About this Report

This report was produced by Institute for the Future (IFTF) with support from The Rockefeller Foundation’s U.S. Youth Employment initiative. With its future-facing perspective, the report seeks to identify today’s innovations that could lead to new kinds of job opportunities for youth under four alternative scenarios. The goal is to identify key leverage points to work with organizations, corporations, and other large employers in building future jobs for the young people, starting today.

About Institute for the Future

Institute for the Future is an independent, nonprofit strategic research group with more than 45 years of forecasting experience. The core of our work is identifying emerging trends and discontinuities that will transform global society and the global marketplace. We provide our clients with insights into business strategy, design process, innovation, and social dilemmas. Our research spans a broad territory of deeply transformative trends: from health and health care to technology, the workplace, and human identity. www.iftf.org

ACKNOWLEDGEMENTS

Institute for the Future Authors:
Marina Gorbis
Alex Goldman
David Thigpen

Contributing Experts:
Diane Desovo, Disney
Michelle Henry, JP Morgan Chase
Susan Lee, Chanel
Sara Schlossberg, NYC Department of Small Business Services
Nikki Soares, Kelly Services
Sonny Tambe, Stern School, NYU

The Rockefeller Foundation Team:
Caroline Budhan
Abigail Carlton
Evan O’Donnel
Introduction

The workplace landscape for disadvantaged youth in the United States is more precarious than it has been at any other time in the past eighty years. According to a June 2013 report by the Center for American Progress, 22.5 percent of teens ages 16 to 19 are unemployed, and 1.4 million teens are neither enrolled in school nor working. Young people in general can have a hard time positioning themselves with employers due to age, shortage of experience and maturity, and lack of education and skills. Certain subpopulations face even greater barriers due to factors including race, sex, and socioeconomic status.

These challenges are heightened during an economic downturn. They are heightened right now as well by the fact that the basic nature of work is in a state of flux. Smart algorithms and networked robotics are transforming the meaning of work. Online labor markets like oDesk and the growth of sharing economy platforms hint toward fewer full-time jobs. Automation is increasingly displacing workers from routine manufacturing and service jobs. Many entry-level jobs and minimum-wage tasks are on their way out, if not already gone. On top of all that, the school-to-work pipeline doesn’t function like it used to—a college degree is no longer a surefire ticket to a good job.

Whether caused by a sluggish economy, technological drivers, or lack of preparation, unemployment creates lasting difficulties for youth and for the country’s economy as a whole. As the Center for American Progress report makes clear, if America’s youth-unemployment crisis is not adequately addressed, “businesses will consequently suffer from reduced consumer demand, and taxpayers will feel the impact in the form of lost revenues, greater demand for more government-provided services such as health care, increased crime, and more welfare payments.” With these threats looming,
businesses along with nonprofits, educational institutions, and government agencies cannot afford to let a large percentage of an entire generation lose out on all the benefits that come from working—the earnings, the experience, the self-esteem, and the skills development.

To address the present crisis in employment for disadvantaged youth, IFTF, with support from The Rockefeller Foundation, held a workshop in August 2014 with professionals in hiring services, city government, education, corporate HR, and labor market research. Our goal was to envision a successful working future for these vulnerable youth, the population at greatest risk of being displaced by the changes under way. Our insights from the workshop are presented in this report.

The report uses the alternative scenarios methodology developed at the University of Hawaii to envision four archetypal futures: growth, collapse, constraint, and transformation. We list key elements of each and describe how each would look for organizations and individuals. Each scenario is dramatized by a fictional story of a future worker, followed by a set of signals—local innovations or disruptions that are already happening and have the potential to grow in scale and geographic distribution. Each scenario concludes with (1) key strategies that can be used by corporate employers and third parties concerned with promoting workforce preparedness and development for youth, and (2) policy recommendations for government.
Alternative Scenarios:
GROWTH, COLLAPSE, CONSTRAINT, TRANSFORMATION

The key elements of each of the four scenarios are as follows:

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- Labor market favors high-skill employees in certain growth sectors.
- Job market is highly fluid with abundant new opportunities.
- Worker skills must be constantly upgraded.
- Education expands from institutions into online and community spaces.
- Alternative credentialing grows and is increasingly accepted.

- Growing automation reduces knowledge work and minimum-wage jobs.
- More college students graduate but find their degrees unmarketable.
- Permanent underclass of detached individuals grows.
- Governance faces a crisis and is unable to address needs in a systematic way.
- Informal economy and alternative currencies grow.

- With few new growth opportunities, firms focus on cutting costs.
- Algorithms coordinate teams; efficient teams command a premium.
- Online labor networks supplement highly efficient employees.
- Flat organizational structures supported by coordination software replace traditional hierarchy.

- Coordination costs drop significantly.
- Capital for businesses from crowdfunding, banks, and VCs flows freely.
- Highly entrepreneurial flexible firms and mindsets proliferate.
- Power balance shifts from large organizations to individuals.
GROWTH | The Flexing Economy

Increasing competition and automation force workers to continuously upgrade skills or risk losing out on opportunities.

Key Elements

- Labor market favors high-skill employees in certain growth sectors.
- Job market is highly fluid with abundant new opportunities.
- Worker skills must be constantly upgraded.
- Education expands from institutions into online and community spaces.
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Overview

The next ten years are a time of painful restructuring as the economy grows more competitive and jobs themselves unbundle. Shorter-term tasks rather than 9-to-5 jobs come to dominate the work landscape. Automation encroaches on all sectors of the economy, destroying low-pay work and forcing workers out of some fields while creating opportunities in emerging fields. In order to adapt and maintain sustainable livelihoods, individuals continuously strive to upgrade skills; those with fewer skills and less drive to learn lose out. After the student loan bubble bursts in 2016, spiraling tuition costs reinforce the reality that higher education for most students is simply not worth it. The pathways connecting education and work shorten as education increasingly moves from the four-year classroom into personalized, online, and specialized forms. The workforce fills with entrants who combine online courseware credentials, conventional higher education certificates, and portfolios of projects to demonstrate competencies.

The View for Institutions

Organizations restructure as companies opt for fewer permanent employees and decreased overhead in order to stay nimble in the shifting economy. Management of large numbers of contract workers, investments in a select few of the most valuable employees, and development of efficient work processes define organizational priorities. With advances in data analytics and coworker review systems, organizations direct tasks to the worker best suited to complete it. Employers abandon reliance on college degree credentials for filtering candidates and instead look for project portfolios that illustrate the ability to learn skillsets quickly, stay motivated, and work well with others. Companies depend on staffing firms and online platforms that can reflect the multiple imperatives of this new workplace dynamic: flexible hours, quickly shifting worker profiles, and workers who have hands in many pies. Employers invest in creating online curricula to not only train workers but also allow them to continuously update their skills.
The View for Individuals

Many of the full-time jobs lost during the recession never come back. Part-time and contract jobs pay less but fit the needs of young workers who value autonomy and flexibility. Minimum-wage work is viewed as a quick stepping-stone where workers can gather skills or training before moving up in a company or out as an independent agent. Workers face a constant need for upskilling and retraining, and they invest substantial amounts of their own time and money in this. Time designated for e-learning becomes part of many companies’ benefit packages. Because a lot of work is found through online and face-to-face social networks, low-income youth without access to such networks find themselves vulnerable in new ways.

Worker of the Future: Meet Max

MAX, 22, finished high school but never attended college. His lack of educational credentials put him in a demographic that commonly fares poorly in the job market. Max takes informal evening classes at a forum organized by a central San Francisco nonprofit. Through a personal connection he makes there, Max gains a reference and applies to be a customer service rep for a cable company. Max scores high on interpersonal skills in the interview and lands a job. A year later, after taking an online course at the company’s training website, he passes an online test and is promoted to home technician, installing equipment and earning a solid middle-class wage. Max’s path becomes increasingly common as other workers of comparable skill and education level discover the power of networking and retraining.

Signals

- NYC’s Summer Youth Employment Program offers youth new opportunities.
- The Hartford’s reverse-mentoring project has surprising benefits.
- Harvard Business Review calls projects the new job interviews.
- JPMorgan Chase’s New Skills at Work initiative supports demand-driven skills training.
- Starbucks subsidizes online education for employees.
Key Strategies

- Teach individuals how to market themselves and how to tap and expand their social networks for career opportunities.
- Provide workers with tools and mapping services to help them plan career paths responsive to present-day realities.
- Work with current employees and hiring agencies to maximize the accuracy of job listings.
- Reduce the lag between identifying the skills for a new position, listing the job, and hiring for it from months to weeks or days.
- Design new promotional pathways to keep successful workers on board in an economy in which tenure is shortening.

Policy Recommendations

**Subsidize the cost of entry-level employment to aid disadvantaged youth.** To lower the risk and cost of hiring young workers without a four-year degree or work track record, firms should be subsidized for hiring disadvantaged youth. Funding can be corporate, governmental, or philanthropic. Employer tax breaks can create further incentives by linking hiring with lower tax burdens. Workers should be required to remain on the job for a minimum duration so a firm's training investment is not lost.

**Deploy online and on-the-job upskilling curricula.** Companies should be given incentives to develop and distribute online courseware as a tool for finding and promoting new workers. By vetting young and vulnerable candidates, this job test would greatly reduce costs and hiring risks for employers. These software platforms can be created collaboratively with employment unions and hiring agencies, and they can be promoted and accessed through existing Workforce Investment Board (WIB) infrastructures.

**Promote employer acceptance of alternative credentialing.** The creation of new credentialing systems representing competence in a task can level the playing field for workers without a four-year college education. A new organization should be formed and tasked with aggregating and evaluating credentialing platforms in a modern, decentralized way.
COLLAPSE | The Growing Gap
Increasing automation reducing the number of both low- and high-skill jobs is grossly mishandled and results in a deep social and economic divide.

Key Elements
- Growing automation reduces knowledge work and minimum-wage jobs.
- More college students graduate but find their degrees unmarketable.
- Permanent underclass of detached individuals grows.
- Governance faces a crisis and is unable to address needs in a systematic way.
- Informal economy and alternative currencies grow.

Overview
By 2019, increasing automation has wiped out many jobs and is an elephant impossible to stop. The remaining service economy jobs—such as elder care, child care, and counseling—are generally at the lower end of the wage scale. The upheaval of an automating economy is grossly mishandled without third-party or government efforts to redirect the elephant. With an ample supply of workers, employers have all the leverage. Proactive workplace retraining in advance of automation is unheard of. Snake oil salesmen occupy education and workforce prep. The number of college graduates continues to rise and many find their skills and degrees unmarketable because what they’ve been trained to do has been automated or outsourced, or is no longer in demand. Workers are trained for nonexistent or soon-to-be nonexistent fields. The informal economy and black market step in to meet public needs, and a widespread redefinition of cultural values results.

The View for Institutions
Government officials and large employers find themselves in a defensive, reactionary posture. Companies disengage from unrealistic worker demands and automate at their earliest possible convenience. Nonprofits and organized labor choose to fight against instead of guide the elephant of automation. While highly automated organizations that rely on very few workers are exceedingly profitable, without a consumer class that has income to spend on products and services, these firms increasingly search for new markets overseas, vying for a top tier of global consumers. The gap between this elite global consumer class and the rest is vast and cannot be sustained over the long term. A growing coalition of the political right and left float what were once considered radical policy solutions, including tax code restructuring and a basic income guarantee. On the local level, the informal economy leads to many creative off-the-books businesses in low-income communities.

Source: usatoday.com
The View for Individuals

Workers experience “automation anxiety,” uncertainty about the future of their career or company, and many find themselves without jobs with little warning as their positions are automated. The critical period of time for workers to get retrained—between when the company decides to automate and when it implements those plans—is lost, leaving workers without a job or marketable skills. Information opacity also afflicts education: specious degrees are invented, marketed, and sold to students with little-to-no research backing them as worthwhile. Most new jobs are in the platform economy—as Lyft or Uber drivers, for example, or contract workers for coordination-economy companies. These independent workers receive low wages, get no benefits, and have little chance of advancement. Even workers who assemble a portfolio of microwork tasks find that cobbling together a living is difficult. Disillusionment about career opportunities strikes hard, creating deep pessimism, and a growing sense of detachment, as well as increasing crime rates.

Worker of the Future: Meet Steven

STEVEN, 26, is a full-time Lyft driver and works on nearly a dozen other platforms to boot. For years he flounders in the microwork economy, performing a variety of functions as he searches for direction, figuring out strategies for optimizing routes across his city. Over time, this interest develops into a passion, and he becomes an apprentice to a big data/route planning algorithm writer at a task-routing company.

He learns skills through this apprenticeship and supplements them with online learning until he can contribute to the algorithm itself. Steven is a lucky exception; he joins the company as a full-time employee. But he feels for platform workers unable to leap the widening gap between the service economy and the higher echelons of this employment market. Many of the algorithms Steven writes will make microwork markets more competitive and therefore drive down wages even further.

Signals

- IMF chief warns youth unemployment jeopardizes future of the European economy.
- Poll finds a quarter of employers don’t believe college prepares grads for jobs.
- OpenIDEO issues global challenge to address rising youth unemployment.
- Petition on change.org addresses unfair working conditions at oDesk.
- Momentum Machines’ hamburger-making machine displaces line cooks.
Key Strategies

- On a citywide scale, use big data to highlight skills gaps in the market, leading to more informed workforce development processes.

- Equip high school graduates with the skills to do a cost-benefit analysis of four years of college versus modern alternatives as well as to research areas of future job growth.

- Fully inform employees about corporate plans and provide them with retraining as soon as the decision is made to automate.

- Engage in dialogue with all stakeholders about how best to guide the elephant of automation.

- Organize contract workers and provide them with support to earn a higher wage, take care of their own benefits, and ensure their own advancement.

Policy Recommendations

Compel employers to designate time for upskilling. Online learning and evening classes fuel career advancement, but many disadvantaged youth struggle to dedicate energy to these opportunities. This challenge should not be solely borne by employees. Upskilling laid-off workers for a new job should be formalized as a corporate policy in partnership with staffing agencies familiar with job market demands.

Reconstitute organized labor to support wages and protect jobs. As new fields emerge—from microwork to the coordination economy and beyond—the functions and forms of organized labor must radically evolve. The weakening of organized labor and its difficulty evolving in a globalizing, automating world has fed a downward spiral of wages. New organized labor institutions must be built into the platforms of the modern economy, from oDesk to Lyft.

Promote non-labor income and deconstruct the work-income link. A range of plans has been advanced in the past decade to help vulnerable workers in a jobs market that increasingly disfavors them, including individual development accounts and shared wealth programs (structured after Alaska’s Permanent Fund). Both the political left and right have endorsed universal guaranteed minimum income.

Source: openideo.com
Key Elements

- With few new economic growth opportunities, firms focus on cutting costs.
- Algorithms coordinate teams; efficient teams command a premium.
- Online labor networks supplement highly efficient employees.
- Flat organizational structures supported by coordination software replace traditional hierarchy.

Overview

In 2019, the economy remains sluggish. With few new growth opportunities, companies shift their focus toward cost savings and efficiency measures. Efficiency is hardcoded into the employment system, benefiting both employers and employees. Companies use new technologies to reduce transaction costs—that is, costs of managing and coordinating various tasks within the company. Firms find highly efficient mechanisms for dividing tasks among workers, both remote and in-office. Older companies built around highly structured and inflexible titles reshape their anatomy. These companies redesign their processes to resemble oDesk, the online labor market. Employees bid on tasks, review each other, and can be quickly shuffled around as their expertise emerges. As college degrees grow costlier, many youth instead harness online learning and apprenticeship opportunities.

The View for Institutions

Employers across sectors build their own online training curricula on existing platforms, open to current and prospective employees. Companies then hire and promote using these courses for guidance. Many large companies eliminate the vertical hierarchy and dispense with titles and rank. Collaboration technologies like Asana, Google Docs, and Trello diminish the need for costly managers and create digital footprints for workers, leading to streamlined worker feedback. These collaboration technologies, along with platforms like Holacracy for distributing power in an organization and worker ratings and review systems, point to teams as the new effective unit. Companies seek to optimize efficiency within teams and assign teams where needed.

Source: workforce.com
The View for Individuals

For individuals, the keywords are nimble and lean. Employees fulfill changing roles that require multiple functions rather than fixed responsibilities as they move from project to project. Workers are expected to be self-motivated but may be subject to remote productivity monitoring. Their digital footprints and project records supplement traditional resumes and can be leveraged to open new doors for rapid advancement. Ambitious workers seeking promotions find their pay grade increasing by small amounts frequently, rather than by discrete raises. “Career path” no longer means holding three or four jobs ending in a senior management position; it could mean holding dozens of jobs along a zigzagging road toward positions of greater responsibility and social status. Mentorship and community support are increasingly important; having a plan or set of goals helps workers find and activate opportunities.

Worker of the Future: Meet Genevieve

GENEVIEVE, 18, is a single mother and community college student. While she excelled in high school, she finds herself priced out of four-year colleges. She works part-time as a receptionist in a manufacturing company, studying business in the evenings. In her free time at work, Genevieve completes assorted office tasks as they pop up on her computer. She builds expertise in supply chain logistics, which she supplements through online learning. Genevieve joins a network of young learning mothers who gather to pool child-care resources to free up study time. She gets a notice from an employment agency seeking workers to assist in inventory management at a nearby firm. Genevieve applies, using her current expertise profile as a resume, and is accepted. Though the pay is low, she selects her own hours. It is a step up, but just as importantly, she can now demonstrate her new competencies, positioning herself for future advancement.

Signals

• Medium.com uses a distributed decision-making platform.
• Organizations use social learning platforms to boost employee collaboration.
• Teams, brain scans, and externships are forecast as the future of work.
• Hospira creates a toolkit to enable employees to manage their own career paths.
• Five Labs compares Facebook personalities and may enable more effective ‘culture fit’ and ‘team fit’ evaluations for HR.
Key Strategies

• Emphasize teamwork skills in education.
• Teach job seekers to leverage their digital footprints and project records to demonstrate competency and skills to potential employers.
• Create more efficiency in the hiring system.
• Develop HR policies to accommodate workers with diverse backgrounds and credentials.
• Help employees develop, track, and exhibit skills, including self-motivation skills to help them keep up work output with fewer managers.

Policy Recommendations

Improve the school-to-work pipeline. Defining career pathways should begin in high school. High school career academies, followed by skills-based learning in community colleges, then work, should be plotted by a single job or career curator who tracks and advises workers across the education and career trajectory. Specialized employment agencies and platforms should reestablish formal connections to community colleges, government job training entities, and employers to facilitate more effective search, hiring, and tracking of job candidates.

Promote employee ownership. Employee stock ownership plans (ESOPs) issue stock to workers, providing a stake that accumulates value during employment. All employees are entitled to participate. These stakes should not be confused with outright ownership (about 7,000 US firms are 100-percent employee-owned). ESOPs have been shown to increase worker productivity, economic security, and compensation.

Source: Flickr user: BASF
TRANSFORMATION | The Amplified Individual

Technologies only available to large organizations now empower employees to splinter off and create single-person companies and ventures.

Key Elements

- Coordination costs drop significantly.
- Capital for businesses from crowdfunding, banks, and VCs flows freely.
- Highly entrepreneurial flexible firms and mindsets proliferate.
- Power balance shifts from large organizations to individuals.

Overview

In the twenty-first century, the ease of coordinating tasks like marketing, logistics, sales, and even research enables workers to get more done outside of large organizations such as corporations, banks, and schools. By 2019, this “deinstitutionalized economy” allows people to pursue passions in new and exciting ways. It rewards highly entrepreneurial individuals who are skilled at finding and assembling resources and coordinating task flows. From Etsy to Kickstarter, entrepreneurial platforms are open to people in every income bracket. A whole ecosystem of services emerges to support amplified individuals—from co-working spaces to legal, health, and financial instruments targeted to individuals and micro-businesses. Within organizations, entrepreneurship as a skill becomes just as foundational to entry-level work as to the small businesses. Knowledge work, like manufacturing, can now be done anywhere in the world.

The View for Institutions

Creating jobs in the United States depends on leveraging cheap knowledge-economy labor in developing countries. Companies use platforms such as Elance to assemble ad hoc teams to provide sales and customer support, help with editorial work, conduct research, and perform many other tasks online and in an instant. These new digital platforms act as real-time online staffing agencies that cross borders and integrate the global workforce at levels never seen before.
The View for Individuals

In 2019, the ability to use marketplaces like oDesk and Elance has grown to be a basic office competency, like Microsoft Word was in 2010. Employees on the bottom rung at American companies are expected to manage teams of three or more associates throughout the world, including finding, hiring, coordinating, and reviewing these workers. This new amplified employee is paid an entry-level salary but through task networking can accomplish as much as four or more traditional workers. In this future, workers realize that they themselves have all the skills needed to run a business. People in every income bracket open their own firms, where they manage distribution, design, marketing, and finances with the support of a suite of software. For disadvantaged youth, building entrepreneurship skills and access to new kinds of funding means not only income but also a sense of purpose.

Worker of the Future: Meet Jennifer

JENNIFER, 20, attends community college. She learns how to manage and work with teams in a video production class. As an experiment, she crowdsources script and video editing, and hosts the final version of a film about time travel on her portfolio website, where it is discovered by Entermet, an entertainment media company. After conversing with Entermet staff, she applies and is hired for an entry-level position where she can use what she has learned. On her first day at Entermet, Jennifer realizes the editorial team is seriously under water, so she contracts with six writers in India to write blog posts and video descriptions. This experience helps her believe that she can run her own business, so she hires a developer to build a website where users can click anywhere on a map and listen to songs popular in that location. After a year at Entermet, Jennifer quits and officially launches Mapsong for globally curious audiophiles.

Signals

- NewDesk, a social enterprise providing jobs for disconnected youth, uses the oDesk platform.
- Verizon software developer outsources job to China and pockets salary difference.
- 10EQS, a knowledge platform, connects global top talent in online collaboration.
- Etsy entrepreneurs sell more than $1.35 billion in goods globally in 2013.
- Growing national movement seeks to curb exploitation of part-timers.
Key Strategies

- Connect disadvantaged youth with accessible role models and mentors to help them build skills and investigate entrepreneurship.

- Teach students how to find, hire, and manage workers through online labor markets as a foundational skill for later work, whether for themselves or for corporate employers.

- Rethink how and why we are training youth, since the traditional entry-level jobs we currently train youth for are moving overseas.

- Include entrepreneurship training in every workforce development program.

Policy Recommendations

Make microloans available to low-income entrepreneurs. Self-employment has been on the rise since 1991 and is an increasingly viable pathway for disadvantaged youth. Bank microlending can bring entrepreneurs out of the underground economy and broaden their market reach. Debt forgiveness will further stimulate entrepreneurship.

Push for entrepreneurship modules throughout K–16 education. In a world of declining traditional employment, finding and creating work as a skilled individual meeting market opportunities is the new norm. Entrepreneurship is not for everyone, but individuals eager to explore this option should be supported in doing so. Students should be taught how to find and create work opportunities, and should be equipped with the same skills needed to start a business—creativity, self-motivation, applied economics, business strategy, and more.

Support worker cooperative business development. Worker cooperatives, which are owned and democratically managed by their employees, have been shown to improve pay equality within businesses, build equity for worker-owners, and remain rooted in local communities. Such small-scale co-ops have succeeded in Spain and elsewhere and can be brought to scale in the United States. New York City is a model—its new Worker Cooperative Business Development Initiative will support the creation of jobs by coordinating education and training resources and by providing technical, legal, and financial assistance for WCBs.

Source: blog.etsy.com
Final Thoughts

A young person who is unemployed can expect to not only suffer lost wages for the period of unemployment but also lagging wages over the next decade due to their time spent unemployed, according to the Center for American Progress. Young people out of work also fall behind on student-loan payments, delay saving for retirement, and move home with their parents. Disadvantaged youth suffer these consequences disproportionately.

The four scenarios in this report provide an immersive experience in a wide range of critical employment challenges facing disadvantaged youth in the emerging future. All of these scenarios are already happening, to some extent and on a city-by-city scale. From here, the future will not evolve exactly as described in any one of the four scenarios but will likely weave together elements of each. Thus, it will be important for concerned parties to pursue a portfolio of strategies and policies during the next ten years to lift disadvantaged youth out of joblessness. For our collective future, all of the strategies and policies suggested here are worth considering.