

Capital markets and job creation in the 21st century

By Jerry Davis

INTRODUCTION



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The early 21st century has witnessed a sea change in the nature of employment and in the shape of the corporation in the United States. The century began with frequent discussions of the “death of the career” and the rise of the free-agent economy in the United States. Workers were encouraged to avoid relying on the benevolence of a single employer, and instead to take charge of their own destiny by moving from job to job, gaining new skills along the way. As Jack Welch put it in a 2001 address to future corporate leaders at Harvard Business School, “You can guarantee lifetime employability by training people, making them adaptable, making them mobile to go other places to do other things. But you can’t guarantee lifetime employment.” More recently we have seen the rise of the *gig economy*, in which workers and employers hook up for short-term attachments rather than anything as extended as a job. Employment has shifted from the career, to the job, to the task. By the end of 2014, Uber had more driver-partners in the U.S. than General Motors had employees. The proliferation of Ubers for everything—deliveries, on-street valet parking, physician housecalls, diaper changing—indicated that the platform-based service economy was just getting started.

The death of the career and the rise of the gig economy are directly connected to changes in the shape of the American corporation. For most of the 20th century, the balance of power in American corporations favored management and labor, while dispersed shareholders were in effect junior partners. This coalition supported the postwar boom, in which growth-oriented corporations provided stable long-term employment, health and retirement benefits, and opportunities for upward mobility. The bust-up takeovers of the 1980s signaled a shift in power toward

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shareholders at the expense of labor. A new orthodoxy, that corporations existed to create shareholder value, coincided with the rise of information and communication technologies (ICTs), in particular the World Wide Web. The Web enabled a broad move toward outsourcing. Across wide swaths of the economy, it became feasible for firms to contract out functions previously done in-house, from payroll and IT to manufacturing and distribution. Driven by shareholder pressures, corporations increasingly looked like Nike, with a relatively small core staff coordinating a network of contractors. The latest round of this ICT-led movement might be labeled “Uberization,” in which labor inputs become available on demand. The possibilities of just-in-time labor are likely to fundamentally change the nature of the employment relation and what firms look like.¹ The biggest shifts may be in retail, transport, and food service—those sectors that continue to host large-scale corporate employers.

In this article I describe how the corporation’s role as an employer has changed with the rise of shareholder value orthodoxy, and why policy efforts to create good jobs are no longer aligned with shareholder capitalism. The shifts from outsourcing to Uberization have been largely driven by the corporate imperative to create shareholder value, and under our current conditions, creating shareholder value and creating good jobs are largely incompatible. Corporations are “job creators” only as a last resort. Efforts to promote employment by easing access to capital markets, such as the “JOBS Act,” will not work unless there is a fundamental shift in the purpose of the corporation.

THE AMERICAN CORPORATION: FROM STAKEHOLDERS TO SHAREHOLDERS

For most of the 20th century, American corporations were central pillars of the economy and provided stable career employment. The 200 largest U.S. corporations in 1930 controlled about half of the business assets in the country.² Assets and employment had become more and more concentrated since the merger wave at the turn of the 20th century, and economies of scale in manufacturing and distribution meant that bigger firms (suitably restrained by antitrust regulations) were generally more efficient, producing lower-cost goods for consumers. With the hard-won labor reforms of the 1930s, the government-led standardization of personnel practices during WWII, and the post-war labor accords around pensions and benefits, American corporations became model long-term employers. The broad use of internal labor markets by large employers meant that the corporate sector served a critical function in providing pathways to economic security and mobility (at least for some demographic groups). A corporate job was a good job, with a chance to move up in the world.

In spite of historical shocks like the Great Depression and World War II, large corporations were remarkably stable. Nearly all of the companies included in the Dow Jones Industrial Index in 1932 were still there 50 years later, but much bigger. In fact, many scholars agreed that American corporations were far more devoted to growth and to the preservation of the enterprise than they were to profitability, due in large part to the relative disempowerment of their dispersed shareholders. Peter Drucker wrote in 1949: “A growing number of our large enterprises are run on the model which Owen D. Young proposed twenty years ago, when he was head of the General Electric Company: the stockholders are confined to a maximum return equivalent to a risk premium. The remaining profit stays in the enterprise, is paid out in higher wages, or is passed on to the consumer in the form of lower prices.”³ Although this model may have been appealing for employees and consumers, it was less advantageous for investors.

¹ I describe this move in detail in *The Vanishing American Corporation: Navigating the Hazards of a New Economy* (Berrett-Koehler, 2016).

² Adolf A. Berle and Gardiner C. Means (1932), *The Modern Corporation and Private Property*. MacMillan.

³ Peter Drucker (September 1949), “The new society I: Revolution by mass production,” *Harper’s Magazine*, 21–30.

The 1980s saw an abrupt shift in this situation. The growth-oriented firms of the postwar era had evidently overshot their mark and morphed into lumbering conglomerates like ITT, Beatrice, Gulf & Western, and many others. Diversification had become a standard corporate growth strategy, and by 1980 the typical Fortune 500 firm operated in three or more unrelated industries. Highly diversified firms were chronically undervalued by the stock market: in many cases the whole was worth much less than the sum of the parts, a gap referred to as the “conglomerate discount.” After regulatory and legal changes in the early years of the Reagan administration, a wave of bust-up takeovers resulted in a wholesale transformation of the corporate sector back into smaller and more industrially focused firms. In the course of a decade, one-third of the Fortune 500 were taken over or merged, often resulting in split-ups and spinoffs.⁴ The largest merger movement in American history actually resulted in a lower concentration of corporate assets and employment.

Moreover, the stable employment relation was coming to be seen as a costly albatross for many big firms that faced new competition from nimbler foreign rivals. Where American firms had provided health insurance for workers and their families and guaranteed retirement pensions, foreign firms had no such obligations. The welfare state turned out to be a good deal for corporate employers.

The postwar labor accords were now in flux. Unions were under assault, large-scale layoffs became common even at leading employers like AT&T and IBM, and traditional benefits were being retrenched. One of the signal changes during this time was the shift from traditional defined benefit pensions (in which the company guaranteed a regular pension upon retirement) to the 401(k) plan, which was portable and owned by the employee, not the firm. This was, in the words of Jacob Hacker a “great risk shift.”⁵ Corporate employers were no longer a source of long-term career stability.

If labor had lost, who had won? The answer was clear: shareholders. By the 1990s it was widely agreed among executives and investors, and many policymakers, that corporations existed primarily to create shareholder value. Other stakeholders were relevant, but at the end of the day, increasing market value was the dominant objective.

The new orthodoxy was reinforced through widespread popular participation in the stock market (via 401(k)s and retail mutual funds) and the saturation of media with financial information, from Jim Cramer to the Beardstown Ladies. The market reinforced the new consensus, with the S&P 500 rising from \$353 to \$1,469 from between the beginning of 1990 and the end of 1999. Rising prices and increased market participation created a mutually-reinforcing cycle. By the beginning of the new century, the majority of American households were invested in the stock market, and many identified more as investors than as workers, even though the average portfolio was relatively small. The U.S. had seemingly become a democracy of investors.⁶

The dominance of shareholder value orthodoxy has led to a substantial reorganization of the corporation in favor of “vertical disintegration.” For much of the 20th century, American corporations were vertically integrated, with employees of the company whose name was on the product both designing and producing them. Some firms went to extremes: Ford Motor Company’s famous River Rouge Plant made the steel and glass that went into Ford cars from raw materials shipped by Ford boats and trains. Today companies like Apple no longer manufacture most of

⁴ Gerald F. Davis, Kristina A. Diekmann, and Catherin H. Tinsley (1994), “The decline and fall of the conglomerate firm in the 1980s: The deinstitutionalization of an organizational form,” *American Sociological Review* 59: 547–70.

⁵ Jacob S. Hacker (2006), *The Great Risk Shift: The New Economic Insecurity and the Decline of the American Dream*. Oxford.

⁶ Gerald F. Davis (2009), *Managed by the Markets: How Finance Re-shaped America*. Oxford.

their products but rely on manufacturing specialists to oversee their supply chain and coordinate assembly. Nike is the world's largest sporting goods brand and is famous for using East Asian contractors for virtually all of its production. Nike designs and markets sneakers but contracts out the lower value-added tasks in their supply chain. The Nike model was widely admired in business and served as something of a North Star for corporate reorganizations in the 1990s. The recipe is straightforward: return on assets can be enhanced either by increasing the numerator (net income) or reducing the denominator (assets). With the advance of information and communication technologies, particularly the creation of the World Wide Web, it became increasingly feasible for firms in other industries to adopt the Nike model and contract out lower-valued tasks.

Corporations increasingly saw employment as an avoidable expense. Creating shareholder value was in tension with creating stable employment.

Consider Sara Lee, a clothing and consumer packaged goods manufacturer that once ranked #50 in the Fortune 500 list. Sara Lee was an institution in its home town of Chicago, with 150,000 employees and well-known brands ranging from Champion athletic wear and Hanes undergarments to Jimmy Dean sausages and Sara Lee pastries. In the mid-1990s the CEO was concerned that the company was not receiving the valuation it deserved, and he thus embarked on a program of “de-verticalization,”

divesting factories and other tangible assets in order to be relatively heavier on intellectual assets such as brands and advertising. As the CEO put it at the time, “Slaughtering hogs and running knitting machines are businesses of yesterday.” The business of tomorrow eschewed tangible production in favor of the higher value-added trade in ideas. But he was also clear that the proximal cause of the shift was Wall Street and its valuation models: “Wall Street can wipe you out. They are the rule-setters. They do have their fads, but to a large extent there is an evolution in how they judge companies, and they have decided to give premiums to companies that harbor the most profits for the least assets. I can’t argue with that.”⁷ The consequences for employment were also clear: through multiple rounds of restructuring and spinoffs, Sara Lee dropped from 154,000 employees in 2000 to under 10,000 in 2014, when it was bought by its former rival Tyson Foods.

Vertical dis-integration was not limited to apparel and consumer packaged goods, but has spread to nearly every sector. The computer and electronic products industry saw its employment rolls decline by 750,000 after 2000, as electronic manufacturing services (EMS) firms have taken over the vast majority of production. Apple, for instance, contracted with Foxconn for the production of its iPhones. Much the same is true in many other sectors, from pharmaceuticals to pet food to the protection of diplomats overseas. Hiring full-time employees is increasingly a costly indulgence.

The corporate sector was in some sense a victim of its own success. During the postwar boom, American corporations had taken on the provision of stable careers, health insurance for employees and their dependents, and retirement security. Now corporations increasingly saw employment as an avoidable expense. Creating shareholder value was in tension with creating stable employment.

⁷ See Davis, *Managed by the Markets* for details.

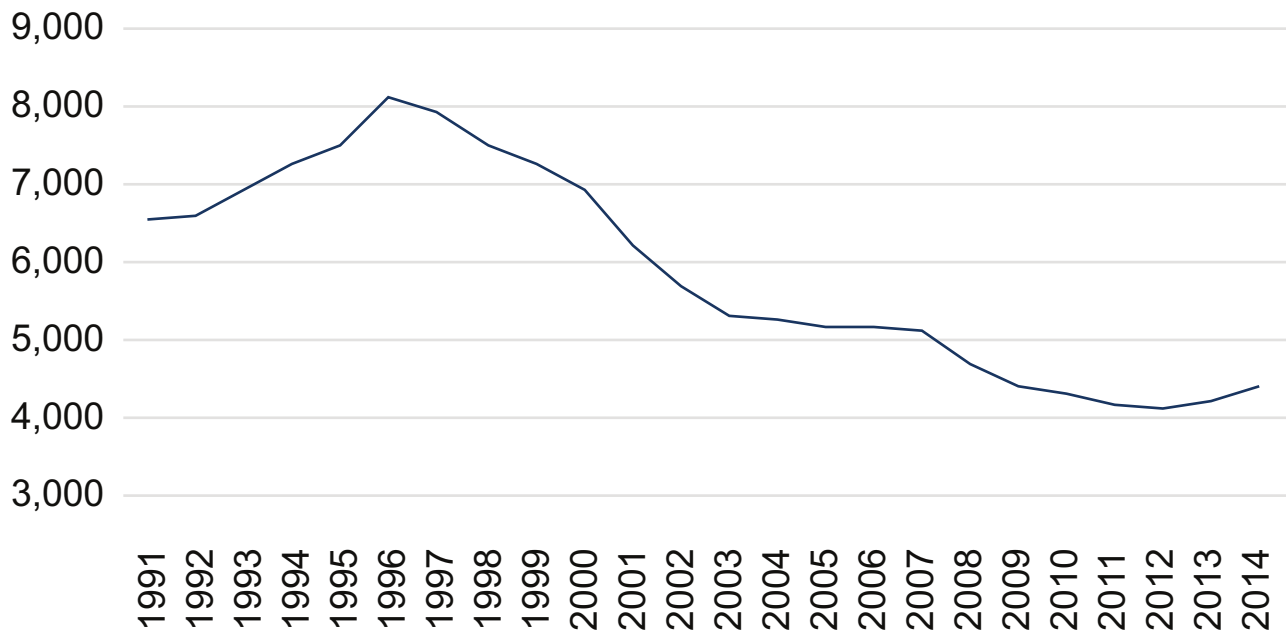
THE LONG-TERM DECLINE IN LISTED CORPORATIONS

Why does the U.S. have so many shareholder-owned corporations in the first place? The standard answer is economies of scale. Around the turn of the 20th century, new technologies and new management techniques made bigger cheaper. Mass production and mass distribution required large, long-lived investments in factories, warehouses, utilities, railroads, stores. Stock markets were a good way to raise large amounts of capital and spread the risk. Thus, in the space of a generation around the turn of the 20th century, the American economy was corporatized.⁸

In transaction cost economics, perhaps the central choice that firms face is whether to make a component internally or to buy it on the market.⁹ For much of the 20th century, American corporations were inclined to make rather than buy. Transaction costs favored vertical integration, and firms often owned their most critical suppliers and distribution channels. Since the 1990s, however, ICTs have made it cost effective for corporations to shop for outside vendors around the world, up to and including the management of the entire supply chain. Internal suppliers faced competition from outside suppliers, and as we saw in the last section, outside suppliers often won.

But if the parts of a supply chain could be rented rather than bought, capital requirements could be much lower, and small firms no longer faced impossible barriers to entry. Thus, over the past generation economies of scale have flipped into dis-economies in many sectors. Vizio grew to be the best-selling brand of LCD television in the U.S.—with only 200 employees—by offering low-cost products assembled and distributed by outside vendors. Meanwhile, Sony, with 150,000 employees, exited the television business because it was no longer cost competitive. Bigger was no longer always cheaper. In other sectors (such as beer brewing or coffee roasting), changing consumer tastes favored the small and local over the large and prominent. And in technology, many of the non-labor components

Figure 1: American corporations listed on the U.S. stock markets



⁸ The standard account is Alfred D. Chandler's *The Visible Hand: The Managerial Revolution in American Business* (1977). Harvard.

⁹ Oliver D. Williamson (1975), *Markets and Hierarchies: Analysis and Antitrust Implications*. Free Press.

of a business today are either free (Apache, Linux, and other open-source software) or cheap (server space from Amazon and other vendors). Businesses can have hundreds of millions of users but only modest capital requirements. Going public is no longer an inevitable step for a growing business.

One of the surprising consequences of this transition is that the number of U.S. corporations listed on American stock markets has been in long-term decline over the past twenty years. Listed companies peaked in 1997 during the dot-com mania, but since then the number of de-listings (due to bankruptcies, mergers and acquisitions, or going private transactions) outnumbered IPOs almost every year. This is not just attributable to the March 2000 dot-com meltdown, or the 2008 financial crisis. In spite of a booming stock market during the Obama years, which is normally accompanied by a flood of IPOs, the number of listed companies only began to recover slightly in 2013, and is still far below figures from the 1980s and 1990s.

Public corporations are no longer the default form of doing business in the U.S.. Moreover, our ideas of what a “major corporation” looks like are often outdated.

WHAT IS A “BIG” CORPORATION TODAY?

Discussions about the economy often refer to the power of large corporations. The implication is that size corresponds to power. But what is a “big” corporation today? The most traditional definition of size in the U.S. is revenues. The Fortune 500 consists of the 500 American companies with the largest revenues in a given year. Alternatively, we might consider assets, or employment, or market capitalization (that is, the value of all a company’s shares traded on the stock market).

In the decades that followed the Second World War, these four meanings of size were more or less interchangeable, because the biggest companies were big on all four measures. Firms that had a lot of revenues also typically had large workforces and substantial assets, as well as large market capitalizations. To be big was to be grand on all four scales. Since the advent of widespread outsourcing, however, corporations can be large in revenues or market cap with relatively few employees or assets. Assets can be rented rather than owned, and production in many sectors can be contracted out. Just as Nike does not manufacture the sneakers with its name on them, Apple does not assemble the iPhone, and Vizio does not manufacture its ubiquitous televisions. The companies behind some of the best-known brand names have little contact with the actual production of their goods, particularly in technology, where generic manufacturing in East Asia is readily available.

This tendency is most pronounced in the case of online services. When the video rental chain Blockbuster was at its height in 2005, it had over 80,000 employees working in 9000 brick-and-mortar stores across the U.S.. Today Netflix, with a market capitalization of over \$50 billion, has only 2189 full-time employees and rents server space for its streaming video service from Amazon. Or consider Facebook, with just over 9000 employees and 2014 revenues of \$12.5 billion (putting it midway up the Fortune 500)—and a market cap of roughly \$300 billion. Stock market valuation and employment have become detached.

Table 1 shows the evolution of this trend, listing the five U.S. corporations with the largest market cap and their number of employees every ten years from 1962 to 2012.

Table 1: Top five market cap U.S. corporations and the size of their workforces (in thousands), 1962-2012

1962		1972	
<i>Company</i>	<i>Employees</i>	<i>Company</i>	<i>Employees</i>
AT&T	564	IBM	262
GM	605	AT&T	778
Exxon	150	Eastman Kodak	115
DuPont	101	GM	760
IBM	81	Exxon	141
1982		1992	
<i>Company</i>	<i>Employees</i>	<i>Company</i>	<i>Employees</i>
IBM	365	Exxon	95
AT&T	822	Walmart	434
Exxon	173	GE	231
GE	367	Philip Morris	161
GM	657	AT&T	313
2002		2012	
<i>Company</i>	<i>Employees</i>	<i>Company</i>	<i>Employees</i>
Microsoft	51	Apple	76
GE	315	Exxon	77
Exxon	93	Microsoft	94
Walmart	1400	Google	54
Pfizer	98	Walmart	2200

Source: Compustat

Other examples of firms with enormous stock market valuations but minimal employment and tangible assets are legion. Twitter has hundreds of millions of users but only 3638 employees. Yelp has 2,711 employees. Zynga has 1,974, Zillow has 1,215, Box has 1,158. Moreover, the new breed of pre-IPO “platform” firms are even more radically tiny than their predecessors: Airbnb has 1600 employees (and millions of listings), while Uber has perhaps 2,000 employees and hundreds of thousands of (nonemployee) “driver-partners.” It is possible to be radically tiny in employment, but still globally prominent and even dominant in one’s industry segment.

What about the converse? Who, exactly, are the biggest employers? For much of the post-war era the biggest American employers were large manufacturers (GM, GE, Ford), oil companies (Exxon, Mobil), AT&T, and Sears. But beginning in the 1990s, retailers began to displace manufacturers, and by 2010 nine of the 12 biggest employers

were in retail. Today Walmart is by far the largest American employer, with more U.S. employees than the dozen largest manufacturers combined (about 1.4 million). Next is grocery chain Kroger (400,000 employees), Home Depot (371,000), UPS (354,000 U.S. employees), and Target (347,000). (Other companies such as McDonald's and YUM Brands have larger employment rolls, but these jobs are primarily outside the U.S. and typically part-time. YUM Brands, which operates Taco Bell, Pizza Hut, and KFC, reports that 87 percent of its workforce is part-time.) In industries other than retail and fast food, major corporations such as GE, IBM, and Pepsico employ only a small minority of their workforce within the United States.

In short, large-scale employers in the U.S. are overwhelmingly in retail, where wages are low, turnover high, benefits modest, and upward mobility minimal.

Retailers face great pressures from both consumers and shareholders to keep their employment costs low. There is little reason to anticipate that retailers will transform into providers of the stable career employment that characterized the postwar era in the U.S.. On February 19, 2015, Walmart announced plans to increase the minimum wage that it paid U.S. workers to \$9 per hour. (The federal minimum wage in the U.S. was \$7.25 at that time.) The plan was expected to cost \$1 billion in the first year. By the end of the day Walmart's share price had dropped over 3 percent, shaving \$8 billion from its market capitalization. Evidently the capital markets do not recognize any value in paying a living wage.

FINANCIAL MARKETS AND JOB CREATION IN THE 21ST CENTURY

Is it fair to blame the shareholder value orthodoxy for the limited job growth of American corporations in the 21st century? Certainly, American policymakers do not seem to see it this way. The JOBS Act of 2012 was premised on the idea that low job growth was due in part to entrepreneurs' limited access to capital. Reforms such as the Sarbanes-Oxley Act of 2002 had made public listing so costly and onerous that entrepreneurs were avoiding going public, which limited their ability to raise capital to build facilities and create jobs.

The JOBS Act allowed companies with less than \$1 billion in revenues, which were labeled "emerging growth companies," to exempt themselves from some of Sarbanes-Oxley's requirements. \$1 billion in revenues is not trivial: the vast majority of companies going public would fit into this category, and \$5 billion in revenues is enough to land on the Fortune 500 list. Yet as we have seen, companies going public often have relatively microscopic employment, particularly in high tech. The combined total employment of some of the

Table 2: Employment at recent IPO firms

<i>Company</i>	<i>Employees</i>
Zynga	1,974
LinkedIn	6,897
Groupon	3,525*
Zillow	1,215
Yelp	2,711
Facebook	9,199
Tableau	1,947
Zulily	2,907
Box	1,158
TOTAL	31,533

* in North America
Source: EDGAR

most successful recent IPO companies is less than the number of people who lost their jobs when Circuit City was liquidated in early 2009 (about 34,000).

How many jobs do corporations create after going public? Do companies complete an IPO in order to build new capacity and grow their employment rolls? I put together data from the Wharton Research Data Service on every U.S.-based company that went public from 2001-2014 to answer these questions. Roughly 1,600 companies went public during this time. They included startups in industries such as biotech and software; expanding retail and restaurant chains; companies that had previously gone private in order to restructure; spinoffs of existing businesses; firms emerging from bankruptcy; and “rollups” that used their shares as currency for acquisitions to consolidate fragmented industries with unrealized economies of scale.

Job growth among IPO firms since the turn of the century has been exceedingly modest. From the time they went public until 2014, or they left the market, the median company grew its global employment by 51 jobs. Some grew much larger, but many actually shrank after going public: When Halliburton spun off KBR in 2006, KBR had 56,000 employees. By 2014, it had only 25,000 workers. BearingPoint, a consulting firm, shrank from 10,000 employees at its IPO to 2500. Employment at Armstrong World Industries declined from 14,500 to 7,400.

Perhaps this should not be so surprising. Research by Stanford’s George Foster finds that startups across ten countries frequently shrink in employment and revenue after an initial growth spurt. Most startups never actually grow much beyond their larval stage, and of those that make it past their third year, nearly two-thirds experience revenue drops.¹⁰ On balance, early stage ventures as a group have a fairly poor record of job creation.

Table 3: Source of job growth among IPOs in the 21st century

<i>Company</i>	<i>Job growth since IPO</i>	<i>Source</i>
Brookdale Senior Living	66,240	Rollup
Synnex	62,336	Acquisition
GameStop	54,300	Organic
Google	51,693	Organic and acquisition
Chipotle	40,090	Organic
CBRE Group	38,500	Rollup
Texas Roadhouse	33,600	Organic
LKQ	27,700	Rollup
Energy Transer Equity	23,101	Rollup
Five Star Quality Care	21,144	Rollup

¹⁰ Antonio Davila, George Foster, Xiaobin He, and Carlos Shimizu (2015), “The rise and fall of startups: Creation and destruction of revenue and jobs by young companies.” *Australian Journal of Management* 40: 6-35

Our perception of startups as engines of job creation is often driven by a few high-visibility examples that may be atypical. Amazon and Google are far from representative. So who were the biggest post-IPO job creators in the 21st century? The company that saw the biggest growth in its employment rolls after its IPO was Brookdale Senior Living, which is the largest operator of senior care homes in the U.S., with over 1,000 facilities. Brookdale went public in 2005 with 16,000 employees, and grew to 82,000 in 2014 (52,500 full-time, 29,500 part-time). But this growth was almost entirely attributable to Brookdale's ambitious program of roll-up acquisitions in a fragmented industry, not to organic growth. Second in job growth was Synnex, which went public with 1,664 employees and grew to 64,000. Again, however, this seeming growth was due to its acquisition of IBM's global business process outsourcing business in 2013.

The third biggest job creator was GameStop. GameStop is videogame retailer that operates nearly 7,000 stores, mostly in the U.S., and has expanded aggressively through organic growth. GameStop opens hundreds of new stores in a typical year, and its growth represents genuine organic job creation. According to GameStop's 10-K, "We have approximately 18,000 full-time salaried and hourly employees and between 29,000 and 55,000 part-time hourly employees worldwide, depending on the time of year." On average, each store employs "one manager, one assistant manager and between two and ten sales associates, many of whom are part-time employees."

Google was fourth in total job growth, expanding from 3,000 in 2004 to 53,000 in 2014, both through acquisitions and through de novo hiring. Fifth was Chipotle Mexican Grill, growing from 13,000 in 2006 to 53,000 in 2014, of which 48,500 were hourly employees. Sixth was CBRE Group, a real estate firm that grew through rollup acquisitions. Seventh was Texas Roadhouse, another restaurant chain. Eighth was LKQ, a distributor of used and refurbished auto parts which has acquired over 200 smaller businesses in a previously fragmented industry. Ninth was Energy Transfer Equity LP, owner of an expanding set of natural gas and other energy assets. Tenth was Five Star Quality Care, another senior care rollup company.

In combination, the ten biggest post-IPO "job creators" collectively accounted for relatively few genuinely new jobs since the turn of the 21st century. Most of their apparent job growth was actually job *shuffling* through rollups and other acquisitions (Brookdale, Synnex, CBRE, LKQ, Energy Transfer, Five Star). With the exception of Google, nearly all the organic job growth among these firms was in retail and food service, and many of these jobs are part-time and relatively low wage.

In some sense, GameStop is the new face of job creation in America, with its expansive army of (mostly part-time) game enthusiasts. According to PayScale.com, "Retail Store Managers [at GameStop] rake in the most money, with average earnings of \$16.82 per hour; Assistant Store Managers come in second with average earnings amounting to \$12.04...Sales Associates make an average approximately \$7.97, close to the bottom of the company pay scale."

Did the JOBS Act work? One study reports that there were 21 more IPOs per year after the JOBS Act took effect than would be expected otherwise.¹¹ To put this in context, there were 79 IPOs in the month of October 1999 alone. Many of the newly-public companies have been in biotech, a sector that benefits from the reduced disclosure requirements for "emerging growth" companies. Yet it would be a mistake to imagine that biotech will ever be an engine of job growth. IPO firms in SIC code 2836 ("Biological Products, except Diagnostic Substances," an industry category containing dozens of biotech firms) are tiny: the median firm that went public after 2000 had 49 employees

¹¹ Michael Dambra, Laura Casares Field, and Matthew T. Gustafson (2015), "The JOBS Act and IPO volume: Evidence that disclosure costs affect the IPO decision." *Journal of Financial Economics* 116: 121-143.

in 2013, and all of them put together (roughly 100) had fewer than 8,000 employees in total. Moreover, more than 90 percent of these firms had no profits. On the one hand, this situation belies the common argument that capital markets enforce a focus on short-term profits. On the other hand, it also makes clear that biotech will never be an engine of employment growth.

These findings indicate that the capital markets play a complicated role in the creation of new jobs. Policymakers imagine that entrepreneurs are hindered by limited access to capital, and that easing the path to IPO would unleash job creation. But the results reported here do not support the idea that better access to financial markets will generate job growth. If anything, listing on a stock market creates pressures against creating employment: market participants seem to reward the lean and mean, and punish the job creators.

One might argue that the presence of capital markets enables job creation in less direct ways. Some businesses would never be started if their creators did not have the option to go public eventually. Just as the existence of the NBA may encourage kids to keep showing up at basketball practice even though the odds against them are long, the existence of capital markets keeps entrepreneurs in the game in the hope that they might one day get rich from an IPO. Even doomed startups create a least a few jobs temporarily. Moreover, some firms go private or bankrupt in the expectation that they may eventually go public again; these firms might otherwise have been sold or liquidated. But it is not clear that providing a currency for acquisitions and rollups plays a strong role in creating jobs.

REPLACEMENT OF THE ‘JOB’ BY THE ‘TASK’

Automation and offshoring are widely-recognized threats to existing jobs. But the advent of smartphones and new forms of “platform capitalism” like Uber create a new form of threat: the replacement of the “job” by the “task.”

Concerns about the effects of offshoring on employment grew in the 1990s, as the genesis of the Web expanded the array of tasks that could be contracted out. A decade ago economist Alan Blinder described which kinds of jobs were subject to offshoring due to information and communication technologies (ICTs). Goods and services traditionally fall into two categories when it comes to global trade: tradable and non-tradable. Non-perishable manufactured goods can be put in a box and shipped, and thus traditionally they made up the bulk of international trade. Now, however, ICTs had made it possible to trade services that could be delivered “over a wire.” This included typing services, software programming, securities analysis, and reading X-rays. Notably, the kinds of jobs that could be offshored due to ICTs appeared in diverse industries and at all skill levels. The question of “offshoreability” was not whether the jobs required high skills or low, but rather whether “personal, face-to-face service is either imperative or highly desirable.” These tasks can be labeled *personal services*; the others might be called *impersonal services*. Child care, surgery, janitorial work, and police protection were personal services that could not easily be offshored, and thus these jobs were likely to stay put. But the line between tradable and non-tradable services was moving outward as ICTs improved. In 2006 Blinder estimated that perhaps 30 to 40 million U.S. jobs were at risk of offshoring in our electronic future. Moreover, as more people migrated to personal service professions, the wages were likely to go down as the supply went up.¹²

¹² Alan Blinder (2006), “Offshoring: The Next Industrial Revolution?” *Foreign Affairs*, March/April. Available at <https://www.foreignaffairs.com/articles/2006-03-01/offshoring-next-industrial-revolution>

Blinder's bleak assessment received a great deal of attention at the time, although he was quick to caution that he did not expect the offshoring of services to lead to mass unemployment. Rather, he suggested that our systems of work and social welfare would need to adjust in order to ease the transition.

A more fundamental threat to traditional corporate employment comes from Uber and other mobile-enabled service platforms. Uber uses GPS information from the smartphones of riders and drivers to create a market for paid rides. Both are able to rate each other upon the completion of their transaction, and payment is made automatically. Drivers are not employees, but independent contractors who can choose when and if to turn on the app, and whether to pick up any particular rider in light of their destination and prior rating. In December 2014, Uber had 162,000 regular drivers in the U.S.; by September 2015 it had 327,000, continuing an exponential growth curve.¹³ These driver-partners are not employees, but independent contractors; Uber had only about 2,000 actual employees at last count.

The basic model of labor on demand has come to be called the *gig economy* because unlike jobs, which imply an ongoing and perhaps indefinite connection between employer and employee, gig laborers perform a particular service for a fee. The personal services that were relatively immune to offshoring are now subject to "Uberization": being hired and paid by the task. There is now an Uber for almost any personal service you can imagine, often hatched in San Francisco, from package pickup and mailing to housecleaning to housecalls by physicians. If there is not a service for the specific task you need done, there are generic services like TaskRabbit where prospective service providers can bid on your task.

Why is this a threat to the job? Consider why corporations created the "job" in the first place. Firms expected to have an indefinite need for the performance of particular kinds of tasks, and hiring employees gave them both a degree of certainty that employees would turn up each day, and the flexibility to assign them to varying tasks depending on the firm's needs. Decent pay, health benefits, career ladders, and retirement plans were intended to cultivate long-term attachments and the development of skills that were particularly useful to the employer. The career was, in a sense, an artifact of a particular way of organizing the economy through corporations.

In his foundational 1937 paper on the theory of the firm, Ronald Coase wrote that "The main reason why it is profitable to establish a firm would seem to be that there is a cost of using the price system. The most obvious cost of 'organising' production through the price mechanism is that of discovering what the relevant prices are."¹⁴ When the price for inputs is uncertain, firms are likely to produce an input internally (that is, to *make* rather than to *buy*); when prices are readily available, on the other hand, then firms can use outside contractors. As we saw previously, outsourcing became prevalent when it was easier to price inputs such as the production of goods. When anyone can easily go online and discover what it will cost to produce, say, a new mobile phone with certain features, then this changes the calculus for what a firm needs to do internally. (For a sample, visit Alibaba.com.) This situation also enables new business models like Vizio, which relies almost entirely on outside contractors. Companies like Vizio have little reason to go public or to hire employees in bulk.

Uberization extends this logic to labor inputs. By lowering the cost of recruiting labor on demand, when and if it is needed, it reduces the need to hire employees for fixed jobs, with all of the expenses that go with them. Uberization has the potential to replace the job with the task.

¹³ Jonathan V. Hall and Alan B. Krueger (2015), "An Analysis of the Labor Market for Uber's Driver-Partners in the United States," January 22, 2015, <http://dataspace.princeton.edu/jspui/bitstream/88435/dsp010z708z67d/5/587.pdf>

¹⁴ Ronald H. Coase (1937), "The nature of the firm," *Economica* 4: 386–405.

There have been online services for tasks such as computer programming for years (e.g., Upwork), but these are primarily for the sorts of “impersonal services” that Blinder described. But what if firms were able to summon in-person labor on demand using an app? That is, rather than hiring employees, with their demands for regular schedules and benefits and sick days, firms could simply post their needed labor online. One might imagine that third parties would take on the role of certifying labor for particular tasks (e.g., stocking shelves, working the cash register, removing kidney stones). Rather than scheduling particular people for particular shifts, firms might rely on algorithms to schedule and price tasks. Laborers in this setting would choose which days they wanted to work, and could sign on for several different apps. If a chain store had several outlets within commutable distance, one might be eligible to take shifts at any of them. Conversely, entrepreneurs might be able to experiment with pop-up businesses, recruiting pre-certified laborers for the day or the hour. Something much like this already happens every morning in the parking lot of Home Depots, where impromptu work gangs are assembled for construction and agriculture work. But when smartphones are ubiquitous, Uberization has the prospect of turning the world into a Home Depot parking lot.

The availability of low-cost contractors, the advent of the Web, and pressures from Wall Street led to the broad adoption of the Nike model among American corporations. Given Wall Street’s aversion to growing employment, it seems inevitable that the Uber model of labor on demand will re-make the corporate employment relation. Of course, firms might import ideas from Uber and other task-based apps that would further erode the tradition of a fixed hourly wage: surge pricing for unpopular shifts (say, Thanksgiving or Saturday nights), and competitive bidding for popular shifts. Not all of this is likely to be legal under current labor laws, but laws change, and the enthusiasm of policy-makers for innovation and “creative destruction” might be sufficient to overcome objections, at least in some states.

It should be obvious that Uberization creates the biggest threat to employment in low-end services such as retail, food service, and transportation. These are, of course, the very sectors that house the largest corporate employers in the U.S. today. Depending on the legal climate, Uberization may shift large parts of the job market from jobs to tasks, and the traditional corporate employer may end up being somewhat vestigial.

CONCLUSION

Over the past generation we have seen a shift from the career, to the job, to the task. It is becoming increasingly feasible to hire labor on demand. While the impact of Uber and other platforms are first being felt in personal services, their basic model can be readily extended to other forms of employment. In particular, the low-wage service sector is ripe for Uberization. It seems highly likely that many current jobs will be reformatted in the coming years as tasks for contractors. Moreover, it is not the level of skill that matters so much as the ability to specify what the task is. From the provision of medical care to college lectures, a wide range of activities currently classified as “jobs” could easily become “tasks” paid on a piece rate.

In the corporate sector, the pursuit of shareholder value has become increasingly detached from the creation of employment. Corporations with tiny employment rolls and assets can have vast market capitalizations, such as Facebook, while large employers often have modest market caps, such as Kroger. Moreover, firms going public since the turn of the 21st century tend to start and remain small. What is good for shareholders may not be good for employment.

The challenge for those that seek to create economic security for the future is to recognize the mismatch between our old model of the economy and the nature of 21st century enterprises. As a first step, we need to abandon the idea that entrepreneurs are job creators, or that easing the path to IPO will create employment. Entrepreneurship aimed at creating shareholder value is unlikely to create many jobs in the U.S.

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