Review Essay


Reviewed by Gary Cross

By now many of you have heard about, considered reading (if not deterred by its 762-page girth), and even dipped into Robert Gordon’s The Rise and Fall of American Growth. This tome well deserves the attention that it has received for addressing a burning issue today: economic stagnation and its origins. Taking the long view with both summary statistics of trends in growth between 1870 and the present, but also with an amazing variety of graphs and charts detailing patterns of growth in a wide variety of industries, Gordon chronicles the impact of the second and third industrializations. His oft-repeated argument is simple, that growth was revolutionary in the history of humanity in the century after 1870, resulting from the effects of the second industrialization (launched by electricity and the internal combustion engine especially), and raising living standards in profound but unrepeatable ways. Though he finds the 1920s to 1970 to be most dramatic in growth rates (especially resulting from technology and innovation measured by total factor productivity [TFP]—accounting for growth outside resource inputs), after 1970 that productivity was barely a third of the previous century despite the digitalization of the third industrialization, which contributes only 7 percent of gross domestic product (GDP). This lag is especially evident since 2004 with no reasonable prospects for reversal, and the decline in the rate of growth has been accompanied by increasing income inequality with demographic lags and other “head-winds” further threatening growth. The argument is predominately based on technological change, though Gordon recognizes the role of government and even unions (in raising wages) and less often business innovation in advancing growth. Much of the book’s reception has been shaped by economists and economic historians addressing this bold claim, and it has been compared with Thomas Piketty’s even more ambitious work on the trend toward inequality.

Yet, there is a second theme of the book as seen in its subtitle, “The U.S. Standard of Living since the Civil War,” that should interest a broader group of readers, especially people like me who focus on the social and cultural implications of economic and technological change. Wisely Gordon notes how GDP and other economic indices do not take into account the impact of change on how Americans lived and experienced life. Beginning with the lived worlds of Americans in 1870 (noting regional if not fully class differences) and drawing on family budget data and much else, he sets the stage, noting diet, clothing, transportation, working conditions, education, and health factors. Thereafter Gordon combines detailed growth trends by sector with an appreciation for the human implications of growth in the century after 1870: the networking of private space through the introduction of running water and electric lighting, the liberating effects of the automobile, and the impact of urban sanitation on life expectancy. Gordon’s eye for detail is impressive: the shift away from pork, the massive construction of single family houses between 1900 and 1940, and the uneven introduction of central heating and plumbing to American urban and rural homes with the slow triumph of the 70 degrees Fahrenheit home, first with central heating, then air conditioning.

Most of this is a technological story, but Gordon recognizes the role of consumer credit and Fordist factory organization (especially the assembly line) in democratizing car ownership (though he neglects advertising, styling, and the planned obsolescence introduced by A. P. Sloan). He considers changes in information—from newspapers and phonograph to movies and radio that dramatically increased the productivity of the performer—though he ignores other innovations in entertainment, like amusement parks. While focusing on inventions, their diffusion, costs, and dates, occasionally he stops and observes just how amazing some were: “How the nation must have gasped with wonder and delight when Dorothy [in the 1939 film Wizard of Oz] emerged intact after the monochrome tornado . . . and wandered out into the Technicolor paradise of Oz” (p. 202).

Gordon hardly reduces living standards to the purchase of goods: he traces the causes of the dramatic early twentieth-century drop in infant mortality; then the increase in adult life expectancy, noting the early role of sanitation and regulation of food adulteration, but only later of medical training and hospital rationalization. Likewise, he recognizes the revolutionary changes in working conditions over this golden age both in the market and at home. He addresses the major themes of this history: shifts in occupation; workforce participation; and accidents as well as the decline of “disagreeable” if not “repetitive” work; the reduction of the work week (though he ignores the comparative disadvantage
of Americans); and the ironic impact of innovations on women’s home worktime. He even traces the role of the rise of insurance, consumer credit, and government regulation and transfers on reducing risk and insecurity.

Gordon recognizes that this revolution in living standards and growth did not come immediately. Early twentieth-century innovation’s full impact was realized in the 1950s (when TFP reached nearly 3.5 percent yearly) with spinoffs from the internal combustion engine and electricity (the interstate highway system, air travel, air conditioning, and TV). Yet he departs from his basic technological argument to note the role of the Depression (with productivity-enhancing wage increases from the New Deal) and World War II (home-front industrial investments, some from government).

Yet, after 1940, Gordon sees signs of less impressive innovation, as the fundamental transformations in living standards were already completed. He describes, but finds relatively insignificant, innovations in food, clothing, and housing. This analysis undervalues the effects of food away from home, processed food, and the rise in sugar substitutes like high fructose corn syrup (contributing to obesity) on living standards; and he doesn’t give information about increases in the quantity and variety of clothing. While acknowledging the postwar impact of microwave ovens, air conditioning, suburban housing, and automobile quality, he sees these changes as a “narrow scope of progress.”

The critical networking function of domestic technology was already mostly completed by 1940. He offers descriptive histories of the advent of air and auto travel (and the impact of the interstates), though he oddly suggests that the arrival in 1936 of the Douglas DC-3 airliner produced long distance travel comparable to today’s jet travel and underestimates the significance of the introduction of the Boeing 707 jet airliner in 1958. More persuasive is his analysis of diminishing returns in medical innovation since 1970 (with many drugs and technologies coming earlier and management costs rising faster than benefits).

Challenging the common-sense belief that the third industrialization of digital technology after 1970 led to a period of growth and rising living standards, Gordon finds that annual TFP declined from 1.89 percent between 1920 and 1970 to .57 percent from 1970 to 1994. It rose only briefly from 1994 to 2004 (due to digitalization) before declining again to .4 percent in the decade after. In fact, Gordon argues that the third industrialization may now be nearly complete: the benefits of office and retail computerization, even medical innovations, have flattened. He even dares to predict the future by discounting the further growth benefits (and unemployment consequences) of robots, 3-D printing, big data, and driverless vehicles. Moreover, other trends push against
future growth: increasing economic inequality (and the hollowing out of
the middle class), declining educational attainment and standards (con-
tributing to inequality and disappointing productivity), an aging popu-
lation (and reduced work-force participation), and government debt
(reducing future government investments).

Finally, in an afterword, Gordon offers solutions that are important
if conventional: more progressive taxation, means-tested social security,
improved education, and a differential immigration policy (discouraging
the low-skilled while encouraging trained immigrants), but not govern-
ment “investments” or business incentives (given the supply of untapped
private capital and private innovation).

This book is a major achievement: Gordon’s analysis of growth
trends is sophisticated and persuasive. Yet, I find his rich chronicling
of changes in the standard of living to be even more impressive. This con-
istitutes the bulk of the book; and though it relies mostly on secondary
sources, and inevitably is uneven, this material makes the book invaluable. In individual chapters on food, housing, medical care, transportation, and media, much of what is covered will be familiar, certainly to specialists; but the key is the extraordinary gathering of data across long time series, identifying trends that are missed in more focused works. There is simply no book that covers so much so well. Some of us will put his charts up on our PowerPoint. His data are almost all well summarized and explained (and none requiring more than basic economics). The text is entirely readable, with only rare and mostly well-justified diversions from the main argument into the debates of economics journals. If anything, the text may be too empirical, with little discussion of economic theory. Some quotations are too long and occasionally descriptions are excessive (for example, the early history of commercial air travel). There is much repetition. But, given the scope and complexity of the material, this was often helpful.

Inevitably, the range of Gordon’s text raises questions. First, busi-
ness historians may be disappointed by the neglect of entrepreneurial
(as opposed to technological) factors (though he mentions mass retailing
and the impact of deregulation and mergers in airline companies after
1978). His skepticism about the impact of post-1970 trends surely
reveals a bias toward early upgrades: praising shifts from scrub boards
to automatic washing machines, but not from rotary wired phones to
smart phones. He sometimes embraces cultural critiques of digital tech-
nology, while ignoring earlier negative assessments of the second indus-
trialization technology. He allows for a long lag in the benefits of
electricity and the internal combustion engine, but not for the third
industrialization. No one can know today what impact robotics will
eventually have on growth or employment, but it’s likely to be greater
than he suggests.

We shouldn’t be surprised that after 1970 (and in some sectors even
earlier) there was a slowing down of growth and, even more, a diminish-
ing impact of innovation on living standards. There are natural limits to
improved comfort, health, and convenience in food, housing, and trans-
portation. Commercial airplanes just can’t go faster and be profitable, at
least not now. Yet might he be biased against post-1970 innovation? And,
like most economists perhaps, Gordon finds the expansion of the experi-
ential consumer economy as less impressive than the introduction of
indoor plumbing and safe packaged food. But he may miss some of the
benefits (and deficits) of the recent rapid turnover of consumer (espe-
cially experiential) goods. Finally, like most orthodox economic histori-
ans, Gordon sees the “fall of American growth” as a problem and not the
inevitable result of a mature economy. He is unwilling to go along with
J. S. Mill to embrace a “steady state economy” or to consider what
Keynes mused about in the early 1930s that the meeting of needs
could, or should, lead to a progressive withdrawal from the market in
leisure or to consider that endless growth is an environmental and cul-
tural problem. The age of growth may (or may not) be over. The still
open question is whether restoring growth, especially like that of the
past, is what needs to be done.

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ing Revolutionized Desire (with Robert Proctor) and Consumed Nostalgia:
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