

CONTENTS

Preface ix

1	Invisible, Visible, and Vanishing Hands	1
2	Origins	24
3	The Progressive Era	46
	<i>The Light of Reason and the Necessity of Modern Society</i>	47
	<i>Business Groups</i>	60
	<i>The All-Permeating Principle of the Universe</i>	74
	<i>Angle of Repose</i>	83
4	The Seminal Catastrophe	101
	<i>The Export Department</i>	102
	<i>Moral Equivalence</i>	106
	<i>Wartime Socialism</i>	111
	<i>An Industrial Engineer's Utopia</i>	119
5	Interlude	133
	<i>A Cloud of Suspicion</i>	133
	<i>Structure and Strategy</i>	142
	<i>One Hand Must Control It</i>	159
	<i>Prologue to a Much Later Future</i>	178
6	The Real Catastrophe	186
	<i>Contraction</i>	188
	<i>Purchasing Power</i>	195

viii CONTENTS

	<i>We Want Beer</i>	202
	<i>The Day of Enlightened Administration</i>	209
	<i>Research and Development</i>	230
7	Arsenal Again	264
	<i>Bottlenecks of Business</i>	265
	<i>Economic Consequences</i>	273
	<i>Priorities</i>	279
	<i>Piquette Avenue</i>	288
8	The Corporate Era	315
	<i>Reconversion</i>	316
	<i>In Spite of Possible Cost</i>	331
	<i>Industrial Policy</i>	349
	<i>Trente Glorieuses</i>	382
9	The Undoing	403
	<i>Out of the Woods</i>	404
	<i>Destruction</i>	425
	<i>An Elephants' Graveyard</i>	458
	<i>Disintermediation</i>	483
	Epilogue: Then and Now	519

Notes 553

References 675

Epigraph Credits 753

Index 755

1

Invisible, Visible, and Vanishing Hands

The modern diversified enterprise represents a calculated, rational response of technically trained professional managers to the needs and opportunities of changing technologies and markets. It is much less the product of ambitious and able individual entrepreneurs or of governmental policies.

—ALFRED CHANDLER

The enemy of the conventional wisdom is not ideas but the march of events.

—JOHN KENNETH GALBRAITH

IN SEPTEMBER 1972, five years before the publication of his monumental work *The Visible Hand*, the great business historian Alfred Chandler delivered a presidential address to the Economic History Association at the Hotel du Pont, part of the general office complex of E. I. du Pont de Nemours & Company in Wilmington, Delaware. Over the course of the twentieth century, Chandler told the assembled economic historians, the supervision and control of American business had shifted decisively away from the individual entrepreneur and had become the function of teams of trained and specialized professional managers. This transformation, indeed, was the central fact of business history in the twentieth century. As the visible hand of expert management replaced the invisible hand of spontaneous markets, he explained, the modern civilization of managerial capitalism had come into being.

Du Pont itself furnished an excellent example. Whereas in the nineteenth century there had been but a handful of employees at the Wilmington headquarters, in 1972 there were perhaps ten thousand managers inhabiting the complex surrounding them. Warming to his argument, Chandler suggested

that an elevated vantage point in New York City would reveal this transformation even more vividly. “One has only to look out on Park Avenue from the offices of the Social Science Research Council headquarters in New York and gaze on the forest of skyscrapers that house similar general office complexes to feel the presence of the modern managerial class,” said Chandler.¹ “It is properly symbolic that while church steeples dominated the sky-lines of American cities in the eighteenth century, and smokestacks in the nineteenth century, central office skyscrapers have come to do so in the twentieth century.”

In 1972, the Social Science Research Council still occupied space in the magnificent New York Central Building near Grand Central Terminal, erected by the New York Central Railroad just before the stock market crash of 1929.² In Chandler’s account, it was the management of railroads like the New York Central and (especially) the Pennsylvania Railroad that had been the seedbed of twentieth-century managerial techniques. Two years before Chandler’s talk in Delaware, however, the New York Central and the Pennsy, having recently merged to form the Penn Central Railroad, entered what was then the largest bankruptcy in the history of the United States. The New York Central Building was on its way to being renamed for a real-estate management firm.

If a business historian were to gaze out from the upper floors of what is today the Helmsley Building—but not from the offices of the SSRC, which has long since decamped to Brooklyn Heights—he or she would see few towering monuments to the managerial civilization of the twentieth century. The nearby Chrysler Building would still glow in the skyline, but it has always been a monument to Walter Chrysler the entrepreneur rather than to the Chrysler Corporation, which, after two federal bailouts and two mergers with European competitors, is now part of the Stellantis Corporation. Thirty Rockefeller Plaza, built during the depths of the Depression and long called the RCA Building (and recently if briefly the GE Building) is now owned by a media company. Most of the buildings visible today are anonymous towers, often referred to by their street addresses. A good many of them are occupied not by the general offices of manufacturing firms but by the kinds of financial concerns that, precisely as *The Visible Hand* was reaching bookstores in 1977, were beginning the process of dismantling the managerial corporation Chandler celebrated. Indeed, our business historian might easily watch the construction of the towering new headquarters of JPMorgan Chase at 270 Park Avenue, on the site of what was once the headquarters of the Union Carbide Corporation.

Even the highest floors of the Helmsley Building would not enable our business historian to see the general offices of today’s preeminent corporations, none of which could even have been imagined in 1972. The often fancifully designed main campuses of the Big Five—Amazon, Apple, Facebook, Google, and Microsoft—are to be found on the San Francisco Peninsula and in

Seattle.³ At the end of the first quarter of 2021, *Fortune* ranked these five firms as the largest corporations in the United States as measured by value, with market capitalizations ranging from more than \$800 billion (Facebook) to more than \$2 trillion (Apple). These companies and their high-tech brethren have come under concerted attack from both sides of the political spectrum in the US as well as from the European Commission and other jurisdictions. To a significant and perhaps surprising degree, the policy debate is framed in terms of history—the history of the corporation itself, as well as the history of antitrust policy and industrial policy more generally. The corporations of the past are models for understanding those of today, and policies levied long ago are a font of precedents for today. This makes it crucial that we get the facts right and that we locate those facts within a coherent, sophisticated, and defensible intellectual structure.

The corporate landscape has morphed dramatically since Alfred Chandler admired it in the late twentieth century. Perhaps it is time to reassess the history of the American corporation and the business civilization to which it gave rise. Any reassessment would have to consider the tectonic changes of creative destruction, deregulation, disintegration, and entrepreneurship that characterized the last decades of the twentieth century. More than that, however, it would need to step back to reconsider and reframe the history of the corporation over the entire twentieth century.

The place to begin our reassessment is where Chandler began. In *The Visible Hand*, Chandler chronicled the rise of the multiunit organizational form in the late nineteenth and early twentieth centuries. Until at least the 1840s, he tells us, business in the United States had been carried out in ways little changed since the Italian city-states of the early-modern era. Although there did exist proto-managerial enterprises like plantations and military arsenals, the stages of production in the US were overwhelmingly small in scale; highly specialized; overseen by managers who were also owners; and, as Adam Smith had insisted, were “coordinated almost entirely by market mechanisms.”⁴ For Chandler, the revolutionary change after 1840 was the newly abundant availability of coal as a powerful energy source. Coal made possible an unprecedented scale of production that slowly destroyed the small-scale market-based system and called forth the modern managerial enterprise.

This transformation first manifested itself in the railroads. These were technologically complex, capital-intensive systems operating across an extensive geography. They demanded specialized skills that small owners seldom possessed, and they called for levels of investment those owners could not muster. The territorial reach of the railroads made delegation essential but monitoring costly. Investors had to pool their capital, ceding day-to-day authority to salaried specialists, including, for the first time, managers who supervised other

managers. This was the true birth of managerial capitalism: “The members of the administrative bureaucracy essential to the operation of the railroad began to take control of their own destinies.”⁵

By dramatically reducing transportation and communications costs, the railroads, along with the telegraph systems that shared their rights of way, began to make it profitable for manufacturing industries to take advantage of the new source of inanimate power, producing with economies of scale in large capital-intensive facilities and shipping the resulting goods by rail to distant consumers. In many key manufacturing industries, machines did not merely replace human labor but integrated tasks and performed them in new and more efficient ways.⁶ This transformation was facilitated by the rise of mass distribution industries, including mail-order firms like Sears Roebuck and later large-scale brick-and-mortar chains like the Great Atlantic and Pacific Tea Company. As in the case of the railroads, and for essentially similar reasons, managerial hierarchies emerged in the industries of mass production and mass distribution.

By the early twentieth century, the large mass-manufacturing enterprises began integrating vertically, both backward into raw materials and forward into mass distribution. A system that had once been coordinated through the market by independent wholesalers, brokers, and retailers began to be coordinated by professional managers, who were essential to keeping high-volume, high-speed production and distribution humming. Soon these large enterprises also began to expand laterally. Whenever the firm found itself with excess resources—like plant capacity or, more typically, organizational capabilities and managerial know-how—it would diversify into products requiring capabilities complementary to those excess resources, thereby spreading fixed costs over more units of output.⁷ In the beginning this meant diversifying into activities that made use of the byproducts of current production, as when meatpackers took advantage of the waste of the slaughterhouse to manufacture soap and related products.⁸ But as the century progressed, diversification was driven increasingly by new capabilities created within formal research and development laboratories.⁹ Du Pont, which invented nylon during the Depression, is a paradigmatic example. To manage the complexity of widespread diversification, firms like Du Pont pioneered the decentralized multidivisional or M-form organizational structure, which was almost universally adopted in large American firms after World War II.¹⁰

Over the course of the early twentieth century, then, large swaths of the American economy were withdrawn from the realm of the price system and entrusted to professional managers, who had at their disposal increasingly powerful scientific methods of accounting and forecasting. It was the ministrations of these managers, not relative prices, that equilibrated supply and demand and made sure that goods flowed smoothly from raw materials to final

consumer. In Chandler's account, this mass internalization of economic activity was the result of the inherent superiority of conscious management over market prices in the face of high-throughput production. Although Adam Smith was right that a growing extent of the market demands increased specialization, it is also true, Chandler believed, that "increasing specialization must, almost by definition, call for more carefully planned coordination if volume output demanded by mass markets is to be achieved."¹¹

I have long argued that this framing of the rise of managerialism is wrong.¹² It is most certainly true that the coming of the railroad and the availability of coal power fomented an organizational revolution that swept away a system coordinated by more or less spontaneous market processes and replaced it with one governed to a greater degree by managerial coordination. But that revolution was underpinned not by the inherent superiority of administrative planning in all times and places but rather by its contingent superiority in a specific set of historical circumstances. Indeed, only by seeing the managerial revolution as contingent can we understand why and how, in the years after 1972, a revolution of equally dramatic force and effect could begin undoing much of the diversification and vertical integration of the twentieth century. One of very many examples: after having briefly merged with competitor Dow, Du Pont is at this moment splitting itself into three more-specialized firms.¹³ Already in 2016, Du Pont had closed its Central Research and Development Lab.¹⁴

To understand why resources are sometimes coordinated by the spontaneous mechanisms of the price system and sometimes allocated by administrative coordination, we need to consult another great twentieth-century student of organizational form, Ronald Coase. In a 1937 article that would eventually win him a Nobel Prize, Coase pointed out that the choice—the boundary—between market coordination and administrative coordination is determined by the costs of those alternatives, notably including what would come to be called transaction costs.¹⁵ This implies that the boundary between market coordination and administrative coordination can shift—in either direction—in response to changes in the underlying costs of organization.

The analytic exercise of comparing the relative costs of alternative organization forms came to be called *comparative-institutional analysis*. In almost the whole of the vast literature that emerged after Coase, such an exercise was understood to be about comparing fully formed versions of the organizational structures under study. Oliver Williamson, who would go on to win his own Nobel Prize, announced that "in the beginning there were markets," which he meant not as an anthropological claim but as methodological injunction to compare the ideal type of fully formed markets with the ideal types of alternative organizational structures.¹⁶ I have long insisted that although it can often be a valuable analytical exercise, comparing ideal types can just as often mislead

and can obscure the real organizational problems of history.¹⁷ In the beginning, there very often *weren't* markets, or at any rate markets appropriate to rapidly changing relative scarcities and innovative new technologies. Markets do not exist in isolation. They require a background structure of market-supporting institutions. These can be legal and regulatory structures, but they can also be complementary and supporting market systems, notably including financial markets. When economic change demands a systemic rearrangement of economic activity, existing market-supporting institutions may not be able to adapt as quickly as can administrative coordination. Integration can sometimes overcome the *dynamic transaction costs* of economic change, in effect by creating the necessary supporting institutions *within* the firm.

A historically contingent version of comparative-institutional analysis helps us to understand what may well be the central organizational paradox of the twentieth century. At the end of the nineteenth century, burgeoning markets and reduced transportation and communication costs led to *increased* integration. Yet at the end of the twentieth century, even larger markets and much lower transportation and communication costs led to *less* integration. The resolution of the paradox, I argue, is that in the late twentieth century, market-supporting institutions, including financial markets, had developed to such an extent that they could underpin a far more decentralized way of creating and administering even high-throughput production and distribution.

Consider what may be a paradigmatic comparison, the enterprises of Gustavus Swift in the nineteenth century and Michael Dell in the twentieth century.¹⁸ Both entrepreneurs set up high-throughput production and distribution systems. Unlike Swift, who had to integrate vertically to create his system, Dell could plug into an array of already-existing capabilities available from the market. Indeed, Dell succeeded not in spite of having used the market but *precisely because he did*.¹⁹ In addition to thick markets for computer parts, Dell could take advantage of what George Stigler called “general specialties”: Swift had to become a maker of railroad cars in order to ship his refrigerated dressed meat, whereas Dell could simply hire Federal Express or UPS to deliver personal computers.²⁰

If, as I claim, the evolution of market-supporting institutions tends to shift the Coasean calculus in the direction of markets and away from administrative coordination, then why did it take so long for the managerial corporation to become undone? Calendar time was elapsing, but markets and market-supporting institutions didn't seem to be catching up. “Indeed,” as Chandler wrote, “the years after World War II mark the triumph of modern business enterprise.”²¹ In the middle of the century, forward integration among manufacturers seemed to be increasing rather than decreasing.²² And at the beginning of the 1960s, the large corporations of the early century not only

continued to dominate the *Fortune* 500 but actually appeared to be more fully entrenched than ever.²³ Why?

Maybe we can chalk it up to inertia—what is often grandiosely, if generally imprecisely, called path dependency. Once the system of American enterprise embarked upon the trajectory of managerial control, it was kept moving by a kind of organizational momentum. As Chandler put it, using the words of Werner Sombart, “the modern business enterprise took on ‘a life of its own.’”²⁴ This may well be a part of the story. But it is a central thesis of this book that other, more powerful forces account for the long dominance of the managerial corporation in the middle of the twentieth century. One of these should be obvious to anyone who looks back on the century: at its center were the great catastrophes of war, depression, and war. Another, often related, factor was government policy, notably but not exclusively in the forms of regulation, antitrust, intellectual property, and industrial policy, which had the effect—sometimes intended, sometimes unintended—of buttressing the large managerial corporation and insulating it from the impulses of change.

Especially in Europe, the period from 1914 to 1946 seemed to coalesce into a single disaster. Winston Churchill and Charles de Gaulle were among the many who would talk of a “Second Thirty Years War.”²⁵ Yet the middle years of the century were anomalous beyond just thirty years. The entire span from 1914 to 1973 or so was a break from a clear trend of globalization and market integration that had begun at least as far back as the 1820s.²⁶ Deirdre McCloskey refers to the entire period 1914–1989, from the beginning of World War I through the end of the Cold War, as the “Great European Civil War.”²⁷ Writing in the context of income inequality, some prominent authors have called attention to just how unusual and remarkable the middle years of the century were. To Walter Scheidel, the period 1914–1973 was “the great compression,” and to Peter Lindert and Jeffrey Williamson, it was “the greatest leveling of all time.”²⁸ This compression and leveling was the result of the Depression as well as of powerful government intervention in the economy in response to depression and war.²⁹ Both wars were devastating “total” wars, fought not by military specialists but in effect by entire societies. As soldiers were conscripted, so too were civilian labor and capital. The rich—meaning business and industry—were hit with high marginal income tax rates, new “excess profits” taxes, and the stealth tax of inflation. The political response to the Great Depression would borrow, elaborate on, and anticipate many wartime institutional structures. In its own way, the New Deal would also be a kind of total war, empowering political modes of resource allocation against market modes.

Some of the cataclysm that occurred in the middle decades of the century was the result of macroeconomic forces, and it is another theme of this book that such forces were far more significant for the organization of industry than

has generally been recognized. In ways that I detail, the Depression destroyed market-supporting institutions, and the internal institutional structure of the firm was forced to compensate. The regulatory policies of the New Deal were especially powerful in bolstering and locking in the organizational form of the large corporation. During World War II, the federal government controlled and frequently superseded markets, while military procurement favored the managerial enterprise. During the entire period from the beginning of World War I through the end of World War II—putting aside the decade of the 1920s, which offers a tantalizing glimpse of a possible counterfactual world—the market was functioning poorly or not at all.

It was the destruction and suppression of well-functioning markets, I argue, that gave relative advantage to managerial coordination in large multiunit enterprises. Far from being an inherently superior mode of coordination, resource allocation within the structure of the highly integrated and diversified corporation was a second-best form given artificial prominence, and an extended life, by the great catastrophes of midcentury and the political responses they elicited. It was only in the years after the watershed of the early 1970s, after the inflation of the Vietnam War and the end of Bretton Woods, that market coordination would enjoy a resurgence, energized by the institutional innovations of deregulation and by the entrepreneurial creation of decentralized new technology.

The great military conflicts of the century appeared to many as illustration of successful rational planning. The reality, we will see, was quite different. One of the leitmotifs of the century was standardization. Henry Ford's mass production of the Model T taught that when demand was high and constant, standardization offered tremendous economies in production. War frequently offered a similar environment of high demand, without the constraint of a market test. But at the same time, battlefield realities demanded rapid change and innovation, which are inherently refractory to standardization and mass production. Planning could not foresee change, and administration could not cope with innovation. Indeed, I will argue, war planning operated as effectively as it did because in the end decision-making was surprisingly decentralized.

It is quite true, as Chandler and others have argued, that the Great Merger Wave at the end of the nineteenth century increased the separation of ownership from control as many founders sold out and as administrative staffs became necessary to run extended enterprises. We will see, however, that the history of this idea is more tangled than most present-day economists tend to recognize and that the early-century understanding was quite different from the later-century version. We will also see that the phenomenon itself was not nearly as all pervasive as is widely believed. In fact, the majority of large firms in the early twentieth century were controlled by owners, significant blockholders, or investment banks like J. P. Morgan, which played the role of what we would now call private

equity. To a notable extent, Morgan and other financiers like Pierre du Pont, Andrew Mellon, and John D. Rockefeller exercised control over what were effectively extended business groups. Even in many widely held corporations, dynamic figures like Theodore Vail, Alfred P. Sloan, and David Sarnoff—what Harold Livesay called “galvanic personalities”—exercised considerable personal control.³⁰

Before the US entered World War I, the British and the French were purchasing materiel and munitions from American companies in vast quantities. Most of this buying was organized through the House of Morgan, which used its business-group structure and widespread industry connections to become the largest buyer in the world. After American entry, the Wilson administration refused to adopt the purchasing structure Morgan had set up, wasting nearly a year attempting to create its own procurement system from scratch. What would become the War Industries Board under Bernard Baruch put in motion centralized administrative control of war production, setting priorities from above, handing down demands for widespread standardization, and even attempting to set prices. But in the end decision-making had to be decentralized to trade associations, many of which the war helped to create, in order to take advantage of the local knowledge of suppliers and manufacturers. In effect, the industrial effort of World War I was ultimately prosecuted with a structure not unlike the M-form that would soon take root in the corporate world.

In the postwar civilian arena, that form of administrative coordination was also in practice far less an instantiation of rational foresight and planning than Chandler’s model suggests. In the ideal, the multidivisional or M-form structure, widely adopted in the middle of the century, would decentralize authority for day-to-day operations to semi-independent business units while assigning strategic decisions to a central office guided, in principle at least, by scientific methods of forecasting, accounting, and control. In theory, there would be little room for, and little need for, entrepreneurial judgment and action. In reality, the M-form seldom functioned the way it was drawn up. Even at General Motors, Chandler’s paradigm application of the M-form, central managers often collaborated with, and frequently interfered with, the supposedly independent divisions.³¹ In the end, local knowledge, not to mention local incentives, resided at the level of the divisions, and formal planning methods could not transmit the necessary rich information let alone create the necessary structure of incentives.

The 1920s was a period of broad-based growth, one that encompassed far more than the burgeoning high-tech industries of the day like radio and the automobile.³² All of that came to a cataclysmic end with the onset of what was arguably the century’s signal catastrophe—the Great Depression. Even keeping in mind the loss of American lives in the world wars and other tragedies, it

is arguable that on the whole 1933 was the worst year of the twentieth century in the United States.³³ On March 3, 1933, the Dow Jones Industrials Average was 53.84, an 86 percent drop from its peak in 1929.³⁴ Real gross domestic product (GDP) per capita had fallen almost 29 percent and stood no higher than it had been in 1901.³⁵ The number of commercial banks in the US had fallen from some 25,000 in 1929 to little more than 14,000.³⁶ The US was producing only two-thirds as many consumer goods in 1933 as in 1929, and Detroit was selling only about half as many cars.³⁷ Unemployment sat at 25 percent.³⁸

Economic historians now broadly agree that the severity of that episode was the result of monetary mismanagement by an inexperienced and politicized Federal Reserve System, whose powers had grown much faster than its competencies in the years after its founding in 1914.³⁹ By losing control of the money supply and failing to act consistently as a lender of last resort, the Fed permitted the economy to slip into what the noted contemporary economist Irving Fisher described as a debt-deflation spiral.⁴⁰ As deflation raised the costs of indebtedness, borrowers rushed to pay off their loans, which, in a system of fractional-reserve banking, caused further deflation, leading more borrowers to pay off their loans—and so on in a vicious cycle. Many, of course, went bankrupt.

This process did violence to the real economy, as it took off the board countless valuable nodes of market coordination, including, as future Fed chair Ben Bernanke would later document, financial intermediaries.⁴¹ Transacting in markets became more and more costly. Small firms, which relied heavily on market institutions, began to fail as their borrowing costs soared and their customers disappeared. By contrast, the largest and most integrated firms, far less reliant on the external capital markets, began to accumulate cash internally.⁴² The cash holdings of American firms more than doubled between the early 1930s and the mid-1940s.⁴³ This cash was concentrated in the largest firms, reflecting an attempt to accumulate precautionary savings in a highly uncertain macroeconomic and political environment. Because there was virtually no stock issue during this period and debt was being retired, retained earnings accounted for more than 100 percent of financing for the American corporate sector as a whole.⁴⁴

The recovery from the Depression had long been understood in Keynesian terms. Economic historians have recently begun converging on the opposite view: the multiplier effects of Keynesian fiscal policy were in fact tiny, and the crucial event that put the economy on the road to recovery was in fact an act of monetary policy, Franklin Roosevelt's devaluation of the dollar against gold.⁴⁵ Cheaper dollars began to entice gold to flow from abroad to reflate the economy. Yet the recovery was a slow and relatively "jobless" one. The Depression had destroyed much of the market economy, especially in the small-business

sector. Although shakeouts had already begun in many industries like automobiles and radio, the Depression accelerated the process.

Alexander Field has argued that especially in the long recovery after 1933, the Depression was period of technological advance and productivity growth.⁴⁶ Of necessity, much of that technological change took place increasingly within the boundaries of large integrated firms. In the early twentieth century, innovation had been driven importantly by individual entrepreneurs operating within a thriving market for intellectual property. Those inventors sold their patents, or sometimes sold what amounted to small start-ups, to firms that could further develop their ideas. In the 1920s, a significant number of the most valuable patents held by large firms originated outside those firms' own R&D labs. Smaller enterprises that developed or acquired technology could avail themselves of well-functioning securities markets as well as of what we would now recognize as venture capital. Regional securities exchanges were especially important for these small firms. The Depression made the financing of independent invention far more difficult, and the high fixed costs of New Deal securities regulation fell more heavily on the smaller local exchanges. Large integrated firms came to dominate technological discovery not because of the inherent superiority of in-house R&D but because large firms with corporate labs were better able to withstand the Depression.⁴⁷ The Depression also created rampant excess capacity within the large firms themselves, and those enterprises were well-positioned to take advantage through diversification as the economy expanded.⁴⁸

New Deal financial and industrial policies also reinforced the hegemony of the large integrated firm. Banking and securities regulation worked to roll back financial innovation, to limit competition, to segment markets, and generally to keep external capital markets weak relative to the internal capital markets of the large firms. The US would emerge from the Depression with a more highly regulated financial sector than any other developed country.⁴⁹ The New Deal's greatest achievement in this regard was probably the Public Utility Holding Company Act of 1935, which forbade the pyramidal holding-company structure in utilities.⁵⁰ The Act was only one part of a concerted and ultimately successful attack on the holding company, and thus on the business group more broadly.⁵¹ With that structure increasingly unavailable, the Chandlerian corporation became even more important as an organizational form for the coordination of large-scale production.

Especially at the beginning of his first administration, Franklin Roosevelt was guided by his famous Brains Trust, including Adolf Berle and Rexford Guy Tugwell. Both saw the Depression as a real not a monetary phenomenon: it was a failure of capitalism. Private decision-making led naturally to "imbalances" in the economy, they believed, which could be corrected only by

conscious sectoral planning.⁵² Persistently confusing the manipulation of real relative prices with the desirability of raising the price level through inflation, the New Deal, with the strong backing of industry, set about creating artificial scarcities throughout the economy at a time of widespread deprivation and hardship. The principal engine of this effort was the National Industrial Recovery Act, which endowed a wide array of industry cartels with the enforcement powers of government. Although the Supreme Court would invalidate the Act, industry-specific legislation was often forthcoming as a substitute; and, by the end of the 1930s, significant segments of American industry were encased within an elaborate apparatus of economic regulation, some of it, as in rails and telecommunications, antedating the New Deal. In a few cases, these regulatory structures benefited decentralized industries like trucking, but they always restricted entry and segmented markets along technological dimensions in ways that discouraged innovation, especially across preexisting boundaries.

Tugwell famously held the view that wartime production demonstrated most clearly the benefits of conscious sectoral planning.⁵³ The US would soon discover that it was in fact under conditions of war planning that the economy would suffer most palpably from endemic shortages and imbalances. As we saw, the problems of planning in the first war were severe, and they were limited only by the brevity of the country's participation in that conflict. Mobilization for World War II was not only far more extensive but also far more centralized. Especially in the beginning, American mobilization was organized along functional lines rather than anything like the *de facto* M-form lines of the War Industries Board. Partly because of this conscious organizational choice, the burden of mobilization for World War II fell not on trade associations but on the large integrated corporation, which, as I have suggested, had already gained relative prominence during the Depression and the New Deal. Within the large corporation, however, procurement decisions, and the building of capabilities for war, were not in the end directed in detail by central management but were highly decentralized to business units, which improvised in entrepreneurial fashion, often with astonishing results. Decentralization deserves a good deal of credit in the generation of new technology as well, from penicillin to the B-29 bomber, which were instances of systemic innovation pursued through collaborative research and product development.

Yet the war was not on the whole the miracle of innovation and productivity, nor the font of postwar productivity growth, that it has often been made out to have been. Field has calculated that total-factor productivity—a measure of how effectively an economy is using its inputs—actually fell by 1.34 percent in manufacturing over the period 1941–1948.⁵⁴ By his calculation, in the last two years of the war, TFP in manufacturing fell by 6.6 percent and 9.2 percent. Quite apart from negative supply shocks, notably the loss of

natural-rubber supplies from the East Indies and the conscription into the military of vast numbers of productive workers, these declines in productivity reflected the hasty and radical reorientation of production toward highly specialized military goods as well as—perhaps especially—the inevitable shortages, hoarding, and chaos of a nonmarket system of resource allocation. As we will see, wartime mobilization favored the large integrated enterprises that were at its center, often leaving small firms the victims of “priorities unemployment” despite the desperate need for increased output.

To the surprise of contemporary Keynesian economists, the return to a market-based system of resource allocation at war’s end, along with the creation of a stable monetary regime, ushered in a period of relative growth and prosperity now remembered as a golden age. But even in the postwar period, a matrix of government policies worked to advantage the large integrated corporation.

The belief that wartime military spending inevitably energizes civilian economic growth, and that military research typically “spills over” to civilian innovation, is a foundation stone of so-called industrial policy, which, as it periodically does, has come back into fashion today on both sides of the political spectrum.⁵⁵ If government can direct the process of innovation in time of war, why can it not do so to advantage in time of peace? Perhaps the state can even act “entrepreneurially” to plan in detail the direction of civilian technological development. The following pages will dissent from this view and affirm the traditional finding among scholars of science and technology policy.⁵⁶ The state is best able to boost technological change in its role as a buyer for its own uses, especially if the technology is young enough, and inchoate enough, that the effects will indeed spill over to civilian uses. But the state is far less effective in directly supporting commercial R&D, and it is least effective when attempting to pick winners. Early federal policy toward silicon transistors may be a good example. As an astute and self-interested consumer, the Defense Department bought its transistors mostly from new and young firms like Fairchild Semiconductor, thus helping to direct the industry onto a trajectory of unprecedented technological advance. But when it gave out R&D money for semiconductors, the government favored large integrated systems firms, and little of that funding paid off.⁵⁷

History is littered with episodes of failed state entrepreneurship, from ill-fated steel, gunpowder, and nitrates projects in World War I to the supersonic transport of the 1960s. The government has indeed often lavished funds on the corporate sector to spur commercial innovation, but, while happily accepting such funds, in both the US and Japan—widely believed in the 1980s to have been a definitive example of successful industrial policy—firms did their best to contest and evade all attempts at cooperative research and planning. Moreover, the government routinely subsidized projects that the private sector

would have undertaken on its own.⁵⁸ Projects often touted as evidence of successful state entrepreneurship turn out on examination to have been the product of extremely hands-off funding coupled with highly decentralized decision-making and spontaneous cooperation. A good example is the Internet, whose Defense-funded precursors were crucial far less for the technology they developed than for the regime of open standards and protocols they put in place. We will also see that American industry has frequently been shaped by back-door industrial policy, as industrial regulations of various sorts distorted technological choices and retarded technological advance.

Broadly understood, industrial policy extends beyond support for R&D to encompass antitrust policy and intellectual property rights.⁵⁹ Chandler always insisted that the managerial corporation was the product of technological and economic forces, never of public policy. The one exception he made to this dictum was antitrust policy: Chandler championed the view that enforcement of the Sherman Antitrust Act around the turn of the twentieth century created powerful incentives for business to avoid interfirm agreements and the holding-company form and to organize instead in the legally safer structure of an integrated multiunit operating company. In bits and pieces, a variety of economists and historians have made similar arguments, often as asides, about specific periods.⁶⁰ At many times and in many ways, antitrust policy has worked, often unintentionally, to benefit large integrated enterprises, frequently at the expense of the smaller firms that were the intended beneficiaries. This book examines this thesis carefully and carries it consistently through the century.

To understand how antitrust policy can affect organizational form, we need to return to Coase. Both Chandler and Coase—or at any rate the Coase of 1937—seem to offer us a Manichaeian choice: on one side of the organizational boundary lie spontaneous markets in which fully independent sellers are guided solely by market prices; on the other side lie integrated enterprises in which resources are directed solely by the administrative planning of salaried managers. The only choice is between fully invisible and fully visible hands. In reality, of course, the topography of organizational choice is far more variegated—and far more interesting. In any complex manufacturing and distribution system, each stage of production requires the development of specialized knowledge, experience, and skills, what G. B. Richardson called *capabilities*, that are different from those called for by other stages.⁶¹ Buying livestock, slaughtering, building rail cars, organizing ice houses and warehouses: these are all complementary parts of the chain of production. So are order-taking, motherboards, video cards, microprocessors, and delivery logistics. For production to operate smoothly at high volumes, these complementary activities must somehow be coordinated. But, Richardson wrote, “there is no unique single way in which complementary investments come to be

co-ordinated. Co-ordination may occur spontaneously without the intervention of measures expressly adopted to that end; under different circumstances, it may be brought about by means of agreements, of one kind or another, between independent firms; in other circumstances, it may require deliberate planning, such as is possible only when the different investments are under unified control.”⁶²

Throughout history, much of economic coordination has always taken place through “agreements, of one kind or another, between independent firms.” This was true even in the pre-Chandlerian world in which generalist merchants coordinated the flow of goods through the American economy.⁶³ “The market” is as much about complex interfirm agreements as it is about the spontaneous and anonymous coordination of spot contracts through the price mechanism. Complex interfirm arrangements take a wide variety of forms, including various kinds of business-group structures.⁶⁴ We will encounter and analyze many of these arrangements as our history proceeds. Prominent examples like tying arrangements, franchising, exclusive dealing, and resale-price maintenance merely scratch the surface of possibility. The important point is that interfirm arrangements are *substitutes*—and very often superior substitutes—for integration within a single ownership structure. To the extent that public policy penalizes such alternatives, it creates a powerful incentive to withdraw coordination from the visible market arena and to sequester it within the bounds of a single organization, which can provide—often at a cost—a legally safe internal simulacrum of the proscribed arrangements.⁶⁵

Because they are neither fish nor fowl, because they seem to conform neither to the model of the anonymous market nor to that of the fully managerial firm, complex interfirm arrangements can easily seem mysterious—and they have often been assumed *ipso facto* nefarious. They are “unfair” methods of competition. They are “anticompetitive practices.” Like all contracts, complex interfirm arrangements are typically about exclusion. Thus it has always been easy to understand them as “contracts in restraint of trade,” language borrowed from the common law by the Sherman Antitrust Act of 1890. It would not be until the second half of the twentieth century that economists elaborating on the ideas of Coase would begin to understand such contracts as frequently representing solutions to vexing problems of uncertainty, incentives, and transaction costs. As we will see, the ability to write contracts of exclusion is often crucial to the smooth functioning of markets.

This is far from saying that American antitrust policy was propelled primarily by ideas, let alone by economic ideas. Politics and ideas were ever intertwined. As many have observed, it is significant that the uniquely American innovation of antitrust emerged during the same period of economic ferment that brought forth the large Chandlerian corporation and destroyed the earlier system of

localized production and trade. As a prelude to the twentieth century, chapter 2 will offer a portrait of the nineteenth-century origins of industrial regulation, discovering those origins to have been deeply imbedded within the political economy of the United States in that period. To a surprising degree, that political economy would very much include monetary policy, tightly interwoven with tariff policy, the interests of competitors, and widespread if unfocused fears about bigness and centralization—fears not unfamiliar to our own era—in a country experiencing a rapidly changing economic geography.

The turn of the twentieth century saw the completion of the Great Merger Wave.⁶⁶ Local enterprises in many industries took advantage of the newly available state-chartered holding-company form of organization to coalesce into geography-spanning managerial enterprises. The turn of the century also saw the beginnings of a new political economy, driven by the emergence of an urban Progressive movement that replaced rural populism as arguably the country's dominant ideological force.

Like those who formed and managed the large new industrial firms, many Progressive thinkers saw centralization as both inevitable and desirable. Like Alfred Chandler—very much a descendent of this Progressive tradition—these thinkers held that scientific techniques had solved the problems of industrial management. By extension, scientific management would also be able to solve the problems of political administration, which could—indeed must—be entrusted to experts. Theodore Roosevelt, who instantiated the most centripetal of these views, famously believed he could distinguish “good trusts” from “bad trusts,” and he pushed strongly for a powerful executive commission, under his personal control, that would institutionalize such judgments by asserting federal political authority over industry. Roosevelt's initiative foundered; his successor, the more judicially oriented William Howard Taft, was glad to restore antitrust to the crime-tort model of the Sherman Act.⁶⁷

From the beginning, some politicians, jurists, and writers explicitly understood antitrust to be a way of protecting existing small competitors from the efficiency, innovation, and lower prices of the emerging large corporations. This goal had both a political and an ideological dimension. Small competitors were (and are) numerous and thus politically powerful. At the same time, many thinkers throughout the century, notably including Louis D. Brandeis, saw the matter in moralistic terms: individual ownership of a small business provides opportunities for self-expression and character-building that would be denied to those employed within large organizations. A society of small-holders is simply a better society than a corporate society—even if it is a poorer one. Thus, Brandeis believed, antitrust should be about creating and maintaining a decentralized industrial structure for its own sake, not about economic efficiency or the material well-being of consumers.

When the like-minded Woodrow Wilson ascended to the presidency in 1913, Brandeis had his chance. Although he was himself a firm believer in the powers of scientific management, Brandeis also believed that large size was not efficient.⁶⁸ Thus, to maintain decentralization, it would be necessary merely to outlaw practices that gave what he believed to be artificial advantages to large size. It would be necessary merely to enumerate and forbid “anticompetitive practices,” which, Brandeis believed, were well understood and unambiguous. (One William H. S. Stevens, soon to become the assistant chief economist of the Federal Trade Commission, enumerated precisely eleven “unfair” practices in 1914.)⁶⁹ In the attempt to write legislation, however, it became immediately clear that the complex interfirm arrangements and other behaviors to be proscribed were far from well understood; and even small-business constituencies began to feel threatened by the criminalization of what was to them ordinary business contracting. Brandeis was forced to persuade Wilson to accept the hybrid system that would reign for the remainder of the century and beyond: a vague and qualified enumeration of anticompetitive practices laid atop the Sherman Act, plus the creation of an expert commission—the Federal Trade Commission—that was to help adjudicate the resulting ambiguities but did not possess the unified central authority over business that Teddy Roosevelt had wanted.

This history is of considerable significance to today’s discussions of antitrust policy, since those debates are centered around a call to return to the views of Brandeis.⁷⁰ Indeed, proponents of the “neo-Brandeisian” approach are currently ensconced in Washington, including at the FTC, which proposes once again to try to define and enumerate “unfair methods of competition” through administrative rulemaking.⁷¹

It is a central tenet of the neo-Brandeisian view that the antitrust laws did not originally have consumer benefit, let alone economic efficiency, as their goal.⁷² The goal of consumer benefit, we are told, was not an official guidepost of antitrust policy until the rise to prominence of the so-called Chicago School late in the century. We will certainly see that antitrust policy has indeed often worked to protect existing competitors. Yet as we will also see, many of the early politicians, jurists, and writers who wished to protect small competitors simultaneously blamed the “trusts” for raising prices and thwarting active competition. In this sense, the goal of benefiting consumers, and maybe even of promoting economic efficiency, was also visible in antitrust policy from the very start. The two goals lived side-by-side throughout the century, even if the efficiency view would ultimately gain ascendancy. “Our scared cow was born two-headed,” wrote *Fortune* in 1966.⁷³

Contrary to the popular account, however, consumer benefit was formally enthroned as the central goal of federal enforcement not by the Chicago School but by the New Deal. In 1938, Franklin Roosevelt appointed a Yale law

professor, Thurman Arnold, to head the Antitrust Division of the Justice Department. The energetic Arnold would turn the Division into a bureaucratic powerhouse, launching nearly half of all federal antitrust cases brought in the half-century after the passage of the Sherman Act. Arnold's worldview was in most respects the opposite of that of Brandeis. He wished to strip antitrust of its moralistic trappings and focus it squarely on consumer benefit, even if, as it often did, that meant targeting decentralized industries. Far from enumerating prohibited practices, Arnold pursued antitrust enforcement as a process of hands-on case-by-case regulation of business by the state. Along with his own political missteps, the war—during which the military protected the large corporations on which it so depended—brought an end to the Arnold administration. But strong bureaucratic enforcement revived after the war, propelled by attention-grabbing Congressional hearings and a spate of legislation.

As the postwar decades proceeded, economic reasoning began to infiltrate Arnold's rough-and-ready consumer-benefit standard. This came first at the hands of the so-called Structure-Conduct-Performance paradigm, which in some early incarnations had contemplated the possibility of antitrust goals in addition to economic efficiency, including such things as Keynesian full employment, though never anything like virtue-enhancing decentralization à la Brandeis. Yet officials quickly realized that in practice efficiency was the only goal antitrust was actually equipped to pursue. The unwieldy S-C-P paradigm collapsed into a Structuralist view in which, in keeping with the dictates of the static, simplified, and increasingly formal price theory of the day, virtually all that mattered was industrial concentration—the number of firms in an industry.⁷⁴ The Structuralists thus shared the economic efficiency goals of the later Chicago School, diverging principally in the details of the model of the economy they employed and the economic judgments they made.

In 1966, Oliver Williamson took on a stint as Special Economic Assistant to Donald F. Turner, the second head of the Antitrust Division under Lyndon Johnson and then a strong proponent of the Structuralist paradigm. Williamson was struck by the Division's inclination to dismiss as anticompetitive, without any careful economic analysis, most kinds of complex contracting between firms. This included the ongoing, and ultimately successful, suit against bicycle maker Schwinn for assigning exclusive territories to its independent distributors, even though it was evident to all that the same conduct would have been perfectly legal had Schwinn been vertically integrated into distribution.⁷⁵ Williamson would later brand this attitude "the inhospitality tradition."⁷⁶ In the 1960s, he complained, antitrust officials were working with "a black box theory of the firm and a plain vanilla theory of markets."⁷⁷

In an environment of intense postwar antitrust enforcement, this hostility to interfirm arrangements and other complex forms of economic behavior

worked to reinforce the integrated structure of the large American firm. Among many other examples: as the Depression had once done, postwar anti-concentration policy made it difficult for firms to acquire new technology on the market. This led to a continued emphasis on internal R&D in corporate labs, which in turn generated an incentive to develop proprietary systemic technologies that further reinforced vertical integration and the managerial structure of the firm.⁷⁸ By the end of the New Deal, many interfirm arrangements began to be understood as abuses of patent rights, often seen as mechanisms to “leverage” into other products the market power granted by the patents. Through the 1970s, many major antitrust cases were thus settled with compulsory-licensing agreements. As Jonathan Barnett has argued, this created what was in effect a regime of weak intellectual property protection that, coupled with the postwar rush of federal R&D funding into the largest firms, disadvantaged decentralized knowledge creation and reinforced the corporate-research model.⁷⁹ Unlike the 1920s and 1930s, the postwar era would not be a period of breakthrough innovation.⁸⁰

The conventional view, of course, is that a strong antitrust regime must have been beneficial because it discouraged combination, collusion, and other anticompetitive behaviors. Needless to say, this claim is difficult to assess, as it rests on unobserved counterfactuals.⁸¹ It is widely heard that the long-running and wasteful suit against IBM in the 1970s is all that deterred the computer giant from commandeering and monopolizing the personal-computer industry. In a similar vein, one hears that the late-century suit against Microsoft is what deterred that firm from commandeering and monopolizing the Internet. We will discover both of these narratives to be urban legends. The most successful antitrust suit of the late twentieth century was arguably the one breaking up AT&T, but that was an act of deregulation in the clothing of antitrust.

We will see a few instances in which the threat of antitrust action did deter firms from acquiring competing or complementary businesses, though the efficiency implications are not always obvious. On the other side of the ledger, however, we will also see instances in which antitrust prosecution or its threat led to clearly perverse consequences. Firms like United Shoe Machinery and IBM *raised* their prices after antitrust action, in the hopes of attracting enough higher-cost fringe competitors to mollify the courts.⁸² (This didn’t work in either case.) Indeed, propitiating the antitrust authorities by failing to compete aggressively was a strategy that had long since been pioneered by the early-century U.S. Steel.⁸³

Perhaps the most damaging, and the least noticed, effects of intense antitrust enforcement were the incentives it sometimes created to distort organizational design in ways that diminished organizational learning and slowed technological change. This was especially significant when antitrust

enforcement threatened to break up existing large firms. As courts learned early in the century in cases involving American Tobacco, Du Pont, and Standard Oil, it was relatively easy to break up a firm that is already modularized into relatively self-contained units encapsulated as holding companies. Indeed, because these corporations had been trying rapidly to shed the holding-company form in favor of the safer integrated form, courts seeking a breakup sometimes first had to create (or recreate) the necessary holding companies. The later M-form represented a new way of modularizing the corporation. By setting up relatively self-contained wholly owned divisions oriented toward specific product markets, the M-form once again offered antitrust authorities a set of clean break points for dismemberment. Recognizing the dangers, some large corporations—notably including General Motors and the other large carmakers—scrambled their M-form structures as a defensive stratagem. (When firms were too tightly integrated to be easily partitioned, post-war antitrust policy typically had to resort instead to mandating compulsory licensing and other technology-sharing arrangements.)

The rise of industry-wide unionization had similar distortive effects on organizational choices. Before the Depression, many of America's leading industries had been organized as loose geographical clusters in which assemblers depended on, and worked closely with, relatively nearby suppliers. As many authors have suggested, this created an industrial ecology of learning and innovation. For example, the automobile industry invented the just-in-time inventory system, then called hand-to-mouth buying, which depended on the reliability of suppliers. The Depression directly wreaked havoc on this system, and the rise of industry-wide unionism in response to the Depression generated a radical organizational response. As suppliers became increasingly vulnerable to work stoppages, manufacturers integrated vertically to bring labor relations more firmly under their own control, at the same time deskilling suppliers and putting in place a much-less-collaborative relationship with them. Firms also rapidly scattered production to less-unionized regions and away from their original geographical learning bases, concentrating research and development in often-isolated central laboratories.

The postwar organizational structures of the large integrated American corporations left those firms ill equipped to respond to the tumult that was about to engulf them. The hobbling of the country's foreign competitors in the war had endowed American firms with a decided, if arguably artificial, comparative advantage in mass production, one that continued to generate rents for the manufacturing sector through the 1960s. This created a weak selection environment in which ineffective structures and practices, including those driven by antitrust policy and industry-wide unionism, could endure unchallenged. It was also—not coincidentally—during this period that the power of

managers reached its apex. Ownership became increasingly dispersed as founders retired and died off, and the intense regulation of the financial sector made it difficult for blockholders to reassert control. The immediate postwar decades were indeed the heyday of the Chandlerian corporation.

To put in perspective what came next, we need to interrogate a third great twentieth-century student of the corporation, Joseph Schumpeter. Although he would contribute his own rather transgressive paean to managerialism, Schumpeter also set out a distinctive vision of economic change and the meaning of competition, as well as a profound critique of the goals and practice of antitrust.

As taught in all microeconomics textbooks, antitrust seeks to root out a static misallocation of resources. When prices are raised above costs, gains from trade are left lying on the table, illustrated in blackboard diagrams as triangles of what economists picturesquely call deadweight loss. Yet Arnold Harberger, whose name has become attached to the idea of such triangles, calculated in 1954 that even starting with unreasonably high assumptions about the level of market power in the economy, the potential gains to eliminating all deadweight-loss triangles would amount to something like one-tenth of one percent of GDP, an order of magnitude less than a bad year's worth of annual growth in GDP.⁸⁴ This suggests that, as McCloskey put it, the Great Enrichment of market societies in modern times "consists not of little efficiencies but of utterly novel betterments."⁸⁵ Writing in precisely this vein, Schumpeter ridiculed the economist's focus on static price competition and the search for little efficiencies.

In capitalist reality as distinguished from its textbook picture, it is not that kind of competition which counts but the competition from the new commodity, the new technology, the new source of supply, the new type of organization (the largest-scale unit of control for instance)—competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives. This kind of competition is as much more effective than the other as a bombardment is in comparison with forcing a door, and so much more important that it becomes a matter of comparative indifference whether competition in the ordinary sense functions more or less promptly; the powerful lever that in the long run expands output and brings down prices is in any case made of other stuff.⁸⁶

Competition, said Schumpeter—borrowing another phrase from Werner Sombart—is a "perennial gale of creative destruction."⁸⁷

Beginning in the 1970s, American industry would come to experience those hurricane winds, from all four points of the compass. Financial liberalization,

foreign competition, industrial deregulation, and innovative new technologies would bring forth improvements in efficiency and material well-being far beyond anything that conventional antitrust might have imagined.

In the 1960s, the managers of large firms found themselves in control not only of their own retained earnings but also of the equity of numerous powerless shareholders. Because intense antitrust scrutiny made it impossible for them to diversify, as Chandlerian firms had done early in the century, into related areas that took advantage of existing capabilities, firms in this era directed their free cash flow into the acquisition of wholly unrelated businesses, creating the conglomerate form of organization. This development was made easier by the widespread adoption of the M-form, which had encapsulated units into modules that could be easily swapped among corporations. In effect, the conglomerates operated as internal capital markets in a world in which external financial markets remained weak and highly regulated.

But the 1970s would see a transfer of power from internal to external capital markets. Already by 1971, the inflation that was helping to fund the Vietnam War had begun to demolish the postwar Bretton Woods system of regimented international finance, and by the end of the decade, the rise of the Organization of the Petroleum Exporting Countries (OPEC) would radically alter relative prices. In this new, more open—and more dangerous—environment, the distortions of the New Deal apparatus of financial regulation and repression, already visible during the postwar years, were becoming palpable. As institutional entrepreneurs discovered workarounds, the regulatory system began to collapse. In the 1980s, external capital markets reasserted themselves and gained comparative advantage. And the market for corporate control, often in the form of leveraged buyouts, began to disassemble the conglomerate. By then an altered antitrust environment would permit the corporate pieces to be reassembled in ways that took greater advantage of specialization and relatedness among capabilities.

It was also in the 1970s that America's ruined wartime adversaries began to regain their competitive footing. Japanese firms started offering American consumers inexpensive and increasingly high-quality products. Before long, key US industries like steel and automobiles were coming to understand what Schumpeter meant by creative destruction. The once-dominant American consumer-electronics industry was effectively destroyed. US firms clamored for—and received—protectionist trade policies, but these provided only the flimsiest protection from the gale, sometimes producing unintended consequences that actually benefitted the importers. Significantly, as many authors have noticed, the Japanese firms were successful in this era in large part because they emulated the systems of organizational learning and supplier relations that had characterized American industry before the Depression.

As in banking and finance, the New Deal regime of industrial regulation became increasingly misaligned with technological possibilities and relative scarcities over the postwar period. This opened up profit opportunities in the realm of institutional change. Figures like William McGowan (MCI), Malcom McLean (Sea-Land), and Fred Smith (FedEx) succeeded in part by devoting some of their financial and entrepreneurial resources toward easing or eliminating the legal constraints to innovation they faced. At the same time, incentives appeared for political entrepreneurs to supply the necessary deregulation. Although ideological change was certainly important in the process of deregulation—perhaps most significant, as we will see, in the arena of antitrust—almost all the *de jure* deregulation of industry had already taken place before any meaningful ideological change would find its way to Washington.

In the end, the strongest meteorological forces of the post-1973 era would be those released by new technology. The invention of the planar process in the late 1950s gave the world Moore's Law: the realized prediction that the number of transistors on a silicon chip would continue to double every eighteen months.⁸⁸ What turned out to be a mind-bending 35 percent annual rate of growth in chip density would lower the relative price of electronic equipment persistently and dramatically. The general-purpose technology of the microchip would extend into virtually all spheres of enterprise and would alter the economic geography of production and consumption in ways every bit as radical as the railroad and the telegraph had in the nineteenth century. As the power of the personal computer successively overtook that of the mainframe computer, the minicomputer, and the workstation, the computer industry would experience a "competitive crash" of industrial restructuring.⁸⁹

The book's epilogue will take this story into the present. With continued miniaturization, the smartphone would edge the personal computer into eclipse; and, with the complementary development of high-speed networking technology, the smartphone and cloud computing would become the two great general-purpose technologies of the modern era. These would give rise to the Big Five firms (and their brethren) that now dominate public and academic discourse about the corporation.

Having undertaken a detailed and nuanced history of the corporation in the twentieth century, we will find ourselves in a better position to visualize, interpret, and assess the panorama of the corporation in the twenty-first century.

INDEX

- Abbott, Lyman, 51
 Aberdeen, Maryland, 363
 Abernathy, William, 158, 591
 Abrams, Burton A., 647
 Abrams, Jonathan, 531
 Ackley, Gardner, 407
 Adams, Brock, 463
 Adams, Charles Francis, 33–36, 559–60
 Adams, Walter, 345
 Adamson Act (1916), 116
 Addams, Jane, 80
Addyston Pipe & Steel Co. (United States v.)
 (1899), 43, 76, 82, 161
 Adelman, Morris, 345
 administered prices, 164, 268–69, 409,
 573, 617
 administrative coordination, ix–x, 4–6, 9,
 14, 44, 47, 197–98, 225, 282, 284–85, 409,
 457–58, 461, 508
 Advanced Micro Devices (AMD), 487,
 497, 501
 Advanced Research Projects Agency (ARPA),
 498–99, 505–7, 663–64
 advertising, 53, 109, 123, 171, 176, 182, 287, 335,
 372, 380, 386–87, 390, 453, 490, 528–29,
 531–32, 541–44, 581, 632, 667, 671; Madison
 Avenue, 386, 390
 aerospace industry, 324, 358, 361, 445, 486
 African Americans, 89, 135, 183, 203, 225,
 301–2, 398–402, 596, 623, 642, 645; Great
 Migration, 399–400
 Agricultural Adjustment Act (1933), 226,
 230
 Agricultural Adjustment Act (1938), 230
 agriculture, 25–27, 34, 45, 48, 50, 53, 58, 77, 80,
 91, 100, 102, 119, 125, 138–40, 147, 158, 188, 191,
 196, 201, 205–7, 209, 224–27, 251, 266, 275,
 280, 290, 294, 232, 399–400, 426, 465, 521,
 600; domestic-allotment system, 226–27;
 “dust bowl,” 609; Farm bloc, 139, 183, 290
 Agriculture, US Department of, 59, 206,
 226–27, 241, 268, 331, 400, 617; Agricultural
 Adjustment Administration, 226–27, 335;
 Bureau of Animal Industry, 59; Bureau of
 Chemistry, 59; food stamps, 400; Peoria
 Laboratory, 294–95
 Ahamed, Liaquat, 188, 193
 Aikawa, Yoshisuke, 435–36
 Aiken, Howard, 628
 Airbnb, Inc., 511, 534
 Air Commerce Act (1926), 254
 Air Corps Act (1926), 254
 aircraft (aviation) industry, 127–32, 169, 190,
 230, 240–41, 245, 251–58, 278–79, 281–83,
 285–86, 288, 291, 300, 302–314, 319–22, 330,
 339, 356–59, 361, 455, 461, 468–72, 585, 591,
 611, 614, 624–25, 636; Avro Lancaster, 303;
 Bell X-1, 358; Boeing 707, 358; Boeing 737,
 469; Boeing 747, 356; Boeing B-17 Flying
 Fortress, 279, 304, 308, 310–11, 354, 625;
 Boeing B-29 Superfortress, 12, 307–10,
 313, 354, 625; Boeing 707, 468; Boeing
 747, 468; Boeing B-47, 358; Boeing B-52,
 358; British Whittle engine, 357; Concorde,
 358; Consolidated B-24 Liberator, 305–7,
 310, 353; Dassault Falcon 20, 471; de
 Havilland DH-4, 131–255; Douglas C-47
 cargo plane, 320; Douglas DC-3, 255, 320,

- aircraft (aviation) industry (*continued*)
 356, 358, 614; Douglas DC-8, 356; Douglas DC-9, 469; Douglas DC-10, 468; Ford Trimotor, 252, 614; flying boats, 128; Hawker Hurricane, 302–3; jet engine, 255, 258, 322, 357; Liberty Engine, 130–32, 145, 302, 624; Lockheed, L-1011, 468; Lockheed P-38 Lightning, 311; Martin B-26, 304; NACA cowl, 254; North American C-130 Hercules, 357; North American Mitchell B-25, 304; ; North American P-51 Mustang, 303, 311, 313; Republic P-47 Thunderbolt, 311; Rolls Royce Merlin engine, 302–3, 311, 624; shadow plants, 303–4, 320; Spitfire, 302–3, 311; supersonic transport, 358–59; swept wing, 357; turboprop engines, 357, 359, 369, 636; Wasp engine, 252–53, 303–4; Wright R-3350 Duplex-Cyclone, 309–10
- Aircraft Production Board, 131–32
- Air Force (US), 254, 321, 361
- Airline Deregulation Act (1978)
- Air Mail Act (1934), 256
- Air Policy Commission, 357
- Akron, Ohio, 291, 322
- A. L. A. Schechter Poultry Corporation v. United States* (1935), 232, 272, 609
- Albuquerque, New Mexico, 488
- Alchian, Armen, 625
- Aldrich, Nelson, 87, 94–98, 561, 571, 606
- Aldrich, Winthrop, 217–18, 265, 606
- Aldrich-Vreeland Act (1908), 94, 102
- Alexanderson, Ernst, 168, 375
- Alien Act (1918), 110, 137
- Alien Enemies Act (1798), 109
- Allen, Eddie, 308
- Allen, Frederick Lewis, 64, 135, 141, 178
- Allen, Robert, 44
- Allen B. Du Mont Laboratories, Inc., 376, 387–88, 486
- Alphabet Inc. *See* Google
- Alpine, New Jersey, 374, 378
- Alps Electric Co., Ltd., 491
- Aluminum Company of America (Alcoa), 163, 245, 272, 290, 332–35, 593, 630–31
- Aluminum Co. of America (United States v.)* (1945), 272, 290, 332–35, 347, 371, 482, 517, 632
- Aluminum Company of Canada (Alcan), 335, 631
- aluminum industry, 225, 245, 284–86, 303, 306, 332–35, 428, 632, 650
- Amatori, Franco, ix–x
- Amazon.com, Inc., 2, 512–13, 524, 532–33, 536–37, 545–46, 549, 554, 597, 667–68, 672–73; Alexa, 540, 550, 673; Amazon Marketplace, 512, 527, 545, 554; Kindle, 668
- Amdahl, Gene, 371
- America First Committee, 283
- American Airways (Airlines), 253, 256–57
- American Anti-Trust League, 111, 582
- American Association of University Professors (AAUP), 53, 565
- American Bankers Association, 94, 218
- American Body Company, 158
- American Broadcasting Company (ABC), 373, 387–89, 415
- American Challenge, The* (Servan-Schreiber), 405, 646
- American Civil Liberties Union, 590, 671
- American Coal Products, 83
- American College of Surgeons, 114
- American Corn Products, 83
- American Economic Association (AEA), 51–53, 58, 203–4, 210, 564
- American Economic Review*, 198
- American Express Company, 505, 650
- American Farm Bureau Federation, 225
- American Hardwood Manufacturers Association, 161, 592
- American Individualism* (Herbert Hoover), 160
- American International Shipbuilding Corporation, 113
- American Legion, 276, 280
- American Locomotive Company (Alco), 248
- American Marconi, 166–69, 373
- American Motors, 144, 356, 432, 446–47, 582
- American Protective League, 110, 116, 118
- American Radio Relay League, 170

- American Research and Development Corporation, 504
- American Revolution, 28, 266
- American Rolling Mill Company (Armco), 243–44
- American Society of Mechanical Engineers, 567
- American Sugar Refining Company, 43
- American Telephone and Telegraph Company (AT&T), 19, 65–67, 114, 165–66, 169–72, 176, 184–85, 213, 222, 260–63, 280, 359–61, 366, 374–75, 378, 381, 414, 450, 454, 473–77, 490, 506, 508, 569, 594, 607, 615, 638; Baby Bells, 475–76; Carterphone, 474; cross-subsidy, 360, 474–75, 637; Hush-A-Phone, 473, 506; Long Lines division, 67, 261, 359; universal service, 66, 260. *See also* Bell Telephone Laboratories
- American Tel. and Tel. Co. (United States v.)* (1983), 474–75
- American Thread Company, 83
- American Tobacco Company, 20, 71–74, 424–25
- America Online (AOL), 508–9, 515, 518, 528, 666
- Ames, Edward, 121, 670
- Ampex, 452
- anarchism, 75, 135–37, 141
- Anderson, Harlan, 504
- Andreesen, Marc, 510, 515, 518
- Andrew, A. Piatt, 94–95, 578
- Angell, Norman, 102
- Anheuser-Busch Brewing Association, 273
- anti-interventionism. *See* isolationism
- Antioch College, 224
- Anti-Saloon League, 203–4, 603
- antisemitism, 27, 126, 195, 266, 274, 301, 312, 376–77, 604, 616: *Kristallnacht*, 278
- antitrust, xi, 3, 7, 14–24, 39, 41–44, 47, 67–87, 90, 92–93, 98–100, 106, 116, 139, 159–64, 228, 240, 258–59, 268–73, 290, 295, 315, 322, 331–51, 353, 367–73, 381, 388–89, 407, 413–18, 422, 449, 451–52, 460, 462, 464–65, 474–75, 478–83, 502, 516–19, 524, 527, 542–44, 546–50, 570–74, 586, 590, 592, 617–18, 633, 639, 643, 648, 655, 659, 662, 665, 671–72; anticompetitive (“unfair”) practices, 15, 17–19, 69, 84–87, 99–100, 106, 162–64, 220, 270, 336, 416, 467, 479, 481–82, 517, 546–49, 574–75, 579, 652; barriers to entry, 45, 91, 161, 251, 257, 642, 344–45, 359, 416, 464, 466, 479–81, 516–17, 562, 633, 665, 668; block booking, 339–41, 388, 632; cartels, 12, 33, 35–37, 41–44, 68–69, 71, 73, 76, 78, 84, 86, 96, 163, 187, 229, 242, 258, 289, 331–32, 341, 417, 419, 432–33, 441, 451–52, 498, 559, 571–72, 621, 631, 649; Chicago School, 17, 270, 477–82, 516, 546–47, 618, 672; consent decrees, 67, 83, 162, 258, 260, 289, 338, 341–43, 351, 360, 368–69, 381, 389, 417, 475, 508, 516, 595, 615, 621; consumer benefit standard, 16–18, 270–71, 335–36, 348, 478, 519, 537, 546–48, 556, 618, 665; crime-tort model, 16, 39, 84, 334, 556; “cutthroat” competition, 85, 161, 251; deadweight loss, 21; exclusive dealing, 15, 86, 168, 272, 337–38, 480, 574; forestalling, regrating, and engrossing, 75, 572; franchising, 15, 86, 337–40, 385, 473, 482, 632; full-line forcing, 574–75; inhospitality tradition, 18, 479, 659; interlocking directorates, 73, 96, 98–99, 218, 256, 578; “killer acquisitions,” 550; “leverage” theory, 19, 367–68, 479–80, 516, 544, 549, 638, 648, 659, 672; mergers, 43, 61, 63–65, 68, 77, 79, 99, 105, 142–43, 163–66, 195, 256–57, 289, 305, 343, 346–48, 351, 356, 388, 408–25, 429–30, 447, 462, 464, 479, 481–82, 550, 580, 593, 606; Neo-Brandeisian movement, 17, 546–49, 672; “New Structuralism,” 547–48; per se illegality, 406, 164, 272, 481, 618, 659; Post-Chicago approach, 547, 672; predatory pricing, 85, 336, 414, 451–52, 517, 546, 665; price discrimination, 33–36, 50, 164, 367–68, 371, 470, 559, 575, 595, 658–59; price fixing, 43, 162, 164, 272, 618; “reciprocity,” 416, 544, 648; relevant market, 334, 415, 382, 517, 665; resale price

- antitrust (*continued*)
- maintenance, 15, 86–87, 220, 258, 336, 480, 548–59, 575; restraint of trade, 15, 43, 68–69, 72, 75–77, 80, 82, 84, 86, 99, 160, 172, 336–37, 344; rule of reason, 76–77, 80–82, 106, 162, 482, 618; “secondary” boycott, 273, 574; self-preferencing, 544, 549, 671; state antitrust policy, 71, 79; Structure-Conduct-Performance (S-C-P) paradigm, 18, 345, 414, 478–81, 633–34; territorial restraints, 18, 339, 480–82; tying arrangements, 15, 367–68, 479–80, 516–17, 638, 659, 672; vertical restraints (foreclosure), 86–87, 272, 341, 357–58, 388, 414, 479–82, 634, 651, 659
 - A&P (Great Atlantic and Pacific Tea Company), 4, 180–82, 185, 335–37, 385, 513, 545
 - Appalachian Coals v. United States* (1933), 618
 - Apple, 2–3, 489–93, 501–2, 511, 515, 525–27, 529–30, 532–33, 536–37, 542–44, 549, 668, 671; App Store, 526–27, 530; iOS operating system, 530; iPad, 524, 527; iPhone, 526–27, 530, 533, 550, 671; iPod, 526; iTunes, 526; Newton PDA, 525; Siri, 540
 - Applied Materials, Inc., 499
 - ArcelorMittal, 430
 - Archbold, John D., 570
 - Areeda, Phillip, 481, 659
 - Argentina, 25
 - Arlington, Massachusetts, 491
 - armory system, 121
 - Armour, J. Ogden, 78, 611
 - Armour & Company, 42, 78
 - Armstrong, Edwin Howard, 170, 260, 373–74, 376–78, 594, 640
 - Army (US), 74, 108–9, 112–14, 127–33, 180, 237, 254–56, 285, 292, 294, 299–300, 307–11, 314, 322, 354, 363, 365, 373; Aberdeen Proving Ground, 300; Air Corps, 254, 256, 279, 305, 307–8; Air Forces, 307–8, 310–11, 314, 354; American Expeditionary Force, 127, 131, 183; Quartermaster Corps, 113, 115, 180, 314; Ordnance Department (Division), 112–13, 127, 299–300, 314, 322–23, 363; Signal Corps, 129, 314, 377
 - Arnold, General Henry H. (Hap), 308, 311, 357
 - Arnold, Thurman, 18, 24, 269–73, 289, 329, 331, 333, 335, 338, 341, 343, 384, 391, 414, 478, 546, 574, 617–18, 630
 - Arnold Palmer Enterprises, 454
 - Arnold & Porter Kaye Scholer LLP, 630
 - Arnold, Schwinn & Company, 18
 - Arnold, Schwinn & Co. (United States v.)* (1967), 556
 - Aron, Raymond, 264
 - artificial intelligence, 540, 670
 - Ashby, W. Ross, 590
 - Ashland, Kentucky, 243
 - Association against the Prohibition Amendment, 204
 - Association of Land Grant Colleges and Universities, 225
 - Association of Licensed Automobile Manufacturers, 123
 - Aston Martin, 445
 - asymmetric information, 117, 340, 631
 - Atari, Inc., 489–90, 492, 532
 - Atlanta, Georgia, 470
 - Atlas Powder Company, 74
 - atomic (nuclear) energy, 225, 294–95, 307, 314, 321, 323–25, 389, 455–56, 506, 625; Manhattan Project, 323, 331, 363
 - Attlee, Clement, 330
 - Audacious*, HMS, 580
 - Austin Motor Company Limited, 437
 - Austin, Texas, 498
 - Australia, 438
 - Austria, 102–3, 151, 274, 427, 556; *Anschluss*, 278
 - automation, 71–72, 121–22, 133, 180, 227, 243–44, 262, 352, 365, 384, 399, 445, 450, 467, 491, 493, 502, 511, 539–40, 596–97, 653
 - Automobile Dealers’ Day in Court Act (1956), 339, 636
 - automobile industry, 9, 11, 20, 22, 71, 114, 119–25, 128, 130–31, 142–59, 174, 178–79, 189, 231–33, 235, 239, 243–50, 275, 281, 283, 289–306, 319, 338–39, 348–57, 383, 385,

- 395–96, 409, 427, 429, 431–49, 451–52, 461, 486, 495, 498, 558, 584–86, 610, 612–13, 617, 632, 644; Buick, 142–45, 149–50, 154, 248, 277, 304, 345, 588–89; Cadillac, 124, 131, 142–43, 145, 150, 277, 301, 445, 588; CAFE standards, 433, 653; Chevrolet, 144–45, 154–56, 158, 246–48, 304, 356, 432, 443, 445, 502, 589, 591, 619; Chevy Corvair, 432; Chevy Nova, 443, 502; Chevy Vega, 432; Chrysler K-car, 442–43, 446; dealers, 152, 155, 246, 248, 338–39, 433–34, 436, 444, 558, 632, 636; Dodge Aries, 442; Dodge Caravan, 443; Dodge Ram pickup, 447; Edsel, 354, 358, 454, 636; Ford Falcon, 432; Ford Mustang, 432, 443; Ford Pinto, 432; Ford Taurus, 442; GM X-body cars, 442; Honda Accord, 442; Honda Civic, 436; Hydra-Matic transmission, 248; Jeep, 356, 377, 446–47; Jeep Cherokee, 447; Jeep Grand Cherokee, 447; Lincoln, 145, 155, 301; Lincoln Phaeton limousine, 306; Maxwell, 158; Mercury, 301; minivan, 442–43, 446; Model A Ford, 156, 158, 189, 246, 591; Model B Ford, 612; Model 18 Ford V-8 (Little Deuce Coupe), 246–47, 612; Model N Ford, 120, 123; Model T Ford, 8, 120–23, 125, 144, 154–57, 306, 366, 432, 486, 554, 585, 592; Oldsmobile, 156; Olds runabout, 120; pickup trucks, 446–47, 653; Plymouth, 158, 246–47; Plymouth Reliant, 442; Plymouth Valiant, 432; Pontiac, 277; Pontiac GTO, 432; Reo Speed Wagon, 120; Saturn, 444; sport-utility vehicles, 446; Toyota Corolla, 443; Volkswagen Beetle, 432–33, 435; Volkswagen bus, 443, 490
- Aviation Corporation (AVCO), 253
- Avins, Jack, 450
- Avis Car Rental, 411, 417, 424
- Babbitt* (Sinclair Lewis), 181–82, 386
- Babbitt, George (fictional character), 181–82
- Babcock & Wilcox, 297
- baby boom, 382–83, 432–33, 484
- Bailyn, Bernard, x
- Bain Capital, 425
- Bain, Joe S., 345
- Baker, George F., 95
- Baker, James, 445
- Baker, Newton, 111, 114, 117, 127, 130
- Baldrige, Malcolm, 475, 498
- Baldwin, Carliss Y., 492, 494, 595, 617
- Baldwin Locomotive Works, 248
- Ballantine, Arthur, 603
- Balogh, Brian, 563
- Baltimore and Ohio Railroad, 63, 114, 568
- Baltimore, Maryland, 63
- Bank Holding Company Act (1956), 419
- Banking Act (1933). *See* Glass-Steagall Act
- Banking Act (1935), 208
- banking industry, 10–11, 23, 27, 29–30, 44–45, 61, 90–100, 105, 119, 137–38, 143–44, 146, 152, 187–96, 205–8, 210, 215–20, 222, 231, 266, 268, 408, 419, 425, 440, 456–57, 488, 522–23, 548, 556, 563, 576–77, 587, 600–601, 603–6, 630, 633, 653, 655; bank runs, 91–93, 188, 194–95, 205–7, 405, 522; branch banking, 218; clearinghouses, 92–94, 195; deposit insurance, 219; failures, 187, 194–96, 205–7, 216–18, 234–35, 249; German bank failures, 274; holidays, 205–6; investment banks, 8, 38, 45, 61, 72, 104, 185, 212, 214–18, 393, 411, 419–20, 423–25, 455, 457; Massachusetts Bank (1784), 30; nonbank banks, 92, 191, 456–57, 522–23; trust companies, 92–94; unit banking, 90–91, 95, 219
- Bank of America, 217, 605–6
- Bank of England, 91, 189
- Bank of United States, 195, 601
- Banque de France, 190, 208
- Banquet Foods, 454
- Barnes, Stanley, 343, 634
- Barnett, Jonathan, 19
- Barney, Charles T., 92
- Barron's*, 246
- Baruch, Bernard, 9, 114–15, 117, 125, 136, 214, 228, 276, 279–82, 288, 290–91, 604
- Bastiat, Frédéric, 51

- Bath Iron Works, 277, 296
 Baxter, James Phinney III, 294
 Baxter, William F. Jr., 475, 482–83
 Beard, Charles, 275
 Bear Stearns Companies, Inc., 423, 606
 Beatrice Companies, 424
 Beaverbrook, Lord (Max Aitken), 302
 Becker, Edwin, 452
 Becker, Gary, 480
 Behn, Hernan, 410
 Behn, Sosthenes, 410–11
 Bel Geddes, Norman, 395
 Belgium, 160
 Bell, Alexander Graham, 128, 260–61, 569, 616
 Bell, Daniel, 61, 352
 Bell Aircraft Corporation, 308
 Bell System. *See* AT&T
 Bell Telephone Laboratories, 261–63, 291, 293, 359–61, 476, 529, 615, 622; magnetic-tape recording, 262; negative-feedback amplifier, 262; transistor, 263, 359–61, 476, 637; Unix, 529
 Bendix Corporation, 635
 Bennett, Harry, 301, 353
 Bensel, Richard Franklin, 27
 Benton & Bowles, 287
 Beranek, Leo, 473, 506
 Berge, Wendell, 331, 345
 Berger, Victor, 110, 582
 Berle, Adolf A., 11, 210–14, 216, 391–92, 410, 414, 419, 425, 604
 Bernanke, Ben, 10, 187, 195, 522
 Berners-Lee, Timothy J., 509
 Bethlehem Steel Corporation, 105–6, 111, 126, 163, 243–44, 282, 296–97, 346, 429–31, 580, 593, 595; Bethlehem Shipbuilding Corporation, 244; Fore River shipyard, 126, 296
 Beverly, Massachusetts, 342
 Beverly Cotton Manufactory, 30
 Bezos, Jeff, 512
 B. F. Goodrich Company, 289, 622
 Bhatia, Sabeer, 511
 Bicks, Robert A., 343, 347, 634
 Biddle, Francis, 289
 Biden, Joseph, 463, 647
 Big Five firms, 2–3, 23, 536–37, 542–46, 550
 “big push” theory of economic development, 644
Big Short, The (2015 movie), 522
 Bingham, Hiram III, 614
 Bittlingmayer, George, 43, 570, 633
 Black, Harold S., 262
 Black, Hugo, 223, 256, 347–48
 Black Sox scandal, 69
 Blackstone, Inc., 425
 Blair, Roger D., 631
 Blecharczyk, Nathan, 534
 Blockbuster, 532
 Blue Eagle (NRA symbol), 228–29
 B’nai B’rith, 341
 Boca Raton, Florida, 492–94, 502–3, 523
 Boeing Company, 252–53, 255, 257, 304, 308, 312, 357–58, 614
 Bolsheviks, 134, 136, 313, 375, 565; Bolshevik Revolution, 101, 313
 Bolt, Beranek & Newman, 506–7
 Bonneville, California (fictional city), 559
 Bonneville Dam, 297
 bookstores, ix, 2, 512
 Borah, William, 269, 276
 Bordo, Michael, 25
 Borglum, Gutzon, 132
 Bork, Robert H., 546–47, 648
 Boston Associates, 60–63
 Boston, Massachusetts, 65–66, 136, 144, 198, 397, 461, 504, 542, 560, 643; Route 128, 504, 660
 Boston Manufacturing Company, 60
 bottlenecks, 61, 131, 149, 152, 160, 165, 185, 258, 265, 271–73, 283–84, 309, 335, 340, 369–70, 379, 384, 438, 494, 501–3, 513, 516, 518
Bottlenecks of Business (Thurman Arnold), 271, 335
 Boughton, James M., 629
 Boulware, Lemuel, 459
 Bourne, Randolph, 107
 Bowles, Chester, 287–88, 316
 Boy Scouts of America, 119, 229, 341

- Brandeis, Louis D., 16–18, 47, 57, 72, 75, 83–87,
89, 96, 98–100, 160–62, 165, 212, 216, 218–19,
222–23, 230, 240, 269–70, 337, 341–42, 414,
419, 519, 548, 556, 566, 572, 574–75, 579,
592, 630, 634, 670, 672
- brand-name capital, 58, 180, 232, 337–38, 346,
437, 452, 482, 493, 503, 561–62, 597, 631–32;
umbrella branding, 631
- Brandt, Janice, 509
- Breech, Ernest R., 353
- Brennan, William, 348
- Brentano, Lujo, 581
- Bresnahan, Timothy, 232, 370, 504, 636
- Bretton Woods System, ix, 8, 22, 315, 327–28,
331, 404–5, 408, 417–18, 426, 630, 646–47
- Breuer, Marcel, 397, 656
- Breyer, Stephen, 469
- Bricklin, Dan, 491
- Bridgeport, Connecticut, 580
- Briggs, Walter, 636
- Briggs Manufacturing Company, 158, 246,
355–56
- Brin, Sergey, 511, 528
- Brinkley, Alan, 270, 616
- Briscoe, Benjamin, 143
- Bristol, Connecticut, 582
- Britain. *See* United Kingdom
- broadcasting, 53, 109, 166, 170–78, 258, 260,
372–81, 386–89, 415, 455, 472–73, 508,
528, 545, 615, 639–40, 643, 658; “toll”
broadcasting, 172
- Broderick, Joseph, 601
- Brookings, Robert S., 117, 127
- Brookings Institution, 117, 280
- Brooklands racetrack, Surrey, England, 124
- Brooklyn, New York, 230
- Brooks, Frederick P. Jr., 639
- Brown, Charles L., 475
- Brown, Donaldson, 147, 151–52
- Brown, Walter Folger, 256
- Brown & Sharpe, 124
- Brownell, Herbert, 345
- Browning, John Moses, 299
- Brown Shoe Company, 347–348
- Brown v. Board of Education of Topeka* (1954),
399
- Brüning, Heinrich, 274
- Bryan, William Jennings, 46, 74–75, 89, 98,
106, 111, 206, 563
- Brynjolfsson, Erik, 536
- Bubble Act (1720–1825), 29, 37, 557
- Buckeye Pipeline Company, 462
- Budd, Ralph, 248, 250, 281
- Budd Company, 158
- Buffalo, New York, 122
- Buick, David Dunbar, 142
- Buick Motor Company, 142, 143, 588–89
- Bull Moose Party, 79, 89, 214, 579
- Bundy, McGeorge, 401
- Bureau of Aircraft Production, 132
- Burleson, Albert S., 109, 135, 165–66, 182, 581
- Burlington Northern Railroad, 462
- Burnham, James, 101, 391–92
- Burns, Arthur F., 407–8, 647
- Burns, Arthur R., 647
- Burroughs, 83, 366, 495
- Burton, Harold Hitz, 634
- Burton, William M., 239
- Bush, George W., 517
- Bush, Vannevar, 292–93, 295–96, 322–24,
357, 509
- Busicom, 487
- business groups, xi, 9, 11, 15, 60–74, 94–96,
99, 104–5, 348, 350, 411–12, 414, 425, 568;
communities of interest, 67–68, 70, 72–73,
77, 81, 578; horizontal, 95, 215; pyramidal,
11, 47, 61–62, 72–73, 185, 222–23, 329–30,
349, 410, 435, 440, 449
- Business Roundtable, 422
- Business Week*, 219
- Butler, Pennsylvania, 243
- Byrnes, James F., 288, 318
- Byte Shop, 490
- Caffrey, Francis G., 333
- Caldwell, Frank, 253
- Caldwell, Philip, 442
- California Institute of Technology, 293, 614

- call (broker) loans, 147, 189, 191
- Cambria Steel, 163
- Cambridge, Massachusetts, 506
- Camden, New Jersey, 375–76, 448–49
- Camp, Garrett, 534
- Camp David, Maryland, 408, 418, 647
- Canada, 95, 141, 176, 202, 218, 278, 310, 332, 335, 428, 446, 498, 525, 624, 627, 631
- Canon Inc., 496
- Canteen Corporation, 416–17
- capabilities, ix, 4, 6, 12, 14, 22, 47, 63, 86, 103–6, 121, 127, 142, 149, 154–55, 157–58, 170–71, 173–74, 179, 188, 198, 223, 234, 236–39, 245, 255, 257–58, 264, 291–92, 295–96, 298, 300, 313–14, 320, 322, 324, 331, 357, 363–65, 368–70, 372, 375, 379, 405, 410, 413, 432, 437, 440–41, 449–50, 452, 468, 482, 491, 493–94, 496–97, 499–500, 502–3, 525, 529, 545, 549–50, 554, 648; core competences, 172, 181, 365, 369, 458, 496, 500, 505, 631
- Capitalism, Socialism, and Democracy* (Joseph Schumpeter), 391
- Capper-Volstad Act (1922), 139
- Cardozo, Benjamin, 230, 374
- Carnegie, Andrew, 44, 61–63, 80, 105, 243, 292, 391, 409, 431, 562
- Carnegie Institute of Technology, 393
- Carnegie Institution of Washington, 292
- Caro, Robert, 644
- Carothers, Wallace H., 238–39, 610
- Cartels: Challenge to a Free World* (Wendell Berge), 331
- Carter, Jimmy, 418, 433–34, 451, 463, 465, 469, 471, 474–75
- Case, Anne, 538–39
- Case, J. Herbert, 195
- Castaing, François, 447
- cataract surgery, 327, 629
- Catchings, Waddill, 198
- Catholics, 49, 135, 204–5, 340, 597
- cement industry, 229
- censorship, 109–10, 129, 167, 182–83, 581, 597; self-censorship, 341, 372, 597
- Census (US), 180, 232, 364
- Center Line, Michigan, 299
- Central Intelligence Agency, 163
- Central Republic Trust, 205
- Cerf, Vinton Gray, 506, 508
- Chamberlin, Edward, 344–45, 480
- Chamber of Commerce (US), 114, 117, 266, 583
- Champion Spark Plug, 142
- Chandler, Alfred D. Jr., ix–x, 1–22, 30, 34, 38–39, 41–45, 47–48, 56, 58, 60–61, 63–65, 68, 73, 82, 99, 101, 143–44, 146, 151–53, 174, 197, 231, 236–37, 332, 356, 403–4, 410, 413, 418–19, 457, 461, 491–92, 494, 550, 553, 561, 563, 568, 590, 612; personal capitalism, 45, 60, 355
- Chaplin, Charlie, 502
- Charles River Bridge Company, 30
- Charlotte, North Carolina, 431, 493
- chartering. *See* incorporation
- Chase National Bank, 215, 217, 419, 606
- Chayefsky, Paddy, 387
- chemical industry, 30, 103, 149, 235, 237–39, 257–58, 289, 291, 322, 324, 331, 348, 399, 435, 429, 610, 635
- Chesky, Brian, 533–34
- Chevrolet, Louis, 144
- Chevrolet Motor Company, 144, 589
- Chicago, Burlington, and Quincy Railroad, 68, 248–250, 280
- Chicago, Illinois, 42, 58, 66, 68, 78, 80, 94–95, 97–98, 171, 176, 180, 183, 205, 222, 226, 248–49, 260, 271, 276, 309, 383, 398–99, 416, 461, 466, 474, 607
- Chicago Board of Health, 271
- Chicago Edison, 222
- Chicago Tribune*, 78
- Chicago World's Fair (1933), 248
- Chile, 111, 416
- China, 278, 310, 315, 320, 325, 389, 504, 521, 525, 537–39, 541, 576, 655, 667–70
- Chrysler, Walter, 2, 144–45, 149, 154, 158, 247, 355, 447, 604
- Chrysler Building, 2, 247

- Chrysler Corporation, 2, 146, 154, 158–59, 232, 246–48, 299–301, 304, 308–9, 338, 355–56, 433–34, 439, 441–43, 445–47, 513, 613, 636, 653; Chrysler Division, 300–301; Dodge-Chicago plant, 309; Dodge Division, 158–59, 246–47, 300, 304, 355, 604; Dodge Main plant, 159, 434; Extended Enterprise system, 447; Plymouth Division, 299–300, 355; Plymouth Lynch Road plant, 299; Simca subsidiary, 442
- Churchill, Winston S., 7, 105, 190, 204, 293, 302, 310, 330, 600, 603
- Cincinnati, Ohio, 243, 304
- Cisco Systems, 508
- Cities Service Company, 65, 421
- City Bank Farmers Trust Company, 215
- Civil Aeronautics Board (CAB), 257, 359, 468–71
- Civilian Conservation Corps, 275
- Civil Rights Act (1964), 399
- Civil Right Movement, 399–400, 484
- Civil War (US), 24–26, 30, 33, 54, 59, 90, 97, 102, 108, 129, 131, 180, 556–57, 666
- Clapp, Moses, 83, 572
- Clark, James H., 510
- Clark, John Maurice, 118, 316, 345–46, 587, 608
- Clark, Kim B., 369, 595
- Clark, Ramsey, 371, 415
- Clark, Tom C., 634
- Clark University, 50
- Clarkson, Grosvenor B., 114
- Clay, General Lucius, 329, 624, 642
- Clayton, Henry D., 98
- Clayton Antitrust Act (1914), 83–85, 99–100, 106, 139, 163, 273, 335, 337, 346, 348, 367, 413, 548, 575; Celler-Kefauver Amendments, 346–47, 368, 413, 634; Section 3, 337, 367; Section 5, 593; Section 7, 163, 346–48, 413, 416, 578, 593, 634
- Cleveland, Grover, 40–41, 43, 51, 74, 80, 561
- Cleveland, Ohio, 34–35, 116, 185, 352, 354, 466, 619
- Clinton, William Jefferson, 477, 514
- cloud computing, 23, 524, 533, 549
- Clower, Robert, 601
- coal, 3, 5, 116, 136, 163, 225, 240, 330, 429–430
- Coase, Ronald H., 5–6, 14–15, 29, 150, 477–78, 480–81, 513, 547–48, 553, 631
- Coast Guard (US), 132
- Coats, A. W., 51
- Coca-Cola Company, 630
- Coffin, Charles A., 64–65
- Coffin, Howard E., 114–15, 120, 124–25, 130, 253, 261, 594
- Coghill, Robert, 295
- Cohen, Benjamin, 219–20, 268, 280
- Colbert, Lester Lum, 355
- Cold War, 7, 101, 321, 323, 357, 360, 364, 406, 432, 485
- Cole, Edward, 356
- Cologne, Germany, 624
- Colt's Patent Firearms Manufacturing Company, 124, 298–99, 579, 627
- Columbia Broadcasting System (CBS), 373, 376–81, 387, 389, 415, 455, 477, 641; Hytron, 380
- Columbia River, 224
- Columbia Steel Company, 243, 612
- Columbia University, 79, 210, 322, 373, 376, 647; Columbia Law School, 162, 210
- Combustion Engineering, 297
- Commager, Henry Steele, 182, 563
- Commerce, US Department of, 87, 113, 159–60, 166, 171, 175–77, 189, 197, 241, 250, 253–54, 296, 441, 475, 498, 616; Division of Simplified Practice, 160; *Survey of Current Business*, 162
- Commerce and Labor, US Department of, 77, 166; Bureau of Corporations, 77–83
- Committee on Public Information (Creel Committee), 109, 167, 203; Wireless-Cable Service, 167
- Commodore International Corporation, 661; Commodore PET, 489, 661
- common carriers, 545
- common law, 28, 75–76, 175
- Commons, John R., 109, 564, 581

- Commonwealth & Southern Corporation, 225, 607
- Commonwealth Club, 211, 222–23, 560
- Communications Act (1934), 387
- Communications Decency Act (1996), 545
- Communism, 134–35, 225, 274, 312, 327, 389–90, 405–6, 426–27, 437, 459, 554, 643
- Compaq Computer Corporation, 494, 503, 505, 512–13, 515
- comparative-institutional analysis, 5–6, 44
- competition, 11, 21–22, 25, 28, 30, 32–34, 39, 41, 45, 57–58, 66, 69–70, 72, 76–80, 84, 86–87, 89, 91, 106, 154, 157, 159–61, 163, 174, 182, 199, 214, 220–21, 228, 246, 254, 257, 268–70, 279, 298, 332–34, 336–38, 358–59, 367, 374, 378–79, 413, 416–17, 420, 428, 430, 460, 466, 470, 472, 480, 494–95, 500–501, 513, 546–47, 575; active, 17, 84–85, 164, 344, 347, 574, 578, 591, 632, 634; dynamic, 84–85, 105, 550; “excessive,” 208, 220 (*see also* “cutthroat”); “fair,” 227, 230; imperfect, 344, perfect, 21, 344–46, 478, 480, 544, 633; Schumpeterian, 21, 517, 548–50; “wasteful,” 256; workable, 345–46
- Compton, Arthur, 259–60, 291
- Compton, Karl T., 280, 291–92
- Comptroller of the Currency (US), 188
- CompuServe, 508
- ComputerLand, 488, 493
- computers, 19, 322, 363–72, 381, 390, 393, 413, 420, 431, 445, 453–54, 456, 464, 470, 474–76, 487, 494–95, 497, 500, 503–4, 506–8, 513–14, 516–17, 523–24, 526–28, 540, 549, 622, 637, 663, 670; Atlas (1101), 364; CDC 6600, 371; Cray-2 supercomputer, 524; DEC PDP-8, 504; DEC PDP-10, 504; EDVAC, 364, 637; ENIAC, 322–23, 363–64, 628; ferrite-core memory, 364; Harvard Mark I, 364; Honeywell DDP-516, 506; IBM Defense Calculator, 364; IBM Mark I, 323; magnetic disk drives, 366; Linux operating system, 529; magnetic tape storage, 368; mainframes, 23, 482–83, 497, 504–5, 507, 509, 517, 523–24, 633, 662; minicomputers, 23, 483, 487–88, 504–5, 523, 660, 662–63; personal computer (*see* personal computer industry); Project Whirlwind, 364; RCA 501, 453; RCA 601, 453; RCA BIZMAC, 453; RCA Spectra series, 454; SAGE, 364–65; Selective Sequence Electronic Calculator, 364; Snow White and the Seven Dwarfs, 366, 454; supercomputers, 371, 507, 509, 524; timesharing, 504, 507; UNIVAC, 364; Unix operating system, 529; workstations, 23, 504–5, 507, 509–10 (*see also* IBM)
- Computer-Tabulating-Recording Company, 365
- Conant, James B., 290
- Concept of the Corporation, The* (Drucker), 151, 353, 590
- conglomerates, 22, 289, 331, 343, 410–18, 421–25, 429–30, 454–55, 457, 460–61, 463, 486, 648
- Connally Hot Oil Act (1935), 242, 432
- Conrad, Frank, 171
- Conrad, Johannes, 581
- conscription, 13, 108, 228–29, 314
- Consolidated Aircraft Corporation, 304–5, 307–8
- Consolidated Gas Company of New York, 65
- Consolidated Rail Corporation (Conrail), 463–64, 657
- Consolidated Vultee (Convair), 357
- Constitution (US), 52, 561, 571; Commerce Clause, 31, 42, 558, 573; due process, 54, 609; Eighteenth Amendment, 202, 204; equal protection, 54–55; Fifth Amendment, 78–79; First Amendment, 177–78, 373, 592, 671; freedom of contract, 55, 76, 85, 88, 265; Nineteenth Amendment, 203–4; Sixteenth Amendment, 90, 204
- consumer electronics industry, 372, 448–53, 495, 526; digital video disk (DVD), 453, 532; optical disk (CD), 452–53; video-cassette players, 452–53, 493, 516, 527, 532; videodisk, 452; Walkman, 453, 525, 654; (*see also* electronics industry)

- Continental Baking Company, 411
Continental Television v. GTE Sylvania (1977), 481
 Contracts Settlement Act (1944), 318
 Control Data Corporation, 366, 371
 Controlled Materials Plan, 285–86, 349, 353
 Cook, Timothy D., 525
 Coolidge, Calvin, 136, 162–63, 177, 182–83, 189, 191, 204, 226, 240–41, 253
 Coolidge, William, 258–59
 copper, 92, 104, 120, 285–86, 474
 Corcoran, Thomas, 219–20, 268
 Cordiner, Ralph, 456, 459
 Cornell University, 50, 75, 207
 Corning Inc., 526
 corporate culture, 365
 Corry, Charles, 429
 cotton, 25, 41, 91, 103, 161, 227, 237, 288, 399, 611; cotton-bagging trust, 41; cotton-seed-oil trust, 37, 561; mechanical cotton picking, 399, 645
 Coughlin, Father Charles, 266, 616
 Council of Economic Advisors, 318, 404, 407
 Council of National Defense, 114, 130, 280, 292
 Cournot, Augustin, 345
 Courtelyou, George, 93
 Couzens, James J., 215–16, 605
 COVID-19 pandemic, 536, 545–46, 669–70
 Coy, Wayne, 380
 crackpot realism, 57–58
 Crane, Daniel, 561, 672
 Crawfordsville, Indiana, 431
 Cray, Seymour, 371
 creative destruction, 3, 21–22, 44, 179, 211, 403, 422, 457, 501, 514, 538, 541
 Creel, George, 109, 119, 581
 Crissinger, Daniel, 188–89
 Crocker Bank, 375
 Croly, Herbert, 46, 56–57, 75, 87, 107, 210, 564
 Crowell, Benedict, 129
 CSX Corporation, 657
 Cullom, Shelby, 35
 Currie, Lauchlin, 268, 318, 327, 629
 Curtice, Harlow, 350, 356
 Curtiss, Glenn, 128
 Curtiss Aeroplane and Motor Company, 128
 Curtiss-Wright Corporation, 252–53, 255, 282, 300, 303–4, 309, 625; Wright Aeronautical Corporation, 309
 Cushman and Wakefield, 454
 Cyert, Richard, 393
 Czechoslovakia, 278; Prague, 311
 Czolgosz, Leon, 75
 Daimler-Benz AG, 447
 Dallas, Texas, 336
 Daly City, California, 642
 Danbury Hatters, 81, 574
 Daniels, Josephus, 111–12, 114, 126, 128, 130, 166–68, 224
 Danville, Illinois, 336
 Darwin, Charles, 49–50, 52, 57, 106, 187, 354, 564
 Data General Corporation, 483
 Datsun. *See* Nissan
 Daugherty, Harry, 162
 David, Paul, 584
 Davis, Arthur Vining, 332, 334
 Davis, Chester C., 280
 Davis, John W., 172, 204
 Davison, Henry, 93–95, 103
 Davisson, Clinton J., 263
 Dawes, Charles G., 183, 205
 Dayton, Ohio, 152, 248, 591
 Dayton Engineering Laboratories Company (Delco), 130, 144, 591
 Dearborn, Michigan, 252
 “deaths of despair,” 538–39; opioid epidemic, 669
 Deaton, Angus, 538–39
 de Blasio, Bill, 536
 Debs, Eugene V., 43, 87, 89, 110, 183, 565, 635
 Deeds, Colonel Edward A., 130–32, 252, 276, 365, 586
 Deering, Charles, 77
 Deering Harvester Company, 77–78
 Defense, US Department of, 13–14, 323–24, 357–58, 360–61, 363, 366, 475, 498, 635, 648, 662, 664; Skybolt missile system, 363

- Defense Advanced Research Projects Agency. *See* ARPA
- Defense Plant Corporation, 281–82, 295, 300, 302–3, 309, 314, 321, 334
- Defense Production Act (1950), 235, 463
- Defense Science Board, 498
- deficit spending, 134, 187, 197, 267, 317–18, 406–7, 514, 608, 616, 628
- deflation, 10, 25–26, 138–41, 147, 189–91, 193–94, 199–202, 231, 242, 250, 274, 324–25, 521–22, 600; benign deflation, 557; debt-deflation cycle, 10, 194–95, 231, 249, 522, 630; disinflation, 137–38, 418, 433, 437, 531; hyperdeflation, 318
- de Forest, Lee, 169–70, 258, 261, 373–74, 594
- de Gaulle, Charles, 7
- de Havilland Aircraft Company Limited, 359
- Dell, Michael, 6, 174, 512–13
- Dell Computer Corporation, 503, 512–13, 551, 554
- DeLong, J. Bradford, 218, 329
- DeLorean, John Z., 432
- Delta Air Lines, 470
- Deming, W. Edwards, 438
- Democratic Party, 26, 35, 40–41, 49, 51, 87–89, 96–98, 100, 107, 112, 140, 172, 204–6, 210, 214, 265–66, 275, 323, 343, 399, 426, 463–64, 540–42, 561, 581, 619
- Demsetz, Harold, 481, 561, 668
- Deng Xiaoping, 521
- Dennett, Daniel, 566
- Denny, Charles, 641
- Denver, Colorado, 249
- Detroit, Michigan, 10, 116, 120, 122, 142, 144–45, 147, 205, 248, 252, 278, 299, 301–3, 305–6, 330, 349–50, 355, 385, 409, 436, 447, 486, 624
- Detroit, Toledo & Ironton Railroad, 155
- Detroit Tank Arsenal, 300, 306
- Dewey, Donald, 161
- Dewey, John, 57, 107, 133, 210, 566–67
- Diamond Match Corporation, 103
- Diem, Ngo Dinh, 405
- Digital Equipment Corporation (DEC), 483, 487, 504–5, 663
- Dill, Clarence, 176
- Dillon, Read & Company, 159, 212
- Director, Aaron, 479, 659
- disintermediation, 215, 419, 430, 511–12, 525, 533, 541
- District of Columbia. *See* Washington, DC
- diversification, 1, 4–5, 8, 11, 22, 44–45, 61–62, 64–65, 73, 91, 119, 145–46, 149, 217, 236–37, 239, 244, 247–49, 258, 260, 329, 350, 356, 363, 387, 394, 410–12, 414–15, 422, 424, 435, 445, 454–55, 449, 454–55, 549, 635, 648; diversification discount, 412
- Division of Military Aeronautics, 132
- Doane, Seneca (fictional character), 181, 597
- Dodd, S. C. T., 37
- Dodge, Horace Elgin, 122, 159, 212, 672
- Dodge, John Francis, 122, 159, 212, 672
- Dodge, Joseph, 330, 437
- Dodge Brothers Company, 124, 154, 158–59, 212, 247, 300–301, 604, 613
- dominant design, 145, 157, 170, 173, 244, 255, 299, 358, 491, 496
- Donner, Frederic G., 350–52
- Donovan, William J., 163–164, 176, 240
- Doriot, General Georges, 504
- dot-com crash, 520, 522, 525, 530, 550, 599
- Douglas, Paul, 326, 608
- Douglas, William O., 221, 337, 348, 632
- Douglas Aircraft Company, 255, 304–5, 308, 357
- Dow Chemical Company, 5
- Dow Jones Industrials Average, 10, 192–93, 417–18
- Downs, Anthony, 535
- Drexel Burnham Lambert, 423–24
- Drexel Institute, 114
- Dr. Miles Medical Co. v. John D. Park & Sons Co.* (1911), 86–87, 575
- Drucker, Peter, 151–52, 186, 264, 349, 394, 403, 410–11, 423, 456–58, 476, 590, 635
- Du Mont, Allen B., 387
- du Pont, Lammot, 238, 349

- du Pont, Pierre, 9, 61, 104, 111, 127, 146–48, 151–54, 185, 199, 204, 265, 276, 348–49, 412, 458, 591
- Du Pont Corporation, 1, 4–5, 20, 68, 73–74, 104–5, 111–12, 127, 146–47, 149, 236–39, 248, 258, 260, 282, 291–92, 331, 348–50, 571, 584, 586, 589, 611, 634–35; cellophane, 238, 610; Chemical Department, 238, 610; Duco, 610; Du Pont Engineering Company, 127; Freon, 248; nylon, 4, 238–39, 291, 611; Old Hickory plant, 127, 586; Teflon, 239
- Duke, James Buchanan, 71, 73
- Dumbarton Oaks, 291
- dumping, 139, 226, 451, 496–98, 500
- Durant, William Crapo, 142–49, 252–53, 348, 351, 440, 588–89
- Durant-Dort Carriage Company, 142
- Earl, Harley, 154, 349
- Eastern Air Transport (Airlines), 252, 257, 469
- Eastern Dynamite Company, 73
- East Fishkill, New York, 370
- East Hartford, Connecticut, 303–5
- Eastman, Joseph, 165, 250
- Eastman, Max, 109–10
- Eastman Kodak Co (FTC v.)* (1927), 593, 595
- East Pittsburgh, Pennsylvania, 171, 259
- East Springfield, Massachusetts, 171
- East St. Louis, Illinois, 135
- eBay Inc., 511–12, 527
- Eccles, Marriner S., 208, 267, 326–27, 603, 617, 628
- Eckert, J. Presper, 322–23, 364, 368
- Eckert–Mauchly Computer Corporation, 368
- E. C. Knight Company, 43
- Economic Consequences of the Peace* (J. M. Keynes), 273
- Economic Opportunity Act (1964), 400
- economic royalists, 266, 280, 620
- Edelman, Murray, 40
- Edison, Thomas Alva, 61, 64, 83, 114, 126, 222, 257–59, 339, 379, 569
- Edison Electric Illuminating Company, 65
- Edison General Electric, 64
- Edwards, Corwin, 329–30, 413–14, 449
- efficiency wage, 121, 198, 201, 431
- Ehrlichman, John, 389, 416, 645
- Eichengreen, Barry, 329
- E. I. du Pont de Nemours & Company. *See* Du Pont Corporation
- E. I. du Pont de Nemours & Co. (United States v.)* (1961), 348–351, 634
- Eisenhower, Dwight D., 326, 343, 345–46, 358, 383, 389, 399, 407, 432, 465, 475, 505, 521, 633–35
- Eitel, William, 485
- Eizenstat, Stuart, 343
- E. J. Korvette, 384
- Electrical Bond and Share Company, 65
- electrical equipment, 64, 66, 130, 171, 235, 257–60, 360, 410, 435, 440, 449, 454–55, 568, 654; Edison Mazda lamp. 259; fluorescent light, 260
- electric power, 30, 65, 179, 185, 197, 212, 219, 222–25, 257, 330, 332, 383, 461, 514, 584, 607; alternator, 167–68, 594; dynamo, 168, 248, 594; hydroelectric power, 223–25, 320, 323, 630
- Electric Vehicle Company, 119, 123–24, 585
- Electrolux AB, 655
- Electro-Motive Company, 249
- Electronic Data Systems, 445
- electronics, ix, 23, 169, 258, 294–95, 308, 323–24, 359, 361–66, 368–69, 375–76, 380–81, 387, 390, 410, 415, 435, 448–50, 460, 471, 475–76, 485–92, 497, 505; diode, 169; triode (audion), 169, 258, 268, 373–74; vacuum tubes, 169, 172–73, 261, 263, 294, 322, 361–363, 450, 453, 485, 595. *See also* consumer-electronics industry and semiconductor industry
- Elkins Anti-Rebate Act (1903), 69, 82
- Elliot, Harriet, 280–81
- Ely, Richard T., 51–52, 57, 88, 564–66
- Emergency Fleet Corporation, 112–13, 115, 126, 134, 296
- Emergency Railroad Transportation Act (1933), 250
- Emerson Electric Manufacturing Co., 174

- Empire State Building, 147, 265, 640
 Employee Stock Ownership Plan (ESOP), 184, 394
 Employment Act (1946), 318
 Endicott, New York, 365–66, 369, 638
 Engelbart, Douglas, 501
 Engineering Research Associates, 364
Engineers and the Price System (Thorstein Veblen), 58
 England. *See* United Kingdom
 Enos, John, 292, 622
 Enron Corporation, 520
Enterprise, USS, 277
 Epic Games, Inc., 671
 Epson Corporation, 493
 Erhard, Ludwig, 329, 629
 Erie Canal, 257
 Erie Railroad, 35
 Espionage Act (1917), 109, 110
 Estridge, Philip Donald, 492
 Ethyl Gasoline Corporation, 611, 635
 eugenics, 52, 292, 564–65
 European Commission, 3, 544
 European Organization for Nuclear Research (CERN), 509
 Exner, Virgil Max, 356

 Fabian socialism, 55, 329–30, 521
 Facebook, 2–3, 532, 536–37, 542, 545, 550, 553, 669, 671, 673; Instagram and WhatsApp, 550
 Fairchild, Sherman M., 253, 361
 Fairchild Camera and Instrument, 486–87
 Fairchild Semiconductor, 13, 361–62, 486–87, 499, 531, 661
 Fairfield, Connecticut, 457
 Fair Labor Standards Act (1938), 230
 Fall, Albert, 241
 Farley, James, 256
 Farnsworth, Philo T., 375–76, 378, 410, 640
 feasibility dispute, 285
 Federal Aviation Act (1938), 257, 466
 Federal Aviation Administration, 358
 Federal Communications Commission (FCC), 359–60, 372–74, 376–78, 380–81, 387–88, 415, 455, 472–74, 476–78, 508, 596, 615, 639–41, 643; Fairness Doctrine, 372, 639
 “Federal Communications Commission, The” (Ronald Coase), 477
 Federal Deposit Insurance Corporation, 219
 Federal Farm Board, 201
 Federal Express Corporation (FedEx), 6, 23, 471, 555, 658
 Federal Highway Act (1921), 251
 Federal Housing Administration (FHA), 384, 642
 Federal Oil Conservation Board, 241
 Federal Petroleum Board, 242
 Federal Radio Commission, 177, 372; General Order 40, 177
 Federal Reserve Act (1914), 97–98, 188, 215, 577
 Federal Reserve Bank of Boston, 137, 189
 Federal Reserve Bank of Chicago, 206
 Federal Reserve Bank of New York, 98, 137–38, 188–91, 193, 195, 206
 Federal Reserve Board, 98, 137, 139, 188–91, 193–94, 196, 206, 208, 326–27, 404, 406, 578, 599, 617, 628
 Federal Reserve System (US), 10, 90–98, 102, 119, 134, 137–39, 141, 152, 187–96, 200, 205–6, 208, 217–19, 267, 316, 324–27, 404, 406–7, 417–19, 423, 445–46, 514, 520–23, 577–78, 600, 603–4, 606, 632, 647, 669; Federal Open Market Committee, 208, 407, 628; Treasury–Fed Accord, 324–27
 Federal Trade Commission (FTC), 17, 85, 163–64, 173, 219–20, 223, 295, 335, 338, 340, 346–47, 424, 443, 516, 546–47, 593, 595; Division of Trade Practice Conferences, 164
 Federal Trade Commission Act (1913), 83–85, 100, 106, 163, 548, 579; Section 5, 340
 Felsenstein, Lee, 489
 Ferguson, Thomas, 265

- Ferris, Theodore E., 126
 Fessenden, Reginald, 170
 Fidelity Group, 415
 Field, Alexander, 11–12, 233–34, 249, 251, 324, 533, 544
 Filene, Edward A., 198
 Filo, David, 511
Financial Times, 206
 Fink, Albert, 33
 Finland, 137
 Firestone, Harvey, 204
 Firestone Tire and Rubber Company, 289, 322, 338
 “First Draft of a Report on the EDVAC” (John von Neumann), 364
 First National Bank (New York), 95, 577
 First National Bank of Chicago, 95
 First Security Corporation, 95
 Fisher, Irving, 10, 26, 80, 190, 192, 194, 203–4, 207, 227, 249, 522, 599–600, 602
 Fisher, John, 105
 Fisher Body Corporation, 154, 158. *See also* General Motors
 fixed costs, 4, 11, 32–34, 36, 44–45, 63, 67, 78, 151, 154, 164, 197, 231–32, 236, 248, 251, 253, 286, 340, 343, 348, 360, 442, 446, 470, 543, 559, 665
 Fleet, Major Reuben H., 305
 Fleming, Alexander, 294
 Fleming, Ambrose, 169
 Flint, Michigan, 142–43, 277, 300, 352, 440, 448
 Flint Wagon Works, 142
 Florey, Howard, 294–95
 Fly, James Lawrence, 373, 376–78
 Fogel, Robert, 26
 Fokker, Anthony, 252, 359, 614
Folklore of Capitalism (Thurman Arnold), 269, 391
 food and drug regulation, 58–60
 Ford, Clara, 353, 623
 Ford, Edsel, 156, 252, 301–3, 305–6, 353, 623
 Ford, Eleanor, 353
 Ford, Gerald R., 401, 465, 469, 474, 577
 Ford, Henry, 8, 112, 114, 120–26, 142–43, 145, 147, 154–58, 179, 182, 198–200, 205–6, 224, 246–47, 252, 301–3, 306, 311–12, 352–53, 391, 409, 431, 436, 442, 486, 539, 585, 605, 623, 672
 Ford, Henry II, 353–54, 434, 442–43
 Ford Foundation, 401, 460
 “fordism,” 125, 502
 Ford Motor Company, 121–26, 129, 131, 142–43, 152, 154–59, 181, 189, 200, 232–33, 246–47, 252, 301–7, 311, 338, 352–55, 358, 384, 409, 411, 432–35, 439, 441–43, 445–48, 451, 454, 500, 554, 584–85, 588, 591, 602, 605, 613, 624, 636; Continental division, 354; five-dollar-a-day wage, 121, 179, 198; Ford division, 354, 434; Highland Park, 122, 131, 155, 246–47; Lincoln, 155, 353–54; Mercury division, 354; moving assembly line, 122, 303, 311; Piquette Avenue, 122, 311; River Rouge, 126, 155, 246, 301–3, 354, 384; stamping technology, 122, 126, 156; Whiz Kids, 354, 393, 411; Willow Run plant, 305–7, 309, 353, 356; X-car experiment, 155–56
 Fortas, Abe, 221, 630
Fortune (magazine), 3, 17, 245, 247, 344, 352, 370, 479, 537; *Fortune* 100, 427; *Fortune* 500, 7, 421, 455
 Fort Worth, Texas, 305, 307
 Foster, William Trufant, 198
Founder, The (2016 movie), 642
 Four Minute Men, 109, 229
 Fowler, James A., 162
 Fox News, 542
 France, 9, 58, 102–103, 120, 128–30, 139, 168, 170, 183, 191, 240, 262, 278–79, 281, 292, 310, 329, 344, 358, 366, 405, 442, 446, 454, 458, 601, 619, 624, 654–55; French Revolution, 557; Normandy landing, 311
 Frankfurter, Felix, 219, 266, 273, 337, 634
 Frankston, Robert M., 491
 Franz Ferdinand, Archduke of Austria, 102
 Freeland, Robert, 153
 Fremont, California, 443–44, 502

- Freud, Sigmund, 386
- Frick, Henry Clay, 93, 576
- Frieden, Jeffry, 27, 630
- Friedman, Milton, 403, 645
- Friedrich Krupp, AG, 105, 780
- Friendster, 531
- From Bauhaus to Our House* (Tom Wolfe), 644–45
- Fujisawa, Takeo, 436
- Fujitsu Limited, 483, 496–97
- Fuller, Buckminster, 484
- Fukuyama, Francis, 541
- functional organizational form, 12, 64–66, 73, 105, 113–14, 147, 149, 151, 264, 282–83, 286, 309, 332, 350, 355, 410, 566, 631
- F. W. Woolworth & Co., 180–81
- Galambos, Louis, ix–x, 161
- Galbraith, John Kenneth, 1, 186, 287, 290, 315, 385–86, 392–93, 395–96, 398, 409–10, 610, 642, 644; technostructure, 392–93, 395–96, 401–2, 483–85
- Garand, Jean C., 298
- Garfield, James A., 77
- Garfield, Harry, 115–16
- Garner, John Nance, 205
- Gary, Judge Elbert H., 93, 105–6, 135–36, 183, 203, 243–45, 576
- Gates, William Henry III, 493, 504, 510, 514–16, 518, 524, 527
- Gateway 2000, 512
- Gebbia, Joseph Jr., 533–34
- Geneen, Harold S., 411–13, 415, 417
- General Dynamics Corporation, 409
- General Electric (GE), 2, 64–65, 83, 104, 167–69, 176, 201, 222, 227, 236, 248, 257–60, 265, 290, 357, 361, 363, 366, 373–75, 389, 453–59, 461, 475, 568, 615, 635, 638, 655; Appliance Park, 456, 655; GE Capital, 457, 655; GE Credit, 456–57; General Motors Company, 143–44; Oakland, 143
- General Motors Corporation (GM), 9, 20, 143–56, 158–60, 189, 232–33, 236, 245–49, 252–53, 280–81, 299, 301, 338–39, 348–56, 409, 433, 435, 439, 442–48, 454, 461, 545, 589–91, 611–13, 619, 635–36, 642, 653; A. C. Spark Plug, 299; air-cooled engine, 152–53; Allison Division, 303, 311; annual model change, 154, 157, 233; Buick division, 145–46, 149–50, 154, 247, 277, 304, 445; buses, 351; Cadillac division, 145, 150, 277, 301, 445; Chevrolet division, 145, 154–55, 247, 304, 445, 591, 619; Delphi Automotive Systems, 448; diesel locomotive, 248–49; Electro-Motive Division, 613; Executive Committee, 147; Euclid acquisition, 351; Finance Committee, 147, 644; Fisher Body division, 158, 277, 300–301, 304, 308, 352, 445, 619; Frigidaire division, 145, 248, 299, 627; Futurama pavilion, 395, 397; General Motors Acceptance Corporation (GMAC), 338, 632, 636; General Motors Assembly Division (GMAD), 351, 443, 445; Guide Lamp Division, 299; Load Distribution Plan, 349; Oldsmobile division, 154, 156, 248, 277, 445; Operations Committee, 247; pension fund, 394; Pontiac division, 143, 154, 247, 277, 245, 299; Saginaw Steering Gear Division, 299; United Motors division, 144, 146, 148; general-purpose technologies, 23, 179, 360, 524, 549
- General Telephone and Electronics (GTE), 451, 481–82
- General Theory of Employment, Interest and Money* (J. M. Keynes), 267
- General Tire & Rubber Company, 322, 627
- Georgia Bar Association, 415
- German Historical School, 50
- Germany, 50–51, 94, 102–3, 107–12, 116, 129–30, 132, 134–35, 149, 166–68, 181, 190–91, 203, 237, 257, 259, 273–76, 278, 281, 288–90, 294, 298, 300, 310–13, 322, 331, 341, 357–58, 366, 375, 426, 431, 447, 455, 458, 486, 525, 554, 556, 563–64, 566, 580–81, 585, 592, 605, 619, 621–22, 624, 626–27, 642; Auschwitz, 605; *Autobahnen*, 275, 619; Bauhaus movement, 397; Berlin, 310; economic

- miracle, 328–30; Hamburg, 310; Historical School, 50–51; Luftwaffe, 311; Reichsbank, 190, 274; Reichstag, 274–75; Schweinfurt, 310; Weimar Republic, 274
- Gerstner, Lou, 505, 650
- Gherardi, Bancroft, 261
- Giannini, A. P., 605
- Gibbs and Cox, 297
- Gifford, Walter S., 114, 172, 261–62, 280, 594
- Gilbreth, Frank, 56
- Gilbreth, Lillian, 56
- Gilded Age, 179, 519, 537, 541, 669
- Gillette, Guy M., 290
- Gimbel's department store, 135
- Gladden, Washington, 51
- Glaeser, Edward, 398
- Glass, Carter, 97, 137, 208, 217–21, 599, 601
- Glass-Steagall Act, 217–18, 419, 601, 606;
Regulation Q, 218, 419, 606
- Glenn L. Martin Company, 304, 308
- Godfrey, Hollis, 114
- Gold Act (1900), 207
- Gold Act (1934), 208
- Goldin, Claudia, 641
- Goldman, Emma, 137
- Goldmark, Peter, 380
- gold rush, 288, 297
- gold standard, 10, 24–27, 40, 46, 88, 91, 102–3, 119, 137–38, 141, 187–91, 196, 200, 206–8, 267, 274, 287, 327–28, 404–5, 408, 557, 577, 587, 603–4, 647; Gold Pool, 405; “sterilization,” 190, 208, 267, 604, 616
- Goldstine, Herman, 363
- Goldwater, Barry, 400, 406
- Gompers, Samuel, 80, 114, 134, 136
- Good Society, The* (Walter Lippmann), 458
- Goodwin, Craufurd, 316
- Goodwin, Doris Kearns, 621
- Goodyear Tire & Rubber Company, 289, 308, 622
- Google LLC, 2, 511, 524, 528–32, 536–37, 544–45, 549, 553, 590, 667–69, 671; Android, 529–30, 533, 667–68; Blogger, 531; Chromebooks, 529, 667; Chrome browser, 529; Gmail, 429; Google Maps, 429; Google Play, 530, 667–68; Open Handset Alliance, 530; PageRank algorithm, 528
- Gordon, Robert J., 319–21, 596
- Gore, Albert A. Jr., 509
- Gould, Jay, 569
- Government-owned Contractor-operated (GOCO) facilities, 281–82, 291, 299–300, 304–5, 309, 320, 623, 627
- Graham, Katharine, 600
- Graham, Margaret B. W., 174, 453
- Graham-Paige, 436–37
- globalization, ix, 7, 316, 399, 404, 459–60, 468, 472, 519, 521, 536–38, 541–42, 555, 656
- Graf, Lya, 605
- grain industry, 25, 125, 139, 203, 461
- Gramsci, Antonio, 585
- Grand Blanc, Michigan, 300
- Grand Central Terminal, 2, 656
- Grand Coulee Dam, 297
- Granger Laws, 31
- Gray, Elisha, 66, 260, 569
- Gray, Harry, 421
- Great Depression, 2, 4, 7–12, 19–20, 22, 67, 101–2, 139, 147, 159, 178, 185–88, 193–202, 205, 209–11, 214, 216–18, 222–26, 228, 230–64, 267, 271, 274–75, 282, 313–14, 317, 319, 336, 340, 349, 352, 365, 367, 382–83, 385, 391, 396, 398, 403–4, 409–10, 418–19, 429, 433, 436, 438–39, 448, 478–79, 522–23, 532, 537, 539, 554, 575, 598, 602, 607, 609–10, 613, 616, 624, 629, 631, 641
- “Great European Civil War,” 7, 554
- Great Flood of 1955, 461
- Great Illusion, The* (Norman Angell), 102
- Great Merger Wave, 8, 16, 24, 43–45, 408
- Great Northern Railroad, 68, 250
- Great Recession (2007–2008 financial crisis), 520–23, 526, 533, 536, 542, 550, 606, 669, 655, 670
- Great Society, 400–402, 406, 415, 646
- Great Transformation, The* (Karl Polanyi), 459

- Greeley, Horace, 51
greenbacks, 25–27, 556, 603
Greene, Harold, 475
Greene, William S., 167
Greenspan, Alan, 303, 446, 520–22, 599
Greenstein, Shane, 504, 508
Greyhound Corporation, 635
Grinnell Corporation, 416–17
G. R. Kinney Company, 347–48
Gropius, Walter, 397
Gross Domestic (National) Product (GDP),
 10, 21, 26, 44, 74, 91, 117, 118, 138, 178, 187,
 203, 209, 285, 312, 319, 324, 382, 406, 426,
 514, 536, 583, 597
Grove, Andrew, 500–501
Guam, 310
Guardian Union Trust, 205
Guggenheim, Meyer, 409
Gulf and Western, 411
Gulf Oil Company, 70, 421
Gulfstream Aerospace, 445–46
gunpowder industry, 13, 69, 73–74, 104–6,
 127, 149, 237, 276
Gypsum Industries Association, 162
- Haier Group Corporation, 655
Halaby, Najeeb, 358
Halberstam, David, 353, 436, 439, 646
Halcyon, California, 485
Haldeman, H. R., 643
Hall, E. J., 130
Hall-Scott Motor Car Company, 130
Halsey, N. W. & Co., 215
Hamilton, Alexander, 89
Hamilton, H. L., 613
Hamilton, Walton, 272–73
Hamilton Standard, 252–53, 257
Hammond, G. H. Company, 42, 78
Hamtramck, Michigan, 159, 434
Hand, Augustus, 333
Hand, Learned, 110, 333–34, 337, 373, 517, 632
H&R Block, Inc., 508
Hannah, Leslie 72
Hanson, Ole, 134–36
- Hanssen, F. Andrew, 632
Harberger, Arnold, 21
Harding, Warren G., 119, 140–41, 159–60,
 162–63, 171, 182–83, 188
Harding, William Proctor Gould, 137
Harker, Ronnie, 311
Harlan, John Marshall II, 634
Harper's Weekly, 86, 548
Harriman, Edward, 67–68, 78, 409, 618
Harriman, W. Averell, 219, 253, 265, 618
Harris, Ron, 558
Harrison, Benjamin, 40, 561
Harrison, George, 190–91, 193–94, 206, 603
Harrison, Mark, 579
Hartford, Connecticut, 119, 170, 252
Hartford-Empire Co. v. United States (1945),
 273, 618
Hartford family (A&P), 180, 385
Hartford Fire Insurance Company, 416–17
Harvard University, 50, 94, 165, 238, 290–91,
 327–28, 345, 354, 364, 532, 602, 604, 626,
 628, 643; Harvard Law School, 54, 219,
 469; *Harvard Law Review*, 415
Hastings, Reed, 532
“hate speech,” 53, 544
Hawley, Ellis, 160, 271
Hawley, Josh, 542–44, 670–71
Hawtrey, Ralph, 200
Hayden, Tom, 484
Hays, Will H., 182–83, 597
Haywood, William D. “Big Bill,” 110, 582
Hazard Powder Company, 73
Hearst, William Randolph, 110, 206
Heilbroner, Robert, 602
Helmsley Building, 2
Hemingway, Ernest, 112, 182, 275
Hempstead, New York, 384
Henderson, Leon, 268, 281, 283–84, 287–88,
 290
Henderson, Rebecca, 369
Henry Ford Company, 124
Hepburn, Captain A. J., 594
Hepburn Act (1906), 82
Hercules Powder Company, 74

- Hertz Corporation, 445, 454, 635
 Herzel, Leo, 477
 Hewlett, William, 485
 Hewlett-Packard Corporation, 485, 489–90,
 497, 505, 512
 Hidy, Muriel, 69
 Hidy, Ralph, 69, 71
 Higgs, Robert, 27, 319
 High Performance Computing Act (1991), 509
 Hill, Frank Ernest, 246, 623
 Hill, James J., 67–68, 250
 Hillman, Sidney, 280, 282, 284
 Hindenburg, Paul von, 274
 Hinton, Elizabeth, 645
 Hiss, Alger, 276, 389, 619
 Hitachi, Ltd., 435, 440, 450, 483, 496–97
 Hitler, Adolf, 274–75, 278, 312–13, 341, 389
 Hobson, John A., 198
 Hoerni, Jean, 362
 Hoff, Marcian E. Jr., 487
 Hofstadter, Richard, 48, 53, 163, 343, 557, 565
 Hog Island shipyard, 113, 126, 297
 holding companies, 11, 14, 16, 20, 33, 37–38,
 43–45, 47, 60–74, 78, 88, 95, 99, 119, 143–44,
 146, 148, 163, 168, 185, 212–13, 222–23, 245,
 249, 252–53, 255–56, 269, 329–30, 346, 419,
 424–25, 462, 475, 548, 571, 578, 589, 605
 Hollerith, Herman, 365
 Holiday Inn, 385
 Holmes, Oliver Wendell Jr., 53–55, 110, 119,
 135, 161–12, 343, 565, 573, 575, 582, 592; “clear
 and present danger,” 582
 Home Box Office (HBO), 473, 533
 Homebrew Computer Club, 489–90
 Honda, Soichiro, 436, 652
 Honda Motor Company, 352, 436–37, 439,
 442–43, 447, 449
 Honeywell Information Systems, 456, 495, 506
 Hong Kong, 450
 Hook, William C., 69
 Hooper, Lieutenant Commander Stanford,
 168–70, 593
 Hoover, Herbert, 115, 139, 159–64, 175–77,
 183, 189–91, 193, 195–206, 214, 217, 221, 227,
 250, 253–54, 256, 261, 265, 277, 320, 440,
 600, 603
 Hoover, J. Edgar, 136–137
 Hoover Dam, 197, 296–97
 Hopkins, Harry, 284
Hornet, USS, 277
 Hotmail, 511, 515
 Houdry, Eugène, 240–41, 292, 611
 Hounshell, David, 121, 125, 155, 354
 House, Colonel Edward, 113
 House Committee on Un-American
 Activities, 389
 Housing Act (1949), 396
 Houston, Texas, 467–68
 Hovenkamp, Herbert, 481, 518, 559, 565,
 618, 633
 Howard Johnson’s, 385
 Howells, John, 128
 Hoyt, Homer, 592
 Hudson, John E., 66
 Hudson Motor Car Company, 114, 120, 154,
 232, 299, 304, 308, 356, 623
 Hughes, Charles Evans, 107, 132, 183
 Hughes, Jonathan R. T., 28, 84
 Hughes, Thomas P., 185
 Hughes Aviation, 445
 Humphrey, William E., 163
 Hussein, Saddam, 446
 Hutcheson, William L. “Big Bill,” 273
 Hyatt, John Wesley, 148
 Hyatt Roller Bearing, 144, 148

 Iacocca, Lee, 432, 434, 442–43, 445–46, 447
 Ibuka, Masaru, 449–50
 Icahn, Carl, 429
 Iceland, 310
 Ickes, Harold, 242, 268–69, 272, 280, 290, 292
 IG Farben, 289, 331, 622
 immigration, 27, 44, 49, 52, 54, 56, 74, 89,
 135, 140–41, 178, 198, 202–3, 382, 399, 521,
 535, 541–42, 555, 564–65, 571, 576, 588;
 Emergency Quota Act (1921), 141; Immi-
 gration Act (1924), 141; National Origins
 Act (1924), 141

- Imperial Chemical Industries (ICI), 331
 Imperial College, University of London, 293
 I. M. Singer & Co., 31, 558
 Incheon, South Korea, 325
 income inequality, 7, 118, 183–84, 345, 400–401, 519, 537–38, 554
 incorporation (chartering), 16, 28–30, 34–35, 37–39, 60, 63, 65–66, 71, 73, 77, 90–91, 112–13, 127, 143–44, 169, 215, 217–18, 252, 332, 463, 471, 558; federal, 39, 77, 80–81, 83, 87, 90, 168, 228, 479, 548, 561, 569; limited liability, 29, 558; state level, 37–39, 43, 88, 90–91, 185, 218, 548, 557–58, 560, 568, 576;
 India, 25, 315, 521, 557
Indiana Jones and the Temple of Doom (1984 movie), 614
Individualism Old and New (John Dewey), 567
 industrial districts, 120, 122, 142, 144, 440, 484–86, 489, 568
 industrial policy 3, 7, 11, 13–14, 129, 253–57, 289, 295, 320–24, 356–81, 495–501, 505–10, 542, 555, 559; Nitro plant, 127; supersonic transport, 358–59. *See also* Internet
 Industrial Revolution: First Industrial Revolution, 32, 633; Second Industrial Revolution, 30, 74, 99, 320, 382
 industry associations. *See* trade associations
 Infinity Broadcasting Corporation, 455
 inflation, 7–8, 12, 22, 25–27, 40, 46, 48, 82, 102, 115, 119, 134, 137–38, 140–41, 146, 161, 193, 200, 206–10, 218, 227, 229, 274, 287, 324–26, 330, 350–51, 360, 405–9, 417–19, 423, 426, 437, 445–46, 451, 465, 520–21, 536, 577, 581, 600, 604, 606, 628, 630, 647; Consumer Price Index (CPI), 119, 138, 287, 536, 600; cost-push theory, 407; disinflation, 137–38, 433, 437, 521; General Maximum Price Regulation, 287; Great Inflation, 405–8; hyperinflation, 274; “inflation czar,” 418, 649; stagflation, 408, 417, 426, 465
 information impactedness, 165, 221, 350
 Ingersoll Watch Company, 181
 initial public offerings (IPOs), 220, 464, 510, 520, 550
 innovation, 6, 8, 11–13, 16, 20, 22, 30, 69, 85, 105–6, 111, 119, 129–32, 145, 152–54, 156–58, 167, 169, 174, 181, 189, 232–37, 243, 245–47, 249–50, 255, 260, 271, 273, 279, 307–8, 311–13, 316, 320–24, 332, 335–36, 339, 342, 344, 352, 355, 357, 361–63, 364, 369, 373, 383, 385, 391–92, 409, 427–28, 430–31, 436, 439, 446, 449–50, 452, 460–64, 466–67, 495–96, 499–500, 505, 514, 523, 530, 533, 536, 546–47, 549–50, 584, 591, 595, 611, 627; architectural, 369; autonomous, 235; breakthrough (“blockbuster”), 19, 169, 260, 362, 374, 514; competence-destroying, 365; disruptive, 262–63, 419, 431, 472; financial, 220, 222, 394, 420, 522; institutional, 8, 15, 23–24, 209, 220, 222, 419, 460; learning by doing, 297–98, 307, 624–25; linear model, 233, 238, 323–24, 359; mechanization of, 391–93; modular, 174, 370, 489–95, 610; national “innovation system,” 324, “open,” 243; organizational, 66, 85, 92, 152, 157, 189, 198, 236, 466; process, 121, 123, 159, 189, 496, 609; product, 121, 123, 132, 157–58, 189, 235, 247, 313, 314, 435, 442, 496, 609; radical, 153, 156, 257; recombinant, 119, 121, 443; Schumpeterian, 536, 549; systemic, 6, 12, 159, 235–36, 253, 295–96, 302, 314, 370, 375–76, 379, 467, 550, 610
 Institute for Advanced Study, 637
 Institute of Electrical and Electronics Engineers, 660
 Institute of Radio Engineers, 374
 Institutionalist Economics, 51, 209, 316, 344, 564–65, 633, 647
 Insull, Samuel, 80, 185, 190, 199, 222, 436, 607
 integration, 6, 8, 10–15, 19–20, 24, 47, 63–64, 68, 72–73, 95, 143, 147, 153, 155, 166, 174, 216–17, 245, 256, 269, 360–61, 379–80, 404, 429–32, 444, 449, 478, 486, 513, 548, 568–69, 606, 660; deverticalization (vertical disintegration), 3, 6, 120, 156, 159, 232, 255, 357, 466, 495; horizontal, 36, 39,

- 69 (*see also* mergers); hybrid forms, 555;
inside contracting, 246; outsourcing, 525;
subcontracting, 246, 272, 278, 285–86, 300,
306, 308–9, 357, 364, 439, 441, 450, 465,
491; tapered integration, 157, 348, 613–14;
vertical integration, ix, x, 4–6, 19–20, 39,
41, 43, 63, 69–71, 77, 86, 101, 105, 111, 122,
126, 142, 149, 156–59, 181, 235, 238, 244,
247–48, 251–52, 282, 286, 309, 313–14,
331–32, 335–37, 340–41, 352–53, 355, 360,
368–69, 384, 388, 393, 420, 427, 430, 439–40,
449, 475, 479, 481, 485, 491, 493, 533,
545, 554–55, 568, 630–32, 651; “virtual
integration,” 513
- Intel, 487–88, 490, 494–97, 499–500, 502–3,
505, 517, 661, 663, 665; “copy exactly”
methodology, 499, 501; DRAMs, 495–96,
499–501, 505, 517; Intel 4004, 487; Intel
8080, 487–88, 490, 661; Intel 8088, 493, 508;
Intel 80286, 503–4; Intel 80386, 503–4
- intellectual property, 11, 14, 19, 58, 63–64, 111,
142–43, 234–37, 239, 243, 245, 272–73, 279,
299, 303–4, 320, 322–24, 331, 334, 351–52,
452, 454, 500–501, 515, 525, 531, 533, 568–70,
594–95, 599, 610, 646, 672; airframe patents,
128–29, 169, 252, 254–55, 586; AT&T
transistor patent, 359–61, 450, 637; Bell
patents, 65–66, 569; catalytic cracking, 292;
compulsory licensing, 19–20, 273, 351,
360, 369, 556, 618, 641, 658; copyright, 339,
494, 501, 525, 531, 533, 570, 658, 665; cross-
licensing, 128, 168–70, 240, 254–55, 322,
411, 586, 595; de Forest audion, 169, 261,
373–74; Edison lamp, 258–60; Farnsworth
TV patents, 375–76; FM patents, 374,
377–79; Houdry patents, 292, 611; IBM
patents and copyright, 367–69, 493–94,
502; IC cross-licensing, 362; motion-
picture patents, 339; “open” innovation,
243; package licensing, 173–74, 379, 381;
radio patents, 168–70, 172–74, 594–95
(*see also* RCA); rubber patents, 289–92,
322, 621–22; Selden patent, 123–24, 128,
586; television patents 375–76, 379, 381, 448;
Tesla (Nicola) patents, 259; thermal
cracking patents, 239–40; US Patent Office,
292, 376
- Intercity Radio Company, 175
- Interior, US Department of, 81, 241–42, 268:
Bureau of Mines, 611
- intermodal (container) shipping, 464,
466–68, 470; *Ideal-X*, 468
- internal capital markets, 11, 22, 45, 152, 253,
412–13, 421
- International Business Machines (IBM), 19,
265, 323, 363–72, 381, 415, 453–54, 475,
479–80, 482–83, 488, 492–95, 497, 499,
501–505, 508, 510, 513, 516, 524, 527–28, 549,
586, 616, 628, 633, 638–39, 662; 600 series,
365–66; 700 series, 364, 366, 369–70; 1400
series, 366, 369–70, 639; Components
Division, 369–80; SABRE airline-
reservation system, 366; System 360,
370–71, 454, 487, 492, 639; Thomas J.
Watson Research Center, 369
- International Business Machines (United
States v.)* (1969), 372, 415, 475, 482–83, 518
- International Harvester Company, 77–79,
83, 142, 573
- International Monetary Fund, 328
- International Telephone and Telegraph
Company (ITT), 410–11, 413, 415–17, 594,
615; ITT Financial Services, 411
- International Trade Commission (ITC),
441, 451, 497
- Internet, 14, 19, 171, 505–15, 518, 520, 523–25,
527–33, 536, 541–42, 544–45, 548–49, 569,
658, 669; Arpanet, 506–8, 523; email, 507,
509, 511, 525, 536; Ethernet, 507; Firefox
browser, 529; HTML, 509–10; hypertext,
509; “interface message processors”
(IMPs), 506; Internet Society, 508;
Mosaic Browser, 510, 515; TCP/IP
protocols, 506–7, 664; World Wide
Web, 509
- “Internet Tidal Wave” (Bill Gates), 515
- Interstate Commerce Act (1887), 35–36, 40,
67, 81, 559, 572

- Interstate Commerce Commission (ICC), 32, 36, 57, 66–67, 77, 81–82, 112, 116, 164–65, 177, 220, 249–51, 256, 372, 460–67, 469–71, 534, 566, 613, 656–57; Bureau of Finance, 165
- Intuit Inc., 665
- Inventing the Electronic Century* (Alfred Chandler), 174
- Investment Bankers Association of America, 220–21
- Iowa State College (University), 567
- Ireland, 580
- iron industry, 25–26, 557
- Irwin, Douglas, 26, 561
- Isaacson, Walter, 489, 491
- isolationism, 107, 114, 126, 145, 275–77, 280, 283, 302, 372
- Isuzu, 433
- Italy, 191, 446
- Iue, Toshio, 449
- Ive, Jonathan (Jony), 526
- Iverson, Ken, 430–31
- Ivy League, 80, 471, 663
- Jackson, Andrew, 571
- Jackson, Robert H., 268–69, 272–73, 280, 333, 632
- Jackson, Thomas Penfield, 516–18, 666
- Jacobs, Jane, 396, 398
- Jaguar Cars, 445
- James, Edmund, 50
- James, William, 54, 106–8, 567
- Janeway, Eliot, 24, 285, 314
- Japan, 13, 22, 276, 278, 283, 288, 307, 310, 325, 329–31, 381, 414, 425–28, 430–31, 433, 435–47, 449–52, 456, 482–83, 487, 495–500, 502, 522, 556, 564, 621, 624–25, 641, 652–54, 662–63; Bank of Japan, 330, 428, 430, 435; Hiroshima and Nagasaki, 310; Japan Development Bank, 428; *keiretsu*, 330, 425, 436, 440, 446, 495; Meiji Restoration, 329; Ministry of Finance, 436; Ministry of International Trade and Industry (MITI), 427–28, 435–36, 441, 450, 495–98; Ministry of Transportation, 435; postwar reconstruction, 329–30; VLSI (very-large-scale integration) program, 497; *zaibatsu*, 329–31, 414, 435–36, 449, 621
- Japan Victor Company (JVC), 450, 452, 654
- Jefferson, Thomas, 89
- Jeffries, William M., 291
- Jekyll Island, Georgia, 94, 96, 261, 577
- Jenks, Jeremiah, 75, 80
- Jensen, Michael C., 650, 653
- Jewett, Frank, 293
- Jews, 27, 49, 135, 195, 266, 274, 278, 604–5
- Jobs, Steven, 489–91, 501–2, 524–26, 532, 667
- John, Richard, 569
- John R. Keim Mills, 122, 126, 154, 585
- Johns Hopkins University, 50–52, 57, 239, 294
- Johnson, Claudia A. “Lady Bird,” 596
- Johnson, F. Ross, 424–25
- Johnson, General Hugh S., 227–29, 246
- Johnson, Louis A., 280
- Johnson, Lyndon Baines, 18, 371–72, 399–402, 405–7, 415, 429, 478, 596, 646, 669
- Joiner, Columbus Marion, 242
- Joint Army-Navy Technical Board, 130, 132
- Joint Traffic Ass’n (United States v.)* (1898), 76
- Jones, Geoffrey, 331
- Jones, Jesse, 290
- Jones, Reginald, 456
- Jones and Laughlin Steel, 430
- J. P. Morgan and Company. *See* Morgan Company
- JPMorgan Chase, 2, 606
- Jordan, David Starr, 52, 564
- Jordan, Michael H., 455
- Joseph Horne department store, 171
- journalism, 53, 59, 541–42; “fake news,” 53, 544; muckraking, 53, 59, 78
- Jungle, The* (Upton Sinclair), 59
- Jurassic Park* (1993 movie), 510
- Justice (US Department of), 67, 72–73, 78–80, 93, 110, 116, 137, 163, 175–76, 183, 259, 273, 289, 331, 333–34, 339–41, 347, 350, 352, 359–60, 371, 388–89, 415–17, 429–30, 462, 474–75, 479, 482–83, 516–18, 595, 632,

- 639; Antitrust Division, 18, 163, 268–73, 329, 331–43, 346–48, 367–68, 371, 373, 381, 416–17; 475, 478–79, 482–83, 516–18, 655; Bureau of Investigation, 136
just-in-time inventory system, 20, 157, 438–40, 466, 513
- Kahn, Albert, 122, 299, 300, 305, 309, 311, 321, 624
Kahn, Alfred, 345, 469, 649
Kahn, Robert, 506, 508
Kaiser, Edgar, 297, 624
Kaiser, Henry, 296–98, 334–35, 356
Kaiser Permanente healthcare system, 297
Kalanick, Travis, 534–35; Travis's Law, 535
Kansas City, Kansas, 304
Kansas City, Missouri, 460
Kanzler, Henry C., 156, 353
Katz, Lawrence F., 641
Katznelson, Ron D., 128
Kawasaki Heavy Industries, 427–28
Kay, Alan, 487
Kaysen, Carl, 345, 414, 479, 659
Kearny, New Jersey, 244, 277
Kefauver, Estes, 347, 462, 634
Keller, K. T., 300, 309, 355
Kelly, Mervin J., 263, 476
Kelly Airmail Act (1925), 255–56
Kelvinator, 258
Kendrick, John, 234
Kennan, George F., 101
Kennecott Copper, 104
Kennedy, David, 134
Kennedy, Edward M., 460, 462, 465, 469
Kennedy, John F., 346, 358, 389, 399, 401, 405, 407; New Frontier, 358
Kennedy, Joseph P., 221, 296
Kennedy, Paul, 312
Kennedy, Robert F., 462, 639
Kenney, Roy W., 632
Kerensky, Alexander, 104
Kerkorian, Kirk, 447
Kettering, Charles, 130, 152, 239, 248–49, 253, 591
- Keynes, John Maynard, 182, 190, 207, 228, 267, 273–74, 316–17, 327–28, 403–4, 597–98, 600, 608, 626
Keynesian economics, 10, 13, 18, 187, 192, 208, 316, 267, 270–71, 316–19, 326–28, 330, 332, 344, 393, 403–4, 407, 598, 616, 629, 633, 645; liquidity trap, 208; multiplier effect, 10, 197–98, 226, 275; paradox of thrift, 317; post-Keynesian economics, 192
Khan, Lina, 546–49, 672
Khrushchev, Nikita, 389
Kidder, Peabody & Company, 104, 457
Kieran, James M., 604
Kihara, Nobutoshi, 450
Kilby, Jack, 362
Kildall, Gary, 488, 493
Kilgore, Harley M., 323
Kindleberger, Charles, 646
Kinetic Chemicals, Inc., 635
Kingsbury, Nathan, 67
Kingsbury Commitment, 67, 166
Kitchener, Herbert, 105
Kitty Hawk, North Carolina, 128
Klein, Benjamin, 632
Klein, Joel, 516
Kleindienst, Richard, 417
Klepper, Steven, 120, 145, 295, 380, 486–87, 591
Klobuchar, Amy, 542–44, 549, 670
Knickerbocker Trust Company, 92–93
Knight, Frank, 480
Knox, Frank, 280, 284, 289
Knox, Philander, 68
Knudsen, William S., 122, 131, 154–55, 248, 281–84, 300, 302, 304–5, 308–9, 350, 621
Koch, Louis A., 116
Kohlberg Kravis Roberts (KKR), 423–25, 505, 650, 655
Kolko, Gabriel, 32, 36, 88, 574
Korea, North, 325
Korea, South, 325, 405, 450–51, 495, 500, 654
Korean War, 321, 325–26, 357, 364, 380–81, 389, 394, 405, 428, 432, 435, 485, 635
KPMG, 515
Kraft Foods, Inc., 386

- Kroc, Ray, 385
 Kubrick, Stanley, 469
 Kuhn, Loeb & Co., 67–68, 78–79, 94, 215,
 218, 425, 568, 578
 Ku Klux Klan, 135, 203–4
 Kuznets, Simon, 285, 319
- labor, 4, 7, 13, 20, 43–44, 49, 52, 54–57, 74,
 79–81, 87, 100, 109, 115–16, 121–24, 133–36,
 140–41, 145, 164–65, 178–79, 184, 187, 190,
 198–201, 204, 209, 224, 227–28, 230–32,
 233, 245–46, 249, 251, 262, 265–66, 271–78,
 280, 282, 288, 296–98, 301–2, 305–6, 309,
 313–14, 317–18, 330, 349–52, 355–56, 358,
 363, 382–85, 390, 392, 394, 397, 399–400,
 422–23, 426, 428, 431, 434–35, 437–38,
 442–45, 447–51, 461, 468–69, 521, 538–42,
 545–47, 562–63, 566, 570–71, 574, 576, 581,
 591, 597–98, 607–9, 611, 618–19, 624, 635,
 641, 643, 645, 670, 672; American Federa-
 tion of Labor (AFL), 114, 134, 277, 302;
 Battle of the Overpass, 301; Brotherhood
 of Sleeping Car Porters, 623; Congress
 of Industrial Organizations (CIO), 277,
 301–2, 389, 448–49; division of labor, 102,
 121, 149–50, 384–85, 539, 670; electrical
 workers, 351; International Brotherhood
 of Teamsters, 251, 464–66, 613; Interna-
 tional Workers of the World, 110, 134, 136,
 203, 448; Milk Wagon Drivers' Union,
 271; Railway unions, 461; Seattle Central
 Labor Council, 134; Treaty of Detroit,
 352; United Auto Workers (UAW), 277,
 281, 301, 351–52, 394, 433–35, 439, 441–45,
 447–48, 484; United Brotherhood of
 Carpenters and Joiners, 273; United
 Federation of Teachers, 401; United
 Steelworkers, 351, 429–30, 613
 Labor, US Department of, 278, 617
 Lackawanna Steel Company, 163
 Lafin & Rand Powder Company, 73
 La Follette, Robert, 85, 89, 106, 240, 575
 Lafontaine, Francine, 632
 La Guardia, Fiorello H., 534–35
 laissez-faire, 24, 43, 46, 50–52, 54–55, 85, 163,
 210, 316, 344, 479, 608
 Lamborghini S.p.A., 446
 Lamont, Thomas, 103, 192, 195–96, 201, 277,
 599
 Lamoreaux, Naomi, 560
 Land, Admiral Emory Scott, 296
 Landis, James, 219–21
 Landis, Kenesaw Mountain, 69, 110, 135
 Landon, Alf, 265
 Langley, Virginia, 255
 Langmuir, Irving, 258, 373
 Lardner, Dionysius, 32
 Laski, Harold, 110
 Laughlin, J. Laurence, 97, 189, 577
 Lauterbach, Albert, 139
 Law, Marc, 59
 Layton, Edwin, 567
 Lazard Frères, 411, 422, 434
 League of Nations, 136, 170
 learning-curve pricing, 123, 486
 Leavenworth (penitentiary), 110
 Le Corbusier (Charles-Édouard Jeanneret),
 182, 397–98
 Lee, Higginson and Company, 143–44
 legal realism, 54, 269, 343–44, 478, 565, 618, 633
 Lehman Brothers Holdings Inc., 253, 606
 Lehman, Herbert, 195, 206
 Leijonhufvud, Axel S. B., 601, 626
 Leland, Henry, 124, 131, 143–45, 204, 585
 LeMay, General Curtis, 310
 lemons problem (adverse selection), 531–32
 Lenin, Vladimir Ilyich, 311, 603
 Lennon, John, 489
 Lenovo Group Limited, 504
 Leonard, Thomas C., 564
 Lerner, Abba P., 477, 557, 620
 Leuchtenburg, William, 223
 Lever Food and Fuel Control Act (1917),
 115, 116
 Levi, Edward H., 659
 Levitt, William, 384–85,
 Levitt & Sons, Inc., 411, 415, 417
 Levittown, New York, 384, 385, 397, 642

- Lewis, Michael, 522
 Lewis, Sinclair, 181–82, 597
 Lexington, Kentucky, 456
 Libecap, Gary, 42, 59,
 liberalism, 48, 51, 74, 88–89, 182, 265, 275, 329,
 385–86, 395, 458–60, 479, 483, 521, 537–38,
 541, 565, 597, 616, 630, 647, 655–56
 Liberty Bonds, 118–19, 183–84, 215, 326
 Liberty League, 265–26, 616
 Licklider, J. C. R., 506
 Liggett & Myers Tobacco Company, 72
 Lilienthal, David E., 225, 262
 Lima Locomotive Works, 248
 Lincoln, Abraham, 89, 131, 557, 571
 Lincoln Motor Car Company, 131, 145
 Lindbergh, Charles August (congressman),
 95, 98
 Lindbergh, Charles Augustus (aviator), 229,
 254; *Spirit of St. Louis*, 245
 Lindert, Peter, 7
 Lindley, Ernest K., 604
 Lindsay, John V., 401
 Ling, James, 412, 648
 Ling-Temco-Vought (LTV), 411, 417, 430
 Link, Arthur S., 581
 Lippmann, Walter, 46, 107, 181–82, 202, 458–59,
 655; Colloque Walter Lippmann, 458–59,
 655
 “Little Boxes” (Malvina Reynolds), 386
Little House on the Prairie books, 28
 Little Rock, Arkansas, 399
 Litton, Charles, 485
 Litton Industries, 411
 Livesay, Harold, 9, 147
Lochner v. New York (1905), 54–55, 566
 Lockheed Corporation, 304, 308, 357
 Lodge, Henry Cabot, 107, 571
 Loew’s. *See* MGM
 Loewy, Raymond, 356
 London, England, 103, 105, 189, 293–94, 302,
 405, 408, 580, 629
 Long, Huey, 205, 219, 266; Share Our Wealth
 clubs, 266
 Longines-Wittener Watch Company,
 Longwood Gardens, 153
 Loomis, Alfred, 293
 Lordstown, Ohio, 443
 Lorillard Tobacco Company, 72, 425
 Los Angeles, California, 346–47, 383, 397,
 634, 643
 Lotus Cars Limited, 445
 Louisville, Kentucky, 566
 Lovejoy, Arthur O., 565
 Lowe, William, 492
 Lubin, Isador, 268, 306
 lumber industry, 35, 134, 142, 161–63, 229
Lusitania, RMS, 107, 581
 Luxembourg, 430
 Lyft, Inc., 535–36, 668
 Lynn, Massachusetts, 64, 357
 MacArthur, General Douglas, 325, 329–30, 439
 MacCracken, William P., 254
 Madison, James, 561, 564
 Madison Square Garden Corporation, 461
 Magnavox, 451
 Magruder, Jeb Stuart, 643
Main Street and Wall Street (William Z.
 Ripley), 212
 Mammoth Oil Company, 241
Managerial Revolution, The (James Burnham),
 391–392, 643
 managerial theory of the firm, 393–94, 411,
 420–21
 Manchester, England, 624
 Manhattan Electric Light Co., 65
 Manjoo, Farhad, 667
 Manne, Henry, 420–21
 Mann-Elkins Act (1910), 66, 165
 Manufacturers’ Aircraft Association, 128
 Mao Zedong, 521
 Maple Flooring Manufacturers Association,
 162
 Marathon Oil, 429
 March, James, 393
 Marconi, Guglielmo, 166, 376
 Marconi Wireless Telegraph Company. *See*
 American Marconi

- Marcuse, Herbert, 386, 459–60; false consciousness, 386, 642
- Marietta, Georgia, 308
- Marion, Ohio, 188
- Marine Corps (US), 134
- Maritime Commission (US), 296–97
- market for corporate control, 22, 420–423; anti-takeover legislation, 423; “junk” bonds, 423; leveraged buyouts, 423–24, 429, 467; “poison pill,” 447; “white knights,” 421
- Markkula, Mike, 490
- Marris, Robin, 394
- Marshall, Alfred, 85, 120, 316, 344, 480, 485–86, 574; external economies, 485–86
- Marshall, General George C., 328
- Marshall Plan, 320, 328–29, 629
- Martin, Albro, 569
- Martin, Franklin H., 114
- Martin, William McChesney, 327, 406–7
- Marx, Karl, 55, 386, 484, 585, 592, 626
- Marysville, Ohio, 442
- Mascarich, Frank, 450
- Maserati, S.p.A., 446
- Mason, Edward S., 345
- Massachusetts Institute of Technology, 148, 151, 257, 280, 292–94, 318, 322, 357, 364, 504; Lincoln Laboratories, 504; Radiation Laboratory, 293–94
- Masses, The*, 109–10
- mass production, 4, 8, 20, 30, 44, 48, 56, 63, 68, 104, 115, 121, 124–27, 130, 144, 154–55, 157, 197, 232, 235, 259, 264, 270, 277, 283, 290, 294–95, 297–99, 302, 304–14, 322, 324, 351, 354, 356, 382, 384, 403, 426, 438, 452, 487, 496, 540, 623; flexible specialization, 312, 438
- Matsushita, Konosuke, 449
- Matsushita Electric Industrial Co., Ltd., 449–52, 497, 654; Panasonic, 451, 654; Quasar, 451
- Matsushita v. Zenith* (1986), 451–52
- Mauchly, John W., 322–23, 364, 368
- Maxim, Hiram Percy, 119, 170
- Maxwell-Briscoe Motor Car Company, 143, 146, 158
- Mazda Motor Corporation, 443
- McAdoo, William Gibbs, 116–18, 137, 164, 204
- McCarthy, Joseph, 390
- McCartney, Paul, 489
- McCaw Cellular Communications, 477
- McCloskey, Deirdre N., 7, 21, 480
- McCook Field (Wright-Patterson Air Force Base), 254
- McCormick, Cyrus, 77
- McCormick Harvesting Machine Company, 77–78
- McCraw, Thomas, 47, 221, 575
- McCullough, Jack, 485
- McDonald, Eugene, 176–77
- McDonald, John, 151, 590
- McDonald, Maurice (Mac), 385
- McDonald, Richard, 385
- McDonald's Corporation, 385
- McFadden Act (1927), 605
- McGirr, Lisa, 202
- McGowan, William, 23, 474–75, 534
- McKenna, Regis, 490
- McKinley, William, 74–75, 113
- McKinsey and Company, 355, 455–56
- McLaren, Richard, 416–17
- McLean, Malcom, 23, 467–68, 534
- McLuhan, Marshall, 484
- McNamara, Robert S., 354, 358, 363, 432, 636
- McNary-Haugen bill, 139, 226
- McNary-Watres Act (1930), 256
- Mead, George, 303, 625
- Means, Gardiner, 184, 210–14, 216, 268, 270–71, 316, 391–92, 409, 419, 425, 604, 617; administered prices, 268
- Meat Inspection Act (1891), 59
- Meat Inspection Act (1906), 59, 161
- meatpacking, 4, 6, 31, 35, 42, 58–59, 78–79, 335, 559, 561, 573, 611; margarine, 58, 567
- preslaughter inspection laws, 31, 42
- mechanization. *See* automation

- Medicaid, 400
 Medicare, 394, 400, 406, 644
 Mee, Charles, 328
 Mellon, Andrew, 9, 141, 163, 183–85, 189, 196–97, 243, 245, 332–33, 409, 412, 598, 631; as “liquidationist,” 200, 232, 412, 602
 Meltzer, Alan, 194, 578, 600
 Memphis, Tennessee, 471
 Menand, Louis, 54
 Ménard, Claude, 555
 Mencken, H. L., 133
 Menger, Carl, 566
 Menlo Park, California, 506
 Menlo Park, New Jersey, 257
 Merchant Marine Act (1920), 113
 Merges, Robert P., 595
 Merrill Lynch & Co., 606
 Metro-Goldwyn-Mayer Studios (MGM), Inc., 341
 Mesabi iron range, 45, 74, 428–29
 Mesa Petroleum, 421
 Metaphysical Club, 54
 Meta Platforms, Inc. *See* Facebook
 Metcalfe, J. Stanley, 629
 Metcalfe, Robert, 507
 Mexico, 129, 141, 449, 451, 498
 Meyer, Eugene, 194, 196, 205, 218
 Meyer, Hugo, 559
 Micro Instrumentation Telemetry Systems (MITS), 488
 Micron Technology, 497, 500
 Microsoft Corporation, 2, 19, 493–94, 501–4, 508–9, 515–18, 524, 527–30, 533, 536–37, 543, 549, 671; Internet Explorer (IE), 515–18, 527–30; LinkedIn, 543; Microsoft Office, 543; MS-DOS, 493, 502, 504, 516, 527, 663; MSN service, 508, 515, 517, 665; Windows, 504, 515–16, 526, 528–29, 600, 665; Windows 95, 515–16, 663; Windows CE, 527; Windows NT, 663
 Microwave Communications, Inc. (MCI), 23, 474–75, 508, 520
 Midas Muffler, 338
 Midvale Steel & Ordnance Company, 105, 111, 163, 580
 Midway, Battle of, 277
 Mies van der Rohe, Ludwig, 397
 Milch, Erhard, 313
 military-industrial complex, 276, 314, 633
 Milken, Michael, 423
 Mill, John Stuart, 51, 54, 559
 Millard, William H., 488
 Miller, Adolph C., 189–91, 193, 599
 Miller, Arjay, 354
 Miller, G. William, 418, 434
 Miller-Tydings Act (1937), 336
 Mills, C. Wright, 57, 567
 Mills, Ogden, 197, 206
 Mills, Wilbur, 646
 Milwaukee, Wisconsin, 338
 minimum wage, 52, 198, 228, 230, 399
 Minow, Newton, 387
 Mirowski, Philip, 459, 567
 Mississippi River, 116, 190, 600
 MIT Commission on Industrial Productivity, 495
 Mitchell, Charles E., 215–16
 Mitchell, General Billy, 253
 Mitchell, John, 415–17
 Mitchell, Wesley Clair, 133, 647
 Mitsubishi, 329, 433, 443, 446, 450, 497
 Mitsui, 329; Mitsui Bank, 437, 450
Modern Corporation and Private Property (Berle and Means), 210–13
Modern Times (1936 movie), 502
 modernism, 182; Bauhaus movement, 397, 644–45; International Style, 397
 modularity, ix, 20, 67, 71, 131, 151, 156–57, 174, 182, 218, 232, 247, 305, 308, 365, 370, 376, 441, 447, 488–89, 491–92, 494, 499–500, 502, 504–6, 508, 513, 590, 610, 639
 Moley, Raymond, 210, 219, 604
 Moline Plow Company, 226, 228
 Mondrian, Piet, 182
 monetarism, 187, 207, 317, 403–4, 418, 598
 “money trust,” 96–97, 214
 Monnet, Jean, 278–79

- monopoly, 27–30, 34–35, 40–41, 45, 48, 75,
82, 84, 99–100, 167–68, 172, 267–68, 330,
332–34, 344, 350, 367, 376, 388, 413–14, 457,
465, 474, 479–80, 483, 496, 508, 516–17,
519, 537, 544, 549, 572, 575, 578, 607, 617,
638, 665, 672; monopsony, 35, 42, 652;
natural monopoly, 29–30, 33, 51, 251, 475,
590; “spontaneous” monopoly, 39, 561
- Montgomery Ward & Co., 180–81, 512
- Mont Pèlerin Society, 459–60, 477, 656
- Moody, John, 61
- Moore, Gordon, 487, 499–501, 504
- Moore and Schley, 93
- Moore’s Law, 23, 499–500, 504, 523–24, 556,
663
- moral hazard, 606
- Morawetz, Victor, 80, 95, 577
- Morgan, Arthur E., 224–25
- Morgan, Harcourt A., 225
- Morgan, J. Pierpont Jr., 98–99, 103–4, 113,
135, 141, 214, 245, 276, 420, 605
- Morgan, J. Pierpont Sr., 9, 45, 61–62, 92–96,
98–99, 105, 214, 420
- Morgan, J. P., and Company (House of
Morgan), 8–9, 38, 61, 63–68, 70, 77, 79,
99, 103–5, 113, 142–43, 147, 185, 192, 213,
215, 217–18, 221, 225, 253–54, 257, 277, 280,
349–50, 393, 412, 419, 425, 461, 568–69,
606–7; Export Department 103–5, 113,
115, 245, 579; terrorist attack on, 141
- Morgana, Charles, 584–85
- Morgan Stanley, 218, 413, 420, 606
- Morgenthau, Henry, 208, 267, 283, 302,
616–17
- Morison, Samuel Eliot, 182
- Morita, Akio, 449–50
- Morrill Act (1862), 25–26, 50, 557
- Morris, Edward, 78
- Morris & Company, 42, 78
- Morrow, Dwight W., 253–54
- MOS Technology, Inc., 661; MOS
Technology 6502, 490, 661
- Moses, Robert, 395–97, 644
- Mostek, 491
- motion picture industry, 190, 272, 339–41,
356, 531, 632; Communism and, 390; Hays
self-censorship code, 341, 597
- Motion Picture Producers and Distributors
of America, 341, 597
- Motor Carrier Act (1935), 251, 466
- Motor Carrier Act (1980), 465
- Motorola, 451, 476, 490, 499, 526, 637, 661;
Motorola 6800, 490
- Moulton, Harold G., 280
- Mount Rushmore, 132, 214
- Mowery, David C., 627
- Moynihan, Daniel Patrick, 401–2
- MP3 algorithm, 525
- Mugwumps, 48, 51
- multidivisional form (M-form), 4, 9, 12, 20,
22, 113–14, 144, 148–53, 165, 236, 245, 247–48,
264, 282, 286, 324, 350, 352, 354–55, 380,
410–11, 424, 445, 449, 456–58, 553, 590,
612, 648, 669
- multisided markets, 527, 531–34, 543, 545,
547; Champagne Fairs, 527, 532
- Mumford, Lewis, 386
- Munich, Germany, 278
- Municipal Assistance Corporation, 434
- munitions. *See* weapons manufacture
- Munn v. Illinois*, 31
- Murdoch, Rupert, 531
- Murray Body Corporation, 158
- Muscle Shoals, Alabama, 111–12, 224–25, 334
- Mutual Broadcasting System, 373
- Myspace, 531–32
- My Years with General Motors* (Alfred P.
Sloan), 151, 590
- Mythical Man Month* (Fred Brooks), 639
- Nabisco. *See* RJR Nabisco
- Nader, Ralph, 463
- Nally, Edward J., 169, 171
- Napster, 525–26, 531
- Nash, Charles, 144
- Nash-Kelvinator Corporation, 304
- Nash Motors Company, 144, 356
- National Academy of Sciences, 293

- National Advisory Committee for Aeronautics (NACA), 128, 130, 144, 254–55, 292, 357–58, 586, 614
- National Aeronautics and Space Administration (NASA), 128, 254, 323, 358, 370, 505
- National Association for the Advancement of Colored People (NAACP), 301
- National Association of Securities Dealers, 420
- National Association of Securities Dealers Automated Quotations (NASDAQ), 520, 522–23
- National Automobile Chamber of Commerce, 586
- National Automobile Dealers Association, 339
- National Bank of Commerce, 95
- National Banking Acts, 90, 97
- National Broadcasting Company (NBC), 172, 268, 373, 379–81, 387, 389, 415, 448, 454, 641
- National Bureau of Economic Research, 285
- National Bureau of Standards, 160
- National Cash Register Company (NCR), 130, 364, 366, 586
- National Center for Supercomputing Applications, 509
- National Citizens League for the Promotion of a Sound Banking System, 97
- National City Bank, 94–95, 215–17, 252, 419, 577, 606
- National City Company, 95, 215, 217, 252
- National Civic Federation, 80–81, 84
- National Cooperative Research Act (1984), 662
- National Credit Corporation, 196
- National Defense Act (1916), 108, 112, 114
- National Defense Advisory Commission (NDAC), 114, 280, 282–83, 287, 625; Price Stabilization Division, 287
- National Defense Research Committee (NDRC), 292–93, 295, 322, 627, 640
- National Education Association, 341
- National Electric Lamp Company, 258
- National Gallery of Art, 631
- National Industrial Recovery Act (NIRA), 1933), 12, 227–30, 242, 251, 256, 266–67, 272, 278, 303, 335, 340, 607, 609, 625
- National Institutes of Health, 59, 323
- National Labor Relations Act (Wagner Act, 1935), 230, 265, 301
- National (Catholic) Legion of Decency, 340–41
- National Monetary Commission, 94–97
- National Packing Company, 78, 573
- National Railroad Passenger Corporation (Amtrak), 463, 476
- National Recovery Administration (NRA), 227–30, 233, 242, 244, 246, 250–51, 256, 265–66; 271, 335, 340, 372; Consumer Advisory Board, 618
- National Research Council, 234–235
- National Resources Planning Board (NRPB), 268, 316, 318
- National Science Foundation (NSF), 323, 506–7, 509
- National Semiconductor, 487, 496–97
- national socialism, 107, 274, 554
- National Socialist German Workers' Party (NSDAP), 274
- National Steel Corporation, 244
- National Television Systems Committee, 377–78, 380–81
- National Union for Social Justice, 266
- National War Labor Board, 135
- Naugle, Harry M., 243
- Naumann, Friedrich, 581
- Naval Consulting Board, 114; Industrial Planning Committee, 114
- Naval Expansion Act (1938), 277
- Navy (US), 74, 108, 111–12, 126, 128, 131, 134, 167–70, 237, 252, 254, 277, 279, 282, 285, 292, 296, 353, 364, 623; Bureau of Engineering, 594; Bureau of Ordnance, 294, 296, 299, 314, 321; Seabees, 310
- Navy, US Department of, 109, 111, 126, 128, 167–70, 175, 241, 278, 280, 282, 285, 289–90, 296, 353

- Nelson, Donald, 283–85, 288, 290, 318, 621
- Nelson, Richard R., 174, 595
- Nelson, Ted, 509
- neoliberalism, 459–60, 477, 537, 542, 656
- Netherlands, 191
- Netscape Communications Corporation, 510, 515–18, 520, 527–31, 665–66; Netscape Navigator, 510, 515–18, 527–30; Secure Sockets Layer technology, 512
- Nevins, Allan, 182, 246, 623
- New Brunswick, New Jersey, 167–68
- New Deal, 7–8, 11–12, 17, 19, 22–23, 55, 113, 181, 187, 196–98, 209, 225–31, 256, 262, 264–69, 271, 273, 275, 280–81, 283, 288, 302, 313–16, 319, 323, 332, 343, 349, 365, 372–73, 383, 389, 393, 395–96, 400, 414, 419, 426, 437, 458, 460, 478–79, 534–35, 540, 554, 558, 575, 588, 629, 641
- New Departure Manufacturing, 144
- New Haven, Connecticut, 298, 599, 643
- New Jersey Holding Company Act (1899), 38, 45
- New Republic* (magazine), 56, 107, 275, 332, 458
- New United Motor Manufacturing, Inc. (NUMMI), 443–44, 502, 653
- New York Central Railroad, 2, 35, 462, 466
- New York Chamber of Commerce, 94, 577
- New York City, 2, 33, 65, 90–96, 98, 110, 135, 146, 175, 179–80, 195–96, 214–15, 222, 229–30, 247, 260–61, 349–50, 374, 388, 390, 396–98, 401, 410–11, 422, 434, 445, 450, 461, 476, 534–36, 542, 576, 596, 605, 643, 656, 668
- New York Gas & Electric Light, Heat, and Power Co., 65
- New York Herald*, 78
- New York Herald Tribune*, 604
- New York, New Haven and Hartford Railroad, 94, 461–62, 466
- New York Shipbuilding, 282
- New York Stock Exchange (NYSE), 70, 102, 192–93, 214, 220, 406, 420, 573, 599–600, 605, 649; Buttonwood Tree Agreement (1792), 420
- New York Times*, 41, 53, 94, 132, 176, 202, 306, 327, 542, 604, 640, 667
- New York World's Fair (1939), 239, 376, 395
- Newark, New Jersey, 171, 468
- Newlands, Francis G., 83
- Newman, Oscar, 397
- Newport News Shipbuilding, 277, 282
- Newsweek* (magazine), 380
- Netflix, 532–33, 536, 542, 549
- network effects, 66, 379, 493, 516, 527, 531–32
- Niagara Falls, New York, 278
- Nietzsche, Friedrich, 556
- Nieuwland, Father Julius A., 238
- Nikon Corporation, 496
- Niles-Bement-Pond Tool Company, 252
- 1984 (George Orwell), 392, 502, 643
- Nippon Denso Co. Ltd., 440
- Nippon Electric Company (NEC), 491, 496, 501
- Nippon Telegraph and Telephone (NTT), 496–97
- Nishiyama, Yataro, 427–28
- Nissan Motor Company, 352, 433, 435–37, 439–40, 443, 445–46
- nitrates, 13, 111–12, 225; Haber-Bosch process, 112
- Nixon, Richard M., 388–89, 401–2, 407–8, 415–17, 433, 463, 473, 621, 645, 647
- Nobel Industries, 147
- Nobel Prize, 5, 26, 258, 260, 263, 285, 291, 567, 609, 656
- Nokia Corporation, 525, 530
- Nolte, Ernst, 554
- Norbeck, Peter, 214
- Nordhaus, William, 536
- Norfolk Southern Railway, 657
- Norfolk, Virginia, 384
- Norman, Montagu, 189–90
- Norris, Frank, 559
- Norris, George, 224, 276
- Norris, William, 371
- North American Aviation, 252, 304, 308, 350, 357
- North American Review*, 562

- North, Douglass, 26, 28
 Northern Pacific Railroad, 68, 250
 Northern Securities Company, 68
Northern Securities Co. v. United States, 67–70, 72–73, 77–78, 462, 572–73, 578
 Norton, Charles, 577
 Noyce, Robert, 362, 487, 496–98, 500; principle of “minimum information,” 496
 Nucor, 428, 430–31
 Nye, Gerald, 276
 Nye hearings, 276, 619
- Oak Ridge National Laboratory, 225
 O’Brien, Anthony Patrick, 201
 Occupy Wall Street protests, 542
 Ochs, Arthur, 53
Octopus, The (Frank Norris), 559
 Office of Defense Mobilization, 381, 635
 Office of Economic Stabilization, 288
 Office of Lend-Lease Administration, 285
 Office of Management and Budget, 417
 Office of Naval Research, 364
 Office of Price Administration (and Civilian Supply), 283–84, 287, 316, 621
 Office of Price Stabilization, 325
 Office of Production Management, 282–84, 621
 Office of Scientific Research and Development, 293–95; Committee on Medical Research, 295
 Office of Strategic Services, 163
 Office of War Mobilization (and Reconstruction), 288, 316, 318
 Oglethorpe University, 211
 Ohno, Taiichi, 438
 oil industry, 34–38, 42, 45, 69–71, 231, 239–44, 408, 421, 432–34, 272, 288, 290–92, 337–38, 408, 417, 421, 426, 429, 432–33, 435, 442, 446, 570, 611, 647, 669; Big Inch and Little Inch pipelines, 320, 627; catalytic cracking, 240–41; East Texas oil field, 241–43, 272; “hot oil,” 242; kerosene, 34, 69, 239; oil-depletion allowance, 651; “oil war,” 35, 559; Petroleum Administration for War, 292; prorationing, 242–43; Teapot Dome field, 241; tetraethyl lead, 239, 611; thermal cracking, 239; unitization, 241–42, 611
 Olds, Ransom, 120, 123, 143, 430
 Olds Motor Works (Oldsmobile), 120–21, 143, 588–89, 658
 Olsen, Kenneth H., 504
Olympic, RMS, 580
 Olympic Games (1972), 388
 Omaha, Nebraska, 304
 O’Mara, Margaret, 499
 Omidyar, Pierre, 511
 One Best Way (Frank and Lilian Gilbreth), 56
One Dimensional Man (Herbert Marcuse), 460
 Opel, John, 492, 503
 Ordoliberalism, 329, 458, 655
 Orrick, William H., 415
 Oregon Bar Association, 270
 Oregon Trail, 514
 Organization of the Petroleum Exporting Countries (OPEC), 22, 417, 433, 647
 “Organization Study” (Alfred P. Sloan), 148
 Orwell, George, 392, 643
 Ostrom, Elinor, 590
Other People’s Money (Louis D. Brandeis), 73, 96, 212, 219
 Otis Elevator Company, 83, 421, 649
 Overman Act (Departmental Reorganization Act) (1918), 117, 132, 137
 Overy, Richard, 312
- Packard, David, 485
 Packard, Vance, 386
 Packard Motor Car Company, 130–31, 302–3, 356, 586, 624
 Page, Lawrence E., 511, 528
 Paley, William, 380
 Palm, Inc., 524–26
 Palmer, A. Mitchell, 136, 161
 Palo Alto, California, 510, 529
 Panama Canal, 93, 125, 250
 Panama Canal Act (1912), 466
 Panama-Pacific International Exposition, 125, 261

- Pan-American Exposition (1901), 75
 Pan American World Airways, 257, 469
 Pandora, 533
 Panic of 1907, 91–94, 147, 568, 576–77
 Paramount Pictures Corporation, 340–41, 388, 533
Paramount Pictures, Inc. (United States v.), 341
 Paris, France, 103, 273
 Parsons, Talcott, 151
 path dependency, 7
 Patman, Wright, 335
 Patten, Simon, 50, 210
 Patterson, John H., 365
 Payne, Sereno, 87
 PayPal, 531
 Peace Corps, 401
 Pearl Harbor, Hawaii, attack on, 282, 284, 287, 290, 295, 308, 623–24
 Pearlman Rim, 144
 Pearson, Frank, 207
 Peckham, Rufus, 55, 76
 Pecora, Ferdinand, 214, 216–17, 220–21
 Pecora hearings, 214–17, 219–20, 222, 419, 606
 Peddle, Charles I., 661
 Peek, George N., 139, 226, 228
 Peirce, C. S., 54, 57, 567
 penicillin, 12, 264, 294–95, 322
 Penn Central Railroad, 2, 460, 462–63, 656
 Pennsylvania Railroad, 2, 35, 63, 213, 461–62, 568; Penn Station, 461–62, 656
 Pennsylvania Steel Company, 568
 Penrose, Edith, 236–37, 410, 553
 PepsiCo, Inc., 455, 630
 Perkins, Frances, 278, 617
 Perkins, George W., 77, 79–80, 83–84, 88, 135, 142, 183, 568, 573
 Perkins, James H., 217
 Perlman Alfred E., 462
 Perot, H. Ross, 445
 Perry, Arthur Latham, 51, 565
 Pershing, General John, 127
 personal computer (PC) industry, 6, 19, 23, 173–74, 487–95, 497, 499–505, 507–13, 515–18, 523–25, 527–30, 543, 610, 661, 663, 665, 667; Altair 8800, 488–89, 491, 493, 660; Apple I, 490; Apple II, 490–92, 502; Apple III, 492, 501–2; basic input-output system (BIOS), 494; BASIC programming language, 490, 493; clone computers, 494, 503, 505; CP/M operating system, 488–89, 493, 661; Extended Industry Standard Architecture, 503; IBM PC, 492–94, 502, 510, 661; IBM PCjr, 503; IBM PS/2 series, 503; IMSAI 8080, 488–89, 491; iMac, 525; Lisa, 501–2; Macintosh, 501–2, 504, 515, 525, 663; Micro Channel Architecture, 503; OS/2, 503–4, 663; PC-DOS, 493, 661; S-100 bus, 488–89; 492, 494, 660; TRS-80, 489, 661; VisiCalc, 491; Wintel PC, 501, 504; WordStar, 491
 Petersen, Donald, 442
 Pew family (Sun Oil), 240
 pharmaceutical industry, 324
 Philadelphia, Pennsylvania, 35, 63–64, 105, 113, 131, 202, 266, 323, 375, 380, 461, 476, 643
 Philadelphia Linen Manufactory, 29
 Philadelphia Navy Yard, 128, 131
 Philadelphia Storage Battery Company (Philco), 174, 361, 363, 366, 375–76, 387, 451, 640
 Philips N.V., 451–53, 482; audio cassette, 654; compact disk, 452–53, 525
 Phillips, A. W., 407
 Phillips Curve, 407–8
 Phillips Petroleum Company, 322, 421
 Pickens, T. Boone, 421
 Piketty, Thomas, 537, 540–41
 Pinchot, Gifford, 112
 Pittsburgh, Pennsylvania, 35, 333, 388
 Pittsburgh Reduction Company, 245
 Plan Dog, 283
 Platt, Orville, 42
 Platt Brothers, 436, 633
 Podhoretz, Norman, 633
 Polanyi, Karl, 459
 Pope, Colonel Albert A., 584
 Pope Manufacturing Company, 119, 123, 252, 584–85; Columbia bicycle, 584

- Popper, Karl, 566
Popular Electronics, 488
 populism, 16, 26–27, 30, 32, 35, 40, 46, 48,
 52, 89, 95–96, 98, 106–7, 111, 118, 123, 126,
 140, 176–77, 202, 206, 209, 214, 218–19,
 224, 266, 269–70, 275, 323, 343, 414, 466,
 478, 519, 541–42, 545, 565, 605, 670
 Porsche, Ferdinand, 432
 Porter, Glenn, 37
 Port Huron Statement, 484
 Portland, Oregon, 222–23
 Posner, Richard, 54, 480, 482, 546–47, 565, 574
 Postal Telegraph System, 172, 594
 Post Office (US), 66, 109–10, 165–66, 175, 219,
 229, 255–56; air mail, 255–56, 279, 469;
 censorship by, 109–10, 581; “postalization”
 of the telephone system, 165, 262, 616;
 Private Express Statutes, 658; “spoils
 conference,” 256; United States Postal
 Service, 658
 Poughkeepsie, New York, 364–65
Practice of Management, The (Peter Drucker),
 151
 Pragmatism, 54, 57, 567
 Pratt, John Lee, 280
 Pratt & Whitney, 252, 255, 257, 303–4, 312,
 357, 584
 President’s Aircraft Board, 253–54
 President’s Reemployment Agreement, 228
 price controls, 31, 136, 287–88, 296, 315, 325–26,
 329–30, 398, 407–8, 418, 433, 581, 621,
 628–29
 Prime Computer, Inc., 483
 Princeton, New Jersey, 97, 380, 449
 Princeton University, 50, 88, 108
 priorities unemployment, 13, 286
 “Problem of Social Cost, The” (Ronald
 Coase), 477
 Prodigy Communications Corporation, 508
 Production Requirements Plan, 285
 productivity, 11–13, 52, 58, 74, 121–22, 141, 179,
 187, 189, 198, 201, 203–4, 226–27, 232–34,
 244, 249, 251, 297–98, 312, 320, 330, 405,
 431, 438, 440–41, 444, 456, 514, 520–21,
 584, 588, 600, 652–53; labor productivity,
 259, 297–98, 304, 307, 352, 460, 464, 514,
 571, 609, 647; total-factor productivity
 (TFP), 12, 44, 74, 179, 233–34, 422, 514
 Prohibition, 116, 131–32, 183, 202–5, 209, 265,
 402, 602–3
Promise of American Life (Herbert Croly), 564
 protectionism, 22, 41, 87, 89–90, 139–40,
 441, 443, 445, 451, 565. *See also* tariffs
 Protestants, 49, 52, 135, 202–4, 604. *See also*
 Social Gospel Movement
 public choice theory, 535
 Public Health Service, 295
 Public Utility Holding Company Act of
 1935, 11, 222–23, 330
 Public Works Administration, 251, 277
 Pujo, Arsène, 96
 Pujo hearings, 96–98, 104, 214, 419, 580
 Pullman Company, 43
 “purchasing power,” 196, 198–201, 205, 262,
 378, 602
 Pure Food and Drugs Act (1906), 59
 Pyongyang, North Korea
 radar, 264, 293–94, 310, 472, 622; cavity
 magnetron, 293–94
 radio, 9, 11, 109, 166–78, 189–90, 220, 231–33,
 239–40, 244, 260, 262, 266, 268, 294, 322,
 339, 361, 372–80, 387, 415, 448, 450, 455, 472,
 474, 476, 485, 489, 524, 594–96, 615, 637,
 639–40, 667; alternator, 167–68, 594;
 amateur, 170; AM radio, 176, 374, 378, 640;
 clear channels, 176–77; FM radio, 322,
 373–75, 377–79, 476, 640; frequency
 interference, 167, 175–78, 374; Hazeltine’s
 “neutrodyne” circuit, 173; KDKA, 171;
 Morse code, 170; multiplexing, 640;
 “propaganda” stations, 178; regenerative
 circuit, 373; spark-gap transmitter, 166;
 superheterodyne principle, 170, 373;
 ultra-high-frequency (UHF) band, 378;
 very-high-frequency (VHF) band, 374,
 643; WJAZ, 176
 Radio Act (1912), 166, 170, 175–76

- Radio Act (1927), 177
- Radio City Music Hall, 229
- Radio Corporation of America (RCA), 2,
169–74, 176, 190, 213, 232, 361, 363, 368,
373–79, 380–81, 389, 395, 410–11, 415,
448–56, 475, 477, 482, 594–95, 603, 627,
640, 654; Computer Systems Division,
454; Consumer Electronics Division, 454;
Radiola, 171; Victor Talking Machines
Company, 375, 448–49, 454, 654
- Radio Manufacturers Association, 376
- Radio Shack (Tandy) Corporation, 489
- Raff, Daniel M. G., 232
- Railroad Act (1920), 185
- Railroad Revitalization and Regulatory
Reform (4R) Act (1976), 463
- railroads, 2–6, 12, 14, 23–24, 27–28, 30–37,
39, 42, 45, 50, 52–53, 57, 61, 63–65, 67–69,
81–82, 94, 115–16, 136, 164–67, 180–81, 185,
189, 211–13, 248–51, 253, 273, 280, 330, 460–68,
470–71, 474, 512, 523, 543, 548, 558–60, 563,
568–69, 572, 574, 583, 596, 609, 619, 623,
656–57; diesel locomotives, 248–50,
350–51, 460–61; Pioneer Zephyr, 248–49;
price discrimination, 33–36, 50, 82, 470,
559; rate wars, 33–36, 81, tanks, 300, 623
- Ralphs Grocery Company, 347
- Ramada Inns, 385
- Ramsey, Frank, 637
- Ramsey pricing, 34, 360, 470, 474, 559, 637
- RAND Corporation, 506, 625
- Randolph, A. Philip, 623
- Random House, 454
- Raskin, Jef, 502
- Raskob, John Jakob, 146–47, 204–5, 214, 265,
348, 589
- Rauchway, Eric, 598
- Rauschenbusch, Walter, 619
- Rauschenbush, Stephen, 619
- Rayonier Inc., 411, 415
- Raytheon Company, 363, 411–12, 649
- Reagan, John, 35–36, 40–41
- Reagan, Ronald, 441, 451, 459–60, 475, 482,
498
- real-bills doctrine, 97, 137, 188–89, 191, 208,
216–17, 577–78, 600–601, 632
- Reconstruction Finance Corporation (RFC),
196, 205–7, 250, 281, 288–90, 320–21, 422, 425,
463; Rubber Reserve Company, 288, 290
- Recording Industry Association of America,
525
- Redfield, William C., 87
- Red Scare, 134–37, 141, 390
- Reed-Bullwinkle Act (1948), 464
- refrigerators, 197, 248, 258, 322, 383, 627
- Regional Rail Reorganization (3R) Act (1973),
463
- relational contracts, 431, 438
- Remarque, Erich Maria, 275
- Remington Arms Company, 104, 106, 580
- Remington Rand, 364, 366, 368, 599, 638.
See also Sperry Rand
- Remy Electric Company, 144
- Renault S.A., 446
- Renton, Washington, 308
- Rentschler, Frederick B., 252, 256, 303
- Reo Motor Car Company, 120, 143, 430
- Republican Party, 24–26, 35, 40–42, 48–49,
74–75, 87–89, 107, 140, 164, 182, 204–5,
214, 224, 256, 265, 269, 273, 275–76, 280,
343, 400, 426, 540–42, 557, 561, 605, 619
- Republic Steel, 430
- research and development, 4–5, 12–13, 19–20,
50, 53, 57, 112, 129, 151–52, 160, 168, 174,
233–40, 243–48, 250, 254–55, 257–63, 289,
291–95, 321–24, 331, 359–61, 364–66, 369,
371–72, 375–77, 379–80, 404, 413, 420, 428,
429, 449, 476, 495–98, 505–8, 530, 586, 591,
610–11, 614–15, 627–28, 640, 662
- Research in Motion (BlackBerry), 525–526
- Resumption Act (1877), 26
- retailing: anti-chain-store movement, 181,
335–37, 346, 672; chains, 4, 58, 87, 180–81,
335–37, 341, 346–48, 373, 384–85, 388, 411,
445, 469, 488–89, 512, 632, 634 (*see also*
franchising); department stores, 384–85;
“fair trade” laws, 336, 575; gasoline retailing,
337–38; supermarkets, 336–37, 346–47, 385

- retained earnings, 10, 22, 70, 99, 104, 122, 147,
163, 231, 249, 259, 324, 365, 393–94, 412–13,
421, 423, 428, 445, 589, 672
- Reuther, Walter, 281, 301, 351–52, 639, 644
- Revenue Act (1921), 183
- Revenue Act (1936), 223
- Revenue Act (1940), 282
- Revenue Act (1945), 324
- Revlon, Inc., 387
- Revolutionary Road* (Richard Yates), 390
- Reynolds, George, 94
- Reynolds, Malvina, 386
- Reynolds Aluminum, 334–35
- Ribot, Alexandre, 130
- Ricardo, David, 51
- Riccardo, John, 434
- Rice, Edwin W., 257
- Richardson, George Barclay, 14–15
- Richmond, California, 296–298, 306
- Ridley, Harold, 629
- Ridley, Matt, 323
- Riesman, David, 386
- Ripley, William Z., 165, 212, 216, 463, 604
- Rist, Charles, 190, 208
- Rivera, Diego, 603
- R. J. Reynolds Tobacco Company, 73, 424–25,
467
- RJR Nabisco, 424–25, 505
- RKO Radio Pictures Inc., 341
- Roberts, Ed, 488
- Robinson, Joan, 344, 480
- Robinson-Patman Act, 335
- Rochester, New York, 123
- Rockefeller, John D. Jr., 94, 204, 217, 603, 606
- Rockefeller, John D. Sr., 9, 34–35, 37, 44, 50,
61–65, 68–70, 79, 94, 98, 135, 185, 204, 391,
409, 412, 570, 606
- Rockefeller, Nelson Aldrich, 577
- Rockefeller, William, 606
- Rockefeller Center, 2, 309, 603
- Rockefeller Foundation, 294, 459
- Rock Island Arsenal, 300
- Rockne, Knute, 614
- Rockoff, Hugh, 117, 288, 621, 641, 646
- Roderick, David, 429
- Roe, Mark, 410
- Rohatyn, Felix, 411, 417, 422, 424–25, 434, 454
- Rolls-Royce, 302, 311
- Rome, Italy, 98
- Romer, Paul, 609
- Roosevelt, Eleanor, 229, 306, 624
- Roosevelt, Franklin Delano, 10–11, 17, 111, 128,
168, 186–87, 195, 205–11, 214, 217, 219, 221–26,
228–29, 256, 265–70, 274–84, 287–88,
290–93, 296–97, 302, 306, 310, 316, 331, 343,
353, 367, 373, 396, 405, 458, 571, 598, 602–4,
608, 616–17, 623–24, 639; Brains Trust,
11, 210; devaluation of the dollar, 10, 187,
206–9, 603
- Roosevelt, Theodore, 16–17, 53, 73, 75, 77–84,
87–89, 92–93, 96, 100, 107, 111, 113, 214, 334,
542, 567, 571, 579, 581; New Nationalism, 575
- Root, Elihu, 113
- Roper, Daniel C., 616
- Rosenberg, Ethel, 643
- Rosenberg, Julius, 643
- Rosenberg, Nathan, 121, 670
- Rosenwald, Julius, 114–15, 180, 199
- Rosling, Hans, 596
- Ross, Edward A., 52–53, 564–65
- Roszak, Theodore, 484–85
- Rougier, Louis, 458
- Royal Automobile Club, 124
- rubber, 13, 238, 284, 288–91, 295, 314, 321–22,
353–54, 621–22; Buna S, 289, 291; butyl
rubber, 289
- Rublee, George, 579
- Rudolph, Frederick, 616
- Rumelt, Richard, 410
- Rumsey, Mary, 618
- Russell Sage Foundation, 341
- Russia, 25, 104, 126, 129, 134–35, 137, 210, 311,
375, 580; Archangel, 126; Russian civil war,
126. *See also* Soviet Union
- Rust, John, 645
- Saab Automobile AB, 445
- Sabotage Act (1918), 110

- Saez, Emmanuel, 537
 Safeway, 347
 Saipan, 310
 Salter, Arthur, 296
 Samsung, 500
 Samuelson, Paul, 318, 587, 626
 San Bernardino, California, 385
 Sandel, Michael, 548
 Sanders, Jerry, 497
 San Diego, California, 305, 307, 451
 Sandilands, Roger, 629
 San Francisco, California, 2, 33, 91, 125–26, 211, 261, 296, 361, 375, 485, 534–35, 542, 559, 642, 668; earthquake (1906), 91, 125
 San Jose, California, 491
 Sanyo Electric Co., Ltd., 449–51, 491, 654
 Sarajevo, 102
 Sarnoff, David, 9, 167, 169, 171, 173, 373–76, 378–81, 448, 453–54
 Sarnoff, Robert, 454
 Saudi Arabia, 433, 669
 Saunders, Stuart T., 462
 Savage Arms, 627
 Savannah, Georgia, 415
Saving a Continent (Charles Mee), 328
 Saxbe, William, 474
 SBC Communications, 476
 Schacht, Hjalmar, 190
 Scheiber, Harry, 109
 Scheidel, Walter, 7
 Schenectady, New York, 257
 Schiff, Jacob, 67, 78, 568, 577
 Schlesinger, Arthur M. Jr., 182, 551
 Schmoller, Gustav, 581
 Schultz, Theodore, 567
 Schumpeter, Joseph A., 21–22, 44, 182, 391–92, 483, 517, 519, 536, 548, 549–50, 556, 566, 597, 602, 611, 626, 668
 Schwab, Charles, 105, 113, 183, 580
 SCI Systems, 493
Science—The Endless Frontier (Vannevar Bush), 323
 scientific management, 16–17, 47, 55–57, 63, 105, 121, 160, 197, 212–13, 311, 566–67
 Scott, James C., 224–25
 Scott, MacKenzie Bezos, 512
 Scott, Michael, 491
 Scott, Peter, 232
 Scott, Tom, 63
 Scottish Enlightenment, 51, 566
 Seagate Technology, 491
 Sea Girt, New Jersey, 89, 99
 Sea-Land, 467, 650
 Sears, Roebuck and Company, 4, 114, 180–81, 185, 280, 283, 451, 493, 508, 512, 592, 596–97
 Seattle, Washington, 3, 134–35, 304, 308, 493, 542
 Second Great Awakening, 51
 “Second Thirty Years War,” 7
 Securities Act (1933), 219–20
 Securities Act Amendments (1975), 420
 Securities and Exchange Commission (SEC), 220–221, 223, 420, 607; May Day edict, 420
 Securities Exchange Act (1934), 220–21, 223, 235
 Sedition Act (1918), 110
 Seeger, Pete, 386
 segregation, 89, 109, 183, 399, 566, 642; red-lining, 592
 Selden, George B., 123
 Selective Service Act (1940), 314
 selective service system. *See* conscription
 Selgin, George, 557, 601
 Seligman, E. R. A., 80
 Seligman, Joel, 215, 221
 Sematech, 498–99
 Semiconductor Chip Protection Act (1984), 500
 semiconductor industry, 13, 359–63, 369, 379, 471, 486–88, 495–501, 637, 662; integrated circuit, 362–63, 450, 486; “McNamara depression,” 363; Merchant semiconductor firms, 487, 495, 497, 662; microprocessor, 14, 487–88, 491, 493–95, 499–501, 503–4, 510, 524, 661; photolithography, 496–97; planar process, 23, 362, 486, 495, 510; transistors, 13, 23, 322, 359–63, 366, 369, 411, 415, 450, 453, 476, 485–86, 495, 500, 628, 637

- Semiconductor Industry Association, 497
 Semiconductor Trade Arrangement, 498, 500
 semiotics, 57–58, 614
 Seoul, South Korea, 325
 separation of ownership from control, 8,
 20–21, 61, 184–85, 211–13, 392, 409–10
 September 11 terrorist attacks, 520–21
 Serling, Rod, 387
 Servan-Schreiber, Jean-Jacques, 405, 646
 Servicemen's Readjustment Act (G.I. Bill,
 1944), 384, 641
 Shackle, G. L. S., 344
 Shah of Iran, fall of, 433
 Shannon, Claude, 322–23
 Sharp Corporation, 450
 Shearson Lehman Brothers, 424
 Shell Oil, 70
 Sheraton Corporation, 411
 Sherman, John, 26, 40–43, 561
 Sherman Antitrust Act (1890), 14–18, 24,
 39–43, 59, 68–70, 75–84, 87–88, 98, 161–62,
 167, 172, 240, 270–73, 333–34, 336–37, 340,
 342, 344, 347–48, 365, 367, 372–73, 381, 389,
 451, 516–17, 572, 574, 586, 595, 631; Hepburn
 Amendments, 81–82, 84, 98, 573
 Sherman Silver Purchase Act (1890), 40
 shipbuilding, 105, 111–13, 163, 197, 244, 277–78,
 282, 580, 619; aircraft carriers, 277, 296;
 battleships, 112, 277–78, 296, cruisers, 112,
 296; destroyers, 112, 126, 277, 296; Eagle
 boats, 126, 155, 585; Liberty ships, 296–98,
 320, 467, 623; merchant ships, 112–13,
 125–26, 296–98; Victory ships, 467. *See also*
 submarines
 Shockley, William, 263, 322, 359, 361, 485–86
 Shockley Semiconductor Laboratories, 361,
 486
 Shopping Bag (grocery chain), 347
 Shriver, Sargent, 401
 Shugart Associates, 488, 491
 Shultz, George, 416–17
 Siemens AG, 455
 Sikorsky Aircraft, 252, 257
 Silicon Graphics, Inc., 510
 Silicon Valley, 65, 457, 485–87, 495, 499, 510,
 534, 666
 silver, 27, 40, 43, 46, 52, 206, 557, 603
 Silver Spring, Maryland, 294
 Simon, Herbert, 149, 393, 539, 590; bounded
 rationality, 149, 590; cognitive comparative
 advantage, 539
 Simons, Henry C., 479–80
 Simons, Kenneth, 145, 591
 Sinclair, Upton, 59, 203
 Six Flags amusement parks, 462
 Skidelsky, Robert, 317
 Sklar, Martin, 79, 88
 Skowronek, Stephen, 563
 skyscrapers, 2, 105, 179, 395, 397, 469, 596, 656
 Sloan, Alfred P. Jr., 9, 148–54, 165, 199, 204,
 245, 247, 249, 265, 281, 348–50, 353, 458,
 590, 602, 612, 619–20
 Sloan, Alfred P. Sr., 148
 Smaller War Plants Corporation, 286, 318
 Smith, Adam, 3, 5, 51, 75, 85, 160, 315–16, 344,
 384, 480, 519, 539, 562, 572, 592, 624
 Smith, Al, 204–5, 265
 Smith, Frederic, 120, 123, 588, 658
 Smith, Frederick W., 23, 471, 534, 658
 Smith, Herbert Knox, 81
 Smith, Howard K., 307
 Smith, Jack, 511
 Smith, Roger, 445
 Smith Act (Alien Registration Act of 1940),
 643
 Smith-Corona Typewriter Company, 623
 SMS Group, 431
 Snap Inc., 550
 Snyder, John Wesley, 326–27, 629
 Sobel, Robert, 454
 Social Gospel Movement, 49–51, 88, 210,
 563–64, 619
 socialist calculation debate, 647
 Socialist Party, 87, 89, 110, 275
 Social Science Research Council (SSRC),
 2, 460
 Social Security System, 265, 365, 394, 398,
 400, 616, 644

- Society of Automobile (later Automotive) Engineers, 114, 124, 125, 585
- Soil Conservation and Domestic Allotment Act (1936), 230
- Solow, Robert, 514
- Sombart, Werner, 7, 21, 556, 566, 592
- Song, Mary Lou, 511
- Sony, 449–53, 525. *See also* Tokyo Tsushin Kogyo
- Sorenson, Charles, 301–3, 305–7, 311, 353, 584, 623
- South Bend, Indiana, 338
- South Charleston, West Virginia, 111
- Southern Pacific Railroad, 67–68, 474
- Southern Railway & Steamship Association, 33
- South Improvement Company, 34–35, 37
- South Portland, Maine, 296
- Southwest Airlines, 470
- South Windham, Connecticut, 604
- Soviet Union, 137, 210, 311–13, 315, 325, 329, 341, 389–90, 392, 426, 521, 554, 582, 619, 629; Magnitogorsk steel works, 311; *Sputnik*, 358, 505; Stalingrad., 311. *See also* Russia
- Spanish-American War, 74
- Speer, Albert, 313
- Spencer, Herbert, 565
- Sperlich, Hal, 443
- Sperry Rand, 366, 371, 454. *See also* Remington Rand
- spinoffs, 120, 122, 237, 252, 371, 423, 440, 486–88, 531, 615, 661; “Fairchildren,” 487
- Sporck, Charles E., 486–87, 497
- Spotify, 533, 544, 549
- Sprague Electric Railway and Motor Car Company, 64
- Springfield Armory, 124, 298
- Spring Hill, Tennessee, 444
- Spring Rice, Cecil, 103
- Sprint Corporation, 474, 508
- SRI International, 501, 506
- Staggers, Harley, 464
- Staggers Rail Act (1980), 464
- Stalin, Joseph, 311–13, 341, 458, 626, 631
- Standard and Poor’s 500 index, 520
- Standard Gas and Electric Company, 65
- standardization, 8–9, 14, 56, 66, 79, 104, 114–15, 117, 121, 123–26, 130–31, 133, 148, 156–57, 160–62, 165, 169, 173, 180–82, 197, 221, 233, 235, 243, 250–51, 259, 261, 283, 285, 297, 301, 303–4, 336–37, 339, 351, 354–55, 365, 370, 373, 376–77, 379–81, 385, 409, 420, 452–53, 468, 474, 487–89, 491, 493–94, 500–503, 508, 513, 516–17, 527, 530, 543, 560, 592, 594, 597, 615, 664, 668; interchangeable parts, 124, 297, 299, 303, 309; International Standards Organization, 468
- standard of living, 10, 160, 178–79, 319, 364, 383, 537–38, 564
- Standard Oil, 20, 34–35, 37–38, 42–43, 45, 63–64, 69–73, 78–80, 87, 236, 543, 560–61, 570; Exxon, 409; “oil war,” 35; Socony-Vacuum (Mobil), 240; Standard of California, 70, 337; Standard of Indiana, 69, 239; Standard of New Jersey, 239, 265, 289–90, 292, 611, 621; Standard of New York, 240; Standard of Ohio, 37
- Standard Oil Co. of New Jersey v. United States* (1911), 72, 82
- Standard Oil Co. v. United States* (Standard Stations case 1949), 337, 339
- Stanford, Jane, 52, 564
- Stanford, Leland, 52
- Stanford Linear Accelerator Center, 489
- Stanford University, 50, 52, 106, 475, 485, 506, 508, 511, 565
- “Star-Spangled Banner,” 110, 582
- state capacity, 48, 60, 202, 563
- State, US Department of, 89, 109, 201, 328, 389, 498
- Steagall, Henry B., 219, 601
- steel industry, 13, 22, 30, 45, 63, 74, 77, 104–6, 111, 135–36, 140, 146, 243–45, 284–86, 295–96, 427–32, 448, 562; basic-oxygen technology, 346, 427–28, 430; Bessemer process, 63, 244, 568; minimills, 430–31; open-hearth process, 105, 427–28, 430; rolled steel strip, 243–44, 427

- Steil, Benn, 327, 629
 Stein, Herbert, 327
 Steinmetz, Charles Proteus, 257
 Stellantis Corporation, 2
 Sterling, Ross, 242
 Stetson, Francis Lynde, 61, 77, 80, 143, 572–73
 Stettinius, Edward R. Jr., 245, 280, 283, 612
 Stettinius, Edward R. Sr., 103–4, 113–14, 147, 245, 579
 Stevens, John Paul, 345
 Stevens, William H. S., 17, 85
 Stewart, Potter, 634
 Stigler, George, 6, 345, 417, 479–80, 546–47
 Stillman, James, 95, 577, 606
 Stimson, Henry L., 280, 284, 289–90
 Stine, Charles M. A., 238
 St. Lawrence River, 227
 St. Lawrence Seaway, 429
 St. Louis, Missouri, 273, 304, 398, 474
 Stockholm, Sweden, 126
 stock market crash of 1929, 2, 185–86, 192–93, 197, 201, 223, 247, 598–600, 607
 Stone, Harlan Fiske, 162, 230, 611
 Storrow, James J., 143
 St. Paul, Minnesota, 364, 602
Strategy and Structure (Alfred Chandler), 590
 Strick Holding Company, 462
 Strong, Benjamin, 93, 137, 141, 188–91, 193–94, 209, 577, 587, 600
 Strossen, Nadine, 671
 Stout, William B., 252
 Studebaker, 158, 304, 356, 432
 submarines, 105, 107, 294, 297–98, 310, 580, 627
 suburbanization, 179–81, 336–37, 346–47, 383–86, 390, 397–98, 401, 432, 443, 642, 645; Bungalow Movement, 179–80
 Sugar Equalization Board, 115
 sugar trust, 37, 561
 Sumitomo, 329
 Sumner, William Graham, 57, 565
 Sun Microsystems, 504
 Sunnyvale, California, 489
 Sun Oil Company, 240–41
 “sunshine” commissions, 35, 77–78, 100, 219–20
 Supply Priorities Allocation Board, 284, 621
 Supreme Court (US), 12, 30–31, 43, 53–54, 57, 68–73, 76, 81–82, 86, 110, 116, 161–63, 207, 221, 223, 230, 240, 259, 266–67, 272–73, 288, 292, 333, 335, 337, 340–42, 345–48, 350, 367, 373–74, 380, 416, 452, 458, 469, 473, 478, 481–82, 573, 582, 593–94, 607, 611, 618, 630, 633–35, 638–39, 656, 658
 Surface Transportation Board, 657
 Suzuki Motor Corporation, 433
 Swift, Gustavus, 6, 31, 44, 79
 Swift & Co., 42, 79
 Swope, Gerard, 227, 265
 Sylvania Electric Products, Inc., 294, 361, 451, 481–82
Symbols of Government, The (Thurman Arnold), 270
 Symington, Stuart, 334
 Synertek, Inc., 491
 Syosset, New York, 486
 Taft, Charles, 74
 Taft, Robert, 275
 Taft, William Howard, 16, 67, 73–74, 76, 82–83, 87–89, 93, 95–96, 106, 161–62, 215, 258, 275, 365, 566, 573–75, 586
 Taiwan, 450–51, 654
 Tandon Corporation, 493
 tariffs, 16, 24–26, 31, 40–42, 74, 76, 87, 89–90, 139–40, 184, 198, 226, 265, 332, 427, 429, 441, 466, 468, 498, 557, 561, 563, 571, 575, 662; “chicken tariff,” 653; Emergency Tariff, 139, 141; Fordney-McCumber Tariff, 140, 631; General Agreement on Tariffs and Trade, 426; Hawley-Smoot Tariff, 201–2, 631; McKinley Tariff, 40–41, 43, 561; Payne-Aldrich Tariff, 87; Reciprocal Trade Agreement Act (1934), 265; Underwood Tariff, 90
 Taussig, Frank, 80, 86

- taxes, 7, 25–26, 29, 31, 37–38, 90, 117–18, 146, 201–2, 204, 274, 324, 350, 398, 400, 406, 408, 424, 427, 432, 435, 537–38, 561, 563, 581, 584, 598, 616, 631, 636–37, 639, 644, 646, 648; alcohol, 204, 209; capital gains, 395, 412; chain stores, 336–37; consumption, 187, 197; corporate income, 118, 324, 326, 394–95, 424; dividends, 412, 424; Earned Income Tax Credit, 401; excess-profits, 7, 118, 183, 281–82, 296, 324, 326, 394, 584; fraud, 216, 333; income, 90, 118, 183–84, 197, 204, 209, 216, 265, 326, 383, 394–95, 400, 406, 424; intercorporate dividends, 223; interest earned abroad, 408; Laffer Curve, 561; margarine, 59; Mellon reforms, 183–84, 197; oil-depletion allowance, 432, 651; payroll, 394–95, 644; property, 138; rapid-depreciation provisions, 295; short-selling profits, 214; state bank notes, 90; sumptuary, 118; tax exemption, 118, 183, 598, 639; “taxless finance,” 29
- taxi medallions, 464, 534–35, 668–69
- Taylor, Frederick Winslow, 55–57, 73, 121, 311, 384–85, 438, 580
- Taylor, Myron C., 245, 296
- Taylor, Robert, 506
- Teagle, Walter, 239, 265
- Teal, Gordon, 359
- Teapot Dome scandal, 240, 611
- Telecommunications Act (1996), 508, 664
- telegraph, 4, 23, 30–31, 53, 63, 66, 109, 134, 166, 169, 170–72, 523, 563, 569, 594
- telephone (telecommunications) industry, 53, 65–67, 109, 165–67, 169, 171–72, 260–63, 359–60, 375, 410, 415, 473–78, 490, 496, 504, 506, 508–9, 523, 539, 563, 569, 615–16; microwave transmission, 322, 474; mobile (cellular) telephony, 171, 476–78, 637; smartphone, 23, 524–30, 533, 536, 661, 667, Symbian Operating system, 527; 3G and 4G technology, 666; 5G technology, 533
- television, 322, 341, 373, 375–81, 386–90, 407, 415, 448, 450–53, 455, 459, 472–73, 477, 482, 490, 501–2, 531, 533, 543, 548, 596, 627, 639–40, 667; cable (CATV), 415, 472–73, 533; UHF, 472–73, 476, 658
- Temin, Peter, 598, 600
- Temporary National Economic Committee (TNEC), 269, 272
- Tennessee Coal, Iron and Railroad Company, 93, 576
- Tennessee Valley Authority (TVA), 112, 224–25, 262, 607
- Terman, Frederick, 485
- Terrell, Paul, 490
- Tesla, Inc., 558, 653
- Tesla, Nicola, 168, 259
- Texas Company (Texaco), 70, 631
- Texas Instruments (TI), 361–62, 411, 488, 496, 499, 637
- Texas National Guard, 242
- Texas Oil & Gas Corporation, 429
- Texas Railroad Commission, 242
- textile industry, 25, 60–61, 161, 436–37, 568, 633
- Textron Inc., 411, 434
- Thatcher, Margaret, 656
- Theory and Practice of Oligarchical Collectivism, The* by Emmanuel Goldstein (fictional tract), 644
- Theory of the Business Enterprise, The* (Thorstein Veblen), 567
- Theory of the Leisure Class, The* (Thorstein Veblen), 57, 567
- Thomas, Norman, 275
- Thompson, Huston, 219, 222
- Thomson, Elihu, 654
- Thomson, J. Edgar, 62
- Thomson-Houston, 64, 257
- Thomson, S. A., 454
- Thorelli, Hans, 39–40
- Thornton, Charles B. “Tex,” 354, 411, 413
- Thornton, Henry, 600
- Three Mile Island incident, 455
- TikTok, 550
- Time* (magazine), 222, 229, 303, 510
- Tinian, 310
- Titanic*, RMS, 166, 580

- Tizard, Henry, 293–94
tobacco industry, 20, 25, 71–74, 231, 424–25, 467
Tokyo Tsushin Kogyo, 450. *See also* Sony
Toledo, Ohio, 116
Tolman, Richard C., 293
Tomlinson, Raymond S., 507
Toronto Star Weekly, 112
Toshiba Corporation, 450, 497, 526
Townsend, Arthur J., 243
Toyota, Kiichiro, 436–37, 440
Toyota, Sakichi, 436, 440
Toyota Automatic Loom Company, 437
Toyota Motor Corporation, 352, 433, 436–41, 443–45, 449, 653; lean production, 438, 444
trade associations, 9, 12, 117, 124, 159–62, 164, 227–28, 254, 264, 280, 282, 286, 497, 525, 621
Trading with the Enemy Act (1917), 110, 206
tragedy of the commons, 174–77, 241, 397–98; tragedy of the anticommons, 169
Tramiel, Jack, 489
transaction costs, 5, 15, 35, 58–59, 65, 86, 90, 142, 151, 161, 236, 241, 253, 271–72, 282, 286–87, 388, 468, 480–81, 486, 510–13, 523, 533, 535, 546–47, 558, 572, 632; dynamic transaction costs, 6, 44, 60, 64, 120, 122, 486, 631, 660
Transamerica Corporation, 411, 605
Transcontinental Air Transport, 252
Transcontinental & Western Air (later Trans-World Airlines, TWA), 256–57, 469, 614
Trans-Missouri Freight Ass’n (United States v.) (1897), 76, 347, 618
Transportation Act (1920), 164
Transportation, US Department of, 441, 463
Treasury, US Department of, 25–26, 40, 92–96, 102, 113, 116, 119, 134, 137, 139, 141, 163, 183, 188, 197, 200, 208, 267, 283, 287, 302, 325–28, 404, 407, 418, 434, 445, 523, 578, 583, 587, 599, 603–4, 617, 628, 647; Bureau of Internal Revenue, 333; Exchange Stabilization Fund, 208; Internal Revenue Service (IRS), 353, 639; Plaza Accords, 445; Procurement Division, 283, 622, Treasury-Fed Accord, 325–27
Treaty of Versailles, 273–74, 276
Trenton Potteries Co. (United States v.) (1927), 164
Triffin, Robert, 404–5
Triple Entente, 103
Trippe, Juan, 257
Troesken, Werner, 42
Trotsky, Leon, 352, 644
trucking industry, 12, 250–51, 335, 460, 464–69, 471, 534, 539, 609, 613–14
Truman, Harry S., 289, 325–26, 328–30, 332, 336, 343, 357, 380, 396, 427–28, 628, 630, 633, 635
trusts, law of, 29, 37–39, 421, 467, 558, 560
Truth about the Trusts, The (John Moody), 61
Tugwell, Rexford Guy, 11–12, 101, 125, 210, 226–28, 266, 311, 316, 479, 604, 608, 753
Tullock, Gordon, 534; transitional-gains trap, 534–35
Tulsa, Oklahoma, 305, 307
tunneling, 62, 67, 152, 212, 223, 336, 412, 414, 486, 495, 589
Turing, Alan, 323, 637
Turner, Donald F., 18, 345, 414–15, 478–79, 481–82, 659
Turner, Ted, 473
Tuttle, Harry, 473
Tuxedo Park, New York, 293
Twain, Mark, 666
Twelve O’Clock High (1949 movie), 311
Twentieth Century-Fox Film Corporation, 341
Tydings, Millard, 336
Tytus, John Butler, 243
Uber Technologies, Inc., 511, 534–36, 668; UberX service, 536
Underwood, Oscar, 112
Unilever, 331
Union Carbide Corporation, 2
Union Pacific Railroad, 67–68, 291
United Aircraft and Transportation Corporation, 252, 256–57, 421

- United Airlines, 265, 469
- United Fruit, 170, 594
- United Kingdom, 9, 25, 27–30, 32, 37, 44, 55, 60, 75–76, 91, 102–5, 108, 113, 124, 129–31, 139, 147, 166–69, 189–91, 196, 198, 219, 262, 273, 278–79, 281, 283, 288–89, 293–94, 296–97, 299–300, 302–3, 305–6, 310, 312, 322, 327–31, 357–58, 366, 375, 408, 436–37, 485, 506, 509, 557–58, 568, 579–81, 603, 619, 622–24, 637, 656; Admiralty, 103; “Bizonia,” 329; British Bomber Command, 310; British Commonwealth, 202; British Purchasing Commission, 299, 302; British Shipping Mission, 296; Conservative Party, 630; Dagenham, 624; Enfield Armoury, 579; Labour Party, 330, 630; Lancashire, 25, 567; Liberal Party, 630; Northern Ireland, 310; Parliament, 28, 330; Royal Air Force, 310; Treasury, 103; War Office, 103
- United Motors Corporation, 144, 146, 148, 589, 591
- United Nations Security Council, 325
- United Paramount Theatres, 388
- United Parcel Service (UPS), 6, 471, 555
- United Repeal Council, 204
- United Shoe Machinery Corp. (United States v.)* (1968), 342, 351, 368, 371
- United Shoe Machinery Corporation, 19, 341–43, 365, 368, 524, 572, 574–75, 633
- United States Atomic Energy Commission, 323
- United States Housing Authority, 396
- United States Railroad Administration, 116, 164, 583
- United States Railway Association, 463
- United States Rubber Company, 236, 289
- United States Shipping Board, 112
- United States Steel Corporation, 19, 45, 61, 63–64, 77–79, 83, 87, 93, 96, 104–6, 111, 142, 162–63, 243–45, 277, 280, 296, 346, 387, 414, 428–31, 543, 562, 573, 576, 580, 582, 612; Federal Shipbuilding and Drydock Company, 277, 296; USX Corporation, 429
- United States Wholesale Grocers Association, 335
- United Technologies, 421, 649; Carrier division, 649
- Universal Oil Products Company, 239, 611
- University of Birmingham, 293
- University of California, Berkeley, 489
- University of California, Los Angeles, 506
- University of California, Santa Barbara, 506
- University of Chicago, 50, 57, 97, 189, 326, 477, 559
- University of Freiburg, 329
- University of Illinois, 509–10, 515
- University of Manchester, 637
- University of Michigan, 50
- University of Nebraska, 564
- University of North Carolina, 281
- University of Notre Dame, 238, 614
- University of Oxford, 294
- University of Pennsylvania, 322–23, 364; Moore School, 363; Wharton School, 210
- University of Tennessee, 225
- University of Texas, 512
- University of Utah, 506
- University of Wisconsin, 50, 564
- Untermeyer, Samuel, 96, 98–99, 162, 214, 219, 420, 580
- US Food Administration, 115, 118, 139, 203
- US Fuel Administration, 116, 118, 136
- US Grain Corporation, 115
- Usselman, Steven, 364, 369
- utilities, 11, 65, 80, 160, 185, 189–90, 212, 222–25, 251, 253, 410, 607
- Vacuum Corporation, 240
- Vail, Theodore, 9, 66, 166, 260–61, 473
- Vandenberg, Arthur H., 276
- Vanderbilt, Cornelius, 462
- Vanderlip, Frank A., 94–95, 105, 215, 577
- van Gogh, Vincent, 380
- Van Sweringen, Mantis James, 185, 436
- Van Sweringen, Oris Paxton, 185, 436
- Vargas Llosa, Mario, 656
- Varian, Russell, 485

- Varian, Sigurd, 485
 Vatican, 266
 Vaught, Edgar Sullins, 632
 Veblen, Thorstein, 57–58, 114, 210, 212,
 269, 386, 391–92, 566–67, 597, 617, 642;
 conspicuous consumption, 181–82
 Venezuela, 428, 433
 Venona Project, 389, 629
 venture capital, 11, 143, 234, 243, 245, 252,
 375, 471, 474, 492, 504, 511, 520, 531, 550
 Victory Loan, 118, 134
 Vietnam War, 8, 22, 372, 402, 405–6, 409,
 415, 417, 426, 428, 484, 606
 Vietor, Richard H. K., 419, 574
 Villard, Henry, 64
 Vincent, Jesse, 130, 132, 302
 Viner, Jacob, 480
 Vinson, Fred M., 343
 Vinson-Trammell Act (1934), 277, 619
Visible Hand, The (Alfred Chandler) ix, 1–3,
 101, 404, 553
 Visteon Corporation, 448
 Volcker, Paul, 418, 433–34
 Volkswagen, AG, 432–33
 Volstead Act, 202
 von Karman, Theodor, 614
 von Neumann, John, 322, 363–64, 637
 Von's Grocery, 347
Von's Grocery Co. (United States v.) (1966),
 347, 643
 Vorhees, Enders M., 612
 Voting Rights Act (1965), 399

Wabash, St. Louis & Pacific Railway
 Company v. Illinois (1886), 31, 558
 Wagner-Steagall Act (1937), 396
 Walcott, Frederic, 214
 Wales, Jimmy, 530
 Wallace, Donald H., 630
 Wallace, Henry A., 206, 226–27, 230, 284, 617
 walled gardens, 509, 526, 528, 530
 Walmart Inc., 513–514, 545
 Walsh-Healey Public Contracts Act (1936),
 278
 Walt Disney Company, 533: Disneyland,
 388–89
 War, US Department of, 109, 113–14, 117, 128,
 130, 132, 134, 241, 254, 278–80, 282, 284–85,
 289–90, 302, 304, 586
 Warburg, Paul, 94–95, 98, 577–78
 War Finance Corporation, 139, 196, 588
 War Industries Board, 9, 12, 115, 117, 125, 127,
 139, 182, 226, 228, 261, 264, 279–80, 282,
 594; Conservation Division, 125; General
 Munitions Board, 115; Munitions Standards
 Board, 115–16; Price Fixing Committee,
 117–18; Priorities Division, 117
 Warm Springs, Georgia, 205, 224
 Warner, Charles Dudley, 666
 Warner Bros. Pictures, Inc., 341
 War on Drugs, 402, 645
 War on Poverty, 400–402, 669; Aid to
 Families with Dependent Children,
 400
 War Production Board, 284–86, 288, 290–91,
 295, 309, 318, 353, 635
 Warren, Earl, 343, 346, 348, 399, 478
 Warren, George F., 207–8
 War Resources Board, 280
 War Revenue Act (1917), 118
 War Trade Board, 592
 Warwick Electronics, 451
 Washington, Booker T., 89
 Washington, DC, 17, 23, 93, 103, 108, 112–13,
 127, 130, 134, 136, 139, 165, 188–89, 193–94,
 196, 208, 216, 240, 261, 267, 268–69, 271,
 280–81, 283–84, 291, 302, 318, 326–27,
 379–80, 388–89, 393, 396, 403, 417, 428,
 434, 460, 463, 475, 477, 485, 497, 506, 517,
 623–24, 631, 641
 Washington and Lee University, 97
Washington Post, 600, 641
 Waterman Steamship Corporation, 467
 Watson, Thomas A., 260–61, 616
 Watson, Thomas J. Jr., 364–66, 368–71
 Watson, Thomas J. Sr., 265, 364–65, 368,
 586, 616
Wealth of Nations (Adam Smith), 539

- weapons manufacture, 276, 281; Bofors gun, 299–300; Browning machine guns, 299; Colt .45, 298; Enfield, 104, 580, fuzes, 103, 294, Garand M1, 298, 623; M2 tank, 300; M3 tank, 300; M4 General Sherman, 300–301, 313; Oerlikon automatic cannon, 299, 623; rifles, 103; Russian Model 95, 104; Soviet T-34 tank, 312–13, 325; Springfields, 104, 298, 580, 623; V-1 rocket, 294, 621; Vickers machine guns, 579
- Weber, Max, 73, 592
- Weinberger, Caspar, 475
- Welch, Jack, 454, 456–58
- Wells, H. G., 75
- Wernerfelt, Birger, 631
- Westbury, New York, 384
- Western Air Express, 252
- Western Electric Company, 66, 169, 171–72, 260–62, 359–61, 410, 450, 475, 539, 594, 615, 622
- Western Union, 67, 172, 569
- Westfield Manufacturing Company, 584
- Westinghouse, George, 65, 259, 455, 568
- Westinghouse Electric Company, 65, 169–73, 176, 201, 248–60, 258, 291, 299, 357, 361, 363, 375, 454–57, 457, 568, 623; International Radio Telegraph Company, 169; Westinghouse Credit Corporation, 455
- Weston-Mott, 142
- W. F. Stewart Company, 143
- Wheeler, Wayne B., 203
- whiskey industry, 42. *See also* Prohibition
- White, Edward Douglass Jr., 68, 72, 76–77, 82
- White, Harry Dexter, 327–28, 629
- White, Lawrence J., 482
- White, William Allen, 195
- White Consolidated Industries, 455
- Whitman, Margaret C., 511
- Whitney, Richard, 214, 605
- Whitney, William C., 119, 123
- Whitney, Willis R., 257–59
- Whyte, William H., 390, 420, 642
- Wichita, Kansas, 308
- Wickersham, George W., 67, 95, 204, 574
- Wiebe, Robert, 27, 88
- Wiener, Norbert, 322, 484
- Wikipedia, 530
- Wiley, Harvey Washington, 59–60
- Willard, Daniel, 114
- Willard, Frances, 203
- William Volker Charities Fund, 460
- Williams College, 51, 115
- Williamson, Jeffrey, 7
- Williamson, Oliver E., 5, 18, 165, 479, 590
- Willis, H. Parker, 97, 599
- Willis-Graham Act (1921), 165
- Willkie, Wendell, 225
- Willys-Overland, 158, 356
- Wilmington, Delaware, 1, 147
- Wilson, Charles Edward, 635
- Wilson, Charles Erwin, 349–50, 352, 394, 423, 635, 644
- Wilson, James Q., 402
- Wilson, William Julius, 398
- Wilson, Woodrow, 9, 17, 38, 88–90, 97–100, 106–13, 116–18, 132, 136–37, 139–40, 161, 163, 168, 170–71, 182–83, 261, 266, 276, 575–76, 578–79, 581, 586, 670
- Winchester Repeating Arms Company, 104, 298, 623
- Winter, Sidney G., 174
- Winton Engine Company, 249
- Wireless Specialty Apparatus Company, 594
- Wolfe, Tom, 644–45
- Wolff, Stephen, 507
- Women's Christian Temperance Union, 59, 203
- Wood, General Robert E., 180, 280, 283
- Woodbridge, New Jersey, 309
- Woodring, Henry H., 279–80
- Woodrow Wilson Dam, 224
- WordPress, 531
- Works Progress Administration, 251, 278, 619
- World Bank, 328
- WorldCom, 520
- World Series (1931), 202
- World Trade Organization, 521

- World War I, 7–9, 13, 85, 94, 101–35, 136–41, 146, 149, 155–71, 178–81, 183–84, 188–89, 195–96, 202–4, 209–10, 215, 228, 237, 239, 241, 245, 249, 251–52, 254–55, 261, 264, 275–76, 279–80, 282, 284, 286, 296–97, 302, 318, 325–26, 351, 373, 399, 426, 458–59, 461, 478, 565, 575, 579–84, 594, 641; Battle of the Argonne, 229; Battle of the Somme, 108
- World War II, 4, 6, 8, 12, 18, 20, 101–2, 111, 133, 145, 154, 163, 178, 187, 200, 208, 212, 225, 239, 241, 249, 257–59, 263–315, 318–34, 337, 346, 349–51, 354–55, 357, 364–65, 370, 372, 379–80, 382–84, 391, 394–95, 397, 399, 403–6, 409–10, 413–14, 425–27, 435–36, 449, 459, 472, 478, 485, 520, 547, 554, 567, 582, 585, 591, 601, 611, 617, 619–20, 622–24, 625–30, 637, 640–41, 654; Battle of the Bulge, 294; D-Day, 311; V-E Day, 318, 354; V-J Day, 318
- Wozniak, Stephen, 489–91, 502
- Wright, Frank Lloyd, 182
- Wright, Gavin, 74, 178
- Wright, Orville, 128–29, 203, 625
- Wright, Theodore P., 624–25
- Wright, Wilbur, 128–29, 625
- Wright Company, 128
- Wu, Tim, 376, 547, 549
- Wyzanski, Charles, 342
- Xerox Corporation, 501, 641
- Xerox Palo Alto Research Center (PARC), 501, 507
- Yahoo! Inc., 511, 528
- Yale University, 50, 57, 353, 420, 471, 565, 614; Yale Law School, 17, 269, 272; Yale School of Forestry, 241
- Yandle, Bruce, 672; bootleggers and Baptists, 672
- Yang, Jerry, 511
- Yankee Network, 374–75, 378
- Yasuda, 329
- Yates, Richard, 390
- Yavitch, Dr. Kurt (fictional character), 597
- Yeager, General Charles E., 358
- Yeager, Mary, 573
- Yom Kippur War, 433
- Yonkers, New York
- Yorktown*, USS, 277
- Yorktown Heights, New York, 369
- Young, Allyn, 100
- Young, Owen D., 168–70, 199
- Young, Roy, 191
- Youngstown Sheet and Tube, 346, 429–30
- YouTube, 531, 533, 536, 544
- Ypsilanti, Michigan, 305–6
- Zeitlin, Jonathan, 312
- Zenith (fictional city), 181–82
- Zenith Radio Company, 174, 176, 381, 448, 451–52, 493
- Ziebarth, Nicolas L., 232
- Zillow Group, Inc., 642
- Zilog, Inc., 661; Zilog Z80, 661
- Zuckerberg, Mark, 532, 545
- Zworykin, Vladimir, 375–76