Size Class Dynamics: Small and Large Firms in the 2008 Recession

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Jessica Gayle Helfand
Economist, US Bureau of Labor Statistics

Abstract

The Bureau of Labor Statistics firm size class data provide an important platform to discuss the impact of small and large firms on job creation. In the 2007 publication “Employment dynamics: small and large firms over the business cycle,” Helfand, Sadeghi, and Talan explored the behavior of the size classes in the recessions of the early 1990s and 2001 and the subsequent recoveries and found that small and large firms played markedly different roles in each of the downturns and expansion. This paper expands the data series, following the recovery from the 2001 recession into the current 2008 recession. It then compares the performance of small and large firms in the recessions of 1991, 2001, and 2008, answering the question of which size classes have been responsible for job creation and destruction over the previous two decades' business cycle.

Key Words: Size Class, dynamic sizing, recession, recovery, small business, small firms

1. Size Classes Over Time

The subject of job creation and firm size is of interest in times of growth, but even more so in times of recession. Firms of the same size have had different experiences over the recessions of the early 1990's, 2001, and the ongoing 2008 downturn. This paper uses the Bureau of Labor Statistics' Business Employment Dynamics Firm Size data to answer the question of which size firms are losing the most jobs in the current recession and how these trends compare to past recessions. This is an expansion on the exposition of firm behavior laid out in the 2007 Monthly Labor Review publication "Employment dynamics: small and large firms over the business cycle" by Helfand, et al.[1]

1.1 Background and Methodology

The Business Employment Dynamics (BED) time series measures job creation and job destruction on a quarterly basis beginning in second quarter 1990. [2] The series decomposes quarterly net change into gross levels of jobs gained and lost. The measure of gross job gains is further broken down into businesses which open or expand employment over the quarter; gross job losses is composed of businesses that close or contract employment. The sum of gross job gains and losses is equal to the net change.[3]

The method of dynamic-sizing is used for these calculations. Dynamic-sizing allocates each firm's employment growth or loss during a quarter to each respective size class in which the change occurred.[4]

Size class tabulations are made at the firm level. An establishment is defined as an economic unit that produces goods or services, usually at a single physical location, and engages in one or predominantly one activity; a firm is a business, either corporate or otherwise, and may consist of one or more establishments. The BED statistics are generated at the firm-level, as BLS determined that it is more consistent with corporations in the role of economic decision makers rather than individual establishments.

While economic literature is full of references to small businesses, there is not an agreement among economists as to what constitutes a small business. Different size groupings for small businesses are defined based on the scope of the research and the availability of data. For example, the US Small Business Administration defines a small business for research purposes as an independent business having fewer than 500

[1] Jessica Helfand, Akbar Sadeghi and David Talan, "Employment Dynamics: Small and Large Firms Over the Business Cycle." *Monthly Labor Review* March 2007, pp 39 – 50.

[2] Prior to third quarter 1992, Multiple Worksite Report processing had not become fully operational. As the BED data series is based at the establishment level, data is published beginning at this point where businesses composed of multiple establishments could submit data for each establishment. However, this size class analysis is based at the firm level and these breakouts are not necessary. For the purpose of this research, the data series has been expanded back to second quarter 1990 in order to demonstrate the differences between the 1990 and 2000 recessions. Due to the improvements in reporting, use caution when comparing data collected before and after September 1992.

[3] For more information on Business Employment Dynamics data and methodologies, please see the technical documentation on the BED website: http://www.bls.gov/bdm/

[4] Shail J. Butani, Richard L. Clayton, Vinod Kapani, James R. Spletzer, David M. Talan, and George S. Werking, Jr., "Business Employment Dynamics: tabulation by employer size." *Monthly Labor Review*, February 2006, pp 3–22.

employees; however, the SBA's Office of Size Standards also has industry specific definitions of small businesses for government purposes. [4]

The BED data are based on the nine size classes designated by the Office of Management and Budget as official size class standards for use by Federal agencies in industrial and occupational classifications. As in the earlier work by Helfand, et al, two additional size categories are used to make our analysis more compatible with existing size class conventions: a category of 100 or more employees, and a category of 500 or more employees. The trends discussed below hold true for both size groupings. Data on size classes may be aggregated to create broader categories; in the absence of a single definition for small or large firms, data users are able to create categories of interest for study.

1.2 Distribution of employment and firms over time

From 1990 to 2008 total private sector employment grew by 22.9 million jobs. While all size classes experienced a net increase, only the largest firms increased their share of total employment. The share of employment in firms with 100 or more employees increased by 3.3 percent, and the share of employment in firms with 500 or more employees grew by 3.6 percent. (See table 1)

Over the same period, the count of private sector firms increased by 848,000. Again, all size classes show a net increase, but when grouped at 100 employees and 500 employees, the data show no significant shifts. (See table 2)

Table 1: Distribution of private sector employment by firm size class: 1990/Q1 through 2008/Q1, not seasonally adjusted

		Number of employees			
March of year	Total, private	1 to 99	100 or more	1 to 499	500 or more
		Level (in thousands)			
1990	89,278	**36,239**	**53,038**	**52,293**	**36,985**
1991	87,356	35,351	52,006	50,590	36,766
1992	87,024	35,228	51,796	50,356	36,668
1993	88,530	35,709	52,821	51,195	37,335
1994	91,214	36,588	54,626	52,769	38,445
1995	94,561	37,559	57,002	54,443	40,118
1996	96,531	38,062	58,469	55,397	41,134
1997	99,401	38,788	60,613	56,644	42,757
1998	102,204	39,127	63,078	57,443	44,761
1999	104,637	39,707	64,930	58,326	46,311
2000	107,672	40,414	67,258	59,642	48,030
2001	108,561	40,480	68,082	59,825	48,736
2002	105,810	40,156	65,654	58,797	47,013
2003	105,097	40,158	64,939	58,621	46,476
2004	105,915	40,652	65,263	59,294	46,621
2005	107,902	41,096	66,806	60,219	47,683
2006	110,522	41,939	68,583	61,466	49,056
2007	111,996	42,240	69,756	61,994	50,002
2008	112,131	**41,844**	**70,286**	**61,631**	**50,500**
		Share			
1990	100.0	**40.6**	**59.4**	**58.6**	**41.4**
1991	100.0	40.5	59.5	57.9	42.1
1992	100.0	40.5	59.5	57.9	42.1
1993	100.0	40.3	59.7	57.8	42.2
1994	100.0	40.1	59.9	57.9	42.1
1995	100.0	39.7	60.3	57.6	42.4
1996	100.0	39.4	60.6	57.4	42.6
1997	100.0	39.0	61.0	57.0	43.0
1998	100.0	38.3	61.7	56.2	43.8
1999	100.0	37.9	62.1	55.7	44.3
2000	100.0	37.5	62.5	55.4	44.6
2001	100.0	37.3	62.7	55.1	44.9
2002	100.0	38.0	62.0	55.6	44.4
2003	100.0	38.2	61.8	55.8	44.2
2004	100.0	38.4	61.6	56.0	44.0
2005	100.0	38.1	61.9	55.8	44.2
2006	100.0	37.9	62.1	55.6	44.4
2007	100.0	37.7	62.3	55.4	44.6
2008	100.0	**37.3**	**62.7**	**55.0**	**45.0**

Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages

Table 2: Distribution of private sector firms by size class: 1990/Q1 through 2008/Q1, not seasonally adjusted

March of year	Total, private	Number of employees: 1 to 99	100 or more	1 to 499	500 or more
		Level (in thousands)			
1990	4,227	**4,128**	**99**	**4,210**	**16**
1991	4,207	4,112	94	4,191	16
1992	4,226	4,133	94	4,210	16
1993	4,300	4,204	96	4,284	16
1994	4,377	4,277	100	4,360	17
1995	4,460	4,356	104	4,442	18
1996	4,508	4,401	107	4,490	18
1997	4,591	4,480	110	4,572	19
1998	4,621	4,508	113	4,601	20
1999	4,685	4,570	115	4,665	20
2000	4,719	4,601	119	4,698	21
2001	4,752	4,632	120	4,731	21
2002	4,761	4,646	115	4,741	20
2003	4,811	4,697	114	4,791	20
2004	4,876	4,761	115	4,856	20
2005	4,942	4,824	118	4,922	20
2006	5,056	4,936	120	5,035	21
2007	5,097	4,975	122	5,076	21
2008	5,075	**4,953**	**122**	**5,054**	**21**
		Share			
1990	100.0	**97.7**	**2.3**	**99.6**	**0.4**
1991	100.0	97.8	2.2	99.6	0.4
1992	100.0	97.8	2.2	99.6	0.4
1993	100.0	97.8	2.2	99.6	0.4
1994	100.0	97.7	2.3	99.6	0.4
1995	100.0	97.7	2.3	99.6	0.4
1996	100.0	97.6	2.4	99.6	0.4
1997	100.0	97.6	2.4	99.6	0.4
1998	100.0	97.5	2.5	99.6	0.4
1999	100.0	97.5	2.5	99.6	0.4
2000	100.0	97.5	2.5	99.6	0.4
2001	100.0	97.5	2.5	99.6	0.4
2002	100.0	97.6	2.4	99.6	0.4
2003	100.0	97.6	2.4	99.6	0.4
2004	100.0	97.6	2.4	99.6	0.4
2005	100.0	97.6	2.4	99.6	0.4
2006	100.0	97.6	2.4	99.6	0.4
2007	100.0	97.6	2.4	99.6	0.4
2008	100.0	**97.6**	**2.4**	**99.6**	**0.4**

Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages

2. Business Cycles Periods and Comparison

The National Bureau of Economic Research (NBER) defines the recession periods based on a number of criteria.[5] For this analysis, periods are grouped based on quarters of positive and negative net change only:

- 1990Q2 – 1992Q1**:** net loss during and after the 1990 – 1991 recession

[5] National Bureau of Economic Research (NBER) defines the past three recessions as July 1990 (Q3) – March 1991 (Q1); March 2001 (Q1) – November 2001 (Q4); and December 2007 (Q4) – ongoing.

- 1992Q2 – 2001Q1**:** recovery and expansion
- 2001Q2 – 2003Q1**:** net loss during and after the 2001 recession
- 2003Q2 – 2007Q2**:** recovery and expansion
- 2007Q3 – 2008Q4**:** net losses in the current downturn through the latest data available

The average quarterly net change for each of these time periods is shown in table 3. During and immediately following the 1990 – 1991 recession, small firms, grouped both at 100 and 500 employees, contributed the majority of net losses. Firms with fewer than 100 employees made up 58 percent of net losses, while firms with fewer than 500 employees made up 80 percent of net losses.

In the quarters of net loss in early 2000, the pattern is reversed. Large firms, those with more than 100 and more than 500 employees constituted 81 percent and 55 percent of net losses on average, respectively. This is in large part due to the losses large firms continued to experience in 2002 and the first two quarters of 2003.

Table 3: Average quarterly net employment change by firm size, grouped by periods of net loss and net gain, in thousands, seasonally adjusted

Time period	Total, private	1 to 99	100 or more	1 to 499	500 or more
1990/2 - 1992/1: Net Loss	-275	**-159**	-115	**-221**	-54
1992/2 - 2000/4: Net Gain	653	268	385	398	255
2001/1 - 2003/2: Net Loss	-403	-78	**-324**	-182	**-221**
2003/3 - 2007/2: Net Gain	430	189	241	280	150
2007/3 - 2008/4: Net Loss	-600	**-320**	-280	**-394**	-206

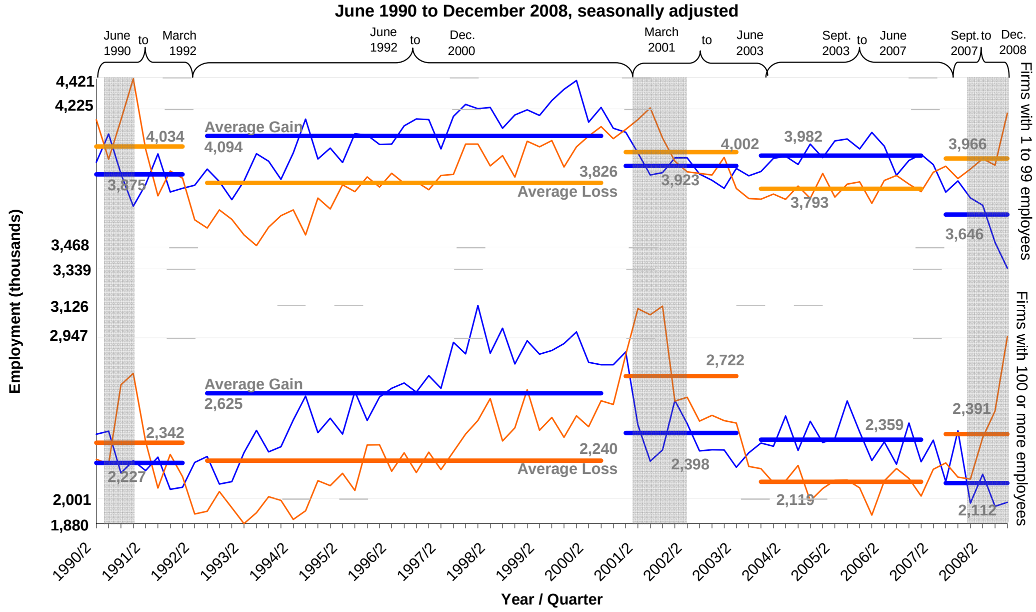
Source: Bureau of Labor Statistics, Business Employment Dynamics
Note: Column numbers are not additive

This current downturn starting in 2007, once again shows small firms as the leaders in net losses. Firms with fewer than 100 employees have contributed 53 percent of losses, and firms with less than 500 employees have contributed 66 percent, on average. As the recession continues, it will be interesting to see if the small firms continue to have a majority of losses.

Charts 1 and 2 display quarterly gross job gains and losses for small and large firms. The graphs also show average gross job gains and losses for each period of *net* gain and loss. Gross job gains never rebounded to pre-recession levels after the 2001 downturn. This assertion holds true for both size groupings of small and large firms. The recovery period between September 2003 and June 2007 was primarily fueled by a decline in gross job losses, not by increased hiring.

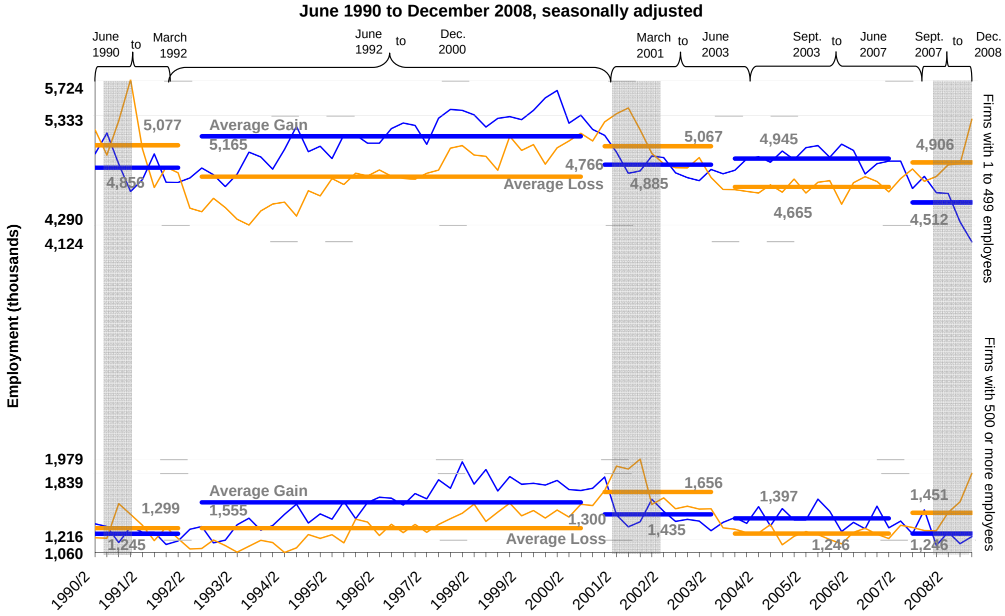
As gross job losses increase in the current recession, gross job gains have reached a historic low in the BED data series; gross job gains for all firms dropped to 5,340,000 in the fourth quarter of 2008. Both groupings of small firms show all time lows during this quarter; firm with 100 or more and 500 or more employees experienced their lowest level in the third quarter of 2008 and first quarter of 2008, respectively. Gross job losses, however, have not yet reached levels seen in the 1990 or 2001 recessions. (See tables 4 and 5)

Chart 1: Gross job gains and gross job losses for firms with 1 to 99 employees vs. firms with 100 or more employees, June 1990 to December 2008, seasonally adjusted



Source: Bureau of Labor Statistics, Business Employment Dynamics; Shaded areas represent NBER defined recession periods.

Chart 2: Gross job gains and gross job losses for firms with 1 to 499 employees vs. firms with 500 or more employees, June 1990 to December 2008, seasonally adjusted



Source: Bureau of Labor Statistics, Business Employment Dynamics; Shaded areas represent NBER defined recession periods.

Table 4: Average quarterly **gross job gains** by firm size, grouped by periods of net loss and net gain, in thousands, seasonally adjusted

Time period	Total, private	1 to 99	100 or more	1 to 499	500 or more
1990/2 - 1992/1: Net Loss	6,101	3,875	2,227	4,856	1,245
1992/2 - 2000/4: Net Gain	6,719	4,094	2,625	5,165	1,555
2001/1 - 2003/2: Net Loss	6,321	3,923	2,398	4,885	1,435
2003/3 - 2007/2: Net Gain	6,341	3,982	2,359	4,945	1,397
2007/3 - 2008/4: Net Loss	5,757	3,646	2,112	4,512	1,246
Lowest level and quarter of gross job gains	5,340 2008/4	3,339 2008/4	1,979 2008/3	4,124 2008/4	1,129 2008/1

Source: Bureau of Labor Statistics, Business Employment Dynamics
Note: Column numbers are not additive

Table 5: Average quarterly **gross job losses** by firm size, grouped by periods of net loss and net gain, in thousands, seasonally adjusted

Time period	Total, private	1 to 99	100 or more	1 to 499	500 or more
1990/2 - 1992/1: Net Loss	6,376	4,034	2,342	5,077	1,299
1992/2 - 2000/4: Net Gain	6,066	3,826	2,240	4,766	1,300
2001/1 - 2003/2: Net Loss	6,723	4,002	2,722	5,067	1,656
2003/3 - 2007/2: Net Gain	5,911	3,793	2,119	4,665	1,246
2007/3 - 2008/4: Net Loss	6,357	3,966	2,391	4,906	1,451
Highest level and quarter of gross job losses	7,327 2001/3	4,421 1991/1	3,132 2001/4	5,724 1991/1	1,979 2001/4

Source: Bureau of Labor Statistics, Business Employment Dynamics
Note: Column numbers are not additive

3. Conclusion

As more data become available for the current downturn, a more thorough analysis of the 2008 recession will be possible. It appears that small firms, those with fewer than 100 or 500 employees, have experienced more job loss than large firms through December 2008. This is a reversal from the 2001 recession when large firms, principally those with 100 or more employees, experienced the majority of net losses. Small firms are showing the majority of average quarterly net losses, driven by a marked drop in gross job gains.

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