

JOB CREATION IN MARYLAND 2004-2009¹: AN OVERVIEW

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INTRODUCTION

The sources, timing, magnitude and sustainability of job creation have been controversial topics in recent years, particularly since the national recession began in December 2007. Slow job growth persists, even though the official end date of the recession was June 2009.

In partnership with the Maryland Department of Labor, Licensing and Regulation (DLLR), Office of Workforce Information and Performance, we continue to study job creation in Maryland. This report contains our initial findings.

The statistics in the first section are Bureau of Labor Statistics data presenting information about Maryland's labor force and employment levels and unemployment rate.

The new facts about job creation in Maryland that follow in the remainder of this report emerge from our analysis of Maryland Quarterly Census of Employment and Wages (QCEW) extract data with technical assistance provided by DLLR under an Interagency Agreement with the University of Baltimore's Jacob France Institute (JFI).

MARYLAND'S LABOR FORCE, EMPLOYMENT AND UNEMPLOYMENT RATE DYNAMICS

A pre-recession, recession and post-recession perspective

Our overview of workforce dynamics in Maryland begins in *Figure 1* with Bureau of Labor Statistics (BLS) data. Cyclical and seasonal fluctuations in the State's labor force and employment² levels and unemployment rate are clearly visible.

The labor force is defined as the sum of employed and unemployed individuals. The earliest pre-recession monthly data in *Figure 1*, from January 2004 through mid-summer 2007, show stable cyclical and seasonal trends of all three data series—labor force and employment levels (left axis scale) and unemployment rate (right axis scale).

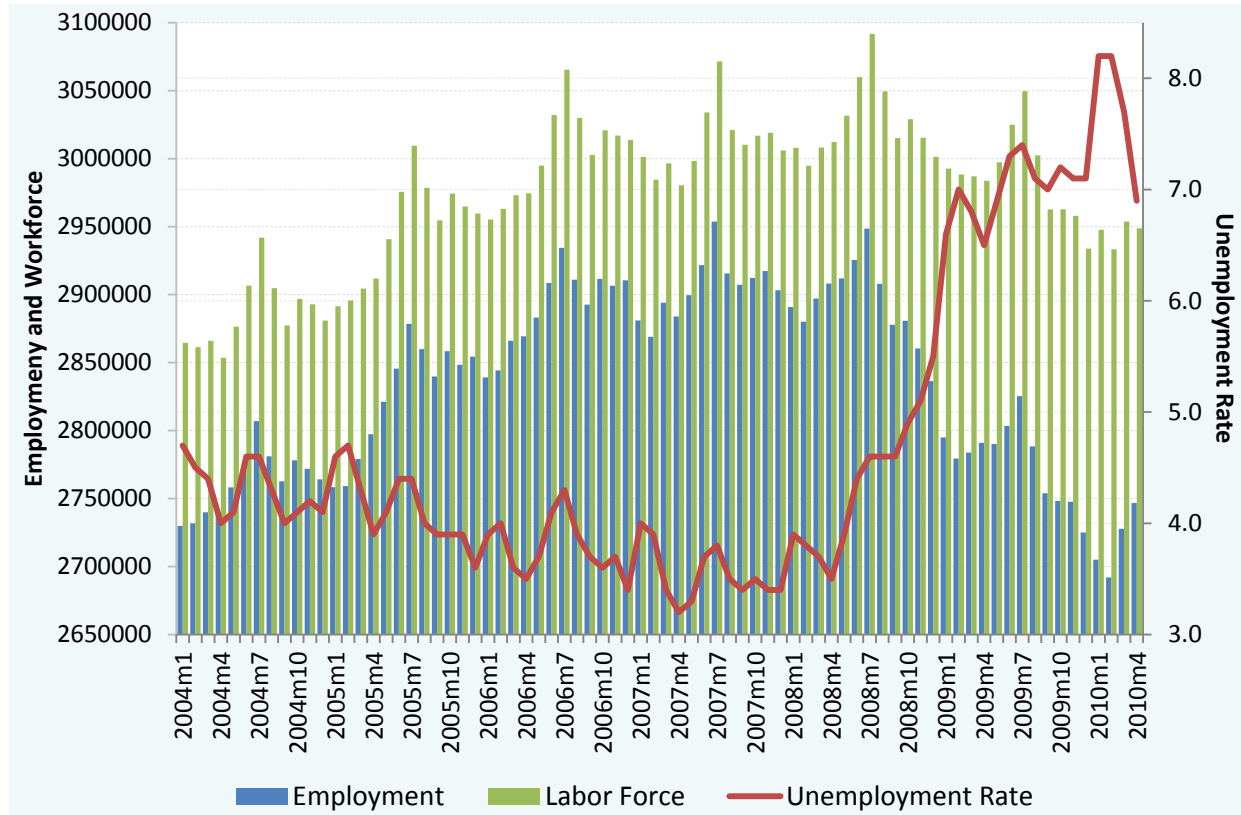
Each annual mid-summer peak of Maryland's overall labor force and employment component levels was higher than the preceding year's level, while the unemployment rate trended lower, reaching a cyclical low in the spring of 2007. Through mid-summer 2008, seven months into the national recession, Maryland's labor force had continued to

² Please note that all employment data in this report refer to employment by place of work.

grow, but employment had stalled. The unemployment rate had reversed direction, quickly rising to and then exceeding the winter month highs in previous years.

FIGURE 1

Maryland Labor Force, Employment and Unemployment Rate Estimates (not seasonally adjusted), 2004-2010



Data Source: Bureau of Labor Statistics, Local Area Unemployment Statistics

Continuing with BLS data, we turn in *Figure 2* to the cyclical and seasonal change components of the *Figure 1* employment statistics. Change component definitions are needed to understand these *Figure 2* profiles.

Gross employment gains arise from new business openings and existing business expansions. Gross employment losses result from business closings and existing business contractions. Each of the four measures is defined at the business establishment level.

The official BLS definitions, found at <http://bls.gov/bdm/bdmover.htm#concepts>, are:

- *Openings*. These are either establishments with positive third month employment for the first time in the current quarter, with no links to the prior quarter, or with positive third month employment in the current quarter following zero employment in the previous quarter.
- *Expansions*. These are establishments with positive employment in the third month in both the previous and current quarters, with a net increase in employment over this period.
- *Closings*. These are either establishments with positive third month employment in the previous quarter, with no positive employment reported in the current quarter, or with positive third month employment in the previous quarter followed by zero employment in the current quarter.
- *Contractions*. These are establishments with positive employment in the third month in both the previous and current quarters, with a net decrease in employment over this period.

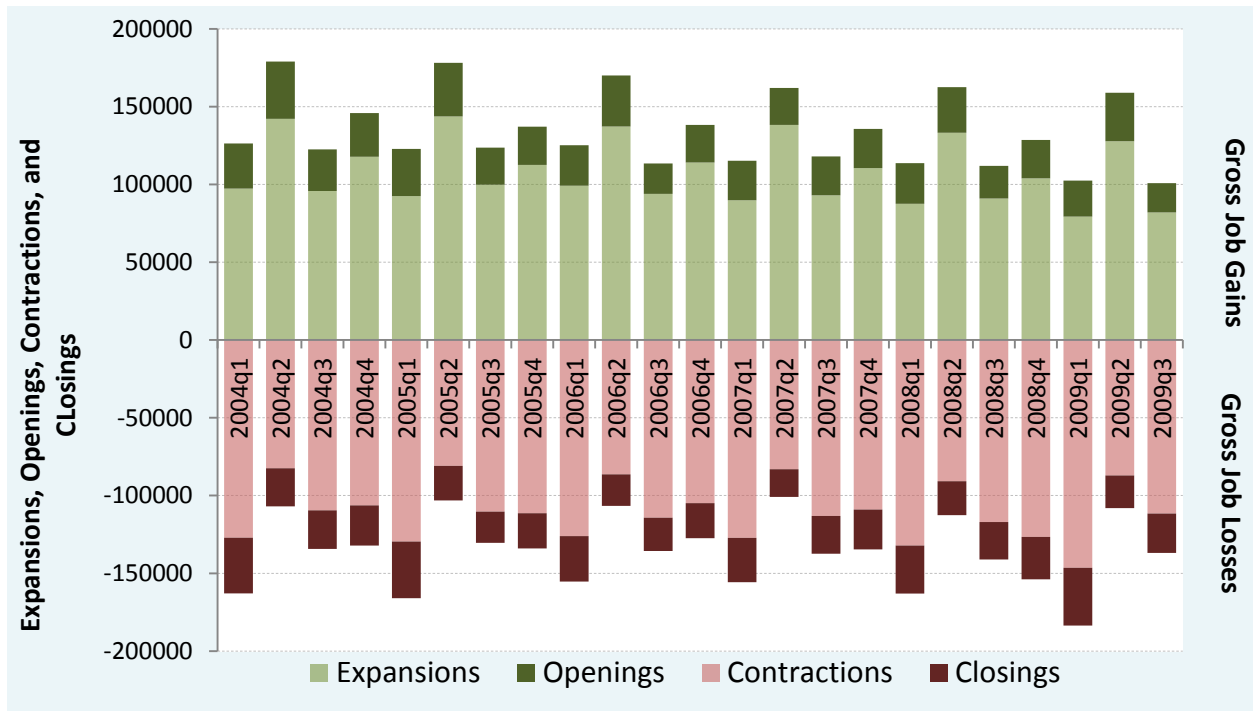
All establishment-level employment change measures are for the third month of each reference year/quarter. Some establishments do not report a change of employment level from one reference year/quarter to another. These establishments are included in the calculation of total employment figures, but do not affect estimated counts of gross job gains and gross job losses.

Figure 2 deepens our understanding of the cyclical and seasonal features of Maryland employment changes. Peak job gains—the sum of positive employment changes resulting from new business openings and expansions by existing businesses—always occurred in the second quarter (April, May and June) of each year. Peak job losses—the sum of negative employment changes resulting from existing business closures and contractions—always happened in the first quarter (January, February and March) of each year. For every year/quarter covered in *Figure 2*, employment changes from business establishment expansions (positive) and contractions (negative) were larger than employment changes from business establishment openings (positive) and closings (negative).

The impact of the national recession on Maryland employment changes is most visible in *Figure 2* for 2008 qtr 3 and qtr 4 and 2009 qtr 1. Gross job gains remained lower in 2009 qtr 3 than in the third quarter of each of the previous years, but 2009 qtr 3 gross job losses were similar to those in the third quarter of the previous years.

FIGURE 2

Gross Job Gains and Losses (not seasonally adjusted), Maryland, 2004 qtr 1 through 2009 qtr 3



Data Source: Bureau of Labor Statistics, Business Employment Dynamics

GROSS VERSUS NET JOB CREATION

Up to this point, we have presented seven BLS statistical series that describe cyclical and seasonal features of Maryland's workforce dynamics—labor force, employment, unemployment rate, gross job gains from business establishment expansions and openings, and gross job losses from business establishment contractions and closings.

We are interested in net job creation—gross job gains minus gross job losses. We draw attention throughout the rest of this report to the policy relevance of the difference between estimates of gross and net job gains.

The remaining pages of this report present our findings from intensive study of additional Maryland QCEW data fields. We are particularly interested in comparisons of pre-recession, recession and post-recession sources and levels of net job creation.

QCEW data fields contain information from quarterly employer reports that is needed to define and measure:

- Business establishment ‘births’ and ‘deaths’, each having an official BLS meaning. A ‘birth’ is an establishment that had no reported employees in the third month of four consecutive quarters preceding the reference quarter. A ‘death’ is an establishment that had no reported employees in the third month of four consecutive quarters. Both definitions are intended to avoid inaccurate classification of seasonal businesses that often report positive employment in only one, or perhaps two, quarters annually. ‘Births’ differ from openings and ‘deaths’ differ from closings because the definitions of openings and closings require attention to only the reference quarter and one adjacent quarter—earlier for classification of openings and later for classification of closings. ‘Births’ and ‘Deaths’ are subsets of openings and closings respectively.
- The industry classification of each business establishment included in the job change figures, based on the North American Industry Classification System (NAICS).
- Reported changes of business ownership, or predecessor-successor transitions.
- Reported aggregate employee payroll amount in the reference year/quarter.

A comparison of pre-recession and recession expansions and contractions

In the previous section—*Figure 2*—we included the four components of gross employment changes measured at the business establishment level; positive changes attributable to establishment openings and expansions, and negative changes resulting from business contractions and closings.

We begin our analysis of pre-recession and recession net employment level changes by restricting our attention to quarter-to-quarter changes of employment level reported for existing business establishments. Employment changes resulting from establishment openings and closings are not included here.

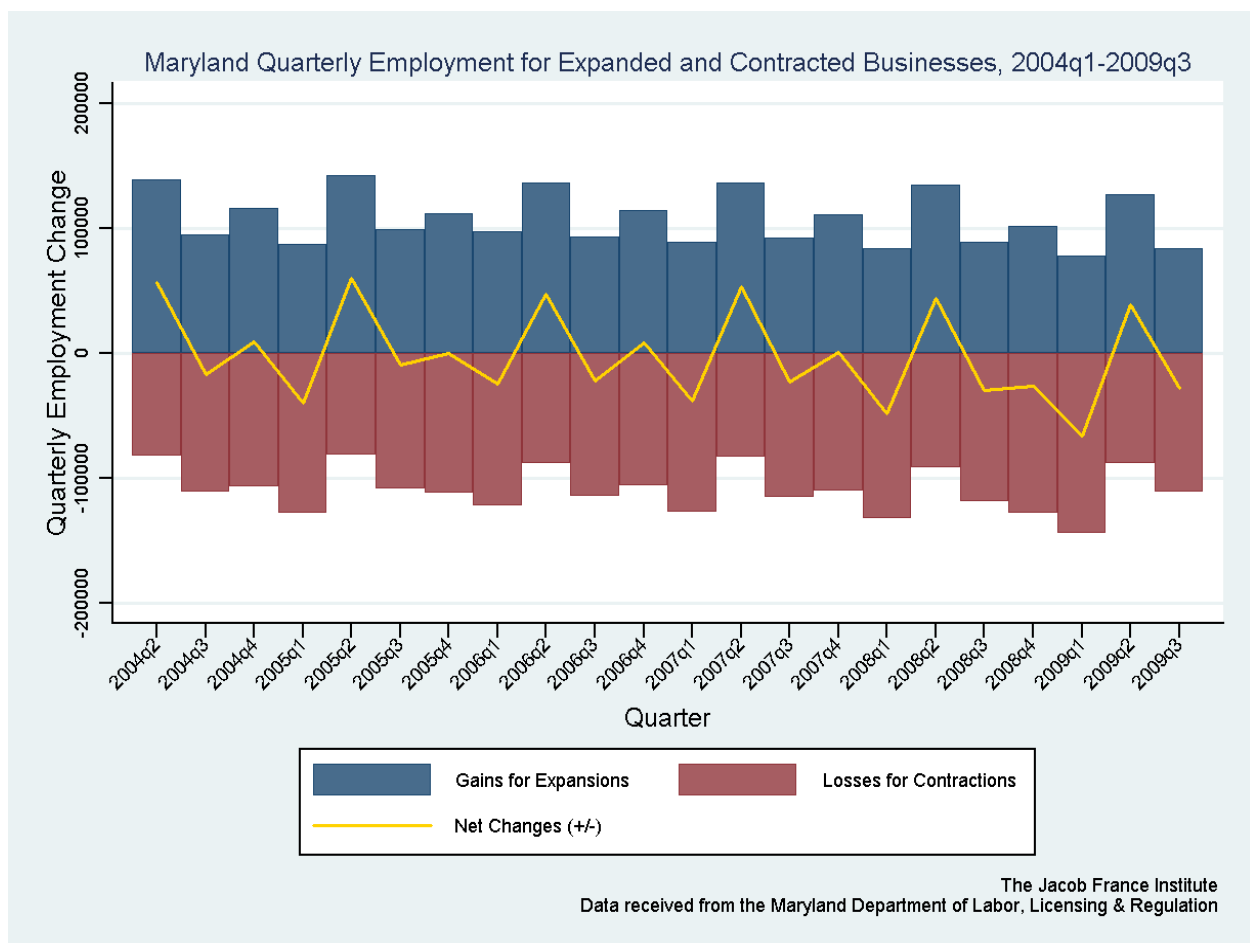
Figure 3 includes three employment change figures for each reference year/quarter between 2004 qtr 2 and 2009 qtr 3:

- The gross positive quarter-to-quarter change of reported employment for continuing Maryland business establishment expansions that increased employment from the earlier to more recent quarter. This is measured by the height of the blue bar segment above the ‘0’ employment change base on the + and – vertical scale.

- The gross negative quarter-to-quarter change of reported employment for continuing Maryland business establishment contractions that reduced employment from the earlier to more recent quarter. This is measured by the height of the **red** bar segment below the '0' employment change base
- The net employment change—positive or negative—resulting from the quarter-to-quarter difference in reported gross employment gains of expansions and gross employment losses of contractions. The vertical location of the **yellow** trend line, above or below the '0' employment change base measures the height difference between the positive **blue** gross gains and the negative **red** gross job losses reported for continuing business establishments between the two reporting quarters.

FIGURE 3

Gross and Net Job Gains and Losses Reported by Continuing Maryland Businesses



Data Source: Maryland Quarterly Census of Employment and Wages.

We remind you that the gross and net job change levels shown in *Figure 3* include only employment expansion and contraction calculations for Maryland business establishments that reported in consecutive two-quarter reference pairings. Employment gains associated with new business establishment openings and employment losses from existing business closures between reference quarters do not appear here. Also, employer reports of stable, no change, quarter-to-quarter employment levels are not included in *Figure 3*.

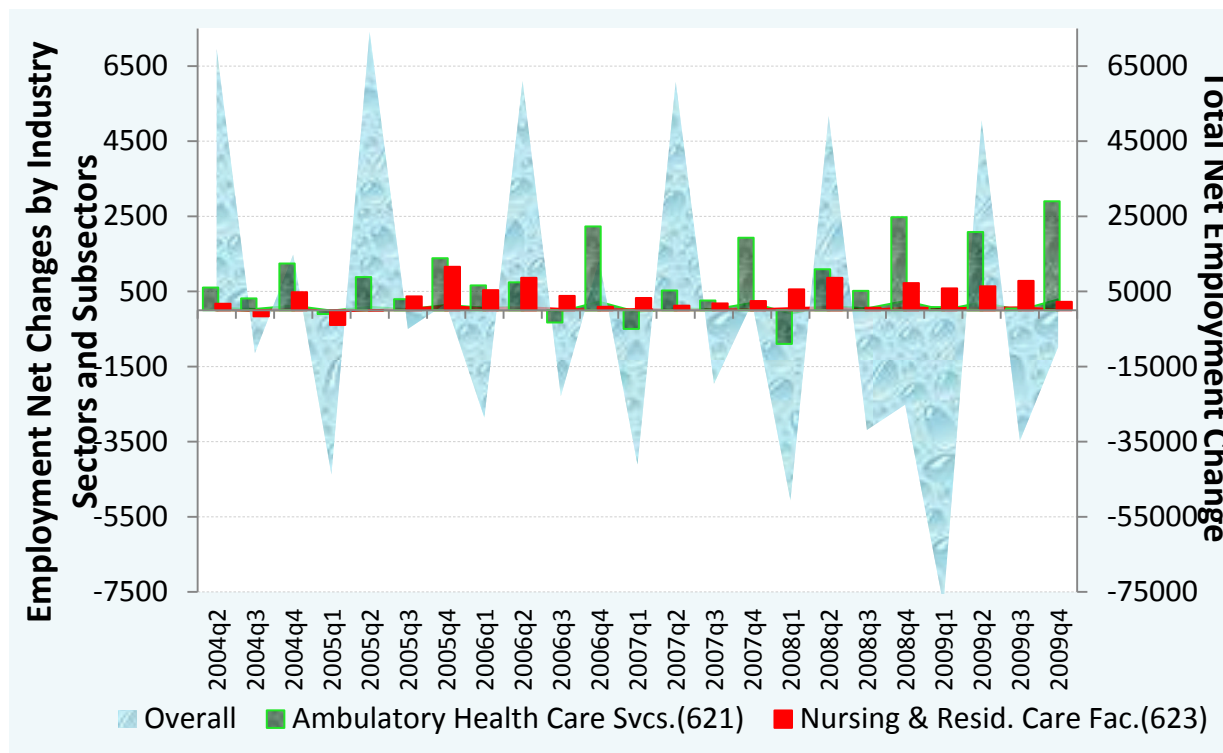
One policy relevant message to take away from *Figure 3* is that concurrent gross employment gains and losses occurred throughout the pre-recession, recession and post-recession segments of the years observed. A second take away message is that these concurrent gains and losses translate into a ‘perceptible’ net gain only in the second quarter for each of the years covered—remembering that the employment change calculation uses the third month figure from the base and end reference quarters, so second quarter changes are measured using the March and June reported establishment employment levels. We have more to say about this consistent seasonal pattern of change later in this report.

The timing and magnitude of impact of the national recession on Maryland employment is evident in *Figure 3*. Again, the national recession began in December 2007 and ended in June 2009. The net loss of employment impact in Maryland is most apparent in 2008 qtr 4 and 2009 qtr 1, attributable in both cases to a larger gross loss from contractions than is seen for the earlier fourth and first quarter gross loss levels shown in *Figure 3*. Gross job gains from business expansions in Maryland also appear to have been vulnerable to the recession’s impact, though the quarter-to-quarter pattern was not affected.

Although Maryland job gains and losses were affected by the recession, it does not mean all industries were affected. Complexity and disparities do exist across industries. *Figure 4* shows that although the overall net employment changes (right axis scale) were more negative during the recession, in some industries (left axis scale), such as *Ambulatory Health Care Services (621)* and *Nursing and Residential Care Facilities (623)*, net employment changes were not necessarily trended negative; instead, the net employment changes in *Ambulatory Health Care Services (621)* trended slightly more positive during the recession. More details at the industry levels will be delineated in a later report that specializes in industry nuances,

FIGURE 4

Overall vs. Selected Industry Net Employment Changes for Maryland Businesses



Data Source: Maryland Quarterly Census of Employment and Wages.

The gross and net job gain/loss contributions of businesses classified by employment size-class

When breaking down Maryland employment trends by four business employment size classes: *Micro Businesses* (with 1-9 employees), *Small Businesses* (with 10-24 employees), *Medium Businesses* (with 25-99 employees), and *Large Businesses* (with 100 or more employees)³, *Table 1* shows three attributes of Maryland smaller employment size businesses:

- These smaller employment size classes include many individual Maryland businesses; most business establishments were in smaller employment size classes;

³ This employment class definition is consistent with our QCEW Maryland employment data distribution with each class have roughly ¼ of total employment (shown in Table 1); this classification is also consistent with Shane, S. (2010, "The Term 'Small Business' Is Baloney," *Bloomberg Businessweek*, May 14, 2010. Retrieval from the World Wide Web at http://www.businessweek.com/smallbiz/content/may2010/sb20100513_562175.htm).

- These smaller employment size classes contributed more than larger businesses to the net employment losses;
- These smaller employment size classes contributed less to net employment gains. Accordingly, larger businesses contributed more to net employment gains (seen in the final right-side column of Table 1).

TABLE 1

Average Employment, Establishments, and Proportions by Employment Size Class in the Recession, 2007q4-2009q3

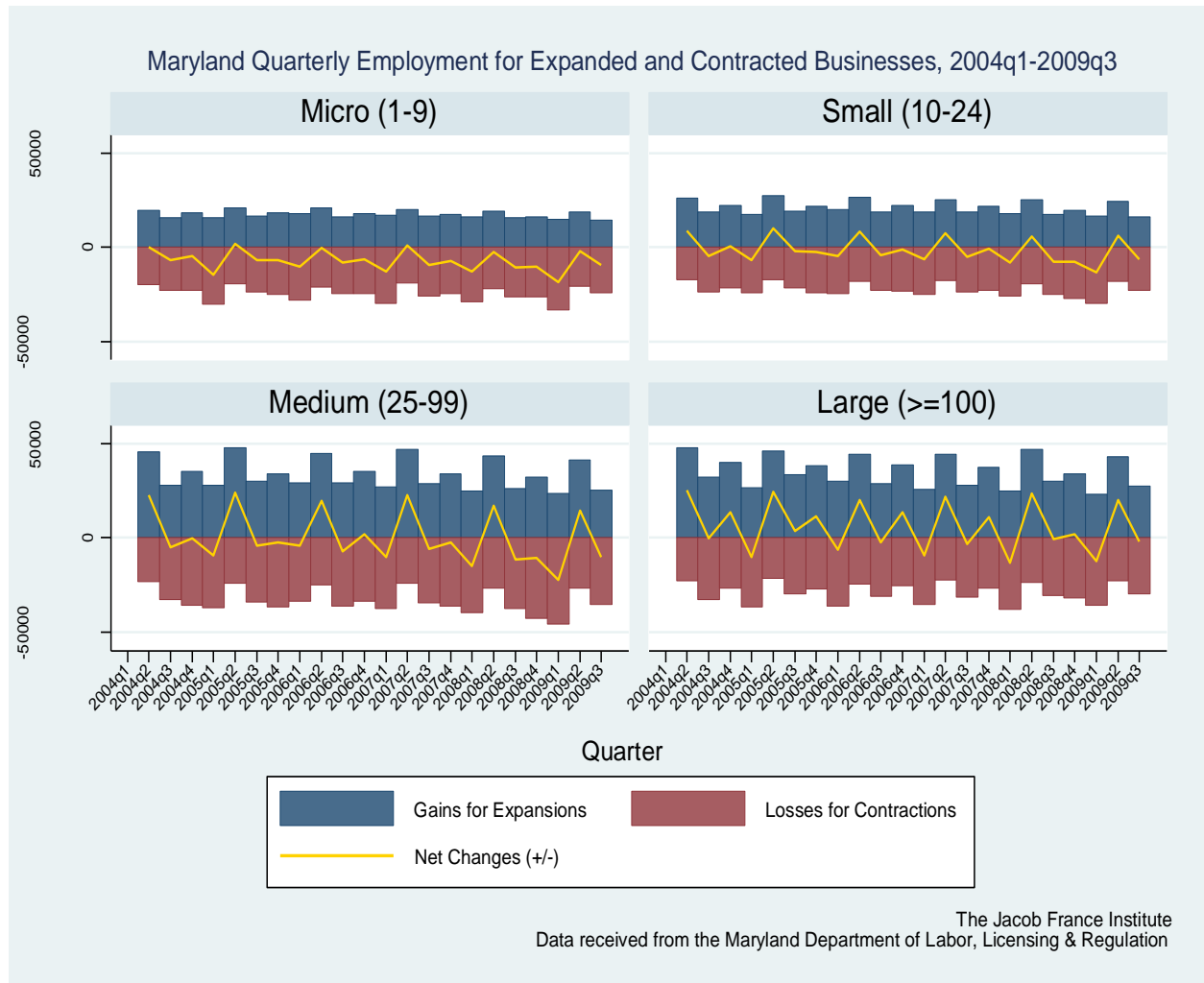
| Employment Size Class | Percentage (%) | | | | Count of Establishments | Employment | | |
|-------------------------|-------------------------|------------|------------|------------|-------------------------|---------------|---------------|--------------|
| | Count of Establishments | Gross Gain | Gross Loss | Net Loss | | Gross Gain | Gross Loss | Net Loss |
| Micro (1-9) | 74.1 | 19.9 | 23.8 | 60.1 | 113741 | 31389 | 41570 | 10180 |
| Small (10-24) | 14.9 | 18.1 | 18.2 | 19.0 | 22819 | 28615 | 31836 | 3221 |
| Medium (25-99) | 8.9 | 28.2 | 27.4 | 19.9 | 13606 | 44444 | 47818 | 3373 |
| Large (>=100) | 2.2 | 33.8 | 30.6 | 1.0 | 3366 | 53221 | 53383 | 162 |
| Total | 100 | 100 | 100 | 100 | 153532 | 157669 | 174606 | 16937 |

Data Source: Maryland Quarterly Census of Employment and Wages.

Figure 5 further mirrors the above three attributes of Maryland smaller size businesses, using quarterly data. Additionally, *Figure 5* shows that the recession impacts on smaller businesses seem stronger than on larger ones. After the recession started, the declining gross employment gains from business expansions, the increasing gross employment losses from business contractions, and the more negatively trended net employment change were more evident for smaller businesses. For *Large Businesses* (with 100 or more employees), the net employment change during the recession was not negative and the recession impact was barely seen.

FIGURE 5

Quarterly Employment Change for Maryland Businesses by Employment Size Class, 2004q4-2009q3



Data Source: Maryland Quarterly Census of Employment and Wages.

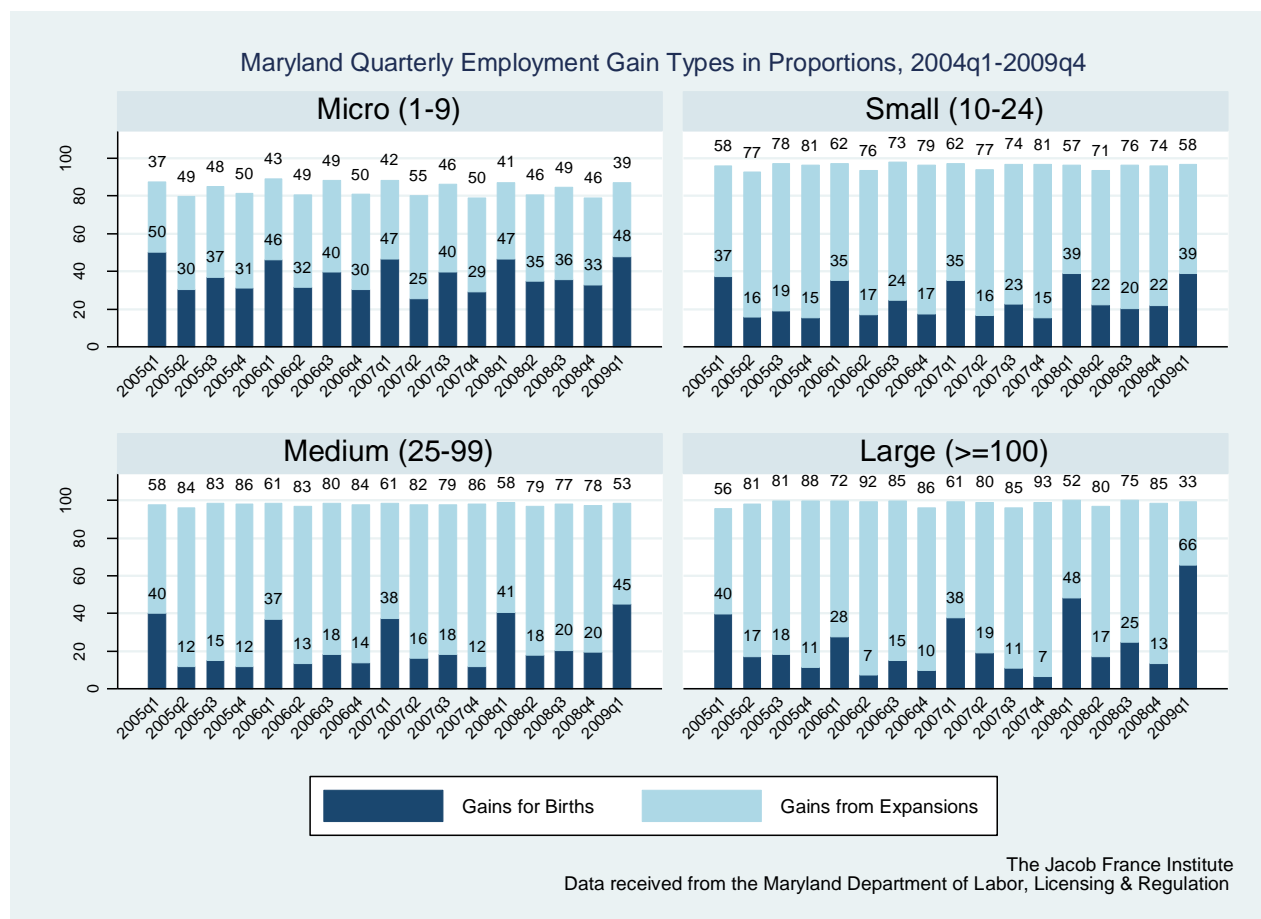
Figure 6 exhibits the role of entrepreneurship in employment growth. Compared to larger employment size businesses, births⁴ (the size of the dark blue bars) counted for a higher share in employment gross gains for *Micro Businesses* (with 1-9 employees). This reflected the job creation role of *Micro Business* entrepreneurship. For larger employment size businesses, expansions (the size of the light blue bars) played a more important role in job creation. However, business births seemed to contribute to a

⁴ Please note the calculation of births and deaths using QCEW data is not exactly same as what is done by the BLS Business and Employment Dynamics.

rising share in employment growth for *Large Businesses* (with 100 or more employees) in recession.

FIGURE 6

Maryland Quarterly Gross Employment Gains in Proportions by Employment Size Classes, 2005q1-2009q1⁵



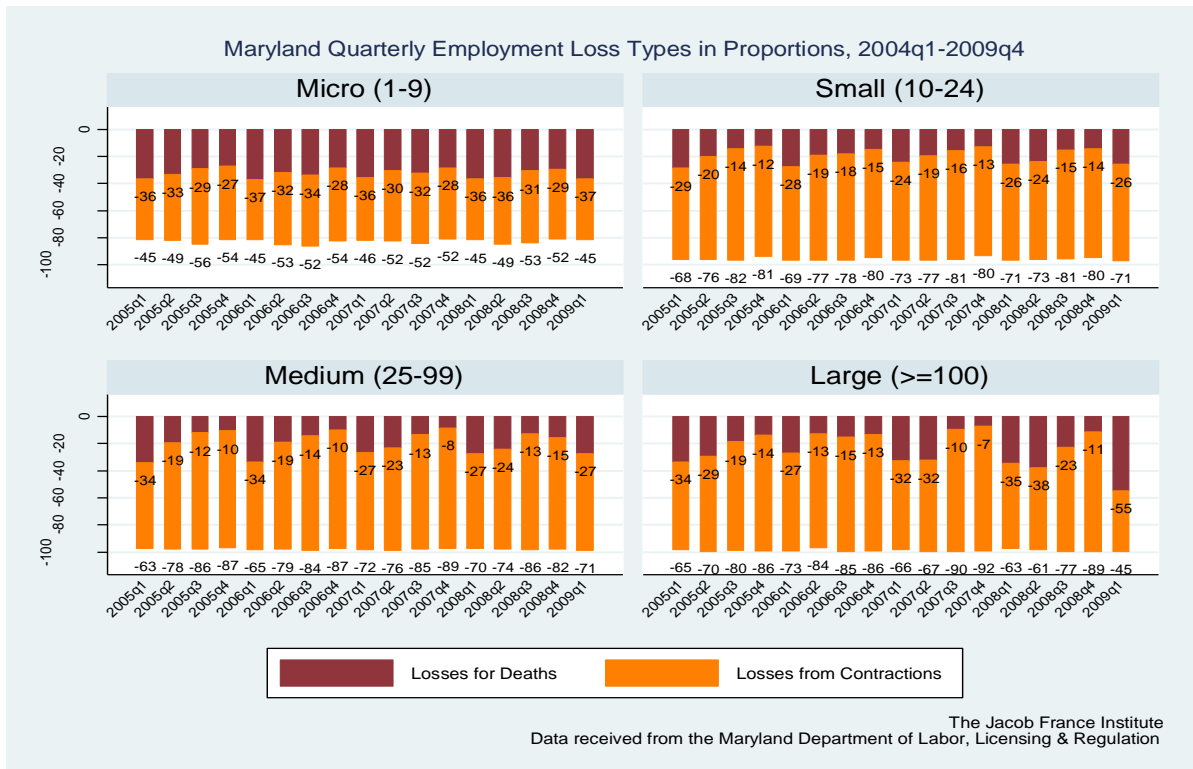
Data Source: Maryland Quarterly Census of Employment and Wages.

Business deaths (the size of the dark red bars) played a stronger role in gross employment losses among *Micro Businesses* and *Large Businesses*, according to *Figure 7*. The role of business births and deaths in gross employment gains and losses also followed a seasonal pattern across all business size classes.

⁵ Although the figure title and the figure label covered period from 2005 qtr 1 through 2009 qtr 1, the definition of business birth and death determines that the actually time coverage of the data to make this figure starts from 2004 qtr 1 and ends at 2009 qtr 4.

FIGURE 7

Maryland Quarterly Gross Employment Losses in Proportions by Employment Size Classes, 2004q1-2009q4



Data Source: Maryland Quarterly Census of Employment and Wages.

SUMMARY OF FINDINGS AND FUTURE RESEARCH

Maryland employment and job changes exhibit cyclical and seasonal fluctuations.

The national recession did have impacts on Maryland jobs. The Maryland labor force continued to grow through the recession, but employment growth stalled. The statewide unemployment rate spiked sharply upward during the recession. As would be expected, net employment losses are most apparent during the recession.

In both the pre-recession and recession time spans concurrent gross employment gains and losses occurred. The majority of Maryland employment gains and losses come from existing business expansions and contractions.

Seasonal fluctuations of employment are evident—our quarter-to-quarter Maryland job profiles reveal peak job gains that always occurred in the second quarter, with a ‘perceptible’ net gain only in this quarter for each of the years covered; peak job losses always occurred in the first quarter of a year.

When dividing Maryland businesses into four employment size classes, smaller size class businesses count for a larger number of businesses, a bigger share of net employment losses, and a smaller share of net employment gains. They were also more vulnerable in the recession, no matter for gross employment gains, gross employment losses, or for net employment changes. Entrepreneurial business activities (churnings between business births and deaths) were more important for *Micro Business (with 1-9 employees)* job gains and losses than for larger employment size class businesses.

The 2007-2009 recession affected many Maryland jobs and businesses, but these impacts did not uniformly penetrate into every industry sector. Disparities exist across industries. Our future reports will feature industry level and sub-state details and nuances that will contribute further policy relevant insights about our State’s economy.