

Beyond Antitrust: The Role of Competition Policy in Promoting Inclusive Growth

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This is an expanded version of these remarks as prepared for delivery.

Thank you very much for inviting me to today's conference. Discussions of competition often center on issues of antitrust enforcement. Those are important issues, but I will not address them in my remarks today because they are enforcement questions that are within the purview of the Antitrust Division of the Justice Department and the Federal Trade Commission (FTC). I will argue, though, that public policy can play an important role in promoting competition that goes well beyond traditional antitrust enforcement.

The Administration has focused on competition policy in a wide range of areas, from airport slots to standards essential patents to spectrum allocation. Most recently, this past April, the President signed an Executive Order calling on agencies to identify creative actions that they can take to promote competition. The Executive Order calls on agencies to maintain a focus on competition policy in the future by submitting proposed actions on a semi-annual basis. The Administration is currently reviewing the first set of proposals from agencies on how we can use public policy to promote competition, a number of which will be announced in the coming months.

The first action undertaken as part of this Executive Order was the Administration filing in support of the Federal Communication Commission's (FCC) proposed rule to bring increased competition to the market for cable set-top boxes. We have been pleased to see FCC Chairman Wheeler actively listen to the many stakeholders involved to improve the proposal, and believe that he is charting out a responsible way to address their meaningful concerns while being responsive to Congress's explicit directive to ensure a healthy set-top marketplace.

In conjunction with the Executive Order, the Council of Economic Advisers (CEA) released an issue brief documenting some of the evidence suggesting a reduction in competition throughout the economy. Our findings are consistent with recent arguments from academic papers such as Bennett and Gartenberg (2016), and other observers, including *The Economist* and the Center for American Progress (CAP), stating that competition in the U.S. economy has declined in recent years (The Economist 2016; Jarsulic et al. 2016).

Part of the underlying motivation for the Administration's efforts is the belief that competition can play an important and broader role not just in static, allocative efficiency but also in dynamic efficiency—making the economy more innovative and increasing productivity growth. In addition, there is also increasing evidence that greater competition or more evenly balanced power in some areas could also play a role in reducing some of the causes of inequality.

In my remarks today, I will start by quickly reviewing some of the evidence for greater concentration in the economy, then provide some broad macroeconomic motivation, before discussing a few specific areas that the Administration is working on, with a focus on some of the difficult questions raised by the rapid evolution of technology in recent years.

What Is the Evidence on the Trends in Concentration?

The CEA issue brief released earlier this year reviewed some of the evidence on increased concentration in the economy. The majority of industries have seen increases in the revenue share enjoyed by the 50 largest firms between 1997 and 2012 (Table 1). Along similar lines, *The Economist* (2016) found that in 42 percent of the roughly 900 industries examined, the top four firms controlled more than a third of the market in 2012, up from 28 percent of industries in 1997. Of course, an increase in revenue concentration at the national industry level is neither necessary nor sufficient to indicate increases in market power: the sectors listed here are much larger than the relevant markets, whether in terms of sub-sectors or geography, and 50 firms is likely well above the number that would mark an industry as competitive. Nevertheless, it is one metric among many that create a snapshot of the current state of competition in today's economy.

Table 1
Change in Market Concentration by Sector, 1997-2012

Industry	Revenue Earned by 50 Largest Firms, 2012 (Billions \$)	Revenue Share Earned by 50 Largest Firms, 2012	Percentage Point Change in Revenue Share Earned by 50 Largest Firms, 1997-2012
Transportation and Warehousing	307.9	42.1	11.4
Retail Trade	1,555.8	36.9	11.2
Finance and Insurance	1,762.7	48.5	9.9
Wholesale Trade	2,183.1	27.6	7.3
Real Estate Rental and Leasing	121.6	24.9	5.4
Utilities	367.7	69.1	4.6
Educational Services	12.1	22.7	4.2*
Professional, Scientific and Technical Services	278.2	18.8	2.8*
Arts, Entertainment and Recreation	39.5	19.6	2.5*
Administrative/ Support	159.2	23.7	1.6
Health Care and Assistance	350.2	17.2	0.8*
Accommodation and Food Services	149.8	21.2	0.1
Other Services, Non-Public Admin	46.7	10.9	-0.2*

These broad trends are consistent with a number of industry-specific studies tracking concentration over longer periods of time:

- In financial services, a study found that the loan market share of the top ten banks increased from about 30 percent in 1980 to about 50 percent in 2010 (Corbae and D’Erasmus 2013).
- The share of revenues held by the top four firms increased between 1972 and 2002 in eight of nine agricultural industries tracked in a Congressional Research Service study (Shields 2010).
- According to Gaynor, Ho, and Town (2015), hospital market concentration increased from the early 1990s to 2006. The authors found that the average Herfindahl-Hirschman Index (HHI), a commonly used measure of market concentration, increased by about 50 percent to about 3,200, the level associated with just three equal-sized competitors in a market.¹
- Wireless providers saw increased concentration, with the FCC (2015) finding that the average HHI in the markets they examined increased from under 2,500 in 2004 to over 3,000 in 2014.
- Railroad market concentration increases between 1985 and 2007 have been documented by Prater et al. (2012).

While these facts all suggest that concentration has increased, it is also necessary to consider the causes of that increase in concentration. Our normative evaluation of the policy implications would differ depending on whether this increase is the result of greater economies of scale, or the result of artificial barriers to entry. The causes may also vary from sector to sector or across geographic markets. This is why even though the broader motivation is important, any particular policy issue area should be evaluated on its own merits—which is what I attempt to provide a sampling of below.

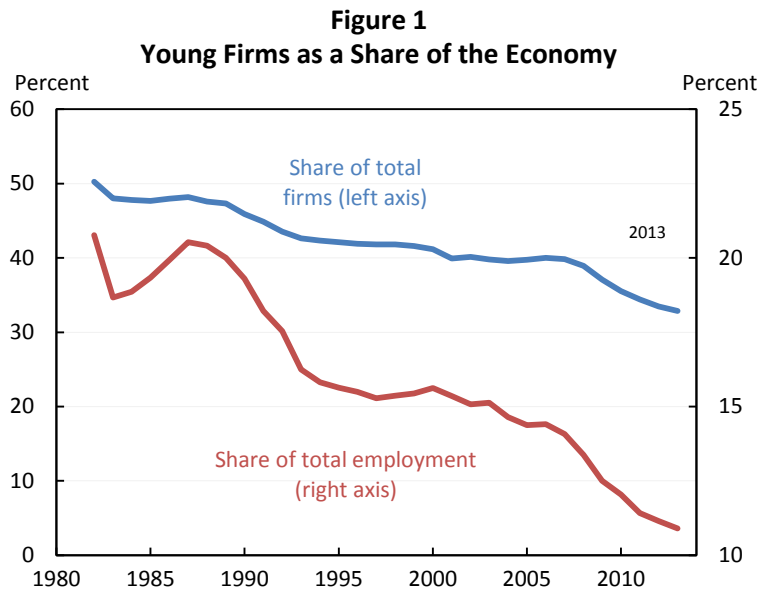
Seven Broader Macroeconomic Trends and Their Relationship to the Competitive Landscape

But before getting to these more specific issues, I want to spend a few moments on some broader macroeconomic trends that are consistent with increased concentration and decreased competition coming specifically from barriers to entry (and in the case of the labor market, barriers to mobility), and on some of their macroeconomic consequences. Let me highlight seven of them:

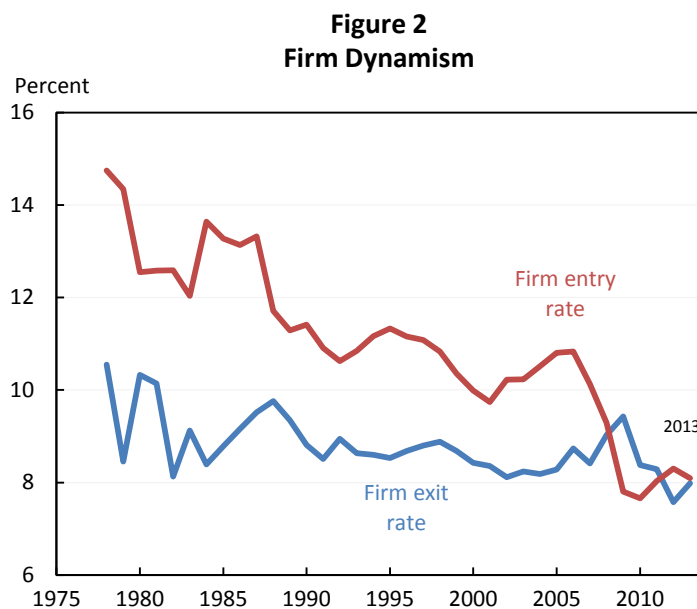
¹ The Herfindahl-Hirschman Index (HHI) is a commonly used measure of market concentration that is created by summing up the squared shares of firms in a market. Higher values of the HHI indicate higher market concentration; it can be close to zero when a market is comprised of a large number of firms of small size and reaches a maximum of 10,000 when a market is controlled by a single firm. Antitrust agencies generally consider markets in which HHI is between 1,500 and 2,500 to be moderately concentrated, and consider markets in which the HHI is in excess of 2,500 to be highly concentrated (see <https://www.justice.gov/atr/herfindahl-hirschman-index> for more detail).

1. The economy has seen a slowdown in the creation of new businesses, as the average business is now older and the top firms capture more market share.

Since the 1980s, young firms (those five years old or less) have been declining as a share of the economy. In 1982, young firms accounted for about half of all firms, and one-fifth of total employment. However, these figures have fallen to about one-third of firms and one-tenth of total employment in 2013 (Figure 1).



Much of this decrease is driven by declining firm dynamism—the entry and exit of firms. While firm exit has remained relative steady since the late 1970s, the firm entry rate has decreased significantly since the late 1970s (Figure 2).

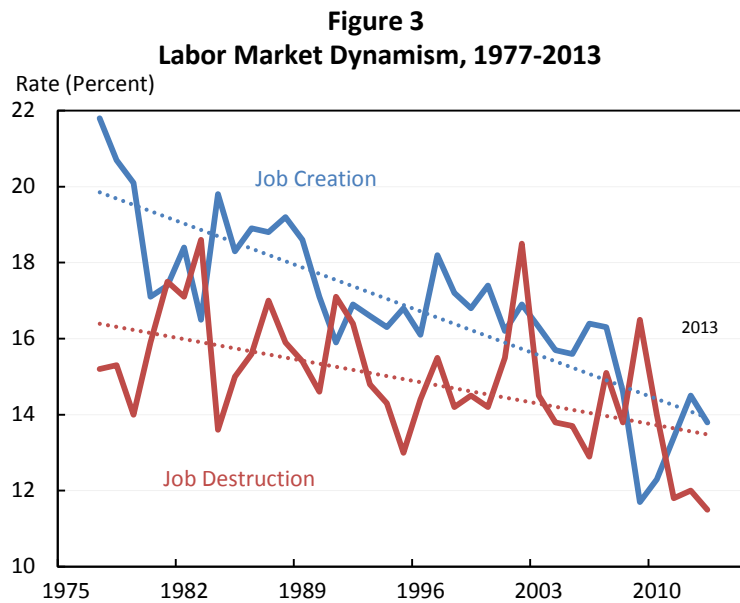


A partial explanation for the decline in firm entry rates may be found in increased barriers to entry. These barriers to entry can come in the form of advantages that have accrued to incumbents over time. For example, increased economies of scale may mean that incumbents experience lower costs than new firms, making it harder for entrants to compete. Or demand-side network effects—when a product or service increases in quality the more people use it—may tip the scale in favor of a single provider. Incumbent advantages may also come in the form of successful political lobbying, in which incumbent firms have the resources to lobby for rules that protect them from new entrants.

2. Labor markets have become less fluid, with workers less likely to move between jobs, industries, occupations, and locations.

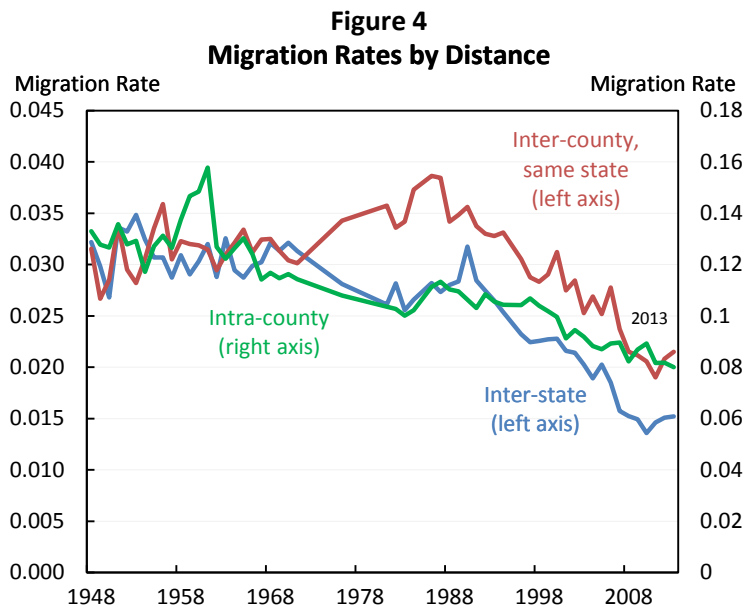
Like firm dynamism, labor market dynamism—also known as “fluidity” or “churn,” measured as the frequency of changes in who is working for whom in the labor market—has been declining in recent decades. The causes and consequences of this decline are still not entirely clear: on the one hand, lower levels of churn may suggest better worker-employer matching, but may also be a particular cause for concern given that, for many workers, wage increases typically occur at the point of job-switching (Molloy et al. 2016).

We know relatively more about job flows (job creation and destruction) than worker flows (hires and separations) since series data are available back to the 1980s. Literature based on these data concludes that job flows have markedly declined over the last 20 to 30 years. For example, Decker et al. (2014) and Davis and Haltiwanger (2014) document that job creation and job destruction fell from the late 1980s to just before the 2007 recession, as shown in Figure 3. Hyatt and Spletzer (2013) find larger declines, of roughly one-quarter to one-third, for both job creation and destruction between the late 1990s and 2010.



Although data on worker flows are more recent, they too show evidence of reduced fluidity. There has been a long-run downward trend in job-to-job transitions since at least 2000 (Hyatt

and Spletzer 2013). Other measures of worker mobility that extend further back in time also show evidence a steady decline. Long-distance migration in the United States, which typically involves a change of employer or labor force status, has also been in a decades-long decline, falling by as much as 50 percent since the late 1970s (Molloy et al. 2014; Kaplan and Schulhofer-Wohl 2012). Both intra- and inter-county migration have followed similar patterns, as shown in Figure 4.



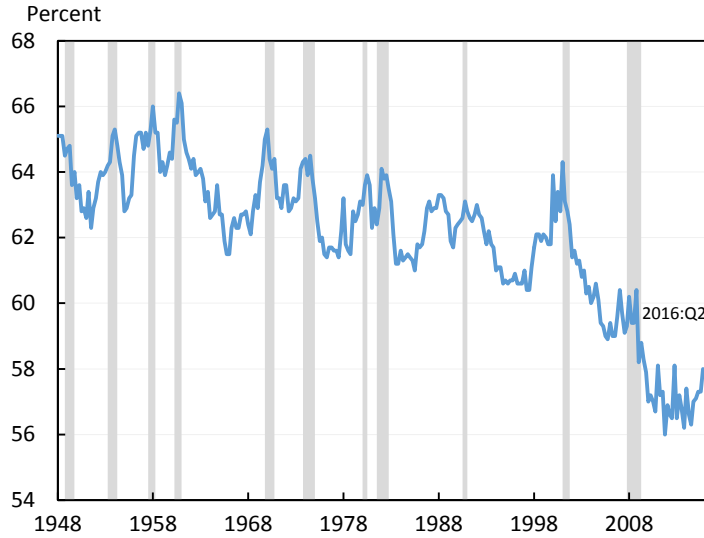
While the causes of decreased labor market dynamism are not well understood, research has shown that it is related both to changes in firm composition—with employment being increasingly concentrated in older, larger firms—and to declines in worker movements between existing jobs (Davis and Haltiwanger 2014; Hyatt and Spletzer 2013). Both market concentration and frictions that reduce worker mobility can lead to greater monopsony power for employers. With fewer firms competing for a given type of worker, each firm is more likely to exercise local monopsony, and their smaller numbers may also facilitate tacit or explicit collusion. If, on top of that, employees face greater search frictions or costs of moving, then this reduces their ability to raise their wages by changing jobs and thus also reduces their bargaining power with their current employer (Manning 2003).

3. The share of income going to capital has risen, and the share of income going to labor has fallen.

Up until recently, the share of income in the nonfarm business sector accruing to labor was generally stable, though it varied somewhat from year to year depending on the economy’s cyclical position. This was considered such a strong empirical regularity that it was enshrined in the pantheon of Nicholas Kaldor’s stylized facts about growth (Kaldor 1957). But starting around 2000, the distribution of income between labor and capital shifted noticeably away from the former and towards the latter, as shown in Figure 5. Today, the labor share of income is in the mid-50s, compared to the mid-60s two decades ago. A large literature has examined this decline in the labor share of income, and candidate explanations include institutional changes, including

the decline of private-sector unions and fall in the real value of the minimum wage; the general reduction in competition shifting the balance of bargaining power towards employers; and skill-biased technological change (Elsby, Hobijn, and Şahin 2013; Karabarbounis and Neiman 2013; Blanchard 1997; Bentolila and Saint-Paul 2003; Azmat, Manning, and van Reenen 2011; Harrison 2005; Jaumotte and Tytell 2007).

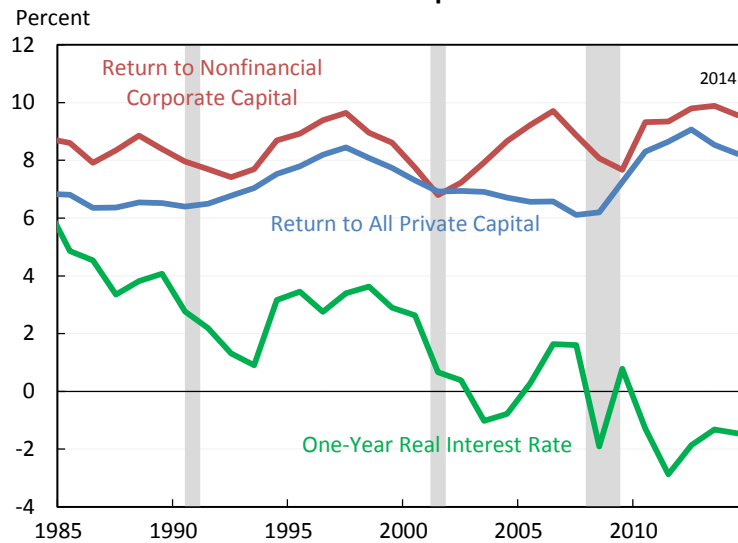
Figure 5
Labor Share of Income, Nonfarm Business Sector, 1948-2016



4. The rate of return on capital has risen relative to the safe rate of return.

Since the 1980s, the safe rate of return, as measured by real interest rates on government bonds, has fallen steadily. However, the rate of return on capital—both all private capital and nonfinancial corporate capital—has held steady or even increased over the same period, mirroring, at least in the last decade and a half, the share of income going to capital instead of to labor (Figure 6).

Figure 6
Returns to Capital

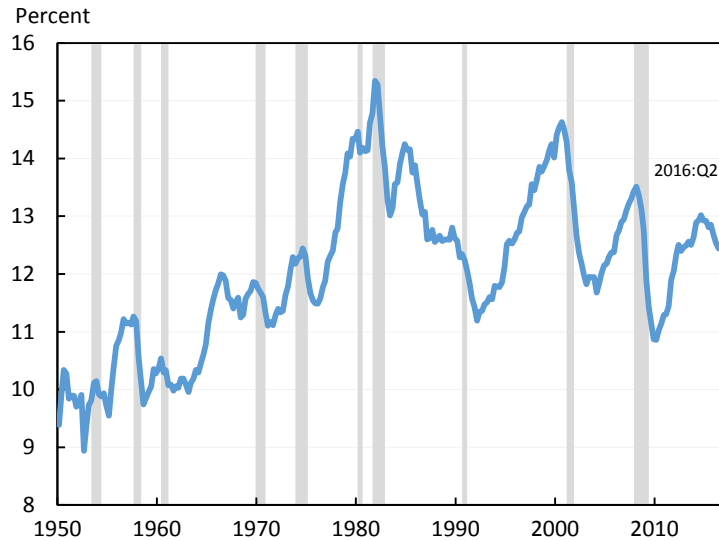


One explanation of the apparent increase in the premium on the return to capital is that it is another manifestation of the decrease in the labor share of income and associated increase in the capital share of income. This, in turn, is consistent with the increased prevalence of economic rents and a broader trend of reduced competition, although other explanations, including the changing risk characteristics of returns to private capital or government bonds could also be playing a role (Kozlowski, Veldkamp, and Venkateswaran 2015; Campbell, Pflueger, and Viceira 2014).

5. But businesses are investing less.

Contrary to what economic theory would predict, the higher returns to capital have not been associated with an increase in business investment. In fact, business investment has been particularly weak in recent years. Some of most recent weakness likely represents temporary adjustments to transitory factors, like low oil prices, but nonresidential fixed investment as a share of overall GDP has shown a downward trend since the 1980s, as shown in Figure 7. Again, multiple explanations are possible. One explanation is that monopoly power has increased—which is consistent with higher returns and lower output.

Figure 7
Business Fixed Investment as Share of GDP

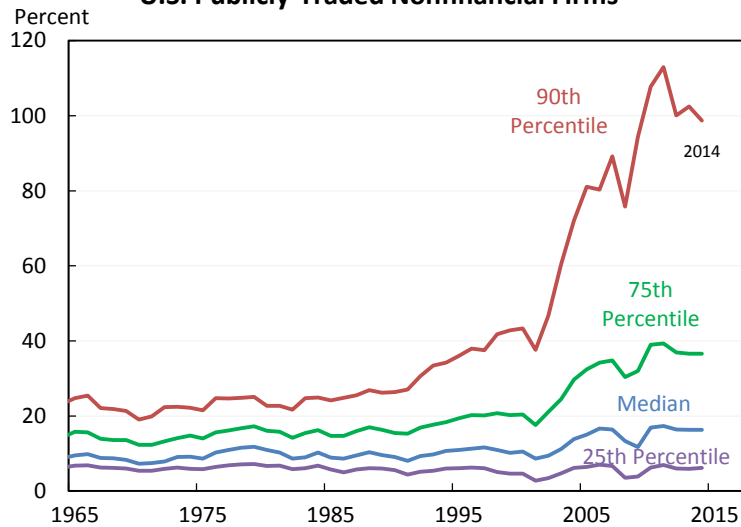


Low levels of business investment are particularly troubling because of their impact on productivity growth via capital deepening. The largest contributor to recent low productivity growth has been the decline, for the first time since World War II, in capital services per worker-hour in the last five years—due to both slower investment growth and a large increase in worker hours. As a result, a worker today has less capital at his or her disposal than a worker five years ago.

6. The rate of return across businesses has become increasingly dispersed.

Recent years have also seen dramatic increases in the dispersion of returns to firms, as returns on invested capital for publicly-traded U.S. nonfinancial firms have become increasingly concentrated. Figure 8 indicates that the 90th percentile firm sees returns on investment in capital that are more than five times the median. The ratio was closer to two just a quarter of a century ago.

Figure 8
Return on Invested Capital Excluding Goodwill,
U.S. Publicly-Traded Nonfinancial Firms

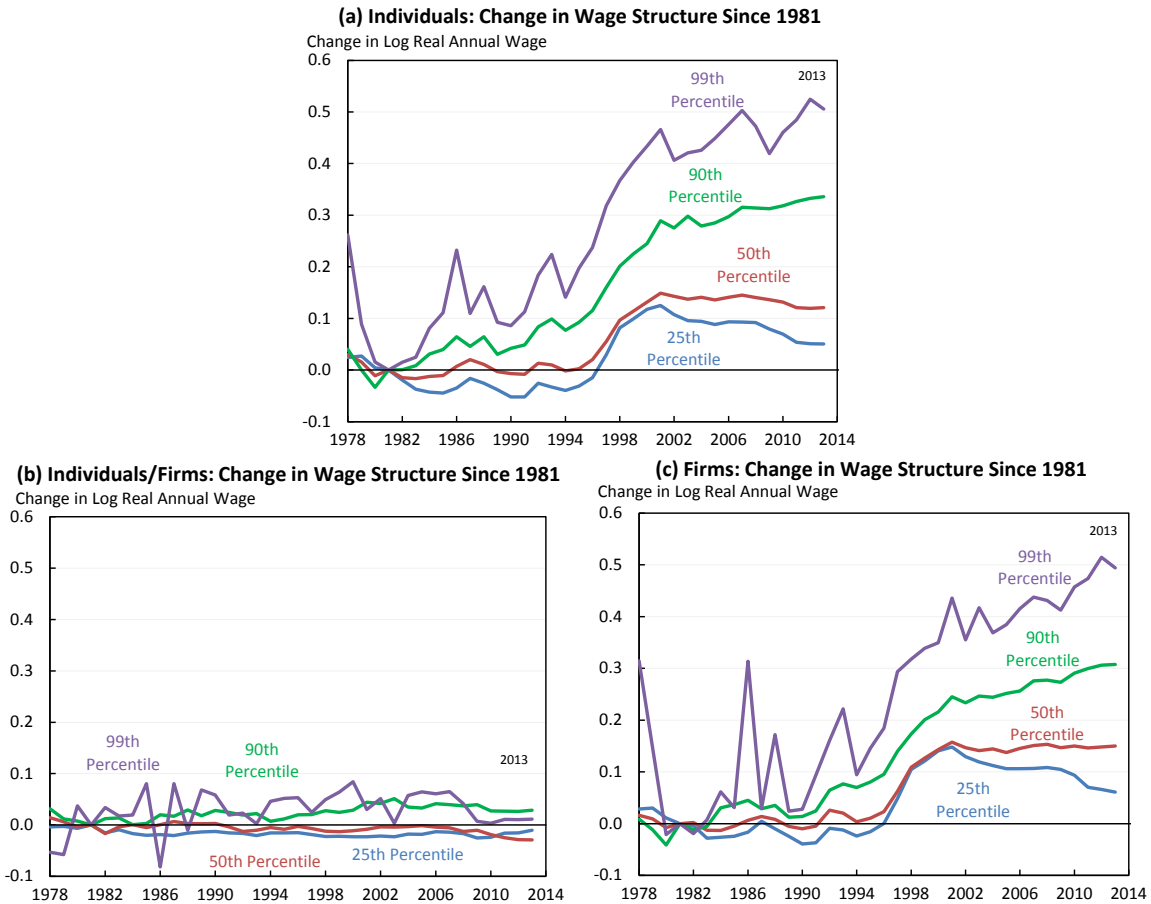


This concentration of returns among a small number of firms raises the question of whether, and to what extent, economic rents may be playing a role here, too. The data show that two-thirds of the non-financial firms enjoying an average return on invested capital of 45 percent or higher between 2010 and 2014 were in either the health care or information technology sectors, industries where, as mentioned above, other measures point to a reduction in competition (Furman and Orszag 2015).

7. Wage inequality has grown substantially between workers at different businesses and establishments.

As is often noted, income inequality has increased in the United States over the last several decades. Recent research from Song et al. 2016 suggests that especially among firms with 100 to 1,000 employees (which contain over 70 percent of employees and 99 percent of firms), a large share of this inequality is driven by increased divergence in the average earnings of workers in *between* different firms rather than a divergence of the wages *within* the same firm. This finding is consistent with evidence from Barth et al. (2014) on establishments. Figures 9a and 9c show that while individual wage disparities have clearly risen, so too have disparities among firms. Figure 9b, which shows the individual wage structure divided by the firm wage structure, demonstrates that between-firm changes account for much of the increased dispersion in individual wages. These trends could indicate that a prime driver of inequality is the difference between the most and least profitable companies, although it also may reflect the sorting of workers with different abilities across firms—the subject of a long-standing debate over inter-industry wage differentials (Krueger and Summers 1988; Katz 1992; Abowd et al. 2012).

Figure 9
Change in Percentiles of Annual Earnings Within and Between Firms Relative to 1981



These seven trends are not concrete proof of decreased competition stemming from barriers to entry, but that is one explanation consistent with the facts I have presented. Declining firm dynamism, high returns and low output, and disparities in the rate of return on investment are all potential consequences of increasing barriers to entry.

Some Pro-Competition Policy Applications

To the extent that these macroeconomic trends are related to decreased competition, then pro-competitive policies have potential to not only benefit consumers but also improve the state of the macroeconomy by, for example, increasing productivity and ensuring that the benefits of growth are widely shared. For these reasons, the Administration has taken several significant policy actions to promote competition. I will next briefly touch on four examples.

Intellectual Property and Patent Reform

The first area I will discuss is in some senses the intellectually and substantively hardest: intellectual property and patent reform. In this case, of course, intellectual property protections

are intended to increase innovation by granting temporary monopoly power—increasing the private rate of return to investments in research that might otherwise have been competed away. But it has also long been understood that a balance needs to be struck between the dynamic incentives conferred by intellectual property and the static costs of the monopoly power, a balance that is manifested in the finite lives and limited scope of patents, trademarks and copyrights. Moreover, it is increasingly understood that overly stringent intellectual property practices can impede innovation itself—including by reducing the follow-on innovation that so often can be important, especially in areas like technology.

These considerations have played a role in the Administration’s approach to patent policy. For example, many of the interconnected services available today require different firms to use the same standard technology. The Administration recognized that if that technology was patented, the patent holder could exercise excessive power and “hold up” the ecosystem over a “standards essential patent” that was necessary for increasingly interconnected devices to work together. In response to this, the U.S. Patent and Trade Office and DOJ came together to provide guidance to the International Trade Commission (ITC) and suggest ways to prevent that hold up—guidance that was the basis for the President’s decision to block the ITC’s exclusion order on certain smartphones based on a claim that they had infringed a standards essential patent.

A second example of the Administration’s patent policy is its work to boost patent quality and limit the ability of overly aggressive patent assertion entities to quell innovation. In 2011 the America Invents Act put in place new mechanisms for post-grant review of patents and other reforms to boost patent quality. Further, to hasten the patent litigation process, accused infringers have the opportunity to challenge the patentability of a claim through an *inter partes* review, which is handled by the Patent Trial and Appeal Board rather than a Federal court (which handles the appeals process). This process for challenging the validity of a patent provides a quick, inexpensive alternative to district court litigation, and should help improve patent quality and ultimately reduce frivolous litigation.

Increasing the Bargaining Power of Workers

Generally, it is a goal of economic policy to increase competition and then let the market discover prices. In some markets, however, some monopoly or monopsony power is inevitable. In the case of monopsony, the labor market is one leading and important example because search costs and other labor market frictions make it hard for employees to shop around for another employer any time they experience changes in their wages or job conditions. Considerations like commuting costs, which tie employees to their current employers, give those employers some power to set the parameters of pay negotiations or even pay lower wages.

There is no reason to think incentives to exercise market power are any less powerful in the labor market than they are in the product market. Even as far back as Adam Smith (1776) economists have noted that:

What are the common wages of labor, depends everywhere upon the contract usually made between [employers and employees], whose interests are by no means the same. The workmen desire to get as much, the masters to give as little as possible. The former are disposed to combine in order to raise, the latter in order to lower the wages of labor. It is not,

however, difficult to foresee which of the two parties must, upon all ordinary occasions, have the advantage in the dispute, and force the other into a compliance with their terms. The masters, being fewer in number, can combine much more easily...

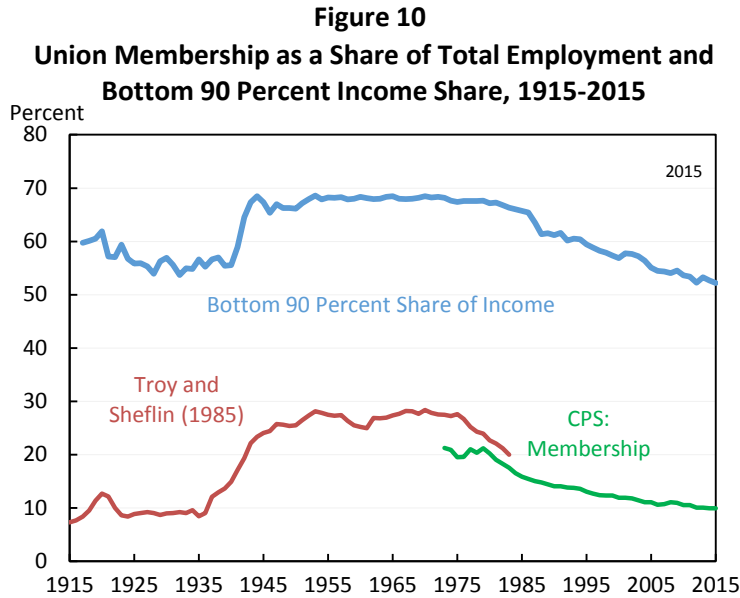
As this quote suggests, employers can more easily dictate the level of wages and other terms of employment when they are few in numbers—and this is a potential concern with the rising concentration of the U.S. markets. (However, since explicit and illegal wage collusion is a matter under the purview of enforcement agencies, I will not discuss such issues further.)

However, employers can also shift the balance of power in their favor by means that are legal in many States, including through the increasingly widespread practice of non-compete agreements. By reducing workers' job options, non-compete agreements force workers to accept lower wages in their current jobs, and may sometimes induce workers to leave their occupations entirely, foregoing accumulated human capital (U.S. Treasury 2015). By one estimate, 18 percent of those in the U.S. labor force, or roughly 28 million people, are currently covered by non-compete agreements (Star, Bishara, and Prescott 2016). While such agreements can sometimes promote innovation through the protection of trade secrets, they are common among workers who are less likely to possess such secrets, especially lower-skilled workers (U.S. Treasury 2015).

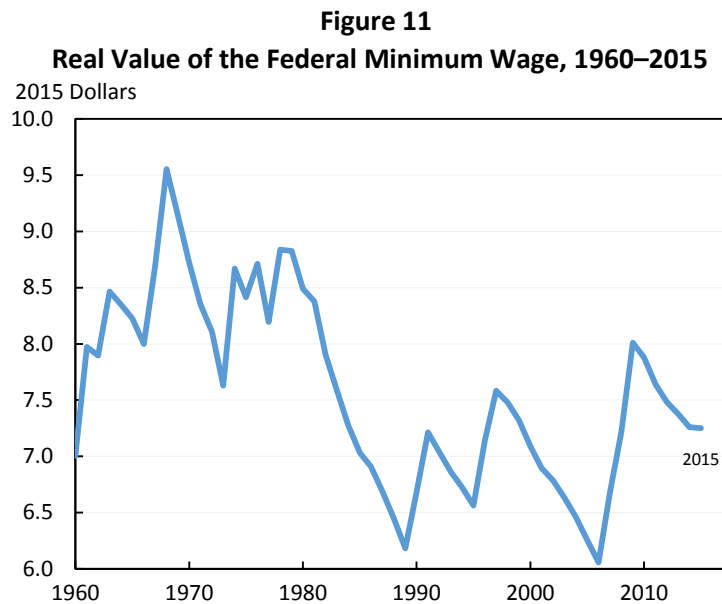
Other frictions that reduce worker mobility and increase monopsony power can occur naturally. These include the costs of moving, commuting, and searching for another job. And labor market frictions can also be created by restrictions such as occupational licensing laws and overly stringent land-use policies that drive up housing costs. Regardless of the source, such frictions effectively reduce competition among firms in the market for labor. With fewer competitors, employers are able to pay lower wages, and they have an incentive to do so—even if this means reducing employment and forgoing some productive employment relationships.

While enforcement can and does play a role in promoting competition in labor markets, some market power is inevitable and policy should concern itself with how this power is balanced. Traditionally, monopsony power in labor markets was countered in the United States by two institutions—unions and minimum wage laws. An important benefit was distributional: both unions and minimum wages helped bolster the wages of lower- and middle-wage workers and, in turn, helped reduced inequality. But to the extent that they helped to counter monopsony power, they also helped to limit inefficiently low employment that results when firms pay sub-competitive wages.

But union membership has declined consistently since the 1970s, as shown in Figure 10. Approximately a quarter of all U.S. workers belonged to a union in 1955 but, by 2015, union membership had dropped to just below 10 percent of total employment, roughly the same level as the mid-1930s. In some states, just 3 percent of workers belong to unions (CEA 2015).



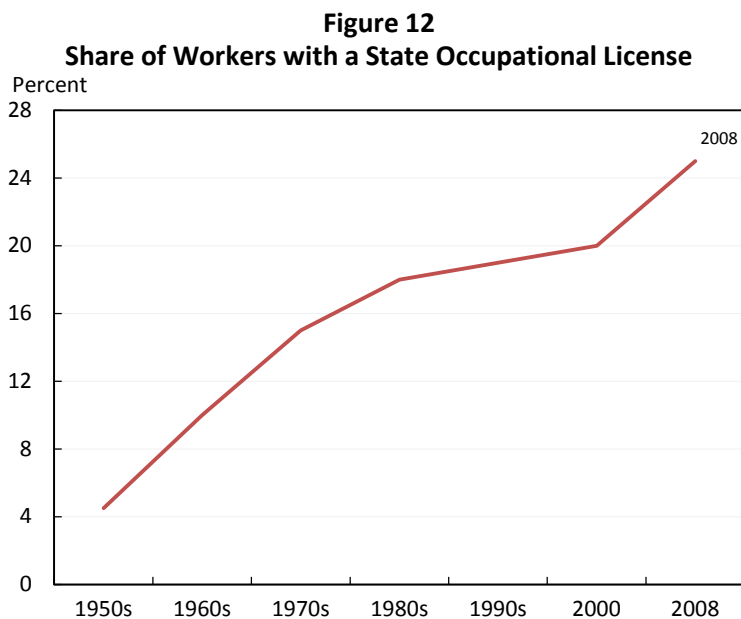
At the same time, the real value of the minimum wage has declined 24 percent since its peak of \$9.55 in 1968 (Figure 11), eroding its ability to protect those workers with the fewest options and the least bargaining power.



Reforming Occupational Licensing

One example of policies that create inefficient and inequitable rents is the requirement of a government-issued license to be employed in certain professions (“occupational licensing”). The share of the U.S. workforce covered by State licensing laws grew five-fold in the second half of the 20th century, from less than 5 percent in the early 1950s to 25 percent by 2008, as shown in Figure 12 (Kleiner and Krueger 2013). While licensing can play an important role in protecting

consumer health and safety, there is evidence that some licensing requirements create economic rents for licensed practitioners at the expense of excluded workers and consumers—increasing inefficiency and potentially also increasing inequality (Furman 2015).

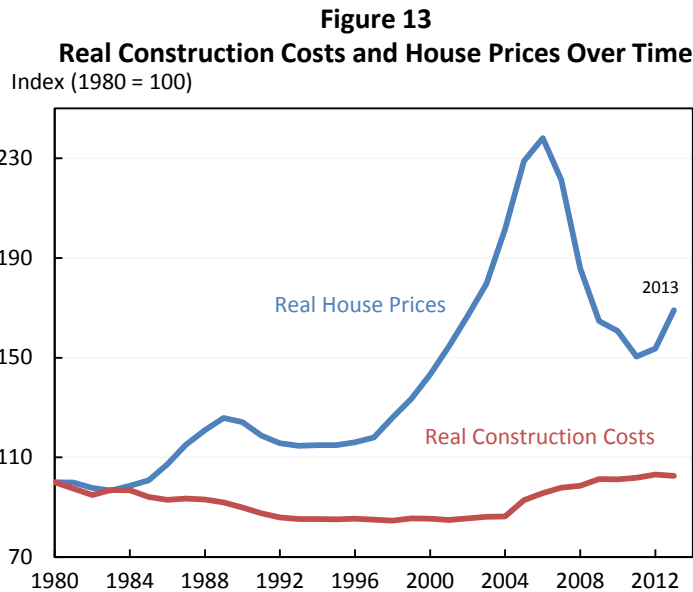


Not only have licensing laws proliferated in recent years, they also vary dramatically across States. The patchwork of State regulations and the lack of reciprocity agreements has raised the cost of moving across State lines for workers in licensed occupations, and may be one factor contributing to the decline in geographic mobility (Department of the Treasury, Office of Economic Policy, Council of Economic Advisers, and Department of Labor 2015).

In 2015, the Administration released a series of best practices to help State and local governments better tailor their occupational licensing laws to meet consumer health and safety needs without acting as undue barriers to entries into particular occupations. And this summer, the Department of Labor invested \$7.5 million to support States’ efforts to increase the portability of licenses across State lines and to lower barriers to enter the labor market through reforming licensure. Since the release of the best practices and recommendations last year, legislators in at least 11 States have proposed 15 reforms in line with these recommendations, and four State bills have passed so far.

Reforming Land-Use Regulation

Competition policy also has applications beyond traditional product or labor markets. One such area is in the housing and land sectors. Nationwide, real house prices have grown substantially faster than real construction costs since at least the mid-1980s, implying that returns to scarcity—i.e., “rents” in the economic sense—have played an important role in house prices, reducing the stock of affordable housing (Gyourko and Molloy 2015).



Numerous studies, including Glaeser and Gyourko (2003) and Gyourko and Molloy (2015) have argued that land-use regulations are what explain these occurrences of prices that substantially exceed construction costs. As with occupational licensing, well-designed land-use restrictions can play an important role in promoting social welfare. Environmental reasons may make it appropriate to limit high-density or multi-use development in some localities. Similarly, health and safety concerns—such as an area’s air traffic patterns, viability of its water supply, or its geologic stability—may merit height and lot size restrictions.

But in a number of cases, overly burdensome land-use restrictions—like minimum lot sizes, off-street parking requirements, height limits, prohibitions on multifamily housing, or lengthy permitting processes—can instead artificially reduce competition by acting as supply constraints. In doing so, such policies both allow a small number of landowners to capture economic rents and reduce the stock of available affordable housing. These constraints can also limit productivity growth and labor mobility by making it more difficult for workers to move to higher-productivity cities (Furman 2015).

Moreover, inappropriate land-use policies can also reduce equity by allowing a small number of individuals to enjoy the benefits of living in a community while excluding many others, limiting diversity and economic mobility. This is of particular concern given recent research by Chetty et al. (2014) showing that economic mobility varies greatly across cities. Moreover, moving from a low to a high mobility area confers lifelong socio-economic benefits on the children whose families move (Chetty et al. 2015).

While most land-use regulations are appropriately made at the State and, especially, the local level, the Federal government can also play a role in encouraging land-use regulations that help, and do not hinder, mobility and economic growth. This month, the Administration will release a new toolkit that highlights actions that States and local jurisdictions are taking to promote

affordable, high-opportunity housing markets. These best practices—including streamlining permitting processes, eliminating off-street parking requirements, reducing minimum lot sizes, and enacting high-density and multifamily zoning policies—provide a starting point for other local efforts to reduce overly burdensome land-use policies.

The Future of Competition in the Digital Age

One topic we have been grappling with in a range of economic issue areas, including competition policy, is the ever-increasing role that digitization plays in our economy. The digital age has the potential to increase competition in many ways, but at the same time, changing technology will bring new challenges to policymakers, challenges that will come increasingly to the fore as the digital economy expands.

So far, internet markets have tended to favor digital giants that hold high market shares, a characteristic that is traditionally associated with low competition in brick-and-mortar markets. However, understanding the competitive implications of these new markets requires a closer analysis. The markets of the digital economy are in many ways different from “old economy” markets. Some of those differences are differences of degree—the internet lowers many costs for small businesses, increasing their ability to rapidly and inexpensively scale up, collect information on potential consumers, and create new products and ideas. These differences do not transform the structure of the market; instead, they merely lower the cost of doing business. Other differences, however, are differences of type: business models may be dramatically different due to digitization. These differences of type warrant closer consideration.

One type of business model that has flourished with digitization is the “platform” model, which relies heavily on network effects to grow because the primary product is access to other customers. Examples include payment platforms like PayPal, sales platforms like eBay, and social networks like Facebook. Switching costs for customers are particularly high in these markets—no one wants to be the first and only user of a platform—and these network effects can act as a barrier to entry.

However, it is not as clear whether these “quasi-monopolies” pose the same harm to consumers as traditional monopolies. In these markets, highly concentrated market share might not be as detrimental to customers as in traditional markets because the services provided by these businesses are more valuable to consumers as their consumer base grows. This means that determining the optimal level of competition in these new markets is a dramatically different and harder task.

Even the task of measuring competition is complicated in digital markets. Usually, economists use prices as indicators of the level of competition, but we cannot necessarily do that here because many markets are two-sided and there are different types of consumer harm. Businesses on the internet are often complementary, so companies may subsidize one side of the market by profiting from the other side of the market. For example, social media sites often offer free services to users and charge for ads. However, the lack of high prices for consumers does not mean that consumer harms or other risks could not occur. Industry watchers have raised concerns

about whether the large companies that dominate search and social networking may be able to acquire inefficient power in ads or control people's access to news. Another concern is that instead of raising prices or reducing quantity, these companies may reduce innovation. Firms holding quasi-monopolies may lose the incentive to keep improving the quality of their products.

Switching costs are traditionally an indicator of competition, and many may assume that switching costs in internet markets are virtually zero because competition is just a click away. This may have been true in the early ages of the internet, but to automatically assume zero switching costs now would be to miss a large part of what is happening. For example, the original search engines were merely directories of websites, and their quality didn't depend on how many users they had. However, search engines today collect data on the behavior of their users and use it to improve their services and tailor those services to individual users. Thus, in order for other firms to be competitive, they need a large user base and the data that comes with it. Furthermore, for each individual user looking to switch services, the incumbent, with its existing knowledge of that user, has a significant advantage over a competitor that does not yet know the user and therefore cannot tailor services to him or her.

Lastly, digitization could bring a new level of opacity to businesses. Traditionally, price fixing and collusion could be detected in the communications between businesses. The task of detecting undesirable price behavior becomes more difficult with the use of increasingly complex algorithms for setting prices. This type of algorithmic price setting can lead to undesirable price behavior, sometimes even unintentionally. The use of advanced machine learning algorithms to set prices and adapt product functionality would further increase opacity.

Competition policy in the digital age brings with it new challenges for policymakers. It will be imperative that agencies continue the great work and creative solutions that came out of the President's Executive Order to promote competition and inclusive growth in the digital age.

Conclusion

Recent trends in concentration in a range of industries suggest decreasing levels of competition, and many concerning macroeconomic trends seem to suggest that this decrease not just due to increases in economies of scale, but rather that increases in barriers to entry are playing a role. For the sake of both consumers and the macroeconomy as a whole, the Administration has used and will continue to use public policy to address these concerns. Increasing competition has the potential to drive faster productivity and output growth, faster real wage growth, and increased equity. We have moved forward in areas such as intellectual property and patent reform, increasing worker bargaining power, and reforming occupational licensing and land use regulations. While these are examples of positive changes, our work in promoting competition does not end here. The President's Executive Order will continue to encourage agencies to develop creative solutions for increasing competition by soliciting new ideas on a regular basis. In considering the future of competition policy, we must also keep in mind the way in which changes in the economy, such as digitization, will affect how we evaluate competition effectively.

Notes to Tables and Figures

Table 1

Note: Concentration ratio data is displayed for all North American Industry Classification System (NAICS) sectors for which data are available from 1997 to 2012. * indicates that the percentage point change is calculated using only taxable firms in that industry, as its 1997 revenue share data are only available for the 50 largest taxable firms and the 50 largest tax-exempt firms as separate categories, rather than for all firms combined. Performing this same calculation using data for only tax-exempt firms results in two additional industries showing a decline in concentration (Arts, Entertainment and Recreation, and Educational Services), while one shows a slight uptick (Other Services).

Source: Census Bureau, Economic Census (1997 and 2012).

Figure 1

Note: Young firms are of age 5 years or less.

Source: Longitudinal Business Database 1977-2013.

Figure 2

Source: Longitudinal Business Database 1977-2013.

Figure 3

Source: Longitudinal Business Database 1977-2013.

Figure 4

Source: Molloy, Smith, and Wozniak (2014).

Figure 5

Notes: Shading denotes recession.

Source: Bureau of Labor Statistics, Productivity and Costs.

Figure 6

Notes: Shading denotes recession.

Source: Bureau of Economic Analysis; Federal Reserve; Bureau of Labor Statistics.

Figure 7

Notes: Shading denotes recession.

Source: Bureau of Economic Analysis.

Figure 8

Note: The return on invested capital definition is based on Koller et al (2015), and the data presented here are updated and augmented versions of the figures presented in Chapter 6 of that volume. The McKinsey data includes McKinsey analysis of Standard & Poor's data and exclude financial firms from the analysis because of the practical complexities of computing returns on invested capital for such firms.

Source: Koller et al. (2015); McKinsey & Company; Furman and Orszag (2015).

Figure 9

Notes: Only firms and individuals in firms with at least 20 employees are included. Only full-time individuals aged 20 to 60 are included in all statistics, where full-time is defined as earning the equivalent of minimum wage for 40 hours per week in 13 weeks. Individuals and firms in public administration or educational services are not included. Firm statistics are based on the average of mean log earnings at the firms for individuals in that percentile of earnings in each year. Data on individuals/their firms are based on individual log earnings minus firm mean log earnings for individuals in that percentile of earnings in each year. All values are adjusted for inflation using the PCE price index.

Source: Song et al. (2016).

Figure 10

Note: Total employment from 1901 to 1947 is derived from estimates in Weir (1992). For 1948 to 2014, employment data are annual averages from the monthly Current Population Survey.

Source: Troy and Sheflin (1985); Bureau of Labor Statistics, Current Population Survey; Weir (1992); World Wealth and Income Database; CEA calculations.

Figure 11

Note: Adjusted for inflation using the CPI-U-RS.

Source: Department of Labor; Bureau of Labor Statistics, Consumer Prices; CEA calculations.

Figure 12

Source: Council of State Governments (1952); Greene (1969); Kleiner (1990); Kleiner (2006); and Kleiner and Krueger (2013), Westat data; CEA calculations.

Figure 13

Source: Gyourko and Molloy (2015).

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