Analytical Highlights of CES Firm Size Employment Data October 2012

John Mullins and Mike McCall

The BLS Current Employment Statistics (CES)[1] program recently introduced experimental employment data by firm size[2]. This data offers an additional level of detail beyond industry level and allows for greater understanding of employment trends. Foremost, users will be able to analyze current and historical employment changes by firm size, including how employment in firms of different sizes behaves around cyclical turns in the economy. But, there are other analytical uses for the series. For example, not all employment is distributed by firm size in the same way across industries. Firm size employment data can also reveal differing patterns of job growth or loss within industries. In addition, a breakdown of employment data by firm size can reveal patterns of varying seasonal build up and layoff within industries.

It is important to emphasize that, at this point, CES size-class data is experimental. The research so far has been produced outside the normal monthly estimation process and a review of the data and data methodology is ongoing. The basis for defining a firm and determining its size is the Federal Employer Identification Number (EIN) as reported with Unemployment Insurance (UI) filings. Firms are classified into one of three employment size classes based on their maximum employment level during a 12-month period.[3]

Size Class	Employees
1	1 - 49
2	50 - 499

[1] The Current Employment Statistics (CES) program is a monthly survey of about 141,000 businesses and government agencies representing approximately 486,000 individual worksites. For more information on the program's concepts and methodology, see "Technical Notes to Establishment Survey Data" at http://www.bls.gov/web/empsit/cestn1.htm. To access CES data, see "Current Employment Statistics—CES (National)" at www.bls.gov/ces. The CES data used in this article are seasonally adjusted unless otherwise noted.

[2] The BLS Current Employment Statistics National Estimates branch (CESNE) program is currently working with the Business Employment Dynamics (BED) to research methodological and conceptual differences between experimental CES firm size data and BED size class data. One purpose of this research is to agree on the proper terminology used to in the analysis and description of data from each program. Language currently used in this paper may change to reflect the results of that research.

[3] Firm size is re-evaluated each year with the CES benchmark. Thus, it is possible for a firm to be reclassified into a different size class, based on its employment level at benchmark.

NOTE: Any opinions expressed in this paper are those of the authors and do not constitute policy of the Bureau of Labor Statistics.

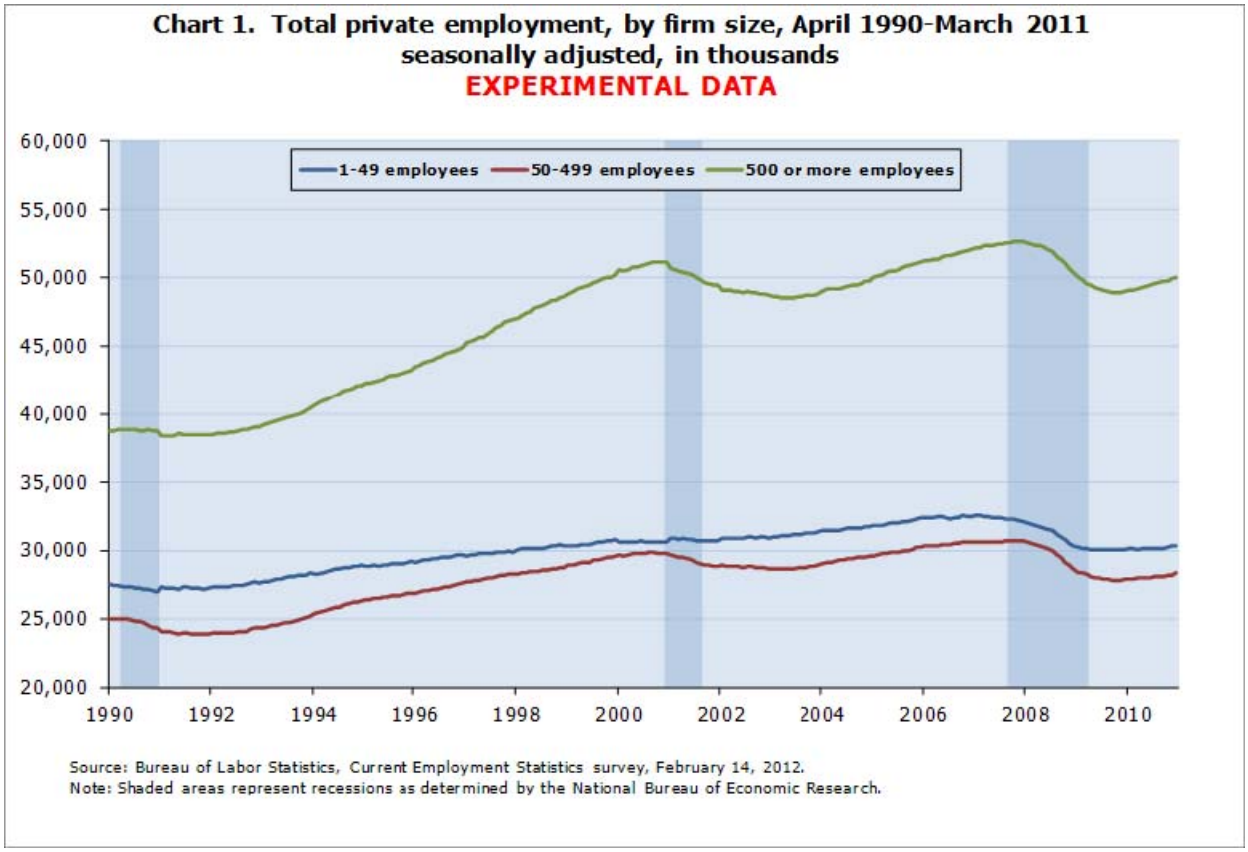
3 500 or more

Firms are placed into industries based on their predominant economic activities. A firm may therefore include multiple establishments, and its employees may be stratified into multiple industries. For example, a firm could include 30 separate business establishments, with some being manufacturing plants, others being warehouse and distribution centers, and still others being retail outlets. If each establishment employs an average of 25 workers—for a firm total of 750 employees—the firm would be classified into the largest size class, although each individual establishments employs less than 50 workers.

Data prior to 2006 were constructed using longitudinal data from the Quarterly Census of Employment and Wages; data after 2006 have been estimated using the CES sample and standard methodology.

(BOX NOTE): It is important to differentiate between industry employment data by firm size and employment data by firm age. There is a body of research that indicates that young and/or small companies are a major driver of new job growth. Although it may be intuitive to assume a relationship between firms size and firm age---with small firms assumed to be young firms---this assumption is not necessarily valid. Imagine, for example, a small town law office. Such a firm might employ a relatively small number of people and continue to do so for many years. There is nothing in CES size class data that is indicative of firm age. (END BOX NOTE)

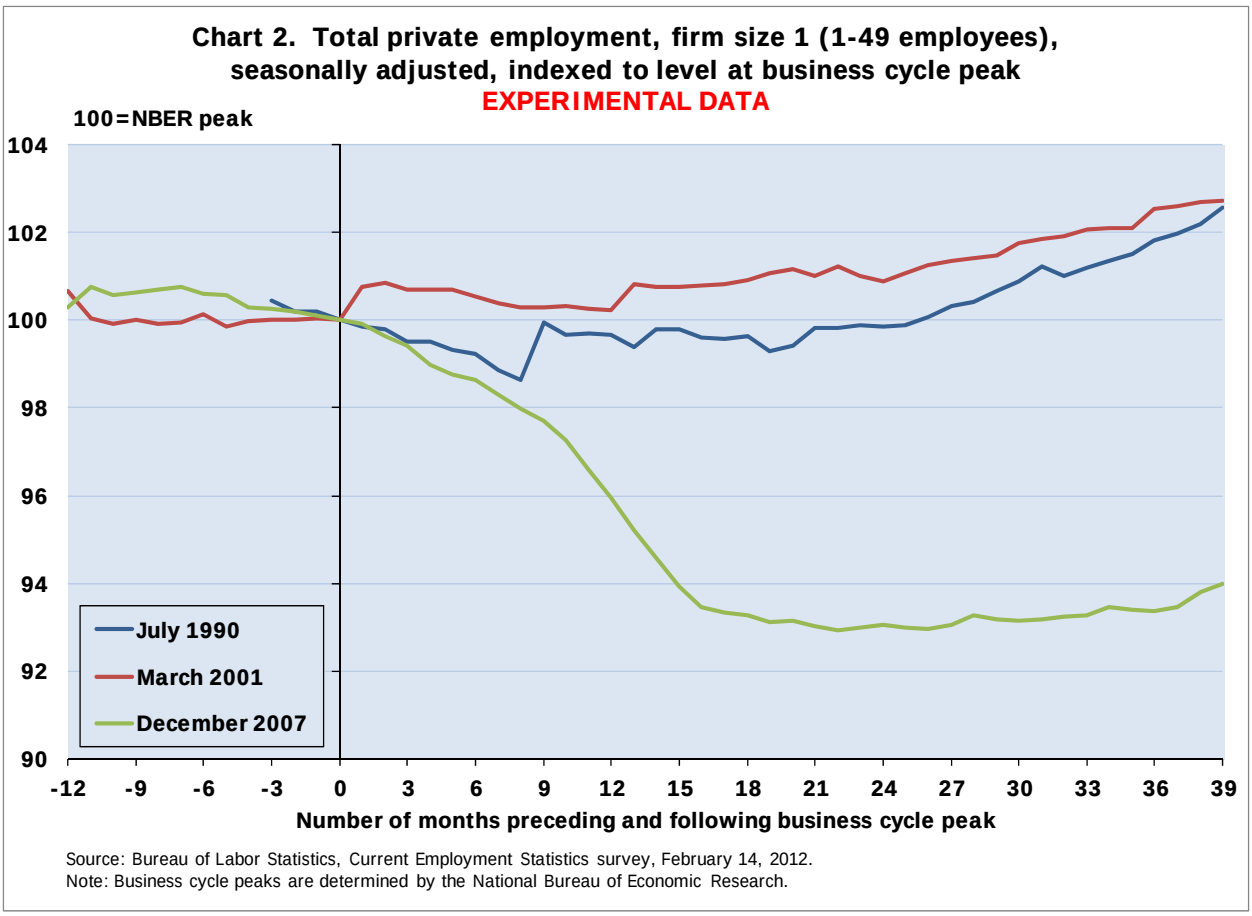
Total private employment by firm size



Since April 1990—the start of the experimental firm size data series—total private employment has grown by 17.5 million, or 19 percent. About 65 percent of this gain occurred in firms with 500 or more employees; 19 percent occurred in firms with between 50 and 499 employees, and 16 percent occurred in smaller firms. (See chart 1.)

Most of the growth in firms with 500 or more employees occurred from early 1992 until an employment peak in January 2001. Since then, employment in large firms has changed little on net. Employment in medium-sized firms has been the most consistently sensitive to recessions, showing a pronounced decline in each downturn since 1990. Employment in small firms has been the least sensitive. Like large firms, employment in the smallest firms saw only modest net job loss in the 1990 recession, and small firms on net actually added jobs during the 2001 recession. Employment in all three size classes fell sharply in the 2007-09 recession.

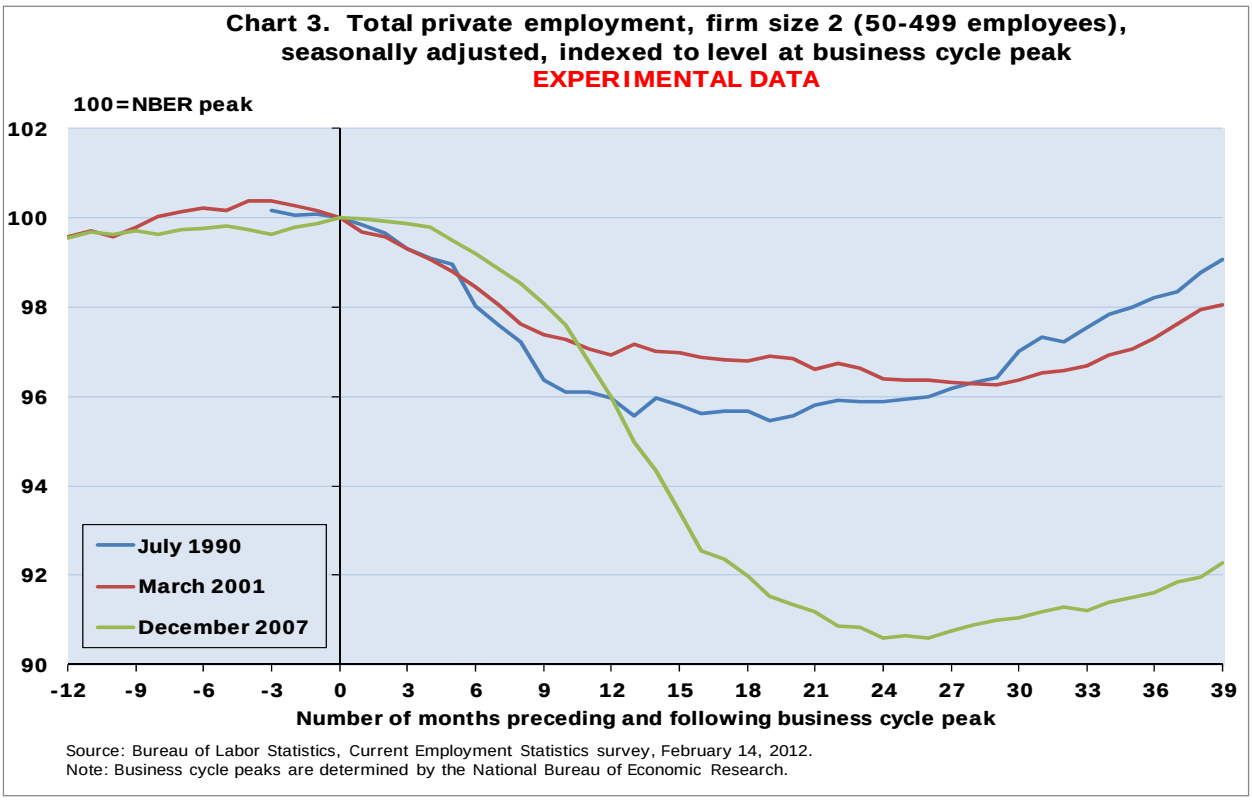
Firm size 1, less than 50 employees. Compared to the 1990 and 2001 recessions, employment in the smallest firms fared much worse in the 2007-09 recent recession. (See chart 2.) Employment in firms with less than 50 employees peaked 7 months prior to the start of the most recent recession and continued to decline several months after the official end of the recession in June 2009. The net employment loss in the smallest firms accounted for about 28 percent of total private job losses in the most recent recession.



Employment in the smallest firms began to decline before the official start of the July 1990 recession. (The experimental size-class employment series begins in April 1990). Jobs losses in this recession were modest, and employment recovered approximately 2 years later. Employment in small firms appeared to show little impact from the 2001 recession.

Since its employment low in October 2009, employment in firms with less than 50 workers grew at an annualized rate of 0.8 percent through March 2011. In comparison, total private employment grew at an annualized rate of 1.7 percent after reaching a low point in February 2010.

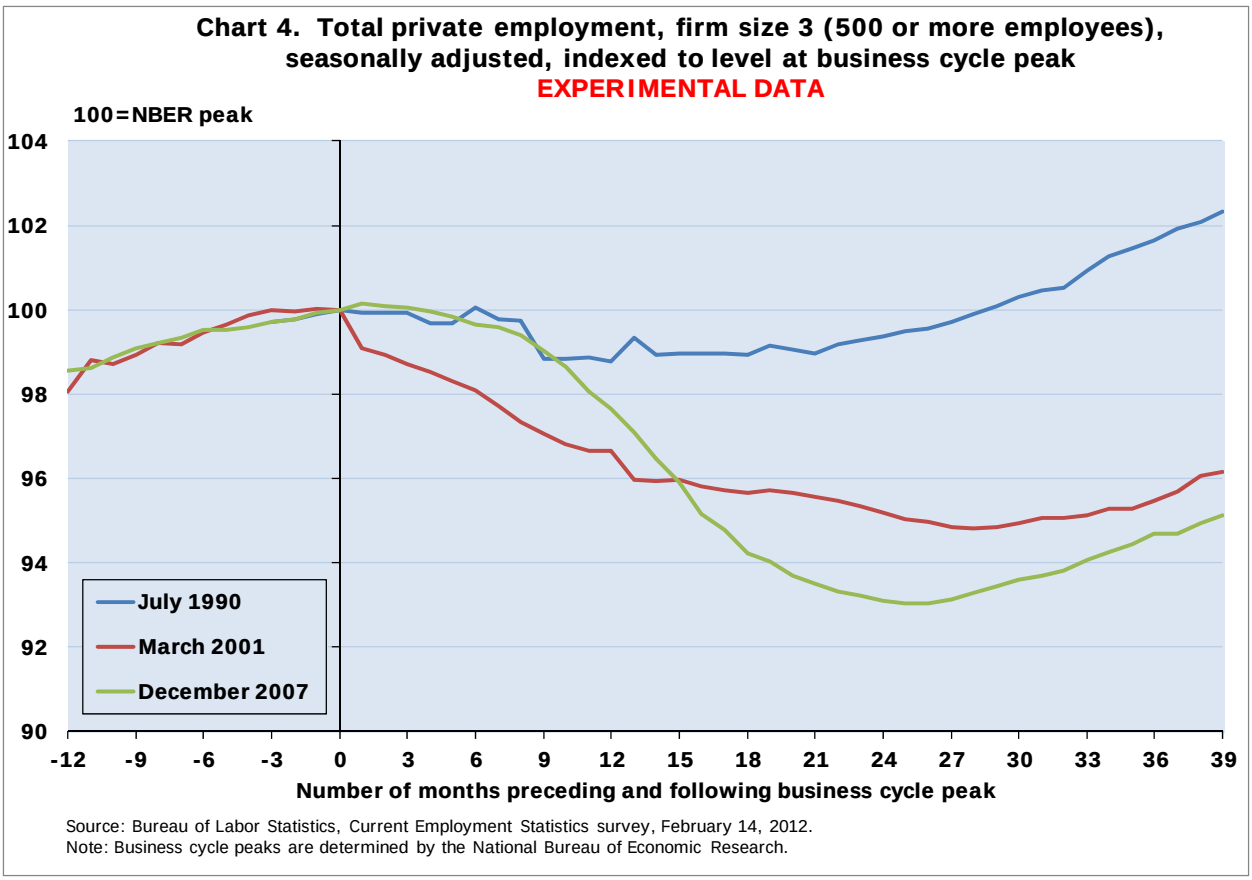
Firm size 2, 50 to 499 employees. The employment peak for firms with 50 to 499 employees coincided with the start of the most recent recession in December 2007 and occurred 1 month prior to a cyclical peak in total private employment. (See chart 3.) Employment in mid-sized firms continued declining 6 months after the official end to the recession in June 2009, and job losses in medium-sized firms accounted for roughly 32 percent of the total private job losses in this downturn.



In contrast to the 2007 recession, employment in mid-sized firms began to experience losses prior to the official starting points of the 2 previous recessions. Employment declines among mid-sized firms in these 2 recessions, however, were far less severe than those in the most recent one.

Since its employment low in December 2009, employment in firms with 50 to 499 employees grew at an annualized rate of 1.5 percent. This growth rate closely matches that for total private employment which, after reaching a low in February 2010, grew at an annualized rate of 1.7 percent through March 2011.

Firm size 3, more than 500 employees. As with small- and medium-sized firms, employment in the largest firms was more severely impacted in the 2007-09 recession than in the prior 2 recessions. (See chart 4.) Employment in firms with 500 or more employees peaked one month after the official start of the most recent recession but coincidentally with total private employment; in contrast, employment in large firms peaked prior to the official start of the 1990 and 2001 recessions. Employment in large-sized firms continued to decline for 8 months after the official end to the most recent recession. Net job losses in the largest firms accounted for roughly 40 percent of total private jobs lost in the most recent recession.



Since February 2010—the most recent employment low for firms with 500 or more employees—until March 2011, employment grew at an annualized rate of 2.1 percent compared with growth of 1.7 percent for total private employment over the same time period.

Distribution of employment by firm size

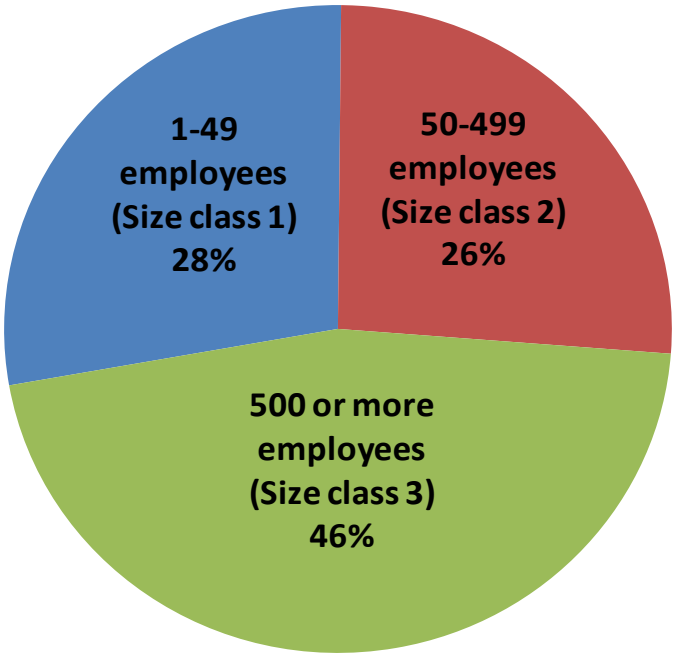
At the total private level, distribution of employment among size classes has been essentially unchanged over the 22-year history of the time series. In March 2011, the most recent month for which data is available, firms in the largest size class accounted for 46 percent of total private employment; firms in the medium size accounted for 26

percent, and firms in the smallest size class accounted for 28 percent. (See chart 5.)

Chart 5. Distribution of total private employment, by firm size, March 2011

seasonally adjusted

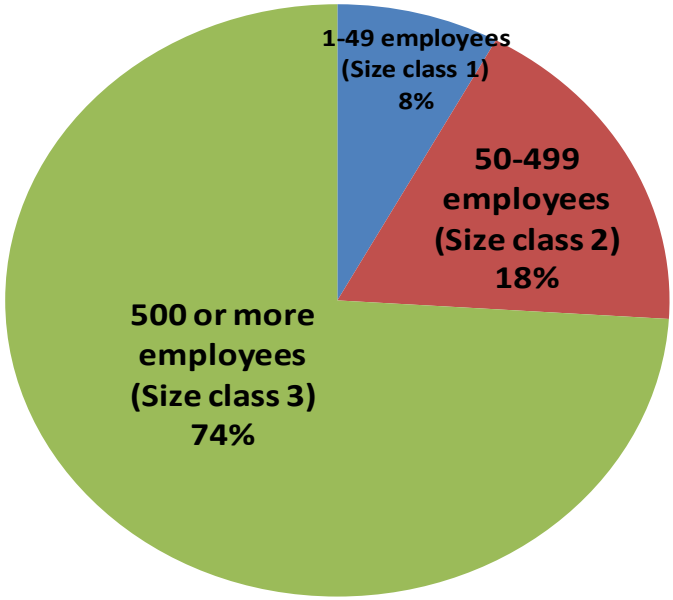
EXPERIMENTAL DATA



Source: Bureau of Labor Statistics, Current Employment Statistics survey, February 14, 2012.

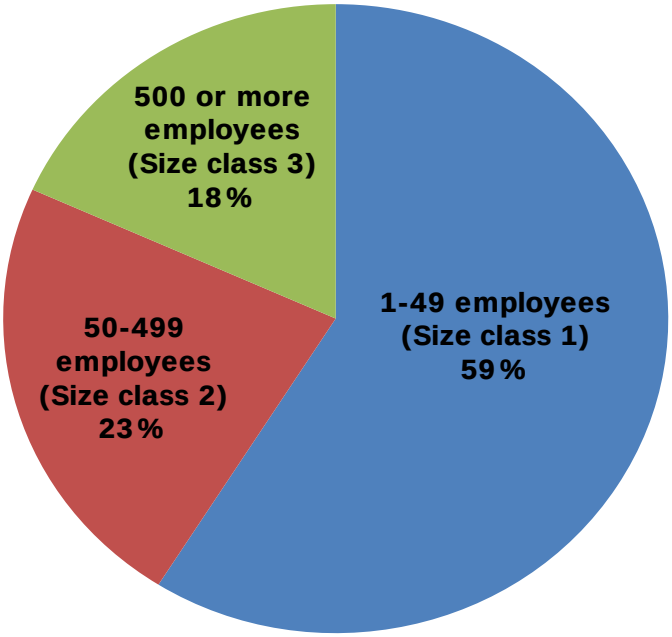
There is, however, variation among industries in terms of how employment is distributed among different firm sizes. A notable example of this variation is the utilities industry, in which about three-quarters of employment, as of March 2011, was found in firms with more than 500 employees. (See chart 6.) Although this industry is an extreme example, many industries—e.g. retail trade, information, and transportation and warehousing—had very large concentrations of employment in the largest size class. Many others industries had nearly about half their employment among large employers. No industry had the largest share of employment in medium-sized firms (those with between 50 and 499 employees), but in 2 industries small firms accounted for the largest share of employment. In other services (NAICS code 81), nearly 60 percent of employment was accounted for by firms with between 1 and 49 workers. (See chart 7.) And in construction, small firms employed just over half of all workers.

Chart 6. Distribution of utilities employment, by firm size, March 2011
seasonally adjusted
EXPERIMENTAL DATA



Source: Bureau of Labor Statistics, Current Employment Statistics survey, February 14, 2012.

Chart 7. Distribution of other services employment, by firm size, March 2011
seasonally adjusted
EXPERIMENTAL DATA

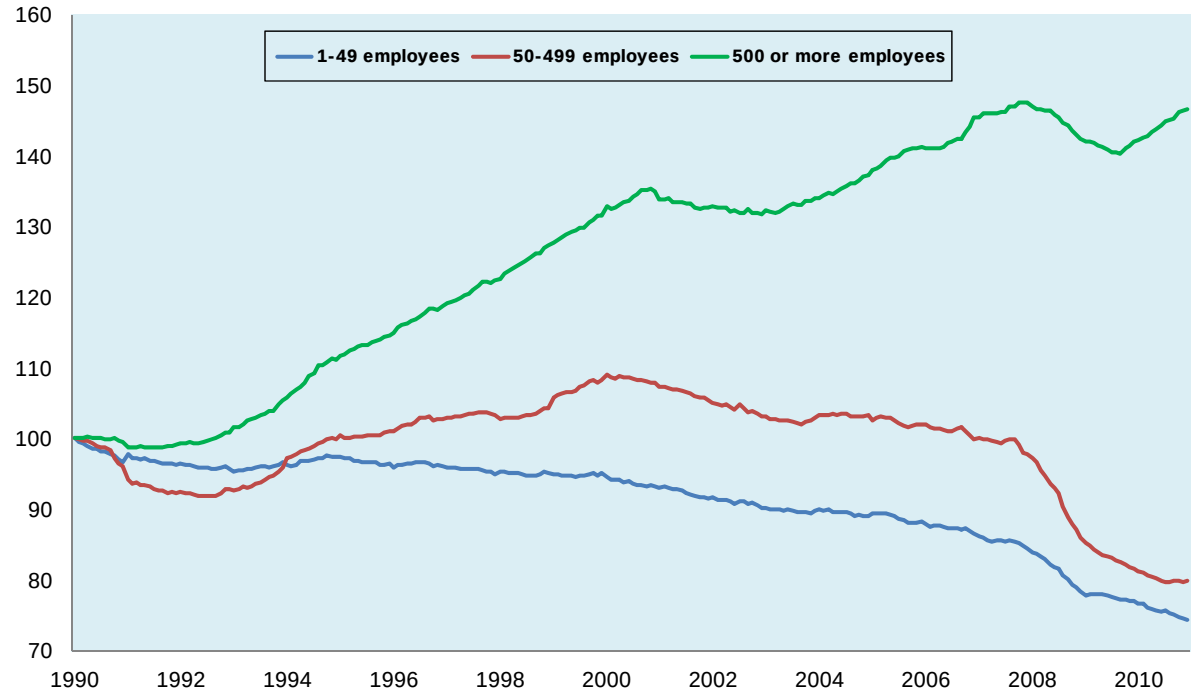


Source: Bureau of Labor Statistics, Current Employment Statistics survey, February 14, 2012.

Patterns of employment growth by firm size

There is also variation over time in size-class data. For example, over the 22-year history of the time series, retail trade employment has become increasingly concentrated in firms with 500 or more employees. (See chart 8.) Over time, the largest firms have accounted for as little as 48 percent and as much as 64 percent of total retail trade employment. This has been a time of significant consolidation in the retail trade industry, with smaller establishments largely giving way to large, big-box retailers. This consolidation shows itself in patterns of employment changes over time.

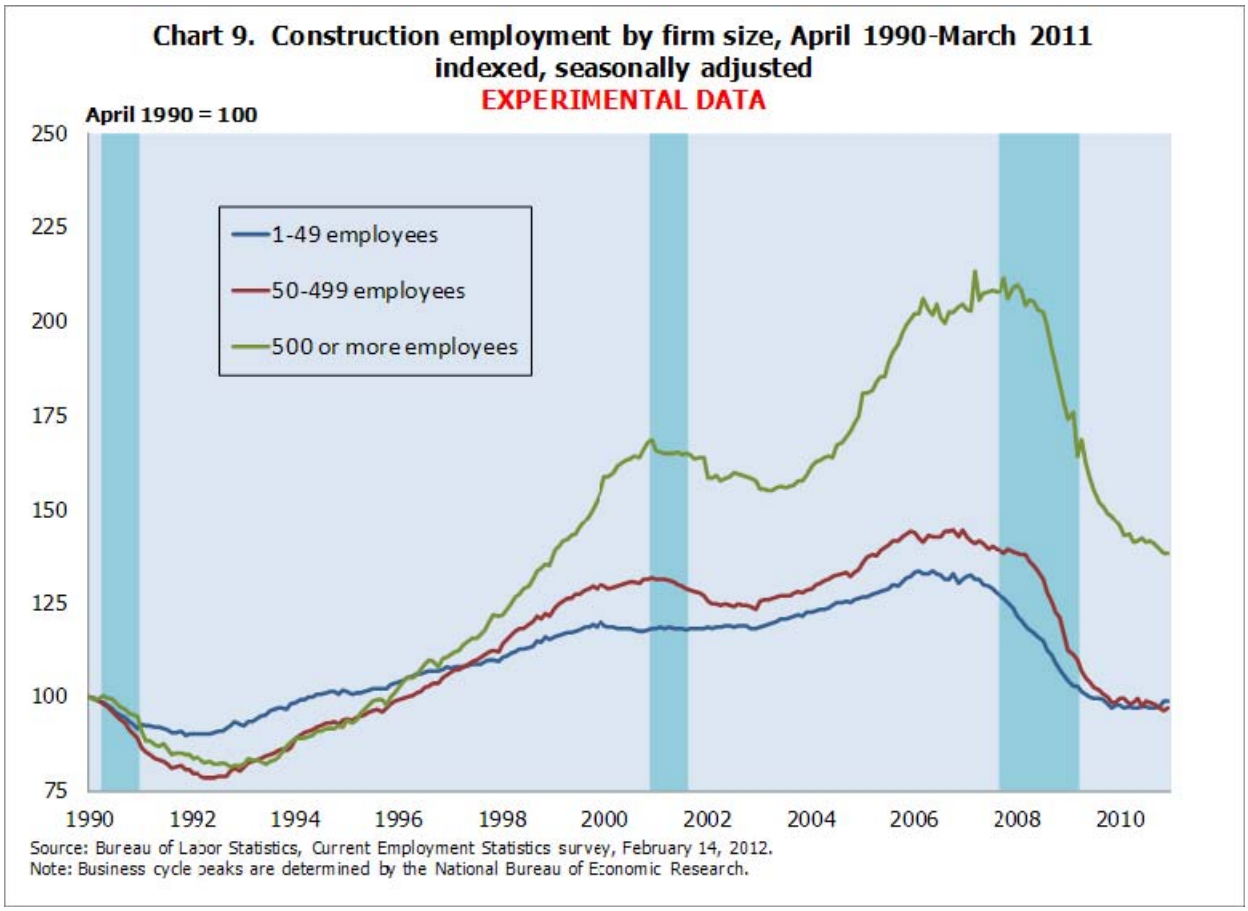
Chart 8. Retail trade employment, by firm size, April 1990-March 2011
indexed, seasonally adjusted
EXPERIMENTAL DATA



Source: Bureau of Labor Statistics, Current Employment Statistics survey, February 14, 2012.
Note: Shaded areas represent recessions as determined by the National Bureau of Economic Research.

Between 1990 and 2011, employment among firms in small- and medium-sized firms has fallen by about 25 and 20 percent, respectively. Employment among the smallest retail firms, in fact, has fallen even in periods of general economic expansion. And among medium-sized retail firms, whatever growth there has been during economic expansions has been decidedly lackluster. The largest retail firms, however, have experienced robust growth and quick recovery over the past 2 decades. As of March 2011, employment among firms with 500 or more employees was almost 50 percent higher than in 1990. As with retail trade, net job growth in most industries has come primarily among large firms. Retail trade is unique, however, in that robust large-firm employment growth has occurred alongside persistent declines in medium- and small-sized firms.

Unlike retail trade, employment in the construction industry is concentrated in small firms. As of March 2011, companies with between 1 and 49 employees account for just about half of total employment, and only about 15 percent of construction employment is found among firms with 500 or more employees. Yet, here again, net job growth over the past 2 decades has occurred almost entirely among the largest firms. (See chart 9.) Despite experiencing cyclical job gains and losses over the past 21 years, employment among small- and medium-sized firms in March 2011 was essentially unchanged from its level in 1990.



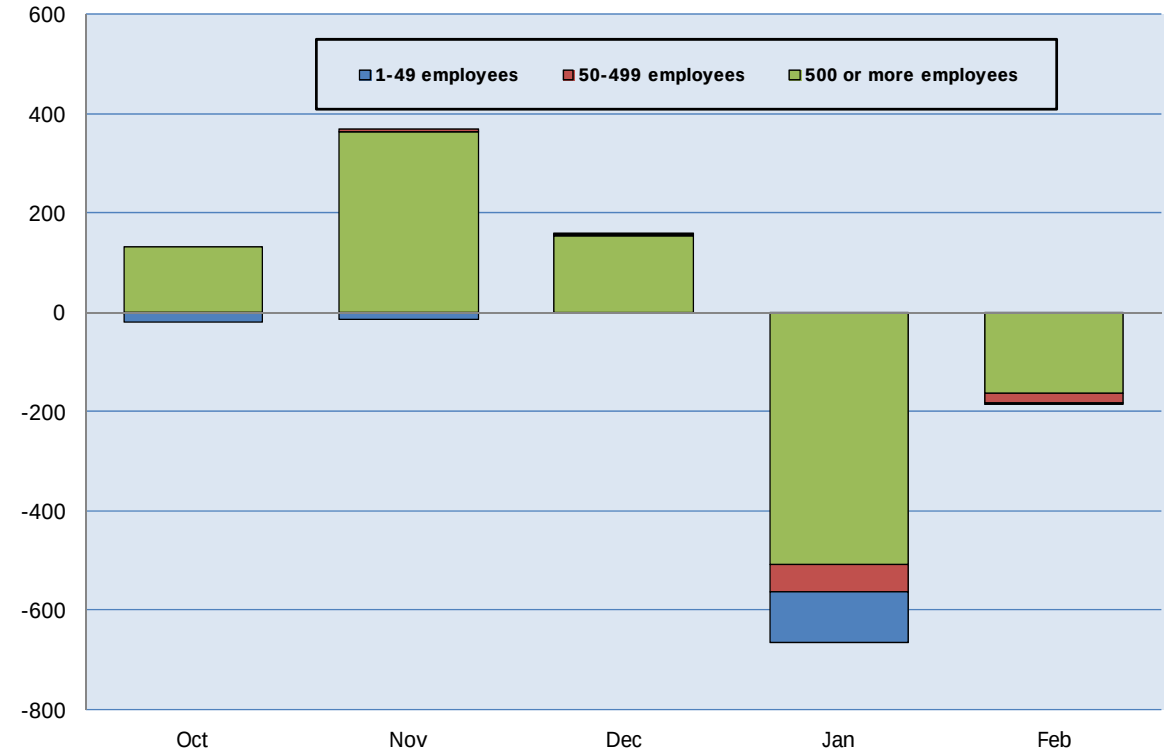
Seasonal patterns by size

The retail trade industry provides an example of the usefulness of firm-size-class data in analyzing patterns of seasonal employment buildup and layoff. It is well known that retail establishments hire a significant number of seasonal workers to handle increased business around the winter holidays. This hiring is followed by a corresponding layoff in the months following these holidays.

This seasonal employment buildup and layoff can be seen in chart 10, which shows the average October-to-February monthly employment changes over a 10-year period. Lacking size-class data, it is reasonable to assume that this pattern of hiring and layoff is consistent across businesses of all sizes in the industry. Firm-size data, however, gives us a more detailed picture of this seasonal pattern. Firms with 500 or more employees make up, by far, the largest proportion of employment in retail trade, accounting for about two-thirds of total employment in the industry. It is not surprising, therefore, that the largest monthly net job gains and losses during the holiday buildup and layoff should occur among firms of this size. The degree to which they overwhelm employment changes in other size classes, however, is somewhat surprising. Employment gains over the buildup and layoff season in large firms are disproportionate to its share of total employment. This is shown in Chart 11, which shows the average October-to-February monthly employment changes over a 10-year period, broken down by firm size. In every month, employment changes in large firms dwarf those in small- and medium-sized firms.

Chart 11. Average monthly employment changes for Retail trade, by firm size, 2001-10, in thousands, not seasonally adjusted

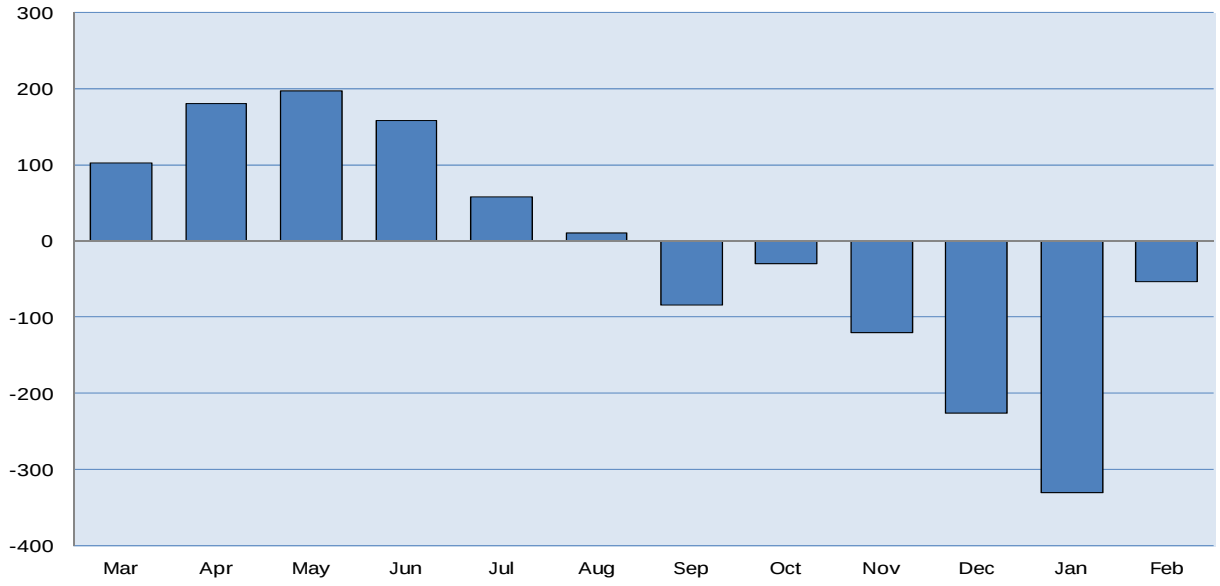
EXPERIMENTAL DATA



Source: Bureau of Labor Statistics, Current Employment Statistics survey, February 14, 2012.

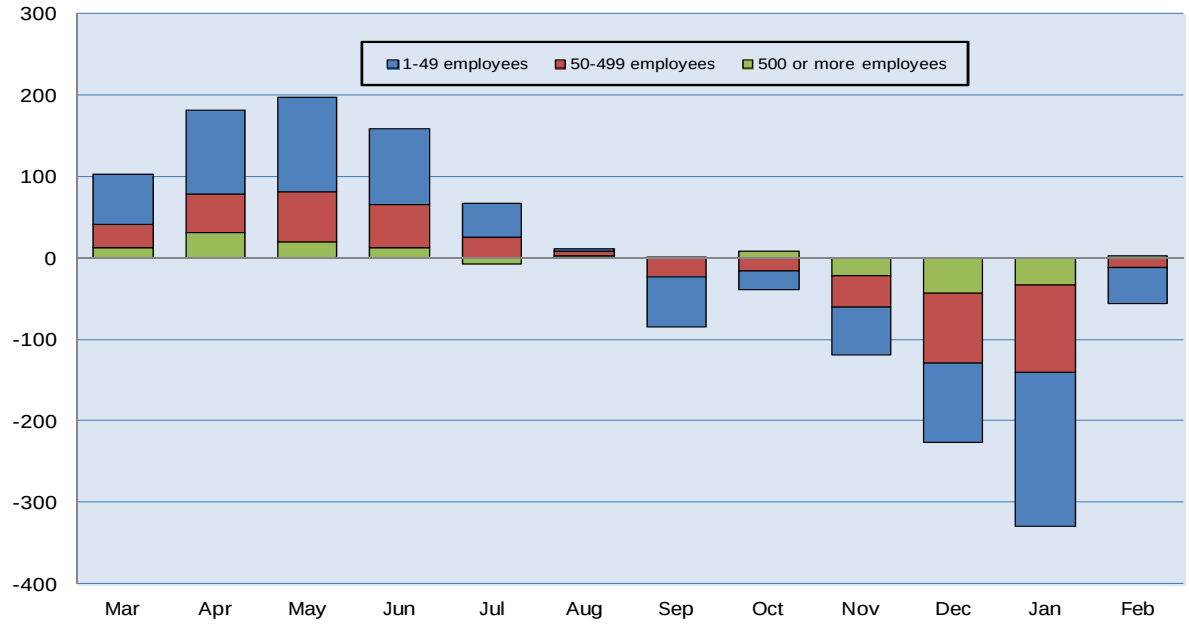
It is not always the case, however, that seasonal buildup and layoff is dominated by the size class with the largest share of employment in an industry. Consider the construction industry, in which the majority of industry employment is found among firms with between 1 and 49 employees. Construction is another industry with a well-known pattern of seasonal hiring and layoff. Warm weather in the spring and summer brings with it an increase in construction activity, and a corresponding increase in hiring in the industry. This is followed by employment layoff in the colder months of the year.

Chart 12. Average monthly employment changes in Construction, 2001-10, in thousands, not seasonally adjusted
EXPERIMENTAL DATA



Source: Bureau of Labor Statistics, Current Employment Statistics survey, February 14, 2012.

Chart 13. Average monthly changes in Construction by firm size, 2001-10, in thousands, not seasonally adjusted
EXPERIMENTAL DATA



Source: Bureau of Labor Statistics, Current Employment Statistics survey, February 14, 2012.

This seasonal buildup and layoff pattern is shown in chart 12, which shows average monthly changes over a 10-year period. Chart 13 shows the same changes, broken down by firm size. As in retail, the largest monthly changes in employment do occur among the dominant size class, which in this case is firms with between 1 and 49 employees. It is notable, however, that seasonal employment changes among small firms do not completely overwhelm those in medium- and large-sized firms. This may be due to the

fact that firms of different sizes specialize in different kinds of construction. It may be the case, for example, that large construction firms tend to have a heavier concentration in nonresidential construction, which is less weather sensitive than other types of construction.

This paper highlights just a few preliminary analytical uses of CES employment data by firm size. As BLS and external research continues, additional uses of the data may present themselves. And the planned future release of experimental hours and earnings data by size class should add yet another dimension to understanding current employment trends.