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Alan Greenspan and Adrian Wooldridge, *Capitalism in America: A History* (New York: Princeton University Press, 2018), pp. 486, $35 (hardcover). ISBN: 9780735222441.
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Authors Alan Greenspan and Adrian Wooldridge (hereinafter GW) have written a very appealing book about the evolution of capitalism in America from its founding to the present day. With its thirty-two pages of pictures, the intended audience is tilted toward the popular side, although scholars may benefit from such original contributions as the data appendix, reflecting mostly the creation of certain macro variables from earlier times.

Productivity, creative destruction, and politics are cited as the three organizing themes of the book. Since economic progress can be measured by changes in productivity (output per hours worked), and creative destruction (a proxy for multi- factor or total factor productivity) is described as the driving force of economic progress, the real theme of the book can be reduced to the interplay between creative destruction and politics. Clearly, the authors are not embarrassed by discussion of the old-fashioned concept of "political economy," which some have moved to the background in favor of, say, "economic science."

"Creative destruction" is a term coined by Harvard economist Joseph Schumpeter, and described most fully in his book *Capitalism, Socialism and Democracy* (1942) as quoted by GW, "It is what capitalism consists in and what every capitalist concern has got to live in" (GW, p. 14). Also, creative destruction is "the same process of industrial mutation … that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism" (Schumpeter 1947, p. 83). His own examples included the modern power plant and the airplane.

The authors note that despite his brilliant insights, Schumpeter "didn't … produce a coherent theory of creative destruction" (p. 14). Neither do GW, although they describe possible elements such as more powerful machines, better business processes, less costly transportation, information, and other basic inputs. Schumpeter's perennial "gales of creative destruction" are difficult to assess or forecast, thus coherent Schumpeterian models are difficult to construct.

In describing the book's themes, GW observe, "Politics deals with the fallout of creative destruction" (p. 12). But this comment refers only to the part of the story reflecting the often highly observable, mostly short-run losses from creative destruction that accompany the more significant, often long-term gains. If politics can be taken to refer to the role of government, the creative destruction–politics relation is far more complex than simply acting upon concerns for the negative effects of creative destruction. The other side of causality is that the government can stimulate or hamper the emergence of creative destruction. The authors themselves furnish numerous examples of the dual-sided relation over the centuries.

GW note that in its early years, America was fortunate to absorb the British tradition of limited government. The US Constitution provided for a market across the states unaccompanied by taxes or tariffs. It also developed the strong protection of property and patent rights, all of which helped establish a framework conducive to entrepreneurial creativity. As America began to emerge, that framework expanded, thanks in part to the arguments of President Washington's treasury secretary, Alexander Hamilton, who promoted the concept of an industrial economy characterized by manufacturing, trade, and urban centers supported by a central bank, sound currency, and revenue from customs. Thomas Jefferson, a strict constitutionalist and Washington's secretary of state, did not support these policies at the time but later, as president, shifted his position much closer to Hamilton's as he used the power of the federal government (not expressly stated in the Constitution) to make the purchase of an enormous amount of land from Napoleon Bonaparte. "The Louisiana Purchase was one of the most important things that any American president did to promote national development.… It also gave a fillip to the commercial forces that Jefferson had once feared but now encouraged" (p. 67).

From Washington to Trump, the book examines the policies of many presidents, particularly those who could most closely be linked to some aspect of creative destruction. This review cites some of those linkages and notes periods when other forces seemed to dominate.

Andrew Jackson, a populist defender of the ordinary man, was "[t]he pivotal figure in reconciling the agrarian and industrial visions of America" (p. 68). Years later, the industrial North, with its mass production, infrastructure, and new concepts as reflected in patent filings (by, among others, Abraham Lincoln), defeated the agrarian South, fortified by a single invention—the cotton gin—and slave labor.

Most of the presidents between Lincoln and Theodore Roosevelt were pro-business, who stayed out of the way of the ambitious, creative industrialists of the age, 1865 to 1900. Much of the book, nearly 100 pages, is devoted to that period and slightly beyond. New inventions, as a leading element of creative destruction, led to mass production, mass distribution, horizontal and vertical mergers, and new corporate forms and organizational schemes, all supported by segments of the second industrial revolution to include railroads, steamships, electricity, the telegraph, the telephone, the trans-Atlantic cable, and the combustion engines necessary for autos, trucks, and airplanes. It was, as the book indicates, the time of the triumph of capitalism, and the age of giants.

Giants John D. Rockefeller, Cornelius Vanderbilt, John P. Morgan, Andrew Carnegie, and Henry Ford built enormous empires, hired vast numbers of workers, and improved the average citizen's standard of living. At the same time, they amassed princely fortunes and held down wages and costs more than prices, while some cheated on deals, bribed officials, and, in the case of Carnegie's Homestead Steel Strike, took actions that resulted in the deaths of sixteen men. The rapid fall in farm prices, due in part to increased productivity, pitted a large western agrarian society against the eastern industrialist giants.

Rockefeller's control of big oil approached a monopoly. Railroads, in some instances, could charge monopoly prices. Even Adam Smith saw the need for government regulation that would encourage competitive forces to boost capitalism and inhibit monopolization. It would be difficult to make the case that creative destruction would be enhanced by a hands-off monopoly policy. Thus, a governmental reaction against the giant industrialists could be understood from a populist and capitalist point of view. Theodore Roosevelt respected the contributions of Big Business to modern life but railed against their excess of wealth, corruption, monopolistic practices, and the many negative externalities inflicted upon society.

A measure of how much the tide turned against Big Business and laissez-faire was the near-70% of the vote in the 1912 election attracted by Theodore Roosevelt and Woodrow Wilson, along with the emergence of socialist Eugene Debs. The rise of the power of government during the Wilson regime is reflected in the Federal Reserve Act (giving the Fed regulatory authority over much of the banking community), the Clayton-Antitrust Act, the Federal Trade Commission Act, the Federal Income Tax, the entry into WWI—which necessitated enormous tax increases—and the establishment of various federal agencies.

Europe suffered greatly from the war and became an economic and political wreck. Russia had already converted to communism, Germany lost faith in the capitalist system, and Britain's Labour Party exerted a pull toward socialism. The United States, in the 1920s, moved in the opposite direction toward a weaker government, more pro- business path under the quiet leadership of Warren Harding and Calvin Coolidge, meriting the admiration of GW. Governmental actions were taken to curb the inflow of products and people, taxes were cut a bit, but politics generally played little role in the remarkable economic expansion of the 1920s. Productivity gains and creative destruction emerged full force by way of new products and homes, and the delayed effect of earlier innovations—electricity, the combustion engine, and new business organizations in the form of the multi-divisional firm. For the most part, government paid little attention to escalating stock prices fueled, in part, by the absence of effective margin requirements.

Herbert Hoover, a veteran businessman and politician, took office in early 1929, not long before the stock market crash. In contrast to most accounts, the authors paint Hoover as an activist president who talked at first of tax cuts and early on met with a weak Federal Reserve to discuss the stock market, interest rates, and margin requirements. Yet, Hoover's actions, in contrast with his intentions, as described by GW, were either ineffective or inappropriate. GW acknowledge the Smoot-Hawley Tariff of 1930 as an irresponsible act, yet Hoover, who was not a supporter, caved to Republican pressure and signed it into law. The authors fail to acknowledge that in June 1932, as the economy continued to collapse, a remarkable tax increase was enacted that significantly raised individual, estate, and corporate taxes. Hoover signed the bill into law. They do note that as the depression progressed, the banking system was undercapitalized and overregulated, and that 40% of all banks went bankrupt between 1929 and 1933. Hoover is characterized as a poor politician (not that his policies were wrong) and Roosevelt is characterized as a superior politician (not that his policies were right).

Roosevelt was the activist president Hoover never became, willing to try something even if it was wrong, and the authors argue that his policies often were wrong. Roosevelt, as with his advisers, believed in the power of government and that big government was needed to balance the power of big business. He started many new programs and agencies in his administration's early days and increased federal government spending but clearly overreached in time with his NRA price-fixing, regulatory efforts, and court-packing attempts. His anti-business stance was accompanied by pro-labor actions.

According to the authors, the Social Security bill "was arguably the most consequential piece of U.S. domestic legislation of the twentieth century because it permanently altered the relationship between the government and the people" (p. 247). GW's strongest case against the New Deal is the fact that the 1939 unemployment rate of 17.2% was higher than the 16.3% rate of 1932. The authors, in effect, have little positive to say of Roosevelt's pro-government New Deal policies or John Maynard Keynes's pro-government theories.

Some businesses prospered despite the government-induced uncertainty, and, in a perverse sense, because of it: "The Depression forced companies to think harder in order to make ends meet" (p. 263). Government bureaucracies increased the demand for IBM products, Revlon emerged, and Procter and Gamble prospered via mass radio advertising. Management science helped address cost cutting, and the lower costs helped some industries to grow. Technological advances in phones, airlines, and chemicals helped multi-factor productivity grow almost as fast in the 1930s as in the 1920s.

GW remind us that it was WWII government spending, not Roosevelt's New Deal, that spurred economic recovery. After the end of WWII in 1945, the economy continued to expand by way of pent-up demand, exports to countries severely damaged by the war, and a governmental approach that continued to favor capitalism over the more left-leaning policies of many European countries. The authors appear to judge the GI Bill, with its support of housing and education, favorably but are more reserved in noting the government's permanent shift toward Keynesian demand management as exemplified by the passage of the Employment Act of 1946.

The book labels 1945 to 1970 as "The Golden Age of Growth" (p. 273). Japan and Europe were more customers for American products than competitors for the business. In conjunction with manufacturing, the country led the world in the knowledge and science fields, thereby enhancing productivity. Much basic research was supported by the government by way of the Defense Department and the National Science Foundation. The authors note that the twenty-five-year economic boom provided gains to ordinary Americans at a time of low inequality (p. 295), one of their few observations about American inequality of income or wealth. Times were so good that "Harvard economists, looking for an ax to grind, began to focus on the evils of affluence" (p. 273).

The stagflation 1970s brought the good times to a halt, but the authors maintain the difficulties actually began with President Lyndon Johnson's "Guns and Butter" policies of the 1960s. The more permanent damage was done by the enormous expansion of entitlements, to include the new programs of Medicare and Medicaid, which contributed to a budget deficit of $25.1 billion in 1968, Johnson's last full year in office. The liberal Johnson was replaced by the "closet liberal" (p. 305) Keynesian, Richard Nixon, who boosted entitlements more than Johnson and attempted to micromanage the economy through a set of price and wage controls. President Ford fought the inflationary element of stagflation with a "Whip Inflation Now (WIN)" badge, which was no match for the forces unleashed by severe supply shocks. The economic decline continued despite the austerity budgets and deregulatory efforts of President Carter. Productivity gains slowed due in part to the complacency of American management. Other countries, particularly Japan, took the lead in the production of autos, steel, consumer electronics, and clothing. American managers focused on short-term stock market numbers, ignoring quality, R & D, and the long-run benefits that tend to accompany innovation.

The American economy was rescued by President Ronald Reagan, whom we might label the hero of the narrative. He boosted business (corporate tax cuts) and weakened labor (busted the air controllers strike). He continued the regulatory rollback and supported the anti-inflation policies of Fed Chairman Paul Volcker (despite an unemployment rate that rose to 10.8%). He slowed the rate of growth of entitlement spending and inspired an entrepreneurial and business revival that helped boost the rapid growth of real GDP. Although the book does not note that Reagan appointed Greenspan to head the National Commission on Social Security Reform in 1981 and to chair the Federal Reserve in 1987, it does cite the fact that Reagan created "more national debt than all the presidents who preceded him combined" (p. 330), which is called "the fiscal flaw in Reaganomics" (p. 331). His tax cuts (personal, corporate, capital gains) were unmatched by spending cuts, creating "[m]assive federal borrowing [which] 'crowded out' private borrowers" (p. 331), contributing to a slowing productivity growth.

The next two presidents, George H. W. Bush and William Clinton, took fiscal responsibility seriously through tax hikes directed toward corporate profits and top Income earners. GW also observe a revival of entrepreneurialism, which had begun as early as the 1970s, and a lessening of bureaucratic forces. The economic boom enjoyed through the 1990s had little to do with government actions, but they maintain it developed by way of the return of entrepreneurialism, the emergence of high tech, the deregulation of financial capitalism, and the advance of globalization. The section on high tech is particularly insightful and the discussion of financial market deregulation may reflect Greenspan's intimate knowledge of Wall Street and the Federal Reserve (see Spencer and Huston 2006). Corporate heroes include Bill Gates, Steve Jobs, Howard Schultz, Fred Smith, and Jack Welch. CEO salaries increased enormously, reflecting earned performance pay and higher profits as they cut staff and unnecessary expenses.

The budget surplus attained by the Clinton administration was soon dissipated by George W. Bush, who as a "compassionate conservative" cut taxes and increased government spending. GW note that regulatory inadequacies led to the accounting tricks employed by Enron and other large corporations, which, in turn, precipitated the Sarbanes-Oxley Act and sweeping changes in corporate governance. The terrorist attack of 9-11 was followed by military spending on two long-lasting wars. The authors judge Bush's "most unfortunate decision" (p. 372) to be his extension of Medicare coverage to prescription drugs, which was both unfunded and exceptionally costly.

The financial crisis, which exploded in September 2008 with the Lehman Brothers bankruptcy, was rooted in excessive reliance on subprime mortgages, low interest rates, and complex financial securitization. Greenspan, who in this book takes no credit for his role in slowing the growth of entitlements in the early 1980s, or as the driving force behind the twenty-year "Great Moderation," also accepts no blame for causing the financial crisis. Ignoring most of the criticism any long-term Fed chair might receive, he responds to only one charge: that he lowered interest rates too much and for too long in the period preceding the financial crisis. This development he blames on an international savings glut that divorced short-term from long-term interest rates. In later testimony before Congress, he did acknowledge the possible need for additional regulatory oversight, given the complexity of new asset derivatives. Since this book is not about Greenspan's role in economic development, he faced awkward decisions about what to include or exclude that might seem self-serving or self-deprecating.

As to recovery from the financial crisis, GW completely ignore the role of fiscal policy, while correctly praising the innovative policies of the Federal Reserve. GW's condemnation of excessive deficit spending of previous administrations at times of relatively high employment was appropriate, but this failure to credit presidents George W. Bush or Obama for Keynesian tax cuts and spending increases at the time of the most dangerous economic period since the Great Depression was disingenuous. Even with exceptionally stimulative monetary and fiscal policies, recovery was slow, suggesting that some type of Hoover budget-balancing program would have proved disastrous. GW take the position that the country has been in a long-term productivity decline since the 1990s, with 1998 to 2004 as a pro-growth aberration. Others, such as Robert Gordon, hold a similarly pessimistic view (based on more extensive evidence), but they maintain that unlike Gordon, who sees little in the way of future productive innovation (growth-changing innovations, such as electricity, are all behind us), they foresee reasons for optimism.

GW see future Schumpeterian breakthroughs as possible if the federal government makes only two policy changes: first, cut back drastically on entitlement spending, which crowds out funds available for private investment; and second, eliminate all unnecessary regulations that stifle the emergence and growth of new, creative business firms.

On the first, they fail to recognize President Obama's appointment of the diligent, bipartisan Simpson-Bowles Commission, whose anti-entitlement recommendations were not passed by a vote-sensitive Congress. In fact, GW barely acknowledge the existence of the eight-year Obama regime. On the other hand, they credit a stronger recovery to President Trump (with no supporting empirical evidence) for his pro-business climate that featured tax cuts and a slowing of regulatory growth, but admonish him for his trade policies.

As GW acknowledge, the regulatory track is a difficult one to optimize. Based on simple data, such as the enormous rise in the number of pages in the code of federal regulations since the 1990s, one must agree that excessive regulation currently is not only possible but likely. Yet, they observe a more concentrated economy, particularly among tech giants, who quash potential rivals, finding evidence that "diffusion of innovations" (p. 397) across the business environment is slowing. Also, they recognize the potential for the destructive side of financial innovation, but their solution would be replacement of the Dodd-Frank Act with a simple increase in banks' capital reserves. Considering the opportunity costs of understanding and complying with Dodd-Frank as well as for circumventing it, their recommendation has appeal.

GW's causal linkage runs from capitalism to Schumpeterian innovation and productivity that have brought economic growth and, as they describe, the greatest income per capita of all large countries. They have little to say about income inequality, from either a moral or economic standpoint. Another book they cite, Gordon's *Rise and Fall of American Growth* (2006), although focused on growth (as with GW's book), notes that rising mean, or average income, can hide a distribution that favors higher over lower incomes more than median income figures. "When we consider the future of American growth, we care not just about growth of average income per capita, but also about growth of income per capita for the median American household" (Gordon 2016, p. 612). Gordon's calculations show that the growth rate of the top 10% of income earners was considerably more than that of low income earners during a period of weak average income growth (1972 to 2013).

Other researchers have found that less income inequality would boost growth in advanced countries such as the United States (Brueckner and Lederman 2015; Cingano

2014). Their focus is more on educational opportunities than technological advance, although the two can be linked. Knowledge and ideas can advance innovation, which spurs growth, according to recent economics Nobelist Paul Romer. Romer's "endogenous growth" theory also includes a role for government and its contributions to science and technology. Romer's concept differs from Schumpeter's in that the new technology does not displace the old but may also improve the old technologies through incremental innovation. Research that tends to support Romerian innovation rather than Schumpeterian innovation can be found in Daniel Garcia-Macia, Cheng-Tai Hsieh, and Peter Klenow (2016), who found, using employment data, that creative destruction accounted for about 19% of productivity growth from 1976 to 1986 and as little as 13% over the ten-year period from 2003 to 2013. They concluded that steadily incremental innovation might be more significant than the gales of creative destruction.

GW are encouraged by the actions of Sweden, which passed policies limiting the adverse effects of excessive entitlement programs. Their concern that US productivity has slowed to the point where the country is no better than average European nations can be related to its position in the list of top innovative countries. The latest Bloomberg Index ranks the US eighth, behind, for example, South Korea, Germany, Finland, Sweden, and Switzerland, and not far ahead of sixteenth-place China, the country's main large-nation real GDP rival. The link between capitalism and innovation, Schumpeterian or otherwise, may be becoming more tenuous.

Regardless of the future, GW have constructed a fine, highly readable interpretation of past developments in political economy, grounded in the linkage across capitalism, Schumpeterian creative destruction, and productivity. It has some esoteric economic data for which Greenspan was known (e.g., "U.S. Consumption of Selected Mineral Commodities," p. 362) but features no Greenspan "FEDSPEAK," which he employed as Federal Reserve chair to say nothing while saying something. The text is filled with declarative statements, such as "The New Deal permanently increased the power of American Government" (p. 248), and colorful tales, such as "The NRA quickly produced a flood of complaints, a flood that was made all the worse by the fact that its head, Hugh Johnson, was an alcoholic who disappeared for days on end on monumental benders" (p. 256). Some of this may reflect the influence of historian and *Economist* journalist Adrian Wooldridge. Both amateur and professional economists will profit from giving the book a read.

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Jens Reich, *Seigniorage: On the Revenue from the Creation of Money* (New York: Springer International Publishing, 2017), pp. 148, $109.99 (hardcover). ISBN: 9783319631233.

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Jens Reich has written a learned book providing a useful overview of both the history of, and the history of economic thought about, seigniorage. Reich further outlines an analytical approach within which to derive conditions for optimal seigniorage targets by monetary and fiscal authorities. It is an ambitious work that discusses seigniorage in the context of the alternative institutional arrangements in which seigniorage has historically been collected by creators of money, either by minting coins, creating convertible banknotes and bank deposits, or by issuing inconvertible forms of money that provide no actual or potential real services.

Reich begins by considering seigniorage from a historical and institutional perspective, introducing the three institutional arrangements that serve as ideal types (commodity money, credit money, and fiat money) for the analytical models of seigniorage to be introduced in subsequent chapters. The intuitive appeal of this demarcation of ideal types is obvious, but, as I observe below, the analytical usefulness of Reich's demarcation between commodity and fiat ideal types is doubtful in at least some respects.

In chapter 2, elaborating on his tripartite demarcation of ideal monetary types, Reich surveys the history of thought on seigniorage, classifying the discussions of earlier writers according to the implicit or explicit ideal type in terms of which those discussions were conducted.

After the two introductory chapters, Reich turns in chapter 3 to an analytical discussion of the seigniorage that can be derived from the supply of a pure fiat currency. The next three chapters present similar analyses of the seigniorage from supplying a commodity currency (ch. 4), supplying a credit currency (ch. 5), and the more historically relevant cases of seigniorage from a mixed commodity-credit system and a mixed fiat-credit system (ch. 6). In chapter 7 Reich broadens his focus and attempts to consider seigniorage not in isolation but as one of many sources of revenue available to finance government expenditures. In the concluding chapter, Reich broadens his focus in another direction to consider the role of seigniorage in monetary theory.

The earliest discussions of seigniorage relate to deviations between the metallic content of coins and their nominal face values corresponding to a legal specification of the metallic content of those coins. Because the normal wear and tear caused by using coins in exchange erodes their metallic content, any coinage inevitably includes coins of varying metallic content, implying a tendency—widely known as Gresham's Law, though like the Lucas Critique it was recognized and understood before being canonized