



## Unemployment Rates in Tri-State Metropolitan Areas\*

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The national unemployment rate is a closely watched monthly economic statistic. It provides a measure of the health of the labor market and is one of many statistical gauges of economic conditions. The U.S. Bureau of Labor Statistics calculates the national unemployment rate as well as unemployment rates for the 50 states and many sub-state areas. This *Research Rap Special Report* looks at unemployment rates at one of these sub-state levels — the metropolitan area — in the three states in the Third Federal Reserve District: Delaware, New Jersey, and Pennsylvania. Metropolitan area unemployment rates provide information not only about current local labor market conditions but also about the long-term features of the economies of individual metropolitan areas.

### The Metropolitan Area as an Economic Unit

The metropolitan areas defined for economic analysis in the United States are referred to as metropolitan statistical areas (MSAs).<sup>1</sup> They are delineated to be statistical representations of the social and economic linkages between an urban core and outlying areas, both urban and rural, with which they are integrated. To qualify as an MSA, a geographic area must have as its core an urbanized area, as defined by the Census Bureau, with a population of at least 50,000, usually

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\* The views expressed here are those of the author and do not necessarily reflect those of the Federal Reserve Bank of Philadelphia or of the Federal Reserve System. Timothy Schiller is a former senior economic analyst.

<sup>1</sup>Details on the definitions of metropolitan statistical areas and other statistical areas are determined by the U.S. Office of Management and Budget. These details can be found in *Federal Register*, Part IX, pp. 82228-82238, December 27, 2000.

a city.<sup>2</sup> Included in each MSA is the county in which the urbanized area is located — referred to as the central county — and any outlying county if at least 25 percent of the county’s employed residents work in the central county or at least 25 percent of the county’s employment is accounted for by workers who reside in the central county.<sup>3</sup> The commutation to work linkage among the counties of an MSA serves as the economic linkage for treating the area as a statistical unit. That linkage also provides a rationale for analyzing the area as an integrated local labor market, which is what this report does.

### **Defining and Measuring Unemployment**

The extent of unemployment in a metropolitan area is estimated monthly by the U.S. Bureau of Labor Statistics (BLS) by a survey of the resident population 16 years of age and older. It is an estimate of unemployment among residents of an area, regardless of where they work. Employed persons are those who did any work for pay or profit, who worked without pay in a family business, or who had a job but were not working due to vacation, illness, etc., during the week in which the BLS conducts the survey. Unemployed persons are those who were not employed (based on the BLS definition) at the time of the survey but had actively looked for work in the four weeks before the survey and are currently available for work. Persons on layoff expecting to be recalled need not be looking for work to be counted as unemployed. The sum of employed persons and unemployed persons is the labor force. The unemployment rate is the number of unemployed as a percent of the labor force.

Economists classify unemployment into several types, based on their causes, although there is no universal agreement on every type of classification. For example, economists widely agree that seasonal unemployment exists when demand for certain types of work varies regularly throughout the year, and workers find it easier to get jobs in certain seasons, for example, jobs associated with vacation activities or school terms. It’s generally agreed that cyclical unemployment is the result of variation in demand for certain types of work over the course of expansions and recessions during a business cycle. Demand for some types of work

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<sup>2</sup>To meet the Census Bureau’s definition of urban, an area must have a core of census-delineated blocks with a population density of 1,000 people per square mile, and surrounding census blocks that have an overall density of at least 500 people per square mile. (*Census 2000 Urban and Rural Classifications*, [http://www.census.gov/geo/www/ua/ua\\_2k.html](http://www.census.gov/geo/www/ua/ua_2k.html) accessed May 23, 2011)

<sup>3</sup>If two or more adjacent counties meet the criterion for a central county, they are combined into the same MSA along with their qualifying outlying counties.

characteristically varies more during the cycle than other types; for example, construction work tends to vary more than service work. Structural unemployment is a less well-defined concept. However, most economists agree that there are causes tending to increase unemployment for extended periods of time, persisting in expansions and recessions, and resulting from some features of the labor market in which it occurs. Some of the labor market features that tend to cause structural unemployment are inappropriate skills among the labor force, long-term declining demand for the output of industries that had provided jobs in the past, and legal or cultural impediments to employment opportunities.<sup>4</sup> These classifications of unemployment are instrumental in analyzing unemployment rates among metropolitan areas in the tri-state region.

### **Unemployment Rates over the Long Term in Metropolitan Areas in Delaware, New Jersey, and Pennsylvania**

The table accompanying this report lists the metropolitan areas that are wholly or partially in the tri-state region, along with some data that are relevant to analyzing their unemployment rates.<sup>5</sup> In BLS statistical programs, employment status is attributed to where persons live and industry status is attributed to where persons work. Therefore, the data in the table on labor force size and percent of the population with a college or higher degree are for the residents of the area, regardless of where they work. The data for employment change and major industry are for persons employed in the area, regardless of where they live. Nevertheless, because the delineation of an MSA is based on a significant percentage of persons living and working in the same area (although it does not require that all workers or residents do so), these data can be used jointly to analyze an area's labor market.

The data on average unemployment reveal a variation among the areas. Differences between metropolitan areas' unemployment rates and the national rate highlight regional variation while controlling for national influences. Some areas experience consistently higher

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<sup>4</sup> For discussions of structural employment in the context of the 2007-2009 recession and the subsequent expansion, see Rob Valletta and Katherine Kuang, "Is Structural Unemployment on the Rise?" Federal Reserve Bank of San Francisco *Economic Letter* (November 8, 2010); and Sylvia Allegretto and Devon Lynch, "The Composition of the Unemployed and Long-Term Unemployed in Tough Labor Markets," *Monthly Labor Review* (October 2010), pp. 3-18.

<sup>5</sup> Metropolitan statistical areas can extend across state boundaries. In addition to metropolitan areas, the Office of Management and Budget delineates economically cohesive portions of metropolitan statistical areas, called metropolitan divisions, and statistical areas with less population than required for metropolitan areas, called micropolitan areas. Data published for divisions and micropolitan areas are not as complete as the data available for metropolitan areas, so they are not covered in this report.

unemployment than the nation. Notable among these are Atlantic City, Ocean City, and Vineland in New Jersey and Johnstown in Pennsylvania. Some areas experience consistently lower unemployment than the nation. Notable among these are Harrisburg, Lancaster, and State College, Pennsylvania. This consistent variation across metropolitan areas suggests that in some areas, factors that tend to cause structural unemployment are present, that is, unemployment that persists during economic expansions as well as contractions.

Some factors associated with structural unemployment can be identified, and when their incidence or magnitude varies across metropolitan areas, they can generate regional differences in unemployment. Some of these factors reflect characteristics of the local labor force that are important in determining the local unemployment rate. For example, educational attainment is negatively correlated with unemployment; that is, persons with more years of education are less likely to be unemployed than persons with fewer years of education. According to BLS data, persons with bachelor's degrees average only about one-third the unemployment rate of persons with less than a high school diploma.<sup>6</sup> A look at the percentage of the population with a bachelor's degree or higher in the metropolitan areas in the three states reveals that those areas with a greater percentage of college graduates tend to have lower unemployment rates, as measured by the difference between the local rate and the national rate.<sup>7</sup> (For example, in the three-state region, the State College and Trenton areas have the highest percentage of college graduates, and both have unemployment rates that have been consistently below the national rate.)

In addition to structural unemployment caused by labor force characteristics, there is also structural unemployment caused by the characteristics of the employment opportunities in an area. Strong demand for labor in an area can provide job opportunities and reduce the likelihood of residents being unemployed; weak demand for labor in an area will reduce job opportunities and increase residents' likelihood of being unemployed. Although this seems obvious, the strength of the relationship can be weakened if there is significant entry of workers into an area or significant exit of workers from an area. A look at employment growth rates in the

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<sup>6</sup> In the past 20 years, unemployment rates have averaged 9 percent for those with less than a high school diploma, 5.4 percent for high school graduates with no college education, and 2.6 percent for those with a bachelor's degree or higher, according to BLS data.

<sup>7</sup> The correlation coefficient is 0.32 for the period 1990-2010.

metropolitan areas in the three states suggests that higher employment growth — jobs located in an area — has been associated with lower unemployment among the areas' resident labor force.<sup>8</sup>

A closely related demand factor that could influence local unemployment rates over an extended period of time (such as years and decades) is the type of industries located there. For example, stable or growing industries might provide more stable or increasing job opportunities, in contrast to cyclical or shrinking industries where job opportunities would be more likely to fluctuate or decline over time.<sup>9</sup> A casual inspection of the major industries in tri-state metropolitan areas does not suggest that areas with large concentrations of industries that experienced national employment declines (such as manufacturing) inevitably suffered from higher unemployment rates; nor does it suggest that areas with large concentrations of industries that experienced national employment increases (such as health services) necessarily benefitted from lower unemployment rates.

### **Metropolitan Area Unemployment Rates During a Business Cycle**

Some metropolitan areas in the three-state region have unemployment rates that have been persistently above or below the national rate, indicating structural factors at play. There are also cyclical differences in the behavior of metropolitan area unemployment rates in the region. Over shorter periods of time, unemployment rates in regional metropolitan areas vary during the course of the business cycle, moving up and down with the national rate. However, the cyclical pattern varies across the areas in the region; they do not all move up and down to the same extent. These cyclical patterns are illustrated in the five accompanying charts that show metro area unemployment rates from 1990 to 2010, a period that includes the recessions that began in 1990, 2001, and 2007.

Areas with low average unemployment rates, such as State College, Lebanon, and Trenton, tend to have low variation. The metropolitan areas that have the most variable unemployment rates over the course of the business cycle (measured by the difference in percentage points between their highest and lowest rates) are Atlantic City, Vineland-Millville-

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<sup>8</sup> The correlation coefficient is 0.63 for the period 1990-2010. This result must be interpreted with caution, however, because the delineation of metropolitan areas based on commutation to work necessarily correlates employment and unemployment measures.

<sup>9</sup> It is important not to conflate industry growth or decline with employment growth or decline in that industry. Because productivity changes over time, an industry that is growing in terms of output may be shrinking in

Bridgeton, and Ocean City, New Jersey, and Johnstown and Allentown, Pennsylvania. These areas also have more variable unemployment rates than the national average; the other regional metropolitan areas have less variation than the nation. The three New Jersey areas also have the three highest average unemployment rates over the study period (1990-2010). Johnstown is tied with Atlantic City for the third-highest average unemployment rate. Allentown's average unemployment rate is about in the middle among the 20 areas in the region. Some areas with relatively high average unemployment rates, such as Williamsport, Erie, and Scranton, exhibit relatively low variation. Nevertheless, areas at the extreme ends of the unemployment rate variation distribution are generally also at the extreme ends of the distribution of long-term average unemployment rates.

Some industries have greater cyclical variations in employment and unemployment than others. Among the significant industries in the region's metropolitan areas that tend to be more cyclical are manufacturing and leisure and hospitality services. Significant industries that tend to be less cyclical are education and health services and government. These differences in industry cyclicalities are broadly reflected in differences in cyclical unemployment across metropolitan areas in the region according to the major industries located in each of them. For example, low cyclical areas such as State College, Pittsburgh, and Trenton have significant employment in government and education and health. High cyclical areas such as Atlantic City, Vineland-Millville-Bridgeton, and Ocean City have significant employment in leisure and hospitality and manufacturing. However, there are many exceptions. For example, at the extremes of the cyclical variation distribution, Lebanon has low cyclicalities despite its significant manufacturing employment, and Johnstown has high cyclicalities despite its significant education and health employment. Other areas where cyclicalities are less than industry employment might indicate are Erie and Lancaster (manufacturing). Other areas where cyclicalities are greater than industry employment might suggest are Allentown (education and health) and Dover (government).

Another feature of the cyclical variation of metropolitan unemployment rates in the region is that the difference among areas tends to shrink somewhat during expansions and increase during contractions. (See the charts.) The convergence is the result of decreases in unemployment rates during expansions in areas that tend to have high and variable

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employment. For example, according to BLS productivity statistics, U.S. manufacturing grew 36 percent in the 20 years ending in 2010, while manufacturing output fell 35 percent.

unemployment rates. There are smaller decreases in unemployment rates during expansions in areas that have lower average unemployment rates (and, by definition, smaller decreases in areas that are less variable). The data thus confirm a widely held impression of the tri-state economy: Some areas have had relatively high structural and cyclical unemployment for many years.

### **Local Factors Are Important**

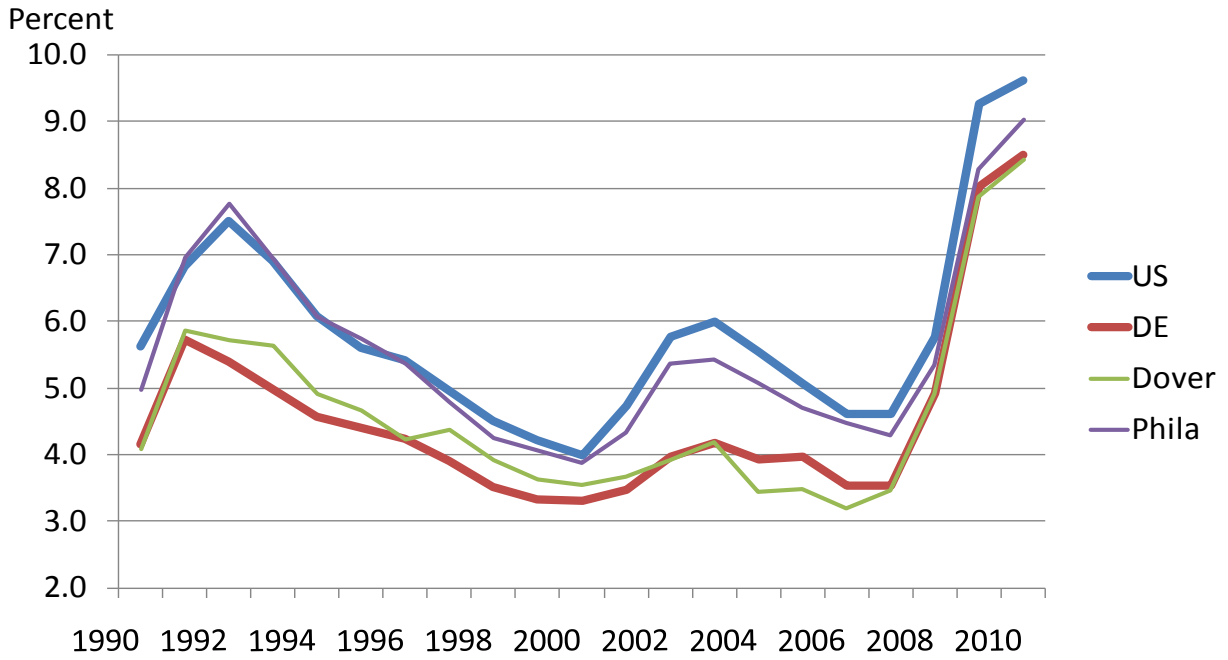
This review of unemployment in the metropolitan areas of Delaware, New Jersey, and Pennsylvania finds that the general factors associated with persistently high unemployment (structural unemployment) and the general factors associated with variable unemployment (cyclical unemployment) are evident in the differences in unemployment across the metropolitan areas. However, there are many exceptions for both structural and cyclical unemployment. These exceptions indicate that location-specific factors are also important determinants of local unemployment rates. To identify these factors, researchers should examine metropolitan areas for impediments to labor demand (e.g., zoning laws, business taxation, occupational licensing restrictions and other business regulations, infrastructure deficiencies, etc.). Areas should also be examined for obstructions to labor supply (e.g., personal taxation, cost of living, deficiencies in social amenities, as well as possible social or cultural deterrents to various occupations or self-employment). Broad economic trends and relationships can clearly influence local area unemployment rates in different ways — raising them in some areas and reducing them in others — but there are also differences determined by factors specific to each area. To more fully understand a local area's employment dynamics, it is necessary to investigate these location-specific factors.

**Table 1**

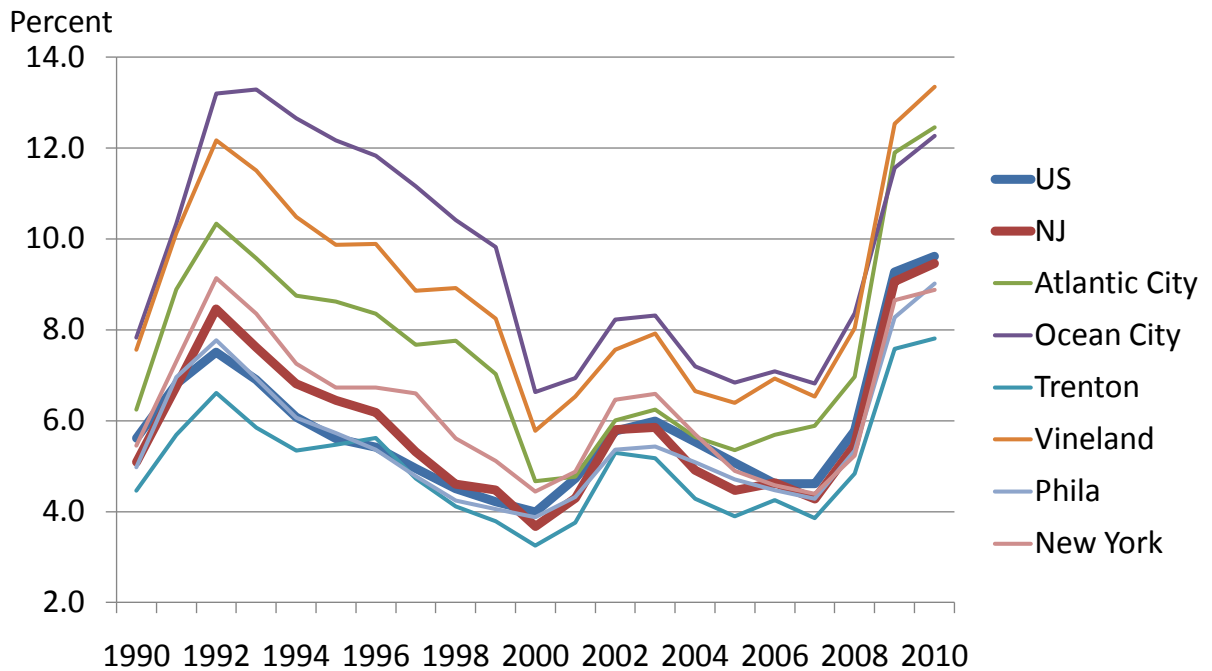
Metropolitan Areas Wholly or Partially in Delaware, New Jersey, and Pennsylvania					
Metropolitan Area	Labor Force	Percent College Graduates Population 25 years and older	Payroll Employment Change 1990-2010	Average Unemployment Rate Difference From National Rate 1990-2010	Largest Industry By Location Quotient*
Allentown	418,700	25.6	16.18	-0.2	Education & Health
Altoona	64,300	17.2	11.05	0.3	Manufacturing
Atlantic City	136,100	23.8	1.72	1.7	Leisure & Hospitality
Dover	72,500	19.4	49.62	-1.2	Government
Erie	138,400	23.5	5.26	0.4	Manufacturing
Harrisburg	281,600	27.6	16.10	-1.5	Finance
Johnstown	68,400	16.7	3.76	1.8	Education & Health
Lancaster	267,200	23.2	17.00	-1.8	Manufacturing
Lebanon	72,800	17.8	22.27	-1.5	Manufacturing
New York	9,469,900	35.2	12.76	0.4	Information
Ocean City	58,300	27.2	7.98	3.8	Leisure & Hospitality
Philadelphia	2,955,600	31.8	7.95	-0.3	Education & Health
Pittsburgh	1,212,600	27.7	8.06	-0.2	Education & Health
Reading	202,900	21.5	7.79	-0.4	Manufacturing
Scranton	279,500	21.2	4.71	1.1	Education & Health
State College	75,000	38.4	23.79	-1.8	Government
Trenton	203,900	38.7	20.36	-0.9	Government
Vineland	70,700	13.4	-1.82	3.0	Manufacturing
Williamsport	59,900	18.4	2.54	0.8	Manufacturing
York	223,800	21	12.76	-1.0	Manufacturing
*Ratio of percent employment in industry in MSA to percent employment in industry in nation.					



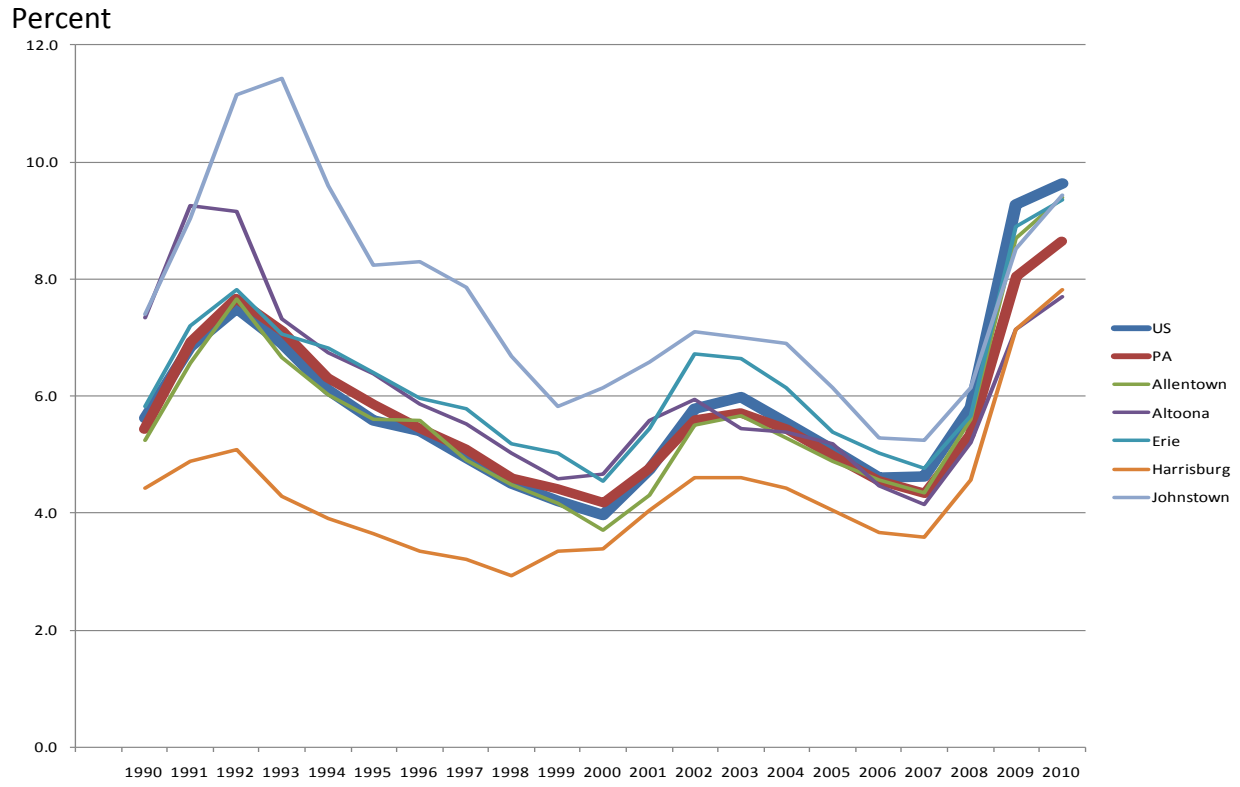
**Figure 1**  
**Unemployment Rates in Delaware**  
**State and Metro Areas**



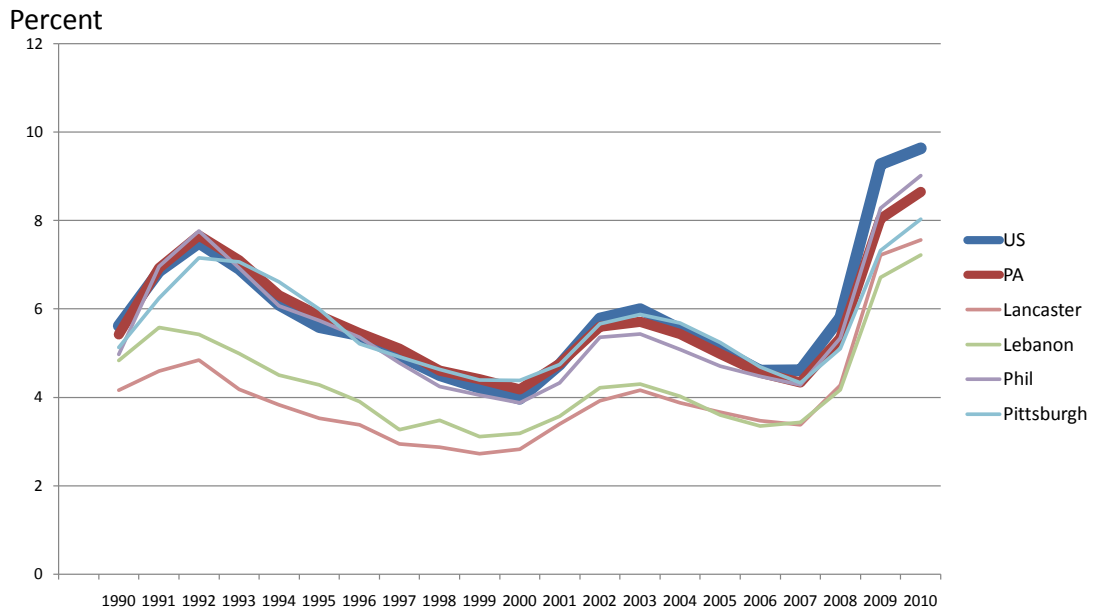
**Figure 2**  
**Unemployment Rates in New Jersey**  
**State and Metro Areas**



**Figure 3a**  
**Unemployment Rates in Pennsylvania**  
**State and Metro Areas**



**Figure 3b**  
**Unemployment Rates in Pennsylvania**  
**State and Metro Areas**



**Figure 3c**  
**Unemployment Rates in Pennsylvania**  
**State and Metro Areas**

