

# **LABOR MARKET INFORMATION FORUM - MARYLAND BUSINESS AND EMPLOYMENT DYNAMICS**

Co-hosted by:

Maryland Department of Labor, Licensing and Regulation  
Division of Workforce Development & Adult Learning  
Office of Workforce Information and Performance

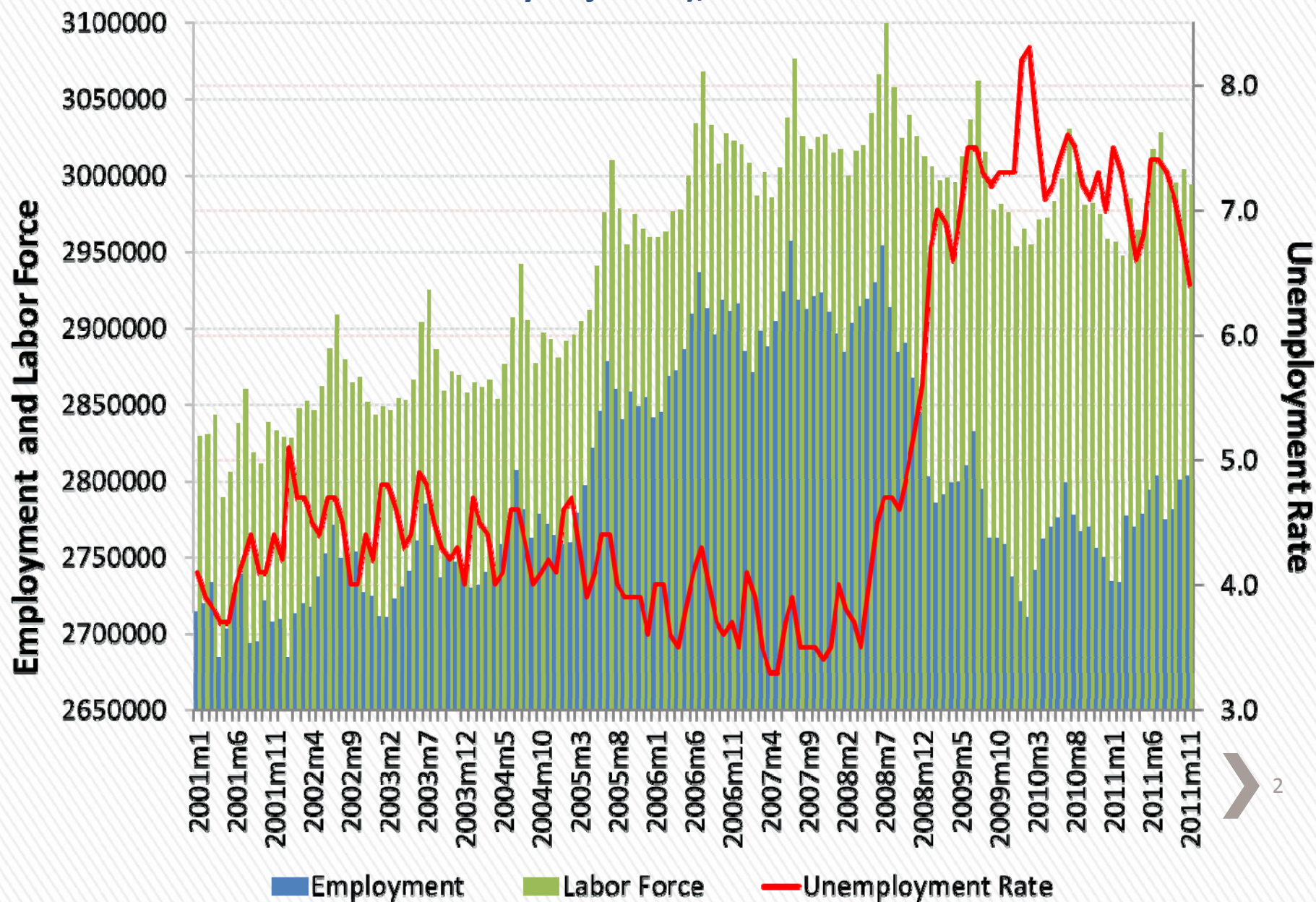
And

University of Baltimore  
The Jacob France Institute

June 20, 2012

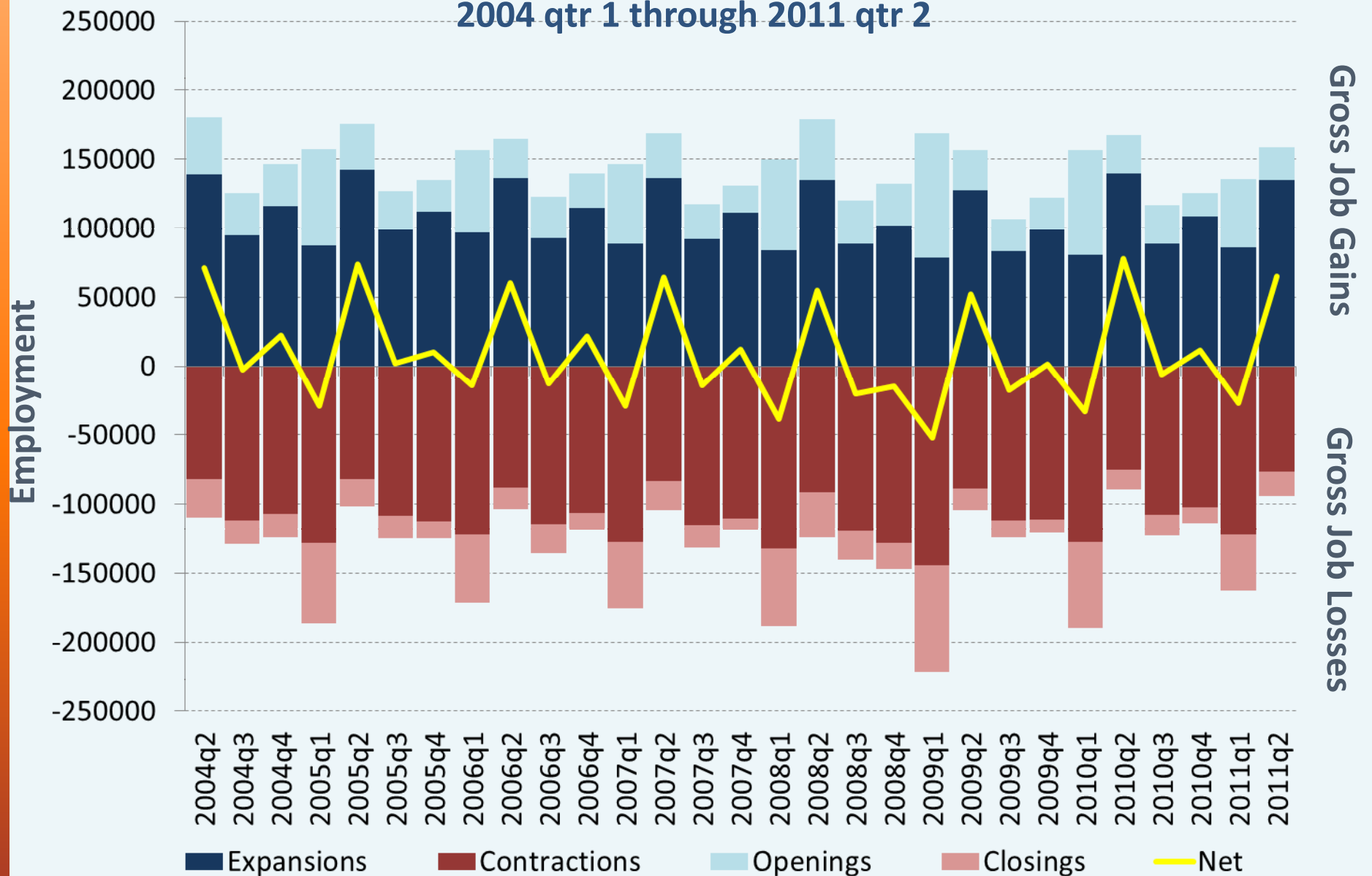


## Maryland Labor Force, Employment and Unemployment Rate Estimates (not seasonally adjusted), 2001-2011

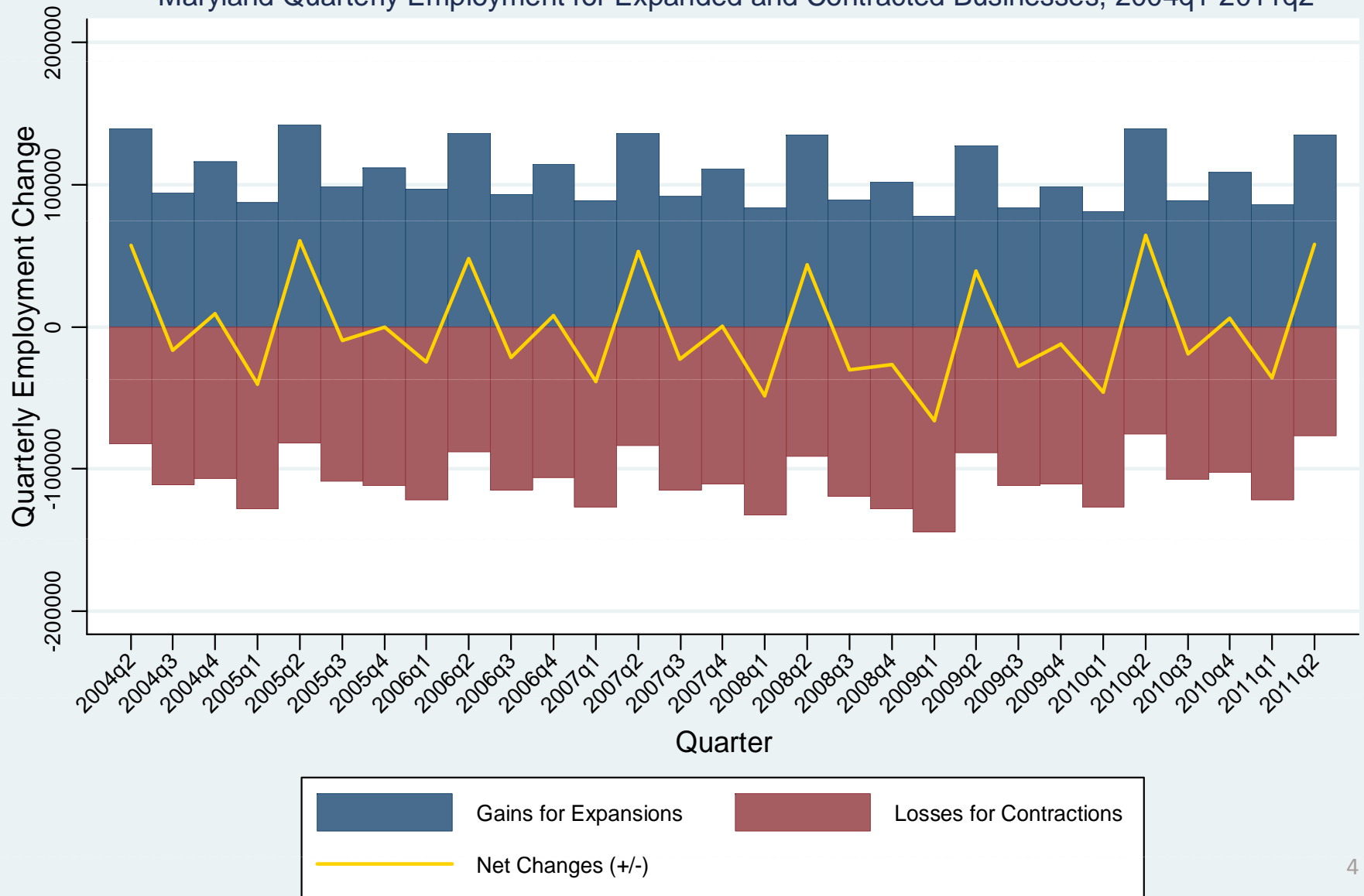




# Gross and Net Job Gains and Losses (not seasonally adjusted), Maryland, 2004 qtr 1 through 2011 qtr 2

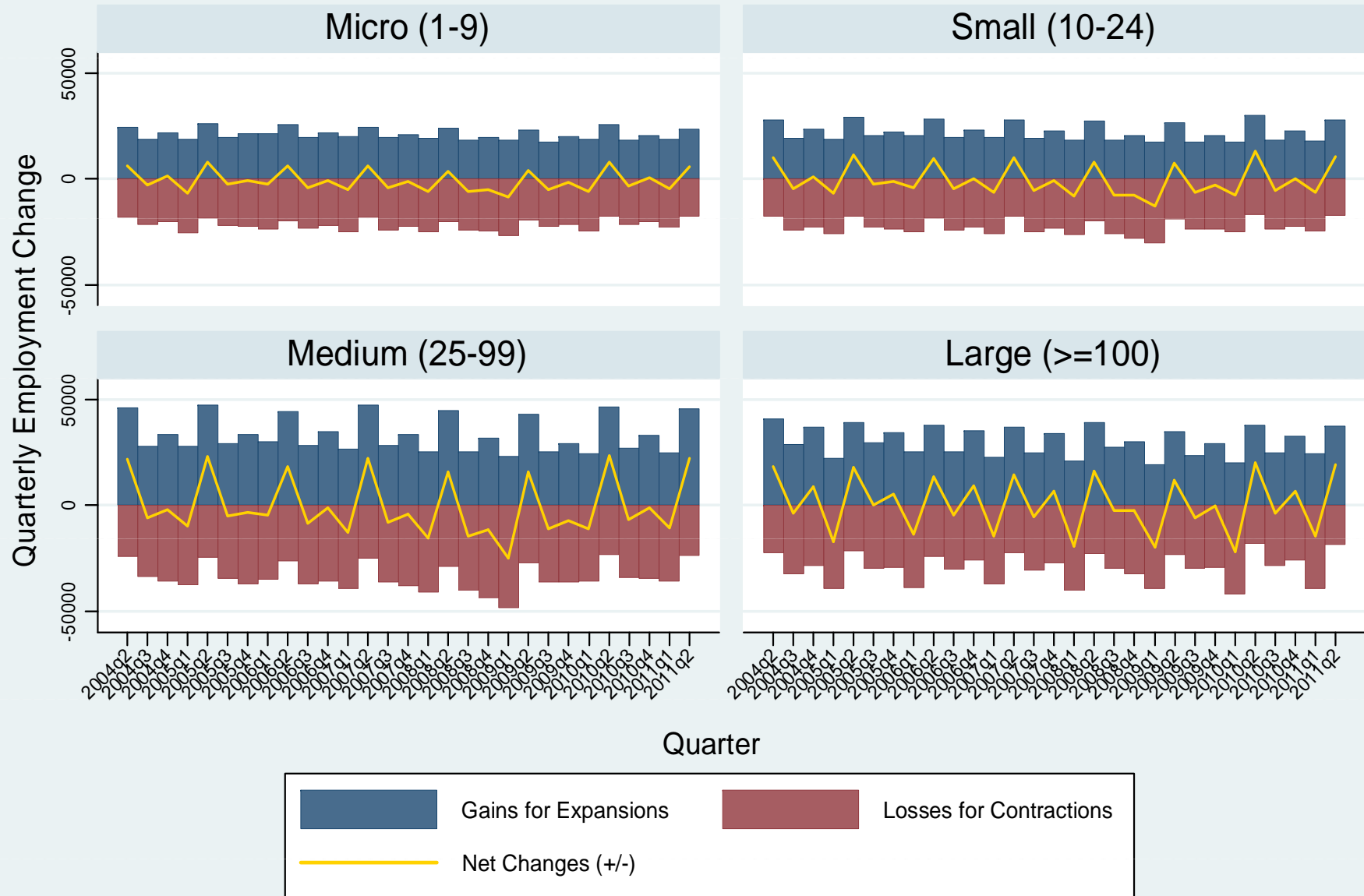


Maryland Quarterly Employment for Expanded and Contracted Businesses, 2004q1-2011q2

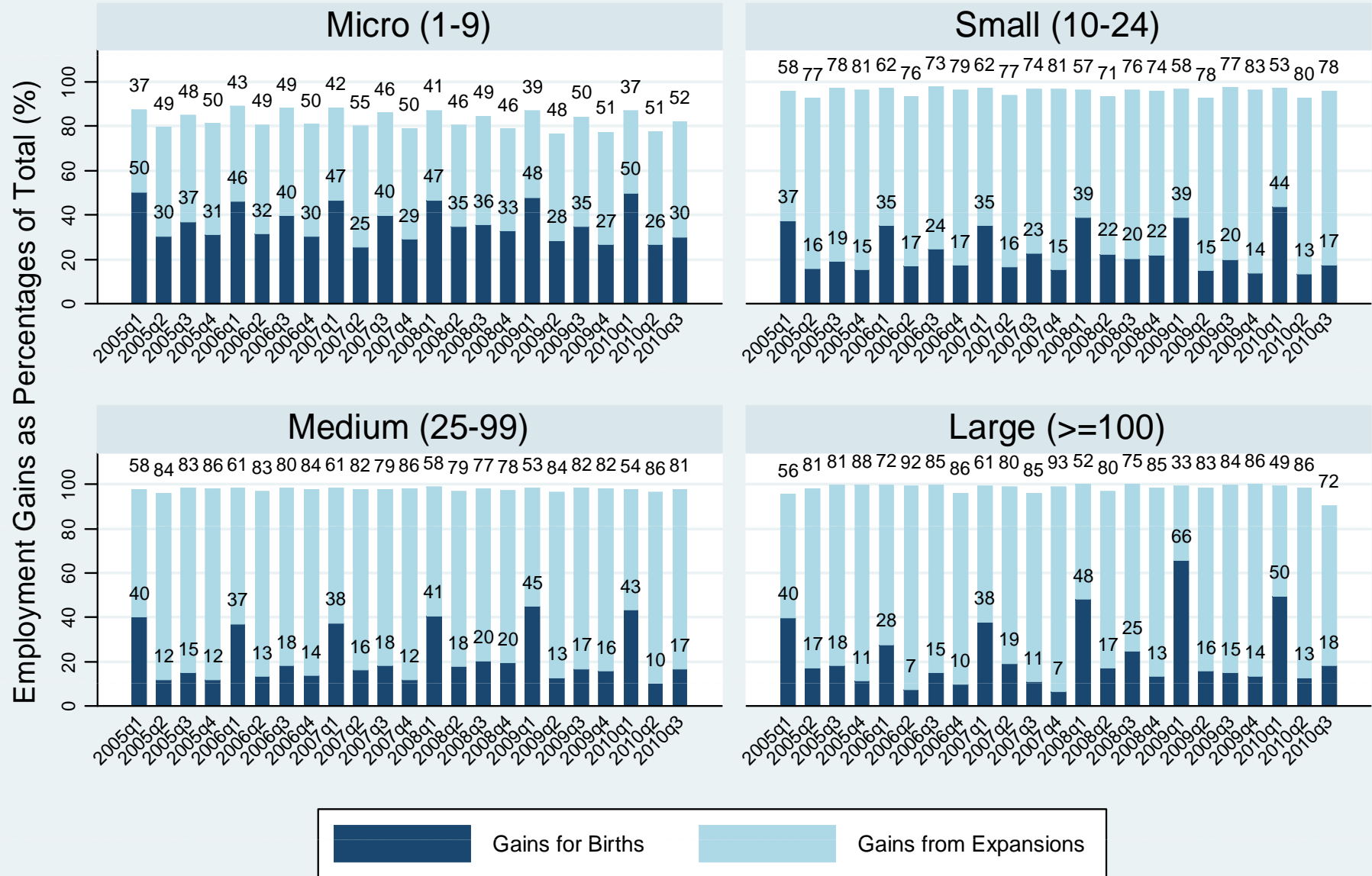




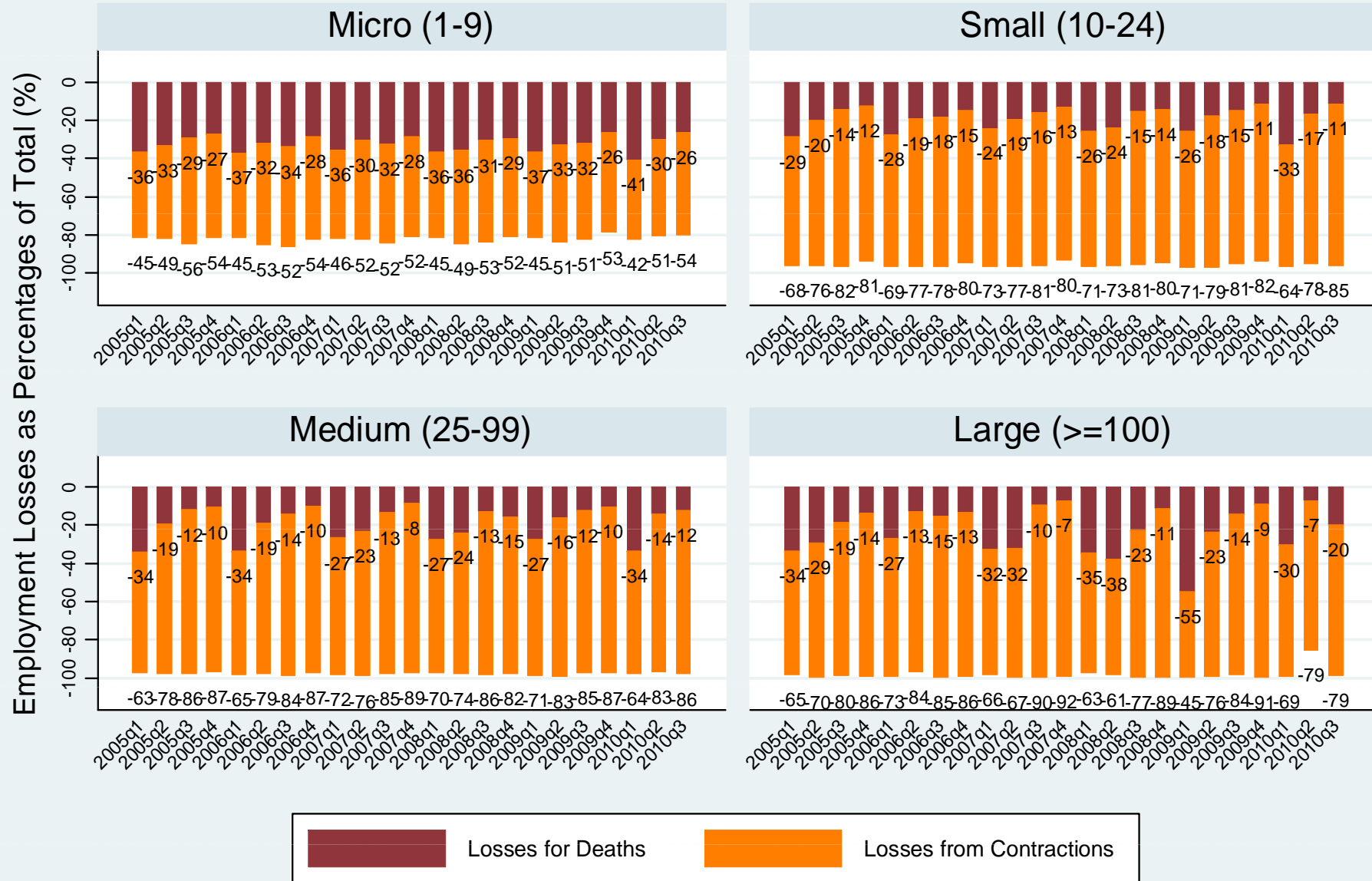
## Maryland Quarterly Employment for Expanded and Contracted Businesses, 2004q1-2011q2



## Maryland Quarterly Employment Gain Types in Proportions, 2005q1-2010q3



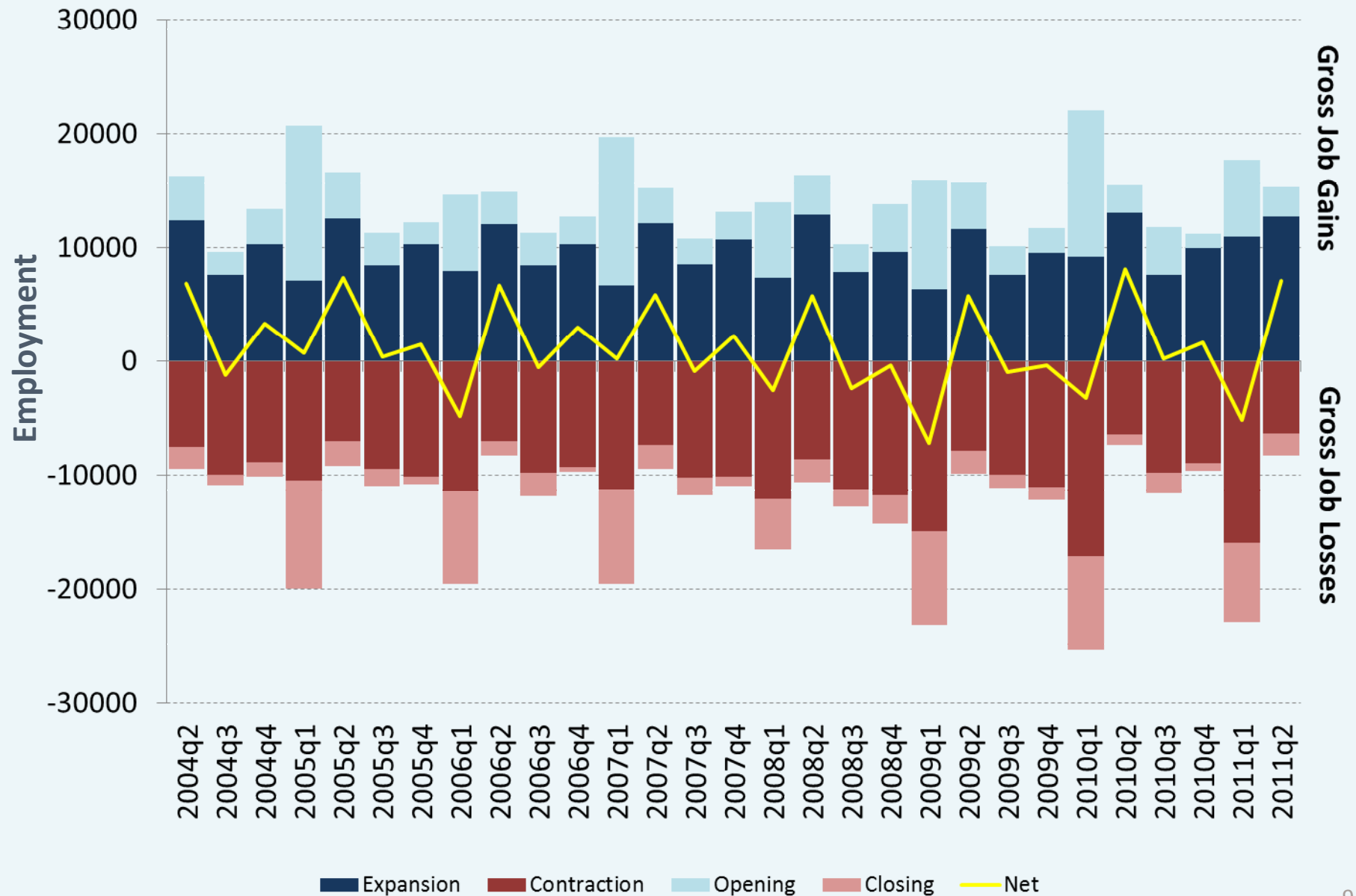
## Maryland Quarterly Employment Loss Types in Proportions, 2005q1-2010q3



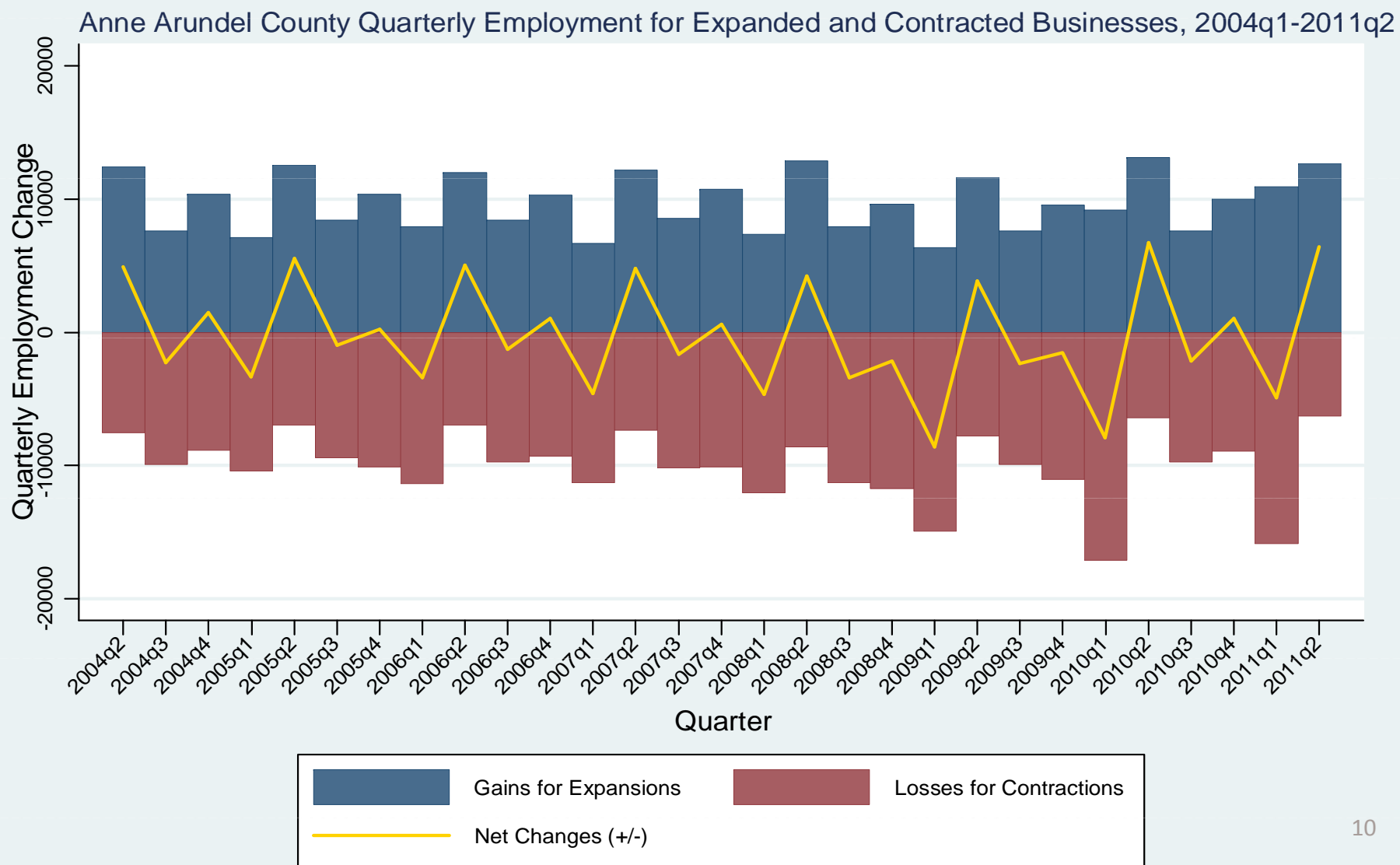


# **ANNE ARUNDEL COUNTY/WIB JOB CREATION 2004-2011 OVERVIEW**

## Gross and Net Job Gains and Losses (not seasonally adjusted), Anne Arundel, 2004 qtr 1 through 2011 qtr 2

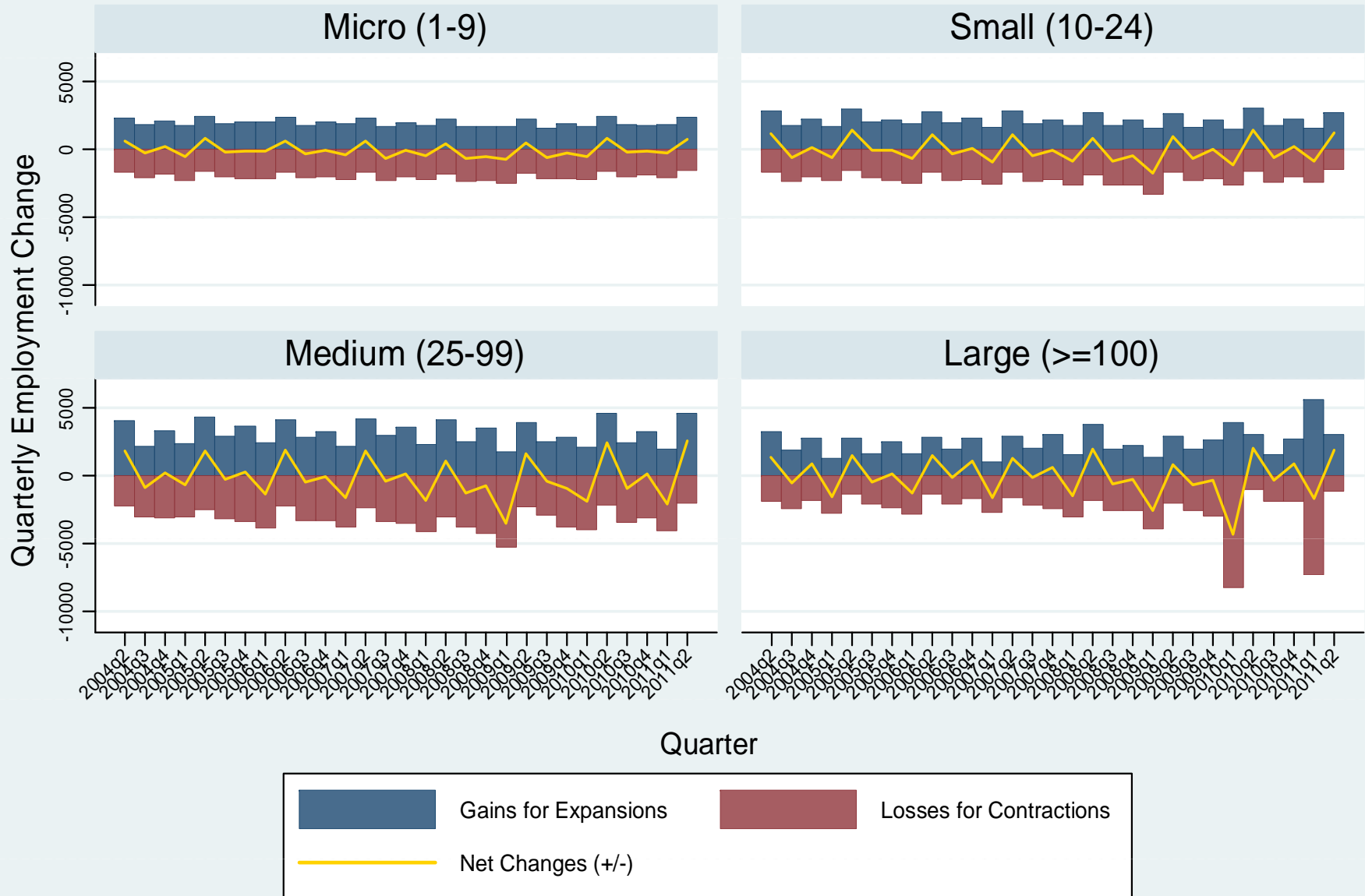


## Gross and Net Job Gains and Losses Reported by Continuing Businesses





## Anne Arundel County Quarterly Employment for Expanded and Contracted Businesses, 2004q1-2011q2

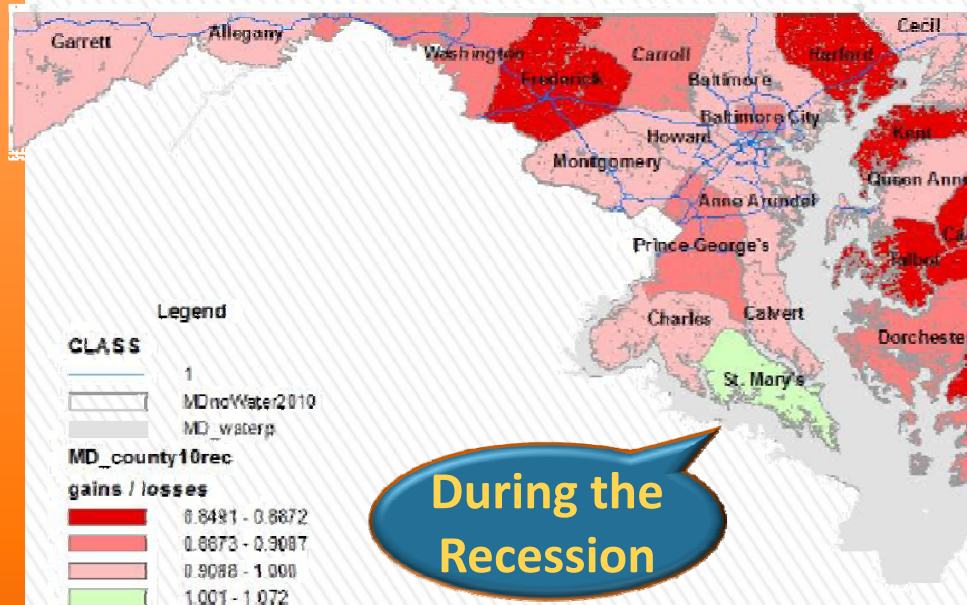




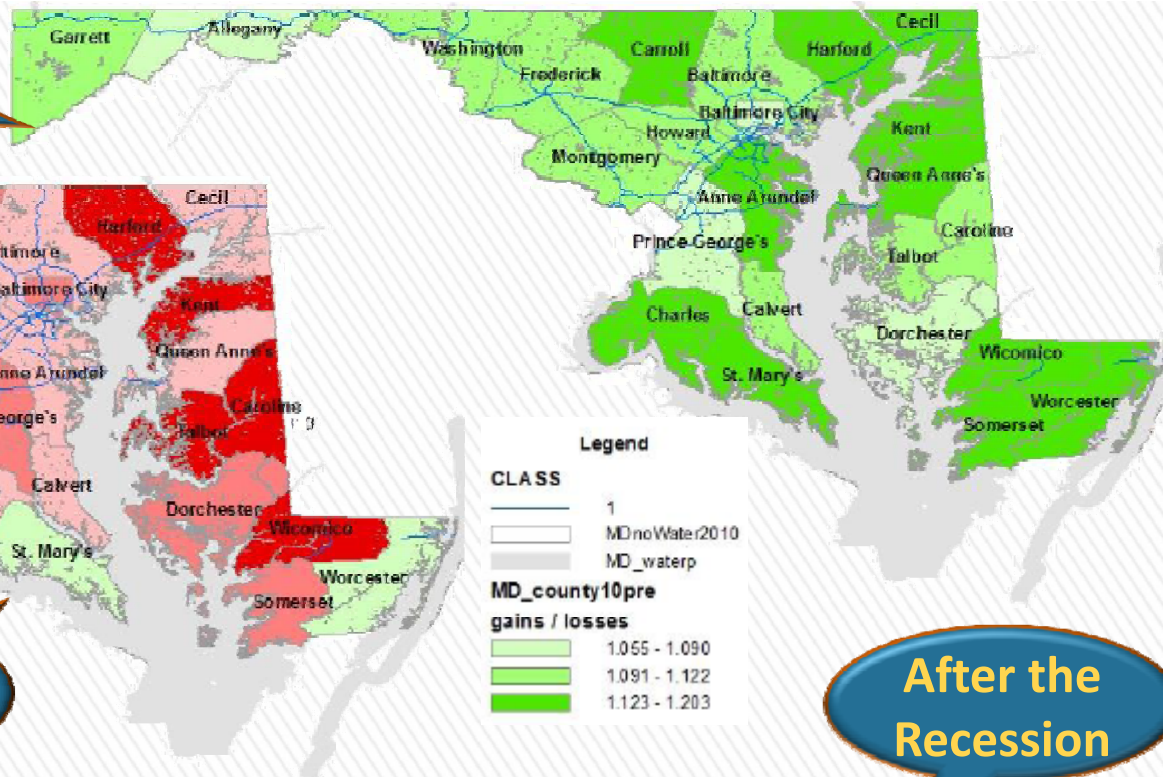
**GEOGRAPHIC DYNAMICS OF MARYLAND  
AND ANNE ARUNDEL COUNTY  
EMPLOYMENT GAINS AND LOSSES  
BEFORE, DURING, AND AFTER THE RECESSION,  
2004Q1-2011Q2**



Before the  
Recession



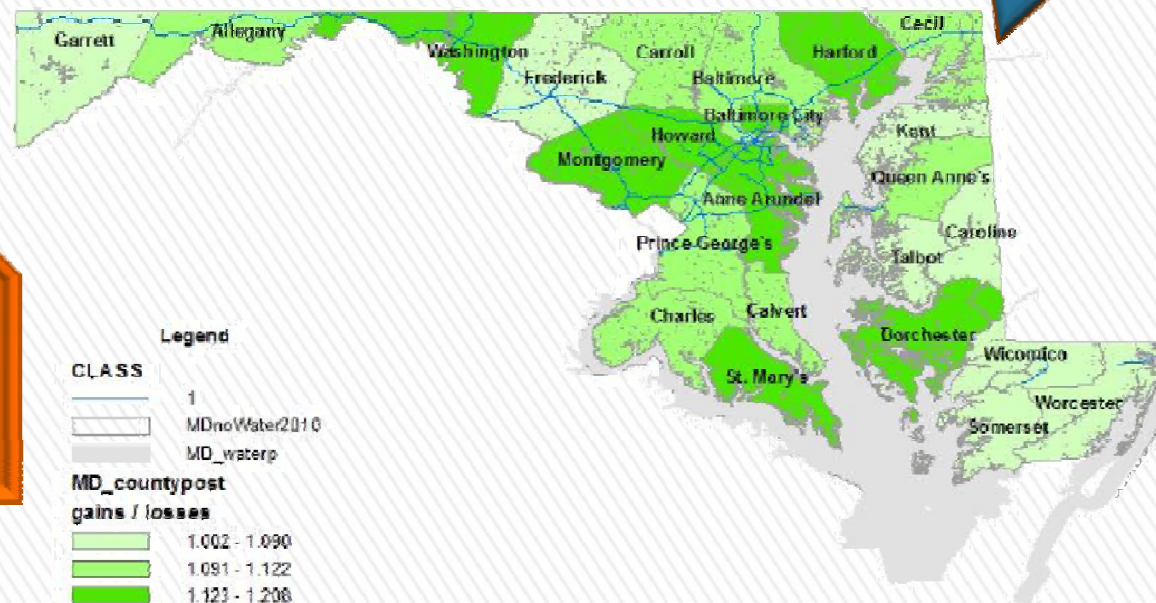
During the  
Recession



After the  
Recession

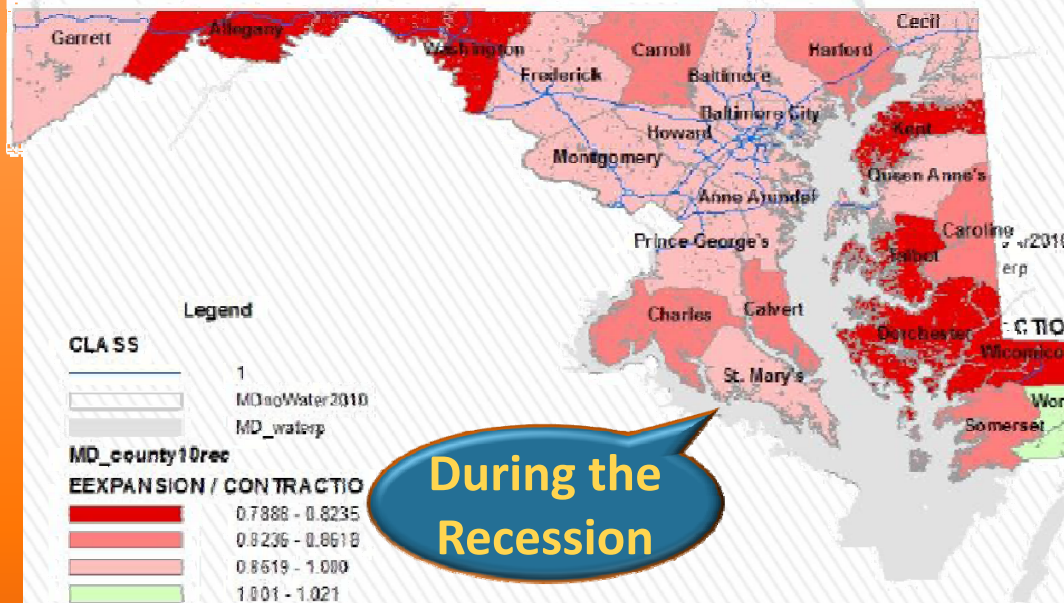
Employment from Gains

Employment from Losses

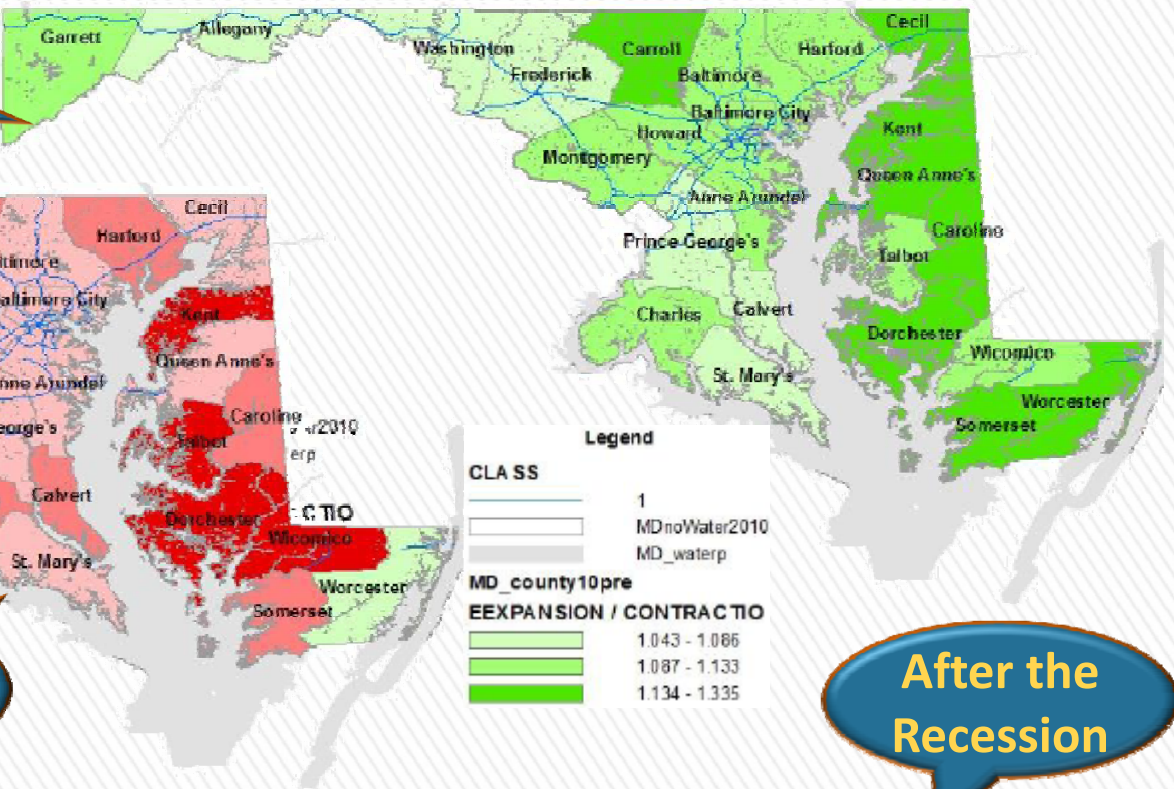




Before the  
Recession



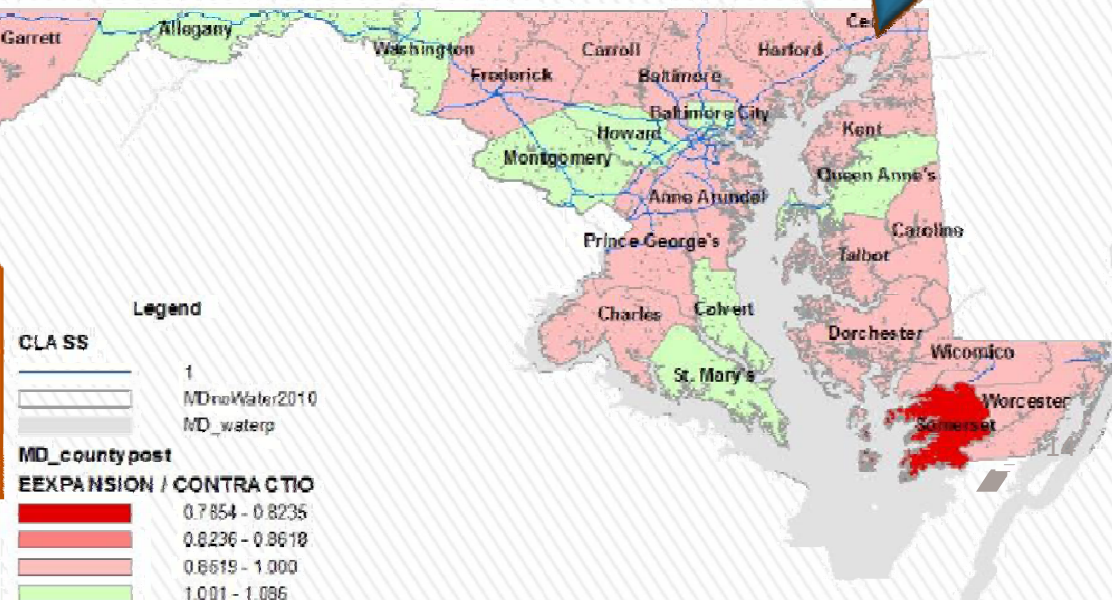
During the  
Recession



After the  
Recession

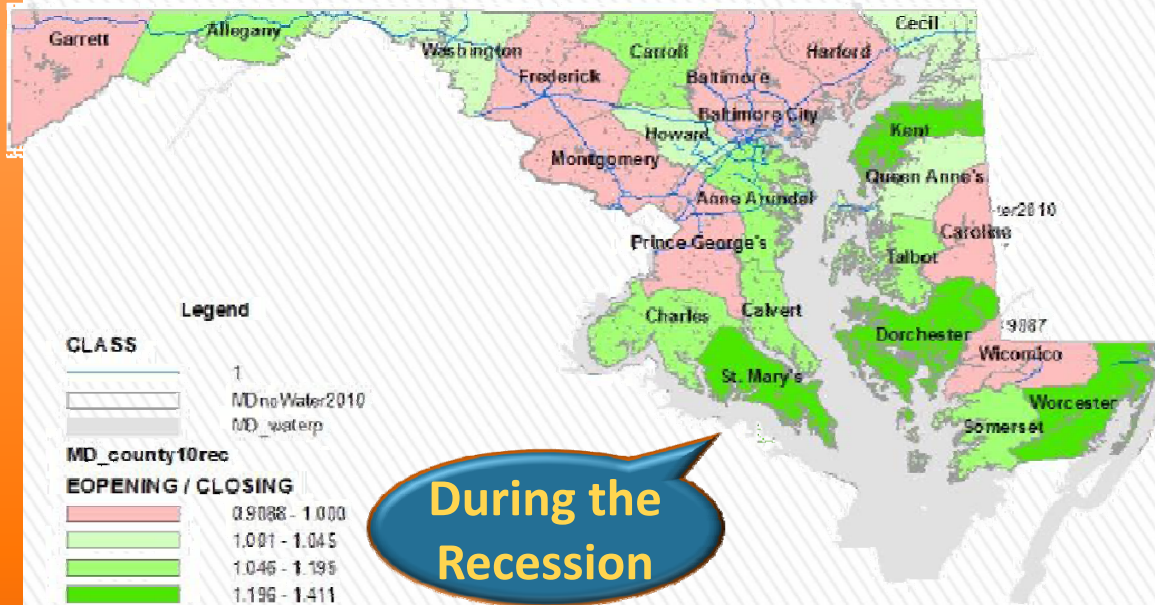
Employment from Expansions

Employment from Contractions

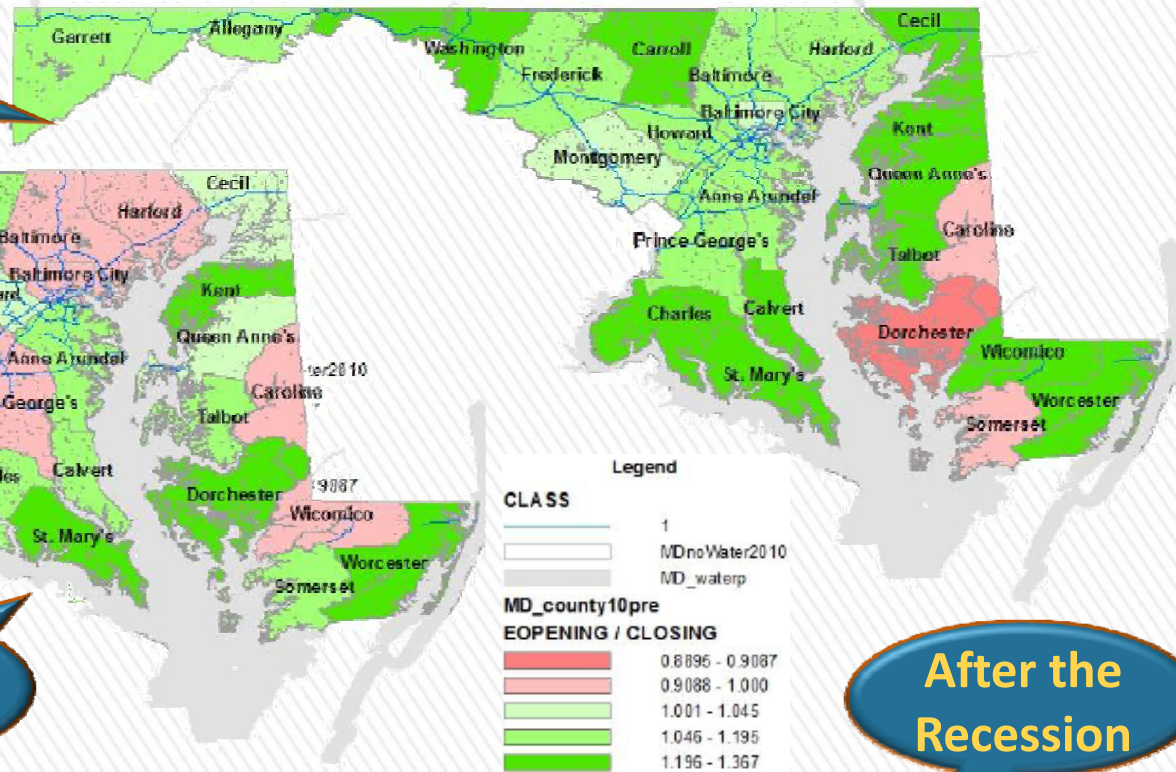




Before the  
Recession



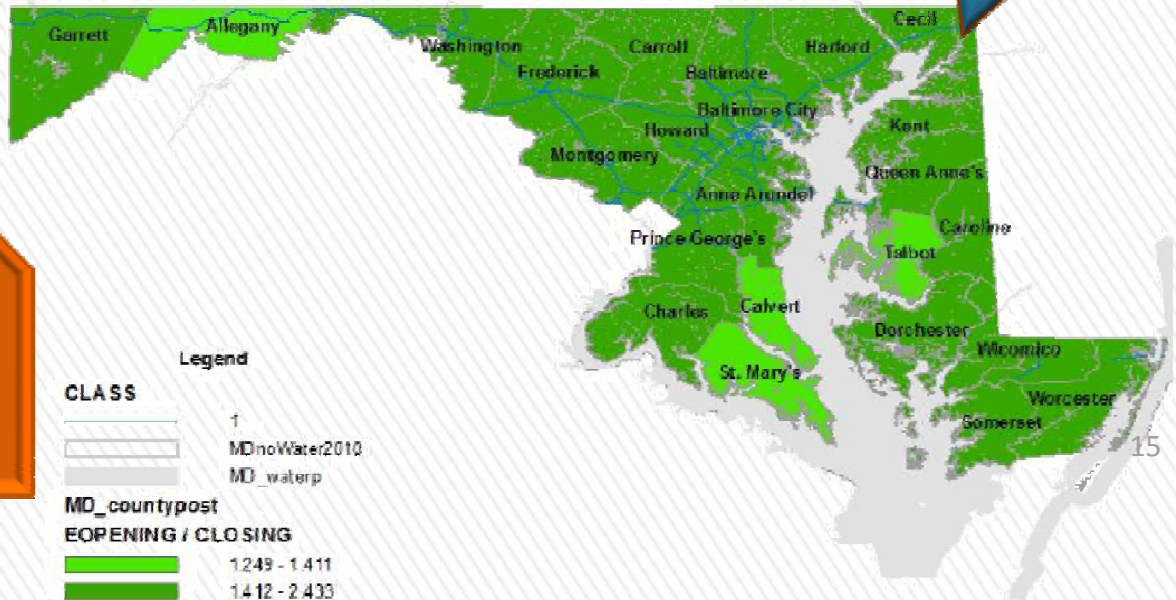
During the  
Recession



After the  
Recession

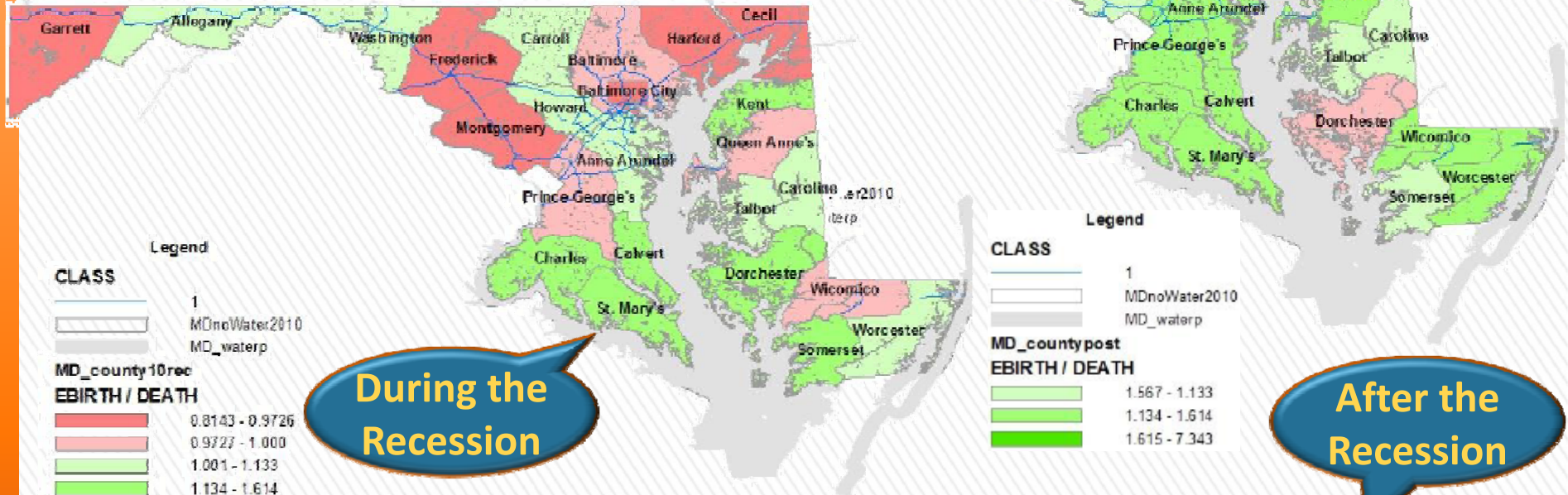
Employment from Openings

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Employment from Closings



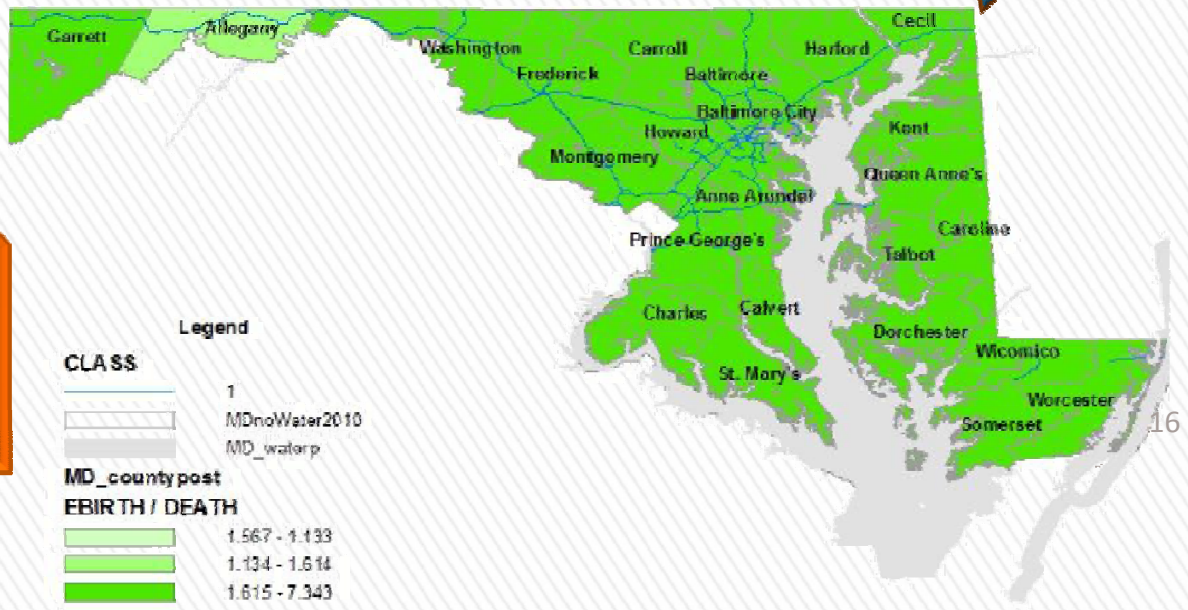


Before the  
Recession



During the  
Recession

After the  
Recession

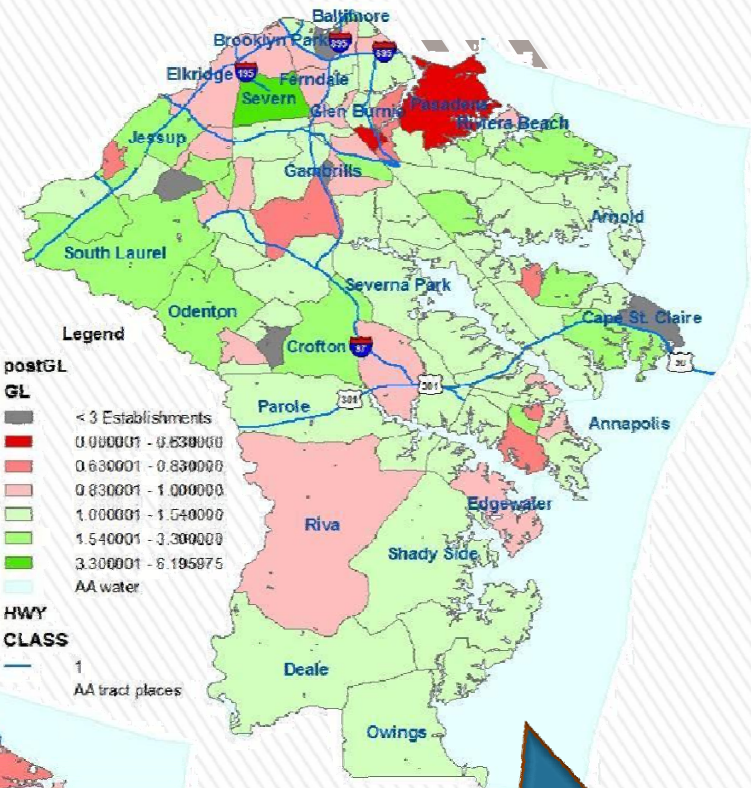
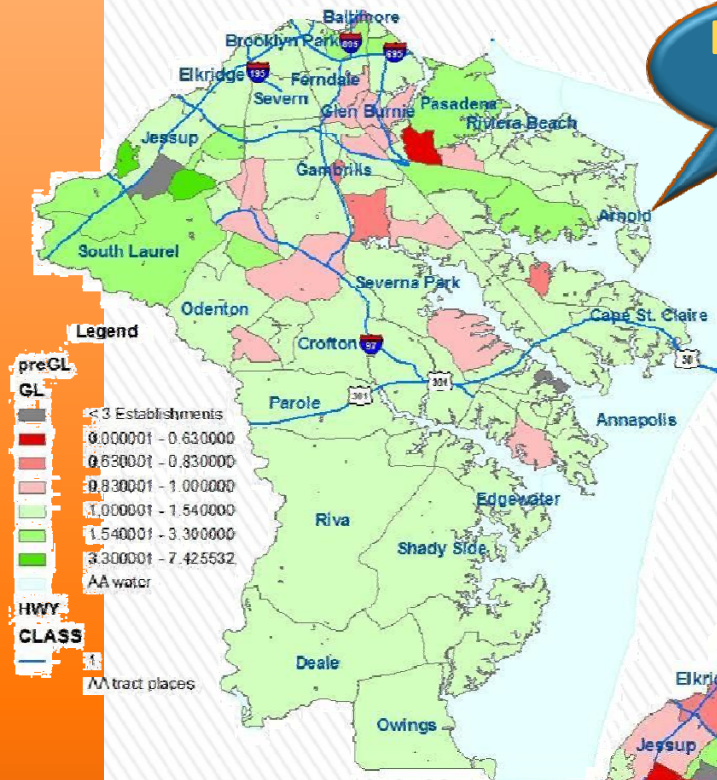


Employment from Births

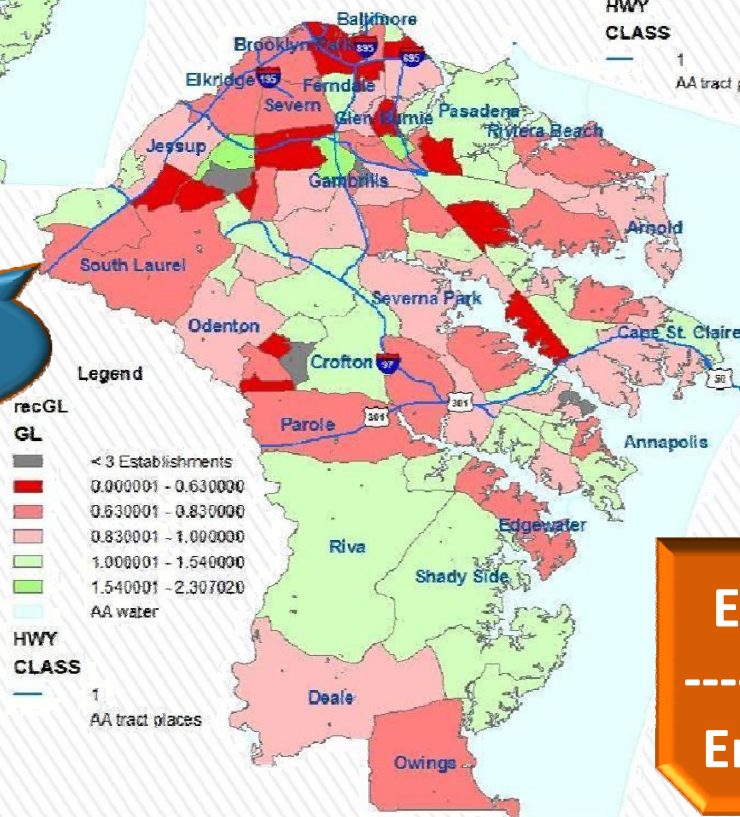
Employment from Deaths



Before the Recession



During the Recession



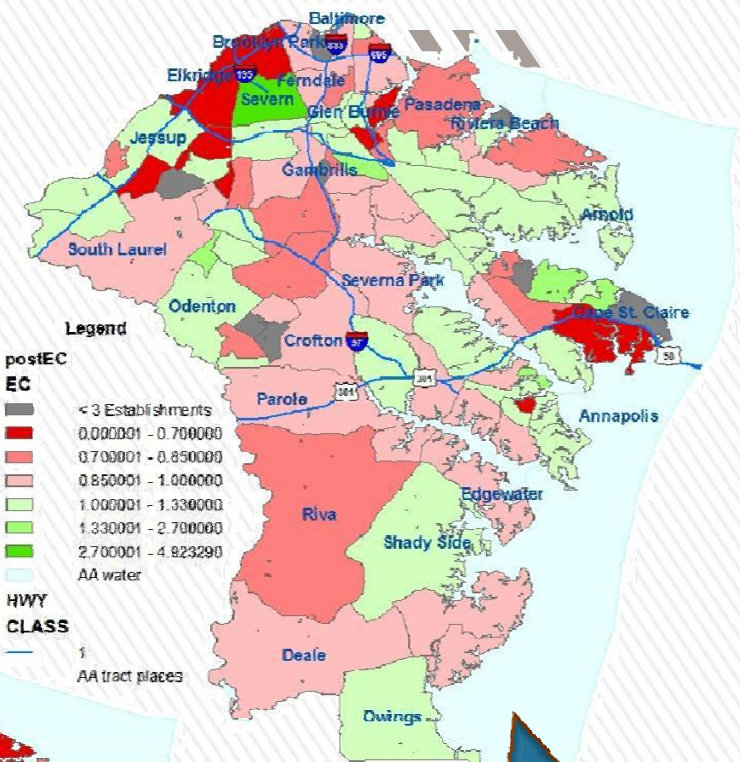
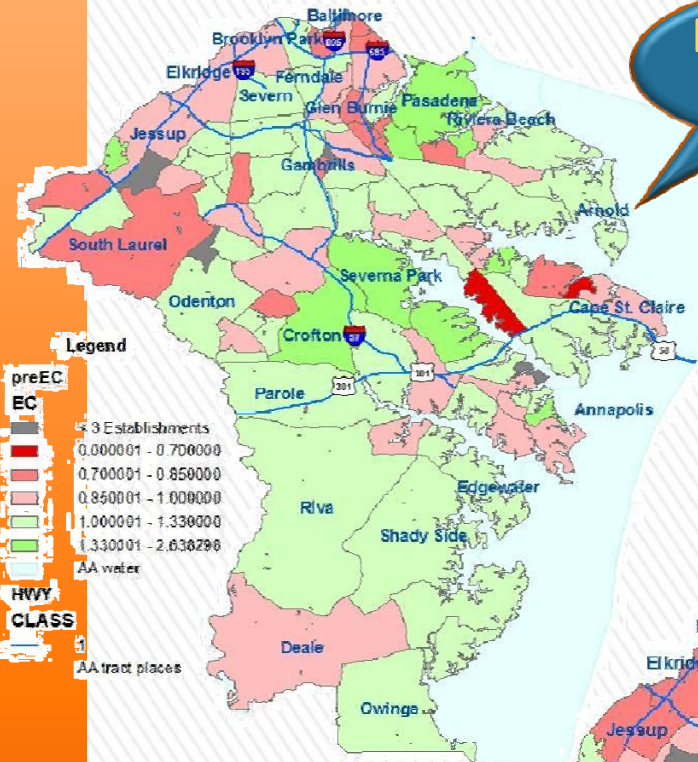
After the Recession

Employment from Gains

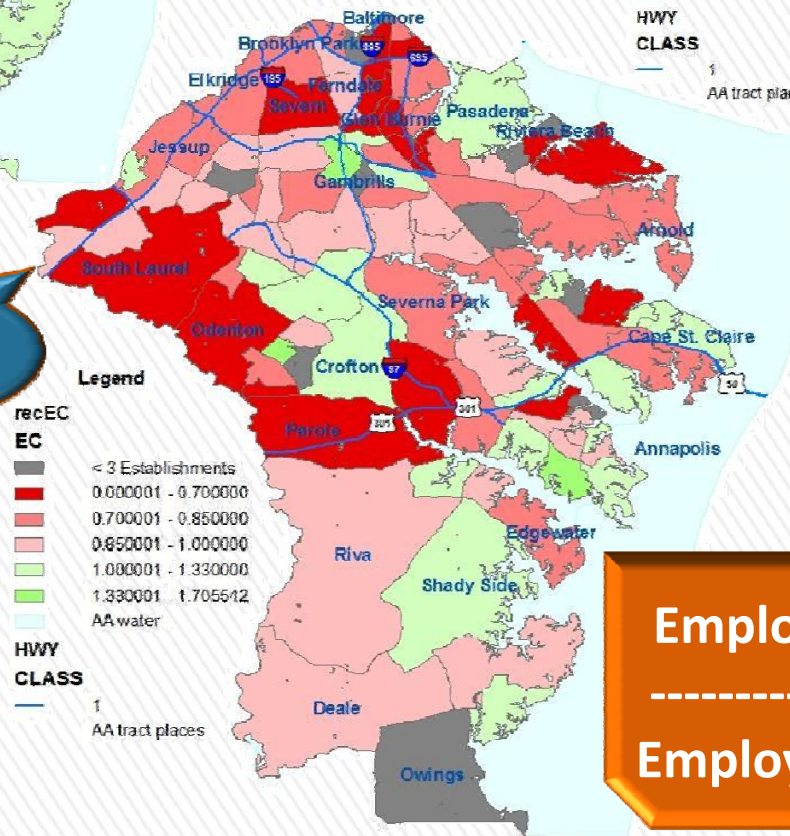
Employment from Losses



Before the  
Recession



During the  
Recession

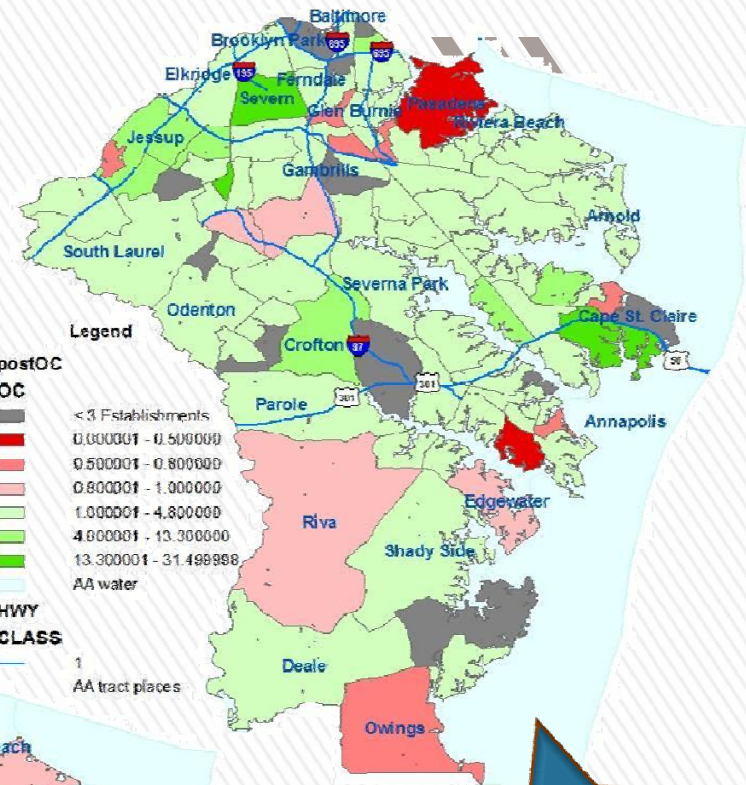
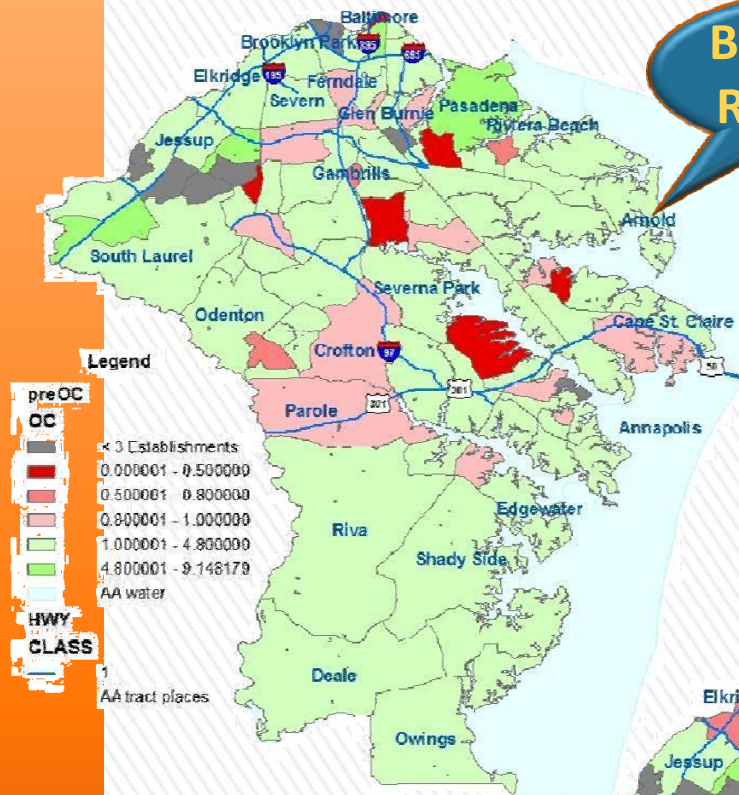


After the  
Recession

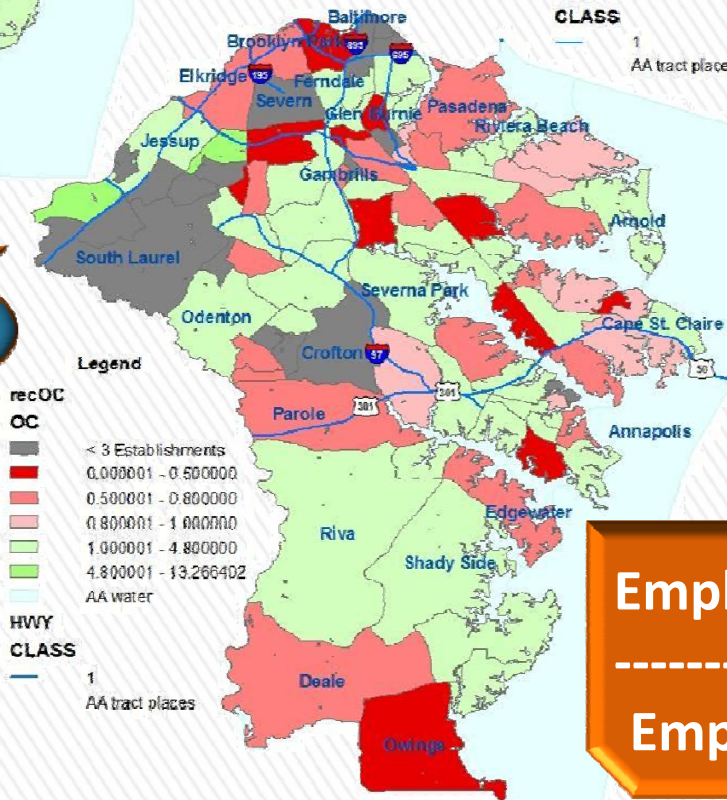
Employment from Expansions  
-----  
Employment from Contractions



Before the  
Recession



During the  
Recession



After the  
Recession

Employment from Openings

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Employment from Closings



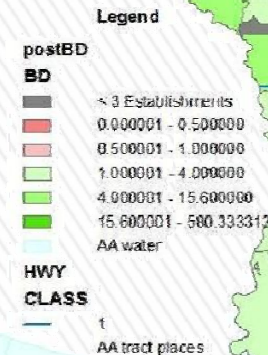
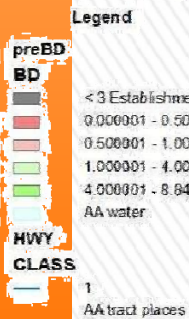
Before the  
Recession

After the  
Recession

During the  
Recession

Employment from Births

Employment from Deaths

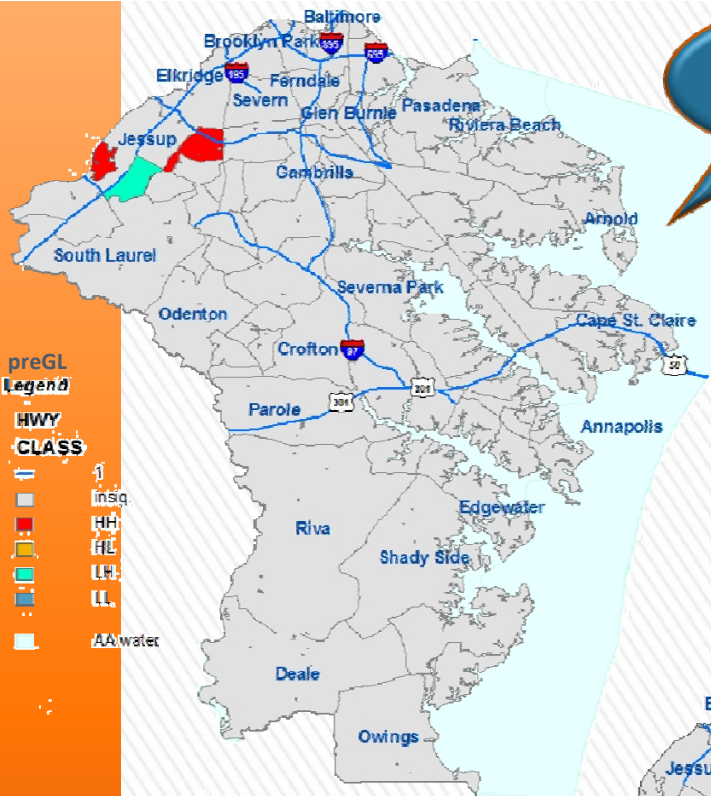




Before the Recession

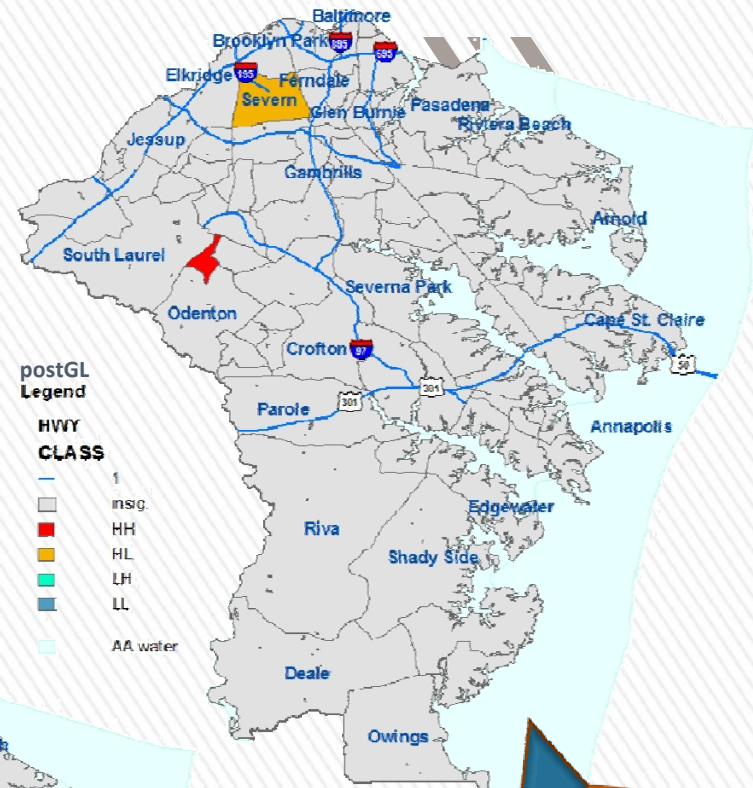
preGL  
Legend  
HWY  
CLASS

1	insig
HH	HL
LH	LL
AA	water



postGL  
Legend  
HWY  
CLASS

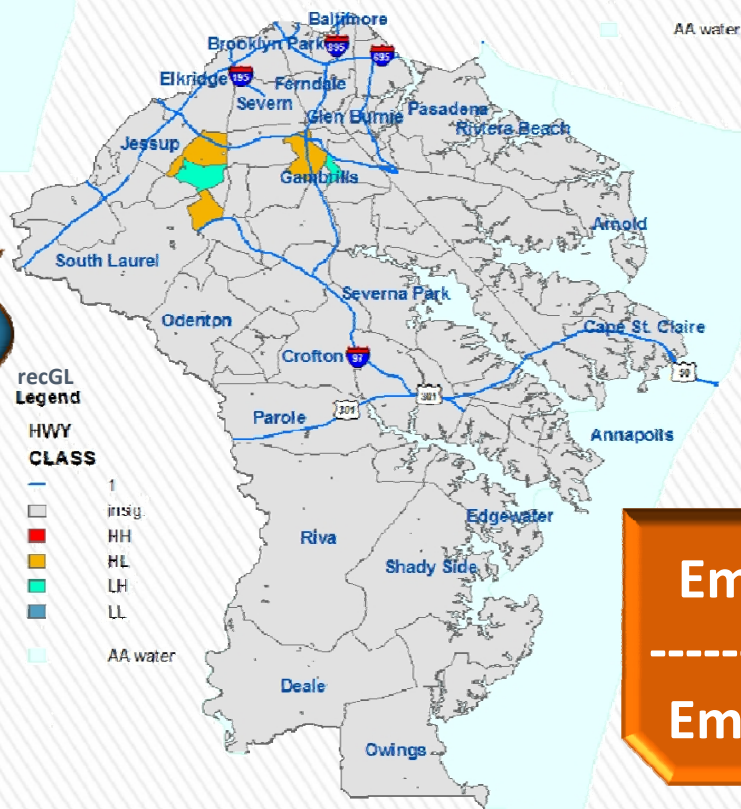
1	insig
HH	HL
LH	LL
AA	water



During the Recession

recGL  
Legend  
HWY  
CLASS

1	insig
HH	HL
LH	LL
AA	water



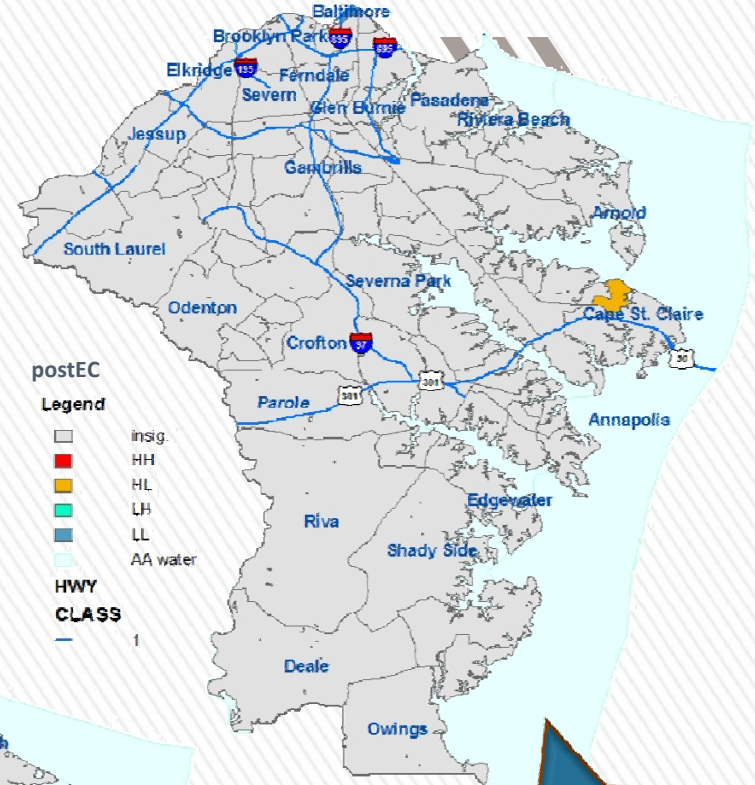
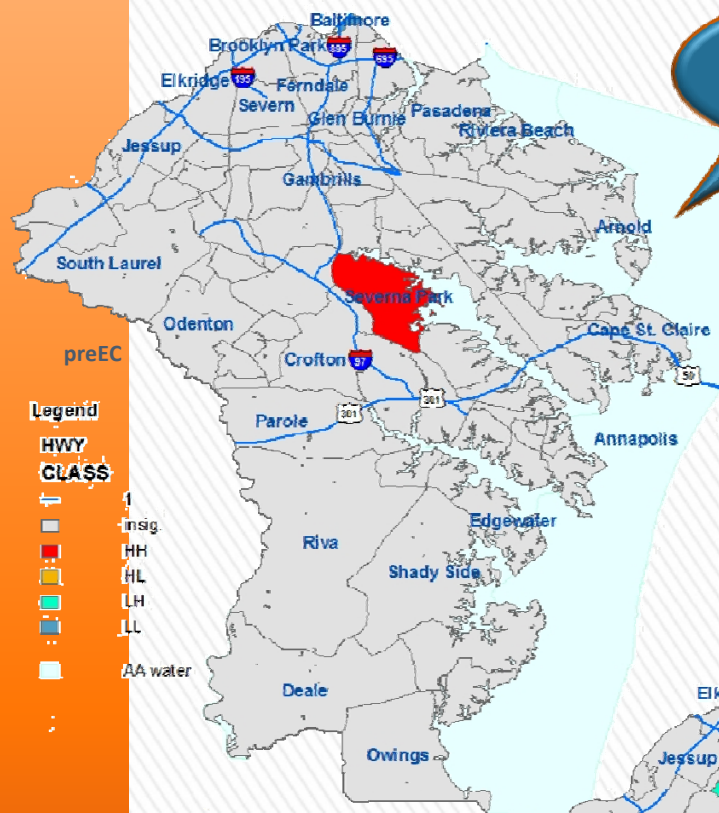
After the Recession

Employment from Gains

Employment from Losses

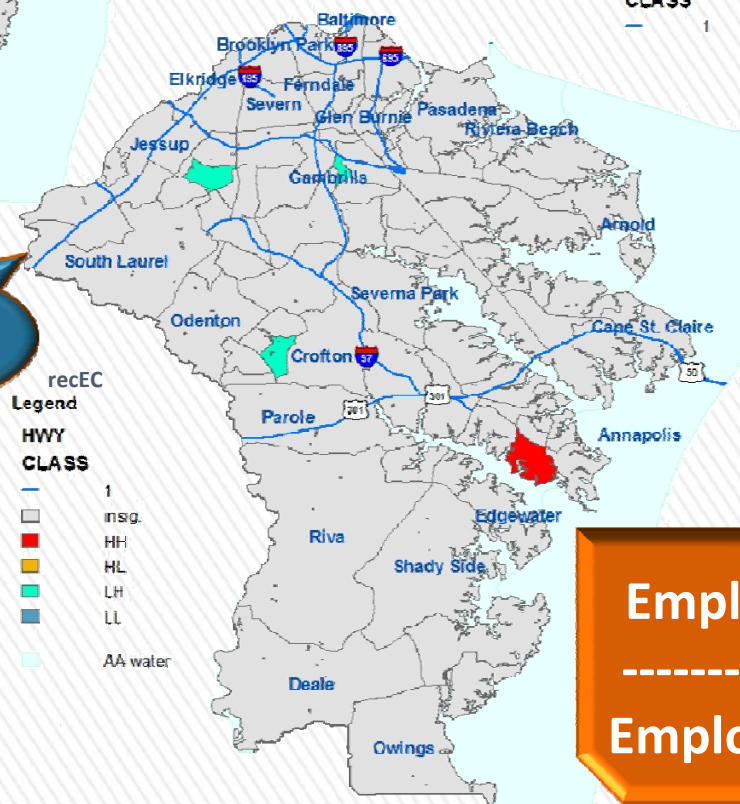


Before the  
Recession



After the  
Recession

During the  
Recession



Employment from Expansions  
-----  
Employment from Contractions

Before the Recession

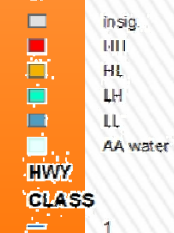
After the Recession

During the Recession

Employment from Openings

Employment from Closings

preOC  
Legend



postOC  
Legend

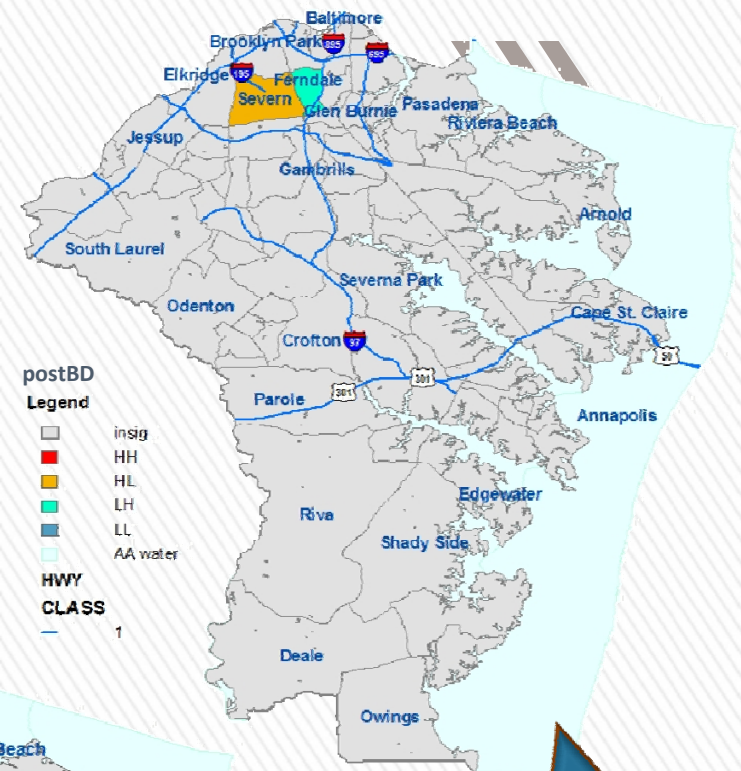
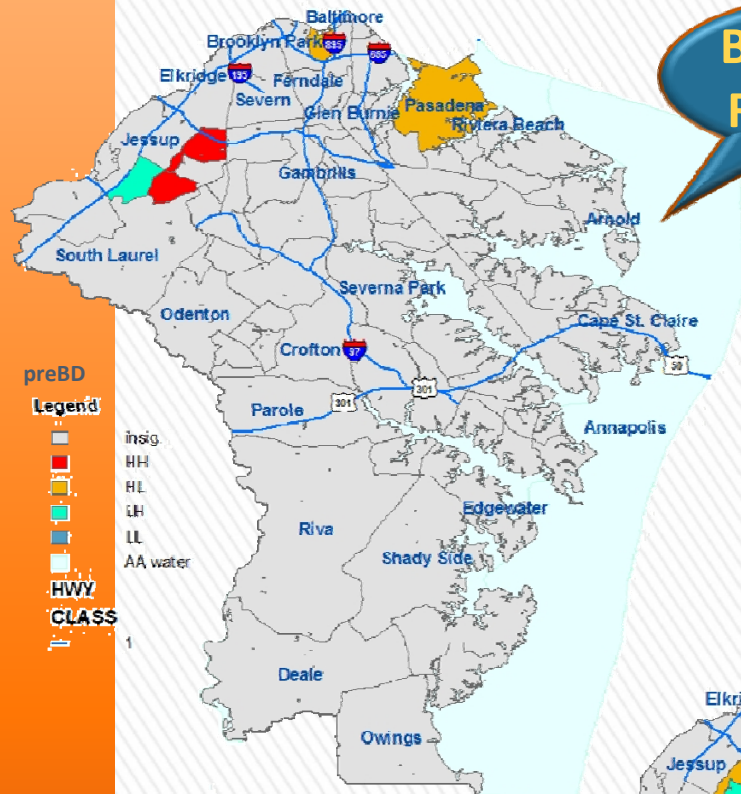


recOC  
Legend



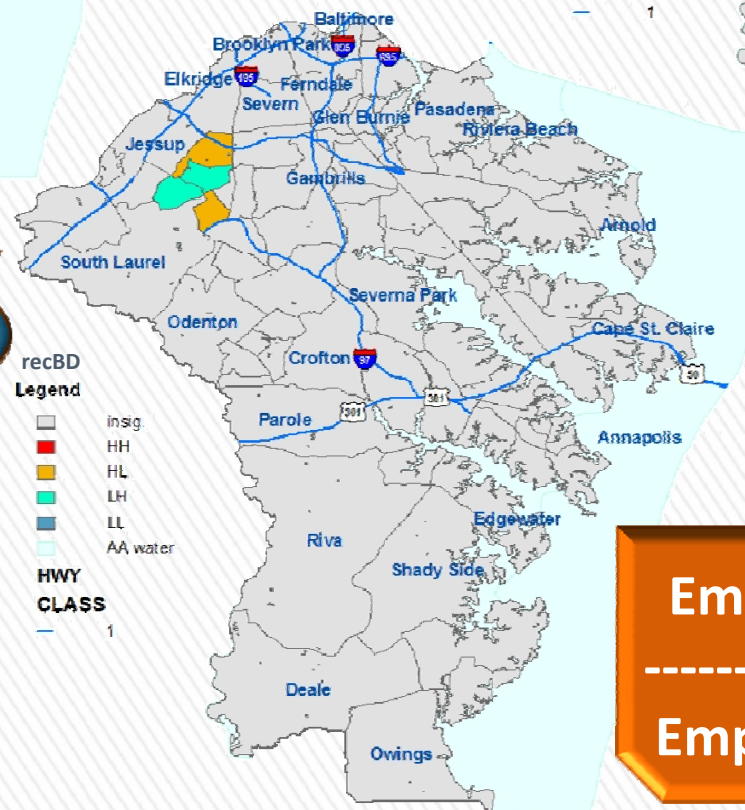


Before the Recession



After the Recession

During the Recession



Employment from Births

Employment from Deaths

# **SELECTED WIB REPORT SLIDES: BALTIMORE COUNTY, 2004Q1- 2011Q2**



## Baltimore County Business Establishment Size-Class Distribution, 2004q1 and 2011q2

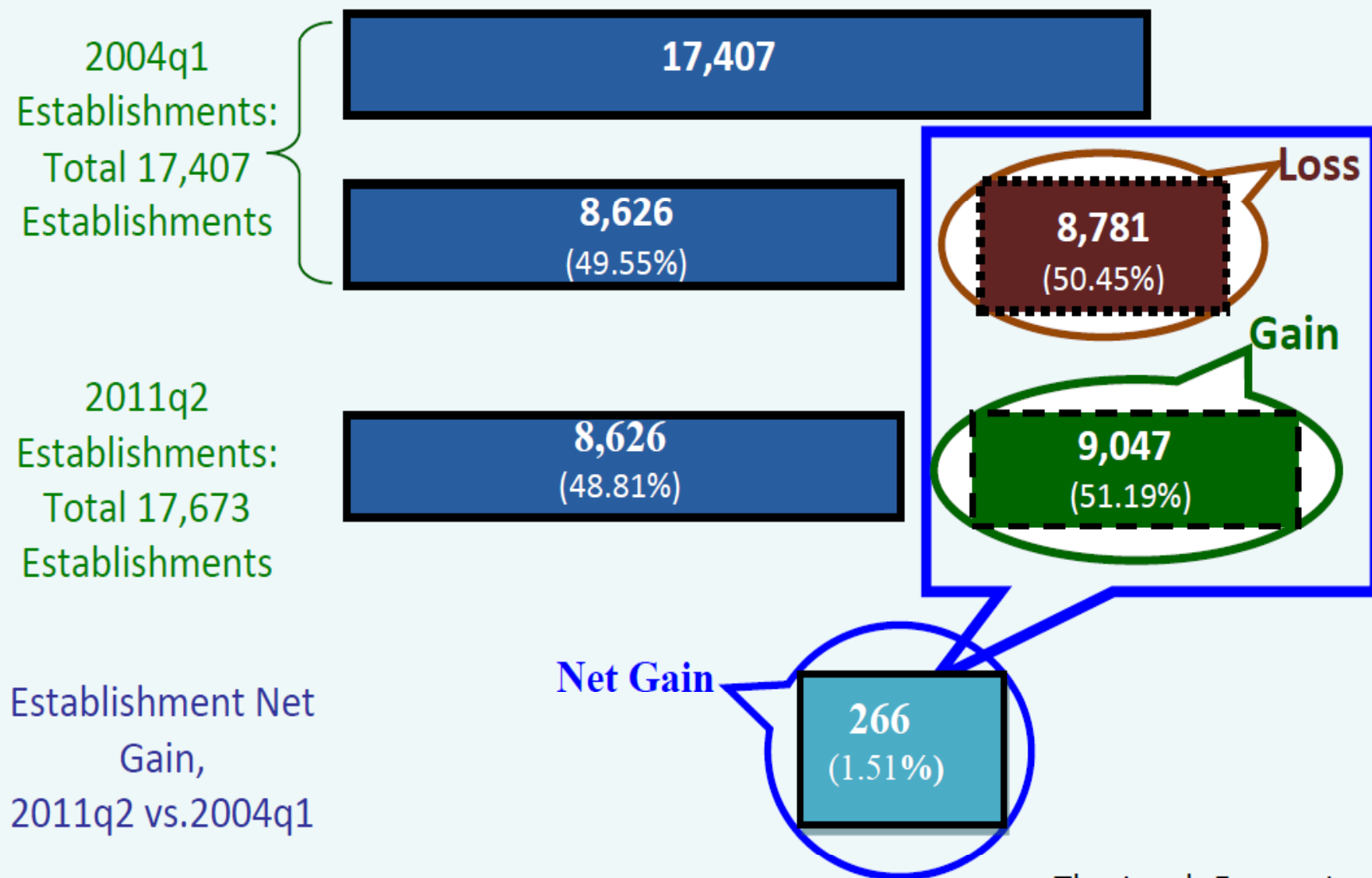
	2004q1		2011q2	
Size-Class	Establishments	%	Establishments	%
Micro (1-9)	12,022	69.06	11,992	67.85
Small (10-24)	3,024	17.37	3,201	18.11
Medium (25-99)	1,846	10.60	1,960	11.09
Large ( $\geq 100$ )	515	2.96	520	2.94
Total	17,407	100.0	17,673	100.0

Note: The size-class that each business establishment belongs to is defined by the highest monthly employment level reported in a reference year/quarter.



The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation

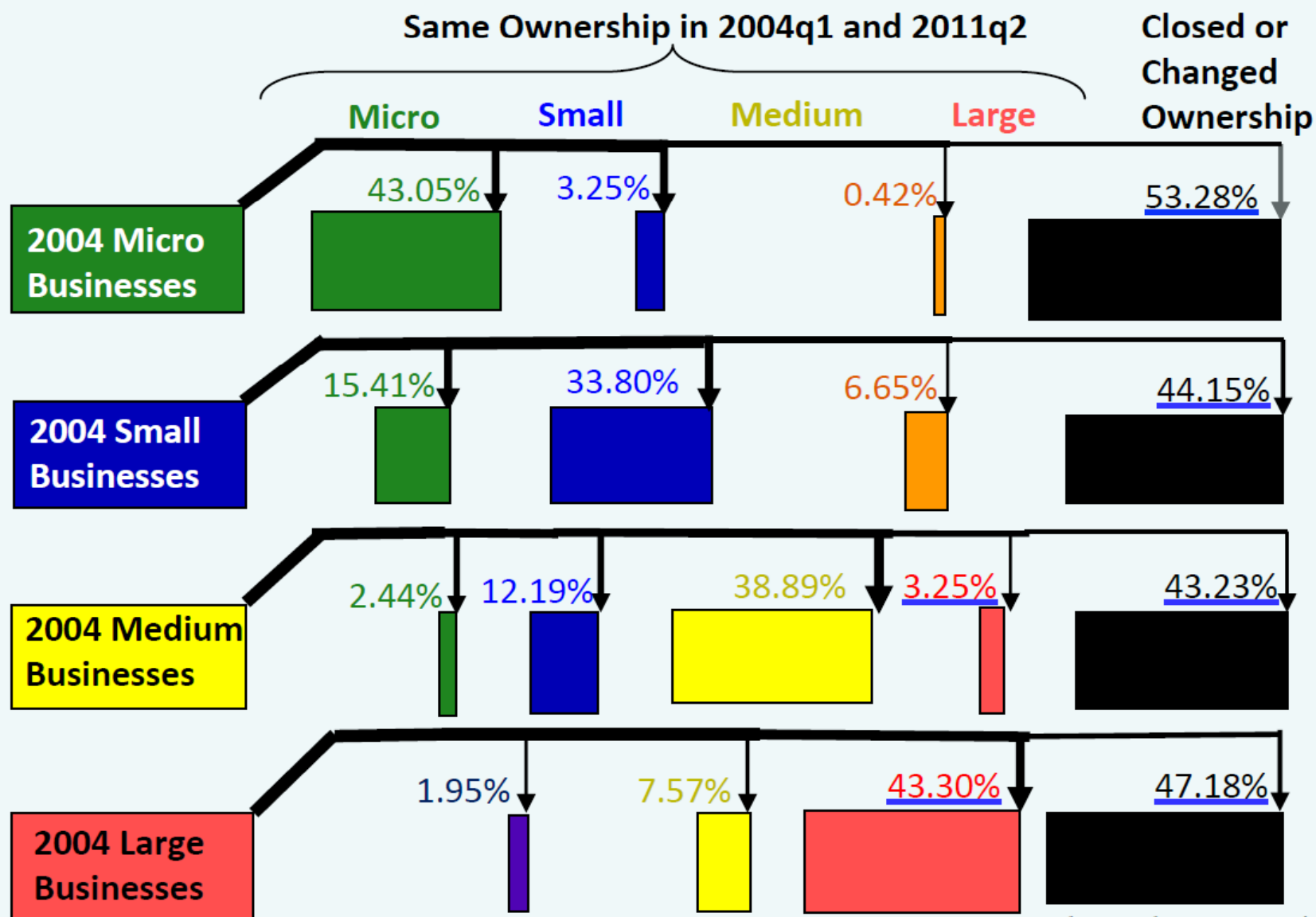
## Illustration of Establishment Loss, Gain, and Net Gain, 2004q1 vs. 2011q2



The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation

## Illustration of Establishment Size Change, 2004q1 vs. 2011q2 2011 Business Establishments

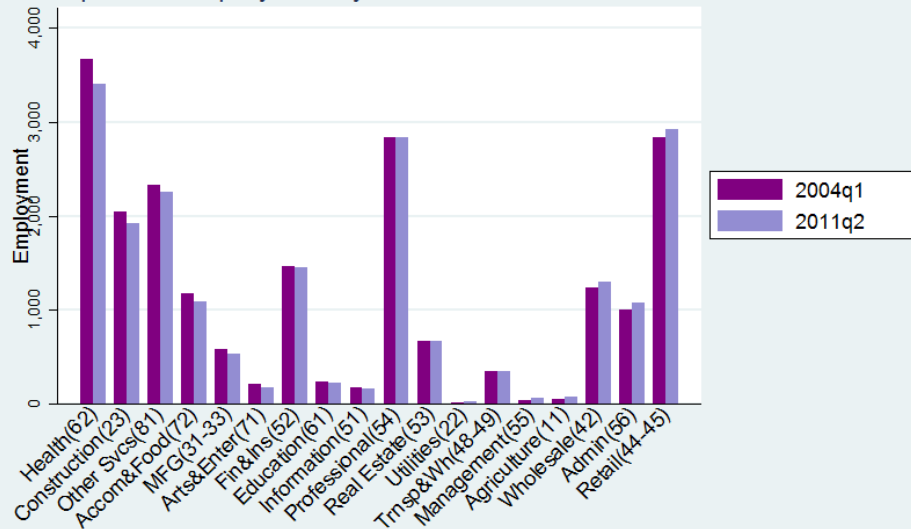
Business Establishment Employment Size Class



The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation

# Employment for Businesses under the Same Ownership, 2004q1 vs. 2011q2

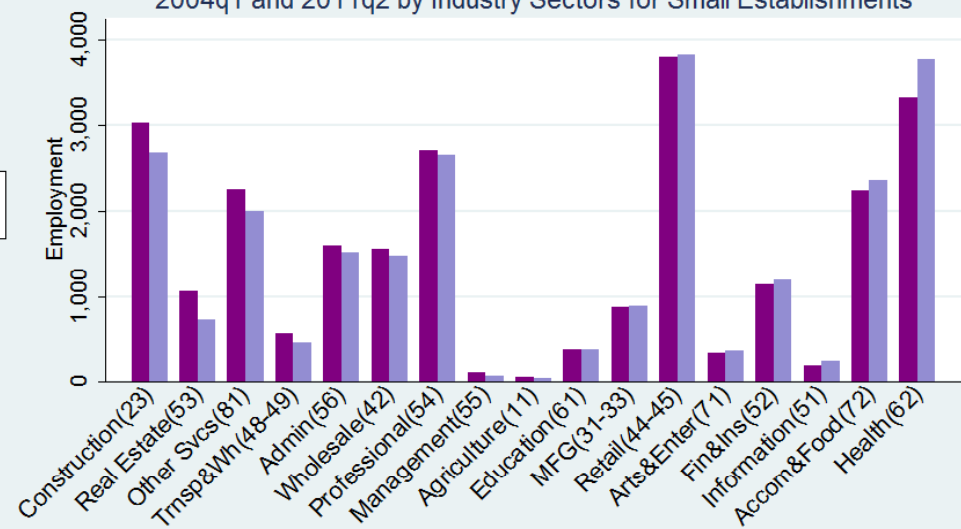
Baltimore County Employment for Establishments Active in both 2004q1 and 2011q2 by Industry Sectors for Micro Establishments



Note: Industry sectors with only 1 or 2 establishments were dropped.

The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation

Baltimore County Employment for Establishments Active in both 2004q1 and 2011q2 by Industry Sectors for Small Establishments

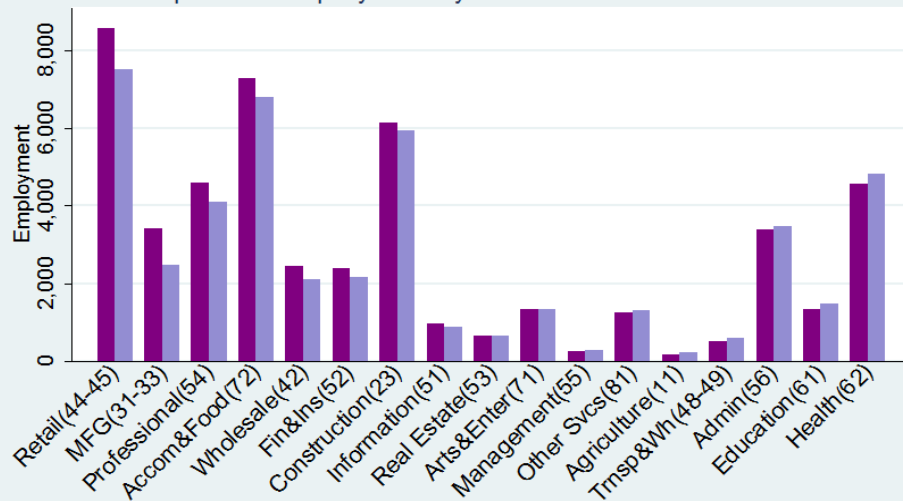


Note: Industry sectors with only 1 or 2 establishments were dropped.

The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation

NAICS code definition can be found at <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2007>.

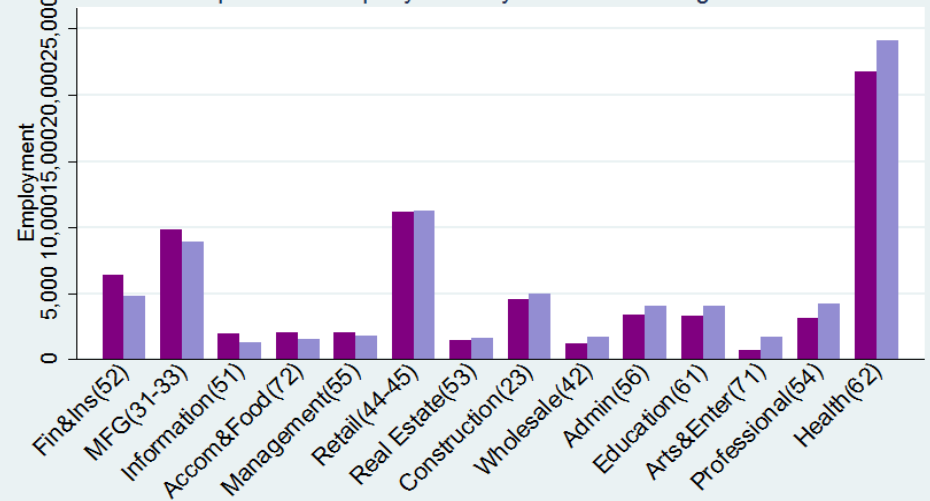
Baltimore County Employment for Establishments Active in both 2004q1 and 2011q2 by Industry Sectors for Medium Establishments



Note: Industry sectors with only 1 or 2 establishments were dropped.

The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation

Baltimore County Employment for Establishments Active in both 2004q1 and 2011q2 by Industry Sectors for Large Establishments



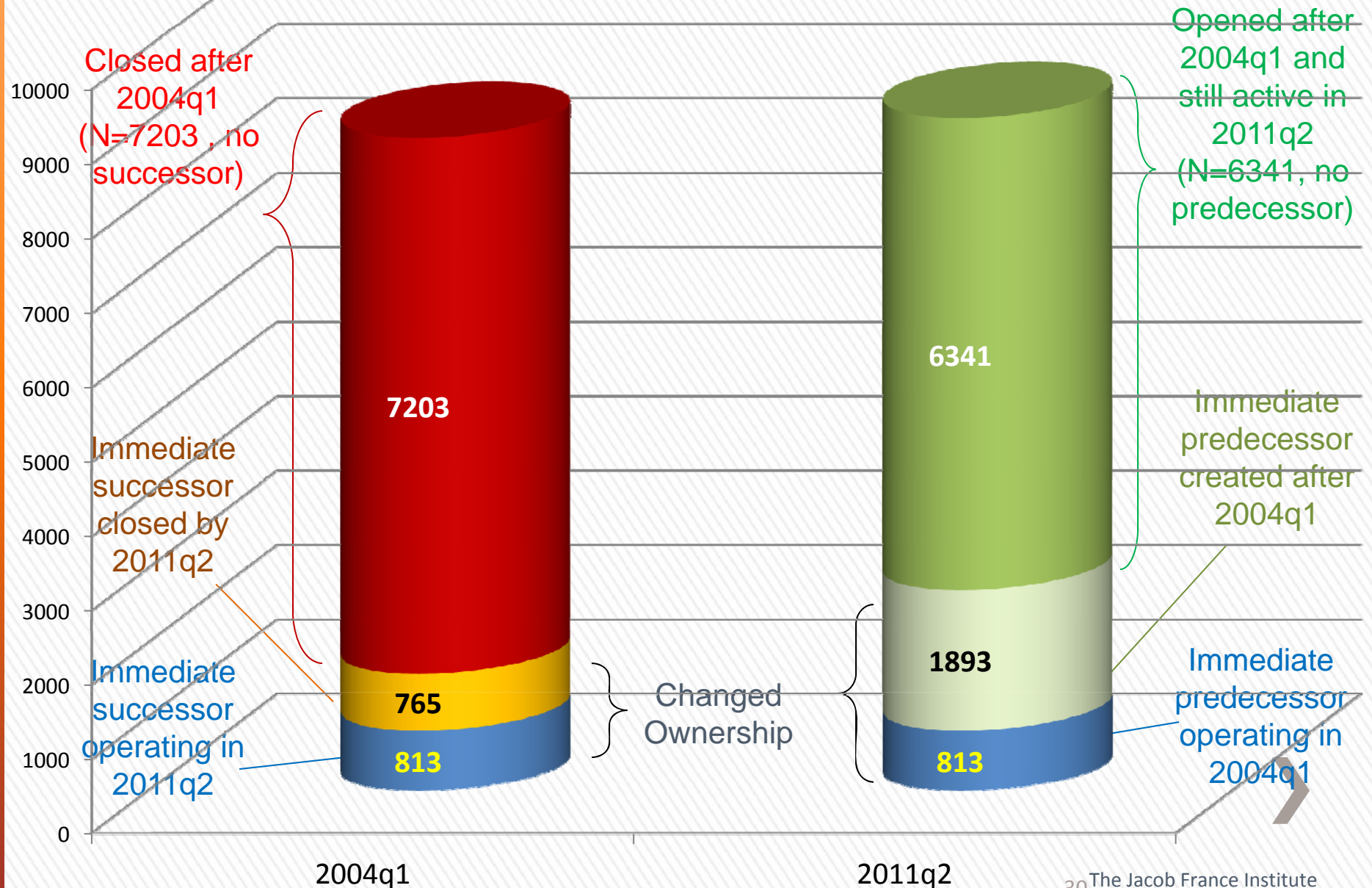
Note: Industry sectors with only 1 or 2 establishments were dropped.

The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation



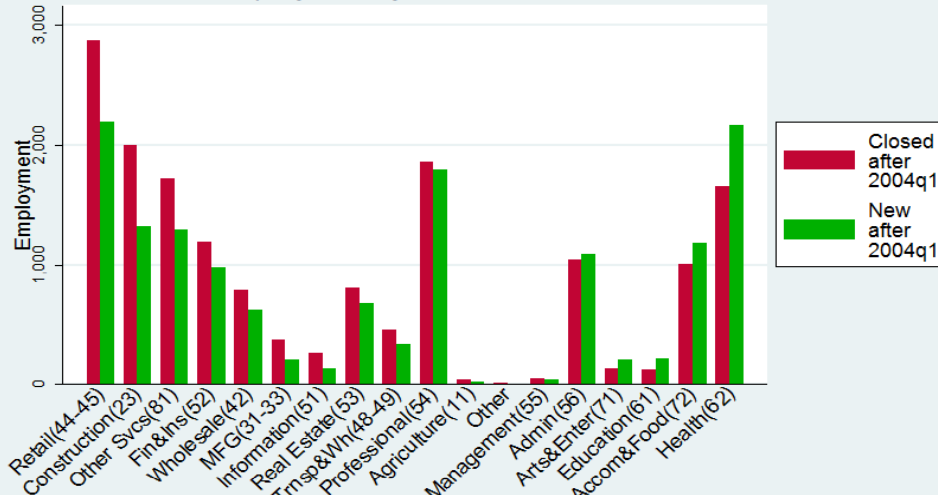
Total: 8781 Establishments  
"Disappeared" by the end of 2011q2

Total: 9047 Establishments  
"Appeared" after 2004q1



# Employment Loss/Gain due to Business Closure/Creation with No Predecessor & Successor

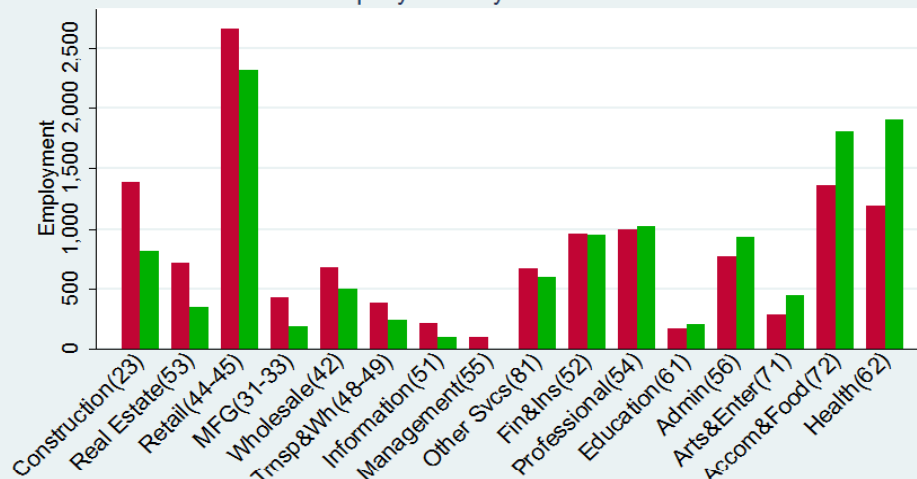
Baltimore County Employment for Establishments that are Closed or New after 2004q1 by Industry Sectors for Micro Establishments



Note: Industry sectors with only 1 or 2 establishments were dropped.

The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation

Baltimore County Employment for Establishments that are Closed or New after 2004q1 by Industry Sectors for Small Establishments

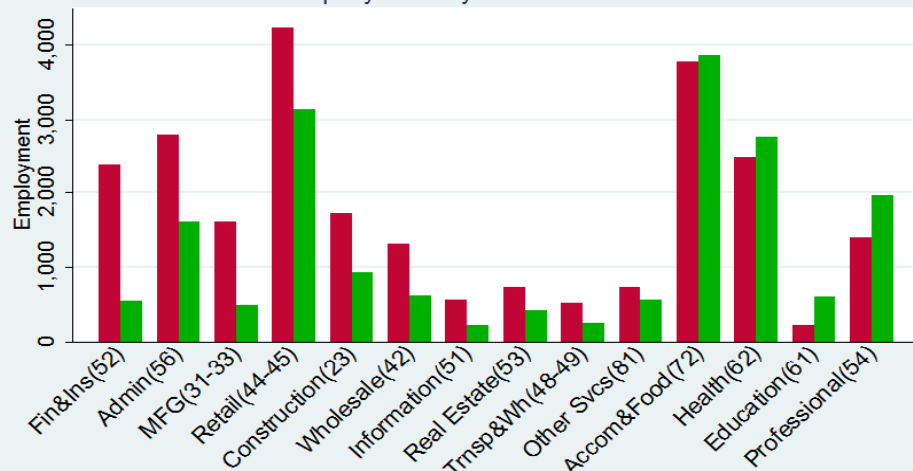


Note: Industry sectors with only 1 or 2 establishments were dropped.

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NAICS code definition can be found at <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2007>.

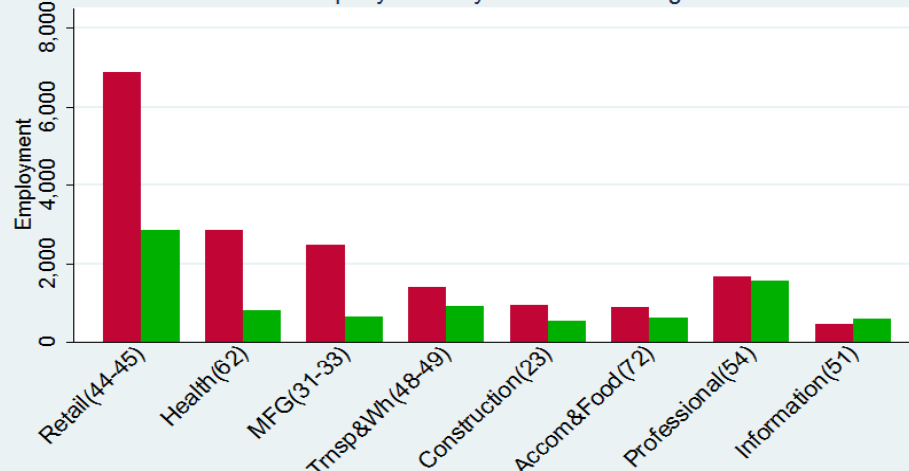
Baltimore County Employment for Establishments that are Closed or New after 2004q1 by Industry Sectors for Medium Establishments



Note: Industry sectors with only 1 or 2 establishments were dropped.

The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation

Baltimore County Employment for Establishments that are Closed or New after 2004q1 by Industry Sectors for Large Establishments



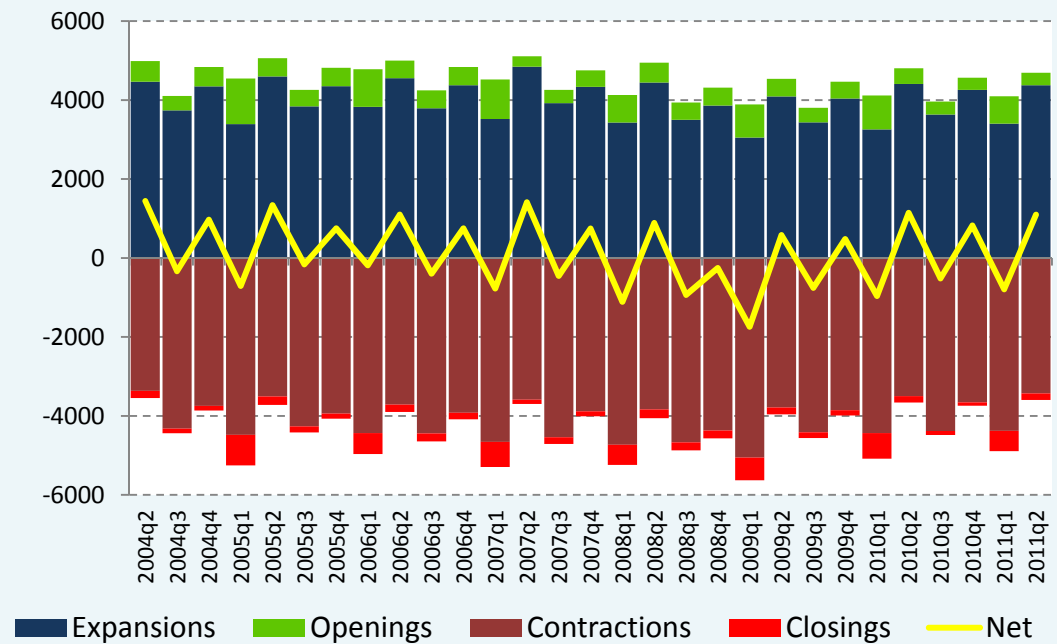
Note: Industry sectors with only 1 or 2 establishments were dropped.

The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation

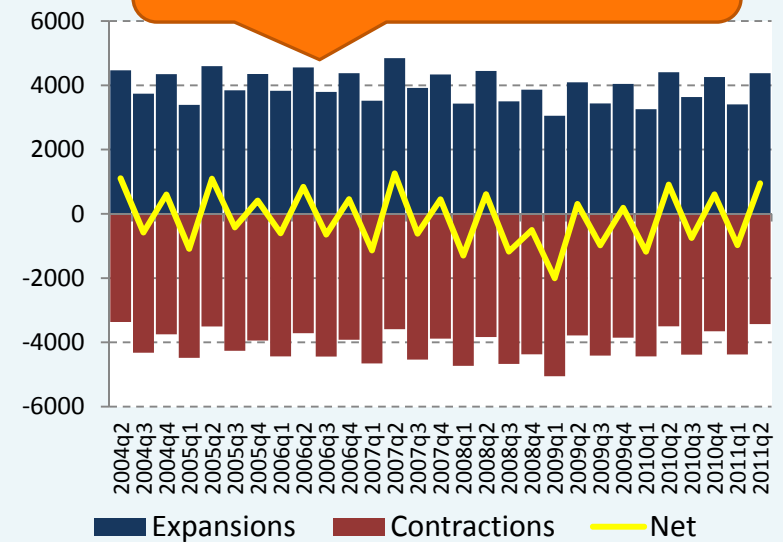
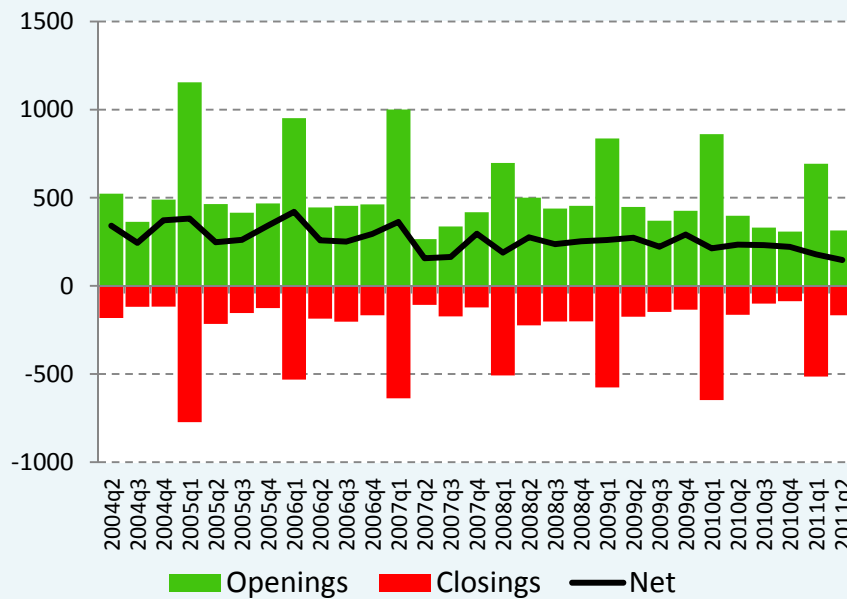


## Number of Expanding, Opening, Contracting, and Closing Establishments

## Number of Opening and Closing Establishments

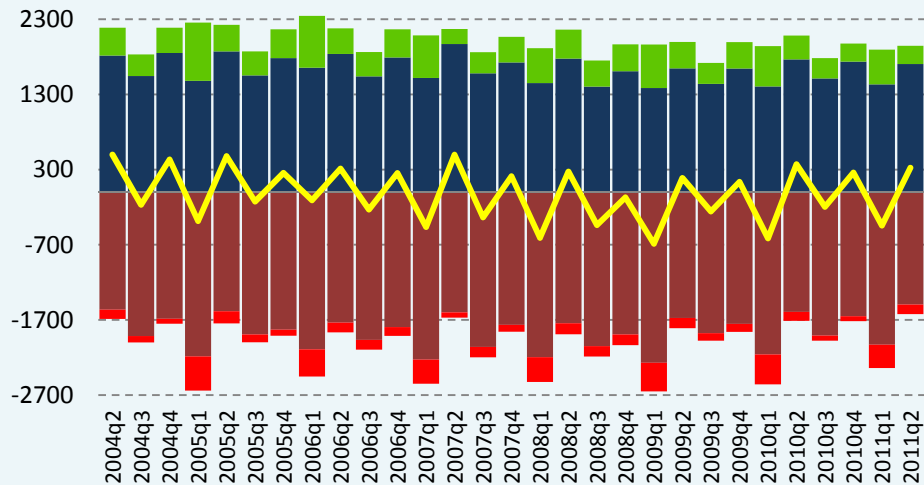


## Number of Expanding and Contracting Establishments

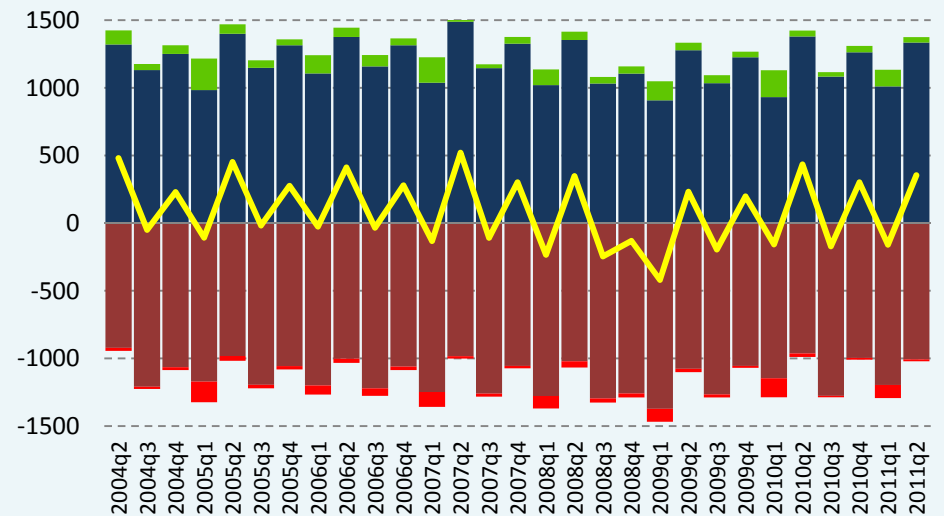


# Number of Expanding, Opening, Contracting, and Closing Establishments by Size

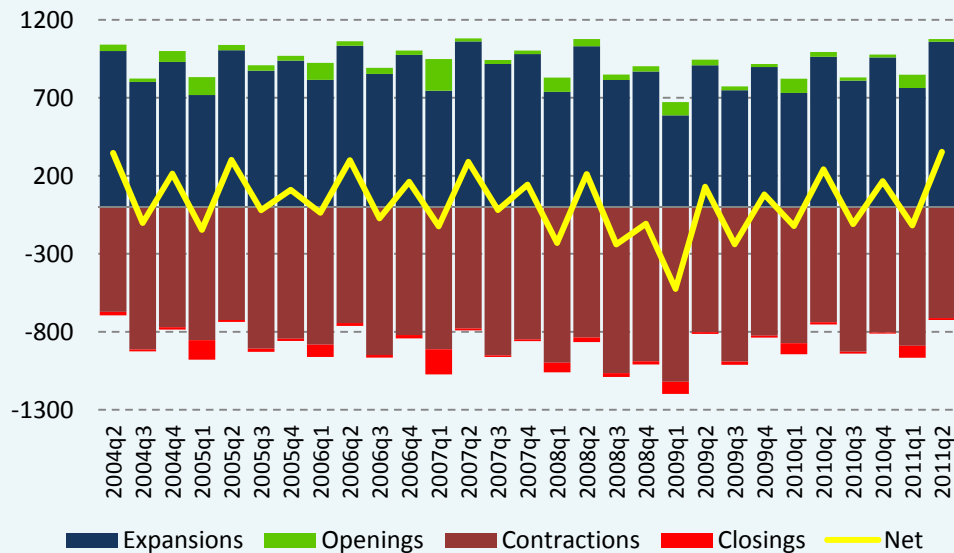
## Micro Businesses (1-9 Employees)



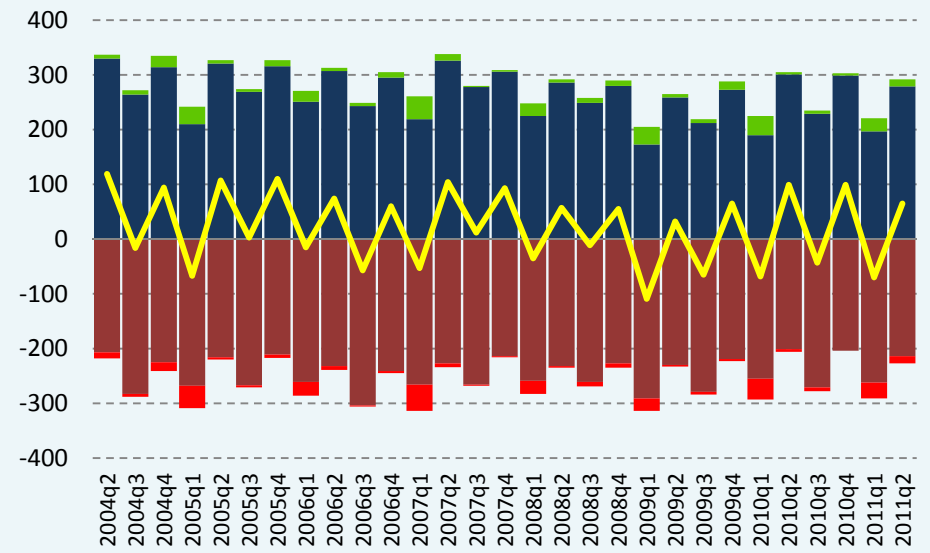
## Small Businesses (10-24 Employees)



## Medium Businesses (25-99 Employees)



## Large Businesses (100+ Employees)

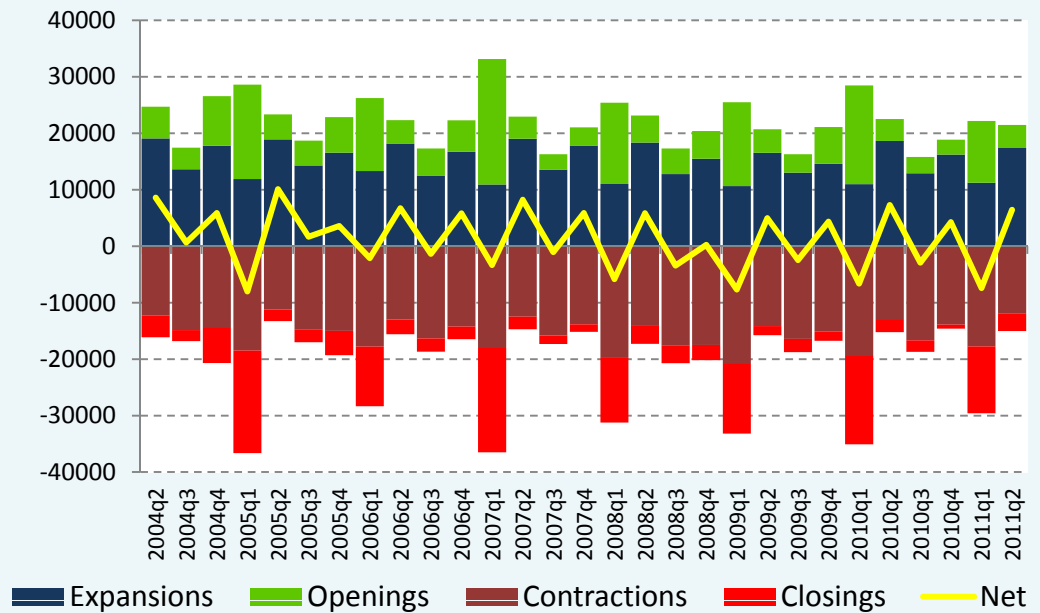
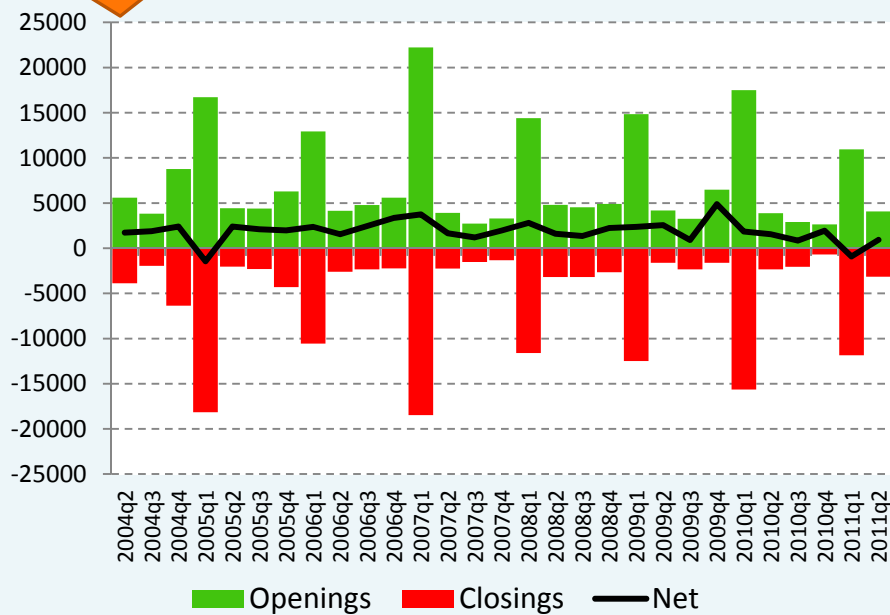


Expansions Openings Contractions Closings Net

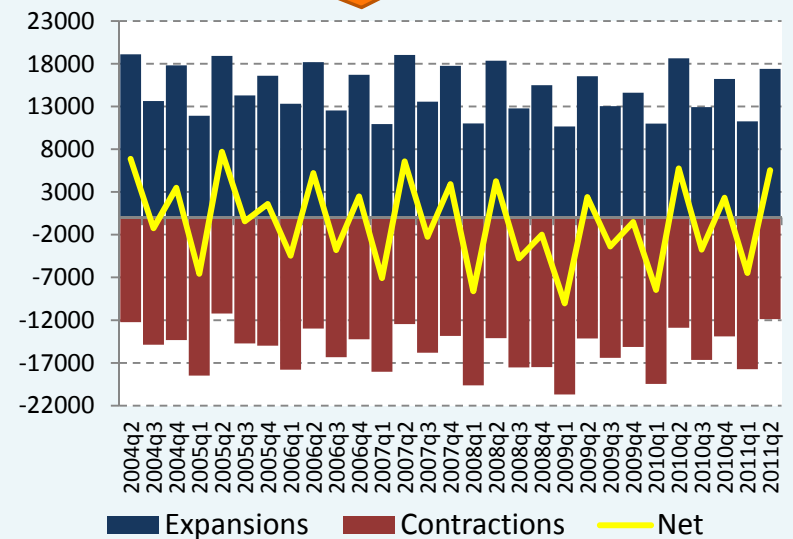


## Employments of Opening, Expanding, Closing, and Contracting Establishments

## Employment of Opening and Closing Establishments

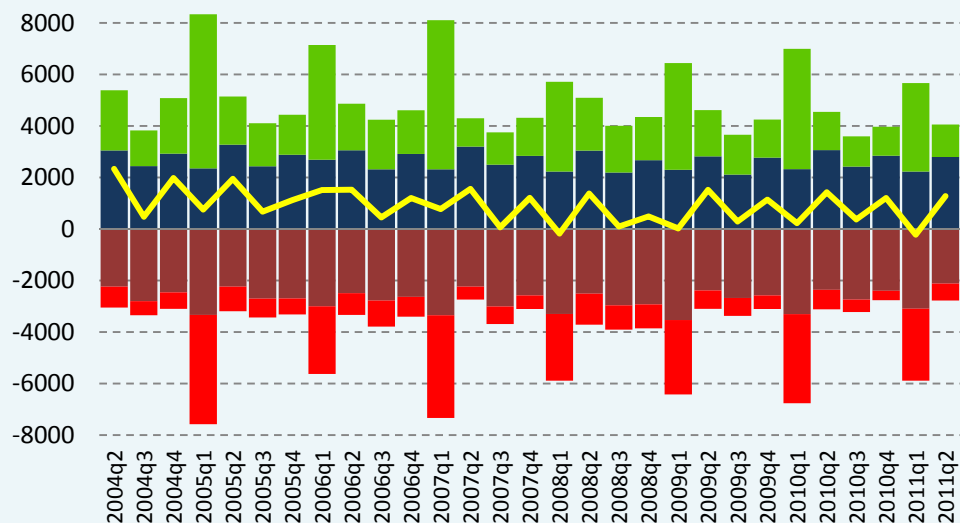


## Employment of Expanding and Contracting Establishments

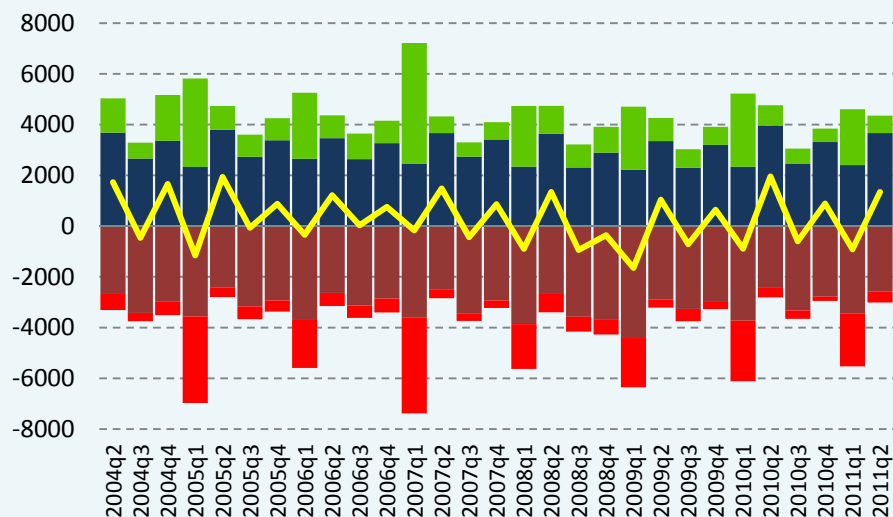


# Employment of Opening, Expanding, Closing, and Contracting Establishments by Size

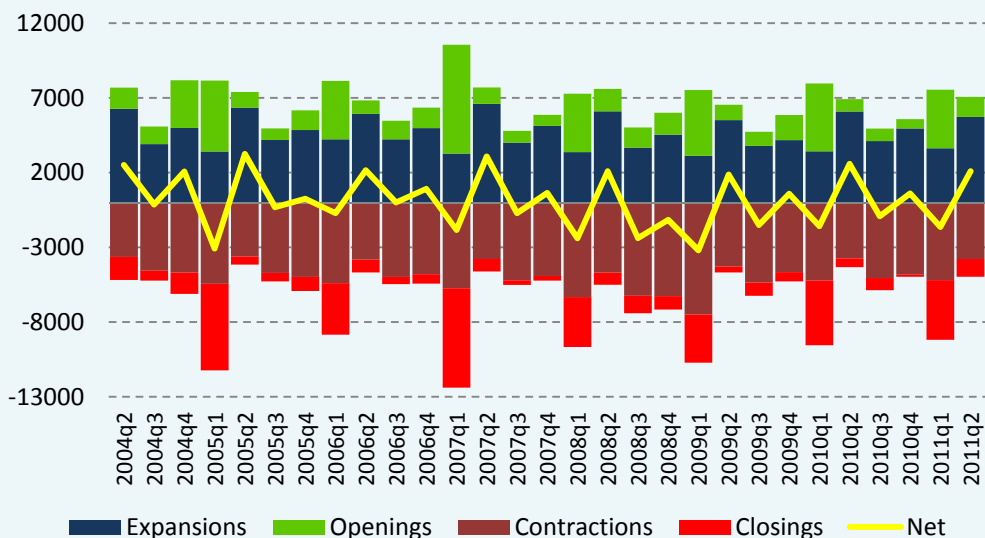
## Micro Businesses (1-9 Employees)



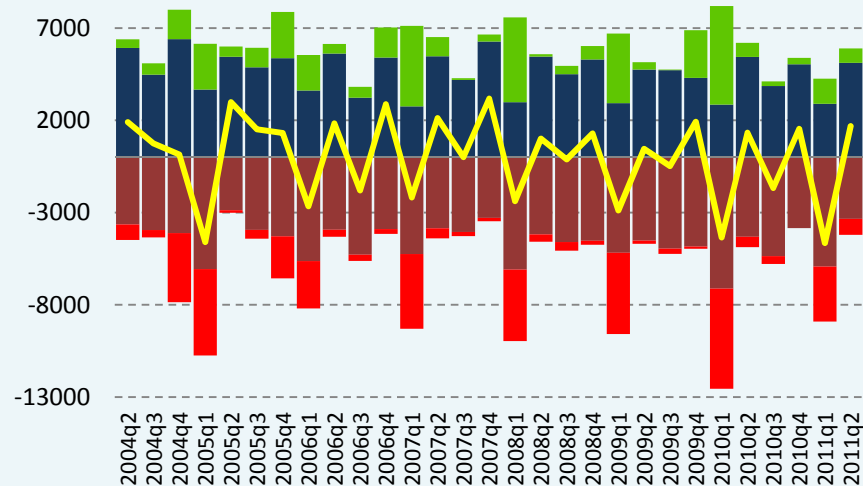
## Small Businesses (10-24 Employees)



## Medium Businesses (25-99 Employees)



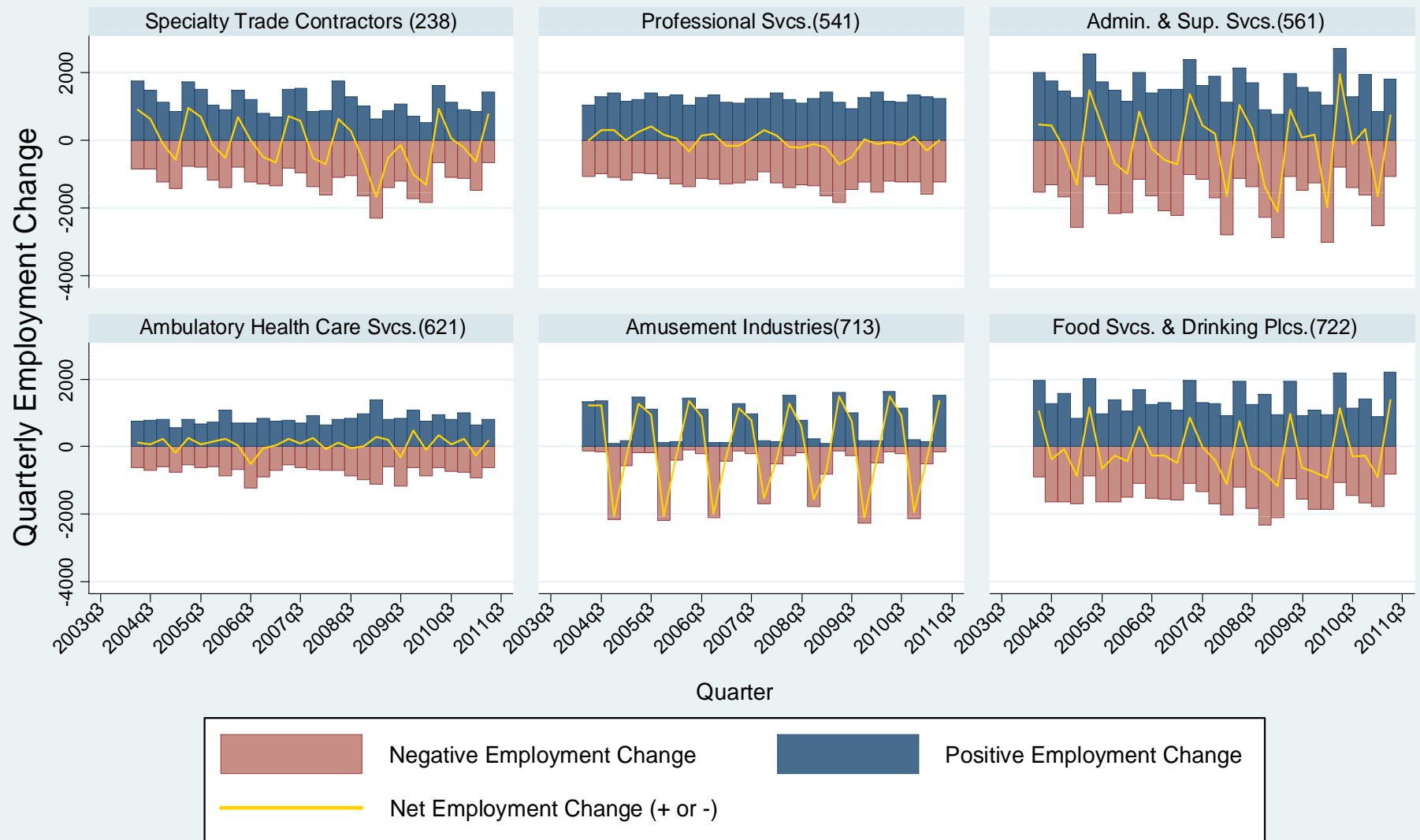
## Large Businesses (100+ Employees)



Expansions Openings Contractions Closings Net



## Baltimore County Quarterly Employment Change due to Business Expansions and Contractions by Selected Industry Subsectors, 2004q1-2011q2



Note: Only industry subsectors with an average quarterly employment change (negative or positive) of over 600 employees are presented.

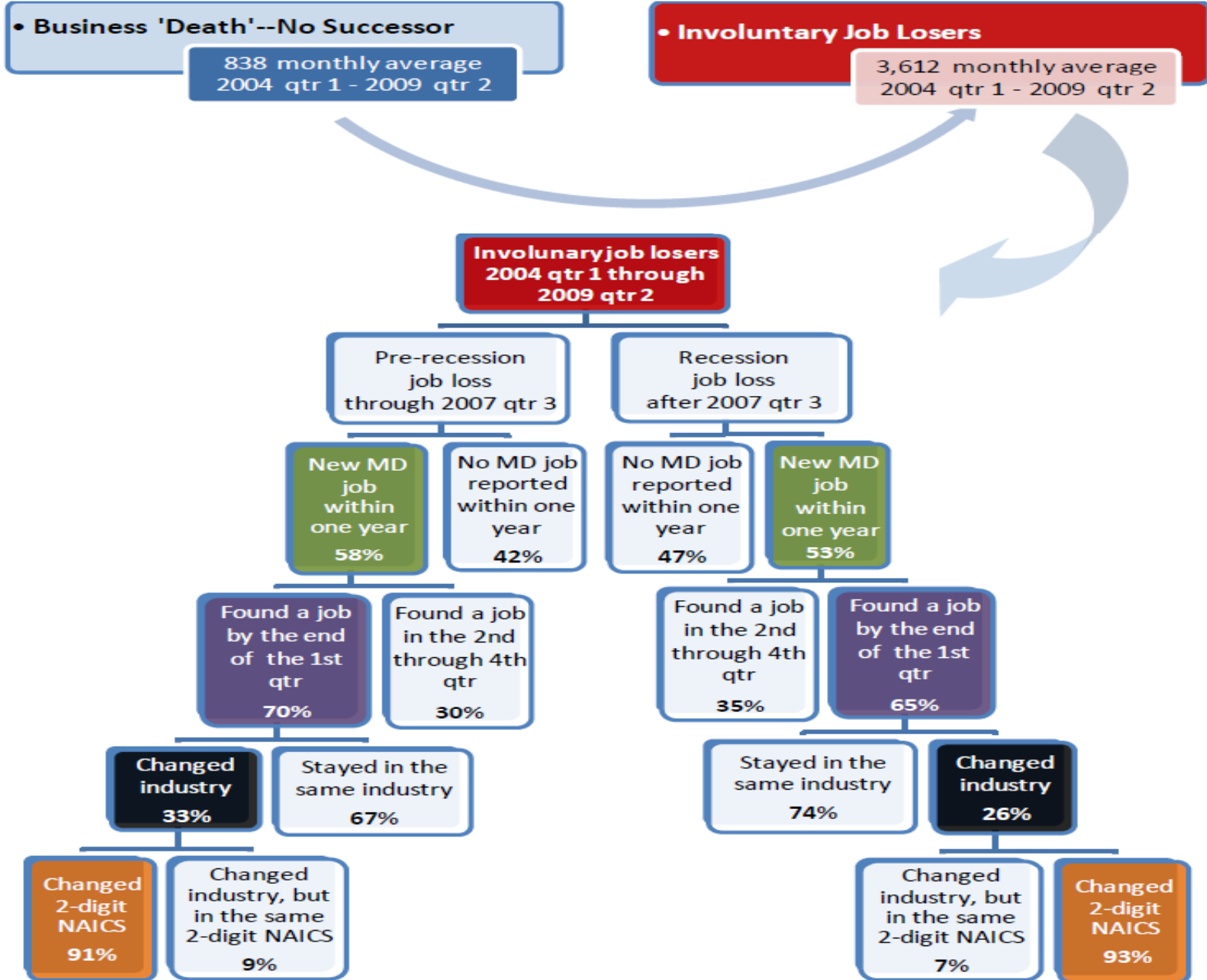
The Jacob France Institute  
Data received from the Maryland Department of Labor, Licensing & Regulation

# **WHAT HAPPENS TO THE EMPLOYEES WHEN A BUSINESS CLOSES?**

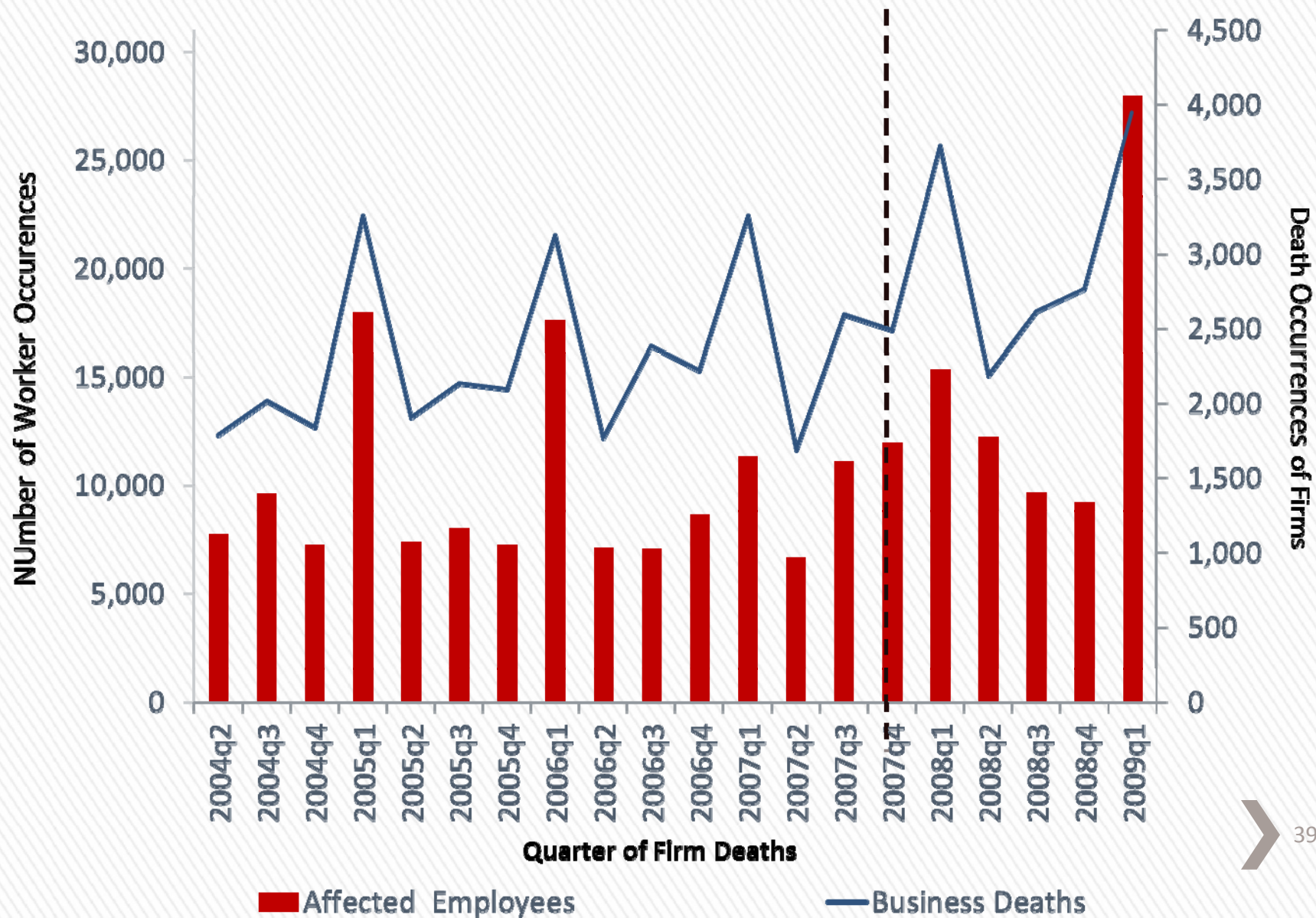
**FOR DEATH QUARTERS OF 2004Q1-2009Q2**



# Flow of Employees Affected by Business Death before and during the Recession

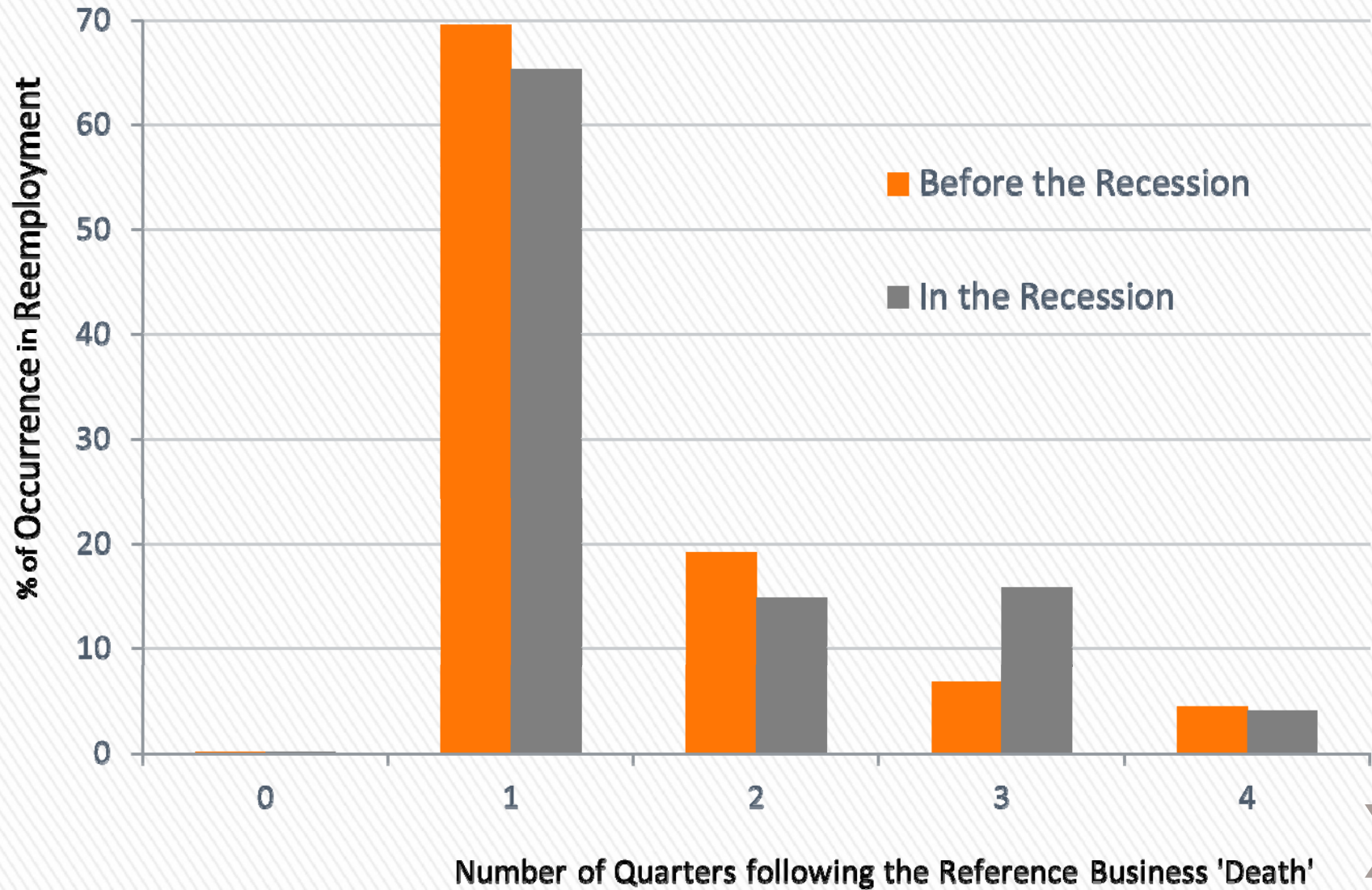


# Maryland business death events and affected employees within one year following job loss by year/quarter of business death





## Timing for former employees to find a new job within one year of their previous business affiliation death



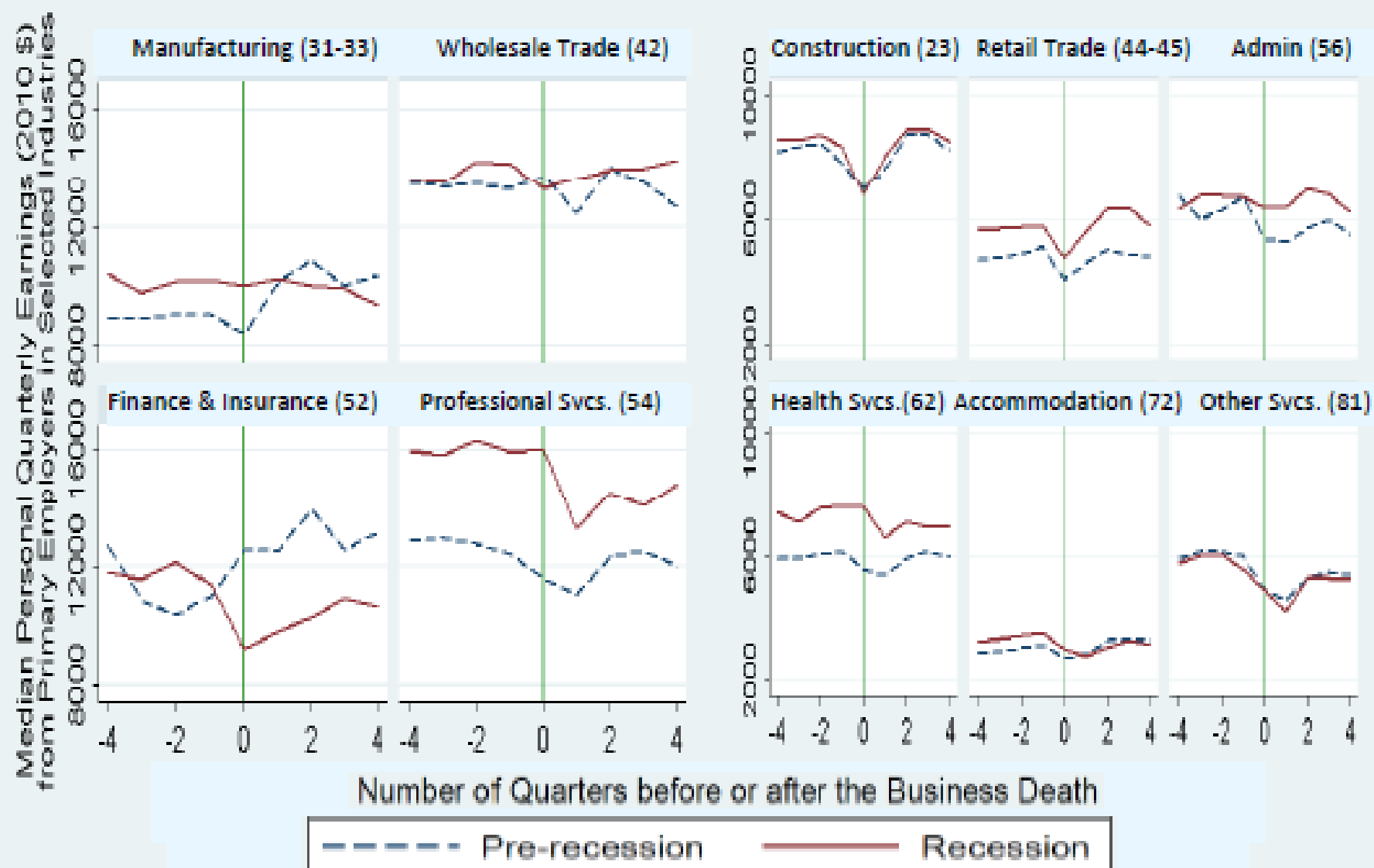
## Job losers' quarterly real earnings before and after causal business death events

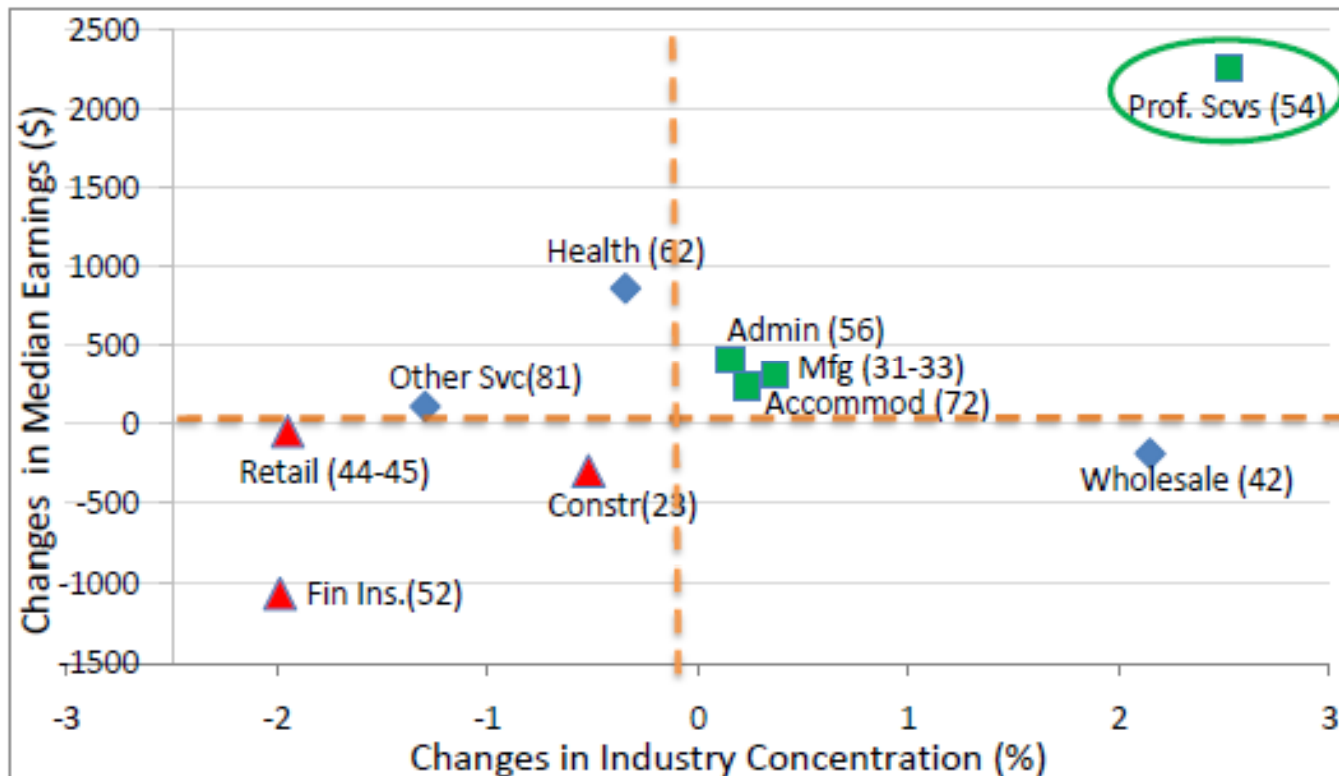


Graphs by the Current Recession



## Job losers' quarterly real earnings before and after causal business death events by selected industries

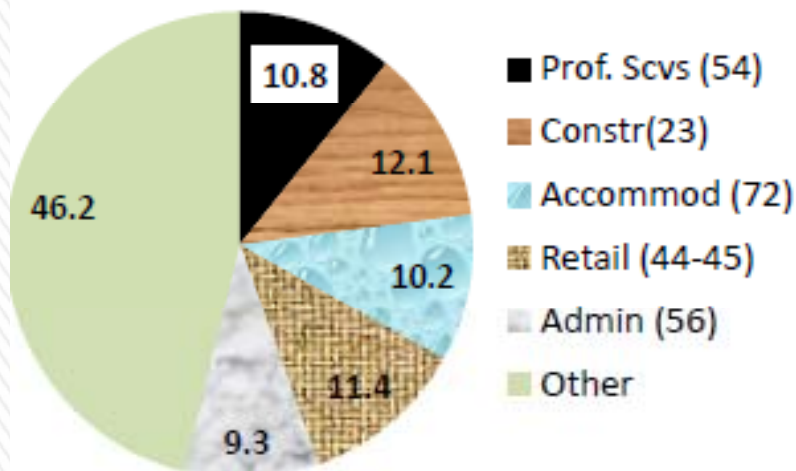




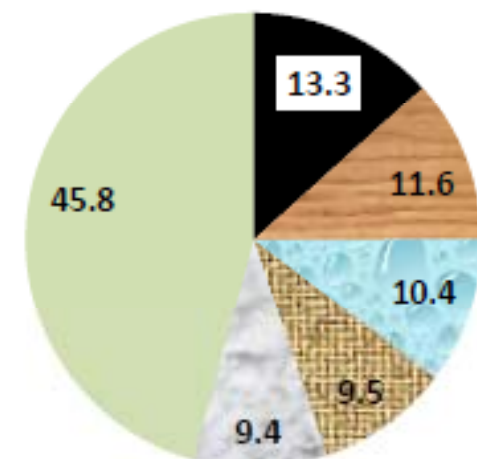
Changes in job losers' quarterly real earnings and industry shares for the pre-recession and recession business deaths

Employment shares by industry sectors, for pre-recession and recession business deaths

Pre-recession



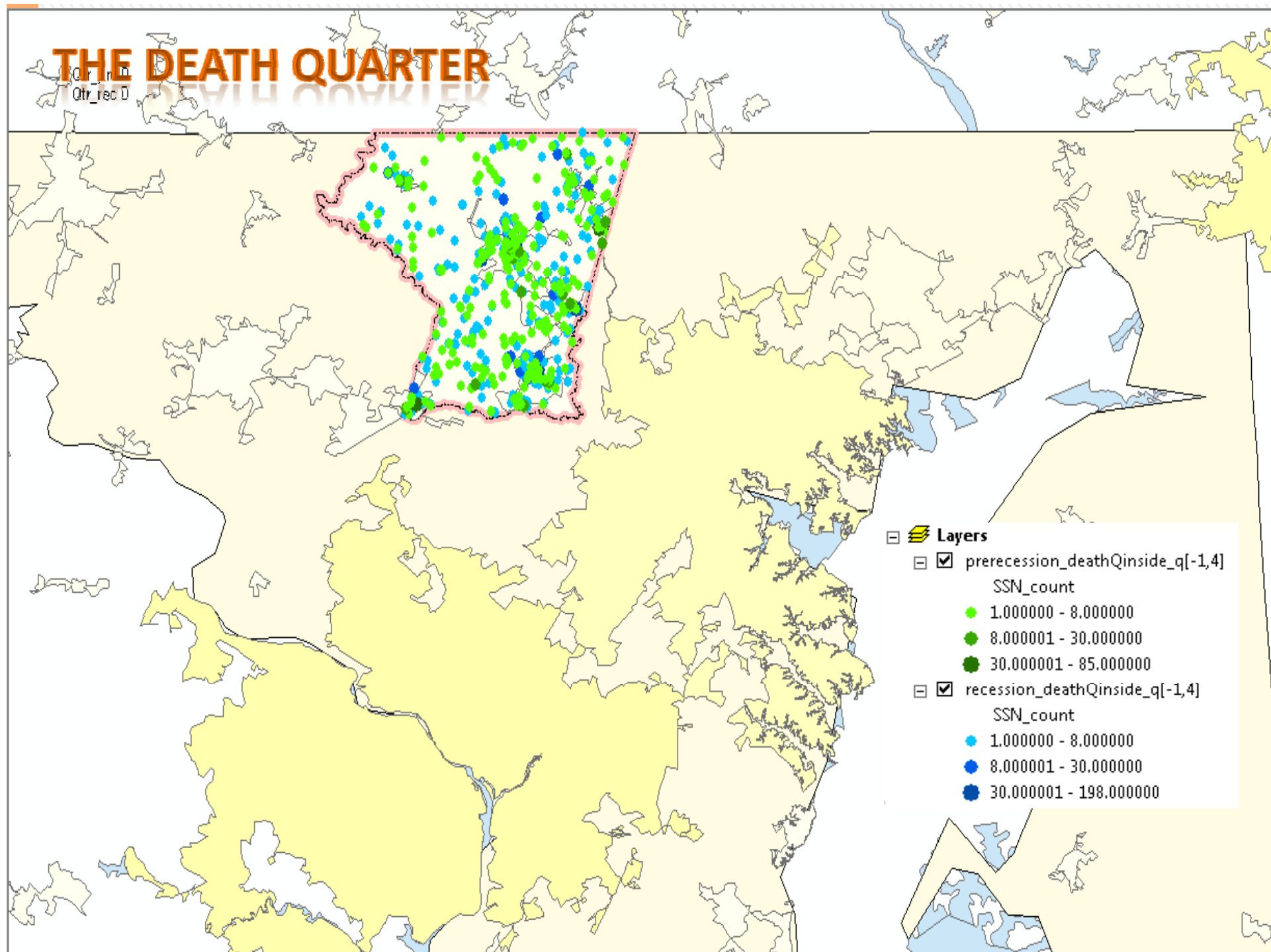
Recession





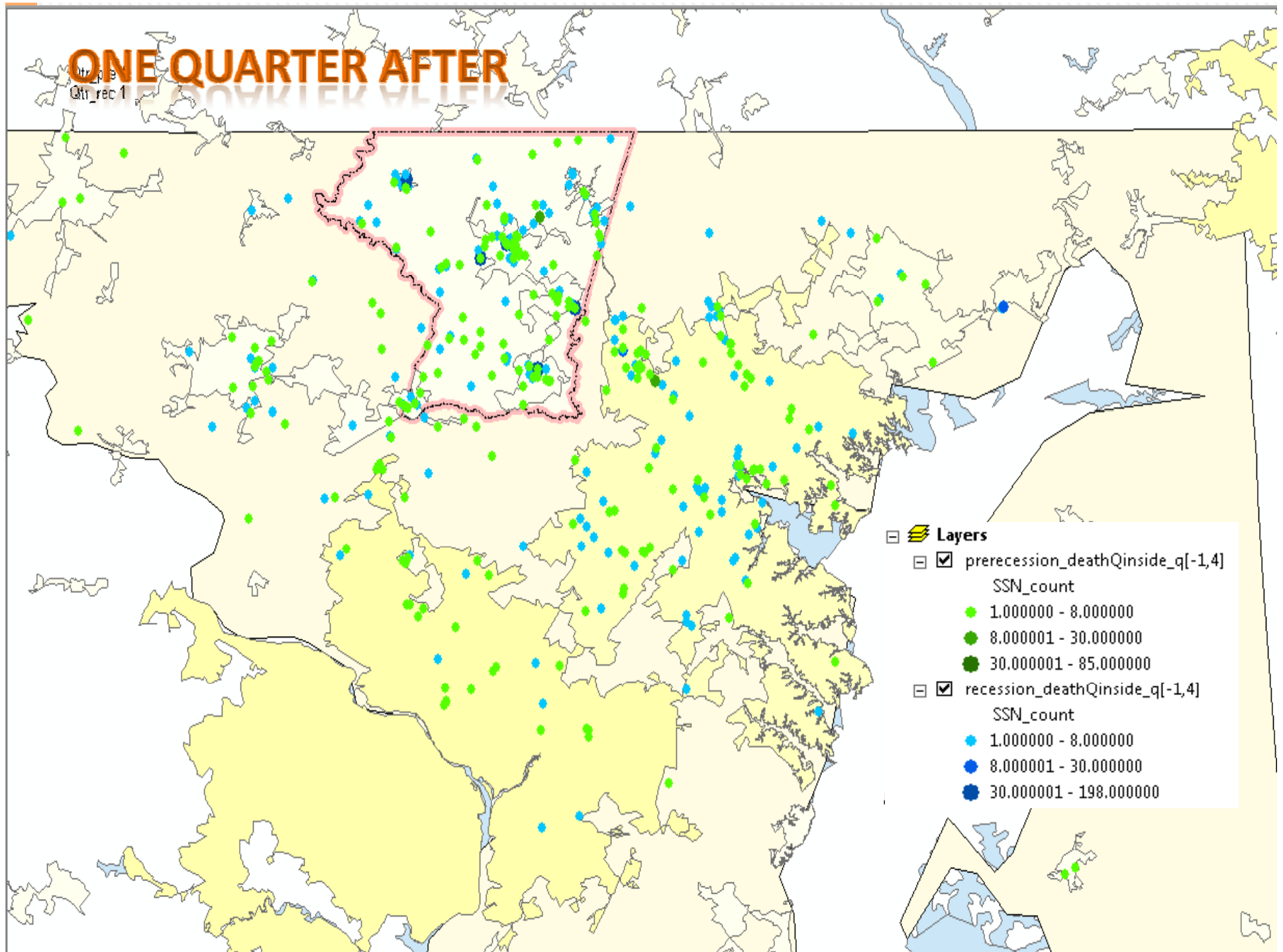
**FLOW OF CARROLL COUNTY BUSINESS DEATH  
RESULTED DISLOCATED WORKERS,  
PRERECESSION VS. RECESSION  
FOR DEATH QUARTERS OF 2004Q1-2009Q3**

# THE DEATH QUARTER

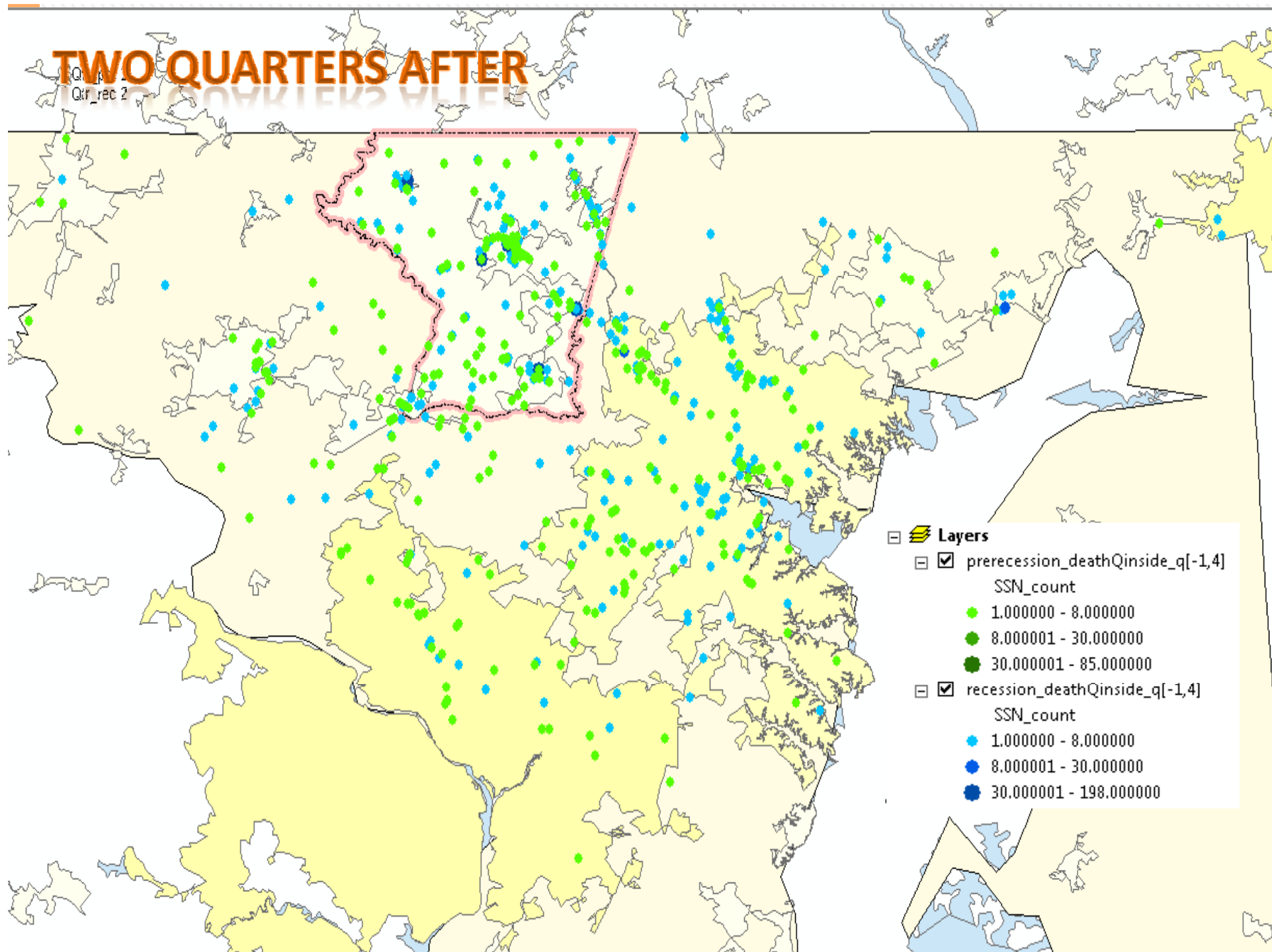




# ONE QUARTER AFTER

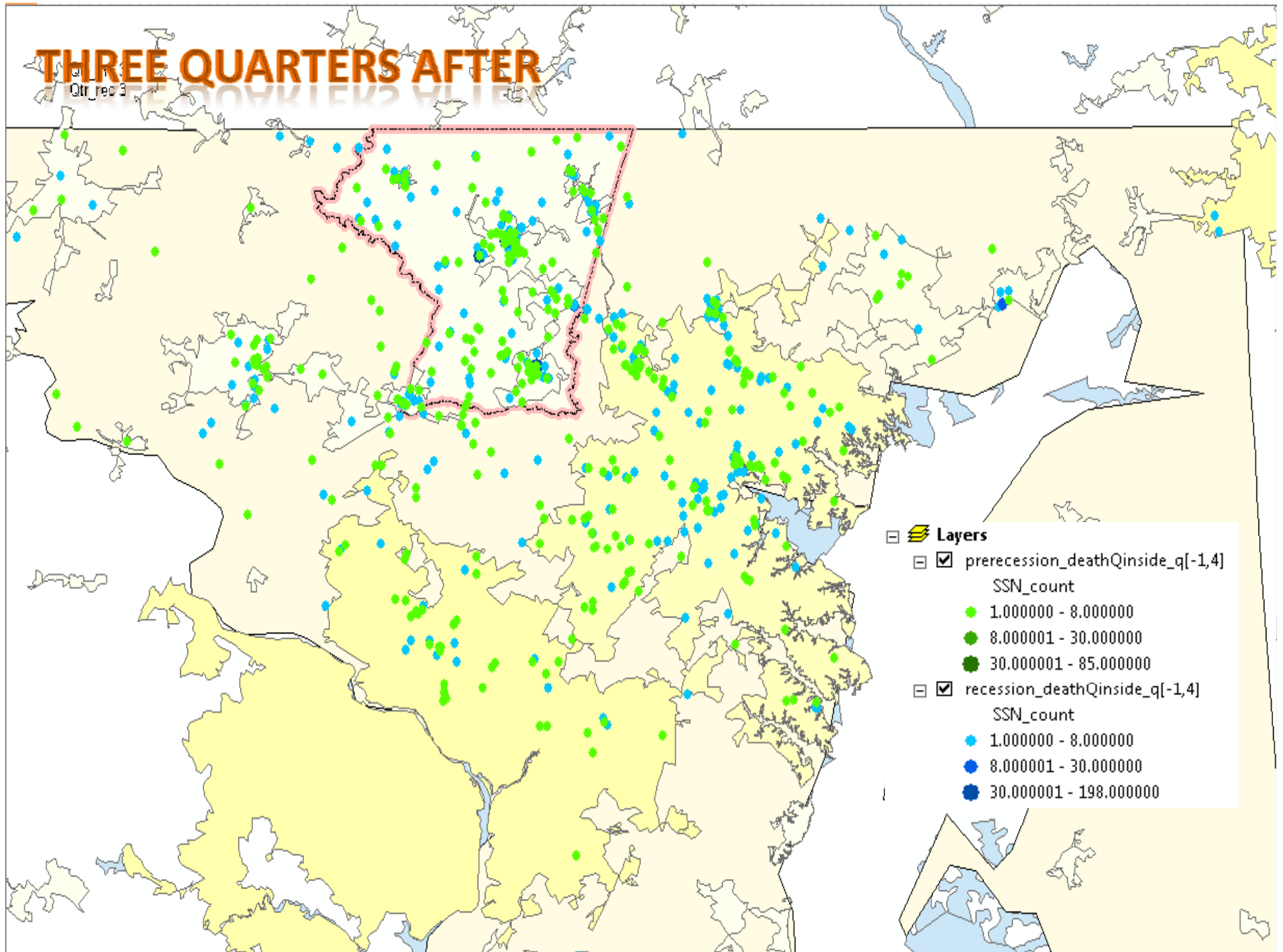


# TWO QUARTERS AFTER



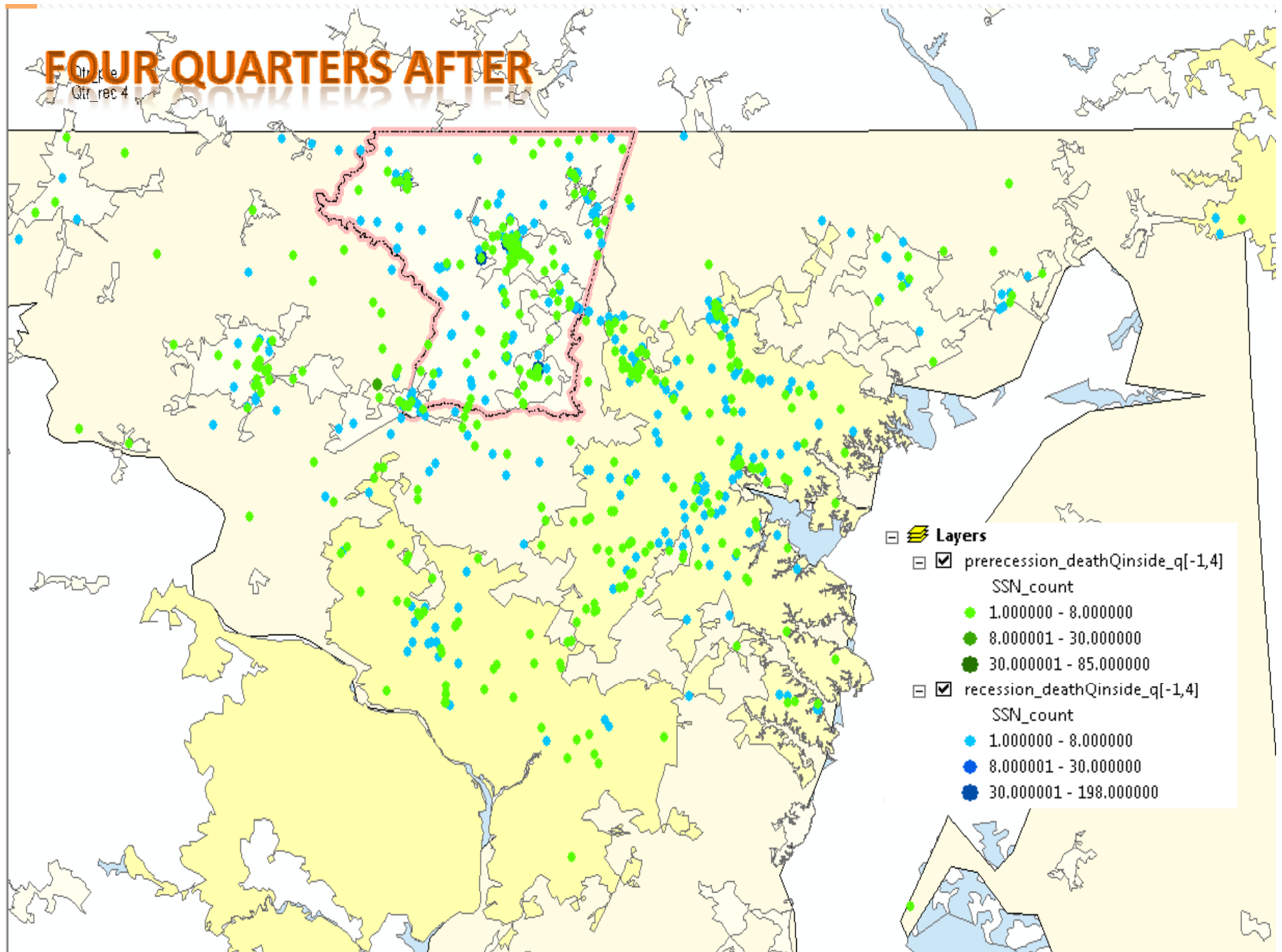
# THREE QUARTERS AFTER

Qtr\_rec 3



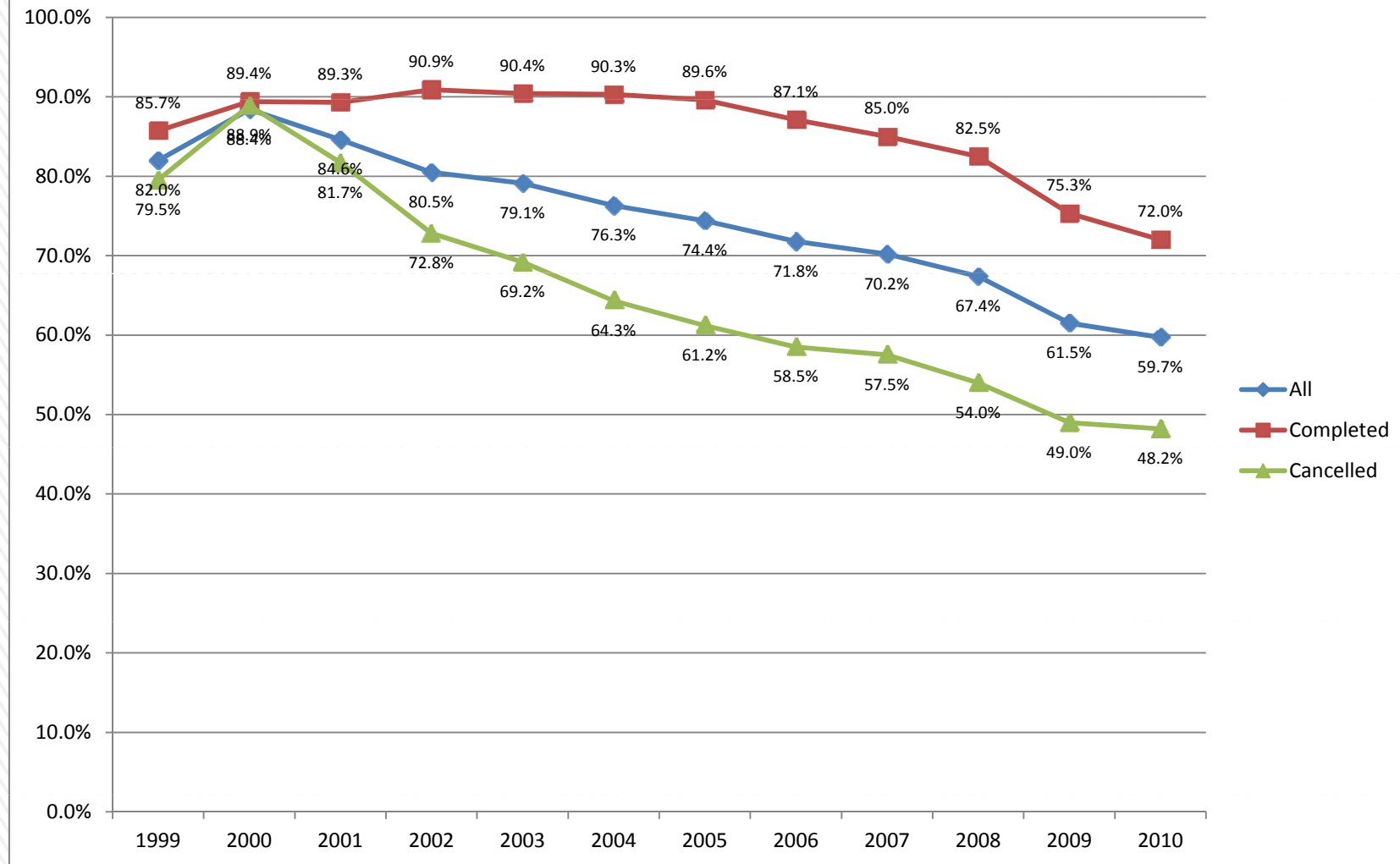


# FOUR QUARTERS AFTER



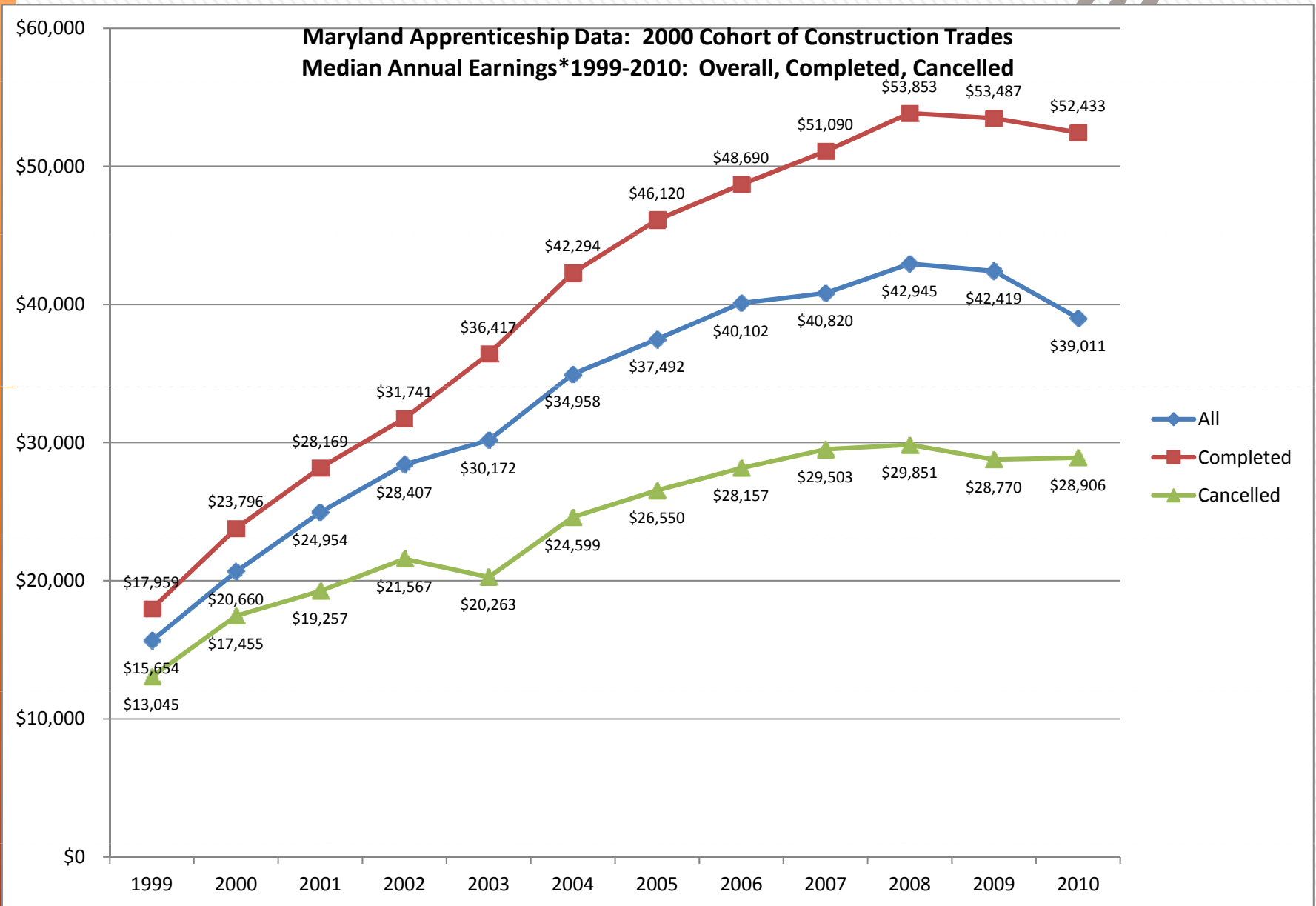
# **EXAMPLES OF ANALYSES USING LINKED ADMINISTRATIVE DATA**

**Maryland Apprenticeship Data: 2000 Cohort of Construction Trades**  
**Percent Found in the Maryland UI Wage Records, 1999-2010: Overall, Completed, Cancelled\***



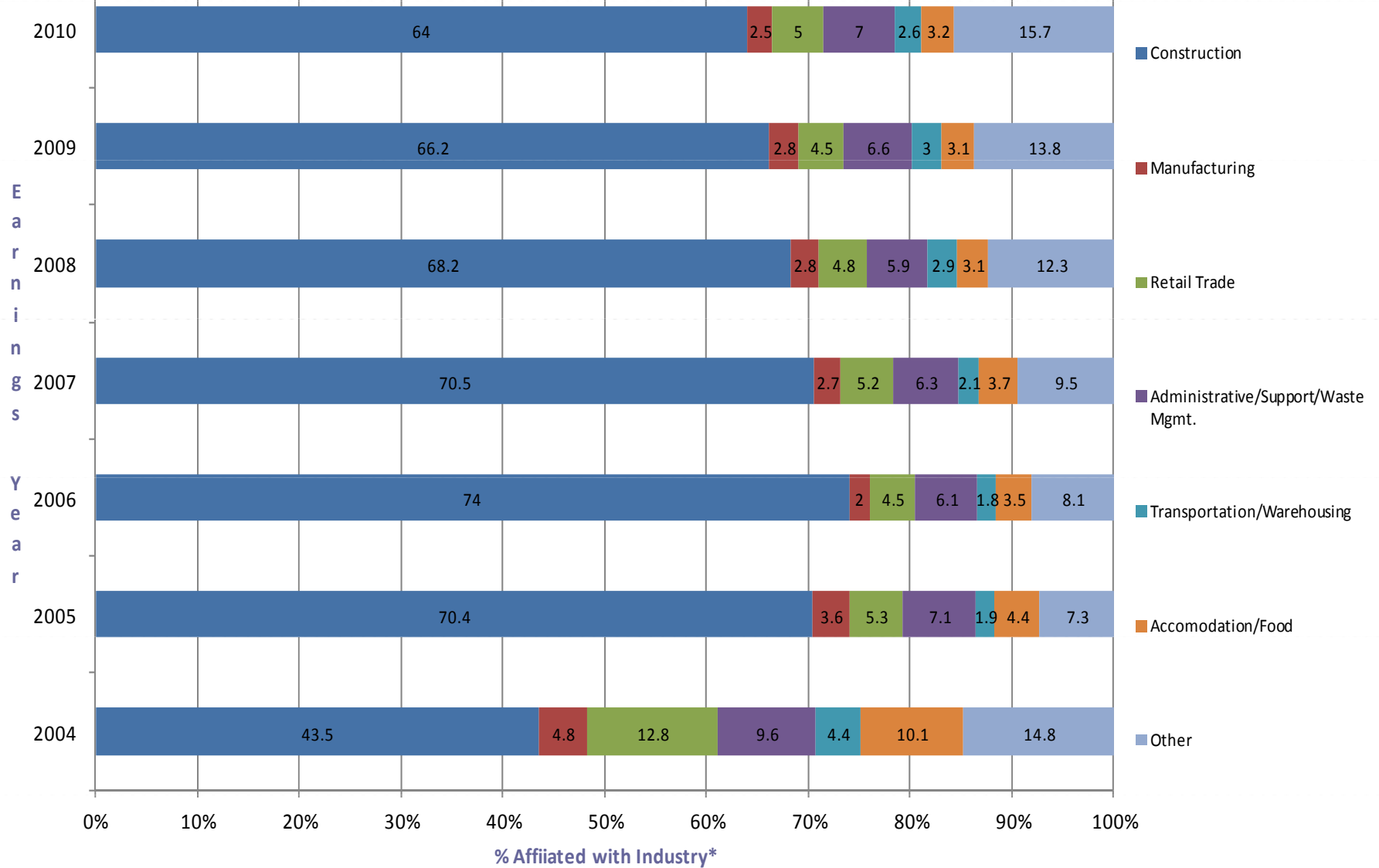
\*Note: All Construction N=1,945 Completed N=885 Cancelled N=989





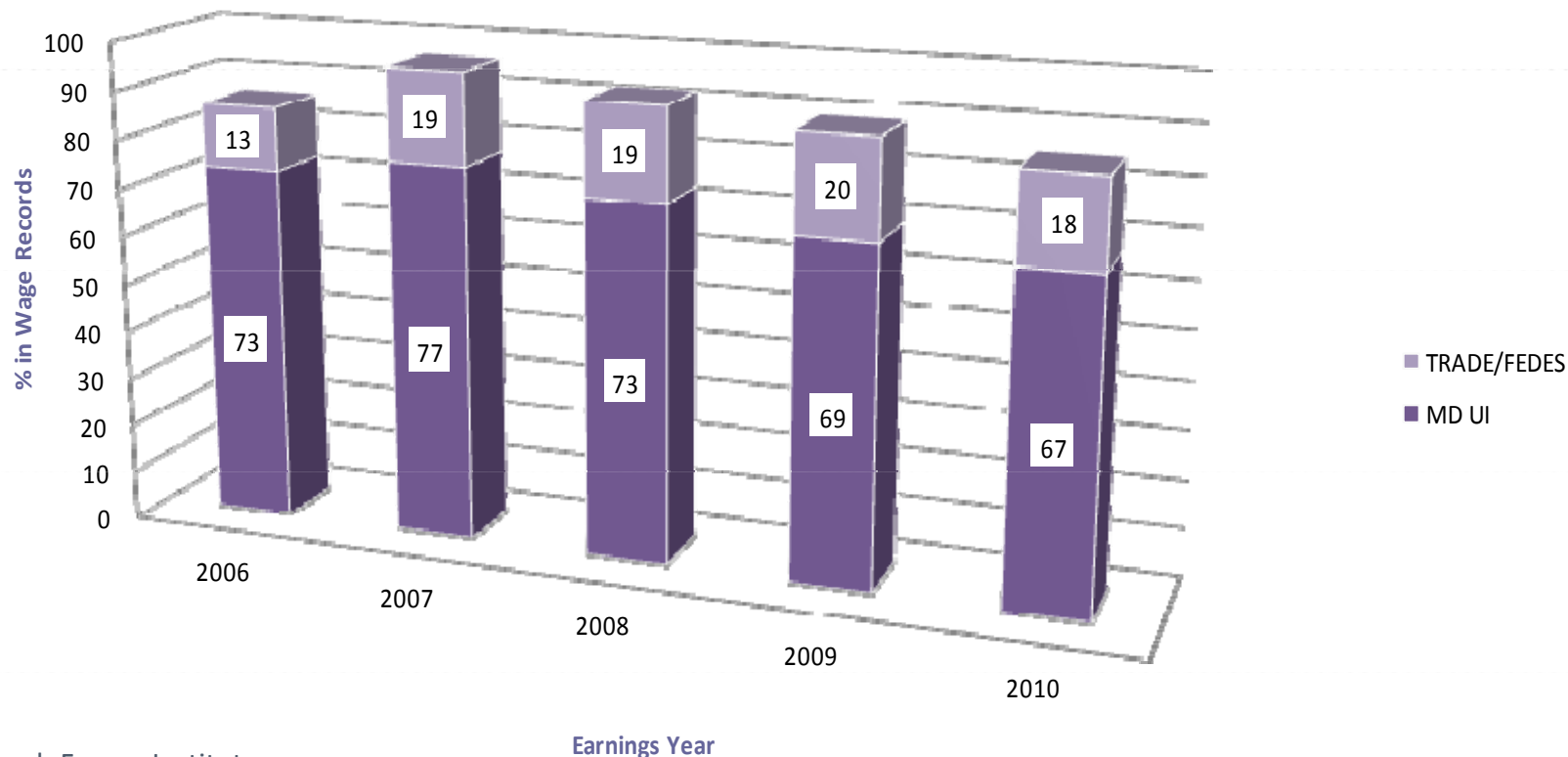
\*Note: Annual Earnings have been adjusted for inflation  
 All Construction N=1,945    Completed N=885    Cancelled N=989

# Maryland Apprenticeship Data: 2005 Cohort Top Industry Affiliations by NAICS Codes: Construction Apprentices (N=2,855)



# MARYLAND ASSOCIATION OF COMMUNITY COLLEGES -JFI PARTNERSHIP

**Maryland Association of Community Colleges  
2007 Occupational Degree Graduates (N=5,605)  
% in Maryland UI Wage, TRADE, and FEDES Records**



Source: The Jacob France Institute

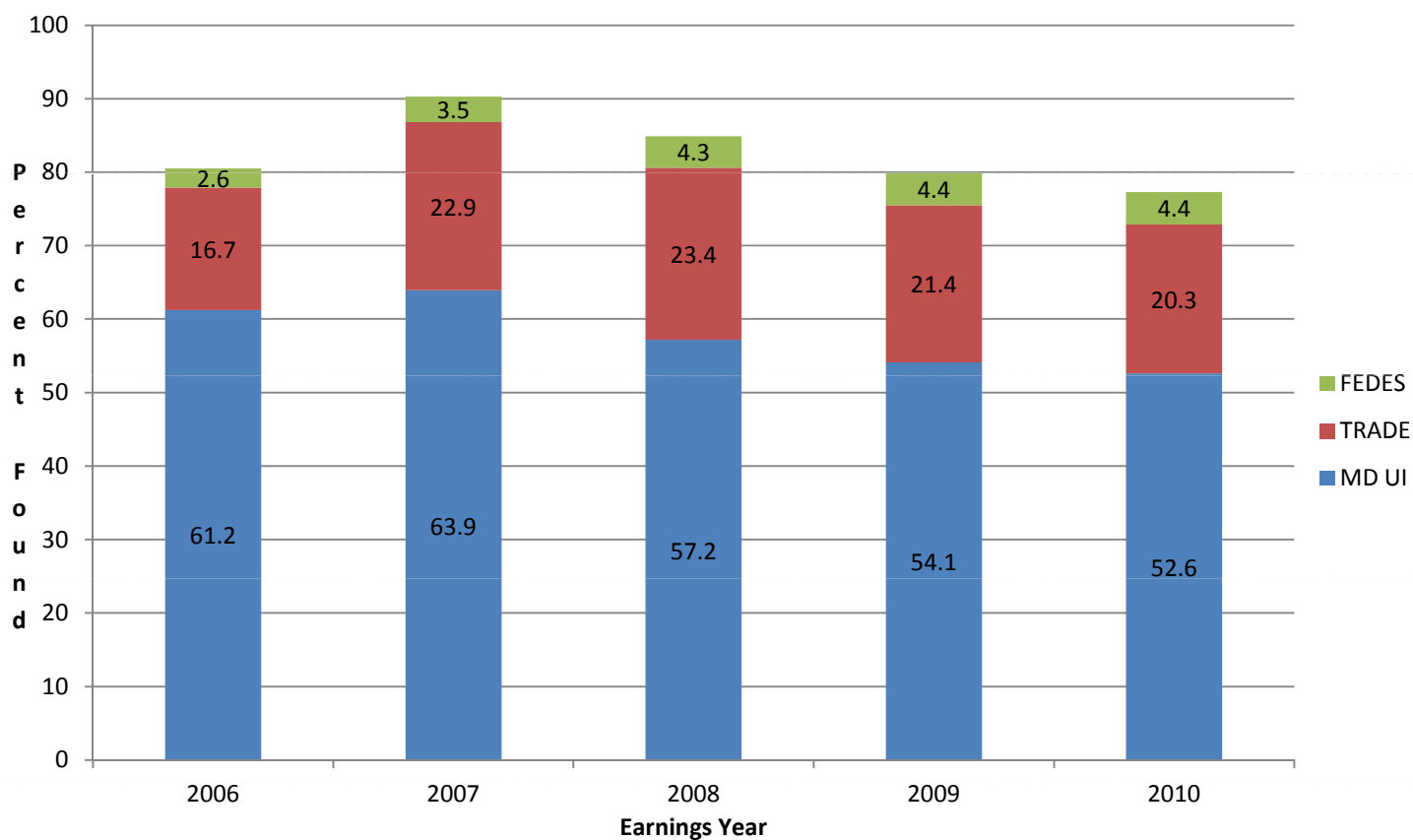




## Montgomery College 2007 Occupational Degree Graduates\*

Percent Found in Maryland UI Wage Records, TRADE\*\* and FEDES\*\*\*

2006-2010



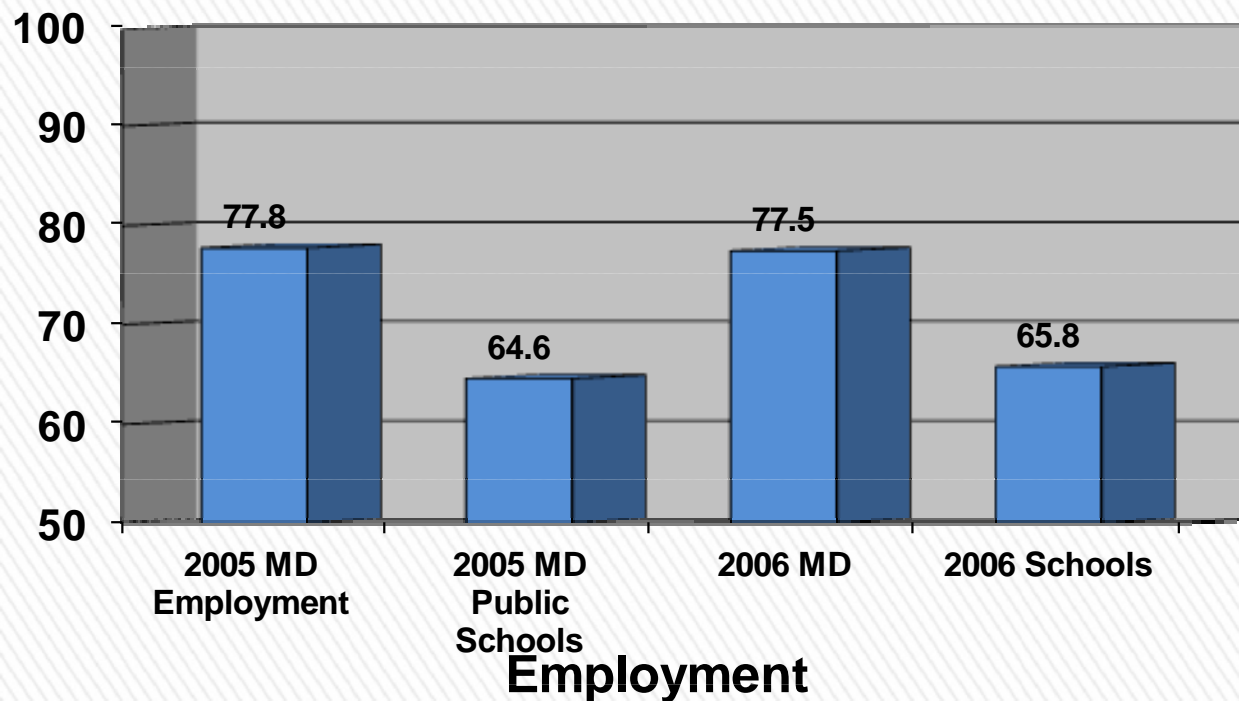
\*N=654

\*\* DC, NJ, OH, PA, VA, WV

\*\*\* OPM, DOD, USPS

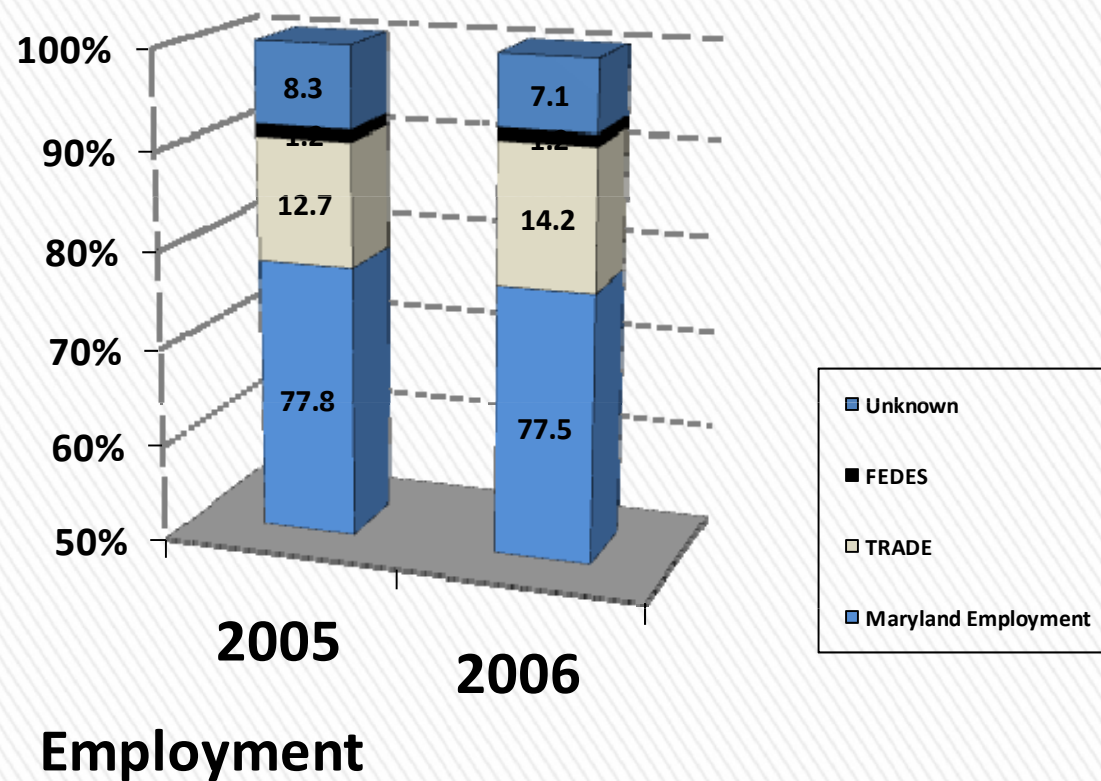
# UNIVERSITY OF MARYLAND SYSTEM/JFI PARTNERSHIP: TEACHER RETENTION STUDY

## USM Education Bachelor Degree Recipients (2004): Workforce Affiliation

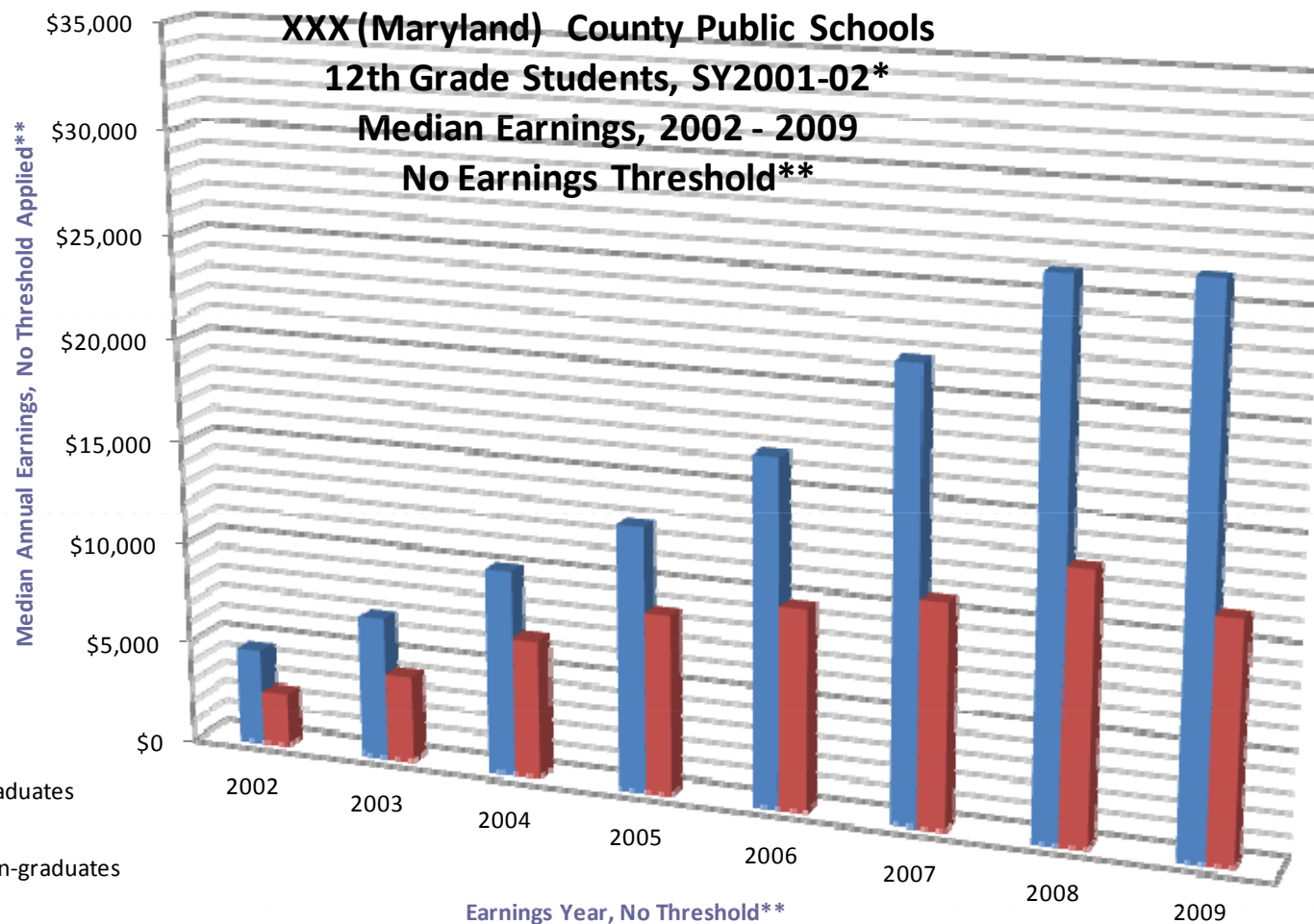


# UNIVERSITY OF MARYLAND SYSTEM/JFI PARTNERSHIP: TEACHER RETENTION STUDY

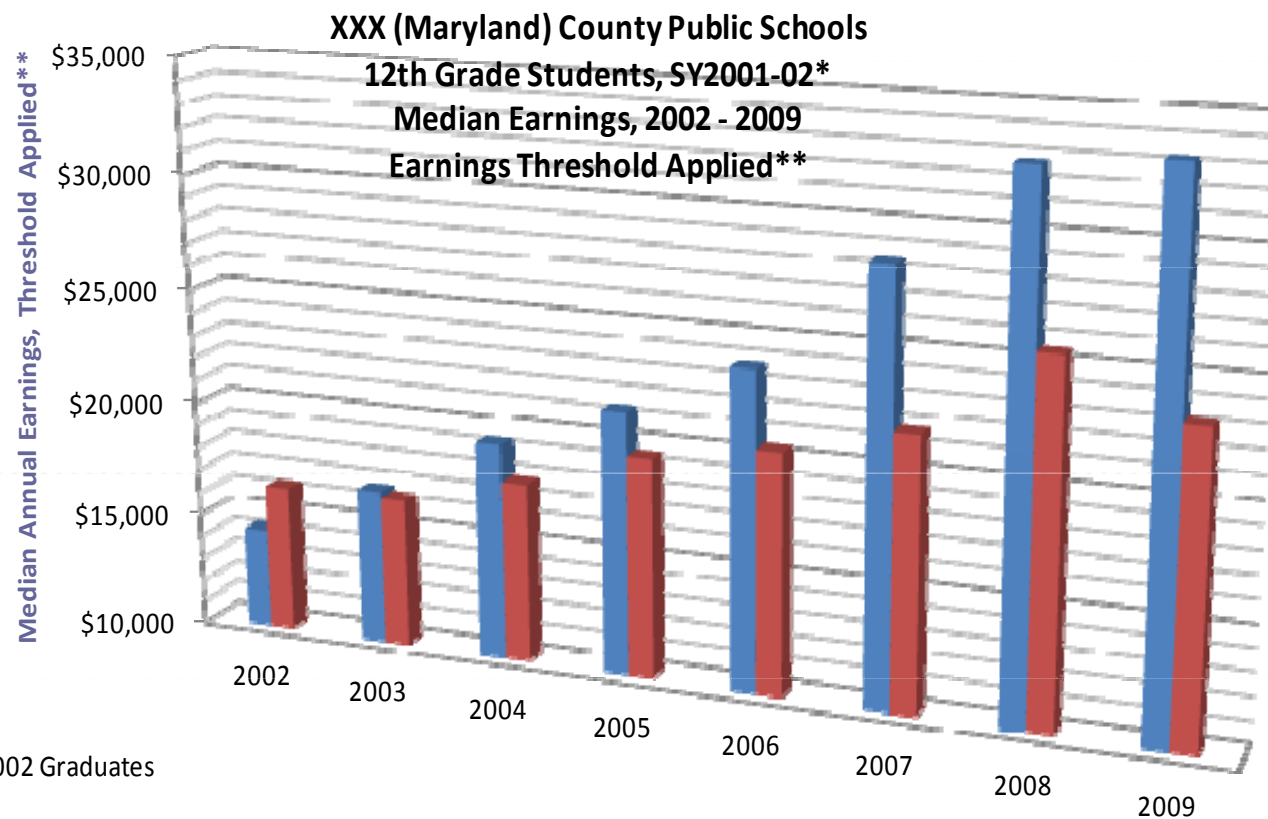
## USM Education Bachelor Degree Recipients (2004): Workforce Affiliation





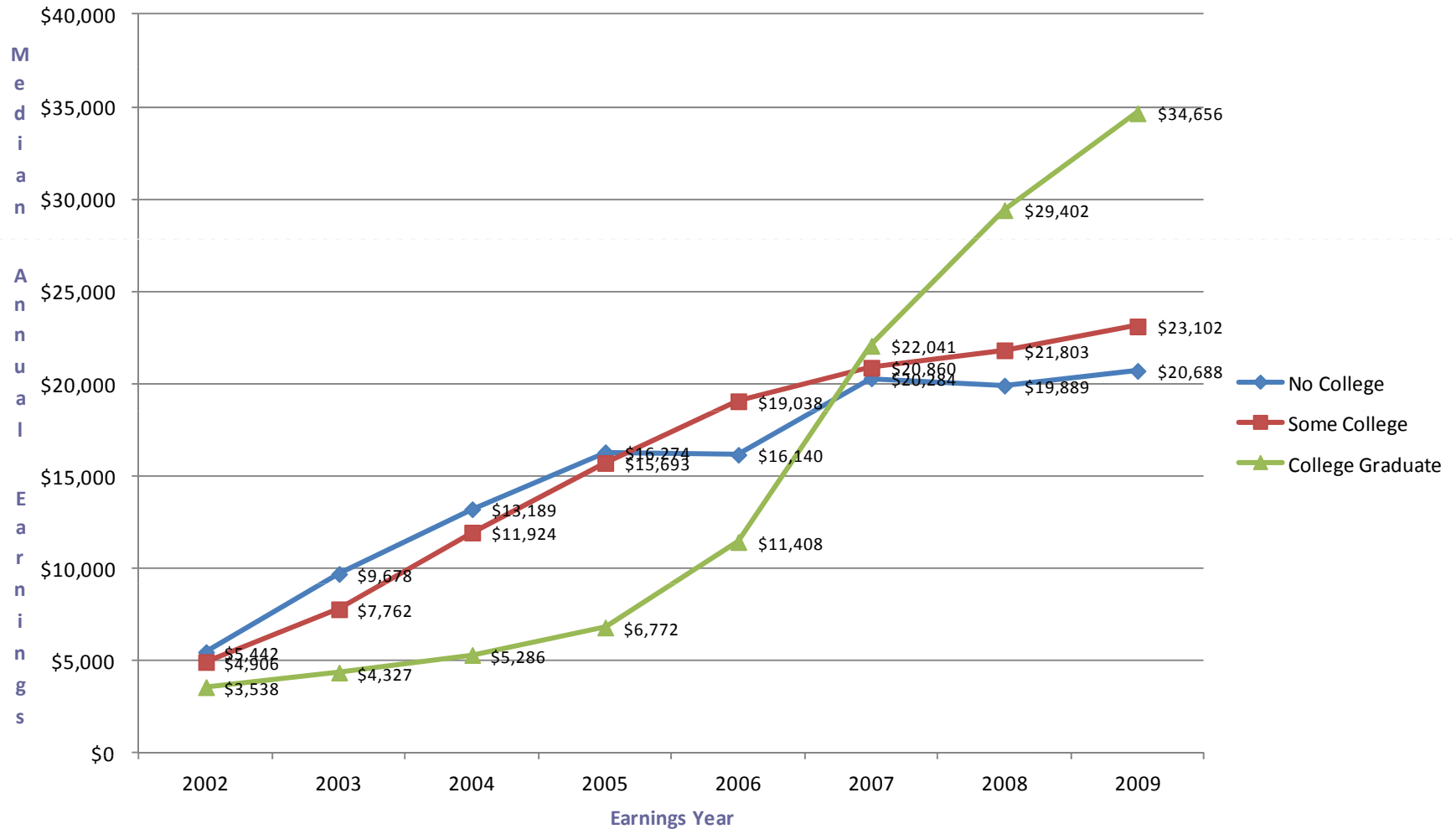


	2002	2003	2004	2005	2006	2007	2008	2009
2002 Graduates	\$4,568	\$6,890	\$9,950	\$12,797	\$16,738	\$21,654	\$26,088	\$26,359
2002 Non-graduates	\$2,491	\$4,088	\$6,674	\$8,663	\$9,713	\$10,771	\$12,986	\$11,457



	Earnings Year, Threshold Applied**							
	2002	2003	2004	2005	2006	2007	2008	2009
■ 2002 Graduates	\$14,270	\$16,681	\$19,346	\$21,372	\$23,701	\$28,364	\$32,714	\$33,224
■ 2002 Non-graduates	\$16,331	\$16,412	\$17,796	\$19,471	\$20,366	\$21,704	\$25,458	\$23,200

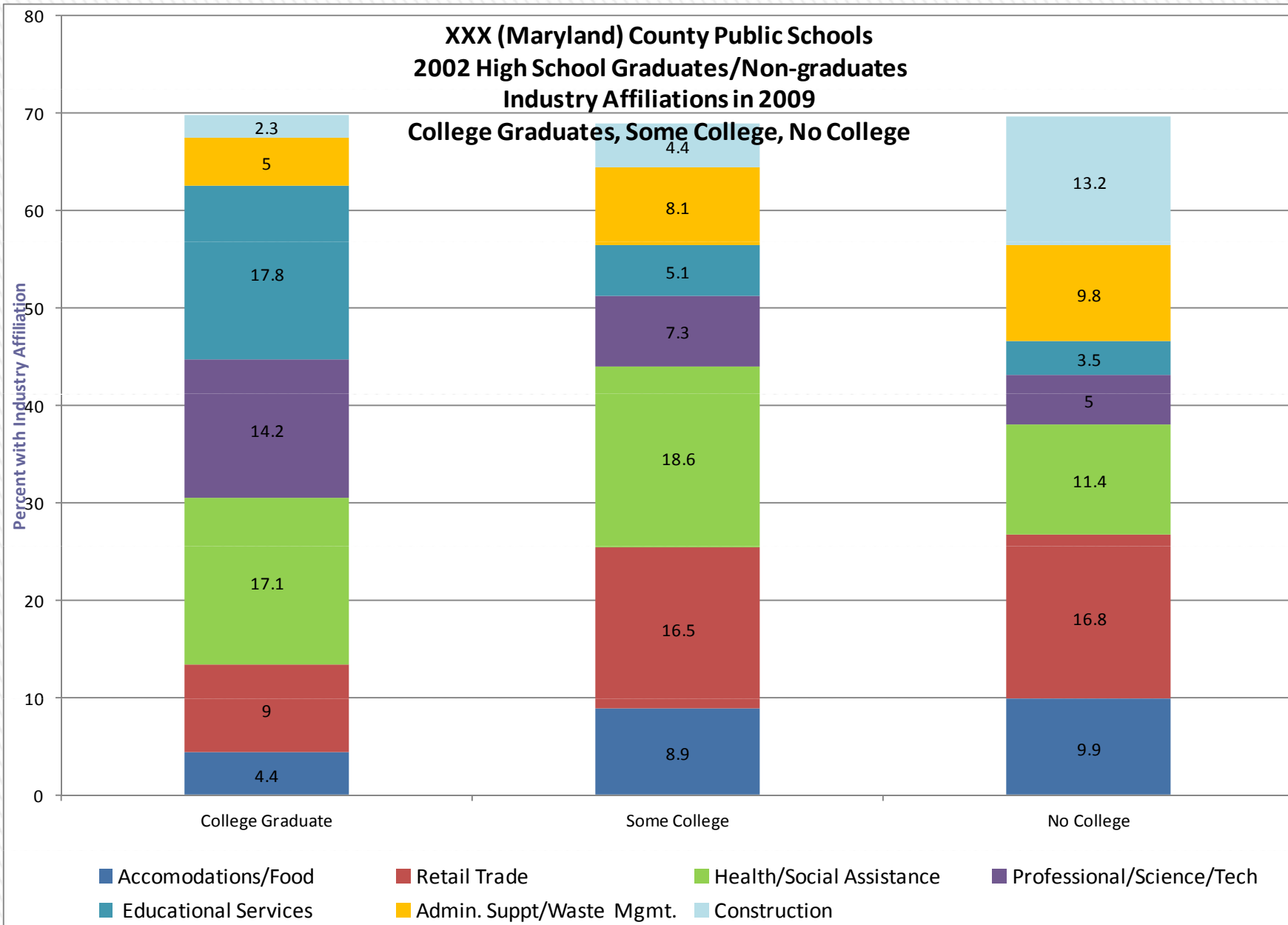
**XXX (Maryland) County Public Schools**  
**Class of 2002 (Both Graduates and Non-graduates)**  
**College Graduates, Students with Some or No College (N=6,895)**  
**Median Annual Earnings (No Threshold)**



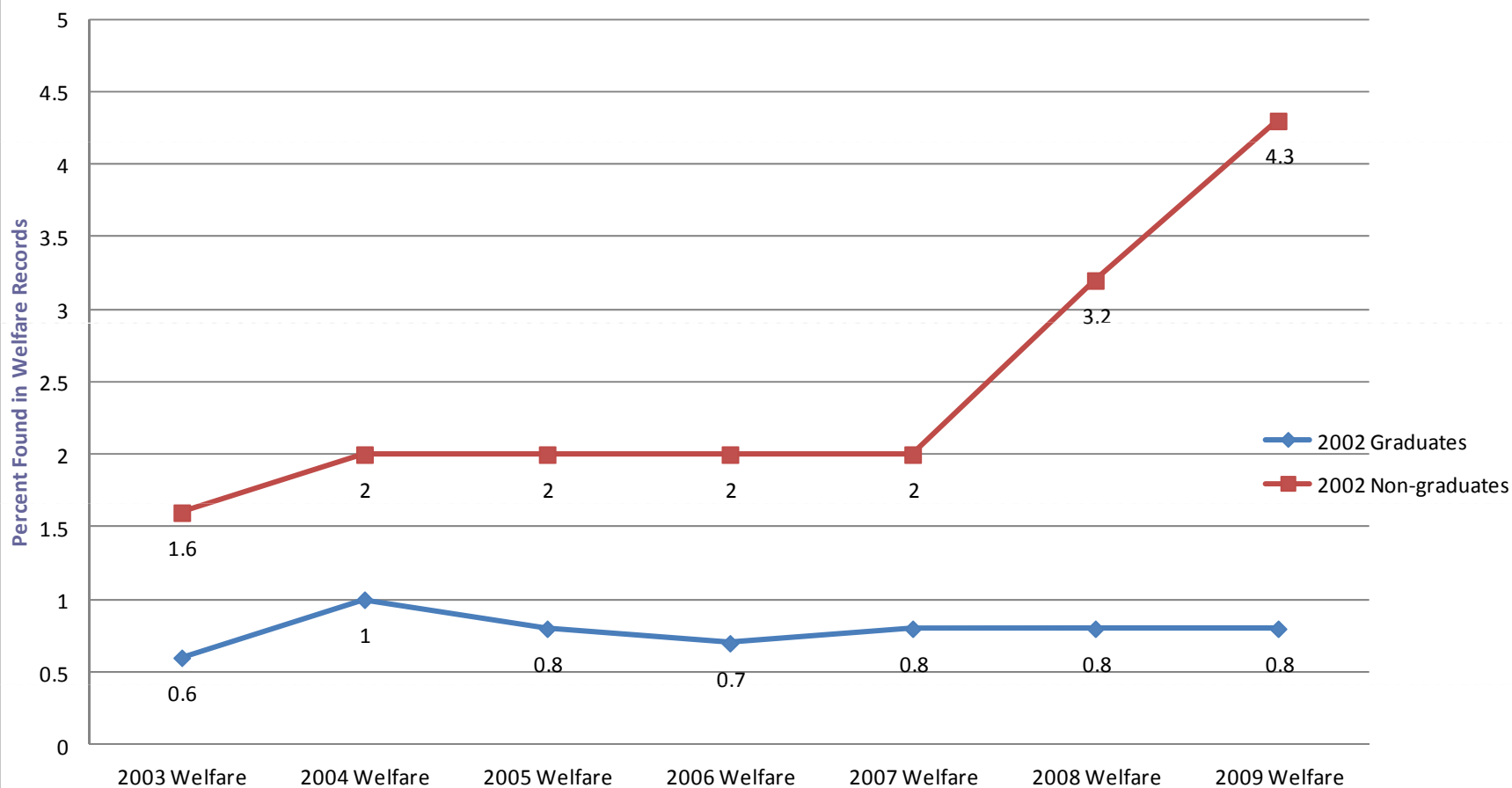


**XXX (Maryland) County Public Schools  
2002 High School Graduates/Non-graduates  
Industry Affiliations in 2009**

**College Graduates, Some College, No College**



**XXX (Maryland) County Public Schools**  
**2002 High School Graduates (N=6,504) and Non-graduates (N=537)**  
**Percent Found in TANF Records**



# **LINKING ADMINISTRATIVE DATA USING PROBABILISTIC MATCHING**



***SDAD Data: Same DOB, Name and Education, but Different SSN***

***JTPA Data: Same DOB, Name, Race and Gender, but Similar SSN***

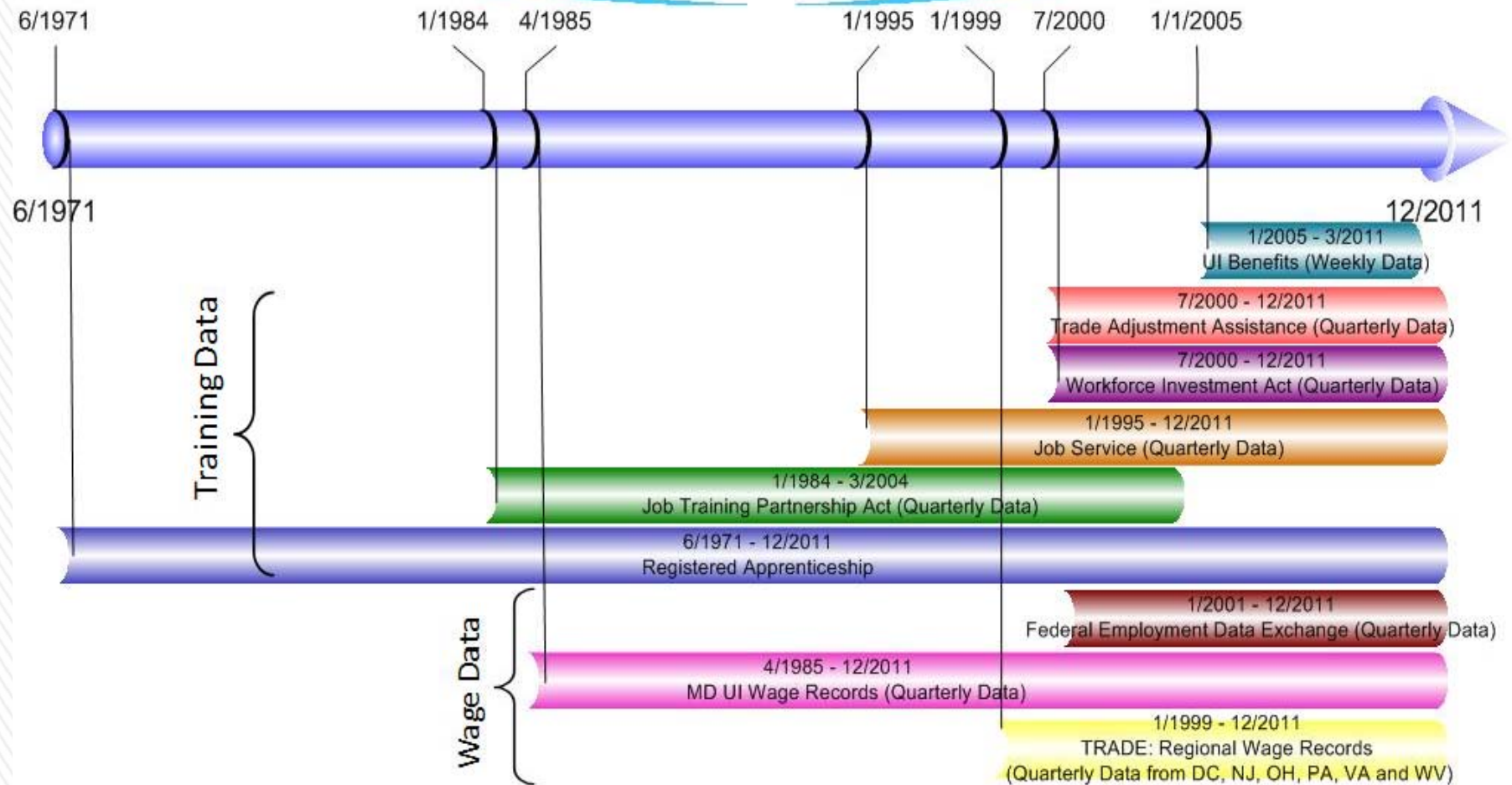
	SSN	DOB	First Name	Last Name	ethnicity	Gender	Middle Initials	College Graduate
<b>Record 1</b>	XXXXXX0 XX	D (same)	D (same)	D (same)	D (same)	D (same)		Yes
<b>Record 2</b>	XXXXXX9 XX	D (same)	D (same)	D (same)	D (same)	D (same)		

***Summary of Potential Matches between JTPA and SDAD Data***

Situation	SSN	DOB	Name
<b>a</b>	D (same)	19861209 vs. 19861229	D (same)
<b>b</b>	D (same)	XXXX0824 vs. XXXX0823	Cory Smith vs. Corey Smith
<b>c</b>	Different in One digit	D (same)	John McCormic vs. John McCormick

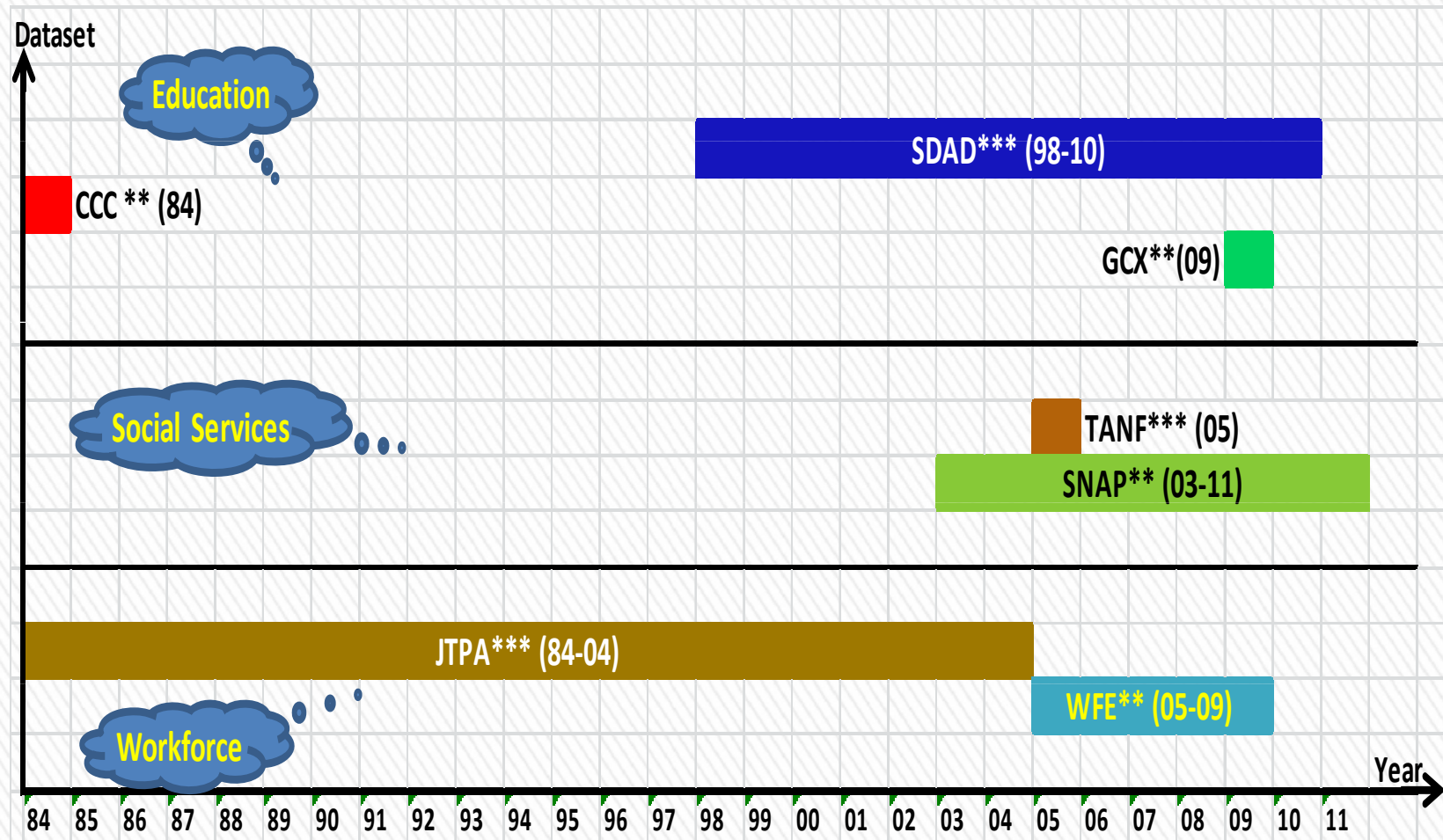
# JFI Workforce Data Timeline

Thursday, January 26, 2012



The Jacob France Institute, University of Baltimore  
Original Data Source: Maryland Department of Labor, Licensing and Regulation

## Profile of Datasets Used



**\*\*** SSN + DOB, or SSN + Name, or +gender (or ethnicity or education).  
**\*\*\*** SSN + Name + DOB + gender (or ethnicity or education or address).



## Combinations of Program Engagements (Selected for Presentation)

# of Datasets	# of Prog Types	Overlapping Participation in over One Data Sources					Edu	Social	Workforce	Freq.	%	Cum. %
2	2	GCX	WFE				*		*	120	0.36	0.38
2	2	SDAD	JTPA				*		*	918	2.77	3.15
2	2	SDAD	WFE				*		*	2,309	6.98	10.13
2	1	JTPA	WFE						*	9,551	28.87	39.00
3	2	SDAD	JTPA	WFE			*		*	183	0.55	40.14
3	2	SDAD	SNAP	GCX			*	*		345	1.04	41.18
3	3	SDAD	SNAP	JTPA			*	*	*	392	1.18	42.36
3	2	TANF	JTPA	WFE				*	*	1,036	3.13	45.49
3	3	SDAD	SNAP	WFE			*	*	*	1,153	3.48	48.97
3	2	SNAP	JTPA	WFE				*	*	7,878	23.81	72.78
4	3	SDAD	SNAP	JTPA	WFE		*	*	*	123	0.37	73.41
4	3	SDAD	SNAP	TANF	JTPA		*	*	*	188	0.57	73.98
4	3	SDAD	SNAP	TANF	WFE		*	*	*	577	1.74	75.72
4	2	SNAP	TANF	JTPA	WFE			*	*	7,937	23.99	99.71
5	3	SNAP	TANF	CCC	JTPA	WFE	*	*	*	19	0.06	99.77
5	3	SDAD	SNAP	TANF	JTPA	WFE	*	*	*	69	0.21	99.98
Total										33,088		