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UNINTENDED CONSEQUENCES

WHY EVERYTHING YOU’VE BEEN TOLD ABOUT THE ECONOMY IS WRONG

“There are an amazing number of good ideas and interesting points made in this book. The thinking underlying it, and the obvious depth of understanding of the author, are very impressive.”
— STEVEN LEVITT, Coauthor of Freakonomics; 2004 John Bates Clark Medal Winner

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UNINTENDED CONSEQUENCES

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EDWARD CONARD

PORTFOLIO / PENGUIN
For my wife and daughter
INTRODUCTION

WAS OUR COUNTRY’S economic success over the last twenty-five years built on false pretenses? Did we simply borrow and spend too much money? Are we now paying the price for that unsustainable spending spree?

In the aftermath of the Financial Crisis in late 2008 and early 2009, many commonly held beliefs have emerged to explain its causes. Wall Street bankers* stand accused of using low down payments, teaser rates, and other predatory tactics to seduce home owners into buying homes they couldn’t afford. Critics charge that bankers used fraudulent credit ratings to sell these risky mortgages to unsuspecting investors, bundling pools of risky mortgages into securities in which 80 percent of the cash flows received the lowest-risk, AAA ratings—ratings that agencies have long since downgraded. These risky loans and their subsequent defaults, they claim, would have bankrupted our financial infrastructure had it not been for taxpayers’ bailouts. If taxpayers must provide guarantees to lenders, shouldn’t they demand fair compensation for their guarantees?

Many of the same people assert that bankers put our financial

* The book uses the terms “banking,” “bankers,” and “Wall Street” loosely to encompass both commercial banks that accept deposits and investment banks that do not. My usage of the terms aligns most closely with common usage. Where differences are relevant, the text delineates different types of financial institutions.
infrastructure at risk for their own gain by allegedly funding loans with too much short-term debt and engineering their way around prudent banking regulations while the Bush administration looked the other way. All the while, Wall Street raked in unprecedented pay. Critics blame misaligned incentives and sheer incompetence for this recklessness. Don’t we need extensive regulations to protect us from a repeat of this behavior?

Meanwhile, American households stand accused of borrowing recklessly to increase consumption. Over the last twenty years, debt* as a percent of gross domestic product (GDP) rose from 250 percent to 350 percent. Personal saving rates declined from a historical average of 10 percent in the 1970s and early 1980s to essentially zero prior to the Crisis. We seem addicted to financing increased consumption, while the trade and fiscal deficits skyrocket. Have we mortgaged our children’s future as a result?

Others believe the Federal Reserve spurred this borrowing by holding interest rates too low after the 2001 recession. They blame cheap credit for artificially driving up real estate prices, which lulled borrowers and lenders into a false sense of confidence and increasingly reckless behavior.

At the same time, the trade deficit exploded as income inequality grew dramatically. Some economists claim that low household saving rates and a corresponding lack of investment eroded U.S. competitiveness. Overheated consumption supposedly tightened our industrial capacity utilization, which drove valuable manufacturing jobs offshore. Critics claim Americans have become a nation of hamburger flippers and that open trade borders and cheap offshore labor have held down the wages of domestic workers. According to the New York Times, 99 percent of the U.S. population went without pay raises for decades as their standards of living declined. Meanwhile, the incomes of the top 1 percent grew 300 percent.¹ Income inequality increased substantially. The evidence seems mighty damning.

To add insult to injury, the tax policies of the Bush administration

* The sum of government, business, and financial debt.
appear to have allowed reckless risk takers and the beneficiaries of open trade borders to keep an unfair share of these seemingly ill-gotten gains while ordinary citizens suffered. In the end, the prior decade—2000 to 2010—produced no gains in asset values, employment, or standards of living, the worst decade-wide performance since the Great Depression. Meanwhile, critics claim the government funded tax cuts by scrimping on health care, education, and investments to slow global warming. Fifty million Americans don’t have health insurance. Shouldn’t politicians raise taxes on the rich to redistribute their ill-gotten gains?

All these factors seemed to converge and cause the economy to collapse under its own weight. The inability of banks and households to continue financing more and more debt appeared to tighten credit and slow consumer demand. As soon as that happened, presumably, asset prices fell and investors panicked, exacerbating the decline. Something had to give, didn’t it?

Do free markets optimize on their own, or can private investors put our economy at risk for their own gains? Nothing less than the credibility of capitalism is at stake.

Science judges hypotheses, not by what they explain, but by what they fail to explain. When anomalies pile up, experts reject the hypothesis that engender them. The various hypotheses explaining the Financial Crisis are riddled with anomalies. For instance, if the United States has become a nation of consumers rather than investors, why has productivity soared? Productivity growth was lackluster for decades prior to the commercialization of the Internet. But if the answer is simply “the Internet,” why didn’t productivity also improve in Europe and Japan? Since 1991, France’s GDP per worker, adjusted for purchasing power, has fallen from 91 percent of that of the United States to 78 percent; Germany’s from 86 percent to 73 percent; and Japan’s from 86 percent to 74 percent.² These countries had access to the same technology and possessed similarly educated workforces; why didn’t they perform as well? And if the United States simply has a more entrepreneurial culture, why couldn’t that culture produce differentiated results prior to the Internet?
With historically high productivity gains, how does the trade deficit demonstrate a lack of competitiveness? If the United States has become a nation of hamburger flippers, why were half the jobs created since the 1980s created at the highest and most technical end of the wage scale—doctors, lawyers, scientists, supervisors, writers, and teachers? And if households aren’t saving—or worse, borrowing to consume—why has household net worth risen even at post-recession asset values?

If predatory bankers took advantage of home owners, why did the requirement for down payments decline? Smaller down payments shifted risk from home owners to lenders. If banks used securitization to offload troubled loans onto naïve investors, why did they retain 40 percent of those loans on their balance sheets? Can any investors honestly claim they didn’t know that nomoney-down loans to borrowers with undocumented incomes were both risky and common? If mortgage defaults are the primary cause of the recession, why were banks rendered insolvent long before home owners defaulted? If banks used innovation to avoid regulations, why did they choose to hold less risky AAA-rated securities on their balance sheets instead of higher-yielding A-rated securities, which regulations allowed them to hold with the same level of capital adequacy reserves? If moral hazard—where risk takers capture the benefits of risk taking without full exposure to its consequences—motivated bankers, why did the CEOs of the top banks personally lose billions of dollars?

If the risks were easy to spot, why did top financial regulators, even liberal regulators like Robert Rubin, former Treasury Secretary during the Clinton administration, resign his board seat after having admonished Citigroup to increase its risk? Why did former Obama economic adviser and Harvard University president Larry Summers likewise undertake enormous investment initiatives to expand Harvard’s campus when its endowment rose in value? Those investments now lie fallow. Why did Nobel laureate and then–World Bank economist Joseph Stiglitz and former Obama budget director Peter Orszag coauthor a paper that concluded,
“The risk to the government from a potential default on GSE* debt is effectively zero”? Fannie Mae and Freddie Mac are now bankrupt.

If the Bush administration turned a blind eye to banking regulations, why did it substantially tighten capital adequacy requirements in 2001? Why did it introduce and fight for legislation to rein in Fannie Mae and Freddie Mac? Why was it slow to transition the United States to international banking standards, which loosened capital adequacy requirements? If loose monetary policy is the primary cause of the Crisis, why are loan defaults predominantly confined to subprime mortgages† and not spread more broadly?

A full explanation of the workings of the economy and the Financial Crisis must account for these apparent anomalies. The commonly held beliefs do not; this book endeavors to provide explanations that do.

I’ve split this explanation into three parts: “What Went Right,” “What Went Wrong,” and “What Comes Next.” The names of the first two parts require no explanation. The third part makes recommendations for safeguarding the economy, accelerating its recovery, reducing unemployment, and maximizing long-term economic growth. The reasons for including the second and third parts are obvious. I start with “What Went Right” because I feel it’s important that, in order to avoid making changes that do more harm than good, we must first establish agreement about what worked well with our economy prior to the Financial Crisis.

In the wake of the Financial Crisis, we have heard an endless stream of criticism of what many claim is an obviously flawed economic model. These critics make improvements sound easy to identify and implement, and yet anyone who has ever tried to get rich by finding economic improvements quickly discovers just how

*   Government-sponsored enterprises, principally Fannie Mae and Freddie Mac, two quasi-private companies that guarantee the repayment of residential mortgages on behalf of homeowners.

†   The book uses the term “subprime” to include subprime, Alt A, and home equity loans except where further differentiation is needed.
difficult this is. It’s nearly impossible. Well-intended but misguided advocates make improvements seem easy by naïvely overlooking unintended consequences.

*New York Times* columnist Paul Krugman, for example, argues that the economy can thrive with greatly scaled-back financial markets because it thrived in the 1960s without them. But the 1960s economy also thrived without computers. Would eliminating computers serve us better today? Obviously not. Krugman’s logic is flawed.

Former Federal Reserve chairman Paul Volcker dares anyone to give him “one shred of neutral evidence that financial innovation has led to economic growth.” Yet New York University economics historian Thomas Philippon provides evidence that the financial industry grew (as a percent of GDP) in the late 1800s in response to the need by railroads and heavy industries for outside capital. It grew again in the 1920s when electrification accelerated economic growth, and companies like GE, GM, and P&G completed their initial public offerings. It stabilized at a historically low 4 percent of GDP after World War II when large, profitable cash flow–rich corporations with less need for external financing dominated the postwar economic landscape. But then it grew again in 1990 when 50 percent of investment shifted to small companies whose profits provided only a third of the needed financing. In sum, it grew when the economy needed it to grow. Surely, the same is true today.

It’s hardly surprising to find that, throughout history, growth of the financial sector happened for real economic reasons. Darwinian survival of the fittest largely governs the economy. It tests real-world alternatives against fierce competition for scarce resources—food and sex in the case of biology, customers and capital in the case of economics. It pits new ideas against existing alternatives that prevailed in the face of the same competition. Survival of the fittest ruthlessly prunes away less capable alternatives, ensuring that only the most valuable and robust remain. That’s not to say evolution isn’t filled with kludge, but rather that surviving alternatives prevail for valuable reasons. We should be highly skeptical of
proposals that claim to offer improvements, and scrutinize them carefully for unintended consequences.

Unfortunately, when we dig into the underlying causes of economic success we find the world of economics deeply divided and inherently political. Advocates for stronger incentives for risk taking and those for income redistribution each work backward from their conclusions to find a set of indisputable beliefs upon which to build their arguments. Such beliefs, whether true or not, are easy to find; the economy is so complex that it’s impossible to definitively isolate the effect of any one factor. As a result, academics and economists have fought each other to a draw on virtually every issue. Take the critical issue of the effect of taxation on savings, for example. In his comprehensive survey of the literature, Stanford economist Douglas Bernheim concludes, “As an economist, one cannot review the voluminous literature on taxation and saving without being somewhat humbled by the enormous difficulty of learning anything useful about even the most basic empirical questions.” Unfortunately, the same is largely true of all of economics. We must use empirical evidence to evaluate the beliefs that divide economics and decide for ourselves which set of beliefs seems most plausible.

I have searched for a fair and comprehensive summary of both sides of the issues, but couldn’t find one. Here is my attempt to provide it. I have endeavored to piece together a mosaic of academic studies to explain how the economy works; why the United States has outperformed its high-wage rivals; what caused the Financial Crisis; and what improvements might better protect our economy without damaging its growth. I’ve tried to dispel commonly held misconceptions, provide facts, and fairly represent both sides of the argument.

This is not a book that takes a couple of insights and expands them into 300 pages. Quite the opposite; it covers the entire scope of the economy in order to propose unexpected links between disparate economic objectives. It will reward you with a sophisticated understanding of the contemporary economy. It will load your gun with unbiased facts and direct you to cutting-edge research
on the most important issues confronting our economy. My hope is that it will change your view of the economy and of economic policy.

No set of conclusions will persuade everyone. My goal is to present provocative conclusions that fair and thoughtful opposition will respect. Even if you don’t agree with them, they will inoculate you against superficial claims and proposals filled with unintended consequences.
PART I

WHAT WENT RIGHT
THE PERFORMANCE OF the U.S. economy over the two decades prior to the Financial Crisis was much stronger than commonly perceived. Over the last two decades, the productivity of the U.S. economy has grown nearly as fast as it did after World War II, when it enjoyed unique advantages over the rest of the world. Many of those advantages have eroded gradually over time. Europe and Japan rebuilt their infrastructures following the war; they educated their workforces just as the United States did; and they built manufacturing industries with worldwide economies of scale. Nevertheless, U.S. economic performance relative to other advanced economies has accelerated over the last two decades. It’s true that economies like China’s are growing faster than ours, but comparing the United States to China instead of Europe or Japan is misleading. Yes, we can grow more quickly if we accept drastically lower wages, but who wants to increase growth that way? Relevant comparisons must be similar enough that they reveal relevant differences. A brief overview of economic history helps to put these comparisons into perspective.

1950s AND 1960s: THE HALCYON DAYS

A unique set of circumstances accelerated the growth of the U.S. economy in the 1950s and 1960s. The world economy suffered...
a decade-long depression in the 1930s that stifled capital investment. Following the Great Depression, a devastating world war diverted U.S. investment away from the private sector, which sustains long-term growth. The war effort may have provided spillover benefits to the economy, but the economy also emerged in the 1950s with twenty years of underimplemented innovation.

World War II destroyed Europe’s and Japan’s infrastructure. This weakened their ability to compete with the United States, and it took decades for these advanced economies to catch up. This left U.S. companies with an open playing field for growth.

Meanwhile, the commercialization of television and advertising, newly built U.S. interstate highways, and automated manufacturing allowed American companies to create nationwide mass markets for their products. Because international trade was underdeveloped at that time, the United States was essentially a closed economy. U.S. manufacturers benefited from enormous economies of scale relative to a divided Europe and a technologically underdeveloped Japan. Only their ability to find and exploit untapped opportunities limited the growth of American corporations.

The advanced education of the American workforce accelerated the growth of the post-World War II economy. Decades earlier, the United States had been the first nation to educate all its citizens publicly. Europe and Japan were slow to follow. In 1955, the United States enrolled 80 percent of its fifteen- to nineteen-year-olds in school full time compared to only 10 percent to 20 percent in Europe. And most European students were studying for vocations that prepared them to do jobs better suited to the past rather than rigorous academic subjects that would allow them to take their economies into the future.¹ In the United States, where high schools were more academically oriented, the GI Bill allowed more Americans to attend college. In the 1950s and 1960s, workers with college degrees propelled the transition of the U.S. economy from simple farming to sophisticated manufacturing.

The 1950s and 1960s were also favorable to wage growth in the United States. While opportunities were expanding domestically,
the workforce was constrained by both a baby bust in the difficult 1930s and 1940s and by the loss of half a million young working-age Americans in the war. In the 1930s, the U.S. population grew by only 7 percent, compared to 19 percent in the 1950s. At the same time, the half million war casualties were mainly men who comprised a greater percentage of the full-time workforce in a population that was only about 132 million—less than half the size it is today. Eventually immigration and the entry of women into the workforce would put downward pressure on men’s wages. In the 1950s and 1960s, however, an explosion of great corporate jobs, together with a restricted supply of labor, produced healthy wage growth. Real wages grew 2.8 percent per year from 1959 to 1973, but then declined to 1.2 percent per year until the early 1990s.

While it’s true that the United States enjoyed twenty years of prosperity following World War II without the benefit of computers or highly developed financial markets, that doesn’t mean today’s economy would grow as fast without these tools. The United States was prosperous for a unique set of reasons that are impossible to duplicate today, including a decade-long depression, the destruction of the rest of the developed world’s infrastructure, a failure of potential foreign competitors to educate their people, and a highly restricted supply of workers. For the sake of mankind, let’s hope those conditions aren’t repeated! It seems to me that anyone who makes comparisons between today’s economy and that of the 1950s and 1960s without fully disclosing their differences is deceiving their readers.

1970s AND 1980s: GROWTH OF COMPETITION

The 1970s and 1980s provide a more relevant comparison for evaluating the current economy. By then, a handful of factors ended the halcyon days of the 1950s and 1960s.

After the postwar catch-up, advanced economies saw their growth slow and their unemployment rise. Productivity growth—the
relevant measure of an economy’s growth—stalled (see Figure 1-1). The most talented U.S. workers were fully educated. Europe and Japan caught up to the United States by educating their workforces.

**FIGURE 1-1: U.S. Productivity Growth Relative to Other Developed Economies**

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<td>Germany</td>
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<td>Japan</td>
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<td>United Kingdom</td>
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<td>United States</td>
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**SOURCE:** PENN WORLD TABLE, 2012.

Declining protectionism and the commercialization of containerized ocean freight facilitated international trade. As worldwide markets offered economies of scale to all successful producers, competition—principally from the Japanese—caught U.S. manufacturers off guard, eroding their market share and scale advantages.

Free trade weakened labor unions’ monopolies on the supply of labor for industries such as steel, auto manufacturing, and airlines and limited the wage premiums they collected from consumers. The higher pay of union jobs represents nothing more than an unfair tax on consumers. Higher priced goods that cover the higher cost of union labor transfer money from poorer nonunion consumers to highly paid union labor. This transfer has never been economically sustainable without government-mandated labor laws and closed trade borders that prevent non-union competition. If some manufacturers can shift a portion of their manufacturing to lower-cost non-union suppliers—if the government opens borders to allow non-unionized imports, for example—then prices will fall to match the lower cost of labor. Consumers benefit from lower prices. In the 1970s and 1980s, foreign competition gained a
toehold in the markets. Prices fell and consumers captured the savings. The United States only lost high paying union jobs because unions lost their ability to tax consumers.

At the same time, baby boomers and women flooded the workforce. This put downward pressure on wages. By the late 1980s, immigration into the United States began to increase, and by 2009, 50 million immigrants and their U.S.-born children lived here.2 This also put downward pressure on wages, especially the wages of white men who were previously the predominant source of labor.

When markets were growing in the 1950s and 1960s and companies were scrambling to fulfill unmet demands, competition was less significant. But as growth slowed, competition intensified. In his book, *The Great Inflation and Its Aftermath*,3 journalist Robert Samuelson contrasts the competitiveness of the 1980s and early 1990s to the unfettered boom of the 1950s and 1960s by comparing Alfred Sloan’s landmark 1963 book, *My Years with General Motors*,4 to Intel CEO Andy Grove’s 1996 book, *Only the Paranoid Survive*.5 Sloan’s book contains chapters with titles like “The Concept of the Organization,” “Co-ordination by Committee,” and “The Development of Financial Controls.” In a world where building and organizing a business is the major hurdle to success, the specter of competition is barely on his radar. Grove, on the other hand, writes, “I believe in the value of paranoia.” He adds, “The more successful you are, the more people want a chunk of your business . . . until there is nothing left.” He warns that firms have to overcome “strategic inflection points” that alter “the way business is conducted.” Samuelson points out that Grove exhibits none of Sloan’s confidence. Instead, Grove focuses exclusively on competition.

As competition grew for products that enjoyed worldwide economies of scale—autos, steel, machine tools, etc.—job growth from the largest companies with the highest paying jobs began to slow. Large companies with the most promising investment opportunities generally pay the highest price for labor. Economies of scale and entry barriers, which create the need for large competitors, also reduce competition, often to only a handful of companies. In the early stages of an industry’s life cycle, when markets are
growing, these obstacles to competition allow large companies to earn higher profits. This, in turn, allows them to pay higher wages. Smaller companies often compete in fragmented industries without the benefit of scale or entry barriers. That’s why competition is fragmented. Competition is more intense, and competitors squeeze costs, including wages, to survive.

Although the United States did not keep statistics on net job creation by firm size until 1996, statistics since then indicate a decline that began earlier. From 1996 on, the full-time U.S. workforce grew from 105 million to 120 million workers. Close to 60 percent of those new jobs originated in small firms with less than five employees. Yet these firms represent only 5 percent of U.S. employment. Small firms with between five and hundred employees created another third of the new jobs. On the other end of the spectrum, large firms with over 500 employees, who employed almost half the U.S. workforce in 1996, added only 523,000 new jobs. While employment in large firms with over 500 employees grew by seven million people over the ten-year period, almost all of that growth came from smaller firms that grew larger—like Google and Facebook—and not from firms that were already large.⁶

Without an abundance of small firms growing larger, the 1970s and 1980s took on the slow-growth characteristics of large companies. In the face of an influx of forty million new full- and part-time workers since the 1980s, the U.S. economy gradually shifted to a more entrepreneurial mode.

It’s hardly surprising to find that these turbulent developments have taken their toll on employees. As Robert H. Frank and Phillip J. Cook’s 1995 book, The Winner-Take-All Society, points out, employee tenure has declined and churn has increased. More than ever before, employers compensate employees with bonuses and incentive pay based on the success of their business. 401(k) plans that expose employees to the risk of financial-market fluctuations have replaced defined benefit pension plans that companies—even the auto companies—can no longer afford. Some populists blame lawmakers, business leaders, and capitalism itself for unfairly exposing workers to the risks of a more competitive world. But it is likely that our
leaders have little if any influence over these changing conditions. Competition simply evolves and grows more intense over time.

To make comparisons to a less competitive past without recognizing the changing landscape is misleading. We can demand that equity capital, and not employees, bear these additional risks. But we should recognize the consequences this shift would entail for employment. In the 1970s and 1980s, when equity bore these risks, growth slowed and unemployment rose.

1990s TO 2008: THE RISE OF INNOVATION

As the world grew increasingly competitive, one might have expected growth to slow, wage growth to flatten, and the risk of unemployment to rise. But the opposite happened in the 1990s and beyond. The U.S. economy began to grow faster than those of Europe and Japan, its advanced competitors. Relative standards of living rose. U.S. innovation grew and U.S. productivity growth accelerated. Beginning in the early 1990s and lasting through 2008, productivity increased from 1.2 percent per year to 2.0 percent per year, almost a 70 percent increase (see Figure 1-1).

Most of the increase in U.S. productivity came from an increase in know-how and not from an increase in the capital invested per worker or an increase in the education of the workforce, the other sources of productivity improvements. Productivity improvements from know-how grew twice as fast as they had in the 1970s and 1980s.7

It’s hardly coincidental that this increase in know-how coincided with the commercialization of the Internet and email. Most ideas come from novel combinations of preexisting ideas,8 from “ideas having sex with one another.”9 The more people communicate, the more likely they are to discover valuable connections between ideas. It’s no surprise that the centers of trade—Athens, Florence, London, Hong Kong, New York—have been at the vanguard of innovative ideas throughout history. The Internet is today’s communication hub.

While it’s no surprise that innovation grew with Internet and email usage, it’s peculiar how radically U.S. productivity began to
improve relative to Europe and Japan. Both had access to the same technology. They had equally educated workforces. With higher saving rates, Germany and Japan certainly had the capital necessary to invest in the discovery, commercialization, and use of these innovations. Both nations, however, poured capital into the United States. While U.S. workers dug in and went to work, their peers in Europe slowed their work effort (see Figure 1-2).

**FIGURE 1-2: U.S. Hours Worked per Worker Relative to Other Developed Economies**

![Graph showing U.S. hours worked per worker compared to France and Germany](image)

*Source: Harvard Institute of Economic Research, 2005.*

It's true that U.S. workers work more hours, which contributes to greater productivity per worker. But since 1995, U.S. output per hour worked has outgrown other industrialized economies as well (see Figure 1-3).

This accounting of output per hour underrepresents true U.S. productivity gains relative to Europe and Japan. The United States expanded its workforce participation from 63 percent of all working-age adults in 1982 to 67 percent in 2007.\(^{10}\) This brought a host of marginal workers into the workforce, many of whom
were previously unemployed. During the same period, Europe’s participation languished at 58 percent. Europe achieves a significant part of its productivity gains by excluding less-productive workers from its workforce.

From Figure 1-4, you can see that France achieved per-hour productivity on par with the United States. It did this, however, by limiting work to only the most productive workers. It achieved high productivity by suffering high unemployment and by excluding women and young workers. To create new jobs, France limited the hours worked per worker and retired its workforce early. In 2007, at the peak of the economic cycle, only 40 percent of male French workers fifty to sixty-five years old participated in the workforce! But even then, France couldn’t create enough jobs to fully employ its young adults who suffered twice the unemployment as their U.S. counterparts in 2007—20.2 percent unemployment versus 10.5 percent. Many studies have shown that because on-the-job training and specialization are a critical determinant of productivity, students who graduate from college in a recession and fail to gain top-notch employment early in their careers suffer lower wages throughout their lives. It seems that France, like most European countries, competes and grows by eating its young.
Germany suffered the same high level of unemployment as France but kept its young employed by spreading the pain of its slow-growth policies to the core of its workforce—the workforce raising its families! The higher employment of Germany's youth came at the expense of higher core unemployment, slower growth, and even fewer hours worked per worker than France. The Japanese kept everyone working (except women), but they accomplished this through low productivity and poor growth. Britain's policies were more akin to those of the United States, but again with lower productivity and higher unemployment of its young.

Obviously, governments and businesses can enhance productivity per hour and per worker by pruning less productive workers and putting them on the dole. But who wants to increase productivity by filling the country with unemployed citizens? Worse, when highly skilled workers are underemployed, lower-skilled workers who depend on their leadership (and consumption) for increased employment are hurt.

In contrast, the United States provided—at least until the Crisis—viable employment for its youth, its marginally employed, its near-retirees, and its women, many of whom work part-time and
temporarily exit the workforce in mid-career to raise children. As a group, these workers have below-average productivity. Also, a large share of the forty million new American workers employed since the mid-1980s have been low-skilled, younger-than-average Hispanic immigrants, largely lacking high-school degrees and with poor English language skills. Obviously, this group currently has lower productivity than the average U.S. worker.

In addition to immigration and the increased employment of marginal workers, the U.S. workforce now has lower aptitude and subject matter test scores than its advanced competitors. Test scores have a significant impact on productivity. Nevertheless, the U.S. workforce is more productive than its industrialized competitors. Today, U.S. GDP per capita, adjusted for purchasing power, is 30 percent to 40 percent higher than in other developed economies, taking into account our less productive demographic mix of workers (see Figure 1-5).

**FIGURE 1-5: Effect of Science Test Scores on Productivity**

*At purchasing power parity
**International Student Assessment Survey

*SOURCE: BLOOMBERG BUSINESSWEEK, 2/25/2008*
Despite misconceptions to the contrary, not only has U.S. productivity increased, but incomes have increased as well. Since 1980, median incomes have grown for every demographic of the U.S. workforce (see Figure 1-6). At the same time, the composition of the U.S. workforce has shifted to demographics with lower incomes. Median incomes have increased 30 percent, on average, across all demographics.* Wages reflect productivity. This suggests that productivity gains might be greater than they appear to be because the reported statistics fail to account for shifts to demographics with lower productivity.

And the income growth reported in Figure 1-6 doesn’t include benefits, which have grown about 15 percent since 2001—substantially faster than wages over this period, which have grown about 3 percent.15 This indicates that productivity and the real economic income it produces have grown significantly more than the 30 percent growth in cash incomes. Nor does the growth in median wages and benefits reflect growth in pay above the median, where growth

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* 30 percent is the weighted average increase in wages across all demographics since 1980.
in pay has been significantly higher. Half the jobs created by the United States between 1983 and 2005 were created at the highest end of the wage scale—doctors, lawyers, managers, scientists, etc. Prior to 1983, these jobs represented only 23 percent of the workforce.

This surge in productivity has had an astonishing impact on U.S. growth. In addition to increasing its standards of living relative to Europe and Japan, the U.S. economy has grown 63 percent since 1991, net of inflation, while France grew only 35 percent over the same period; Germany, only 28 percent; and Japan, 16 percent. Since the early 1980s, the United States increased its workforce by 40 percent, or 40 million workers—not counting the tens of millions of offshore workers the U.S. economy employed in Mexico, China, and Southeast Asia, as well as workers it employed in Germany and Japan—while Germany and France grew their workforces by less than half as much. No high-wage economy has done more for workers.

Skeptics claim the growth of the economy came from increased consumption funded by an unsustainable one-time increase in debt, since debt obviously can’t continue to rise relative to income forever. They point out that household saving rates have fallen to historic lows while households accumulated a growing mountain of debt (see Figure 1-7 and Figure 1-8). They claim this debt-fueled consumption temporarily inflated asset values, and when the increase in debt slowed, asset prices fell, causing the Financial Crisis.

But we should recognize that consumption does not grow productivity, nor does it increase wealth. Only successful investment and innovation can do those things. Since 1991, the market value of U.S. companies has soared from about 60 percent of GDP historically to over 100 percent, even at post-recession values (see Figure 1-9). Investors clearly believed the value of companies had increased. It’s true that market values are fickle and may not always reflect true values. But market values have proven to be the most reliable indication of value that we have.

We speak of a “housing bubble” as if it were a foregone conclusion that prices were irrational. Real estate, both commercial and residential, captures a significant share of the wealth and income of its tenant. As tenants grow more prosperous, they compete
FIGURE 1-7: U.S. Household Saving Rates

FIGURE 1-8: U.S. Debt Relative to GDP
against one another for the most sought-after locations, and bid up prices. Despite U.S. prosperity outpacing the rest of the high-wage world, U.S. housing prices grew more slowly than most other countries.\textsuperscript{15} And housing only doubled in value from the mid-1990s to its peak in 2007 while the Dow grew 370 percent over the same period—from 3,800 in 1995 to 14,000 in 2007. The price of oil rose sevenfold, from $18 to $125 a barrel. Ironically, residential housing was one of the worst performing asset classes.

Despite low saving rates, real household net worth, even at the nadir of the Financial Crisis, grew 60 percent since the early 1990s. Even with the European sovereign debt crisis looming over world markets, household net worth rebounded soon after the Financial Crisis to the same level it had reached at the peak of the Internet boom in 2000 (see Figure 1-10).

To exaggerate the case that there is too much debt, proponents of this argument often add financial debt to the sum of household,
business, and government debt. This double counts the total amount of debt. A bank, for example, borrows from its depositors and lends to a home owner. That creates two liabilities—the bank’s loan from the depositor and the home owner’s loan from the bank. Simply adding the bank’s and the home owner’s borrowing together double counts the true debt outstanding. There’s just one loan—the home owner’s mortgage, ultimately borrowed from the bank’s depositors.

Modern finance exaggerates this mistake. Today, in its simplest version, a home owner borrows from a mortgage broker that borrows from a bank that borrows from a securitized investment vehicle (SIV) that borrows from a money market fund that borrows from a depositor. That replaces the home owner’s loan with five intermediate loans. If you just add up the debt, you get an apparent two- to threefold increase, but nothing has changed. Wealth still equals one house. And ultimately, there is still just one loan—the home owner’s mortgage. When the Federal Reserve creates its
quarterly balance sheet for the U.S. economy, it doesn’t make this mistake. It logically nets all the double counting.

In truth, total U.S. debt, with double counting properly removed, has risen less than most other advanced economies. In the United States, government, business, bank, and household debt combined is 290 percent of GDP, about the same as frugal Germany’s combined debt, which is 285 percent of GDP. France has grown its combined debt to 340 percent of GDP, and Japan and the United Kingdom to nearly 500 percent of GDP.\footnote{16}

Proponents of the too-much-debt argument also ignore the fact that interest rates have fallen substantially over the last thirty years, making the ongoing cost of debt much cheaper. Many people forget that long-term interest rates have fallen continuously, from 14 percent in the early 1980s to 4 percent today. As a result, debt has logically risen as the cost has fallen proportionately. Also, if a renter buys a home, debt and interest expense rise relative to income, but a decline in rent offsets this increase. A more relevant measure of household debt is the Federal Reserve’s financial obligation ratio (FOR), which measures both mortgage payments and rental payments (as well as property taxes and auto and consumer debt payments) as a share of disposable income. The FOR rose only from 17 percent in the 1990s to 18.75 percent at its peak in 2007, about a 10 percent increase.\footnote{17} This is not nearly as reckless an increase as critics of debt who focus only on gross debt have led us to believe.

Advocates of the too-much-debt argument intentionally ignore the fact that, as a nation, two-thirds of our debt—both household and government debt—is owed to ourselves. That’s right; we pay the interest and principal to ourselves. You can’t get rich or go broke lending money to yourself. Try it and see. You go broke by spending too much and investing too little.

Unfortunately, finance doesn’t trump the laws of physics. In the real world, we can’t teleport things back from the future to increase spending today. One household can borrow against its future earnings from another household, spend too much today, and go
broke in the future trying to pay back the loan. Some households did exactly that. They used no-money-down subprime mortgages to borrow against the inflated value of their home, and spent the proceeds on other things. Now they are saddled with debt and must reduce their consumption. But one household can only borrow and spend if another household reduces its consumption in order to lend. Overall, the two must balance. If the first household fails to pay back their loan, the second one suffers. Again, the future gains and losses must balance. There’s no free lunch.

It’s true that the United States can borrow from offshore lenders and, like the individual borrower above, consume rather than invest the proceeds—and then face a poorer future as a nation when we have to pay back China instead of ourselves. But the amount we have borrowed from offshore lenders is small in comparison to the increased value of our assets. From 1991, nominal household assets have increased $40 trillion while household and government debt has increased $15 trillion. Offshore investors loaned us half that increase in debt. Eliminating the assets that arise from counting domestic borrowing as both an asset and a debt (offshore investors hold the asset from offshore loans) shows that household assets rose four times more than offshore borrowings.* Far from leaving our children a legacy of debt, we left them a legacy of assets to pay for that debt.

CONCLUSIONS

To criticize today’s economy because it is not what it was in the 1960s is neither a fair nor a useful comparison. The 1950s and 1960s offered a cornucopia of almost impossible-to-repeat opportunities that temporarily lifted the U.S. economy. The 1970s and 1980s provide a more relevant comparison. Revitalized global competitors pulled even and slowed U.S. growth. Yet despite the success of these advanced competitors, the United States distanced

* \[ \frac{[40T-7.5T]}{[15T-7.5T]} \]
itself from the rest of the advanced world with the advent of the Internet.

Why did the United States capitalize on the Internet to accelerate productivity more effectively than Europe and Japan? Both had access to the same technology, similarly educated workforces, and the necessary investment capital. Yet the United States ran the table on Internet innovations, creating companies like Google, Facebook, Microsoft, Intel, Apple, Cisco, Twitter, Amazon, eBay, YouTube and others. Europe and Japan scarcely contributed.

Delineating the differences is critical to our continued success. As we take actions to avoid the next Financial Crisis, we must avoid damaging those things responsible for our success. If we blame the wrong causes and pursue poorly thought-out solutions that cause unintended consequences, we may easily damage the very factors driving our success.