

America's Moment

Creating Opportunity in the Connected Age

A Book by Rework America

THE MARKLE ECONOMIC FUTURE INITIATIVE



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Preface

BY ZOË BAIRD

Everyone has a meaningful place in the new economy.

What you hold in your hands is a call to affirm that statement—a call to participate in perhaps the most vital undertaking for America in the 21st century.

Together, we are in the midst of the biggest economic transformation in a hundred years. It has disrupted the expectations—and even dreams—of millions of Americans. The defining challenge of our time is making sure that all Americans will be included in this transformation.

This is personal for me. My mother was a Rosie the Riveter in the Brooklyn Navy Yard during World War II. She and my father were so proud that their daughter graduated from college even though neither of them had college degrees. They were able to find a place in the American economy and achieve their American Dream. But if they were starting out today, would the same be true? I have two children who are growing up in this world transformed by technology and globalization. It's my deepest hope that they will live in a time of optimism and shared opportunity.

Yes, there are many who have grabbed hold of the new econ-

omy and built incredible businesses and careers. But there are many more who don't know where to find opportunity in this new digital networked era. They have lost faith.

That's because they are uncertain about the future. They don't know what to tell their children about how to prepare for the jobs of the future. They don't know which diplomas or credentials will be meaningful anymore. They don't know whether their skills will be recognized or valued. They don't know how to match up their education with the businesses looking to hire—and for that matter, businesses don't know how to effectively connect with the most qualified workers. They don't know which technologies will be essential to the workplace. They don't know which industries will be created, destroyed, or transformed.

This book offers an agenda for action that takes the very forces causing the change—technology and a networked world—and turns them into the tools we need so that all can prosper.

This is a prescription that also comes with a warning: if we don't embrace new ways of doing things—right now—we will soon hit the point of no return, and the American Dream might vanish for all but a few.

We have been here before. A century ago, America was going through the greatest economic transformation and technological revolution in its history. Cities sprang up overnight, and traditional farm life disappeared for many. There were extremes of wealth and poverty. Then came the Great Depression, which left a third of America, in the words of Franklin Roosevelt, ill-housed, ill-clad, and ill-nourished.

Only when our leaders began to embrace new approaches for a new world did the American Dream achieve real meaning for the majority of Americans.

In the decades that have passed since, no other era has achieved the scale and significance of the economic upheaval of the early 1900s.

Until today.

The transformation of the past 20 years—as our nation has moved through the information era into the digital age—has turned the world upside down once again.

One hundred-year-old industrial buildings now house 3-D printing companies. Farmers are using sensors and tablets to irrigate their crops. STEM education, once the province of only a select few jobs, is now, more and more, a prerequisite. Individual entrepreneurs—using tools that were the stuff of science fiction even 10 years ago—are starting businesses that are changing the world. But many others are left out.

The troubling reality is that doubt and despair have corroded our collective economic prospects and our trust in the promises of our democracy.

How can there be so many paths to opportunity with so few people traveling them?

As a nation, our leaders and all of us need to recognize the profound transition we face. We have to focus on what we must do to help Americans succeed now, and what we must do to prepare our country for what comes next.

That's why, at the Markle Foundation, we have made it our purpose to inspire and enable leaders from all sectors to create new paths for good and meaningful work in the digital economy so that all Americans can dream again.

In the absence of that national conversation, we decided to start one.

We convened a group of remarkable people who know the challenges and potential solutions from their own experience: some of our nation's most successful corporate CEOs, leading technologists, inspiring faith-based leaders, passionate educators, innovative government leaders, celebrated management gurus, and many more from across the political spectrum.

We asked, What can we do today, to make opportunity available for everyone tomorrow?

Our answers are contained in this book. They were generated

by all of us and were artfully woven together by our colleague Philip Zelikow.

Our agenda for action is not just a policy prescription, though it is that too. It is a practical agenda created by people on the ground for actions we can take today in every community around this country. It includes:

- ***Preparing people to succeed.*** In the modern economy, information, power, and the ability to make things happen are all distributed, rather than concentrated. So why are people's capacities judged solely by old centralized markers like a high school or college diploma. Why, in this day and age, is just one diploma the goal? Why not many rapid and affordable diplomas that are better matched to today's career paths? Why isn't life-time learning—accessible affordable education for all people—the norm? It's time we ensure that careers are based on what you can do when you are ready, and not a single path you failed to take at the only turn in the road.

- ***Using the reach of the Internet and data to innovate jobs.*** We have at our fingertips the power of Internet-based platform marketplaces, and the enormous potential of data and analytics—but they are still exceptions to the norm. We need to fully integrate them into mainstream work and upgrade jobs so that, empowered with information, we develop millions of more valuable workers—and train a new generation to succeed within that context as second nature.

- ***Using technology to match employers and workers.*** There are millions of middle-skill jobs around the country that aren't being filled. CEOs cannot connect with trained and talented workers. Too many potential employees are in the dark about these positions, or don't know what

skills to gain. We have to use the power of the Internet to make the job search transparent and based on competency and new credentials. We have to match people with opportunity.

- *Transitioning to a “no-collar world.”*¹ The old system of credentialing talent is antiquated. Blue-collar, white-collar—it’s a hierarchy that doesn’t accurately reflect people’s abilities, and handcuffs employers to ineffective metrics when trying to find new workers to fill open positions. Job categories, and the skills they require, are changing every day. We require new ways of categorizing and credentialing talent—ways in which no worker or employer is limited by arbitrary delineations.

Forward-thinking leaders have already put many of these ideas into practice in some corners of the country and economy. The examples are here, and they are already paying dividends. It is our task to identify them, scale them up, and turn them into something that can benefit all Americans.

When we first began the Rework America initiative, we started the conversation by asking each of our members a simple question: “What is your American Dream story?”

All of the assembled leaders had their own versions of the American Dream story, but all shared one common theme: all of them got to where they are today through perseverance and hard work, but also because of the help of others.

For the next generation, will that hard work be enough? Will those opportunities be available? Will our children be able to tell their own American Dream story?

We think, yes.

In the midst of all this transformation and upheaval, the one thing that hasn’t changed is the fundamental belief that has driven

this country since its inception: that the American Dream should be within reach for everyone.

We can do this. We have so many tools at our disposal. We are more connected, and more networked, than ever before. But the only way we can translate that into real success tomorrow is by starting to rework America today. This is America's moment.

This book is meant to start that urgent conversation. It's meant to shine a light on the ideas and policies that will secure our economic future. And, most importantly, it's meant to bring people to action.

So it is in that spirit, and in that hope, that I leave you with two questions as you read.

What is your American Dream?

And what are you going to do to make the American Dream possible for everyone?

This is our time to act.

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To Bend History

America and the world are in the early stages of an economic revolution. The smartphone in your pocket, the website at your fingertips: these are small parts of it. Americans—and people the world over—live in a historic age of transition.

The last time Americans experienced change on this scale was more than a hundred years ago. Then they were coping with industrial revolutions. This time it is a revolution defined more by technological leaps and globalization as networks and data travel the world. Many Americans are benefiting from it, charged up by a wealth of knowledge and possibilities. So far, though, the possibilities have not opened doors for the majority of Americans. They can see that the world is changing but also feel understandable uncertainty about what comes next.

There are many versions of a similar story. For decades, as the U.S. economy has grown, income and wealth for the large majority of Americans have not grown with it. Wages have suffered even more than job growth. Adjusted for inflation, the median U.S. household now has a lower income than it did in 1996.¹ Wages as a share of national income are now at an all-time low. Some 50 percent of Americans have a real household income of about \$52,000

or less, a median that has been fluctuating around this number since the end of the 1980s. After the financial crisis and Great Recession from 2007 to 2009, the slow recovery has improved the economic circumstances of only a small minority of Americans.²

Or, to take another version, there has been “a great decoupling.”³ Productivity growth was once coupled to growth in incomes and employment. The linkage to both has been broken for at least 15 years. The implicit bargain that gave workers a steady share of the productivity gains has unraveled.

America is creating jobs, but not enough of them. Millions of Americans have withdrawn from the labor force, are no longer seeking work at all (and therefore do not show up in the usual headline unemployment rate). At the same time, American employers are having trouble filling millions of middle-skill jobs.

The powerful forces of technology and globalization driving this transition need not pose a threat. They can offer a historic opportunity. Imagine the America you want to live in: with good meaningful jobs and ways to prepare for them, opportunities to build businesses, the excitement and not fear of innovation, a chance to create a better life for oneself. This is the America you want your children to inherit.

We must recognize that this will not happen without a vision of the America we want to create. It will not happen without leaders who see how these strategies can change the way Americans do business, create and find work, and prepare themselves for the future. At this rare turning point in the history of our country, no one should be a bystander.

When the members of this initiative first met, the Reverend Calvin Butts, the pastor of New York City's Abyssinian Baptist Church, evoked the founding language of the United States. He had grown up in the Lillian Wald projects in the Lower East Side of Manhattan. His father, he told us, “was a butcher by profession. His mother was a simple servant.” He had seen a lot of changes.

But he did not think the American Dream had changed. To

him it was still the same dream he had learned about as a child in public school, reciting the founding documents of the country. “I never thought the dream was about trying to be more successful than my parents were materially. I never had an idea that it was about one generation doing better than the next.” To him the essence was in the “prophetic and poetic” words of the Declaration of Independence on the inalienable rights to “life, liberty, and the pursuit of happiness.”

In a time of great change, it is not the dream that has changed. And that dream need not be out of reach. Instead, Americans must seize new ways to attain it. This book will show that the opportunities for fulfilling, stable, and, yes, exciting careers exist and that the tools are at hand.

No magic wands, these are blueprints for actions that have to touch many parts of a big and complicated economy and society. Arriving at this economic turning point, all in a leadership position must ask himself or herself, What am I doing that will help enable Americans to take advantage of these new opportunities and restore the American Dream?

Americans in an earlier age remade their country to cope with the industrial revolutions. Americans in this one can rework America for the digital revolution.

As before, the agenda will touch many areas of American life. Once again, the leaders must come from every part of American life. It is time for Americans to get ready and gear up for this transition. It is our turn.

American Dream

What is the American Dream? Almost all the answers have always had something to do with two ideas. One, of course, is opportunity. The other is responsibility.

From the time they discovered the new land, European settlers were awed by both the opportunity and the risks. When John Winthrop wrote his famed 1630 sermon to his Puritan flock on

their journey to the unknown new world, he preached to them about a “city upon a hill.” But he was not thumping his chest with pride. He was giving them a warning.

We are fashioning a community, he told them, where “the eyes of all people are upon us.” If we fail, our “shipwreck” will make us a laughingstock, “a story and a by-word through the world.”⁴

That mix of opportunity with responsibility set the tone for much in American political culture. Success would need *risky efforts*: crossing oceans, crossing plains, risking money, risking lives. That meant responsibility.

In return, the system should offer *fair chances* to participate. That was the opportunity part. The original American system was always one of “try, try again.” It was about fresh starts. It was in America that bankruptcy relief would begin replacing debtors’ prisons. America would give people repeated chances for a meaningful life.

The American Dream thus also came to stand for a *freedom to experiment*. Social reform, self-improvement: these are constant motifs all through the country’s history.

In a 2013 survey the definition of the American Dream that attracted more support than any other was “to have freedom of choice in how to live one’s life” (75 percent). The least favored definition emphasized the ability “to become wealthy” (29 percent).⁵

In return, the country offered a *context of abundance*. At first there was the land. Then there was the abundance of personal possibilities, of reinvention.⁶

Throughout American history, leading thinkers have seen the dream threatened and put forward ideas to save it. This theme—threat and salvation—is the narrative line of the bestseller that first popularized the term “American Dream.” The book, by James Truslow Adams, came out in 1931, while the country was in the depths of the worst economic depression in American history.⁷

Entering one of the few truly fundamental periods of change in the history of America’s economy and society can be scary. So it is a comfort to know that Americans have been there before.

Each time, Americans had to consider how to renew their hope in the American Dream, using the tools that the new era gave them. How to remake business? How to remake education?

This Revolution in Historical Context

During the first two hundred years that European settlers lived on the eastern fringe of North America, most of them were farmers. Almost all lived on a farm or in a village with fewer than a thousand people.

Few went any farther from a sustaining sea or navigable river than they had to. Into the early 1800s most people in the new United States of America lived within 50 miles of the Atlantic seacoast. Thinking about economic growth, those Americans were preoccupied with two concerns: safely getting new land and the conditions of Atlantic trade.

The circumstances of Americans began changing in fundamental ways during the early 1800s. By the 1820s several changes were becoming obvious:

- The country had grown vastly larger.
- It was now possible to move people and goods vast distances, even on land, at a manageable cost. Historians call this the “transportation revolution.” In America this meant canals, steamships, and then, above all, railroads.
- The “factory” method of production began to take off, having arrived from Britain at first mainly in New England, using steam engines as well as water mills.⁸ The Americans early became known for using their machines to offer state-of-the-art ways to process cotton and build firearms (Eli Whitney was involved in both developments).

By the 1820s the founding generation was passing from the scene. Americans wondered aloud whether they were still wor-

thy of what they had inherited. A mere republic of quarrelsome land-hungry subsistence farmers did not seem very fitting.

Public and private leaders called for a shift from a culture built around subsistence farming. They argued for an America remade to thrive with capitalist production and a market revolution.

The leading proponent of a broader political and economic vision for this new “American system” was Henry Clay. Often citing the example of the Kentucky plantation he managed with his brilliant wife, Clay thought farmers should also be businessmen, as he was in selling the hemp he grew on his own farm. Clay sought to avoid panics, like the one America had experienced in 1819, caused by overreliance on foreign markets.⁹

Flocks of journalists and opinion leaders elaborated and spread the basic elements of Clay’s thinking: stronger governments to make “improvements,” reliance on markets in a great American *union*, tariff barriers, and cautious western expansion.

These causes marked the “national Republicans” of the 1820s, the Whigs who came next, and the Republican Party built from the wreckage of the Whigs. They molded thinking about the American political economy for the next hundred years.

Andrew Jackson and his successors in the Democratic Party framed their own agenda by how they agreed or disagreed with much of this. For example, most Southern planters were enthusiastic supporters of a more market-oriented agriculture, but using slaves to grow cotton for factories in Britain and consumers around the world, they usually opposed tariffs on trade.¹⁰

So Americans then argued about how to remake their country in this revolutionary age and preserve the American Dream. The issues of “markets and manufactures” that characterized this first American economic system were understood and debated everywhere.

Americans discussed issues like freedom of labor and the problem of Southern slavery; issuance of money, credit, and the control of banks; sectional economic divides, like those between North

and South; sale of public land; tariffs on imported goods; government sponsorship of "improvements"; and encouragement or regulation of railroads.¹¹

In this older era, Americans debated economic subjects at a remarkable level of detail and understanding. Students stuck in a history class today might roll their eyes if a teacher turns to a topic like the "bank war" or the "gold standard." But issues like those fired the emotions of generations of ordinary Americans from the 1820s through the 1920s.

Why? Were people back then just so much better educated and informed? No. But to them, these topics were not abstract. To a farmer, currency issues were about the price he would get for his wheat. Local merchants and farmers wanted thousands of local institutions ready to extend life-giving loans. Banks were therefore vigorously regulated to limit the power of distant financiers.

In education, this first American economic system emphasized individual opportunity. It stressed self-improvement. It was an age when "the cult of the 'self-made man' was universally accepted in America . . . that the key to success lay within."¹²

For many people of that era—and the present one—an embodiment of these ideals was Abraham Lincoln. Lincoln grew up on the frontier. He had no formal education to speak of. His great gifts were acquired on his own, in a life of reading, reflection, and practice.

Lincoln thought Clay was a great American. He found in Clay and Clay's system models of American character and statesmanship. In Lincoln's day this American system was much more than economics (a word then not much in use). It was about how to build an American way of life.

Americans of Lincoln's generation believed they were breaking from their parents (Lincoln was estranged from both of his natural parents). In this new market world Americans had to fashion their own identities.

They had to educate themselves outside of formal institutions

in every sundry way they could. It was a time when “library companies, literary societies, mutual improvement associations, [and] the grand American adult education program called the lyceum flourished.”¹³ It was not a land where formal credentials were necessary badges of entry.

Men like Lincoln—or the ex-slave Frederick Douglass—were held up as exemplars of the self-made man. Education in this age was considered the development and discipline of the person as a whole. It was seen as a matter of moral self-instruction as much as any mastery of technical skills. Lincoln himself did not talk much about his log cabin beginnings. He spoke instead about the duty to build a balanced character, to build a balanced country.

For Lincoln, containment of the slave power was necessary to protect such an American Dream. And if destruction of the slave power was the only step that could save the American union, he would lead it.

*The Second American Economic System—
“An Era of Mass Production”*

As a new kind of American union was slowly rebuilt after the Civil War, the circumstances of the American and world economies changed yet again in deep and lasting ways, obvious to all. The second economic revolution set the terms that would dominate the rest of the 19th century and almost all of the 20th.¹⁴ Americans experienced it as

- the rise of mass production, ranging from much more steel to canned goods to Coca-Cola to automobiles and beyond, with the supply chains, mass marketing, and distribution that went with that;
- greatly improved communication, through the cabling of America with telegraph and then telephone service;
- the rise of giant companies and the professionals operating them, seeming to touch every facet of life;

- the urbanization of the nation, as most Americans moved from the countryside into towns, cities, and then many large cities; and
- the harnessing of new forces—electricity and the electromagnetic spectrum—and many new materials developed by industrial chemistry, including biochemicals (like aspirin) and petrochemicals (like plastic).

As they had before, back in the 1820s, Americans began arguing about ways to remake their country. The issues of the earlier American system, the one of “new markets and manufactures,” had not yet disappeared. But as the older issues faded, the newer ones came more into the foreground.

Most of the economic topics that moved to the center of attention more than a hundred years ago remain there today. Among them are the power or control of big business, including “trusts” or monopolies or “utilities”; the power or control of organized labor, including unions; immigration (business was hungry for the labor it brought); farm versus city (once a defining topic, receded now); public education; provision of health care; and government regulation of products and working conditions. These issues all arose out of arguments about how to adapt to the era of mass production and the mass consumerism that came with it.

There was also, always, the hardy perennial about taxing and spending by the national government. But after the 1930s the content of the argument shifted. Government spending became not just an instrument to do something else, like build a road. It became a policy in its own right as spending—on anything—was seen as a way to manage the economy and its business cycles by stimulating or slowing mass buying, “aggregate demand.”

From this point of view, the objects of the spending are secondary, except for arguments about how well they promote or “multiply” aggregate demand. Experts in the new field of economics called macroeconomics, which emerged in the 1940s and 1950s,

then argued about the instruments to be used to achieve these mass effects—spending, tax rates, or interest rates.

In this American system of the “era of mass production,” Americans either embraced or mourned the rise of big institutions. Both sides agreed that these large hierarchies seemed to dominate much of what they could do.

Before the Civil War only about 7 percent of American manufacturing had existed as corporations; by 1900 that figure was 69 percent. In the 1870s a future Republican president (Garfield) warned of a coming “industrial feudalism.” At the end of the Civil War, “I found that I had got back to another world,” says a wistful veteran, wounded at Gettysburg, the title character in William Dean Howells’s *The Rise of Silas Lapham* (1885). “The day of small things was past, and I don’t suppose it will ever come again in this country.”¹⁵

But by 1938, as big business was still a lightning rod for controversy in much of America, researchers went to “Middletown”—Muncie, Indiana—and found that “Mr. and Mrs. John Citizen of Middletown, U.S.A.,” seemed to like big business. “They mention nearly twelve times as many good points as bad points about ninety leading corporations.” The once-resented telephone giant AT&T was generally praised for its service, and only 4 percent considered it an unfair monopoly.¹⁶

Notions of education and self-improvement changed too. The era of mass production was also in awe of scientific progress. Americans deferred to professionalized experts who would call for “rational,” efficient solutions to problems.

The great problem solvers of this era were not in the Clay/Lincoln mold of the self-made individual. Instead, at this high tide of deference to expertise (between, say, about 1900 and 1960), Americans would often look for answers from rigorous investigators, austere and dignified lawyers, and engineers.

This was another age in which Americans had to reinvent the jobs they did every day. Millions filled new professions, like those

of “engineers” and “public school teachers,” that were practically unknown in 1850. Children no longer ran the machines. Common laborers, many of them illiterate, were trained in the new high schools and by their employers to fill new kinds of jobs with titles like “welders” or “machinists” or “electricians.” A huge new kind of educational system had to be built to train both the scholars and the workers.

How Did Americans Rework Their Systems?

In these first two eras of economic revolution, when Americans remade their country and argued about ways to do it, how did the great changes occur? In other words, if we need to remake our country again in order to restore the American Dream, are there lessons for how we might expect to do it now?

A conventional way Americans think their systems have been remade takes the form of stories in which entrenched interests are eventually overcome by the power of the people, usually led by a charismatic president. In this view the slave power was overcome by Lincoln, the greedy robber barons were stayed by Theodore Roosevelt, the capitalist disorder was taken in hand by Franklin Roosevelt and the New Deal, or the welfare state hydra was laid low by Ronald Reagan.

Whatever their merits, these stories overlook much of what is most interesting about how Americans actually reworked their country in the past. These older summaries, “positing a clear-cut battle between the ‘people’ and the ‘interests,’ [have] long been rejected” by historians “as too simple a framework for an extraordinarily complex era of political and social change.”¹⁷

What the historians found instead is more complicated and at the same time more interesting. In many practical ways, Americans remade their country by fashioning alliances of private and public interests, working in concert. Such alliances were usually found on *both* sides of the political arguments.¹⁸

As the French traveler Alexis de Tocqueville observed in the

1830s, Americans would join or create associations of all kinds—profit seeking, nonprofit, professional, voluntary. To remake America, to get really large-scale jobs done, the work had to involve coalitions. These groups sought out allies here and there in the relevant agencies of government.

Innovators found that, in order to take off, they needed political order. That was not a new pattern. At the start, right after the innovation starts turning things upside down, there would be the “normal characters of a frontier town . . . the pirates and the pioneers, the tinkers and the traveling salesmen.” But then, the Barnard College president Debora Spar has noted, someone usually called for the sheriff.

“Frequently,” she writes, “the worlds of business and politics are described as belonging to wholly different spheres.” Not so. It is right there, on the technological frontier, where “markets are actually created, where industries spring to life and then settle, eventually, into some kind of ordered existence,” that order needs some help. “As this process unwinds, power is distributed and structures are established. It is a hugely political enterprise, even if governments are not actively calling the shots or regulating commercial activity.”¹⁹

A common view of American history is that back in the good old (or bad old) 19th century, the state was a weak player in the economy. *Laissez-faire* reigned. Not so.

Government in that era was not large in size, but it was the indispensable partner to large private initiatives. This was the period in which state and federal government gave about one-fifth of all the land in Minnesota to the railroads. Governments like that in Minnesota also issued bonds to finance the railroads. Minnesota was not unusual.²⁰

The auto and truck roads were developed in another enormous alliance. This one had a larger role for governments—local, state, and federal—which assumed the road cost. They were in league with private interest groups (like freight companies and the

Teamsters union), with the occasional private-chartered turnpike thrown in.

Another competitor for the railroads was air transport. Air travel got off the ground on a large scale in America with the aid of subsidies during the 1920s and 1930s. These were coming from the federal Post Office Department, so the airplanes would carry high-priced, faster “air mail.”

Again and again, when Americans remade their country, they built and used these private-public alliances. Whether the new systems were telephone networks, public schools, or electric power, one finds stories like these.²¹

Nowhere was this clearer than in changes in education.

- The era of markets and manufactures had a culture of self-improvement. Thus it was the era in which Americans started a “high school” movement and founded hundreds of tiny, private colleges. A network—mail delivery of newspapers and magazines—was seen as the main way for people to teach themselves. Because it subsidized such distribution of the written word, the Post Office seemed—to Edward Everett Hale in 1891—the “most majestic system of public education which was ever set on foot anywhere.”²²
- The era of mass production had a culture of training tens of millions. Thus it was the era in which education was more centralized in larger institutions. Public high schools became the norm, the university movement took off with its professional graduate schools, and everything—curricula, credit units, and credentials—was standardized for mass production and mass marketing.

Today Americans are so far removed from the last great age of re-creation, that we forget that a great, conscious effort is needed in order to think anew.

A Different Kind of Revolution

A hundred years ago Americans were buffeted by an economic revolution that was transforming their country. Their collective response harnessed the industrial might of great American institutions—corporate giants, a government with the largest office building in the world, big schools, towering hospitals. Business models relied on mass production. Institutions were centralized. People had to fit themselves into the system: its workplaces, its structures, its timetables, whether in business or education or health care or government.

Our current revolution is different because a networked world is inherently less centered and more distributed. This revolution can be more about empowering individuals, rather than institutions. It is “user-friendly.” It is a revolution that asks first, What capabilities would people like to have at their fingertips? Then, What solutions will give them that capability?

Instead of making people come to the institution, the “system,” and fit into it and its products, the networked economy will press many institutions to reach and fit every individual. That is why Americans should work to unleash the potential of individuals, networked with each other and the world. If the older revolution was about our mighty structures, this one is about the might of our combined talents, organized and deployed with unprecedented flexibility.

To thrive in this era, Americans have plenty of new tools and new openings that have also come with technology and globalization. Americans will choose how to take advantage of them, guided by their values.

Rather than ask, Will the robots take our jobs?, we ask, What jobs can Americans perform if they are empowered by these machines? And how can Americans get ready to take advantage of new opportunities?

Rather than ask, Will our jobs be outsourced or offshored?, we

ask, What new markets and global supply chains can Americans share?

In the first generation of technological change, the initial reaction is to think, How do we automate what we do today? In the next generation of change, the one we are entering now, we should also ask, How can we invent what we want to do tomorrow?

The first kind of thinking is more obvious. The second kind is more important. It is the kind that put the smartphone in your pocket. It is the thinking that creates new sorts of business, new ways of finding fulfilling work, and new ways to prepare for what is next all through our lives.

Our Values

This brief sketch hints at the possibilities we will explore in this book. We hope that, in reading it, you are inspired, or provoked, or want to start filling in areas that seem incomplete. If you have any of those reactions, you are at least looking ahead, imagining futures. You are joining us in thinking about how to rework America by means of the new tools coming to hand.

Our vision is about unleashing individual potential. To do that, millions of Americans may find new roles and opportunities—often helping others or being helped along the way.

Our vision is not mere speculation. The tools are already coming into use or soon will be. The money is there.

Reworking America is a great challenge, in every sense. The details are vital. And just boosting overall GDP is not an adequate goal. The bar must be higher. The American Dream is about opportunity for all, not just a few. In this revolutionary era we believe the greatest and most durable successes will flow from the broadest possible empowerment of Americans to realize their potential.

- We care about the large majority of Americans who are feeling left behind. Today we associate the highway

to success with a college education. But most Americans either do not go to college or are unable to complete a degree. Although higher education should be more inclusive, even it is no panacea. Nearly half of the college degree holders in their 20s are unemployed or underemployed.

- Good work provides predictable, steady income as well as self-satisfaction. We want as many people as possible to see opportunities to participate productively in ways that are meaningful to them.
- We want all Americans to be able to prepare for a world of constant change, able to learn new things or retrain in the most flexible and affordable ways throughout their lifetimes.
- The American Dream has always been about opportunity for all, rewards for effort and ingenuity, fresh starts, and second chances. We want to rebuild the American Dream so that it works for people who now feel disconnected from the benefits of the emerging networked world, who feel left out from this new era in America's history.
- We call on compassionate leaders from every part of American life to join this effort to rework America. Partnerships with governments will be vital. But Americans cannot wait for leaders in Washington to tell them what to do.

Economic growth is good. It is not good enough, though, if most Americans believe that the opportunities ahead for themselves and their children are steadily narrowing.

We discussed some of these statistics at the beginning of the chapter, about income and the “great decoupling” of productivity gains from income gains. A further version of the story is what the University of California at Berkeley economist Enrico Moretti

calls a “Great Divergence.” He starts by comparing communities once demographically analogous—as Albuquerque and Seattle were in 1978 while the little start-up company Microsoft was based in Albuquerque. He then follows how the paths of different cities, like Albuquerque and Seattle, have diverged in the decades that followed.

Beginning in the 1980s, “America’s new economic map shows growing differences, not just between people but between communities.” On the one hand, there are thriving communities built around various kinds of innovative producers and the multiplier effects from those nuclei. On the other hand, there are communities, growing farther and farther apart, “stuck with dead-end jobs and low average wages.”

Such differences have always been present. “But today the difference among communities in the United States is bigger than it has been in a century.”²³

There are a number of ways to measure real, broad improvement, improvement that most Americans experience in a more dynamic economy that creates good jobs that pay well.²⁴ Some of the most revealing indicators of success will be found less in aggregate GDP numbers or in measures of the unemployment rate. Better measures will be surveys of public attitudes, the scale of net job creation, the number of young firms, evidence of rising median income, signs of a fluid labor market, growing attainment of adult job skills, and the participation of young people in the workforce. In all these measures, the trend lines have been going down at a troubling rate for a number of years, often for decades.²⁵ Success, five or ten years from now, should mean that trend lines like these have changed direction and are moving consistently the other way.

There are many numbers for observers to track.²⁶ But we agree that to rework America and renew the American Dream, indicators of American economic opportunity should change course. They should trend up, not down.

To Bend History, Change the Odds

One of our members, the former Utah governor Michael Leavitt, likes to tell a story of a child being shown how an old clock works. When its back is opened, the child is bewildered by all those wheels and connections, all in motion. The kindly clockmaker points, though, to the big gears. It is those big gears, he explains, that turn all the little ones.

This book points to some of the big gears in America's economic future. We believe that the American (and world) economy is in a *transitional period*, of a kind and scale that comes along every hundred years or so.

We believe the systems of the old economy have become *mismatched* with the emerging new economy. The mismatches are creating a sluggish economy, out of gear, limiting opportunity. It is not so much the overall size of the economy that is the problem, more its shape—too much here, not enough there.

We cannot predict a specific set of outcomes. The historical changes in motion are far too large and sweeping for us to be able to do that. Nevertheless, one of our key premises is that we can shape these outcomes, not merely wait to be shaped by them.

Our strategy is to use the new tools to change the odds to favor our values. To be more exact, our strategy is not to change just one set of odds. Fixing the mismatches can radically change the odds of success in tens of millions of individual American stories. In each of those stories the odds might change at several stages in a person's life and in the life of a business. Do that, and then play for the breaks. We are too humble to predict the results, but do that, and America can again become a country full of promise and possibility.

The two goals we suggest—more opportunities for good work, more pathways to valued careers—can be advanced with strategies for business development and personal development. We think these strategies make sense because, in the emerging networked economy, it has never been easier—in theory—to start and grow a business. It has never been easier—in theory—to find and get the

education or training you need, anytime, anywhere, throughout your life. So, in theory, the strategies are workable.

Our job, then? Nudge reality for all Americans closer to the theory. In this book we will offer six strategies for action to pair up reality and theory.

For business development and more opportunities for good work:

- ***Connect to a world of buyers.*** Get ready for a world economy about to more than double in size. Use the openings for much more digitized commerce that play to American strengths in producing goods and especially services that are already valued around the world, bringing billions of potential new buyers to Americans' screens.
- ***Invest in Main Street America.*** Get trillions of dollars in available capital off the sidelines and more productively invested in business growth. Reverse the long-time trends that have encouraged flows of credit to fuel unsustainable consumer debt.
- ***Share the knowledge, innovate the jobs.*** Empower small businesses with big data. Empower frontline employees with the capabilities of mobile technologies connected to networks of information. As innovated jobs add value in redesigned businesses, employers should want to invest in their workforce, and employees will see more valued career pathways.
- ***Better made, in America.*** Global trends invite more local and customized commerce; they also reward complex, high-value work. Americans can build up strong communities of American producers, connected on high-quality networks, to create good jobs and spin off more for all.

For personal development and more valued career paths:

- ***Match Americans to opportunities.*** With more useful credentials and interactive matching, build a labor mar-

ket that functions at the speed and with the interactive capabilities of a network, a market giving up-to-date information every American can use.

- ***Prepare for the life you want.*** Use new educational designs—modular, lifelong, blending the personal touch with online capabilities—to redesign the way Americans teach, making needed knowledge available to anyone, anytime, anywhere, and at any point in their life.

These six strategies for action are meant to enable Americans who are eager to look forward and find new solutions.

Such Americans are not hard to find. Many of these leaders are at work in local communities, looking at what they have, imagining innovative possibilities. They are already out doing what they can, in ways that rarely make the news headlines.

Every country in the world is dealing with many of the same challenges Americans are facing. That includes factory-dense China and export champions like Germany and Japan. The economic revolution is hitting them too.

Compared with other countries, the United States has a range of advantages and tools. It sits at the heart of a continent, North America, with great human and natural resources. It has a deep bench for creativity and research. It has enviable access to private capital.

The essence of this economic revolution is its capacity to unlock individual potential. There are plenty of Americans who are ready to look forward.

Robert Kennedy once put it this way: “Few will have the greatness to bend history itself, but each of us can work to change a small portion of events, and in the total of all those acts will be written the history of this generation.”²⁷

Notes

Preface

- 1 We saw this compelling phrase in James Fallows, “‘Career Technical’ Education: More Middle in the Middle Class?,” *Atlantic*, March 29, 2014. Fallows was reacting to a comment from an anonymous reader on the profile of a Georgia high school system that we describe in chapter 7.

Chapter 1

- 1 Carmen DeNauas Walt and Bernadette Proctor, *Income and Poverty in the United States: 2013*, U.S. Census Bureau, Current Population Reports P60–249, September 2014, p. 23, table A-1. Figures on median income (through 2012) are also depicted in the graph below, using numbers from the Census Bureau’s Current Population Survey, Historical Income Tables, Table H-5.

Real Median Household Income (1967–2012)



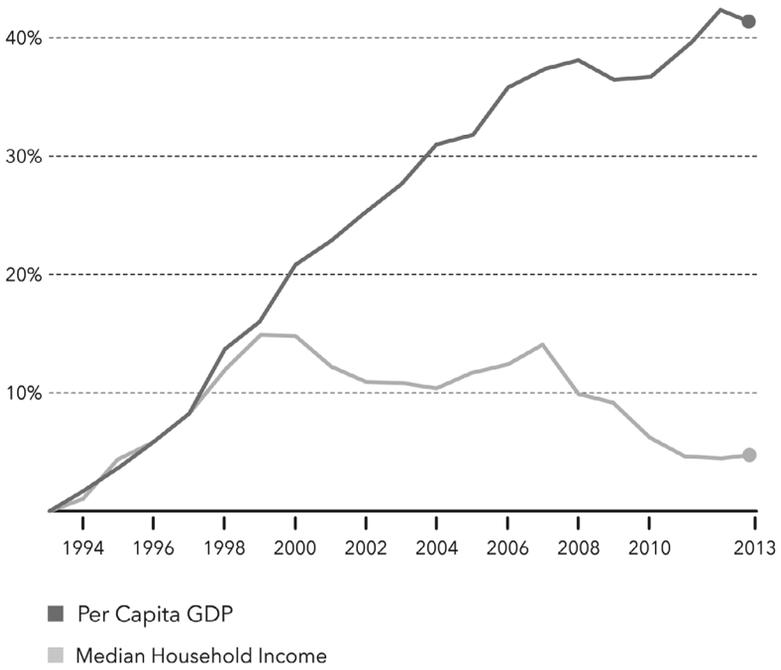
- 2 From 2009 through 2011, for example, net household wealth continued to decline, in real terms, for 87 percent of Americans. The wealth of the 13 percent of Americans with net worth (after debts) of half a million dollars or more improved by 21 percent. Richard Fry and Paul Taylor, Pew Research Center, *A Rise in Wealth for the Wealthy; Declines for the Lower 93%: An Uneven Recovery, 2009–2011*, April 23, 2013, at http://www.pewsocialtrends.org/files/2013/04/wealth_recovery_final.pdf.

This is because most of the economic gains in the recovery have not come in wages; they have come from appreciation of capital assets, mainly holdings of stocks and bonds through mutual funds. This capital income accrues to a small minority of Americans. Two-thirds of all holdings of financial assets, like stocks and bonds, are held by 5 percent of the households. Federal Reserve System chair, Janet Yellen, “Perspectives on Inequality and Opportunity from the Survey of Consumer Finances,” October 17, 2014, p. 7 and fig. 7, at <http://www.federalreserve.gov/newsevents/speech/yellen20141017a.pdf>.

This general depiction of flat real income growth holds true whether one looks at income before or after taxes, or before or after accounting for government transfer payments. Neil Irwin, “You Can’t Feed a Family with G.D.P.,” *New York Times*, September 16, 2014.

Per Capita GDP / Median Household Income

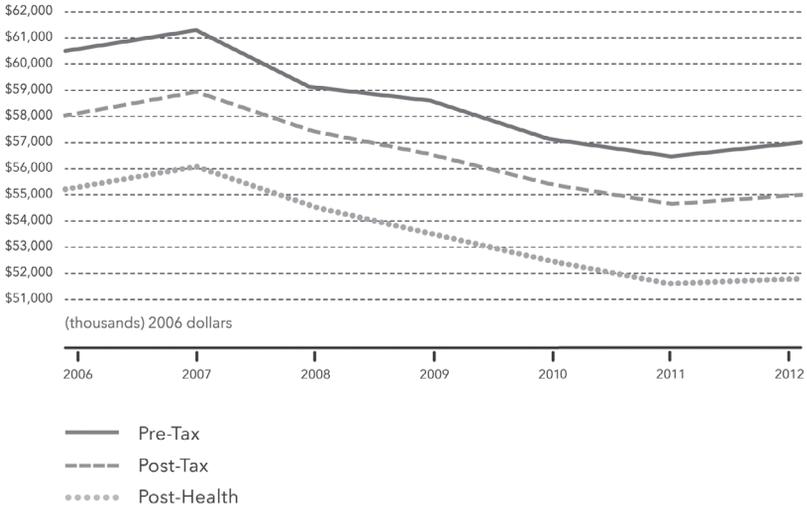
% change indexed to 1993 level



SOURCE: Census; Bureau of Economic Analysis

See also the figure below, produced by McKinsey & Company based on data from the U.S. Bureau of Labor Statistics (BLS) and Moody's Analytics (ECCA) forecast.

Median Household Income

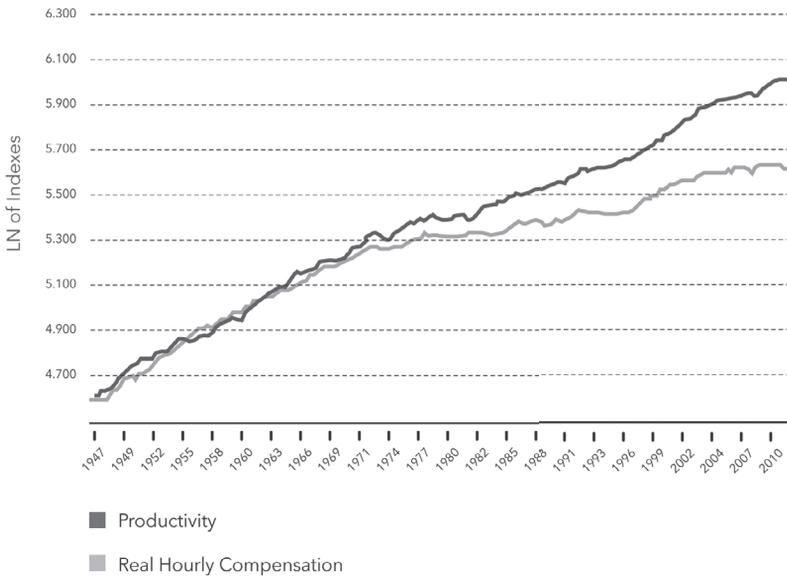


SOURCE: U.S. Bureau of Labor Statistics and Moody's Analytic Forecast

3 Chart from presentation by Alan Blinder for the Hamilton Project, November 15, 2014.

Productivity and Real Hourly Compensation

*Nonfarm Business Sector



- 4 John Winthrop, “A Modell of Christian Charity” (1630), in *Collections of the Massachusetts Historical Society*, 3rd ser. (Boston: MHS, 1838), p. 47, available at <https://history.hanover.edu/texts/winthmod.html>. Spellings have been modernized.
- 5 *Washington Post*–Miller Center Poll, “American Dream and Economic Struggles,” *Washington Post*, November 25, 2013.
- 6 The classic statement is David Potter, *People of Plenty: Economic Abundance and the American Character* (Chicago: University of Chicago Press, 1958).
- 7 James Truslow Adams, *The Epic of America* (Boston: Little, Brown, 1931).
- 8 On the War of 1812 and that era’s interruption of British trade as a turning point stimulating the growth of American manufactures, see Stanley Engerman and Kenneth Sokoloff, “Technology and Industrialization, 1790–1914,” in Engerman and Robert Gallman, eds., *The Cambridge Economic History of the United States*, vol. 2, *The Long Nineteenth Century* (Cambridge: Cambridge University Press, 2000), pp. 372–73.
- 9 To take advantage of what historians later called a “market revolution” in American commerce, Clay would have the government sell off public lands it owned to make internal improvements, like roads and canals, connecting farms to markets. He would levy tariffs—another source of government revenue—to protect American producers and manufacturers from predatory British traders. By raising the price of land, he would discourage uncontrolled settlement of the West, thereby opposing many slaveholders eager to get more land on which they could grow cotton to sell across the Atlantic. See Charles Sellers, *The Market Revolution: Jacksonian America, 1815–1846* (New York: Oxford University Press, 1991); Daniel Walker Howe, *What Hath God Wrought: The Transformation of America, 1815–1848* (New York: Oxford University Press, 2007), pp. 270–75; Sean Wilentz, “Society, Politics, and the Market Revolution, 1815–1848,” in Eric Foner, ed., *The New American History*, rev. ed. (Philadelphia: Temple University Press, 1997), pp. 62–70.
- 10 See the recent summary in Sven Beckert, *Empire of Cotton: A Global History* (New York: Knopf, 2014), chaps. 5 and 6.
- 11 These issues were all connected. Until well into the 20th century the national government had little money, except what it could get from sales of public lands and from tariff revenue. So a good Southern Democrat might denounce tariff hikes as a way of standing up for free world trade (especially in cotton), and this position had the added virtue of keeping the national government from having much money.
- 12 Stuart Bruchey, *Enterprise: The Dynamic Economy of a Free People* (Cambridge: Harvard University Press, 1990), p. 195.
- 13 Daniel Walker Howe, *Making the American Self: Jonathan Edwards to Abraham Lincoln* (Cambridge: Harvard University Press, 1997), pp. 107–56, quotation from p. 126.
- 14 The chronologies of the American economic eras outlined in this chapter are linked to the two global economic revolutions, often called *industrial* revolutions, usually dated to the 18th and 19th centuries. Most historians refer to a first industrial revolution that emerged in the late 1700s and grew in

importance during the first half of the 1800s. Some see this emerging very gradually, over centuries. Others date this first industrial revolution more technologically, associating it with the steam engine and growing use of fossil fuels for energy. Historians agree that this first economic revolution reached its height between about 1750 and 1850. Emblems of this era were coal, steam engines, and big machines to run “factories,” drive ships, and create railroads.

Most historians then observe another profound period of economic change, sometimes called a “second industrial revolution” or “second economic revolution.” It was actually as much about ways of organizing society as about technologies. This was the age of very large-scale production of steel, new materials created by industrial chemistry, and the harnessing of electromagnetism to generate electricity and communicate through wires. Emblems of this era were electrification, high explosives, the internal combustion engine, giant mass production enterprises, and piped systems to distribute clean running water.

This second revolution occurred more rapidly than the first. It took off during the last quarter of the 19th century and was already globe spanning by the early 1900s. Jürgen Osterhammel, *The Transformation of the World: A Global History of the Nineteenth Century*, trans. Patrick Camiller (Princeton: Princeton University Press, 2014). In a vast literature on these economic revolutions, Osterhammel’s dense and masterly survey is a marvel of distillation, esp. chap. 12. There are excellent related chapters on labor (chap. 13), networks (chap. 14), and knowledge (chap. 16). It is this second revolution, the “great acceleration” toward the end of the 19th century, that is the global side of what the text calls an American “era of mass production.” The term “great acceleration” was an observation of contemporaries as diverse as Lenin, who used this phrase, and Henry Adams. See also the last section of C. A. Bayly, *The Birth of the Modern World, 1780–1914: Global Connections and Comparisons* (London: Wiley-Blackwell, 2004).

- 15 Garfield and Howells quoted in the wonderful essay by Allen Guelzo, “A War Lost and Found,” *American Interest*, September/October 2011, pp. 6, 9. For a persuasive case on the role of the Civil War in accelerating the rise of powerful corporations in American life, see Sean Patrick Adams, “Soulless Monsters and Iron Horses: The Civil War, Institutional Change, and American Capitalism,” in Michael Zakim and Gary J. Kornblith, eds., *Capitalism Takes Command: The Social Transformation of Nineteenth-Century America* (Chicago: University of Chicago Press, 2012), pp. 249–76.
- 16 Quoted in Robert MacDougall, *The People’s Network: The Political Economy of the Telephone in the Gilded Age* (Philadelphia: University of Pennsylvania Press, 2013), p. 260. The original authors of the famous Muncie study of 1924, Robert and Helen Lynd, returned there in 1935. They also noticed, and were bothered by, the widespread acceptance of—or resignation to—the big structures dominating modern life. See Robert Lynd and Helen Lynd, *Middletown in Transition: A Study in Cultural Conflicts* (New York: Harcourt, Brace, 1937).

- 17 Richard McCormick, “Public Life in Industrial America, 1877–1917,” in Foner, ed., *The New American History*, p. 108. This is a collection of historiographical essays published for the American Historical Association. See also Matthew D. Lassiter, “Political History beyond the Red-Blue Divide,” *Journal of American History* 98, no. 3 (December 2011): 760–64.
- 18 See the excellent introductory discussion in Brian Balogh, *The Associational State: American Governance in the Twentieth Century* (Philadelphia: University of Pennsylvania Press, 2015).
- 19 Debora L. Spar, *Ruling the Waves: Cycles of Discovery, Chaos, and Wealth from the Compass to the Internet* (New York: Harcourt, 2001), pp. 8, 10.
- 20 There is a lively summary in John F. Stover, *American Railroads* (Chicago: University of Chicago Press, 1961); the Minnesota land-grant number is on p. 92.
- 21 Especially valuable on the evolution of the older generation of network communication is Richard John, *Network Nation: Inventing American Telecommunications* (Cambridge: Harvard University Press, 2010).
- 22 Quoted *ibid.*, p. 23.
- 23 Enrico Moretti, *The New Geography of Jobs* (New York: Houghton Mifflin Harcourt, 2012), pp. 3–4.
- 24 Thoughtful examples include the Economic Opportunity Index, developed by the Hope Street Group, at <http://www.hopestreetgroup.org/our-work/big-idea/economic-opportunity-index>; the survey-based American Dream Composite Index and its five subindices, developed by Xavier University’s Center for the Study of the American Dream, at <http://www.americandreamcompositeindex.com>; and the Opportunity Index developed by Opportunity Nation and Measure of America, which is a project of the Social Science Research Council, at <http://opportunityindex.org/#4.00/40.00/-97.00/>.
- 25 For those who are interested, here are some more details on these metrics.

Relevant Surveys of Public Opinion. If you want to know whether Americans are more hopeful about the economic future, then ask them. Many surveys do. The answers have been getting consistently more pessimistic for at least ten years. For example, consumer attitudes are regularly polled by the University of Michigan with Thomson Reuters. This includes a question asked since 1998 about whether respondents believe they will have a real income gain during the next five years. At the end of the 1990s the percentage of expectant “yes” answers were in the low to mid 40s. By 2004 that number had dropped into the 30s. It kept dropping. By 2011 it fell even into the 20s. The number has recovered, but so far only into the low 30s. In other words, only about one-third of Americans say they are hopeful that their real income will improve during the next five years. Chart 16, March 2014, Thomson Reuters and University of Michigan, “Surveys of Consumers,” at <http://www.sca.isr.umich.edu/get-chart.php?y=2014&m=3&n=16h&f=pdf&k=b369a586a4c295f6100c8e1da76167d2>.

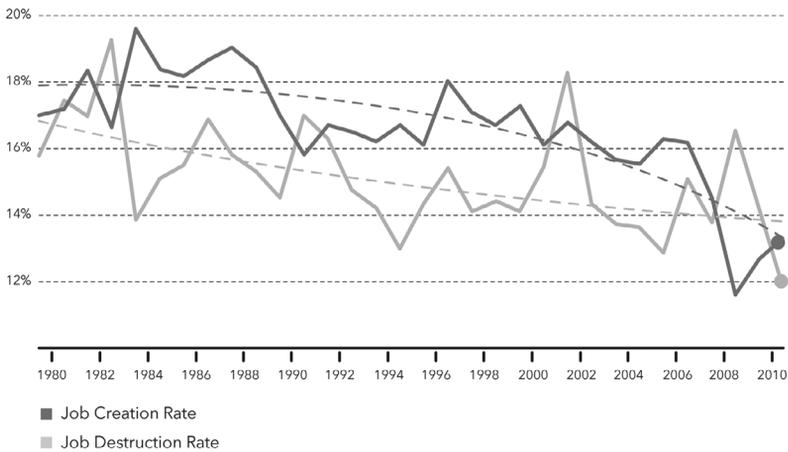
Net Job Creation. If more American businesses grow, we will regard

this as a success if it creates more opportunities for Americans to contribute. An indirect measure of this is the unemployment rate. A more direct measure of that success would be the creation of new jobs. In a dynamic and innovative economy, many jobs will be created and many will be lost. In a dynamic and healthy economy, more will be created, for a net plus. The number of net jobs created, as a proportion of the labor force, is therefore an indicator of both growth and energy.

Since the early 1980s the American economy has gradually become less dynamic. The current trend is one of “anemic job creation.” In 2011, with the recovery well underway, about three million fewer jobs were created than had been created in any of the years between 1980 and 2006. For an eloquent recent statement on the importance of economic dynamism, and contemporary reflections on creative destruction, see Edmund Phelps, *Mass Flourishing: How Grassroots Innovation Created Jobs, Challenge, and Change* (Princeton: Princeton University Press, 2013).

The chart below indicates the general trend in the job creation rate and a sense of the net job creation rate, since 1980. Note the apparent decline in overall dynamism and the trend toward rough equilibrium in creation and destruction.

U. S. Annual Job Creation and Destruction Rates, 1980–2011



SOURCE: Author calculations from the U. S. Census Bureau's Business Dynamics Statistics

NOTES: The filter is Hodrick-Prescott with multiplier 400. The vertical axis does not begin at zero.

Fig. 3 in Ryan Decker, John Haltiwanger, Ron Jarmin, and Javier Miranda (the authors in the “author calculations” mentioned in the source), “The Role of Entrepreneurship in US Job Creation and Economic Dynamism,” *Journal of Economic Perspectives* 28, no. 3 (Summer 2014): 3, 14. See also

John Haltiwanger, Javier Miranda, and Ron Jarmin, “Anemic Job Creation and Growth in the Aftermath of the Great Recession: Are Home Prices to Blame?,” U.S. Census Business Dynamics Statistics Briefing, Kauffman Foundation, July 2013, p. 2 and fig. 1.

More Young Firms. There is a broad consensus among experts that many young firms are a strong measure of a growing, healthy, and vibrant economy. Older firms are vital, of course. About half of U.S. employment is provided by under 1 percent of America’s companies. And most business start-ups exit in the early years. But a small fraction of young firms become high-growth enterprises. They play a disproportionate part in creating jobs, innovation, and productivity. Their growth also signals good availability of credit and capital for entrepreneurs. “Business ownership,” the Fed chair Janet Yellen recently underscored, “is associated with higher levels of economic mobility.” Yellen, “Perspectives on Inequality and Opportunity,” p. 16.

The best measures focus not just on start-ups but also on the start-ups that survived, establishments that are five years old or less, whether or not they have remained under the original management. The role of such young firms in the U.S. economy has been declining slowly for about thirty years. The decline accelerated after 2000.

Despite much publicity about start-ups in Silicon Valley and sensational prices paid for them, one group of experts recently concluded, “A critical factor in accounting for the decline in business dynamics is a lower rate of business startups and the related decreasing role of dynamic young businesses in the economy. . . . These trends suggest that incentives for entrepreneurs to start new firms in the United States have diminished over time.” Decker, Haltiwanger, Jarmin, and Miranda, “The Role of Entrepreneurship,” p. 4. The following charts depict the trend.

**Declining Share of Activity from Young Firms
(Firm Age Five or Less) U.S. Private Sector, BDS**

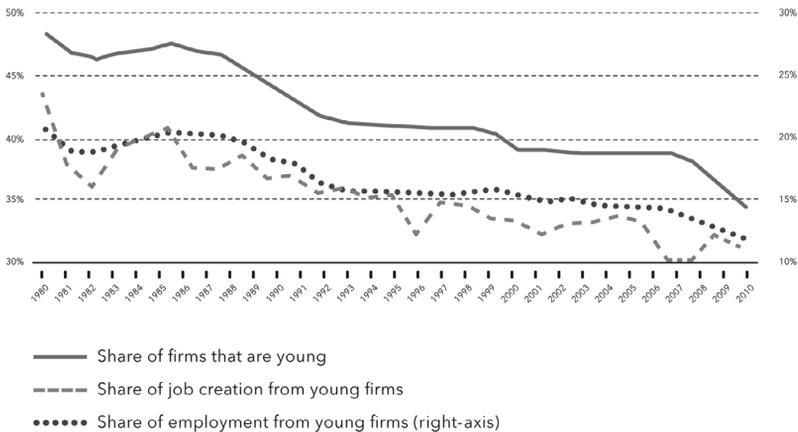


Chart adapted from fig. 3 in John Haltiwanger, Ron Jarmin, and Javier Miranda, “Where Have All the Young Firms Gone?” U.S. Census Business Dynamics Statistics Briefing, Kauffman Foundation, May 2012.

Rising Real Median Income. If more Americans are contributing more value, they are likely to earn more. The effect should be visible in gains at the median point, right at the middle of America’s middle class. We think it is also important, however, to look for higher median income *within* groups of similar education and gender. One of the striking illustrations of the mismatched economy is how much income is skewed even when such factors are held constant. See, e.g., David Autor, Lawrence Katz, and Melissa Kearney, “Trends in U.S. Wage Inequality: Revising the Revisionists,” *Review of Economics and Statistics* 90, no. 2 (May 2008): 300–323.

A More Fluid Labor Market. In a dynamic economy with a lot of job creation and innovation, an ideal labor market should also feature a lot of mobility. People would be adjusting their skills and moving to better opportunities. Employers would be getting optimal matches of people for their needs. Just such patterns marked periods of economic advancement in America’s history.

Job and worker reallocation rates, especially among younger Americans, are a good measure of the fluidity of the labor market. Yet, despite the profound changes accompanying the rise of a networked economy and the digital revolution, a recent study noted, “Summing up, the United States underwent a large, broad-based decline in the pace of labor market flows in recent decades. The decline holds across major industry sectors, across all states, and across age and education groups for both men and women.” Steven Davis and John Haltiwanger, “Labor Market Fluidity and Economic Performance,” National Bureau of Economic Research, NBER Working Paper 20479, September 2014, p. 8.

Improved Adult Job Skills. Americans are used to reading measures of how they stack up in academic achievement. While all academic attainments can be enriching, some kinds of education are most relevant to potential earnings in the workplace. The Paris-based Organization for Economic Cooperation and Development (OECD) is well known for its survey of student achievement. It has now added an ambitious effort to identify the kind of skills adults need in 21st-century work and directly measure those “adult competencies” in the 29 member countries. Their assessments of literacy, numeracy, and “problem-solving in technology-rich environments” may sound similar to some academic categories, but the measures are not the same.

In 2013, the first time these skills were measured, Americans were assessed as significantly below the average in *all* of these categories, compared with the other 28 developed countries. Only two other countries in this group ranked so low. OECD, *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills* (Paris: OECD, November 2013), fig. 2.13, p. 97. The other two countries with below-average assessments in all categories were Ireland and Poland. It is possible that Italy and Spain also would have been below average

in all categories, but data was incomplete. The four countries that were above average in all categories were Finland, the Netherlands, Norway, and Sweden. For corroboration and elaboration of these OECD findings, see Madeline Goodman, Anita Sands, and Richard Coley, *America's Skills Challenge: Millennials and the Future*, Educational Testing Service, 2015.

Participation by Young Americans in the Labor Force. Although general participation in the labor force has dropped a bit over the decades, some of this drop can reflect the aging of the workforce and other factors that may not be a source of concern. But large dropouts of younger Americans from the workforce should be a disturbing “canary in the mineshaft.” It reflects the availability of entry-level jobs, the dynamism of the economy, the fluidity of the labor market, the availability of relevant education and skills, and whether educational structures have the flexibility to adjust to the lives of young people who wish to work at least part-time. When young people put off any participation in the labor force, their lack of experience influences their lifelong prospects.

The drop in labor force participation by young people, age 16 to 24, is most worrying. In 1992, when the numbers of young people successfully completing high school and college had already plateaued, the proportion of this age group who were at least working part-time was 66 percent. Twenty years later that number had fallen to 55 percent and was expected to keep dropping. Table 3, “Labor Force Projections to 2022: The Labor Force Participation Rate Continues to Fall,” *Monthly Labor Review*, December 2013, at <http://www.bls.gov/opub/mlr/2013/article/labor-force-projections-to-2022-the-labor-force-participation-rate-continues-to-fall.htm>.

- 26 We have not included import-export numbers, for example, because there are serious data collection problems that obscure the contribution of U.S. value to the networked production of “imports” or the contribution of foreign value to “exports.” Nor did we include data for public or private spending on research and development, because spending alone is not a reliable metric of effect, and alternatives, like counting numbers of patents or counting research citations, are also problematical.
- 27 Robert F. Kennedy, *To Seek a Newer World* (Garden City, NY: Doubleday, 1967), p. 231.