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REASONS FOR SKEPTICISM ABOUT STRUCTURAL UNEMPLOYMENT

Examining the Demand-Side Evidence

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Unemployment has remained at 9.5%[1] or above for more than a year, and may remain that high or inch even higher through the end of 2011. The predominant, and in our view correct, narrative to describe this situation has been that the bursting of the housing bubble and the resulting loss of wealth led to sharp cutbacks in consumer spending. The loss of consumers, along with financial market chaos brought on by the bubble's burst, also led to a collapse in business investment. As consumer spending and business investment dried up, severe job loss followed. Further, even after economic output stopped contracting (in roughly the middle of 2009), its subsequent growth has not been nearly rapid enough to create the jobs needed to even keep pace with normal population growth, let alone to put the backlog of workers who lost their jobs during the collapse back to work.

Our view that this is the correct explanation for the jobs crisis is rooted in data—the observed collapse of overall output, reductions in consumption, and extensive excess capacity. The policy conclusion drawn from this narrative is that we need faster growth to increase the demand for workers and reduce unemployment.

Yet, there has been increased attention to a competing narrative, the possibility that a large share of current high unemployment is "structural," meaning that the problem is that those who are unemployed are not well-suited to the jobs becoming available.[2] This would be, for instance, because their skills are inadequate, have deteriorated, or are not applicable to the industries that are expanding, or that the unemployed simply do not live in the places where the jobs are. Some make claims about structural unemployment because certain aggregate relationships, such as between job openings and unemployment, do not appear to be following historical patterns, suggesting a possible skill mismatch. Others have postulated that employers have substantially revamped their production processes in this downturn, thereby eliminating the need for many of the types of workers who are currently unemployed. Still others

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note that the housing bubble lead to a bloated construction sector and many of those jobs will never come back, leaving many workers needing to switch to new jobs for which they may not be qualified.

Of course, it matters whether the claim is that structural unemployment is a large or small share of unemployment at this stage of the business cycle. Unless our current unemployment problem is *primarily* structural, policies to alleviate cyclical unemployment are still appropriate. Thus, this paper addresses and questions the claim that structural unemployment is the predominant reason that unemployment is high. There has been little evidence offered to support the claim of extensive structural unemployment, and we find that the pattern of employer behavior regarding job openings, layoffs, and hires does not support such a claim. This matters quite a bit for guiding policy. The policy implications of a finding that our high unemployment is primarily structural are that: (1) it would be foolhardy to use further demand management (fiscal stimulus, either tax cuts or increased spending, or monetary policy) to lower unemployment; and, (2) the appropriate policy is to offer education and training to the unemployed to help them make a transition to new occupations and sectors.

Lest we be accused of critiquing a straw man, note the recent statement of the Minneapolis Federal Reserve Bank president, Narayana Kocherlakota:

> What does this change in the relationship between job openings and unemployment connote? In a word, mismatch. Firms have jobs, but can't find appropriate workers. The workers want to work, but can't find appropriate jobs. There are many possible sources of mismatch—geography, skills, demography—and they are probably all at work. Whatever the source, though, it is hard to see how the Fed can do much to cure this problem. Monetary stimulus has provided conditions so that manufacturing plants want to hire new workers. But the Fed does not have a means to transform construction workers into manufacturing workers.
>
> Of course, the key question is: How much of the current unemployment rate is really due to mismatch, as opposed to conditions that the Fed can readily ameliorate? The answer seems to be a lot….Most of the existing unemployment represents mismatch that is not readily amenable to monetary policy. (Kocherlakota 2010)

The competing explanation, as mentioned above, is the one we find most plausible: the economy is operating far below its potential output because of a shortfall in demand caused by an extreme loss of financial and housing wealth that caused a cut back in consumption. Thus, there are simply not enough jobs to go around. Evidence for this explanation focuses on such indicators as low operating capacity in manufacturing, which was 71.6% in June 2010, down from 79.1% in December 2007.[3] Vacancies in commercial offices (now at 17.4%) (Canalog 2010) are a further indication of excess capacity. The bottom line is that total demand in the second quarter of 2010 is still below its pre-recession level.[4] In fact, total output, as measured by gross domestic product, was still 1.3% below its pre-recession level.[5] Of course, one would expect demand and output to have *grown* substantially over the two-and-a-half years since the recession began. The Congressional Budget Office conservatively puts the "output gap"—the difference between potential and actual output—at 6.4% in the second quarter.[6]

The deceleration of inflation is another sign of weak demand, with core inflation (excluding fuel and food) decelerating from 2.3% to 1.8% to 1.0% over the last three years.[7] Lower inflation or deflation is a strong indicator that total demand has declined, leaving firms with excess capacity. Similarly, very low interest rates accompanying large federal deficits are another sign of slack in demand, as this would not be the case if firms and households were borrowing at their usual scale. In our view, the pervasiveness of: (1) lost employment and output across sectors; and (2) high unemployment across types of workers by state, education, age, and occupation suggests an aggregate or macroeconomic

explanation rather than one rooted in a few sectors or locations or because of the lacking skills of some workers.

Skepticism appropriate

The claim that current unemployment is primarily structural should require much more evidence than seems to be offered because common sense would deny such an explanation. After all, a structural unemployment story presumes that millions of workers are now inadequately prepared for available jobs even though they were fruitfully employed just a few months or years ago.

Productivity, technology investment: Did the economy transform itself from the end of 2007 to the beginning of 2010? What would lead us to believe that, and what footprints would such a transformation leave? One would imagine that such a transformation would be associated with sizeable productivity gains and significant investments. Productivity did grow a pretty spectacular 6.3% from early 2009 to early 2010.[8] However, that's the full extent of productivity growth since the start of the recession, a total of 6.3% growth over a two-and-a-half year period. In the last quarter, the second quarter of 2010 that has received so much attention for the failure of unemployment to fall, productivity was actually negative, a decline of 1.8%. Net investment in business equipment and software in 2009 (the latest data) was actually negative, the first time this occurred since World War II. In other words, the alleged structural transformation of production processes was *not* associated with new equipment or new technological processes (requiring software). It is reasonable to doubt whether it happened at all.

Location: Is it just a need for greater mobility, for the unemployed to move to where jobs are more plentiful? Well, where would they go? The disparity between states' unemployment rates is indeed striking, ranging from 14.3% in Nevada to 3.6% in North Dakota.[9] In fact, there are 11 states where the unemployment rate in June was less than 7.0%. Still, it is not as simple as a geographical mismatch, with high performing and low performing states. These 11 states with low unemployment have a total adult population of about 17 million, or about 7.0 % of the U.S. total.[10] If the unemployed (14.6 million in June) moved to those states they would nearly double the labor force there. A similar calculation can be made for states whose unemployment has risen by 3.0 percentage points or less. The failure to relocate cannot explain high unemployment unless the "receiving states" could readily absorb the unemployed. That is simply not the case.

Construction: A minor foray into labor market data suggests that construction does not play the outsized role imagined by the president of the Minnesota Federal Reserve Bank and many other commentators. Though a construction story is perhaps intuitive given the role of the housing bubble, it is noteworthy that those who see a large role for construction have not examined the associated labor market data. It is true that construction has lost many jobs in this downturn, losing nearly 2 million jobs from the start of the recession through the second quarter of 2010. This accounts for about 25% of all private-sector jobs lost.[11] Is this what's fueling the unemployment problem? The answer is "No, not at all." As shown in **Figure A**, in the second quarter of 2010 unemployed construction workers comprised 12.4% of the unemployed and 12.5% of the long-term unemployed: this means that unemployed construction workers are not more likely to be long-term unemployed than those displaced from other sectors. Even before the recession, in 2007, unemployed construction workers were 10.6% of all unemployed and 11.0% of the long-term unemployed.[12] The notion that unemployed construction workers are fueling unemployment is not true. Just because there was an extreme loss of jobs in construction does not imply that those workers are driving up unemployment: many found jobs in other sectors and some have left the country.

Beveridge Curve: The Beveridge Curve describes the historical relationship between unemployment and job openings, and allows one to predict how high or low the unemployment rate should be given a certain number of job openings. There has been much attention to the mid-July blog post by David Altig (Altig 2010a), senior vice president and research director at the Atlanta Federal Reserve Bank who used such an analysis to suggest that almost a third of the unemployed, 4.6 million workers, are structurally unemployed. Less noticed is that Altig backed off this claim just a month later.

FIGURE A

Share of the total unemployed and long-term unemployed who are construction workers, 2007q2 - 2010q2

NOTE: Data are not seasonally adjusted; data shown are not time series but second quarter of each year only.

SOURCE: EPI analysis of Bureau of Labor Statistics data.

In mid-July Altig wrote in Macroblog, the Atlanta Federal Bank's blog,

> Since the second quarter of last year, the unemployment rate has far exceeded the level that would be predicted by the average correlation between unemployment and job vacancies over the past decade….
>
> The dashed line in the chart above, which is estimated from the data from 2000–08, represents the predicted relationship between the number of unemployed persons in the United States and the number of job openings. That simple relationship would suggest that, given the average number of job openings in April and May, the unemployed would be expected to number about 10.4 million—not the nearly 15 million we actually saw. (Altig 2010a)

This claim was based solely on a simple analysis of job openings and unemployment since 2000, encompassing the experiences of just two recessions (the Job Openings and Labor Turnover Survey data used in the analysis only became available in late 2000). Altig conscientiously backed off (Altig 2010b) in mid-August from his mid-July claim after a more in-depth analysis of job openings and unemployment was presented by Cleveland Federal Reserve economists Murat Tasci and John Lindner (Tasci and Linder 2010). Using more data to obtain a longer time frame (going back to 1951) Tasci and Lindner found that unemployment being higher than what the Beveridge Curve would suggest is not an "anomalous" relationship

between job openings and unemployment, but typical of deep recessions and what happened in the initial recoveries following the deep recessions in the 1970s and 1980s. Altig cites Tasci and Lindner's findings that:

> Hence, cyclical changes may not necessarily present themselves as…a neat movement along the curve. During and after recessions in the postwar period, the Beveridge Curve has generally followed a pattern of shifting to the right during a recovery. One potential reason for this could be that even though some unemployed workers start filling the available job openings, workers who had left the labor force might get encouraged by the recovery and start looking for a job, thereby keeping the unemployment high. While the Census may have skewed the data for this recovery, the path of the curve going forward looks poised to follow in the footsteps of previous recessionary periods. (Tasci and Linder 2010)

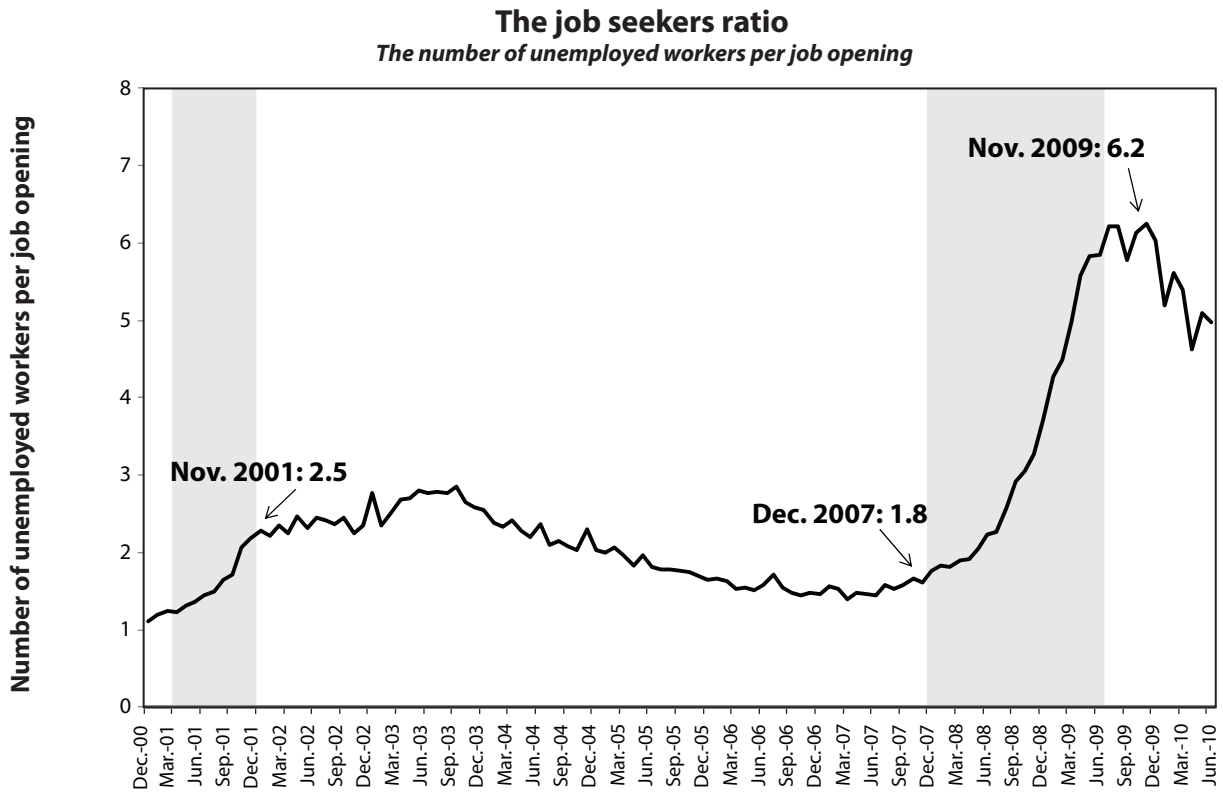
Altig then backs off of his earlier claim, ending his post by approvingly listing Tasci and Lindner's conclusion that, "Firm conclusions will only be able to be drawn as more data are generated" (Tasci and Linder 2010).

Looking for evidence

One of the curious aspects of this developing structural unemployment storyline is how hard it is to find any research trying to tie this story to actual detailed trends in employment, unemployment, or output data. We explore patterns of employer job openings, layoffs, and hiring in this paper to see if they correspond to a structural unemployment story. This paper, then, presents an examination of the "demand side" or the employer side of the market. We will offer other data focused on the characteristics of the unemployed, the "supply side," in another paper. At this point, however, we would point to a few trends. We find:

- Claims that today's unemployment is predominantly "structural" should be treated skeptically since that implies that people gainfully employed a year or two ago are now inappropriate for available jobs;
- The notion that work processes have dramatically changed over the recession, leaving millions of workers unqualified for work, is hard to square with the low levels of investment in equipment and software and the meager productivity growth, just 6.3% in two-and-a-half years.
- Though construction employment has fallen substantially, this has not fueled either unemployment or long-term unemployment as construction's share of both unemployment and long-term unemployment remains very near its pre-recession level.
- Claims that we are experiencing an anomalous rise in unemployment relative to job openings are not true: the same thing happened in the deep recessions of the 1970s and 1980s.
- Lack of geographic mobility can't explain unemployment since the 11 states with less than 7.0% unemployment would have to double their labor forces to absorb the unemployed.
- There have been between five and six unemployed for every job opening (the job seeker ratio) since mid-2009, suggesting a shortage of jobs. The job seeker ratio is roughly double what it was in the last recession and reflects, in large part, that job openings are one-fourth lower now than they were in the last recovery.
- In the first 12 months of this recovery there were 32.0 million job openings, 10.0 million fewer than the first 12 months of the prior recovery, one known for being a jobless recovery.
- The shortfall of job openings in this recovery compared to the last one is pervasive: it is evident in nearly every sector including labor intensive service industries such as hospitality, entertainment, and accommodation. Construction is responsible for just 6% of the overall shortfall in openings in this recovery compared to the last one.
- Layoffs during the early stages of this recovery are comparable to those in the prior recovery, and cannot explain high unemployment.
- Hiring exceeds openings in the private sector more so now than earlier in this recession and more so than in

FIGURE B



NOTE: Shaded areas denote recession.

SOURCE: EPI analysis of Bureau of Labor Statistics data.

the early 2000s recession. This evidence runs contrary to notions that employers are having more difficulty now filling jobs.

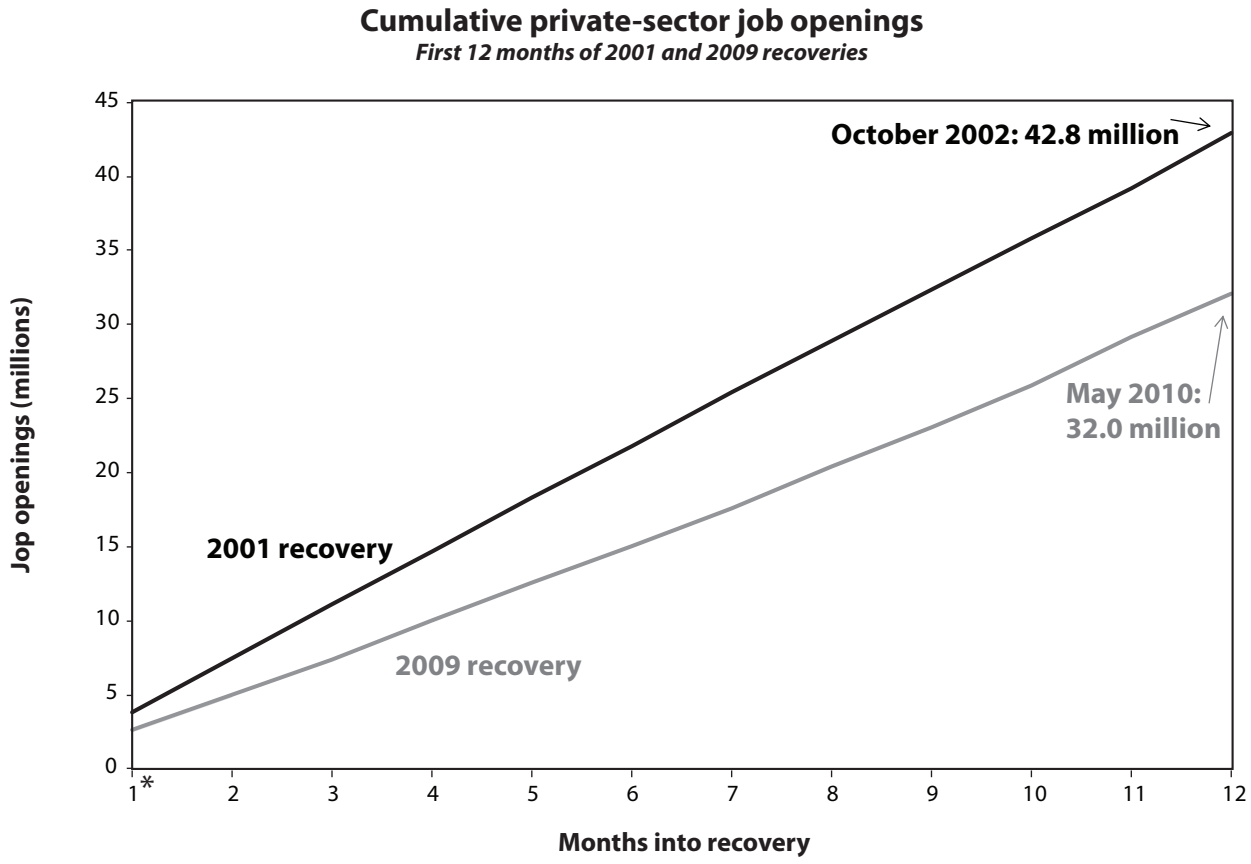
The following analysis examines data from job openings, layoffs, and hires to determine whether the pattern of evidence fits the claim that current unemployment is predominantly structural.

Job openings

The job seekers ratio, which is the number of unemployment workers per job opening, provides ample evidence of a demand-side problem.[13] Simply put, the number of job openings has been far too few to accommodate those looking for work. As **Figure B** shows, the ratio exceeded six in the summer of 2009 but has dropped to the low five range more recently (once the Census jobs were filled). Even if the unemployed filled every job opening there would still remain many unemployed workers, an indication of too few job openings: in other words, even if every single job opening in the United States was filled, 80% of the unemployed would still be unemployed because there *are no jobs for them*. The ratio of unemployed to job openings in recent months has been nearly double that attained at the worst points of the early 2000s recession, a ratio of 2.8. This reflects, at least in part, that total job openings in the last half of 2009 were 25% below those in mid-2003, when the job seekers ratio was peaking in the last recession.

We can examine this further by comparing the cumulative number of job openings in the last recovery to this one, looking at the first 12 months of each recovery. We assume June 2009 is the start of the recent "recovery," meaning the start of the growth of the economy after it shrank in the downturn. The earlier recovery began in November 2001 (the Job Openings and Labor Turnover

FIGURE C



* 2001: Nov. 2001, 2009: June 2009.

SOURCE: EPI analysis of Bureau of Labor Statistics data.

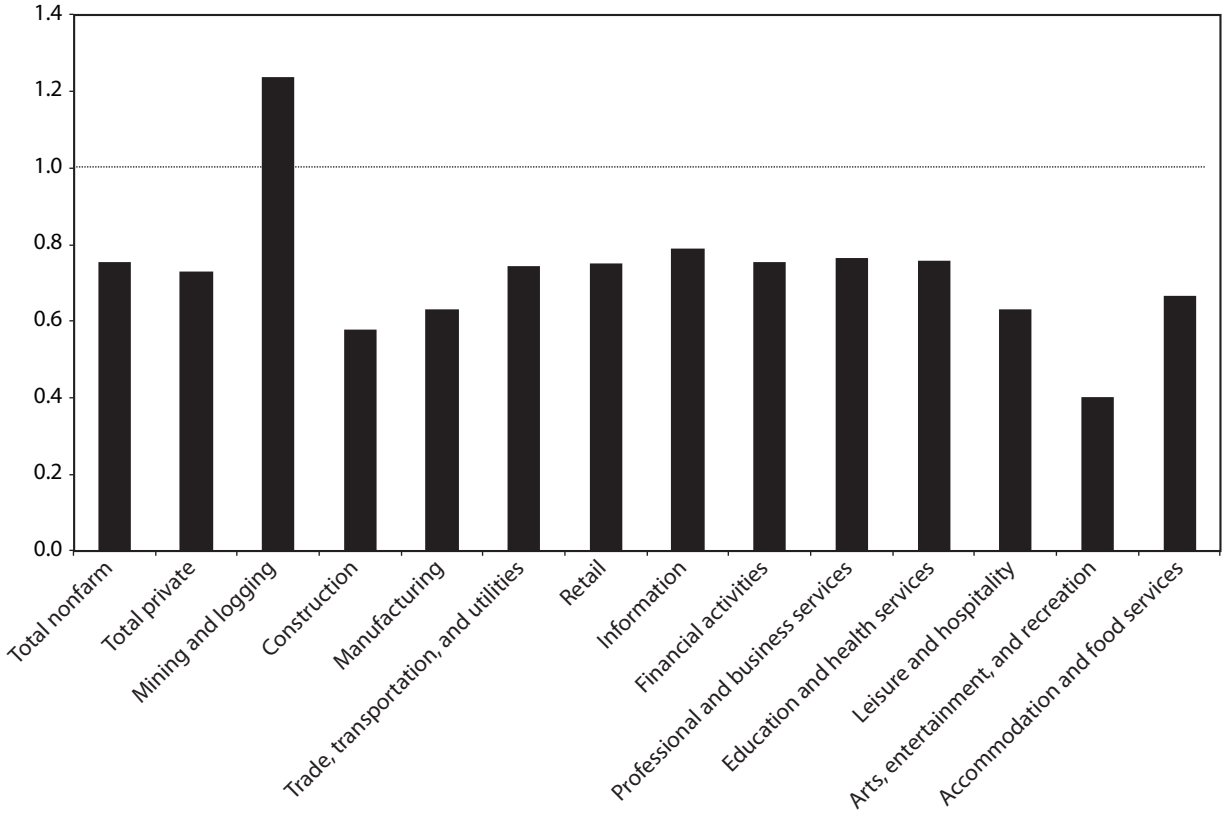
Survey is relatively new, dating back to only December 2000, and therefore does not provide data on earlier recoveries). **Figure C** shows that the cumulative job openings in this recovery's first year were about 32.0 million, roughly 10.0 million fewer than the cumulative openings in the early 2000s recovery. Keep in mind, however, that the recovery of the early 2000s is a low bar: it is known as a jobless recovery, as the economy shed an additional 600,000 jobs *after* the recession had ended. Indeed, job growth did not fully establish itself until September 2003, 22 months into recovery. Yet the current recovery has generated far fewer job openings, and there are fewer opportunities for job seekers now than in the jobless recovery of the early 2000s. We would conclude that we have had a significant shortfall in new job openings recently, even when measured against the pitifully weak recovery of the early 2000s.

By sectors: A shortfall in job openings is clear, yet a structural shift would still be evident if this shortfall was concentrated in a few specific industries. Is that shortfall in new jobs concentrated in a few industries, like the much-discussed construction industry whose growth was fueled by a housing bubble in the earlier recovery? **Figure D** shows the ratio in each sector of the cumulative job openings in the current "recovery" to those in the early 2000s recovery. This measure shows how far short this recovery's job openings are to those of the earlier recovery for each sector. It is clear that the shortfall in job openings is pervasive, occurring in every sector except mining. Across all sectors, openings averaged 72% of those in the earlier recovery. Sure, recent construction job openings were just 58% of those in the earlier recovery. And, there has been an acute shortfall in manufacturing job openings recently. However, the shortfall in job openings

FIGURE D

Shortfall in job openings

The ratio of cumulative jobs openings from the first 12 months of the 2009 recovery (June 2009 - May 2010) to the cumulative job openings from the 2001 recovery (Nov. 2001 - Oct. 2002), by industry



SOURCE: EPI analysis of Bureau of Labor Statistics data.

was also very severe in labor intensive service industries such as hospitality, entertainment, and accommodation. It is time to stop thinking about unemployment and the failure to generate job openings as being driven by developments in particular sectors since the trends are pervasive across essentially all sectors.

Table 1 shows the job opening data for each sector in both the 2001 and 2007 recoveries to further asses the scale of the recent openings shortfall by sector. Construction is responsible for 5.7% of the recent shortfall in openings but that is comparable to that sector's 5.5% share of employment, meaning construction has not played any outsized role in the failure for openings to rise as fast now as in the earlier recovery. The shortfall has predominately been driven by private-sector service industries (professional and business services, health, education, entertainment, hospitality, and accommodations), which generated 71% of the openings shortfall, though had only 46% of total employment. In fact, the worst performing industry under this measure was leisure and hospitality, which accounts for 10% of employment but 18% of the job openings shortfall.

Layoffs

Maybe the issue is that we have been seeing more structural changes within industries or shifts across industries that are leading to more layoffs, thereby impeding a growth in overall employment. That is, maybe the weak net gains in employment in this recovery are due to a higher rate of layoffs or worker displacements. A look at the cumulative

TABLE 1

Cumulative job openings in major sectors, first 12 months of recovery, 2001 compared to 2009 recovery

Industry	Cumulative job openings (000)			Share of difference	Share of employment, 2007
	2001 recovery (Nov .2001-Oct. 2002)	*2009 recovery (June 2009-May 2009)*	*Difference*		
Total nonfarm	42,754	32,219	**-10,535**	100.0%	100.0%
Government	1,163	1,606	**443**	-4.2	16.1
Total private	37,546	27,452	**-10,094**	95.8	83.9
Mining and logging	106	131	**25**	-0.2	0.5
Construction	1,428	824	**-604**	5.7	5.5
Manufacturing	2,941	1,851	**-1,090**	10.3	10.1
Trade, transportation, and utilities	6,651	4,953	**-1,698**	16.1	19.4
Retail	4,212	3,164	**-1,048**	9.9	11.3
Information	1,077	849	**-228**	2.2	2.2
Financial activities	2,848	2,148	**-700**	6.6	6.0
Professional and business services	6,964	5,328	**-1,636**	15.5	13.0
Education and health services	8,610	6,525	**-2,085**	19.8	13.3
Leisure and hospitality	5,064	3,198	**-1,866**	17.7	9.8
Arts, entertainment, and recreation	679	273	**-406**	3.9	1.4
Accommodation and food services	4,388	2,927	**-1,461**	13.9	8.3

SOURCE: EPI analysis of Bureau of Labor Statistics data.

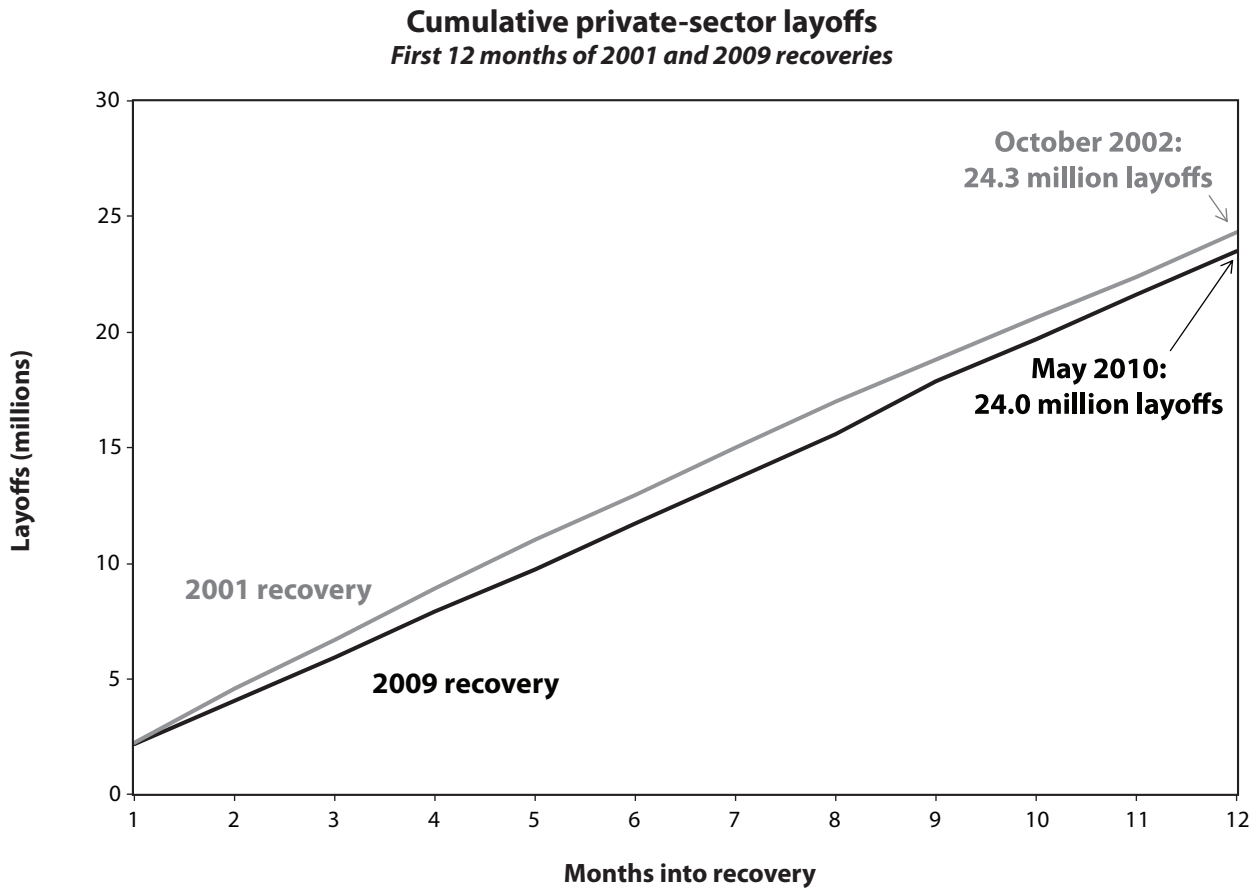
layoffs in this recovery compared to the last recovery, as in **Figure E**, shows that layoffs are not a piece that fills in any puzzle: the cumulative layoffs in each recovery are very similar.

Filling job openings

Last, we examine whether it is harder to fill job openings, an indication that structural challenges such as having workers with the right skills or in the right locations are evident. The data for the private sector, however, show it is easier to hire people now than in the last recovery, at least as reflected in the ratio of hires per job opening (see **Figure F**).[14] The ratio of hires per job opening provides a sense of how difficult it is to translate openings—a vacancy—into an actual hire. Presumably if it is difficult to hire adequately skilled workers, then it should take longer to fill vacancies and the ratio of hires to openings should fall. In fact, the opposite has occurred: the ratio has been somewhat higher in this recovery (averaging 1.7 hires per job opening) relative to the earlier recovery (averaging 1.5 hires per job opening). This suggests that it has become a bit easier to fill openings in this recession than the last recession.

Moreover, this ratio has increased since the recession started. Not only is it easier to hire now than it was nine year ago, but it is easier even since the start of the

FIGURE E



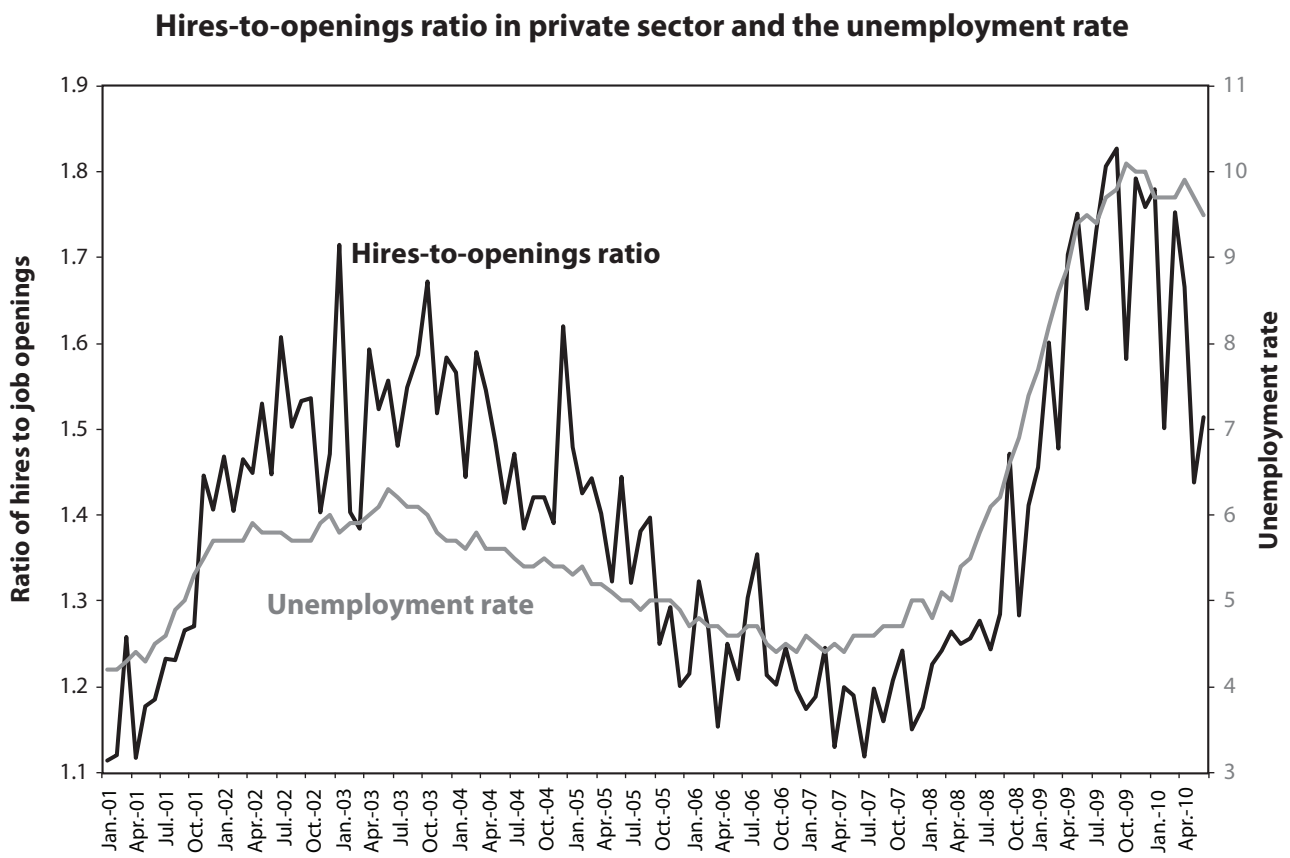
SOURCE: EPI analysis of Bureau of Labor Statistics data.

recession. There is no indication of a growing structural problem. Remember, too, how these data are timed. "Job openings" is the count of available jobs on the last day of the month. "Hires," on the other hand, is the sum of all hires completed throughout the month. As long as the number of hires is larger than the number of openings, it means that it is taking less than a month to fill those jobs.

Conclusion

We increasingly hear or read claims that we have a serious structural unemployment problem, even to the extent of claiming that most of the unemployed beyond a normal (full-employment) rate face structural problems in finding work. This implies that unemployment difficulties reside in the workers who are unemployed: they either are located in the wrong place or do not have the required skills for the currently available jobs. If this is so, then macroeconomic tools such as fiscal policy (spending or tax cuts) or monetary policy can not address our unemployment or long-term unemployment situation. Surprisingly, perhaps amazingly, there is no systematic empirical evidence for such assertions. The most prominent venture in this arena, Altig's mid-July posting on the Atlanta Federal Reserves' blog, was an application of a ruler to 10 years of data, a finding that was reversed just a month later when more rigorous work came forward. Some, such as the president of the Minneapolis Federal

FIGURE F



SOURCE: EPI analysis of Bureau of Labor Statistics data.

Reserve simply assume that our problems are centered in a particular sector—construction. A brief foray into unemployment data shows this not to be the case: construction does not disproportionately contribute to our unemployment or long-term unemployment problem. Before policy makers adopt this framework—that much of our unemployment is structural—they should require much more evidence than is currently available. This is especially the case because common sense would suggest that the problem the unemployed face is a *scarcity of job openings*, a feature of the labor market facing every group of workers regardless of education, sector, occupation, and location.

Endnotes

1. The unemployment rate and level used throughout is Total Population, age 16 and older, Seasonally Adjusted, from Current Population Survey, Bureau of Labor Statistics.
2. This can and should be distinguished from claims that we will eventually see structural unemployment in the future because the long-term unemployed will see skill erosion or that a long-term trend toward the need for more skills will eventually bite. We are skeptical of these concerns as well but leave that for another time.
3. Table 7. Capacity Utilization in Manufacturing. Series G.17 Industrial Production and Capacity Utilization. Federal Reserve Statistics and Historical Data.
4. Final Sales to Domestic Purchasers. National Income Product Accounts. 1.4.6. Relation of Real Gross Domestic Product, Real Gross Domestic Purchases, and Real Final Sales to Domestic Purchasers, Chained Dollars. Bureau of Economic Analysis.
5. Gross Domestic Product. National Income Product Accounts. Table 1.1.6. Real Gross Domestic Product, Chained Dollars. Bureau of Economic Analysis.
6. Congressional Budget Office. Table 2.2 Key Assumptions in CBO's Projections of Potential Output. "The Budget and Economic Outlook 2010-2020." August, 2010.
7. Core Consumer Price Index for All Urban Consumers, Research Series (CPI-U-RS). Bureau of Labor Statistics. Rates given show annual inflation rates for the years ending the second quarters of 2008, 2009, and 2010.
8. Output per hour of Nonfarm Business sector from Productivity and Costs, Bureau of Labor Statistics. Number shown describes growth from first quarter 2009 to first quarter 2010, first quarter 2010 to second quarter 2010, and fourth quarter 2007 to second quarter 2010. http://www.bls.gov/news.release/pdf/prod2.pdf.
9. Seasonally Adjusted Statewide Unemployment Rates. Local Area Unemployment Statistics, Bureau of Labor Statistics.
10. These 11 states are Oklahoma, Iowa, Minnesota, Wyoming, Kansas, Hawaii, Vermont, New Hampshire, Nebraska, North Dakota, and South Dakota. Population includes the civilian non-institutional population age 16 and older from the Local Area Unemployment Statistics, Bureau of Labor Statistics.
11. All employment and job numbers throughout are Seasonally Adjusted, Payroll Employment. Current Establishment Survey, Bureau of Labor Statistics.
12. Data are not seasonally adjusted, but the average of the three monthly rates in each quarter, from Current Population Survey microdata.
13. All job opening, layoffs, and hiring data used throughout are Seasonally Adjusted, Total US from the Job Openings and Labor Turnover Survey, Bureau of Labor Statistics.
14. We use the hires of one month divided by the openings in the prior month. The data are for private-sector openings and hires to avoid any impact of temporary Census hiring.

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