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THE GLOBAL AUCTION

The Broken Promises of Education, Jobs and Incomes

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CHAPTER ONE

Introduction

Democratic nations, left to themselves, are slow to embark on great ventures; they are only dragged into revolutions in spite of themselves.

—Alexis de Tocqueville, 1835.[1]

ALEXIS DE TOCQUEVILLE arrived in America in early April 1831, and his initial impressions left him stunned by seeing so many things of interest, but most of all, he viewed America as a land of opportunity. In a letter to his good friend Ernest de Chabrol, he confessed, "There is here not one man without a reasonable hope of attaining the good things of life…granted a taste for work, his future is assured."

If de Tocqueville returned to America today, what would be his reaction? There is little doubt that he would again be stunned by the changes. In the 1830s, there were no radios, televisions, or computers. He would be amazed by the palaces of consumption in cities large and small and be impressed by his foresight in recognizing that prosperity had been extended to a majority of American families. He would also be surprised to find a black president, given that black Americans had been enslaved and excluded from white society, and by the advances made by women. But is it unlikely that he would miss the realities of a dark age in bright lights.

Although he believed that America was the first nation to win the cause for equality, he would no doubt be surprised by the fragility of the American Dream and amazed to find millions of Americans relying on food stamps. He would also discover that middle-class families were far from happy and fearful for the future of their offspring. He would also realize that these problems are deeply rooted. The road to recovery in the aftermath of the 2008 financial crash would not restore the American Dream as many had hoped.

If his return journey had taken him beyond the United States, he would also have noticed that the idea of an affluent and fair society had spread to many parts of the world. It is equally valid to talk about the Chinese Dream or Indian Dream, as all have expressed a commitment to economic growth as a way of extending opportunities and a better life for all. But he would also discover that the age of uncertainty was not an exclusively American or European phenomenon. The spectacular growth rates achieved in the world's most populace countries have done little to remove fears of rising inequality and social unrest even as unprecedented numbers of Chinese and Indian families join the ranks of the global middle classes.

Our purpose is not to repeat de Tocqueville's tour of America but to understand the future of the American Dream, a task that can no longer be restricted to studying what lies within national borders. The world has become more integrated and networked, especially in economic activities. The market value of American workers is no longer judged solely in comparison to their neighbors. It is judged in a global auction for jobs. To capture these changes and what they mean for American and European workers and families, we set out on a journey that included seven countries—America, Britain, China, Germany, India, Singapore, and South Korea. Drawing on more than a decade of research, which involved an intensive 3-year study leading up to the second Wall Street crash, we visited 18 cities, including the Asian economic powerhouses of Bangalore, Beijing, Guangzhou, Hong Kong, Mumbai, New Delhi, Seoul, Shanghai, and Singapore.

We wanted to test the official account of how middle-class prosperity could be delivered in the future. Is it true that a knowledge-driven economy accelerates the demand for employees with a college education? Will it be enough for individuals to invest in their talents and abilities as they had done in the past to secure a well-paid job via educational achievement? Could America succeed in attracting a large share of the global supply of high-skill, high-wage jobs?

To find some answers, we talked to more than 200 managers, executives, and policy makers of many different nationalities. We met people in corporate headquarters, regional offices, hi-tech factories, research facilities, and government departments, along with taxi drivers, hotel employees, and fellow airline passengers. We paid particular attention to leading transnational companies as they defined the rules of the economic game. But we did not limit ourselves to American corporations. We also interviewed leading companies from Britain, Germany, South Korea, China, and India that will make investment decisions in the coming decades profoundly affecting the opportunities and prosperity of American workers.

As social scientists, we wanted to ensure the impartial rigor of our investigations, yet realized that our findings needed to be shared with a wide audience rather than remain locked away in specialist journals. We were observing an economic power shift that threatens the foundations of prosperity and social justice that many of those in governments throughout the developed world would rather we did not publicize. We had discovered another inconvenient truth that everyone has a right to know.

Those we met offer the reader a window on the changing economic world that for us evoked a sense of admiration and foreboding in equal measure. The exploitation of women, men, and children is the dark side of Asia's economic revolution, but it is only part of the story unfolding today. The other story line is the breakneck speed at which China and India, along with other emerging economies across Asia, South America, and Eastern Europe, have geared up to compete for high-value goods and services. This is shattering the view that the economic world would remain divided between *head* nations, such as America, Britain, and Germany and *body* nations, including China, India, and Vietnam.[2] Such ideas fail to understand how the global economy allows emerging economies to leapfrog decades of industrial development to create a high-skill, low-wage workforce capable of competing successfully for hi-tech, high-value employment. These workforces challenge the economic livelihoods of those in stable, well-paid, middle-class jobs once assumed to be safely lodged in America and other affluent economies.

The availability of cheap brainpower will continue to threaten the prosperity of Western workers long after recovery from economic recession. It challenges the very opportunities Tocqueville identified as standing at the heart of the American Dream in 1831 and on which President Obama staked his political credibility on rebuilding.

The Opportunity Bargain

After World War II, countries on both sides of the Atlantic enjoyed unprecedented prosperity. This prosperity was built on a model of economic nationalism intended to spread the benefits of economic growth to the majority rather than to a privileged few. Individuals and families were linked to national economic growth by extending opportunities to education and well-paid jobs alongside welfare support for those who required it.

John Maynard Keynes's classic work on *The General Theory of Employment, Interest and Money*, published in 1936, shaped economic thinking at the time by rejecting the neoliberal view that capitalist economies were self-correcting and required little government intervention. Hence, economies which had fallen into recession would automatically bounce back to a period of boom and full employment.

Keynes rejected this idea and argued that governments could intervene effectively in market economies to solve the problem of recession, or what one of his contemporaries called the "gales of creative destruction."[3] Thus, when demand for goods slackened and workers were threatened with unemployment, governments could act to keep the wheels of industry turning. Keynes also endorsed the idea of a welfare state to protect people from the chronic insecurities that characterize the boom-and-bust nature of capitalist development.

By the 1980s, neoliberal ideas had regained popularity. Under Ronald Reagan in America and Margaret Thatcher in Britain, there was a return to preaching the virtues of free trade, self-interest, and the power of the market to deliver prosperity and justice. Keynes's ideas were renounced as a recipe for big government and a growing underclass living off state handouts.

Hence, the tenets of neoliberalism encouraged people to believe that welfare support introduced in the 1950s and 1960s was misguided because it rewarded failure and feckless behavior, whereas free markets offered a fair and efficient system where talent and hard work would be appropriately rewarded. As a result, the fate of individuals and families became heavily reliant on maintaining, if not increasing, the market value of their knowledge, skills, and credentials. Jobs and rewards would flow to individuals able to upgrade their skills to meet the competitive conditions of the knowledge economy, where opportunities were assumed to expand as the economy relied on new ideas, technologies, and innovations.

Since the 1980s, politicians and opinion leaders, whether Republican or Democrat, continued to present the future economy as a world of smart people doing smart things in smart ways. It is a world of new opportunities for creative talent and prosperity for American workers and families based on faith in the market to deliver the middle-class dream. This faith resulted in an *opportunity bargain* on both sides of the Atlantic where the state's role was limited to creating opportunities for people through education to become marketable in the global competition, in which economic fate rested on success in the job market.

Today, billions of dollars are spent on mobilizing American and European workers in a bid to outsmart rivals in the competition for the best jobs, technologies, and companies. A vast edifice of policies, programs, and initiatives has been introduced in virtually all affluent countries in anticipation of an innovative age of high-skill, high-wage work. Higher education has been massively expanded, and it encourages individuals to take on personal debt to pay for college and university credentials in the belief that they will be well rewarded once they enter the job market.

This book explains why much of this money, effort, and enterprise will be wasted, as the neoliberal opportunity bargain fails to deliver on the promise of education, jobs, and rewards. Schooled in the belief that "learning equals earning," many Americans have unrealistic expectations of a world that does not owe them a living.

It has left them ill-prepared to meet the challenges posed by the new era of knowledge capitalism because they are caught in a gale of creative destruction that makes it difficult to find individual solutions to changing economic realities. The demand for managerial and professional jobs in the United States is not only far less than commonly assumed, but the quality of working life and rewards associated with those jobs will not live up to expectations. The idea that learning equals earning fails to acknowledge that most of those with a university degree in America have not witnessed an increase in income since the early 1970s. The only winners among college graduates are a minority who succeed in the competition for the best jobs. This is squeezing and polarizing the American middle classes and posing fundamental challenges for policy makers.

This book shows how the fate of American workers is inextricably linked to a global auction for cut-priced brainpower that is weakening the trading position of many managers, professionals, and technicians previously associated with individual success and a comfortable standard of living. The promise of the good life for those with ability and the willingness to work hard has been broken. Behind the challenge to America's middle classes is a fundamental shift of power in the global economy that cannot be resolved through the job market no matter how much money is pumped into developing the skills of the American workforce. The neoliberal opportunity bargain, which offered families a path to individual and national prosperity through education, has been torn up.

If the American middle classes were created by industrial capitalism in the twentieth century, they are now being ripped apart by the global forces of knowledge capitalism. The problem confronting Western workers is that the rise in the value of knowledge, predicted by most commentators in the West, failed to materialize.

This is not to say that new ideas as a source of innovation have become any less important. Companies continue to need well-educated people with clever ideas, but some knowledge workers are believed to be much more valuable than others, leading to a significant decline in the value of various forms of knowledge work upon which the prosperity of Western middle classes depend.

We should not be surprised by this because, if knowledge is a key source of company profit, then the task of business is not to pay more for it but to pay less. This is why companies are seeking to distinguish between paying a premium for what is essential to the success of their businesses while reducing the cost of everything else. Yet, we have been led to believe that the value of a college education would continue to rise as the economy became more knowledge intensive. However, we lost sight of the age-old conflict between employees who want to increase the value of their labor and companies who want to maximize profits by reducing labor costs.

In the boom years, this conflict remained hidden, but the financial crash in America and Britain exposed a yawning gap between the interests of Wall Street and the middle class. It also hid the fact that the livelihoods of many Americans depend on selling an asset—brainpower—to companies that increasingly have other options. College-educated Americans were only sheltered from price competition as long as educated talent was in limited supply at home and only found in equally expensive countries like Japan, Germany, or Britain.

Reversing Fortunes

The competition for jobs has shifted from one largely restricted within clearly defined national boundaries to a global auction open to competition across borders. We are all familiar with art auctions held by Sotheby's and those on eBay. In these forward auctions, the highest bidder wins. For the majority of American, British, or German workers, a Sotheby-type progressive auction was assumed to reflect the increasing value of investments in what economists call human capital. The expertise for jobs involving research and design was believed to be in limited supply and located in the West. It was also taken for granted that when it comes to high-end activities, America and other affluent nations will always have the edge, given they possess more advanced technologies. Hence, the competition was not seen as a matter of cost but as the application of smart knowledge for which companies were willing to pay a premium.

But the global auction for jobs increasingly works in reverse to an auction where the highest bidder wins. In a reverse or Dutch auction, bids decline in value as the goal is to drive down prices. These auctions are becoming more popular on the Internet involving bidding competitions for business-to-business services. The German Web site *jobdumping.de* offered a stark example of a reverse auction. Cleaning, clerical, and catering jobs were offered by employers with a maximum price for the job; those looking for employment then underbid each other, and the winner was the person willing to work for the lowest wages.

People are becoming aware that the reverse auction is being extended to American college-educated workers. The impact of this bidding war is not just restricted to the size of an employee's paycheck, but it also includes longer working hours, inferior retirement provision, reduced health-care coverage, declining career prospects, and greater job insecurity. In a reverse auction, workers are expected to do more for less.

In the early stages of globalization, the reverse auction was limited to American workers with low skills. Today, four major forces are converging to create a price competition for expertise, forcing American students, workers, and families into a bare-knuckle fight for those jobs that continue to offer a good standard of living.

First, there has been an *education explosion* in the supply of college-educated workers in both affluent and emerging economies. Even when limited to affluent societies, this expansion poses a problem because widening access to a college education lowers the value of credentials in the competition for jobs. But of even greater importance is the educational explosion in emerging economies, including China, India, and Russia.

Harvard economist Richard Freeman points to a doubling of the global workforce, but our analysis also reveals a doubling in the number of university-level enrollments around the world in just 10 years.

China has more students at university than the United States and is also producing more scientists and engineers, sometimes of a superior quality to those found in the West.

Second, there has been a *quality-cost revolution* resulting in a rapid increase in productivity levels and quality standards following the application of "best practice" in emerging economies. The new competition is no longer based on quality *or* cost but on quality *and* cost, offering companies more strategic choices about their global distribution of high-skill as well as low-skill work. Western companies are developing more sophisticated approaches to outsourcing and offshoring more of their highly skilled jobs to low-cost locations. In financial services, jobs including client research and product development, as well as back office work, such as data entry or invoicing, are being undertaken in emerging economies.

The quality-cost revolution has also opened the door for Asian companies to compete higher up the value chain for goods and services by using their cost advantage to underbid Western competitors. Consequently, many of the things we only thought could be done in the West can now be done anywhere in the world not only cheaper but sometimes better. But the move to low-cost brainwork is not the end of the story.

Third, although much of the focus has been on the development of new products and services that highlight the demand for creative people exploiting clever ideas, few seemed to notice that the forces of creative destruction are followed by the destruction of the creative. The productive application of new ideas depends on standardization giving employers greater control over the workplace. Improvements in productivity for much of the twentieth century rested on the principles of scientific management outlined by Fredrick Winslow Taylor.

To date, the productivity of new technologies in offices and professional services has been disappointing in much the same way that it took decades to realize the potential of factory production. Companies have responded by trying to reduce the cost of knowledge work through a process of knowledge capture that we call *digital Taylorism*. The same processes that enabled cars, computers, and televisions to be broken down into their component parts, manufactured by companies around the world, and then configured according to the customer's specifications are being applied to impersonal jobs in the service sector—that is, jobs that do not depend on facing a customer.

In short, new technologies have increased the potential to translate *knowledge work* into *working knowledge*, leading to the standardization of an increasing proportion of technical, managerial, and professional jobs that raise fundamental questions about the future of knowledge work and occupational mobility.

The final trend relates to what is described within the business literature as the global *war for talent*.[4] Just as more individuals invest in their human capital and governments invest in increasing the national stock of skilled workers, the relationship between learning and earning is being called into question from within the business community. Leading consultancy companies assert that the relationship between learning and earning needs to be revised because it is less applicable in today's competitive world because it fails to reflect differences in performance, especially the productive contribution of a talented minority of top performers. This is viewed as a critical issue for global companies in Beijing, Shanghai, and Bangalore as well as New York, London, and Frankfurt.

Concerns about hiring the next generation of talented employees led corporations to gravitate toward global elite universities because they are believed to have the best and brightest students. This focus on attracting, retaining, and developing top talent leads to greater inequality of treatment, as companies seek to identify a cadre of high flyers across the globe. It also contributes to widening income inequalities within middle-class occupations and differences in career prospects among people with the same credentials, experience, or levels of expertise. Hence, those defined as the best are being treated very differently from the rest.

These trends result in many college-educated Americans becoming part of a high-skill, low-wage workforce.[5] Previously, differences in income were assumed to reflect a meritocratic pyramid of individual achievement. This relationship has never been straightforward, but it is now in crisis as the relationships among jobs, rewards, and entitlements are being reconfigured.

All affluent nations are witnessing the growth of a high-skill, low-wage workforce, but its extent will vary depending on national context, including labor market conditions, domestic supply of college graduates, and the strength of trade unions. Indeed, an important part of our argument is to show how the flexible labor market in America and Britain has left workers seriously exposed to the full force of the global auction. Although we focus on the political economy of these countries, this book has implications for almost every individual, business, and nation in the global economy.

Globalization from the Other Side

The sheer energy generated in Asia as barriers to personal gain, trade, and global market competition have been lifted is truly remarkable. Talking to Chinese and Indian managers is reminiscent of conversations heard in America or Britain in the 1950s. In India, there remains a strong sense of national renewal and individual opportunity despite potted roads and widespread poverty. When *The Times of India* launched "India poised: our time is now," it declared "we've gone from thinking small to thinking big," as Indian entrepreneurs and companies made a splash on the global stage. This feeling that India was on the move is also shared on the streets of Bangalore. As we passed a shopping mall, our taxi driver pointed out, "This is for the IT people; very expensive!" When we asked him more about the people who shopped there, he didn't feel part of the rising middle classes but believed his children would. He expressed considerable pride in the good grades his children received at school as they were striving for a better future.

But it is misleading to assume that Americans are the only losers in the global auction. Instead, there is uneven development where the preindustrial and the postindustrial share the same zip code. In India, almost a third of the population continues to live in abject poverty. Dharavi, one of the largest slums in the world, is home to a million people in the middle of Mumbai, India's financial capital.

Indian workers, including those employed by foreign companies, continue to struggle for decent wages and safe working conditions. Roy George, a human resources executive, was killed by disgruntled workers in a bitter dispute at Pricol, which makes auto parts for companies such as Toyota and General Motors. In reporting the "sickening regularity" of strikes in the Mumbai–Delhi industrial corridor, a leader column in the *Hindustan Times* concluded that "no country has developed without going through an industrial revolution and India's unlikely to be an exception. The scramble for investment can't be at the cost of a brutalized workforce."[6] Equally, although some Chinese university graduates have never had it so good, rural and industrial workers have been involved in riots as an expression of their frustration of not being part of the Chinese economic dream.

It makes less and less sense to think in terms of a national economy or average household income when talking about the fate of individuals and families because it misses what is important about knowledge capitalism. Complex webs of winners and losers that transcend national borders emerge as the global auction cuts across established ways of thinking about middle-class occupations and national economies. Titles such as accountant, professor, engineer, lawyer, and computer analyst no longer tell us as much as they once did about income, job security, or career opportunities because they are characterized by increasingly "winner-takes-all" competitions.[7]

Some American, Chinese, and Indian workers and companies have economic interests more in common with those living on the other side of the world than with those living on the opposite side of the street. Despite holding different passports, they may work for the same companies profiting from the competitive advantages that the global auction can create but at the expense of their fellow citizens.

Around the globe, elites in most occupations appear to be doing much better than everyone else. This is often true for those working in the public as well as the private sector, as many areas of public sector work are exposed to similar market forces that lead to those at the top earning far more than everyone else, even at a time when state budgets are being slashed.

The global auction creates mixed fortunes where a few will continue to be generously rewarded, but many others with advanced education will struggle to achieve the trappings of the middle classes alongside a working class that seems increasingly excluded through inferior education, declining occupational mobility, and wage competition. The result is an intense competition for the best colleges, jobs, and careers.

A Secret War

There is a secret war for positional advantage as people are forced to depend on a job market unable to cope with the rising tide of individual, social, and political expectations. How people are positioned in the global auction is of paramount importance. If they are not defined as top talent, they are likely to find themselves in a bidding war with high-skill, low-wage workers from emerging economies.

Competition begins almost at birth. Children with ambitious parents are forced into a relentless competition for the best prep schools, high schools, universities, and "branded" firms. Fueled by insecurity and moral obligations to do the best for their children, some parents adopt desperate measures to give their children a competitive advantage, such as remortgaging their homes to pay for private schooling or suddenly discovering a new faith to get their child into the local religious school with a good reputation. Competitive pressures become even more intense for adult workers as companies flatten their career structures, reexamine global sourcing options, and segment their workforce so that only a small minority are defined as indispensable to the future of the organization.

Personal freedom and intellectual curiosity become secondary to the requirements of the competition for a livelihood. Almost every facet of one's public life and private self are implicated in the battle to get ahead. The opportunity bargain has not extended individual freedom but has led to an *opportunity trap* that forces people to spend more time, effort, and money on activities that may have little intrinsic purpose in an attempt to fulfill one's opportunities. The trap is that if everyone adopts the same tactics, such as getting a bachelor's degree or working longer hours to impress the boss, no one secures an advantage.

Expectations of middle-class lifestyles, fueled by the rise of mass higher education, have sucked more people into already congested labor markets. Although not all expect glittering vocational prizes at the end of a college education, the supply of aspirants greatly outstrips employer demand for their services. At the same time, people are playing for higher stakes, as the price of failure has increased because the safety net that once caught the less fortunate is now threadbare.

The stark reality is that what the few can achieve the majority cannot regardless of how educated they are. Wage inequalities cannot be narrowed through better education or increasing skill levels because the global labor market is congested with well-educated, low-cost workers. Rather than enter an "age of human capital," where the economic successes of individuals and whole economies depend on how extensively and effectively people invest in themselves, human capital is subject to the laws of diminishing returns. The claim from neoliberal economists that the supply of well-educated workers would create its own demand as employers seek to profit from more productive employees seems fitting to a different world, such as in the second half of the twentieth century when America experienced educational expansion linked to a rising middle class and increasing social mobility.[8]

Today, when human knowledge is being taught, certified, and applied on a scale not witnessed before in human history, the overall value of human capital is likely to decline. For most people, it will take the form of a defensive expenditure: Education is a necessary investment to have any chance of fighting for a decent standard of living. But for the few, investments of effort, time, and money will continue to be handsomely rewarded.

Opportunity, rather than being the glue that bonds the individual to society, has become the focus of intense social conflict, raising the question of how to construct a new opportunity bargain that rebuilds trust and fairness within a sustainable economy.

A Window of Opportunity

The free market model driving government policies on both sides of the Atlantic was shaken to its foundations by the financial crash of 2008. This is more than another expensive lesson in the folly of market self-regulation that leads to irrational exuberance—which most of us would call greed. It also reinforces the fraying connections between the principles of merit, contribution, and rewards.

The problem this poses for governments of all persuasions is that the wealth of human capability nurtured within schools, colleges, and universities; the explosion of knowledge via new technologies and the Internet; and an exponential increase in the global supply of high-skill, low-wage workers challenge the legitimate foundations of how democratic societies have resolved questions of who does what and who gets what.

So how do we build a new opportunity bargain when the core means for delivering it is collapsing? To date, most Americans interpret these issues as a private matter of making the most of one's opportunities. Inevitably, this will become a major political issue because the high-skills, low-wages equation does not live up to the lifestyles most people want or expect. This book explains the true nature of the problem because there is little point developing good answers to the wrong questions.

America, along with other affluent societies, confronts stark choices. It is going to be difficult to avoid a return to greater protectionism as Americans and Europeans seek shelter from global competition, especially when unemployment rates are high. But such a response squanders the possibilities that now exist to shape American society and the wider world in ways that benefit future generations as well as our own.

Populist appeals and quick fixes will inevitably fail as industrial revolutions typically transform our understanding of individual and social possibilities along with a reordering of economic interests. Political attempts to rebuild the American Dream will equally fail unless there is a willingness to rethink the purpose of education, the nature of jobs, the distribution of rewards, and America's role in the world. How do we reconnect the socially excluded at both ends of the social spectrum—both the poor and the very rich—into a fairer competition for a livelihood? How do we reward achievement in ways that contribute to a shared prosperity rather than the enrichment of a few? It is difficult to exaggerate the scale of the challenge in creating a new opportunity bargain, but the challenge is doubly difficult because it will also require a global bargain no longer limited to the world's richest nations.

To move toward answers to these questions, we begin with an examination of the false promise that gave rise to the neoliberal opportunity bargain and continues to obscure the realities that workers in America and Europe now face.

CHAPTER TWO

The False Promise

The global economy imposes no particular limit upon the number of Americans who can sell symbolic-analytic services worldwide. In principle, all of America's routine production workers could become symbolic analysts and let their old jobs drift overseas to developing nations.

—*Robert Reich*[1]

THIS VIEW OF the global knowledge economy conjured up a world of smart people doing smart things in smart ways. Such an economy represented the high point of more than 200 years of Western industrial evolution, where the human side of enterprise slowly came to take center stage. Through investments in brainpower, it was thought that nations could deliver prosperity, justice, and social cohesion, companies could develop world-class employees, and individuals could secure a better future for themselves and their family. Increasing global competition served only to underline how the fate of American workers rested on their ability to outsmart economic rivals.

This faith in the endless potential to create middle-class jobs for those who invested in education resembles a secular religion. The hold of this faith over current thinking is difficult to exaggerate despite the fallout from the economic crisis.[2] This book explains why it would be more fitting in a fairy tale than in an account of reality. But first we need to see how the neoliberal opportunity bargain of individual freedom and national prosperity was supposed to unfold.

From Muscle Power to Brianpower

In the eighteenth-century world of Adam Smith, the wealth of nations was based on trade and plunder rather than increasing productivity. The founder of modern economics recognized that wealth could be created by improving the efficiency of the workforce, even if the price was to condemn most workers to jobs that in Smith's words made them "as stupid and ignorant as it is possible for a human creature to become." This was because the increase in productive capacity depended on subdividing the activities of workers, each performing the same repetitive task such as in the manufacture of pins where someone draws out the wire, another straightens it, another cuts it, and so on.[3] The dangers involved in creating a workforce of human automatons were not lost on Smith. He believed that although this was a price worth paying to increase national wealth, state-funded education should be developed to compensate for the mind-numbing work that a detailed division of labor imposed on the workforce.

Since Adam Smith, labor was treated as a homogeneous category. What counted was the number of workers or the size of the workforce, akin to the area of land for agricultural production or the number of machines in a factory. Well into the twentieth century, people were treated as expensive machines, and the personal costs of rising prosperity continued to be high. Fordist production lines—named after Henry Ford, who pioneered the mass production of Model T automobiles in the early 1900s—were widely used in the manufacture of goods, including televisions, refrigerators, and washing machines that fueled the consumer boom of the 1950s and 1960s.

Although the families of production workers became more affluent, it required employees to leave their brains at the factory gate. As one car worker put it, "A man checks his brains and his freedom at the door when he goes to work at Ford's."[4] Equally, the growing numbers of white-collar workers employed in the offices of private and public corporations performed paper-pushing tasks every bit as routine as those found in factory production.

The possibility that differences in the skills of workers could have an impact on productivity and economic growth remained heretical within mainstream economics until the 1960s, when economists developed the theory of human capital which rejected the view of labor measured in number rather than quality.[5] They advocated a broader concept of capital that included the skills, knowledge, and know-how of workers. As Theodore Schultz, a leading proponent of human capital, asserted, "Knowledge and skill are in great part the product of investment and, combined with other human investment, predominantly account for the productive superiority of the technically advanced countries. To omit them in studying economic growth is like trying to explain Soviet ideology without Marx."[6]

The protagonists of human capital argued that much of the unexplained increase in productivity, wages, and economic growth, which had puzzled economists at the time, could be explained by investments in human capital. Therefore, by investing in education and training, individuals could increase their lifetime earnings. In addition, governments could use such investments as a way of enhancing national economic growth.[7]

This offered a new way of thinking about economic progress and social justice. If quality of the workforce was the key to economic growth, companies and policy advisors needed to focus attention on the supply side of economic activities rather than such things as consumer demand or the cost of raw materials. It also changed the role of education and training. If they were vital to meet the needs of industry, it required major investments aimed at upgrading the skills of the workforce.

Human capital ideas not only changed the way people thought about skills and productivity but also had wider political appeal, as they suggested a new relationship between capital (money) and labor (minds). Investment in human beings was no longer solely a source of wealth creation for companies but also a source of earning potential for individuals. What people were paid did not depend on owning one's own business or result from collective bargaining that set employers against labor unions in a fight for a bigger slice of the cake. Rather, wages were based on a worker's contribution to productivity, as earnings were assumed to reflect value added to the organization.

Everyone could become a capitalist, whether or not people knew it (or liked it), by investing in themselves through learning. As Schultz suggests, "Laborers have become capitalists not from a diffusion of the ownership of corporation stock, as folklore would have it, but from the acquisition of knowledge and skill that have economic value."[8] In turn, this was believed to contribute to a broader commitment to social justice as people were rewarded on individual merit, and the growth in middle-class jobs offered the potential for rapid social mobility through investments in human capital.

Such ideas caught the mood of the time despite the realities of Fordist production. The growth of corporate bureaucracies and a burgeoning public sector accelerated the increase in white-collar employment, adding support to a model of technological evolution from a low-skill to high-skill economy. The growth of middle-class jobs was assumed to represent an ever-tighter relationship between human capital, jobs, and rewards, as it became more important to get the best minds working on the scientific and technological challenges of the age.

In his classic study *The Coming of Post-Industrial Society*, published in the early 1970s, Daniel Bell highlighted the link between a rising meritocracy and economic efficiency. "The post-industrial society, in its initial logic, is a meritocracy. Differential status and differential income are based on technical skills and higher education. Without these achievements one cannot fulfill the requirements of the new social division of labor which is a feature of that society. And there are few high places open without those skills."[9]

Bell's book appeared to confirm the growing importance of human capital and the need to find new sources of economic competitiveness as American and British manufacturers were struggling to compete with leaner and more flexible competitors from Japan and Asian Tiger economies.

There had been a power shift from muscle power to brainpower. In this new age of human capital, the prosperity of individuals, companies, and nations would rest on the skills, knowledge, and enterprise of all rather than the few that drove industrialization in the twentieth century. Smokestack industries had given way to California's Silicon Valley and Route 128 in Boston.

Working-class occupations were in decline as a larger share of the workforce joined the burgeoning ranks of knowledge workers. Peter Drucker, a leading management guru, wrote of another power shift from the owners and managers of capital to knowledge workers, as the prosperity of individuals, companies, and nations came to depend on the application of knowledge. Knowledge workers were gaining the upper hand because "the firm's most valuable knowledge capital tends to reside in the brains of its key workers, and ownership of people went out with the abolition of slavery."[10]

This required a new approach to management within a dynamic global environment. Management theorists reported a shift in the attitudes of business leaders who now recognized that human creativity and individual initiative were the keys to success. The new challenge was not to force employees to fit the corporate model of the past but "to build an organization flexible enough to exploit the idiosyncratic knowledge and unique skills of each individual employee."[11] This required a completely different approach for companies accustomed to focusing on managing machines, buildings, and balance sheets because their key asset was locked in the heads of knowledge workers with the power to walk away and take their intellectual capital with them.

Organizational success had come to depend on the utility of talent rather than alienated labor. Leading companies no longer depended on the mass production of standardized goods and services that are made, monitored, distributed, and sold by vast armies of blue-collar and white-collar employees. Rather, they depended on technological innovation, applied knowledge, and the intellectual capital of a highly skilled workforce. This gave rise to new opportunities for people to use their knowledge, initiative, and creative energies in a wide range of occupations reflected in the changing definition of occupational careers. Employees were no longer seen as reliant on the paternalism of corporate bureaucracies that previously controlled access to occupational careers.

Individual careers were redefined from a stepped progression within the same organization over an extended period to "boundaryless" careers that extended beyond any specific organization.[12] The bounded careers of the past subordinated individuals to the firm and "getting ahead meant being grateful for opportunities the firm brought your way," but the boundaryless career was believed to promote individual freedom and independence from traditional organizational arrangements.[13]

Rather than focus on how employers abandoned the psychological contract of loyalty for job security, changing career patterns were believed to reflect changing cultural values. Organizations had simply become more in tune with the shifting lifestyles of both younger and older workers who wanted jobs that offered new challenges. Unlike the baby boomers, Generation X "cannot and do not seek life-long employment, but they do crave life-long learning. They seek employability over employment: they value career self-reliance."[14] In a similar refrain, Generation Y, consisting of those born between 1978 and 1994, were seeking "a sense of purpose, work–life balance, fun, variety, respect, and the opportunity to do 'real' work that makes a difference. Arguably everyone wants these things from a job but the difference with Generation Y is they'll talk with their feet when their needs are not fulfilled."[15]

From Bloody Wars to Knowledge Wars

This evolutionary model of an inexorable shift from physical to mental labor is not limited to the changing occupational structure within North America or Europe. It extends to include the relationship between nation-states based on the principles of free trade and comparative advantage. David Ricardo, a nineteenth-century English political economist, argued the case for free trade, believing that rich and poor nations alike could gain from trading with each other as long as they specialized in products for which they had an advantage.

The rise of the global knowledge economy was believed to remove much of the source of conflict and strife between nations. Trade liberalization was presented as a "win-win" opportunity for emerging and affluent nations. The territorial disputes that drove nations to war in pursuit of land and material wealth became less important in terms of power, privilege, and wealth. According to Richard Rosecrance of Harvard's Kennedy School: "In the past, material forces were dominant in national growth, prestige, and power; now products of the mind take precedence. Nations can transfer most of their material production thousands of miles away, centering their attention on research and development and product design at home. The result is a new and productive partnership between 'head' nations, which design products, and 'body' nations, which manufacture them."[16]

This shift from bloody wars to knowledge wars marked a high point in international relations as nations put down their weaponry to concentrate on trade. Success in the knowledge wars rested on outsmarting economic rivals. Schools, colleges, universities, think tanks, design centers, and research laboratories stand on the front line in the search for competitive advantage. Although the competition is open to all nations, it assumed a competition between affluent economies because emerging economies were thought to lack the skills and technological know-how to compete at the cutting edge. The widely held view in the West was that the cost advantage of China, India, and other emerging economies would have a negligible impact on middle-class Americans as long as American workers continued to invest in marketable skills. This was again captured by Robert Reich: "Skilled labor has become a key barrier against low wage competitions for the simple reason that it is the only dimension of production in which existing capitalist powers retain an advantage. Technological innovation may be bought or imitated by anyone. High-volume standardized production facilities may be established anywhere. But production processes that depend on skilled labor must stay where it is."[17]

In this scenario, the knowledge and creativity of individual workers were crucial because there were no other sources of individual, family, or national welfare. Nation-states were seen as largely powerless to protect domestic markets from international competition. Routine production could be fulfilled in low-wage countries for a fraction of the cost of operating plants in North America or Western Europe. Gone were the days when national champions, such as Ford in America, ICI in Britain, and Siemens in Germany, offered high wages to low-skill workers as they did after World War II. These companies had little choice other than to exploit the global market for labor if they were to remain competitive. Accordingly, there are no American, British, or German jobs, only American, British, or German workers who must confront the ultimate judgment of the global market.

Although this presented a challenge to workers in affluent economies, the global job market also offered an unprecedented opportunity for America to become a magnet economy, attracting a disproportionate share of the global supply of high-skill, high-wage jobs.[18] If there was a global job market, the numbers of managers, designers, engineers, lawyers, and consultants in the American workforce could be rapidly expanded because they could be employed to service the global economy rather than be restricted to the requirements of the domestic economy. The numbers of high-skill, high-wage workers could dramatically increase by outsmarting workers from other nations, leading domestic and foreign companies to expand their high-value, knowledge-intensive activities in America, given the superior productivity that smarter employees can create.

As a consequence, there was no need to unduly mourn the loss of low-skill manufacturing jobs to Asia, South America, or Eastern Europe despite the short-term problems it caused for displaced workers. Better-quality jobs were being created to replace them, although there was bound to be a period of adjustment as workers retrained for more skilled positions.

The idea of a magnet economy recognized a global auction for jobs, but this was limited to low-skill jobs auctioned on price, resulting in manufacturing jobs migrating to low-wage economies in Asia, South America, or Eastern Europe. There was little understanding that price competition could ultimately reduce the bargaining power of America's professional and managerial workers. It was assumed that high-skill jobs would continue to attract higher wages because these jobs would continue to be auctioned on quality rather than price.

The view that American workers were the natural heirs, fated with the task of thinking for the rest of the world, reflected a legacy of empire and industrial heritage. The industrial revolution began in Britain and was later driven by the United States, notwithstanding the role of Japan in the 1980s. Unsurprisingly, Americans came to believe in their intellectual, technological, and commercial superiority. But there was also an awareness that leading nations were unlikely to supply all the talent they required from within their own populations.

The focus remained on lifting the skills and incomes of indigenous workers, but there was also a growing emphasis on attracting foreign workers to meet the needs of the national economy. The knowledge wars were extended from a competition for quality jobs to include a competition for the most talented workers. Pressures increased to attract, as well as retain, the global supply of international talent. This has long been a feature of the competitive strategies of the United States, but it now characterizes virtually all the affluent economies, including Canada, Britain, and France. It reflects demographic trends, a need to overcome skill shortages, and a global competition to be a net importer rather than exporter of inventors, scientists, and entrepreneurs.[19]

Again, this was not understood as a zero-sum game, robbing emerging economies of some of their most educated and, in some cases, essential workers, such as doctors and nurses, but as brain circulation rather than brain drain.[20] It is thought that workers from emerging economies could gain invaluable knowledge and experience while working in the West, which they could then use to contribute to the economic development of their country of origin when they eventually return home. The growth of the information technology (IT) industry in India is typically cited as an example of the beneficial consequences of such policies.

While clinging to the win-win scenario, there is a growing awareness, if not a culture shock, that Chinese and Indian workers are challenging American and European college-educated workers for knowledge-intensive jobs. There is a recognition that low-cost countries are developing their own knowledge workers capable of achieving global standards that were previously assumed to be out of reach by anyone other than Western workers.

Thomas Friedman's account of the "flattening" of the world economy has been widely debated. He sees little reason to worry about America's middle classes being embroiled in a global race to the bottom because he focused on the race to the top. The knowledge wars are, he believes, forcing Americans to raise their game in the competition for the best and most innovative ideas, leading him to conclude,

> America, as a whole, will do fine in a flat world with free trade—provided it continues to churn out knowledge workers who are able

> to produce idea-based goods that can be sold globally and who are able to fill the knowledge jobs that will be created as we not only expand the global economy but connect all the knowledge pools in the world. There may be a limit to the number of good factory jobs in the world, but there is no limit to the number of idea-generating jobs in the world.[21]

Similar views are expressed in "official" policy. Gordon Brown, Britain's prime minister at the time of the financial crash, announced the beginning of a "global skills race" in which "Asian rivals" would not only compete on low-skill manufacturing but in hi-tech products and services. As a result, "we need to push ahead faster with our reforms to extend educational opportunities to all." This realization that the knowledge wars were no longer limited to affluent nations "heralds a worldwide opportunity revolution bringing new chances of upward mobility for millions. And Britain with its centuries old record of innovation, enterprise, and international reach, can be one of its greatest winners."[22]

This enduring faith in the global knowledge-driven economy to create upward mobility for Western workers, reflected the extent to which governments bought into a neoliberal agenda. To question the theology of the free market or the idea that it could destroy the opportunity bargain was almost a heresy. It is therefore not surprising that faith in human capital to resolve economic and social problems retains a powerful hold on American public policy. As President Barack Obama reaffirmed, "In a global economy where the most valuable skill you can sell is your knowledge, a good education is no longer just a pathway to opportunity, it is a pre-requisite."[23]

Naked Capitalism

The promise of a hi-tech future of highly paid knowledge workers was pivotal to the creation of a neoliberal opportunity bargain, which left individuals responsible for their employability through educational achievement and commitment to career development. Given that the knowledge economy now offered high-skill, high-wage jobs to those willing to invest in their human capital, the role of the state could be limited to improving educational standards, expanding access to higher education, and creating flexible job markets that reward talent, ambition, and enterprise.

Neoliberal reforms introduced by Ronald Reagan and Margaret Thatcher in the 1980s—subsequently pursued by governments of different political persuasion on both sides of the Atlantic—stripped away much of the safety net that offered security to individuals and families through the welfare state that characterized midcentury America and Europe. The pillars of prosperity, security, and opportunity embedded in the relationships among employers, trade unions, and the state were torn down in the belief that state control over the economy and the rigid regulation of people's lives were no longer appropriate or necessary in an age of consumer freedom, free trade, and market individualism.

Taking their cue from neoliberal economists like Milton Friedman and Friedrich A. Hayek, Reagan and Thatcher claimed that Western societies had run into trouble in the 1970s because of what was seen as unwarranted interference by the state.[24] Inflation, high unemployment, economic recession, and urban unrest were all believed to stem from the legacy of Keynesian economics and an ideology that promoted economic redistribution, equality of opportunity, and welfare rights for all.

In its place, a society would be built where individuals were encouraged to pursue their self-interest and where greed was treated as a virtue in the vain hope that the hidden hand of the market would miraculously benefit all through the trickle down of resources from the winners to the losers. "What I want to see above all," Ronald Reagan stated, "is that this remains a country where someone can always get rich." But Reagan was adamant that this could only be guaranteed by getting the state off the backs of the people, for "if the reins of government were removed, business would boom, spreading prosperity to all the people."[25]

The neoliberal opportunity bargain involved changing the incentive structures for individuals and the business community. If free enterprise was to be the motor of economic growth, everyone should be institutionally encouraged to pursue their self-interest by extending market competition, consumer choice, and shrinking the safety net provided by the welfare state. Getting the incentives right for business involved reducing all the impediments or rigidities to free market behavior. These included removing trade barriers and attacking the power of trade unions. In the global economy, barriers to entry were seen to protect inefficient businesses while trade unions kept wages artificially high.

At the same time, middle-class families were encouraged to believe that more consumer choice would give them greater control over their lives without government interference. Schools, hospitals, and pension plans were all now a matter of personal choice. In many cases, the promise of choice was and is illusory. Private health care in America has remained expensive and exclusionary, the attempt to persuade people to cash in occupational pensions and buy personal pensions in Britain has since been acknowledged to have been a disaster, and the idea that all parents can send their children to the school of their choice has proved to be a chimera.[26]

The empowerment of individuals to take greater responsibility for their own livelihoods was nevertheless reinforced by the rhetoric of the knowledge economy and celebrated as a final victory ending the conflict between individual aspirations for meaningful work and the demands of market efficiency. The outcome was a closer relationship linking education, jobs, and rewards as incomes grew in line with the market value of an employee's human capital.

The opportunity bargain reflected the inevitability (and desirability) of a more limited role for government, as it could no longer guarantee employment, given international rules on free trade, but only employability to gain marketable skills. This resulted in further investment in education at all stages at the same time governments encouraged individuals and families to fund their studies to take full advantage of the demand for a highly trained workforce. Those who showed themselves to be unfit due to unemployment and poverty had no one to blame but themselves and, with the right incentives, could reenter the workforce or invest in an education that would propel them into middle-class jobs.

This bargain was also touted as offering everyone an equal chance to become unequal in the competition for jobs, status, and income. Widening access to university was, for instance, presented as an extension of meritocratic competition giving all the opportunity to acquire knowledge and skills required in the new economy with credentials the currency of opportunity.

Changes in employer demands for talent also pointed toward a fairer society, as companies could no longer rely on the established stereotypes of managerial leadership based on the Ivy League or Oxbridge man. Going to a top university and living as part of a cloistered elite were no longer seen as sufficient in an increasingly multicultural and global economic environment. A greater diversity of talent was seen as integral to business success. Enlightened self-interest had led companies to develop policies aimed at widening their recruitment and the development of talent within the organization irrespective of gender, ethnicity, race, disabilities, or social background.

The opportunity bargain also traded on the idea that the inequalities and strife that surrounded early forms of economic competition could be resolved by developing the human capital of all Americans so that they can benefit from the middle-class jobs that the global knowledge economy has to offer. Although the rise in income inequalities posed a problem for American workers as they adjusted to the age of human capital, these inequalities were not viewed as an inevitable result of a free market economy. Rather, they were seen as the relative ability of workers to sell their skills, knowledge, and insights in the global job market.

In 1970, the chief executives of Fortune 100 companies in the United Stated received 39 times more that the average worker; by the end of the 1990s, this had increased to 1,000 times the pay of ordinary workers. Such spectacular increases at the pinnacle of the incomes pyramid were believed to reflect a wider trend toward a reevaluation of the value of human capital that saw the top 10–20 percent of earners pull away from the rest due to their ability to break free of the constraints of local and national job markets. The global labor market is seen to offer far greater rewards to knowledge workers precisely because the demand for their services has grown, whereas workers who remain locked into national or local markets, or who lack the appropriate skills or knowledge, are likely to experience stagnating or declining incomes. The solution is to reform the education system to give more Americans the employability skills to become part of a world-class workforce.

Keeping the Faith

Within this scenario of a free market, knowledge-driven world, the economic crash was never supposed to happen. We were often told by politicians and business leaders that rising prosperity was not debt driven but a result of smart people using smart technologies in smart ways, creating unprecedented prosperity for the most talented employees and enterprising companies in a burgeoning global economy. It was learning that was earning as the head nations supplied the ideas, technologies, and know-how, while the body nations manufactured a future for themselves. And we could all share in this prosperity if we invested in ourselves by gaining marketable qualifications, skills, and knowledge.

The political powers behind this faith in human capital, market competition, and technological innovation should not be underestimated. What is so fascinating is how pervasive such ideas have remained. Commentators from different disciplines and perspectives have bought into the underlying idea of economic progress and filled out the story line to provide a comprehensive guide to globalization, economic change, and the role of the individual within it. In reality, the interests of the powerful are presented as supporting those of the middle classes. Individually, no doubt, the super-rich will surf the highs and lows of political and economic waves, but the future of most Americans has an altogether different story line. Yet, governments have a mandate to deliver the American Dream and not to question its founding assumptions of efficiency and justice. For these reasons, every effort will be made to maintain the opportunity bargain, in part because America and Britain are politically bereft of alternatives.

While the U.S. federal government has taken some steps to control the irrational exuberance of the financial markets, the opportunity bargain via education has become even more important as schools, colleges, and universities are called upon to drive America's recovery from recession. Virtually all the books written about the competitive challenges confronting the U.S. economy and the future of social justice conclude with a restatement of their faith in the powers of learning to deliver the promise of a better life for American workers and families. Yet although it is believed that America's problems can be solved through the powers of learning, American education is often presented as not fit for this purpose.

In setting out his road to recovery and how America must regain the lead in key areas of the global economy, including renewable energy and clean technologies, President Barack Obama observed, "Right now, three-quarters of the fastest-growing occupations require more than a high school diploma. And yet, just over half of our citizens have that level of education. We have one of the highest high school dropout rates of any industrialized nation. And half of the students who begin college never finish. This is a prescription for economic decline, because we know the countries that out-teach us today will out-compete us tomorrow."[27]

Such comments are not without historical precedent when times are tough. In the 1980s, when America confronted mounting competition from Japan and the Asian Tiger economies, the widely publicized report *A Nation at Risk* declared, "If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves. . . . We have, in effect, been committing an act of unthinking, unilateral educational disarmament."[28]

The next chapter explains why concerns about America's education system in delivering the opportunity bargain are well founded, as there has been a rapid global expansion of college-educated workers entering the global knowledge wars.