



Declining Entrepreneurship, Labor Mobility, and Business Dynamism: A Demand-Side Approach

By Mike Konczal and Marshall Steinbaum
July 21, 2016

“If we are wrong and high profit margins manage to endure for the next few years (particularly when global demand growth is below trend), there are broader questions to be asked about the efficacy of capitalism.”

-Goldman Sachs investors' note, February 3, 2016, as quoted in [Bloomberg News](#)

Executive Summary

Academics and policymakers have recently focused on a worsening economic phenomenon commonly referred to as the decline in “business dynamism,” that is, the declining rate at which new businesses are formed and the rate at which they grow. This decline in dynamism and entrepreneurship accompanies a decline in overall labor market mobility, including quits and geographic migration for work, and has sparked a new literature on the subject by researchers including the Chairman of the President’s Council of Economic Advisors and numerous other academics, as well as extensive journalistic coverage. However, most of these analyses stress supply-side factors such as excessive occupational licensing and restrictions on building new housing. The data reject these supply-side interpretations, so this paper provides an alternative explanation for the recent trends of declining entrepreneurship, falling labor mobility, and rising concentration of employment in old firms and large firms.

The erosion in labor mobility and entrepreneurship since 2000 can be more accurately explained by weak demand, especially during the slow recovery from the two previous recessions. These economic trends, in turn, should be investigated and understood through a lens of power shifting in favor of the owners and managers of incumbent firms alongside rising profits and inter-firm inequality.

Key Findings

- If labor mobility or “dynamism” declines due to excessive regulation and an increasing cost of job-switching or of starting a new firm, then standard economic theory predicts wages and earnings should increase. But the data show that earnings have declined where the declines in dynamism and mobility have been worst, across both metropolitan areas and industries.
- The evidence shows that employed workers are getting fewer offers to work at other firms, reducing their leverage to demand raises from current employers and leading to wage and earnings stagnation on the job. If the problem were on the supply side, firms should be trying desperately (but without success) to recruit workers.



- The supply-side theory also implies that wages for workers who do manage to switch jobs should be going up. Instead, the data show that percentage wage increases for job-switchers have either stagnated or declined.
- The quit rate (or the rate of workers moving from one job to another) and the hiring rate from non-employment tend to move up and down in tandem.

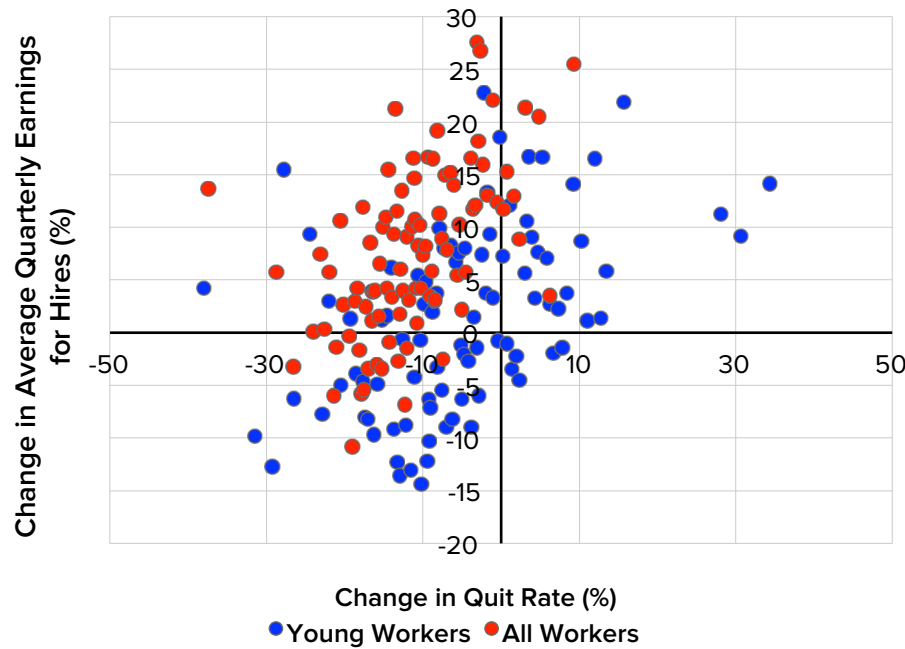
To interpret our argument through the lens of a standard economic model of the labor market, the regulation story implies that the supply curve for labor has shifted left, at least in the increasingly regulated sectors and occupations. Supply shifts in the labor market would be expected to manifest as wages and employment moving in opposite directions. In other words, in increasingly regulated labor markets, we would expect to see wages go up and employment decline due to the scarcity of labor. The same basic intuition holds true in the search-and-matching model of a frictional labor market with a job ladder that we present in this paper.

Instead, this paper argues that the decline in mobility, dynamism, and entrepreneurship is a result of declining labor demand since 2000. When it is hard to find another job, employed workers stay at the jobs they have, impairing their ascent up the job ladder and the accompanying wage growth over careers that historically led to the middle class. Declining entrepreneurship can also be explained by workers' reluctance to leave large, stable incumbents to start their own firm or to work at a start-up when they cannot be assured that they will be able to return to a more stable job. Thus, we find that the concentration of employment in old firms and in large firms mirrors the timing of declining labor mobility due to declining demand.

We find that quits and hires trended positively in the boom years of the 1990s, before the 2000 reversal also highlighted in the business dynamism literature. In short, these labor mobility and business dynamism measures are observations on the state of the labor market, like the employment-to-population ratio, wage growth, and the labor share of national income. Notwithstanding the fact that old firms account for a larger share of total quits, the share of quits that correspond to leaving an old firm to work at a start-up has declined, following the same ratcheting pattern as all the other labor indicators, including the quit rate itself.



Change in Earnings of New Hires vs. Change in Quit Rate, 2000-2014



Moreover, as the graphic above shows, the labor markets where mobility has decreased the most are the ones where earnings have as well. This is true by metropolitan area and true for both all workers and just newly hired workers. This evidence bolsters an increasing body of research that argues the reason for wage stagnation even within employment matches is that wages are renegotiated less frequently now and are less sensitive to outside job offers because those seldom occur.

This alternative analysis suggests future research should investigate potential policy-related causes of those trends in demand and market structure—such as declining effective marginal tax rates on high earners and a permissive environment for inter-firm mergers—that deemphasize full employment and market competition.



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Abstract

Attention in the academic and policymaking worlds has recently focused on the decline in “business dynamism”—specifically, the rate at which new businesses are formed and the rate at which they grow—especially since 2000. In this paper we reinterpret the evidence of declining entrepreneurship and rising concentration of employment in old firms and large firms—in conjunction with declining labor market mobility—as evidence of a trend decline in labor demand. This is opposed to the hypothesis that the cause of these empirical trends is increasing supply-side restrictions placed on new firm or worker entrants, a hypothesis the data rejects. The overall erosion in the job ladder and the economy’s decreasing competitiveness, rising profits, and inter-firm inequality are all evidence of a power shift in favor of the owners and managers of incumbent firms. That suggests future research should investigate potential policy-related causes of those trends in demand and market structure—such as lower marginal tax rates on high earners and a permissive environment for inter-firm mergers—that deemphasize full employment and market competition.

Many thanks to Kavya Vaghul for outstanding research assistance. We have further benefited from the thoughtful comments of Abigail Wozniak and Thorsten Drautzburg. Special thanks to Roosevelt Institute staff for their contributions: Nell Abernathy, Renée Fidz, Sue Holmberg, Gabriel Matthews, Kathryn Milani, Marcus Mrowka, Tim Price, and Alex Tucciarone. **This work was funded by the Ewing Marion Kauffman Foundation. The contents of this publication are solely the responsibility of the Grantee.**

Introduction

The decline of entrepreneurship and “business dynamism” has become an accepted fact in the academic research that looks at firm-level employment flows over time. Since 2000, the entry rate of new firms has declined, as has the growth rate for the fastest-growing young firms that accounted for a disproportionate share of employment growth in earlier eras. Further, the quit rate and geographic mobility rate for employed workers and those in their prime working-age years have declined. Those facts are part and parcel of the overall deterioration of the “job ladder,” whereby workers ascend a labor hierarchy over the course of their careers, a crucial component of social mobility and lifetime earnings gains.ⁱ

The cause or causes of this fact pattern have eluded researchers, but the turning point around 2000 is a constant, as is the time series pattern thereafter: The labor market indicators broadly follow the downward ratchet of the employment-to-population ratio in line with the two business cycles that have played out since then. Following increasing dynamism and mobility during the labor market boom of the 1990s, the situation worsened during the recession of 2000–2001, improved only slightly in the economic boom of the 2000s, then worsened substantially in the Great Recession. Dynamism and mobility have since improved but remain below the level of the 2000s, let alone the 1990s. This suggests that there is some common thread running through these empirical findings.

Several researchers have put forward explanations for these trends that broadly fall on the supply side: that increasingly onerous occupational licensing impedes entry into certain protected professions and restricts licensed workers to staying where they are; that the high cost of housing thanks to restrictions on development hampers individuals from moving to better labor market opportunities in different metropolitan areas; that increasing firm-level wage premiums make some lucky workers unwilling to leave a particularly productive and well-paying firm. But we find that the data reject these supply-side explanations: If there were increased restrictions on changing jobs or starting a business, we would expect those few workers and entrepreneurs who do manage to move to enjoy increased wage gains relative to periods with higher worker flows, and we would expect aggressive hiring by employers with vacancies. Moreover, this hiring would come primarily from the ranks of those not already employed if regulations increasingly restricted employed workers from making job-to-job transitions. Instead, we see the opposite:

- The labor markets in which labor mobility has declined the most are also those in which earnings have declined the most.
- Wages measured on the job are less sensitive to outside labor market conditions than previously, which suggests that workers are receiving fewer competing job offers.
- The average wage change associated with switching jobs has, if anything, declined.
- New businesses born in the last two recessions exhibit stunted growth throughout their lifetimes

ⁱ Molloy et al. (2016) document evidence that the geographic mobility rate has been declining for longer, since the early 1980s.



thanks to a lack of accumulated demand critical to early growth. That stunting contributes to jobless recoveries.

- The quit rate (or the rate of workers moving from one job to another) and the hiring rate from non-employment tend to move up and down in tandem.

Therefore, we propose a different organizing principle: Declining business dynamism and labor mobility are features of a slackening labor market and a deteriorating job ladder, which together mean that workers lucky enough to have formal employment stay where they are rather than striking out as entrepreneurs or joining young “start-ups” with uncertain prospects, since those workers may be unable to return to more stable employment if they fail. In this sense, entrepreneurship can be understood as one rung on the job ladder, and the labor market as a whole can be considered a safety net whose good health is a prerequisite for individuals to take risks that may end in failure.ⁱⁱ

At the same time, employment, particularly low-wage employment, is increasingly stratified outside the boundaries of elite or “lead” firms, a phenomenon that’s been called the “fissured workplace,” (Weil, 2014). In combination with the erosion of the job ladder, this means that a large share of workers are involuntarily contingent and would prefer full-time, traditional employment with promotion potential, while other would-be entrepreneurs or employees of start-ups cling to such traditional jobs in fear that they would not be able to get them back were they to leave. These two trends may seem contradictory, and in fact many scholars studying the rise of the contingent workforce (or “gig economy”) have been stymied by the data’s contradictory verdict: rising job tenure and declining labor market mobility.ⁱⁱⁱ But in fact, both phenomena are fundamentally involuntary, and hence are symptoms of the erosion of the job ladder and of labor demand; they simply reveal how the labor market’s failure manifests for different age cohorts, levels of work experience, and education (among other covariates).^{iv}

A large body of previous literature has dealt with declining labor mobility and “business dynamism” from the perspective that these phenomena are threatening because they imply the creative destruction inherent in capitalism is failing. But there is nothing inherently bad about declining mobility, and in many contexts rising job tenure reduces the cost of labor market churn, as is the case with increases in the minimum wage (Dube, Lester, and Reich, 2014). What makes these aggregate phenomena threatening is not that they necessarily cause economic dysfunction, but that they correspond to other indicators that the labor market is not working due to a lack of demand.

Further confirmation of that alternative interpretation comes from rising profitability and profit

ⁱⁱ A recent paper by Hombert et al. (2014), considers the effect of a French policy that provided unemployment insurance to start a new business. It did succeed in spurring start-up rates and employment growth at start-ups, and although there was no net effect on employment (thanks to the displacement of jobs at incumbent firms), there was an increase in overall productivity growth thanks to the higher growth rates of the new firms. Altogether the study is consistent with the view of the labor market as a safety net. Mueller et al. (2015), show that the large employer wage premium is increasing and that intra-firm inequality is higher in large firms. They thus argue that the increasing concentration of employment in large firms explains part of the rise in overall earnings inequality. See below for a discussion of inter-firm vs. intra-firm inequality.

ⁱⁱⁱ Hyatt and Spletzer (2016) document a lengthening of job tenures thanks to declining hiring rates during the recessions of 2001 and 2007–2009, and find that the earnings-tenure profile has worsened, meaning that longer tenures do not result in earnings increases to the extent they once did. On the other hand, Katz and Krueger (2016) show that workers in “alternative arrangements” with little or no job security account for 15.8% of the workforce, in contrast to 10.1% in 2005.

^{iv} The earliest publication both documenting the decline in entrepreneurship and small business formation and linking it to increasing stratification of the labor market and market concentration can be found in Khan and Lynn (2012).

dispersion, which persist even in a time of historically low interest rates for corporate financing. This suggests some disruption in the mechanism by which new firms and product lines emerge to compete with incumbent, profitable ones, which classical theory would predict as the mechanism whereby the rate of return on marginal capital equilibrates with the market interest rate. Hence, as the Goldman Sachs investors' note quoted above suggests, there's reason to suspect that the workings of the capitalist economy are somehow malfunctioning—not just due to persistently high profit margins, but also due to a trend decline in labor demand that is inconsistent with standard macroeconomic models.

Industrial concentration, merger activity, rising profits, inter-firm inequality, and shareholder payouts, all while the cost of financing is low, bespeak an economy that is increasingly stratified and uncompetitive. That favors owners and managers at incumbent, older, larger firms, and further concentrates employment therein. If new entrepreneurs and firms are prevented from entering or prospering through anti-competitive market structures and corporate ossification, it has implications for the dynamism of not just the labor market but the entire economy.

And why is that trend occurring, in turn? We credit the logic of pre-distribution, specifically declining effective marginal tax rates on the rich, which affects both managers and owners of large, incumbent firms (who are increasingly the same people, thanks to option-based compensation of executives and the increasing privatization of the corporate sector, seen most prominently in the rise of private equity). When the taxes rich people pay on marginal income are low, it is worthwhile to seek out marginal income by making the firms they run and/or own more profitable. They do that by restricting competition where possible and extracting concessions from both workers (in the form of lower wages and employment) and consumers (in the form of higher prices). In effect, low marginal tax rates and other elements of the “shareholder revolution,” such as a permissive antitrust environment, have taught owners to pay managers like capitalists, aligning their interests in intra-firm bargaining. This contrasts with past periods in which the incentive to run corporations so as to maximize profit margins and hence returns to their owners and managers were diminished by high effective tax rates. Instead of driving entrepreneurs from the market, such policies in fact served to encourage entrepreneurship and business dynamism by promoting tight labor markets and robust competition.

In addition to the literature directly documenting the decline of business dynamism, labor market mobility, and the job ladder, this paper speaks most to the recent interpretation of the same broad set of empirical findings published by Peter Orszag and Jason Furman, “A Firm-Level Perspective on the Role of Rents in the Rise in Inequality.” While we agree with those authors' outline of the essential facts and with their interpretation of the relationship between rising and increasingly skewed profits and declining competition, we differ from those authors in interpreting declining labor mobility. As detailed below, interpretation of mobility trends in Furman and Orszag (2015) gives rise to testable empirical implications, which the data reject.

This paper proceeds in sections documenting the decline in business dynamism, labor mobility, and the job ladder, followed by rising inter-firm inequality, market concentration, rising profits, and profit



dispersion. Throughout, we offer a combination of original empirical findings and interpretation of the existing literature to cast light on the causal mechanisms behind the broad fact pattern. In Appendix A, we present a theoretical model of a search-and-matching labor market with endogenous search on the job to isolate and judge candidate explanations of declining labor mobility: either supply-side, in the form of increased cost of job search, or demand-side, in the form of declining labor market tightness.

Declining Business Dynamism

The literature that establishes the patterns of “business dynamism” over time draws on the Census Bureau’s Longitudinal Business Database (LBD), which is a census of firms and establishments covering nearly the entire non-farm economy. In the context of firm-side data, an establishment is a physical location where business is transacted. All firms include at least one establishment (and some include quite a bit more), and the way “firms” are constructed in the LBD and followed from birth to death, through merger and acquisitions activity, is by their establishments. The LBD allows researchers to look at how activity at the firm level differs by firm type: age, size, location, industry, and other characteristics. By integrating firm and establishment data, it also allows researchers to focus on “organic” employment growth or decline at the establishment level, rather than what would appear to be employment churn arising from mergers and acquisitions activity at the firm level.

The idea that business dynamism is important for overall employment trends draws on work that started to be published in the 1990s, when the LBD became available to researchers (Davis, Haltiwanger, and Schuh, 1996). Those publications showed, first of all, that there is an enormous amount of churn both on the business and employee side, and for both categories of statistics gross flows (job creation, job destruction, hires, separations, establishment entrances and exits) vastly exceed net flows.

Second, when focusing on net job creation and net employment growth, a subset of young firms accounts for a disproportionate share.^v Specifically, the empirical finding is as follows: If one calculates the annual employment growth rates of individual firms (of a given vintage, or overall) and plots them as a histogram weighted by ex-ante firm employment, that distribution is positively skewed, often presented as a high ratio for the employment growth rate at the 90th percentile (weighted) firm relative to the growth rate at the 50th percentile. High skewness implies that that ratio is much larger than the ratio of the 50th percentile to the 10th; in other words, the distribution is asymmetric, with a long tail extending to the right. Furthermore, skewness is concentrated in certain sectors, notably technology. Finally, the firms inhabiting the skewed right tail of the firm-growth distribution are young, but not specifically small (ex ante). In other words, there are high-growth young firms across the firm-size distribution, and very high growth rates are a characteristic of a subset of young firms and are not found across the firm-age distribution. Findings related to skewness focused research attention on the factors that affect the birth and early life of the small share of firms that grow very rapidly, and also on the prevalence of this

^v Davis, Haltiwanger, and Schuh, (1996). Decker et al. (1996) say “startups plus high-growth firms (which are disproportionately young) account for 70 percent of firm-level gross job creation on average.”



type of firm over time.

One important finding in general, and also specifically for interpreting changes since 2000, is that most entrepreneurs don't set out to be in that right tail of the firm-employment-growth distribution. Rather, they seek autonomy, often at the expense of a salary cut and often in mid- or late-career, and their firms start and remain at a small scale (Hurst and Pugsley, 2015). With such findings in mind, scholars of entrepreneurship increasingly conceptualize some version of ex-ante “subsistence” versus “transformational” entrepreneurs.^{vi}

The decline in business dynamism since 2000 manifests itself in the firm-level job creation and employment data. A recent paper by several of the researchers who construct the Longitudinal Employer-Household Dynamics (LEHD) dataset at the U.S. Census Bureau argues that such linked employer-employee datasets are informative about trends in entrepreneurship and firm activity, because they integrate the firm-side data in the LBD with worker-side data from state unemployment insurance records and other sources (Goetz et al., 2015). Neither LBD nor LEHD is available to the public outside dedicated, secure Census research centers, but publicly available aggregated versions of LEHD called Quarterly Workforce Indicators (QWI) and “Job-to-Job” (J2J) Flows confirm the findings from LBD microdata. Specifically, Figure 1 shows changes in the employment share accounted for by firms in different age categories between 2000 and 2014, and Figure 2 does the same by firm size categories. Employment has moved from new firms to old firms and from small firms to large firms over that period.

^{vi} See, for example, Schoar, Antoinette (2010).



Differences in Employment Share by Firm Age Group, 2000-2014

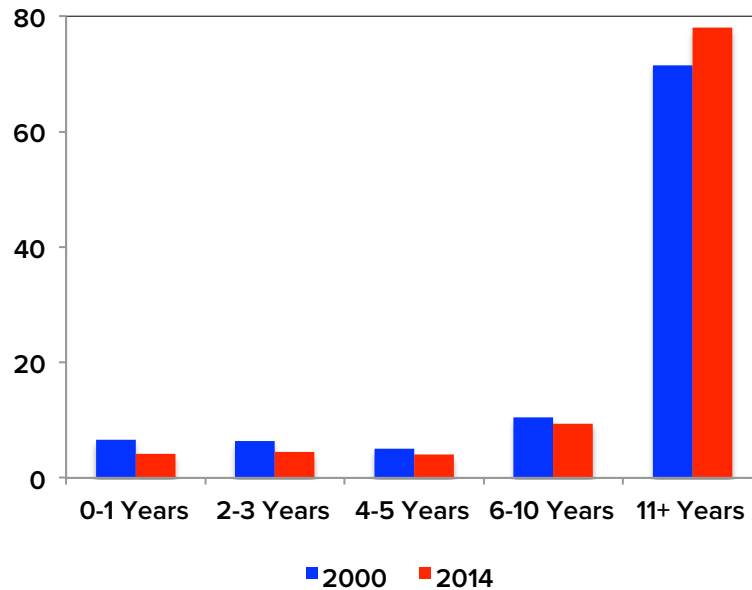


Figure 1: Old firms' employment share increased between 2000 and 2014, at the expense of younger firms, confirming Decker et al (2015).

Source: National Quarterly Workforce Indicators data, firm-age disaggregation, http://lehd.ces.census.gov/data/qwi/us/R2015Q3/DVD-sa_fa/, 2015Q3 release obtained January 2016.

Differences in Employment Share by Firm Size Group, 2000-2014

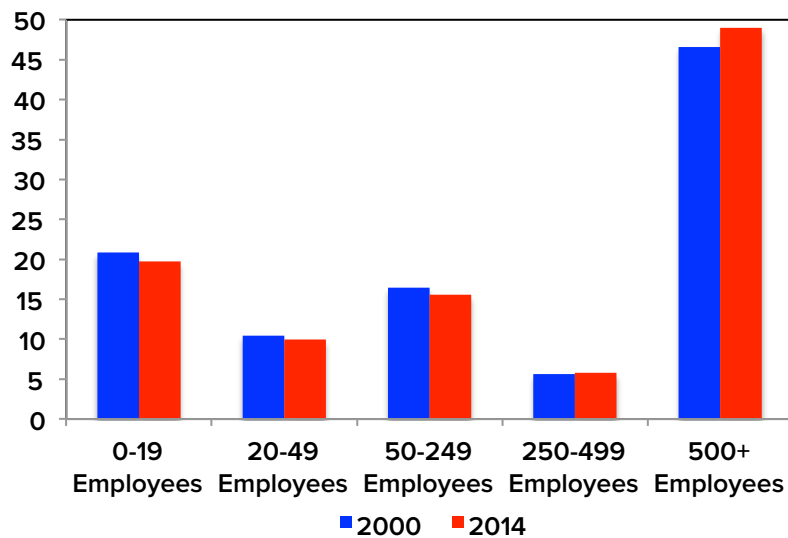


Figure 2: The share of total employment accounted for by the largest firms increased between 2000 and 2014, and conversely, the share at small firms decreased.

Source: National Quarterly Workforce Indicators data, firm-size disaggregation, http://lehd.ces.census.gov/data/qwi/us/R2015Q3/DVD-sa_fs/, 2015Q3 release obtained January 2016.

Going beyond the aggregated employment data, research on the decline in business dynamism as revealed by firm-level data focuses on the decline in the skewness of the firm-employment-growth distribution. The aforementioned 90/50 ratio is still larger than the 50/10 ratio, but by less. Logically, that could imply that there is a declining start-up rate for such transformational firms, which would mean that the types of firms that would grow quickly are not being founded in the first place, or that such firms are growing at a slower rate now than previously, or both. All relevant studies have found that the startup rate for high-growth firms has declined, while their growth rate may or may not have declined.^{vii} Moreover, these factors probably vary in importance over time: Employment in the economy as a whole shifted from younger firms to older firms in the 1980s and 1990s, resulting in a composition effect that reduced dispersion in firm growth rates since older firms have always exhibited less dispersion. But during that period, skewness (as opposed to dispersion) was still high, driven by the continued generation of high-growth young firms. It was only post-2000 that skewness began to drop, when would-be high-growth young firms ceased to get off the ground in the first place.

Researchers have conjectured that the increasing relative absence of such young, high-growth firms is a cause of worsening aggregate labor market outcomes: declining employment rates, earnings (for most of the earnings distribution), and so on. That idea has sparked a search for reasons why would-be transformational entrepreneurs are somehow prevented from carrying out their plans successfully, possibly due to excessive regulation or expensive housing in locations where such start-ups are likely to be successful. But the results of those investigations have so far been weak to nonexistent (Goldschlagg and Tabarokk, 2015 & Furman and Orszag, 2015). Instead, declining start-up rates and growth rates for the subset of high-growth startups is in part a manifestation of the labor market's larger problem of declining mobility and job ladder deterioration, with would-be entrepreneurs and their employees reluctant to leave positions to which they may not be able to return, and in part the result of rising concentration and market power of incumbents, holding down growth potential for new entrants.

^{vii} Decker et al. (2015). argue that skewness has declined in the growth rates of all firms and of continuers only, thus suggesting that there are both fewer new high-growth firms and that the growth rate of existing high-growth firms has declined. Pugsley and Sahin (2015). on the other hand, argue that the decline in employment share at young firms is driven by the cumulated absence of high-growth firms in successive waves of startups. These two slightly different interpretations are driven by and consistent with the same data, as long as growth rates of high-growth firms are a firm characteristic that persists after entry. In that case, the effect among continuers noted by Decker et al. is driven by their composition: Since fewer high-growth firms were founded, fewer high-growth firms survive.



Change in Earnings versus Change in Employment at Young Firms, 2000-2014

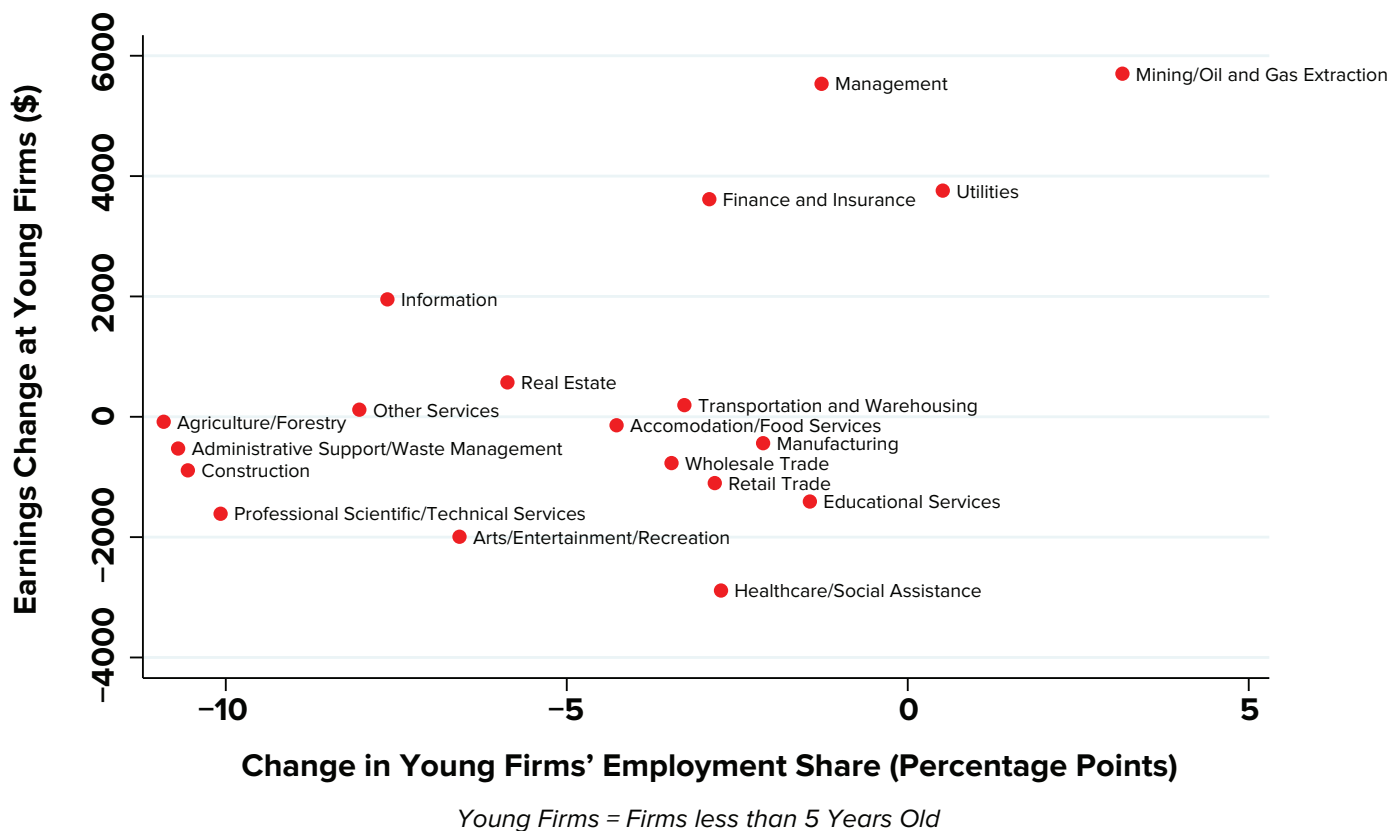


Figure 3: Disaggregating the results reported in Figure 1 by industry, those industries where the employment share of young firms declined the most are also those in which average earnings at young firms declined the most.

Source: National Quarterly Workforce Indicators data, firm-age disaggregation, http://lehd.ces.census.gov/data/qwi/us/R2015Q3/DVD-sa_fa/, 2015Q3 release obtained January 2016.

Figure 3 illustrates the empirical problem the supply-side arguments face: Those industries in which the young firms' employment share has declined most are, on average, also those in which average earnings at young firms declined most. If there were some rising barrier preventing workers from being employed at young firms, we would expect those who do manage to get jobs at start-ups to earn more than they would have under less exclusionary conditions, and hence that earnings at young firms would have grown most in industries where the employment share of young firms declined the most. The same broad pattern replicates in the geographic disaggregation as well, as we will see in the next section: positive co-movement of changes in employment variables with changes in earnings variables. Without robust quasi-experimental variation, that positive co-movement by itself is not sufficient to establish that the supply-side account is incorrect, but it is strong prima facie evidence favoring a demand-side explanation. The mathematical model presented in Appendix A further elucidates this point.

The link between aggregate economic activity and the growth and lifecycle of individual firms is strengthened in a paper by Moreira (2015), which finds that firm cohorts born in recessions remain

smaller, on average, over their entire lives than firms born in good times, thanks to their having faced an accumulated “demand deficit” that stunts their growth. That, in turn, partly accounts for persistently jobless recoveries. Moreira estimates that the effect of the Great Recession, operating through the start-up gap channel, accounts for a persistent 1-percentage-point employment rate gap. By contrast, it is difficult to generate a story whereby the causality runs in the opposite direction, because there is little basis for the idea that supply-side restrictions were implemented in exactly the time series pattern that characterizes the labor market and business dynamism since 2000.

Labor Market Mobility

The decline in business dynamism accompanies a broader decline in labor market mobility, which affects firms across the size and age distribution. On the worker side, it can be seen across the age distribution as well, but the fall is concentrated among young cohorts who historically had the highest job-to-job and geographic mobility rates. That is of special concern, since ascent up the job ladder (rather than on-the-job wage gains) was historically the route to middle-class wages and wealth in the U.S. labor market.^{viii}

A number of studies and datasets have now documented the decline in labor market mobility measured as quit rates, hiring rates for the unemployed, and geographic moves motivated by changes of employment.^{ix} (See Figure 4.) Moreover, since 2000, the pattern of the decline closely matches that of other labor market indicators unconnected with mobility, like the employment-to-population rate, the rate of wage growth, and labor’s share of national income. That pattern implies declining labor mobility is very much a symptom of broader labor market dysfunction, and that phenomenon has now transcended the business cycle. In effect, the cycle is now the trend, and the trend is a downward ratchet in the labor market’s health.

Recently, Molloy et al. (2016) summed up the empirical literature on declining mobility and came to a similar conclusion regarding the paucity of evidence for supply-side factors. In particular, they estimate only a small role for demographic transformation of the workforce and none for changing sectoral composition. The mechanism in that paper that comes closest to the spirit of the analysis here is the declining frequency of outside job offers when the overall labor market is weak, which those authors inherit from Beaudry and DiNardo (1991). In updating the earlier analysis, Molloy et al. show that the relationship between wages and the minimum unemployment rate during the duration of an employment match weakened substantially since 2000, while initial labor market conditions at the start of the match matter more for setting wages throughout than they did previously. The implication is that the reason for wage stagnation even within employment matches is that wages are renegotiated less frequently now and are less sensitive to outside job offers because those seldom occur. By showing that the wage-tenure relationship within employment spells has flattened, meaning that spending longer in a

^{viii} The classic paper that established the importance of the job ladder to young workers and to the labor market as a whole is Topel and Ward (1992).

^{ix} See Molloy, Smith, and Wozniak (2014) for an overview of the literature and search for potential explanations. Prior work includes Molloy et al. (2016), Hyatt and Speltzer (2013), and Davis and Haltiwanger (2014).



given job no longer generates the wage gains it once did, Hyatt and Spletzer (2016) provide further evidence for the interpretation of Molloy et al. (2016).

Labor Market Mobility and Geographic Mobility Rates, 1980–2014

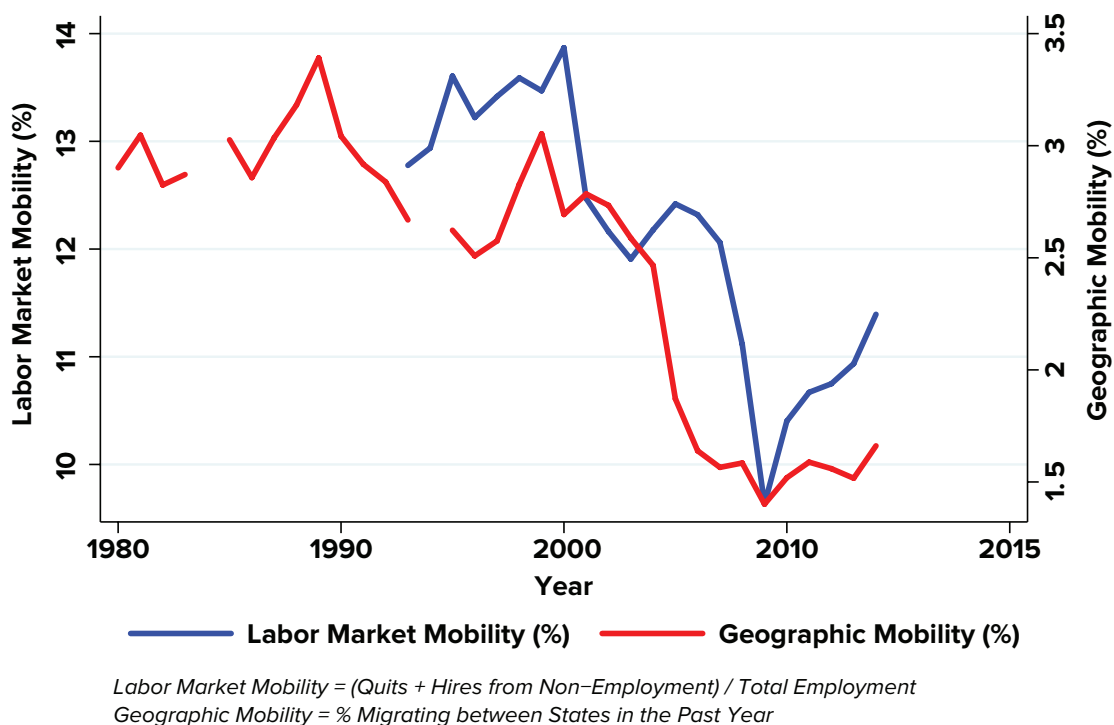


Figure 4: This plots the time series for both the rate of geographic migration for prime-age households and the “labor market mobility rate,” a metric of labor mobility that captures job-to-job quits and hires of the non-employed, all as a share of total employment.

Sources: National Quarterly Workforce Indicators data, firm-age disaggregation, http://lehd.ces.census.gov/data/qwi/us/R2015Q3/DVD-sa_fa/, 2015Q3 release obtained January 2016, and Center for Economic Policy Research extracts of the Current Population Survey Annual Social and Economic Supplement, 1980-2015. <http://ceprdata.org/cps-uniform-data-extracts/march-cps-supplement/march-cps-data/>.

QWI allows us to disentangle the components of labor mobility and track each separately, under certain assumptions. First of all, we assume no multiple job-holding.^x Second we assume that all observed separations are one of either voluntary quits, in which case the worker immediately takes another job, or involuntary layoffs, in which case the worker becomes unemployed in the sense of continuing to look for work—which we do not distinguish from other forms of non-employment. That rules out firing for cause and voluntary exit from any one employment match without immediately starting another or exit from the labor market entirely. The reason to make those assumptions, rather than simply rely on the J2J data that tracks most of those different types of labor market transitions directly, is that QWI has a longer time series, hence we can look at what happened to mobility during the last labor market boom in the 1990s, before the turnaround that took place around 2000. A further caveat to this disentanglement is that, since QWI is an unbalanced panel of states, early quarters include fewer observed states

^x In fact, about 5% of the labor force holds more than one job simultaneously.



underlying the “national” quit or hiring rate.

Comparison of QWI and J2J Quit and Employment Rates for All Workers, 1992-Q2 to 2013-Q4

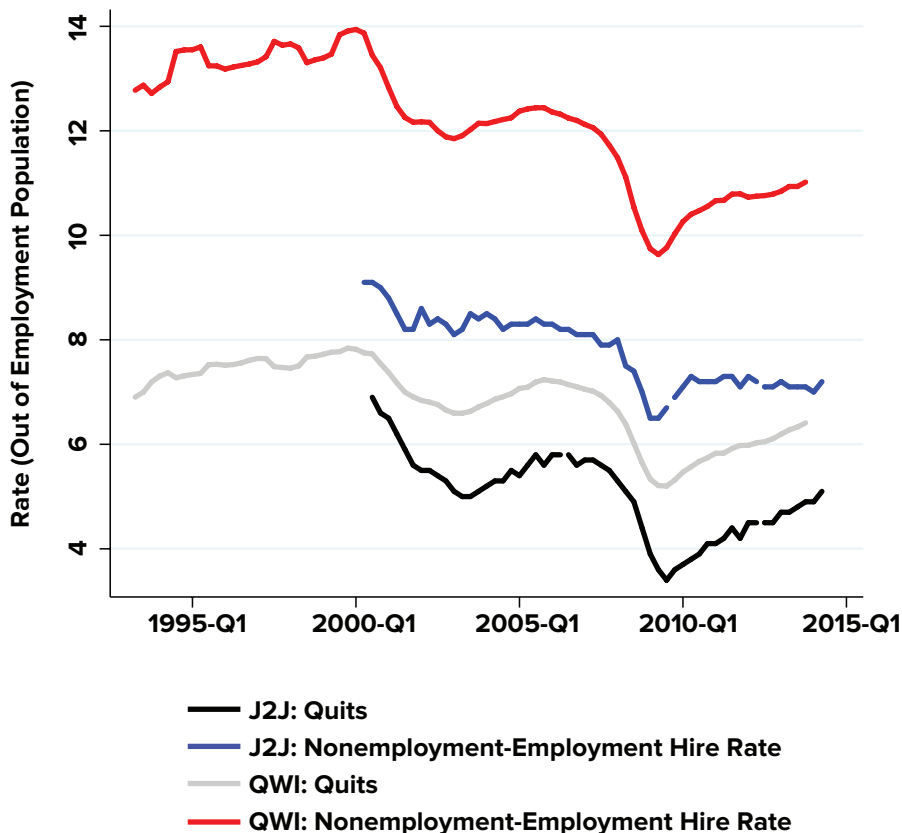


Figure 5.1: Splitting labor market mobility into its components allows us to track the evolution of each over time.

What this shows is the close relationship between the dynamics of the quit rate and of the rate of hiring from non-employment. For the latter, the gap between QWI and J2J is caused by the erroneous assumption of no multiple job-holding.

Sources: National Quarterly Workforce Indicators data, firm-age disaggregation, http://lehd.ces.census.gov/data/qwi/us/R2015Q3/DVD-sa_fa/, 2015Q3 release obtained January 2016, and Job-to-Job Flows data, <http://lehd.ces.census.gov/data/j2j//R2015Q2/j2j/>, 2015Q2 release obtained January 2016.



QWI Quit Rate by Age Group, 1992-Q1 - 2014-Q3

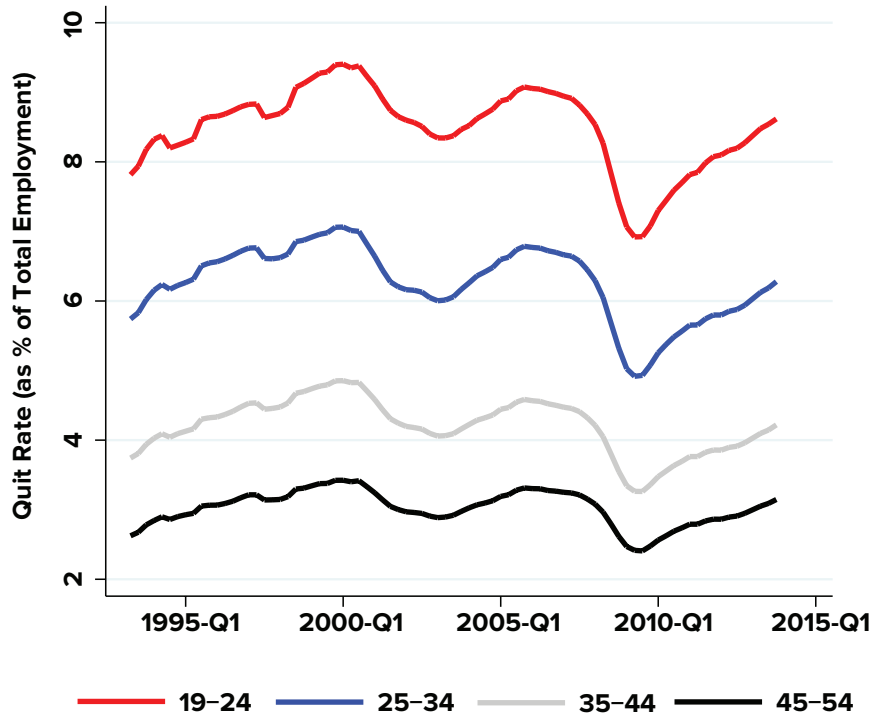


Figure 5.2: Breaking down the quit rate by age group reveals that younger workers have always had higher rates of labor mobility, and that theirs have decreased the most since 2000.

Sources: National Quarterly Workforce Indicators data, firm-age disaggregation, http://lehd.ces.census.gov/data/qwi/us/R2015Q3/DVD-sa_fa/, 2015Q3 release obtained January 2016.

Figure 5.1 shows that, broadly speaking, the quit rate and the hiring rate from non-employment move together in both datasets, and that the disaggregation of mobility into quits and non-employment-to-employment hires in QWI is essentially robust to the explicit measures of those separate concepts in J2J. That allows us to conclude that both measures trended positively in the boom years of the 1990s, before the 2000 reversal also highlighted in the business dynamism literature. Figure 6 makes that point explicit, by plotting the time series for each mobility measure against the other. They are tightly connected, and they trend down over the period 2000–2014 while following a circular pattern within individual business cycles. In short, these labor mobility measures are observations on the state of the labor market, like the employment-to-population ratio, wage growth, and the labor share of national income. Altogether, this pattern sustains a story in which declining hiring rates for non-employed workers induce employed ones to remain in the same job—as we explore in the model presented in Appendix A. And that, in turn, contributes to the decline in entrepreneurship and business dynamism.

The co-movement of quits and hiring from non-employment is also at odds with the supply-side account of declining mobility, insofar as that account relies on restrictions on moving between jobs or occupations with different licensing requirements that reduce the willingness of workers who hold

costly licenses to take jobs that don't require said licenses or don't pay enough to justify their cost. If the licensing mechanism were at play, then employers unable to fill jobs by hiring employed workers should be hiring unemployed ones instead, and we would see a rising hiring rate for the non-employed during the period in which the quit rate trended down.

The proliferation of non-compete agreements into new occupations and sectors plays an ambiguous role (U.S. Treasury, 2016). On the one hand, if that were an exogenous trend autonomously reducing mobility, we would expect exactly the negative co-movement of quits and hires from non-employment that the data rejects, because what job openings there are would be filled with those not bound by non-compete agreements. On the other hand, their proliferation appears to itself be driven by the same decline in labor demand and hence in labor's bargaining power that drives the overall slackening of the labor market along all of the dimensions discussed here. In that case, non-compete agreements just serve to codify the de facto phenomena we emphasize as broader trends: Outside job offers come less frequently, and wages are accordingly subject to less upward pressure. Studies of the effect of non-compete clauses on wage profiles, individual workers, and jobs do document that they deter workers from accepting outside job offers, but their existence is itself probably explained by the absence of those job offers, thus giving employers greater scope to make demands of workers and impose restrictions on them post-hiring. In many cases, employers demand their workers sign non-competes even where they are legally unenforceable, a puzzling behavior unless employers felt empowered by the pre-existing absence of outside job offers to put uncompensated restrictions or perceived restrictions on their workers.

Quit Rate versus Nonemployment-Employment Hire Rate, 1992-Q2 – 2014-Q3

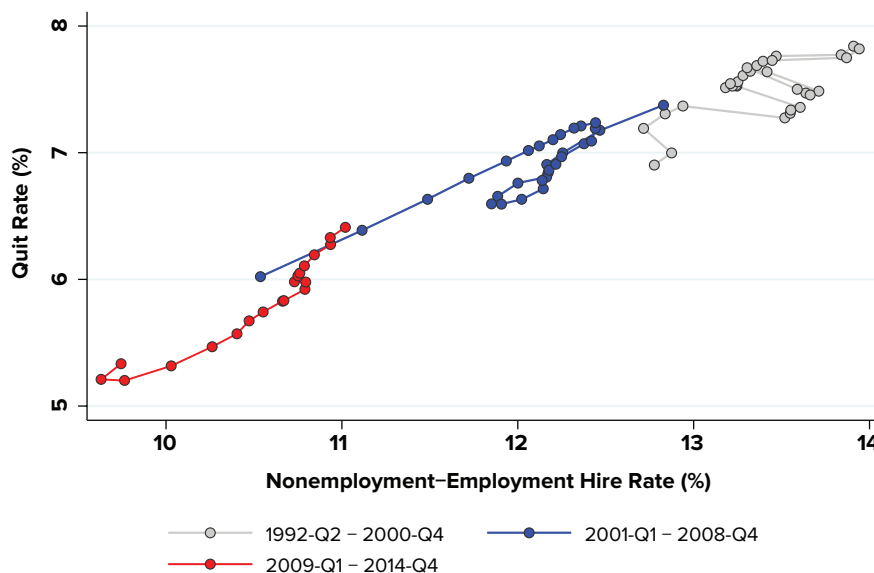


Figure 6: The quit rate and the hiring rate from non-employment are tightly linked and follow the same pattern over individual business cycles and across multiple ones between the early 1990s and 2015.

Sources: National Quarterly Workforce Indicators data, firm-age disaggregation, http://lehd.ces.census.gov/data/qwi/us/R2015Q3/DVD-sa_fa/, 2015Q3 release obtained January 2016.



We can make this interpretative link between declining labor mobility and declining business dynamism and entrepreneurship even tighter by looking to the relatively new J2J-Origin Destination data file, which tracks the demographics of job-switchers as well as the characteristics of the firms they switch from and to. Figure 7 does that for the share of quits in which the source firm is old (right axis) and, separately, specifically when the destination firm is new (left axis). Tellingly, the rate of moving from old firms to young firms follows the same pattern as the overall quit rate, while the share of quits in which the source firm is old has increased.^{xi} The second finding is not surprising, since as Figure 1 shows, old firms account for a higher share of employment, and thus of quits. But, notwithstanding the fact that old firms account for a larger share of total quits, the share of quits that correspond to leaving an old firm to work at a start-up has declined, following the same ratcheting pattern as all the other labor indicators, including the quit rate itself. This pattern includes not just the trend downward over time, but also the plateaus during relative expansions. Of course, as discussed in the previous section, one explanation for the trend is simply that there are fewer fast-growing new firms and those that do exist do not grow as quickly as they did previously. Thus, when workers do quit, they are increasingly going to other old firms because that is where the jobs are. But the plateaus during the mid-2000s and since 2010 confirm the essentially demand-driven nature of the decline in the employment growth rate of young firms and the overall interpretation of the labor market as a safety net, since they follow the time series pattern of better-known labor market indicators.

Quits from Old Firms as a Percentage of All Quits

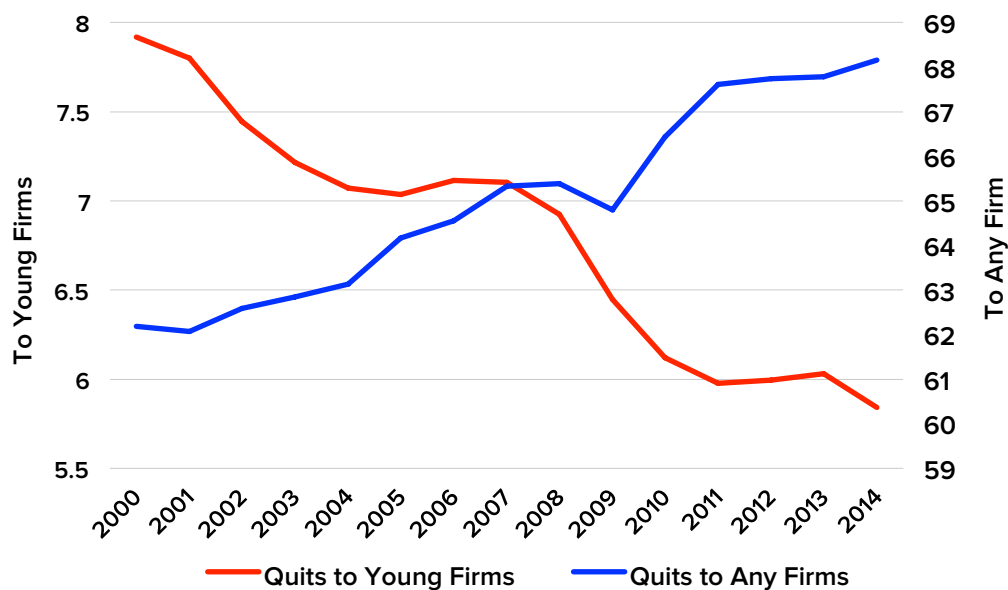


Figure 7: Both vertical axes of this chart are based on a universe of ‘total quits’ as a denominator. The chart disaggregates total quits in a given quarter by the firm age of the origin and the destination firms.

Source: Job-to-Job Flows “Origin-Destination” Data, firm-age disaggregation, <http://lehd.ces.census.gov/data/j2j//R2015Q2/j2jod/>, 2015Q2 release obtained January 2016.

^{xi} This contrasts with the implication of the model proposed by Moscarini and Postel-Vinay (2014) since they assert labor market recessions manifests as increased hiring by small firms relative to large ones. This is further discussed in the following section.



The right axis measures the share of total quits in which the origin firm was old; as we saw in figure 1, since old firms account for an increasing share of employment, it is not surprising that they also account for an increasing share of quits. The left axis measures the share of total quits in which the origin firm was old and the destination firm was young, and the findings here are highly suggestive. At the same time as the overall quit rate was falling, the share of job-to-job quits in which the worker transitioned from an old firm to a young firm declined, and in the same time series pattern. This links the story of overall labor mobility to that of declining dynamism and growth of young firms discussed in the previous section as symptoms of the labor market's downward demand ratchet.

So if the patterns of the decline in labor mobility track those of business dynamism, what, in turn, is responsible for those patterns? Davis and Haltiwanger (2014) argue that the causality runs from declining mobility to overall labor market outcomes, and the culprit may be overregulation of the labor market through occupational licensing and other misguided policies. These serve to discourage both overall hiring and specifically job-switching and thus reduce the allocative efficiency of the labor market, driving down employment. Furman and Orszag (2015) also raise the specter of overregulation, including of the housing market, and add to it the idea that increasing inter-firm inequality, even within specific industries, renders the employees at so-called “super-firms” increasingly lucky relative to the job opportunities available at other firms, and hence reluctant to leave.

The problem with both of these lines of argument is that they render a certain subset of workers “lucky” in the sense that their earnings are protected by a regulator or some other gatekeeper, or that they happen to have jobs at highly productive firms despite looking very similar, in terms of demographic, education, or other observables, to relatively disadvantaged workers in the same industries who do not happen to work at super-firms.^{xii} Yet there is very little evidence that anyone in the labor market is lucky in this sense: Earnings are stagnant or declining even for workers with relatively high educational attainment, tenure, and skills measured in any of the conventional ways (Rothstein, 2014). Moreover, this line of argument implies that the lucky subset of workers enjoys an earnings premium over what they could have expected had those barriers to entry not been imposed. And yet the data on wage changes for those workers who do manage to switch jobs—on this interpretation, who overcome rising barriers to entry—show that such job-to-job wage increases have, if anything, declined.^{xiii} As such, it is hard to believe that the reason job switches are happening less often is that barriers to entry are getting higher, protecting the firm-level rents of the employees of super-firms.

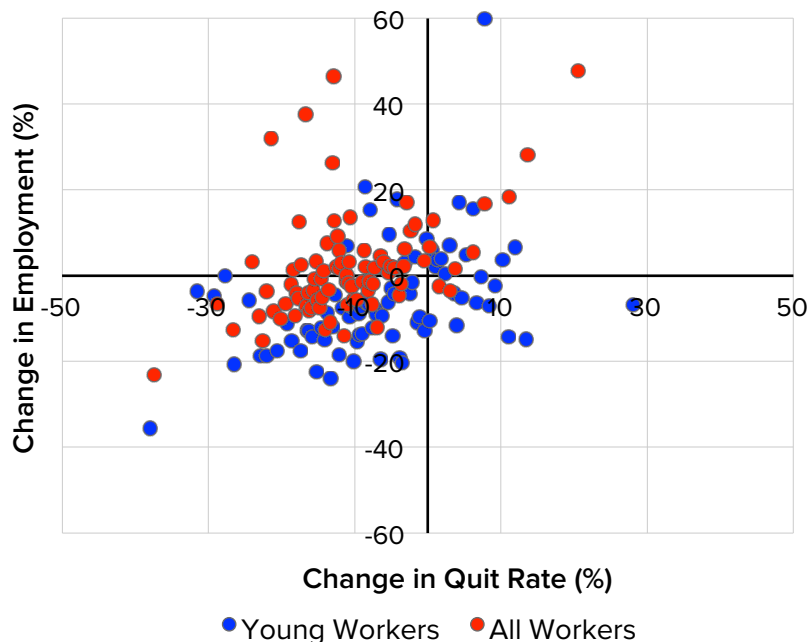
To get more systematic in the analysis, we follow the empirical approach of Davis and Haltiwanger, who disaggregate the U.S. economy by state and argue that the positive correlation between declines in labor mobility and the employment rate at the state level supports their contention that the former is a cause of the latter. (See Figures 8.1 and 8.2 for a replication of this result with a slightly different—in our view,

^{xii} By contrast, the strand of the literature most prominent in explaining rising interpersonal inequality emphasizes exactly these observable characteristics of workers as the determinant of wage premia. See Goldin and Katz (2009).

^{xiii} Molloy et al (2014) finds suggestive, but not definitive evidence, on this point. The SIPP also seems to show that the distribution of wage changes from job switches has shifted to the left. See also Wiczer (2016).

superior—empirical specification.^{xiv}) To interpret that argument through the lens of a standard economic model of the labor market, the regulation story implies that the supply curve for labor has shifted left, at least in the increasingly regulated sectors and occupations. Supply shifts in the labor market would be expected to manifest as wages and employment moving in opposite directions. In other words, in increasingly regulated labor markets, we would expect to see wages go up and employment decline due to the scarcity of labor. The same basic intuition holds true in the search-and-matching model of a frictional labor market with a job ladder presented in Appendix A.

Change in Employment vs. Change in Quit Rate, 2000-2014



^{xiv} Figures 8 and 9 use a 2015Q4 QWI appended state file, specifically the worker age group by county disaggregation. The plot is a non-parametric binned regression of Commuting Zones, approximate analogs to local labor markets, as determined by geographic commuting patterns and using the county-to-commuting zone conversion files published by the Equality of Opportunity Project. In Figure 8, the outcomes of interest are the change in raw employment and the hiring rate (as percentage of employment), and in Figure 9 they are earnings of all employees and of hires only. In both cases, labor mobility is measured by the quit rate, and results are similar for the rate of hiring from non-employment.



Change in Hires as a Percentage of Employment vs. Change in Quit Rate, 2000-2014

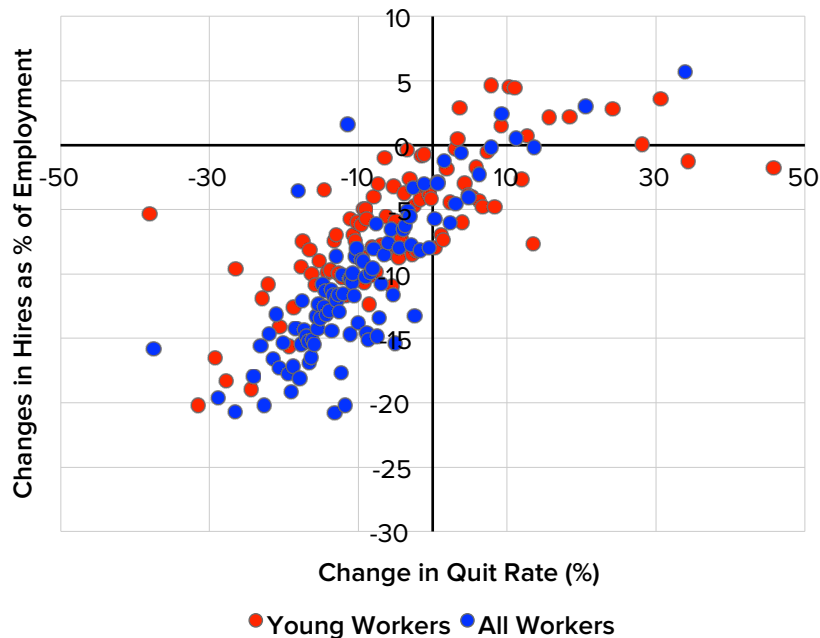


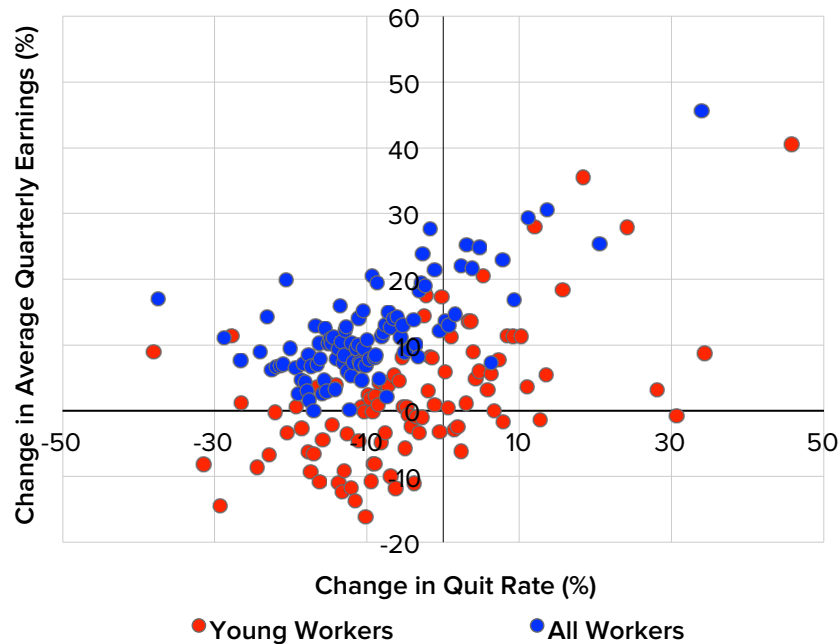
Figure 8: Declines in labor mobility (as measured by the quit rate) and total employment, on the one hand, and hires as a share of total employment, on the other, are positively correlated across geographically defined labor markets. Davis and Haltiwanger (2014) interpret this relationship causally and look to restraints on labor mobility as impairing the allocative efficiency of the labor market and hence overall employment.

Sources: Quarterly Workforce Indicators county-level data, aggregated to a national sample of commuting zones. <http://lehd.ces.census.gov/pub/>, 2015Q4 release accessed January 2016.

In fact, when we take Davis and Haltiwanger's geographic approach, we see the opposite: The labor markets where mobility has decreased the most are the ones where earnings have as well.^{xv} Figures 9.1 and 9.2 show this, again with a slightly different geographic specification than those authors use: We disaggregate the U.S. economy by metropolitan area and regress the percent change in either earnings for all workers (Figure 9.1) or for just newly-hired workers (Figure 9.2) between 2000 and 2014 against the percent change in the quit rate over the same period. Those findings, in combination with the same positive correlation between labor mobility and employment rates that those authors report, imply a demand-driven explanation for both falling mobility and labor market deterioration overall. Appendix A formalizes this critical observation in a mathematical labor market model.

^{xv} Unfortunately, hourly wages are not observed in Quarterly Workforce Indicators, so the best we can do is use total average earnings for different classes of workers (all employees vs. hires). Analysis of national-level CPS data on wages and earnings shows that in recent years they have moved in the same direction in response to the labor market's deterioration, so we believe it is safe to rule out that the earnings decline masks the hourly wage increase that would validate the supply-side story.

Change in Earnings vs. Change in Quit Rate, 2000-2014



Change in Earnings of New Hires vs. Change in Quit Rate, 2000-2014



Figure 9: The labor markets in which mobility decreased the most (measured by the quit rate) are those in which earnings did as well, for both all employees and just for new hires. The model presented in Appendix A distinguishes between the demand- and supply-based explanations for declining labor mobility, and there too the observable that distinguishes one account from the other is the movement of wages.

Sources: Quarterly Workforce Indicators county-level data, aggregated to a national sample of commuting zones. <http://lehd.ces.census.gov/pub/>, 2015Q4 release accessed January 2016.



In summary, the evidence on declining labor mobility ties it to the same pattern for other labor market outcomes, which points to a story of structurally declining labor demand suggested in other contexts by Lawrence Summers, Jesse Rothstein (2015), and others. The evidence also links the overall deterioration of the labor market to the findings in the previous section about entrepreneurship, business dynamism, and declining skewness in the firm-employment-growth-rate distribution. The following section knits together these findings with the literature on the job ladder and its failure following the Great Recession.

The Deteriorating Job Ladder

The concept of a job ladder in the labor market refers to an employment hierarchy, generally indexed by wages but also by other job characteristics, such as job security. Individual workers can ascend (or descend) the hierarchy over the course of careers, and the aforementioned paper by Topel and Ward (1992) establishes the empirical importance of this channel as the source of wage gains and social mobility. Even as economists have assumed that the job ladder is an important empirical phenomenon for a long time, the data needed to track workers across jobs spanning entire careers, and thus ascertain the health of the job ladder, have become available comparatively recently. In the U.S., the LEHD project is the first large administrative dataset capable of revealing the state of the job ladder.

A recent body of work, over and above the findings on labor mobility, establishes that the job ladder is critical to explaining labor market outcomes, especially among young people, and that it has been deteriorating, especially during and after the Great Recession. Not only are workers, especially young ones, switching jobs less often than they used to, but they are accumulating wage increases early in their careers at a much slower pace than in previous cohorts, implying a substantial loss to lifetime earnings. A major reason is that the jobs they take early on tend to be at lower-paying firms with less promotion potential, and once a career begins on those low rungs of the job ladder, it is difficult to move up.^{xvi}

The main disagreement within the literature on the job ladder concerns exactly what characterizes the hierarchy of labor as an empirical matter. Moscarini and Postel-Vinay (2014), summarizing a body of their work, argue that large employers rank above small employers and the deterioration of the job ladder manifests as disproportionate hiring in small, poorly paid firms, which in turn do not lose their workers to poaching by better-paying, larger competitors so long as the labor market is depressed. They appeal to the established positive relationship between firm size and firm average wage, which is an implication of the influential theoretical model of a job ladder with endogenous heterogeneous employment published by Burdett and Mortensen (1998).

Haltiwanger, Hyatt, and McEntarfer (2015) take issue with Moscarini and Postel-Vinay (2014) on the

^{xvi} (Khan and McEntarfer, 2014). Also: A forthcoming paper by Fatih Guvenen et al. (2016) uses Social Security records to show that the distribution of lifetime earnings for men entering the labor market in each cohort starting with 1967 have been deteriorating, and for women starting in 1990, mostly thanks to increasing prevalence of zero-earning years in the prime working-age population. Although only partial lifetime earnings are available for workers who have come of age since 2000, there appears to be a further worsening relative to previous cohorts. [Author correspondence.]

empirical grounds that there is no discernible trend in hiring by small firms relative to large ones in LEHD during and after the Great Recession. Instead, the deterioration of the job ladder manifests as a reduction in hiring across the board (with respect to firm size), including in hiring from non-employment, while net reallocation of workers from poorly paid to well-paid jobs has fallen to zero. In other words, the firm-size aspect of the job ladder as interpreted by the previous literature is not present in the data, but the wage hierarchy is, and that is what has failed since 2000. Those lucky enough to be employed have not gained wage increases from job-switching, which the previous literature establishes are the main source of earnings gains. Moreover, Figure 7 implies that as the job ladder has deteriorated, it is net reallocation of workers from old firms to young firms that has declined and not the other way around (assuming a positive relationship between firm age and size). Altogether, the findings on across-the-board declines in labor mobility mirror those discussed in the previous section, which is not surprising since the underlying data source, LEHD, is the same. And the lack of wage increases from job-switching contrasts with the argument put forward by Davis and Haltiwanger (2014) that rising barriers to job-switching are the cause of the job ladder's failure.

Inter-firm Inequality and the Fissured Workplace

In explaining the decline in labor mobility, Furman and Orszag (2015) lean heavily on findings of high and rising inequality between firms, as measured by average earnings of their employees. In particular, those authors cite a working paper by Song et al (2015), which finds that 100 percent of the rise in interpersonal earnings inequality in the U.S. can be attributed to inequality between firms, and not to rising gaps between the executives and rank-and-file workers within firms. Those authors, in turn, are contributing to a growing literature that disaggregates the well-known rise in interpersonal inequality into a firm or establishment component versus an individual component.

Properly understood, there is no inconsistency between the idea that interfirm inequality has increased substantially and the ideas we propose in this paper: that declining business dynamism and labor mobility are the result of a power shift within firms, favoring management and shareholders over workers (and customers). Rising inter-firm earnings inequality is an implication of the “fissured workplace” hypothesis proposed by David Weil (2014), which observes that whereas in the past large corporations employed people at many rungs of the job ladder “under the same roof,” as it were, “lead firms” are increasingly outsourcing support services to upstream labor suppliers with the aim of avoiding statutory and customary benefits for workers under the traditional employment relationship.^{xvii} Franchising is another strategy to keep rank-and-file employees at arm's length from core firm functions, enabling increased profitability by inducing a race to the bottom among workers. Recently-released research validates the empirical importance of the fissured workplace for overall labor market trends, concluding that non-traditional employment accounted for 15.8 percent of total employment in 2015, as compared to 10.1 percent in 2005 (Katz and Krueger, 2016).

^{xvii} For specific cases of the Fissured Workplace acting to reduce wages in favor of corporate profits, see also Dube and Kaplan (2010) and Goldschmidt and Schmieder (2015).



On the other hand, what is inconsistent between Furman and Orszag’s interpretation of declining labor mobility and ours is the idea that the decline is happening because employees of super-firms have less reason to switch jobs than they once did given that they already enjoy the relatively high wages associated with working at the most profitable and/or largest firms in their industry. Even if firm-level dispersion in wages has increased, we do not think that manifests itself in the form of some “lucky” workers enjoying a share of super-firm rents. Rather, the point of the fissured workplace is to exclude workers from firm-level rents, and declining mobility alongside stagnant wages is evidence that this strategy has been successful and plays a major role in explaining the overall trend decline in labor demand. A recently-revised version of Song et al (2015) lends support to exactly this argument about the source of interfirm inequality: it stems from increasing worker segregation into high vs. low-paid firms, and not from any quality intrinsic to the firms themselves.

That is why the fissured workplace phenomenon exists alongside, and is entirely consistent with, the decline in voluntary entrepreneurship and job-to-job mobility, even if the two phenomena appear inconsistent at first glance. One posits rising precariousness and holding of multiple jobs; the other increasing labor market stagnation. The labor market is complex, and its deterioration manifests for some workers as alienation from traditional employment in the form of involuntary and less remunerative independent contracting, while for others it takes the form of job lock in incumbent firms, impairing business dynamism. What unites these phenomena is their shared cause: a slackening labor market, driven by power accruing to top managers and shareholders of incumbent firms.

Mergers, Market Concentration, Profits, and Shareholder Payouts

The data on employment concentration in older and larger firms depicted in Figures 1 and 2 has a corollary in data on market concentration: The largest firms in many industries now control a larger share of revenues than they did in earlier eras. A recent article in *The Economist* made this point graphically, by depicting the preponderant increase of revenue Herfindahls among U.S. industries between 1997 and 2007–2012 (*The Economist*, 2016).^{xviii}

The difficulty in interpreting the bare facts of market concentration is that defining substitution patterns, and hence the extent of markets, is not straightforward. For instance, hospital chains have grown tremendously as both the health care and health insurance industries have concentrated in order to make strategic gains in bilateral negotiations, but no single health care provider has a nationally significant share of the market. However, many health care providers do have preponderant if not monopoly shares of local markets, often in many more than one, and hence the health care industry has become a geographic checkerboard of non-overlapping monopolies (or, in some cases, oligopolies).

^{xviii} “Herfindahl” or the “Herfindahl-Hirschman Index” is a measure of concentration: usually the revenue market share, or alternatively the share of employment, accounted for by the 50 largest firms in an industry. The share for each firm is squared, then summed in the computation, upweighting the shares of the largest firms.



Recent research shows that this pattern has profound implications for pricing medical care (Cooper et al., 2015 & Dafny, Ho, and Lee, 2016).

Rising concentration has its counterpart in merger and acquisitions activity, both as a cause and consequence. Merger activity has been extremely high by historical standards both during the economic boom of the 2000s and then after a break during the acute phase of the financial crisis, and remained high during the subsequent boom as well. Recent years have been the most active for major corporate acquisitions in history, thanks to a uniquely favorable environment: corporations sitting on a huge pile of retained earnings or in a position to benefit from historically low interest rates should they finance with leverage. Those acquisitions, in turn, lead to further market concentration and yet-higher profits rather than increased investment and expansion of operations, as classical economic analysis suggests “should” happen (Summers 2016).

Furman and Orszag (2015) argue that the distribution of firm-level profits has both shifted to the right and increased in skewness: Some firms are earning outsized profits, particularly in health care and finance. It is interesting, though not conclusive, that this contrasts with the decreasing skewness of the firm-employment-growth distribution, but any direct connection between those two trends is probably overdrawn, because as the previous analysis shows, the firms that accounted for skewness in firm employment growth before 2000 tended to be young, whereas the firms that account for super-normal profits today are generally old, large incumbents.

Instead, the connection between the two phenomena is probably not at the firm level, but rather economy-wide: Power accumulating at the top of corporations, among management and owners, manifests itself as firms acting in such a way as to maximize returns to those same stakeholders (Khan and Vaheesan, 2016). Strategies for doing that differ between one corporate context and another, but the available evidence is that they broadly take the form of fissuring the labor market, reducing demand for labor, and further concentrating and restricting economic activity despite a favorable financial environment for expanding operations, thereby reducing the scope for competition from new entrants. All of those things, in turn, increase both corporate payouts to shareholders and executive compensation (Mason, 2015).^{xix}

Why the power shift in favor of corporate owners and managers and away from workers and customers? The best interpretation to date is offered by the 2014 article “Optimal Taxation of Top Labor Incomes: A Tale of Three Elasticities” by Thomas Piketty, Emmanuel Saez, and Stefanie Stantcheva. Those authors propose a “bargaining elasticity” pertaining to the taxation of top incomes, which implies that reductions in effective marginal tax rates induce high earners to claim a larger share of the bargaining surplus available within corporations. The context of that paper is specifically one in which managers are bargaining with shareholders over their pay, but the argument can be extended to be multilateral: Both executives and shareholders are, on the whole, subject to top marginal tax rates, and both their

^{xix} Quasi-experimental results documenting the effect of corporate revenue windfalls establish that they are used solely to finance increased payouts. See Yagan (2015) and Dharmapala, Foley, and Forbes (2010).



statutory reduction and base erosion results in greater gains at the negotiating table for both sets of parties at the expense of everyone else.

Goldstein (2012) documents the paradox of rising shares of corporate revenue accruing to both owners and managers in his article “Revenge of the Managers: Labor Cost-Cutting and the Paradoxical Resurgence of Managerialism in the Shareholder Value Era, 1984-2001,” in light of the ideology of cost-cutting and corporate fat-trimming that launched the shareholder revolution in the early 1980s. Even at the time Andrei Shleifer and Lawrence Summers (1988) interpreted the hostile takeovers of the 1980s as a means to claw back surplus embodied in implicit contracts with managers and workers on behalf of shareholders. What has changed since then is that, in response to the even greater rewards in an era of yet-lower effective marginal tax rates and other checks on income and wealth growth for the already-rich, managers and shareholders have joined forces and worked to operate companies in their mutual interest, to the disadvantage of the remaining stakeholders. And that, in turn, goes a long way to explaining rising inequality, as well as all the more specific phenomena discussed here: declining business dynamism and labor mobility, the erosion of the job ladder, the fissuring of the workplace, and rising profits.

Conclusion

This paper offers a contrasting interpretation of declining business dynamism, entrepreneurship, and labor mobility than the one that has thus far been prevalent in both the academic literature and in the policy debate: that these phenomena are driven by excessive regulation and barriers to mobility and the formation of new businesses. Such a supply-oriented interpretation would imply that at the same time as mobility, employment, and start-up activity have decreased, wages and earnings should have increased for those who remain employed. But instead, the data show positive co-movement of price and quantity variables, posing a major challenge to the received wisdom. The interpretation we offer, on the other hand, is that labor demand is in structural decline, and that this manifests in a failing job ladder that in turn reduces opportunities for workers to find better jobs or to either start their own firms or work at a start-up. We further ascribe the trend decline in labor demand to shifting power dynamics within firms, whereby owners and managers have come to dominate the other stakeholders, namely workers and consumers. That power shift manifests not simply in a structurally slack labor market, but also in rising industrial concentration, profitability, and merger activity. We find the cause of that power shift in declining effective marginal tax rates on the rich, which increase the personal incentive to engage in profit-seeking activities and to protect profits already earned from competition by start-ups. Thus, the phenomena we document here really do reflect a failure of capitalism, as observed by the Goldman Sachs investors’ note quoted at the beginning of this paper. Private incentives given free rein over the economy pervert its core function of wealth and prosperity creation for the broad population, to the benefit of the few.



Appendix A

A Partial Equilibrium Search-and-Matching Labor Market Model with Endogenous Search on the Job

In this appendix we present a stylized model of endogenous job search in the partial equilibrium of a “search-and-matching” labor market, in the style of Pissarides (2000).^{xx} The model enables us to pinpoint the distinction between supply- and demand-based explanations for declining labor mobility. At the same time, it fails to account for many aspects of the phenomena discussed in the main text of the article. In the theoretical context, the job ladder is unidimensional and workers are homogeneous, which means that there is no role for entrepreneurship per se as a rung on the job ladder, and there is no role for worker age or education independent of wage. There is also no reason within the model for demand or supply of labor to change over time; those potential driving forces enter exogenously. That said, we think a bare theoretical structure can be helpful as a supplement to the analysis in the main text.

In the model, workers are either employed or unemployed. If employed, they occupy a job at a rung on a unidimensional job ladder, indexed by its wage. Unemployed workers always search for a job, and they will take any job offered (thus, unemployment is in effect the lowest rung). Employed workers search only if the benefits of searching while employed exceed the costs; the determinants of that decision are at the heart of the analysis. The fewer employed workers search, the lower the quit rate and the lower the “endogenous glass ceiling,” above which workers cease to search for a better job. Thus, careers stagnate earlier.

Some preliminary definitions:

$v \equiv$ vacancy rate, the number of jobs posted.

$u \equiv$ the share of the workforce unemployed.

$e^s \equiv$ the share of employed workers who search.

$e^{ns} \equiv$ the share of employed workers who do not search.

We normalize the size of the workforce to 1, so $e^s + e^{ns} + u = 1$.

$x \equiv \frac{v}{u+e^s}$, the labor market’s “tightness ratio,” reflects the relative abundance of jobs to job-seekers.

Since this analysis is in partial equilibrium, we assume that v and therefore x vary exogenously, the model counterpart to labor demand.

$w(x) \equiv$ the wage at a given rung of the job ladder, for a given tightness. We assume that w is increasing in x , but make no further assumption about wage setting.

$\gamma > 0 \equiv$ the cost of on-the-job search.

$q(x) \equiv$ the job-filling rate for vacant jobs, given a Constant Returns to Scale Matching Function taking vacancies and searchers ($u + e^s$) as inputs.

$xq(x) \equiv$ the job-finding rate for unemployed searchers.

$\delta \in (0,1] \equiv$ likelihood of an employed worker finding a vacancy if searching, relative to the finding rate

^{xx} Chapter 4.2 of Equilibrium Unemployment Theory 2nd Edition presents the basic model of on-the-job search used here.

for unemployed workers.

$s \equiv$ exogenous job-destruction rate for existing matches. Generates the inflows to unemployment.

$r \equiv$ agents' continuous time discount rate.

For the purpose of this discussion, we focus on the search behavior of employed workers. The value function for an employed, searching worker at a given rung on the job ladder is then:

$$rW^{\text{search}} = w(x) - \gamma + \delta x q(x) [W' - W^{\text{search}}] + s[U - W^{\text{search}}]$$

The value function for an employed, non-searching worker (at the same rung) is given by:

$$rW^{\text{no search}} = w(x) + s[U - W^{\text{no search}}]$$

The difference between the two is that searching workers pay a cost γ and enjoy the possibility of finding a better job, which happens at the rate $\delta x q(x)$. W' signifies the expected value of all the possible jobs a searching worker would take, which are all those better than his current job. Thus, the condition under which workers employed at a given rung search is:

$$\gamma < \delta x q(x) [W' - W^{\text{search}}]$$

The crucial point about this condition is that the right side is increasing in x , labor market tightness, which we take as the driving demand-side force that could cause changes in overall labor mobility. If demand for labor is high, then the labor market is tight, it is easier to find a job if one searches, and so more people search. γ can be understood as the supply-side driving force: if it is costly to search, perhaps because finding a new job requires expensive training or licensing the worker has to pay for, then it is less likely the worker will search. Below we discuss how to distinguish demand- versus supply-side drivers of labor mobility trends.

The right-hand side is also decreasing in the worker's current rung on the job ladder, because if she already occupies a job with a high wage, then the set of better jobs she might conceivably take is smaller, and hence the return to searching for them is smaller. Thus, the model features a cutoff strategy: Workers below a certain rung on the job ladder will search, and workers above it will not search. Variation in overall search and in quit behavior in this labor market is driven by changes in that cutoff or "endogenous glass ceiling," and hence changes in e^s , the share of workers who search.

Figure 10 shows a schematic depiction of W^{search} and W^{ns} as functions of x , before and after an increase in γ , holding constant the rung on the job ladder. The basic idea is that workers employed at a given rung choose to search depending on which function is greater, and the higher x is, the more likely the worker is to search. If the cost of searching increases, by contrast, the net return to searching declines, and correspondingly the labor market must be even tighter in order to induce the worker to search. Thus, shifts in x or in γ can change search behavior, and the point of the model is to figure out which dynamic

accounts for the observed decline in search on the job.

In order to calculate e^s , the share of employed workers who search, and $xq(x)\delta e^s$, the quit rate for employed workers, we need to compute search behavior as a function of the wage. Figure 11 plots W^{search} and W^{ns} as functions of $w(x)$ (that is, across the job ladder), for two different values of x , interpreted as a negative shock to labor demand. The key point is that a decline in labor demand reduces both W^{search} and W^{ns} , but W^{search} is affected more, and hence the range over which $W^{\text{search}} > W^{\text{ns}}$ drops, reducing e^s .

So, putting this model to use, how can we be sure that the observed decline in the quit rate reflects a decline in labor demand and not a rise in the search cost γ ? Both have the effect of shifting down W^{search} relative to W^{ns} , and hence simply observing a decline in the quit rate is insufficient to distinguish between the two mechanisms. The key to the interpretation is therefore to be found in the observed behavior of wages, the determination of which has thus far been left ambiguous, other than to say that at a given rung on the job ladder, the wage is an increasing function of x . The correct specification of wage determination in a realistic labor market model remains the key outstanding research question in contemporary labor macroeconomics, but even as we allow for ambiguity, we can still make progress in broad strokes. That is because an implication of almost any wage-setting specification will be that an increase in search cost would translate in part into higher wages. If it is harder for employers to fill jobs because fewer people are searching, then employers will compete with one another by raising wages. Interpreted slightly differently, the increased search cost must be at least partly offset by higher wages in order to induce workers to search at all.^{xxi}

^{xxi} Pissarides 2000. *Ibid.*, Pp. 107–119 contains an illuminating discussion of these issues. Pissarides further notes that under the “Nash Bargaining” assumption, the most common wage-setting specification in the macro labor literature, an increase in search costs reduces wage inequality in general equilibrium. The reason is that wages at the high end, where workers do not search, decline because equilibrium market tightness declines (thanks to the reduced return to posting job vacancies), and wages are increasing in tightness. At the low end, where workers do in fact search, an increase in search costs increases wages for the reason discussed in the main text. Since wage inequality has in fact increased, that could be interpreted as a further rejection of the search-cost-based explanation, but again, it relies on the Nash Bargaining assumption, which many studies show is problematic.



Schematic Depiction of Search Decision for Employed Workers

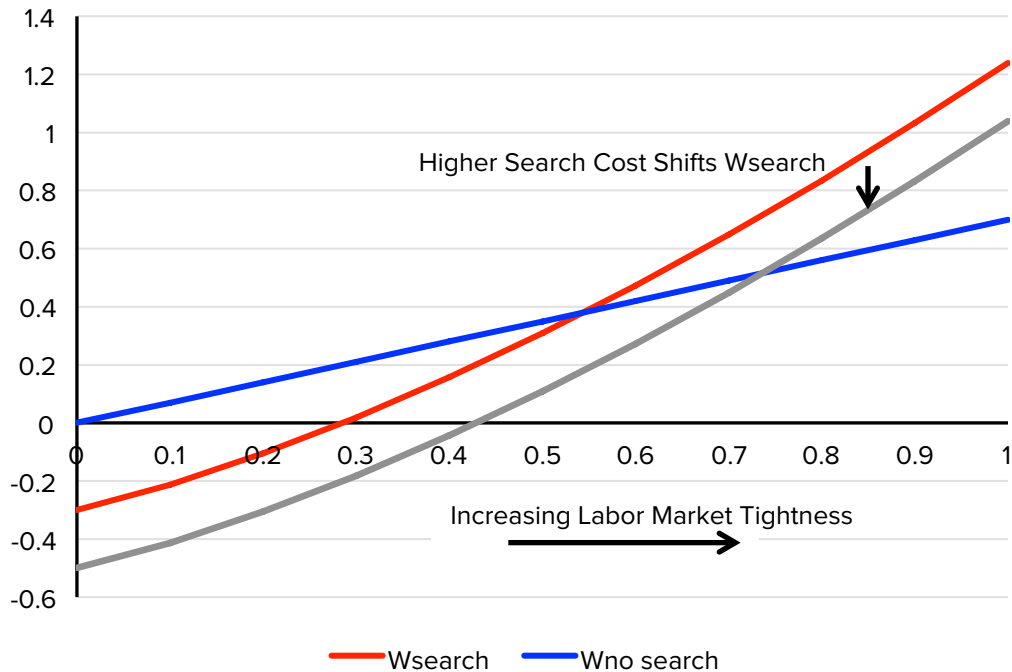


Figure 10: For a given rung on the job ladder, the tighter the labor market, the more likely a worker occupying that rung will search on the job. If the cost of searching increases, then searching becomes less attractive and demand must be correspondingly higher to induce search.

Search Decision Across the Job Ladder in Response to a Negative Demand Shock

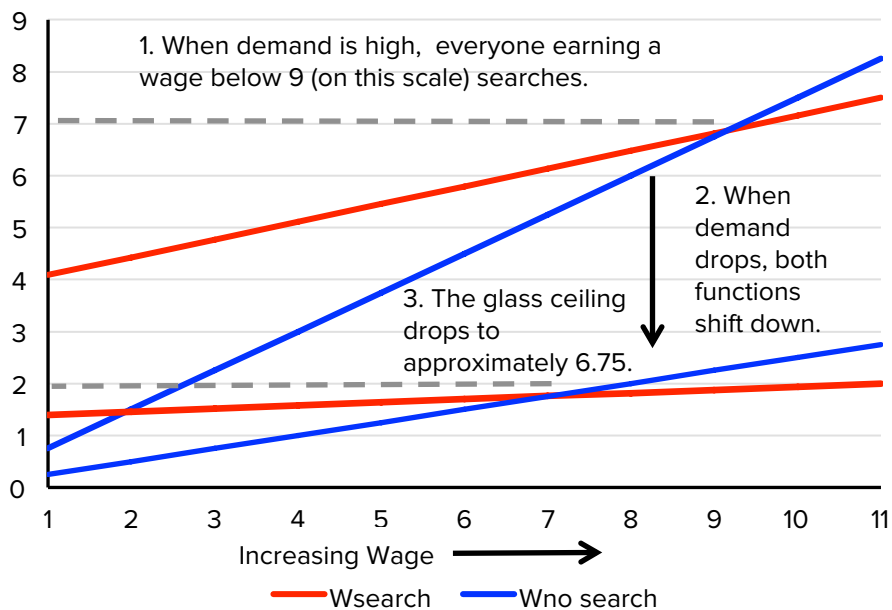


Figure 11: Looking at search decisions across the job ladder in response to a negative shock to labor demand, we see that the range of jobs in which workers search declines. On the scale, the endogenous glass ceiling declines from 9 to around 6.75.

The implication that a rise in the cost of searching should increase the wages of employed workers is not borne out in the data, as the main text of this paper emphasizes: The metropolitan areas with the largest declines in labor mobility are also those where earnings have fallen the most, and the reduction in aggregate quit behavior accompanies a trend in which on-the-job wages seem to be getting less responsive to outside job offers. These two facts are consistent with the demand-based explanation for declining mobility, in the context of this search-and-matching model and in general, but not the supply-based one.



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