor its debts to investors in full, despite the crushing burden on Egyptian nationals.

The crisis of 1873 unfurled against a backdrop in which governments, for the most part, took a hands-off approach to the economy. They fixed the value of their currency against precious metals like gold and silver but

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otherwise did very little else to smooth out downturns in industrial activity, believing as they did that the economy was a self-regulating mechanism best left alone. Central banks, which are today the most important institutions for managing fluctuations in the economy, were then mostly privately owned associations of bankers with very limited remits—generally to ensure that the value of the currency was maintained by responding to ups and downs in their precious metal reserves and, in extremis, to act as lenders of last resort during financial panics, thereby preserving public confidence in the banking system. It was a world in which no single group of protagonists controlled events or dictated responses.

Nevertheless, as I researched the story of 1873 and its aftereffects, one name kept reappearing: Rothschild. At the time, the Rothschild family was the richest in the world, running the largest and mightiest private European bank, whose capital dwarfed that of all its competitors. The Rothschilds' bank then had four branches—in London, Paris, Vienna, and Frankfurt. For fifty years, it had been a major force in the international bond market, playing a dominant role in raising capital for governments and railroads during the twenty-five-year borrowing boom after 1850. Because of the family's ascendancy in the world of finance and its global reach, the Rothschilds popped up in the narrative again and again—sometimes as protagonists, other times as informed observers, still others as policymakers in the halls of power, and occasionally even as victims. Even when the Rothschilds did not take center stage (as in the United States), by virtue of their reputation and the power they wielded in Europe, even just by the aura their name evoked, they exerted an ominous presence. The Rothschilds appear so frequently in the narrative that the family serves as a natural connective thread around which to weave the story of 1873. Though largely forgotten today, it is a tale that offers unsettling parallels to our current economic woes.

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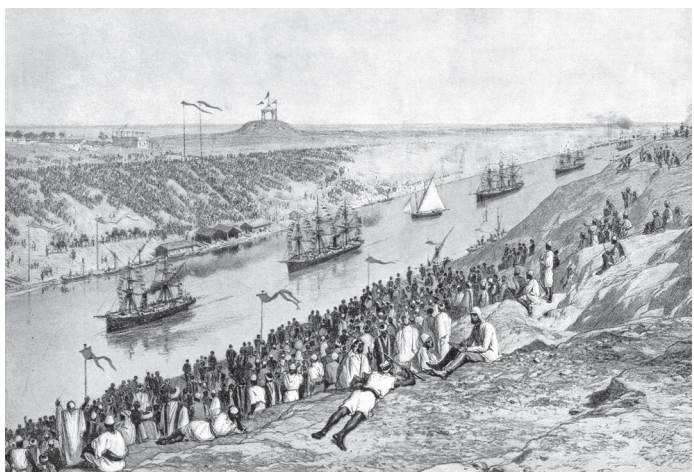
Part One

THE BOOM
1867–1871

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An iconic photograph depicting railroad employees celebrating the driving of the golden spike that linked the Union Pacific and the Central Pacific lines at Promontory, Utah, on May 10, 1869, thus creating the first transcontinental railroad.



On November 17, 1869, the ceremonial opening of the Suez Canal was marked by the meeting of two flotillas of ships, one southbound from Port Said and the other northbound from Suez. At the halfway point, where they met, three thousand European guests were treated to a sumptuous banquet and a fancy-dress ball.

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In Bonds We Trust

As the 1860s ended, the world's economy had never appeared in better shape. Few events were more emblematic of its health than the successful completion, within a few months of one another, of three monumental and iconic infrastructure projects that promised to remake global commerce.

On May 10, 1869, several hundred luminaries and railroad workers gathered on the windswept plateau of Utah's Promontory Summit, north of the Great Salt Lake. They were there to witness the linking of the Central Pacific and Union Pacific Railroads, marked by the ceremonial driving of an eighteen-karat gold spike into the tracks. The moment signaled the realization of the first transcontinental railroad across the United States, collapsing the New York–San Francisco journey from six months to a mere six days. It had taken seven years to build at an estimated cost of $70 million.

Scarcely six months later, in November 1869, a more extravagant ceremony unfolded halfway around the world to mark the opening of the Suez Canal. It had cost $100 million. The celebration was a much grander

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affair. Three thousand European guests, including Empress Eugénie of France, Emperor Franz Joseph of Austria, Crown Prince Friedrich Wilhelm of Prussia, Prince Henry of the Netherlands, and Prince Louis of Hesse, were invited for the festivities, which lasted four days and came with a hefty price tag, said to have been $10 million. On the morning of November 17, 1869, a flotilla of forty-eight ships, festooned with bunting and escorted by half a dozen Egyptian men-of-war, entered the canal at Port Said. At sunset, a northbound flotilla from Suez met them at Ismailia, the halfway point along the canal, where a new town featuring a palace, a hotel, and numerous villas had been built on the banks of Lake Timsah. There the guests enjoyed a sumptuous banquet—five hundred cooks had reportedly been imported from Trieste, Genoa, and Marseilles—followed by an elaborate fancy-dress ball.

Four months later, on March 7, 1870, a more modest function took place at Jubbulpore (now Jabalpur), in central India, to mark the junction of the Great Indian Peninsula Railway with the East Indian Railway, thus linking Bombay on the west coast of India with Calcutta, fourteen hundred miles away on the east coast. Attendees included Prince Alfred, Queen Victoria's second son; Lord Mayo, the British viceroy; Sir William Vesey-FitzGerald, the governor of Bombay; and a collection of Indian royalty, including the maharajas of the houses of Holkar, Rewa, Nagod, and Maihar. The prince opened the line by ceremonially hammering a simple silver spike into the tracks with a silver mallet, both specially cast for the occasion.

The near-simultaneous completion of these three grand projects prompted much commentary in newspapers across Europe, saluting the transformative impact they would have on international trade and travel. One French paper even hazarded a guess that these three critical links in the global transportation chain would now enable a traveler to go around the world in fewer than eighty days—it even went so far as to provide a

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detailed itinerary for the imagined journey. The French adventure novelist Jules Verne chanced upon one such article, which seeded the idea for his classic book about a wager to circumnavigate the globe. *Around the World in Eighty Days* would eventually be published in early 1873.

All three projects had been built with substantial financial support from governments—tens of millions in land grants and government guarantees for the transcontinental railroads, $40 million poured into the Suez Canal by the Egyptian government, and a British government guarantee on the Indian railway bonds. Yet all three had been primarily financed through private capital, raised by issuing bonds on the stock exchanges of London, Paris, and New York, a testament to the remarkable financial machinery, constructed over the previous twenty years, for harnessing middle-class European savings and channeling them into investments around the world.

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As the new decade began, the machinery seemed to be humming along very smoothly. The world had just gone through a two-decade-long period of economic growth—the first truly global boom in Western economic history. The combined GDP of the four major economies had almost doubled, and the volume of world trade had expanded fivefold. Powering this surge was a jump in capital investment, which rose almost two and a half times (increasing as a percentage of their combined GDP from below 10 percent to above 15 percent), led by railroad construction. The growth was fueled by a massive increase in credit, both domestic and international: Between 1850 and 1873, the global bond market quintupled in size. Economic prosperity, previously concentrated in a small group of countries, spread across the globe. And as the demand for labor

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soared, for the first time since the start of the Industrial Revolution in the early nineteenth century, unskilled workers began experiencing steady improvements in their standard of living.

Two factors made the jump in investment possible. First was the rise in savings in the major countries. As a burgeoning middle class—doctors and lawyers, solicitors and insurance men, civil servants and clergymen, teachers and headmasters, writers and scientists—began to emerge across Europe and the United States, every country saw a boost in its savings rate. In Britain, then home to the world's largest economy, the savings rate went from 8.5 percent of the GDP to 13.5 percent; in Germany, from 9 to 14 percent; in France, historically a highly thrifty nation, from below 17.5 to 19 percent; and in the United States, from around 15 percent in the 1840s to above 20 percent.

Equally important was a revolution in finance that channeled these savings from the wider public to those who could invest them most productively. The spike in savings and the improvements in financial markets led to a major decrease in the cost of borrowing around the world—after inflation was taken into account, long-term interest rates in London, the world's preeminent financial center, fell by half, from around the typical 6 percent that had prevailed before the 1840s to 3 percent in the 1850s and '60s. As a result financial markets swelled in size. Across the world, the amount of investment in projects like railroads and other infrastructure undertakings rose from $1 billion a year in the early 1850s to nearly $4 billion a year by the late 1860s. Much of this money was routed through banks and exchanges in the form of bonds and stocks. Over those two decades, the quantity of capital funneled through the financial markets of London, Paris, and New York skyrocketed. The total value of investments in all their myriad forms—company shares, government bonds, bank loans, trade credits, and real-estate mortgages—shot up from under $20 billion to over $50 billion.

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Talk of a financial boom typically conjures up images of wild speculation and frenzied trading on stock markets. In fact, the new middle-class investors who emerged in such large numbers in Britain and France during the 1850s and '60s were a remarkably cautious and sober-minded group of men and women. They may have had money to spare, but they were also highly risk-averse, and they put an enormous premium on safety. As a result, they tended to be leery about investing in the shares of private companies.

Well before the boom began, that wariness had been stoked by a crash that hit the British and French stock markets in the late 1840s. In 1844 and early 1845, a spectacular bubble in railway shares developed in Britain. Hundreds of the newly incorporated railway companies that were floated on the London Stock Exchange saw their share prices more than double. Thousands of middle-class British investors piled into the market, most of them putting only a fraction of the capital down. The bubble burst in late 1845, and over the next three years, share prices fell by more than 60 percent. Many of the railway companies proved to be bogus or fraudulent, and a whole generation of potential equity investors was left on the hook for hundreds of millions of pounds in losses. These troubles on the stock market were compounded in 1848, when Europe was roiled by political turmoil and a series of failed harvests. This confluence of events led to the single worst bear market of the nineteenth century, with equity markets tumbling by 30 percent.

Public hesitation over investing in stocks was reinforced by a three-volume book published in 1841 under the intriguing title *Memoirs of Extraordinary Popular Delusions* (later more catchily titled *Extraordinary Popular Delusions and the Madness of Crowds*). The author, Charles Mackay, was not an expert in finance but a journalist, an erstwhile editor of *The*

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Illustrated London News, an amateur composer of ballads, and a writer of popular history. *Extraordinary Popular Delusions* is a history of outbreaks of mass public hysteria, or what Mackay calls "moral epidemics." There are chapters about the Crusades, about epidemics of dueling, about spontaneous eruptions of fear of the apocalypse, about waves of collective belief in quacks and alchemists, and about our periodic obsessions with witches, which stretch back to the Middle Ages. Thrown into this eclectic mix are what Mackay dubs "money manias": three episodes in which an irrational public, immersed in a frenzy of financial speculation, bid up prices of assets to absurd levels, only to watch them crash precipitously a few months later.

The most infamous of these, and certainly one of the strangest incidents in the history of financial markets, was the Dutch tulip mania that occurred during the fall and winter of 1636–1637, when the prices of bulbs went up twentyfold in a span of three months, only to collapse by 95 percent over a period of mere weeks. The other examples that Mackay describes were twin manias—the Mississippi Bubble and the South Sea Bubble—mirror images of each other that swept through France and Britain in 1719 and 1720. While less bizarre than the tulip craze, they would prove to be more consequential. The rationales behind both the South Sea Company and the Mississippi Company were similar. They had originally been set up as vehicles to help reduce the interest costs on the debt of their respective governments. Since both companies committed to pay more in dividends than they were able to earn on the government bonds they held, neither had any hope of making money. For reasons that no one can properly explain, however, both companies became the darlings of investors, with their stock prices rising in value between ten and thirty times. At their peak, each was valued at the equivalent of three times the annual national income of its respective country. Eventually, both bubbles burst, with prices falling by some 80 percent, leaving thousands of people, including many members of the aristocracy and the political elite, ruined.

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The episodes that Mackay covers in his book were so outlandish and compelling—a tulip worth a house, a single company worth triple the income of an entire nation—that they acquired an iconic status. There is, in fact, some evidence that Mackay may have even fabricated or exaggerated some of his tales. Even so, his book became a bestseller and has never gone out of print. It exerted a profound influence on popular thinking about stock markets, feeding the view that speculating in shares is nothing more than gambling, like betting on horses or rolling the dice in a casino, and reinforcing the perception that the stock market is a place where it's all too easy to be duped or defrauded.

So burned were investors by the equity turmoil of the late 1840s that even during the boom years of the 1850s and '60s, when downturns in the equity market were modest, the investing public remained wary of putting their money into shares. Consequently, the size of equity markets remained comparatively small. Even by the early 1870s, the value of shares in companies on the three largest exchanges—those of London, Paris, and New York—was only $10 billion, compared with a total of $30 billion in financial securities issued on the exchanges. Even rich Americans, traditionally thought to be bigger risk-takers and speculators than the British or French, maintained portfolios that looked much like those of their British and French counterparts.

What the new generation of savers wanted most from their investments was a steady and stable income. Their preferred investment vehicles were bonds of various types—reliable, hopefully uneventful investments that delivered a regular stream of income. The real money, some $20 billion, whether in London, Paris, or New York, was thus channeled into the bond market: During those twenty years, it shot up in value sixfold.

The biggest beneficiaries of the bond market's expansion during the 1850s and '60s were the railroads. Until then, bonds had largely been issued by governments. Private companies in need of funds to invest either raised capital by issuing equity or paid for their investments out of their

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profits. But even a modestly sized railway line anywhere in the world cost such a colossal amount, and took so long to build, that the capital required far exceeded the sums that an individual entrepreneur could muster. A mile of track cost anywhere from $30,000 to $100,000, depending on the terrain to be crossed. A railway line stretching a few hundred miles could cost as much as $20 million, an amount that, at the time, barely a handful of the world's richest businessmen could raise from their own pockets.

It was the bond market's unique ability to aggregate and channel pools of middle-class savings that made large-scale investments in the railroads possible. Railroad bonds became the totem of the age. And though railroads accounted for the vast bulk of bonds issued in the 1850s and '60s—according to one estimate, some $10 billion out of the total of $20 billion in new debt—they were not the only borrowers to tap the markets. The explosion in railroad borrowing spurred a copycat boom in borrowing by municipalities from different parts of the world that were looking to finance other forms of public infrastructure. Cities such as Cairo, Buenos Aires, and Bombay embarked on enterprises to build ports, gasworks, and water systems, all of which were paid for through the issuance of bonds. By the 1870s, bonds for Austrian railways, Hungarian mines, Cairo's waterworks, Indian railways, and silver mines in Utah were all trading on the London Stock Exchange.

While the financiers of London held sway across the globe in a sort of invisible empire, their power had very little to do with Britain's imperial might. More than half the bonds traded in London during the 1850s and '60s were issued by European borrowers; a quarter of them, by Americans. The three biggest borrowers on the London market—Russia, Turkey, and Egypt—were not even part of the British Empire. The only big borrower over which the Crown held suzerainty was India, and it barely accounted for one-tenth of the total bonds issued.

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The Gods of Our Time

LONDON, PARIS, AND VIENNA

Standing astride the bond market was the Rothschild family. It had originally made its fortune during the Napoleonic Wars. Though Mayer Amschel Rothschild, the founder of the dynasty, did accumulate substantial wealth as a banker in Frankfurt during the 1790s, the true architect of the Rothschilds' success was Nathan Mayer Rothschild, Mayer Amschel's third son. Dispatched to England with £20,000 in seed capital to invest in Manchester's textiles, Nathan instead established a smuggling ring to evade the French naval blockade of Britain. He directed operations from London, while his four brothers—Amschel, Salomon, Carl, and the youngest, Jakob, who later changed his name to James—handled the Continental side of the business. With its unique infrastructure for getting contraband, including gold bullion and coins, undetected across the English Channel, the family became the principal agent for transferring British subsidies to European allies. All the funds for the Duke of Wellington's campaign in the Peninsular War, for instance, passed through Rothschild hands.

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By the final years of the Napoleonic Wars, the family had developed a distinctive modus operandi. By cultivating politicians and high officials in the major capitals, the Rothschilds established a network of contacts, informants, and spies that allowed them to stay abreast of political developments and impending military actions, insider knowledge they were able to use to speculate on exchange movements and bond prices. By the end of the wars, they had built a fortune of approximately $10 million.

In the aftermath of the Napoleonic Wars, as Europe rebuilt after a generation of conflict, the Rothschilds entered the business of underwriting loans to governments. They were almost single-handedly responsible for creating the international bond market. Over the next two decades, the government loan business in Continental Europe became a virtual Rothschild monopoly. They became the primary financiers of nearly every government in Europe—Austria, Prussia, Russia, Spain, Belgium, the Kingdom of Naples, the Papal States, and all the German princeling states.

The family's ability to mobilize capital at the necessary scale depended largely on its having a network across Europe; the five brothers were fanned out across the Continent. Following the death of their father, the autocratic Nathan effectively became the head of the family. He remained in London, operating out of his office at New Court. The eldest brother, quiet and retiring Amschel, the most pious and conservative of the five, stayed on in Frankfurt. Salomon, the second brother, the diplomat of the family, moved to Vienna, where his skill in dealing with princes and courtiers could be put to best use. He became a trusted confidant of Prince Klemens von Metternich, Austria's foreign minister and chancellor and Europe's most important statesman, who provided Salomon with political intelligence. The fourth brother, Carl, moved to Naples in 1821. Naples never became much of a financial hub, and the branch there, which remained modest compared with the others, was closed in 1861. The youngest brother, James, set himself up in Paris. Following the 1830

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July Revolution, which brought to power Louis-Philippe, "the Citizen King" and the head of the house of Orléans, whose fortunes the Rothschilds had long managed, James became the most prominent banker in Paris, courted by the highest circles of French society.

To maintain their lock on the international bond business, the Rothschilds liberally distributed gifts, loans on preferential terms, and, when necessary, outright bribes to the right people in politics. Many a European royal—Louis XVIII and Charles X of France; various members of the house of Saxe-Coburg-Gotha, including Leopold I, king of the Belgians; and a number in the English royal family, including George IV, the prince regent, as well as the Duke of Clarence and the Duke of York—took advantage of loans from the Rothschilds, often dispensing with the formality of paying interest. But the Rothschilds' most important client was Prince Metternich—he and his entire family, including his wife and his son, borrowed the equivalent of several hundred thousand dollars to finance their investments in real estate. In 1820, as a show of his gratitude for the Rothschilds' postwar loan to Austria, Prince Metternich elevated the brothers to nobility by granting them the title of baron—the first Jews to be so ennobled. Such was the antisemitism of Austrian society at the time, though, that despite their ennoblement, the Rothschilds were never officially received at court.

In exchange for influence, the Rothschilds offered not just money but superior information. In an era when European politics were neither stable nor predictable, government bond markets were constantly being rocked by unexpected events. To maintain their dominant position and ensure that they did not get caught on the wrong side of a downturn in credit markets, they found it imperative to be better informed about political events than their competitors. They even developed their own private network of couriers to communicate with one another. It was a formula that proved remarkably successful.

By the 1840s, however, the Rothschilds appeared to have passed their

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prime. Most major European countries had managed to get their finances in order, and mandates for issuing or restructuring government bonds by blue-chip borrowers like Britain, France, and Prussia—the mainstay of the Rothschilds' business—were beginning to dry up. The biggest threat to their survival, however, came in the late 1840s, when Europe was roiled by the worst economic and political crisis of the entire nineteenth century.

Over two years, a sequence of interrelated calamities—natural disasters, financial crises, and revolutionary turmoil—plunged the region into a deep depression. The crisis severely affected the Rothschilds' bank. As the most important dealer in European government bonds, it typically had to hold substantial inventories of such debt. When simultaneous revolutions in Paris, Naples, Vienna, and Frankfurt collided with a financial crisis in London, government securities everywhere cratered in price by as much as 60 percent, and the total losses sustained by the Rothschilds were so extensive that for a few months it seemed as if the Paris and Vienna branches of the bank might actually go under. Only emergency loans from the London and Frankfurt houses and a sub-rosa bailout by the French government—which boosted debt prices by 20 percent by improving the terms—saved it. During this tumultuous period, the Rothschilds are thought to have lost as much as a quarter of their $40 million in capital.

The 1848 crisis was a near-death experience for the Rothschilds. Simultaneously, in the early 1850s, the family was confronted with a major generational change. Nathan had died prematurely, at age fifty-nine, in 1836, but in 1855, three of the four remaining founding brothers—Amschel, who ran the Frankfurt branch; Salomon, who ran the Vienna branch; and Carl, who ran the Naples branch—all died. James was now the sole survivor of his generation.

Their problems had compounded after 1848, when many of the leaders who had once provided them with political cover—including Prince Metternich in Austria and King Louis-Philippe in France—were deposed, leaving the family to face less sympathetic regimes. Under King Louis-

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