

# The Performance of Business Services in the National and Regional Employment Recovery<sup>1</sup>

by Joshua Gleason

It is now widely accepted that job recovery after the 1990-91 recession has been fueled by growth in the service-producing industries, whether at the national, regional or state level. A lesser known fact is that the business services industry (SIC 73) led all U.S. 2-digit industries in net job creation between 1991 and 1994, and was the second leading job producer in New England and Massachusetts over the period. This article will examine the business services industry in greater detail, looking first at the nature of jobs classified as business services and their presence in the economy, as measured by employment share and post-recession employment growth. Data on the 4-digit SIC industries that comprise business services will be examined, to identify more specifically the sources of the industry's large employment gains. Then, average wage data will be reviewed as one measure of the quality of the new jobs in the business services industry.

## What Is the Business Services Industry?

The business services industrial classification attempts to categorize the highly diverse range of service activities performed by one business for another business. The service activities take many forms; for example, a business service occurs when one firm writes advertising copy for another firm, when a company leases an X-ray machine to a physician's private practice, when a programmer develops a custom software application for a firm's accounting department, or even when a bodyguard is hired for an executive. These examples do not convey the sheer number of activities performed, but they do hint at the *variety* of services captured in the industry.

Business services is divided into eight major groups, as shown in Table 1. Two groups - personnel supply services (736) and computer programming, data processing, and other computer related services (737) - dominate in New England, combining for more than half the industry's employment count in 1994. Personnel supply firms perform relatively well-defined services, bringing job-seekers to businesses with permanent and temporary job openings. The computer services group encompasses a wider set of activities, from network design to software training to the leasing of computer hardware. The fact that miscellaneous business services (738), and its sub-industry, business services not elsewhere classified, also employ such large shares of workers simply underscores the eclectic nature of the industry overall.

## How Big Is the Industry?

Business services has a large presence in both the national and regional economies. In 1994, 6.7 percent of the nation's workers on payrolls were employed in business services industries. Regionally, the shares were 6.1 percent in New England and 6.8 percent in Massachusetts. By comparison, only two other 2-digit industries employ more workers. Health services leads both nationally and regionally, with employment shares of 9.7 and 12.0 percent in 1994, respectively. Eating and drinking establishments is second, with 1994 shares of 7.7 and 6.9 percent, respectively.

Given the significant presence of business services in the economy, any employment changes in the industry are of obvious interest. As noted earlier, business services was a leader in net employment change between 1991 and 1994. Nationwide, 1.2 million net new jobs were created in business services, the most of any major U.S. industry. Business services firms in New England added over 47,000 net new jobs during this period, and those in Massachusetts contributed 26,600 to the count. Only the health services industry has produced new employment at a comparable level in the current recovery.

## Sources of Growth between 1991 and 1994

To identify the underlying source of the new business services jobs, one has to sift through the numbers with a finer comb. The BLS data used for this analysis provide employment counts at the 4-digit SIC level, thus the components of business services can be analyzed individually. Table 1 lists all of the 3 and 4-digit industries within business services, while Chart 1 graphs the post-recession employment changes in the 17 largest 4-digit business services industries in New England.

The chart clearly shows that help supply services and prepackaged software were responsible for most of the new business services jobs in New England. These same industries dominated business services job creation in Massachusetts, and in fact the ranking of the 4-digit industries by job contribution is very similar in New England and Massachusetts. Help supply services is also the leading business services job creator in the United States; prepackaged software, however, ranks somewhat lower nationally.

As a major contributor to business services growth, help supply services warrants particular scrutiny. Unfortunately, tracking jobs in help supply services is complicated by the way its employment is tallied. Even though help supply firms

**Table 1: 3- and 4-Digit Industry Shares of Business Services Employment in 1994**

SIC Number	United States	New England	Massachusetts	Industry
73	100.0	100.0	100.0	Business Services
731	3.6	2.9	2.7	Advertising
7311	2.4	2.3	2.3	Advertising Agencies
7312	0.2	0.1	0.1	Outdoor Advertising Agencies
7313	0.4	0.2	0.2	Radio, Television and Publishing Advertiser's Representatives
7319	0.5	0.3	0.1	Advertising, nec
732	1.9	1.8	2.2	Consumer Credit Reporting, Mercantile Reporting, and Adjustment and Collection Agencies
7322	1.3	1.1	1.4	Adjustment and Collection Services
7323	0.6	0.7	0.8	Credit Reporting Services
733	4.1	5.1	4.3	Mailing, Reproduction, Commercial Art and Photography, and Stenographic Services
7331	1.5	2.1	1.4	Direct Mail Advertising Services
7334	1.0	1.0	1.2	Photocopying and Duplicating Services
7335	0.3	0.3	0.3	Commercial Photography
7336	0.8	1.2	1.1	Commercial Art and Graphic Design
7338	0.6	0.4	0.3	Secretarial and Court Reporting Services
734	13.7	15.6	15.0	Services to Dwellings and Other Buildings
7342	1.3	0.6	0.5	Disinfecting and Pest Control Services
7349	12.4	15.0	14.5	Building Cleaning and Maintenance Services, nec
735	3.4	2.4	2.4	Miscellaneous Equipment Rental and Leasing
7352	0.5	0.3	0.3	Medical Equipment Rental and Leasing
7353	0.6	0.4	0.4	Heavy Construction Equipment Rental and Leasing
7359	2.3	1.6	1.7	Equipment Rental and Leasing, nec
736	36.1	30.6	27.3	Personnel Supply Services
7361	4.1	4.2	3.6	Employment Agencies
7363	32.0	26.4	23.7	Help Supply Services
737	15.3	23.4	28.6	Computer Programming, Data Processing and Other Computer Related Services
7371	3.4	3.6	3.7	Computer Programming Services
7372	2.5	6.5	10.0	Prepackaged Software
7373	1.9	2.9	4.5	Computer Integrated Systems Design
7374	3.4	4.1	4.2	Computer Processing and Data Preparation and Processing Services
7375	0.8	0.5	0.5	Information Retrieval Services
7376	0.4	0.3	0.3	Computer Facilities Management Services
7377	0.1	0.2	0.2	Computer Rental and Leasing
7378	0.7	0.9	1.1	Computer Maintenance and Repair
7379	2.2	4.4	4.1	Computer Related Services, nec
738	22.0	18.2	17.5	Miscellaneous Business Services
7381	8.1	7.9	8.3	Detective, Guard and Armored Car Services
7382	0.7	0.7	0.5	Security Systems Services
7383	0.2	0.1	0.1	News Syndicates
7384	1.1	1.3	0.9	Photofinishing Laboratories
7389	11.9	8.2	7.7	Business Services, nec

Source: U.S. Bureau of Labor Statistics

**Table 2: Weighted Average Annual Wages of a 'Representative' Job in the United States, New England and Massachusetts during the 1991-94 Economic Recovery**

	All Industries <sup>a</sup>	Expanding 2-Digit Industries	Contracting 2-Digit Industries	Expanding 4-Digit Business Services Industries	Contracting 4-Digit Business Services Industries
United States	\$26,683	\$24,203	\$38,944	\$20,340	\$32,816
New England	\$29,530	\$28,371	\$40,594	\$31,316	\$44,207
Massachusetts	\$30,781	\$31,117	\$39,925	\$34,236	\$42,368

<sup>a</sup>Average wages for all industries are for the year 1994, not the average of 1991 through 1994.

Source: U.S. Bureau of Labor Statistics, FRB calculations.

place workers in positions in all types of industries, each placed worker appears as an additional employee in the help supply services employment count, and *not* the industry count for the firm to which the employee is supplied. This results from the typical contract arrangement between the help supply firm, the client firm and the worker. It is the help supply firm that actually pays the worker, and the client firm pays the help supply firm. Since the BLS data are derived from payroll surveys, placed workers are counted on the help supply firm's payroll. The most troubling consequence of this is that we have no information on which industries - manufacturing, finance, retail, and so on - are using the temporary help. Thus, it is impossible to pinpoint the real source of the growth in help supply services employment.

The prepackaged software industry, as distinct from custom software, entails the design and development of software destined for retail sale. That Massachusetts, and by aggregation New England, show a relatively larger employment gain in this industry reflects in part the prevalence of high-tech firms in and around Boston, including Cambridge and the well-known Route 128 area. Not only did prepackaged software rank second in post-recession job creation, it was also one of only a few regional business services industries to add jobs between 1988 and 1991, when New England was in its economic downturn. Consequently, it led all 4-digit business services industries in net job creation between 1988 and 1994.

Of course, other business services industries contributed to the employment recovery, but it remains a challenge to pinpoint which occupations are truly growing. Note that the third, fourth and fifth ranking job contributors are catch-all industries for their respective groups, tallying employ-

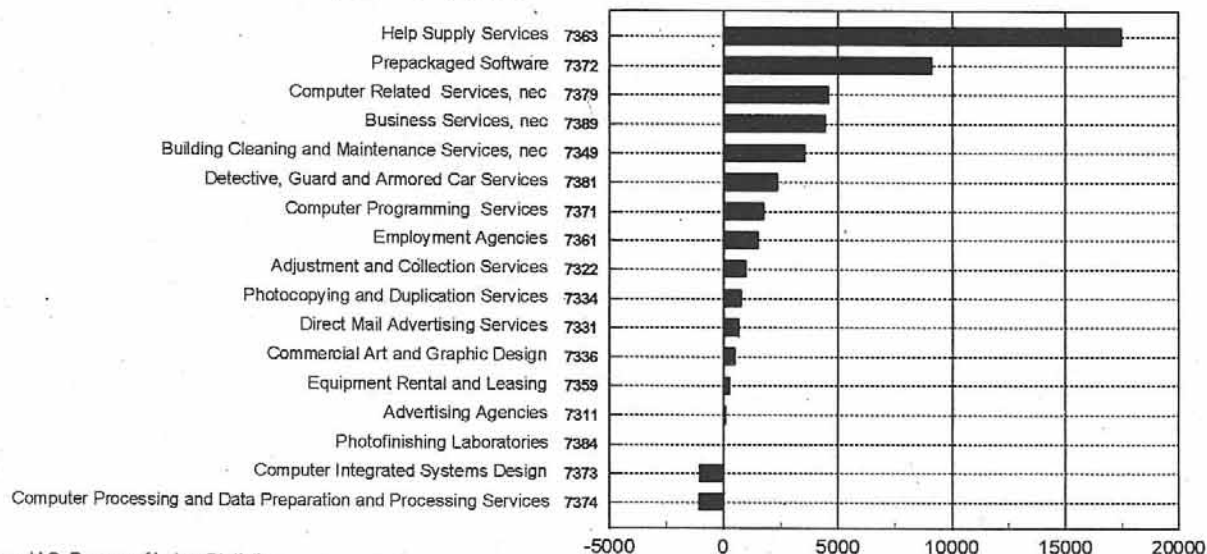
ment at the many business services firms "not elsewhere classified" owing to their unique or ambiguous nature. The "not elsewhere classified" group includes over 100 varied functions, from auctioning to mapmaking to telemarketing. To some degree, this reflects the slow evolution of the industrial classification system relative to the U.S. economy's structural changes. Increased production of services in the economy, especially computer-related services, warrants more detailed disaggregation in the services and the finance, insurance and real estate industries. Better identification of new and growing industries in the increasingly service-oriented U.S. economy will yield a more precise and complete picture of business services job growth.

### Job Quality

While job creation alone is important, it is clearly better when the new jobs are also "quality" jobs. One can measure a job's quality in a variety of ways; in this case average wage data are used to compare the quality of jobs created during the recovery.<sup>2</sup> Chart 2 shows the average annual wage in the largest business service industries in 1994. Note that the industries are listed in the same order as in Chart 1.

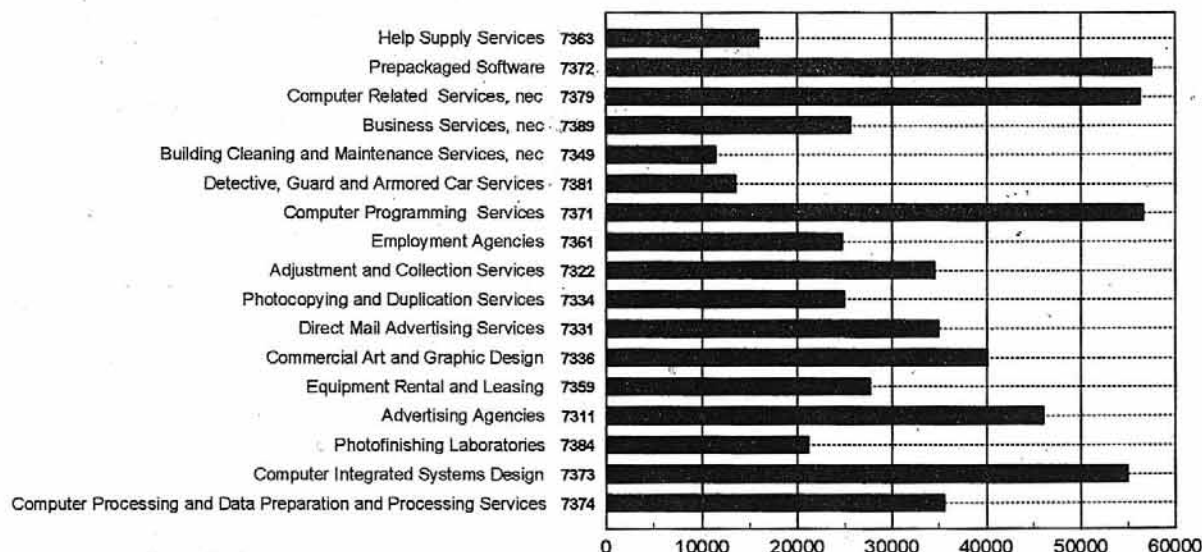
The two charts reveal no apparent relationship between employment change and the average wage level in business services. The computer industries, which led in average wages paid, turned in varied employment performances. Help supply services, by far the largest post-recession job creator, ranked close to the bottom in average wages.<sup>3</sup> Advertising, a virtual non-contributor to job recovery, ranked high in average wages. Thus, lacking a clear, positive relationship between size of employment change and average wages, it is hard to generalize about the quality of new busi-

**Chart 1: Employment Changes in New England's Largest 4-Digit Business Services Industries between 1991 and 1994 (Number of Jobs)**



Source: U.S. Bureau of Labor Statistics

**Chart 2: Average Annual Wages in New England's Largest 4-Digit Business Services Industries in 1994 (Dollars)**



Source: U.S. Bureau of Labor Statistics

ness services jobs. Chart 2 shows relative "quality" between business services industries, but the information is too disaggregated to yield any overall sense of the quality of new (or lost) business services jobs.

In order to gauge the performance of business services relative to other industries, an overall measure of job quality has been constructed for several regions and industry groupings. Table 2 presents the *weighted* annual average wage for both contracting and expanding industries during the 1991-94 period, at the national, regional and state level.<sup>4</sup> The weighted average wage incorporates real information on industry employment change as well as average wage, yielding an aggregate measure of a hypothetical "representative" job's average wage.

Three things are worth noting from the data in Table 2. The first is that both New England and Massachusetts produce employment that is, *on average*, of better quality (defined by wages) than employment in the United States. Massachusetts appears to have a slight edge over New England in terms of quality, but the differences are not as great as those between U.S. average wages and the region.

Second, the table shows that regardless of geographic level, the wage of a representative new job is substantially below that of the typical destroyed job. This is evident in both the 2-digit industries and the 4-digit business services industries, and could represent a disturbing trend in the industrial employment distribution as the recovery proceeds.

Finally, Table 2 indicates that in New England and Massachusetts, the wage of a typical business services job, whether newly created or destroyed, exceeds the wage in 2-digit industries overall. However, this is not true for the nation. The United States has significantly lower shares of

its business services employment in the high-paying computer industries, and relatively more employment in the lower-paying personnel supply and miscellaneous business services industries. Again, this region's disposition towards high-tech industry would seem to explain the difference in the business services average wage relative to that of all industries combined.

## Conclusion

Growth in business services employment has contributed greatly to the job recovery of the country, the New England region, and Massachusetts. Roughly one-half of the new business service jobs can be attributed to computer-related and help-supply firms, while a significant portion remains assigned to the "not elsewhere classified" industry categories. Ambiguities within the existing business services industrial groupings prevent conclusive identification of job generators, even at the 4-digit level of disaggregation. This is particularly true for the help supply services industry. General comparisons across industries indicate little relationship between employment growth and average wages, but calculation of the weighted average wage for net new jobs suggests that regionally, new business service jobs are at least as good quality as other post-recession jobs.



1. This analysis is based on a tape of establishment survey data collected by the Bureau of Labor Statistics for the years 1988 through 1994. The tape contains 2-, 3- and 4-digit standard industrial classification (SIC) detail for the United States and the 50 states. Although some data are available after 1994, they have not been revised to the degree of accuracy in the 1988-1994 tape, and comparable SIC detail are not readily available. Thus, this article concentrates on the 1988-94 period.

2. Average annual wages are obtained by dividing each industry's total yearly disbursement of wages and salaries by its average monthly employment level in the year in question.

3. Inferences about job quality in the help supply services industry should be drawn with caution. A lower average annual wage can result from more frequent instances of part-time or part-year employment, neither of which necessarily implies that a job is of lower quality. In help supply services, workers are often placed for finite periods in positions requiring less than full-time employment. Part-time/part-year wage data should be expressed at a full-time annual equivalent rate to correct the downward bias, but this correction cannot be made with the data used here.

4. The weighted average wage is calculated as follows:

First, weights are constructed for two industry groups: net job creators and net job destroyers. The weights are calculated as

$$w_{c,i} = \frac{E_{c,i}}{\sum_{i=1}^N E_{c,i}} \quad w_{d,j} = \frac{E_{d,j}}{\sum_{j=1}^M E_{d,j}}$$

where

$w_{c,i}$  = the weight for net job creating industry  $i$   
 $E_{c,i}$  = the employment increase in industry  $i$  between 1991 and 1994  
 $N$  = the number of net job creating industries  
 $w_{d,j}$  = the weight for net job destroying industry  $j$   
 $E_{d,j}$  = the employment decline in industry  $j$  between 1991 and 1994  
 $M$  = the number of net job destroying industries

The weighted average wage for the net job creating industry group is then computed as

$$WW_c = \sum_{i=1}^N w_{c,i} W_{c,i}$$

where

$WW_c$  = the 'representative' wage in net job creating industries  
 $W_{c,i}$  = the average annual wage in net job creating industry  $i$

and the weighted average wage for the net job destroying industry group is computed as

$$WW_d = \sum_{j=1}^M w_{d,j} W_{d,j}$$

where

$WW_d$  = the 'representative' wage in net job destroying industries  
 $W_{d,j}$  = the average annual wage in net job destroying industry  $j$

Industries lacking data in either 1991 or 1994 are dropped from the weighted average wage calculation.