TOWARD UNDERSTANDING URBAN PATHOLOGY: CREATING A TYPOLOGY OF 'WEAK MARKET' CITIES

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ABSTRACT

Not all distressed cities are the same, either in the causes of their distress or in its manifestations. In this paper, we empirically develop a typology of economically distressed cities which differentiates among types of cities based on different aspects of economic distress and its impact on city residents. We measure two facets of distress by using eight indicators to create two distinct distress indexes, the City Economic Condition index and the Residential Economic Wellbeing index. Cities that fall in the bottom third of the distribution on these indexes are considered economically distressed, or "Weak Market" cities. We then use cluster analysis to differentiate among the weak market cities based on different aspects of distress, and to explore the relationship between the economic health of cities and that of their metropolitan areas. We argue that urban policy makers must recognize that distressed cities are not a homogenous group, and that appropriate policy solutions will reflect the differences among such cities.

The purpose of this paper is twofold. First, we want to identify a set of "Weak Market" cities, or those experiencing a high degree of economic distress. And second, we want to examine these weak market cities and further differentiate among them based on different aspects of economic distress. We argue that distressed cities are not a homogenous group, either in the causes or their distress or in its manifestations, and that understanding differences among weak market cities will aid in the search for appropriate policy solutions.

We began by using a set of economic indicators to construct two broad measures of the economic health of cities: the economic wellbeing of city residents as of 2000, and the growth of the city economy during the 1990s. We then used these measures to create a typology of central cities. Within this typology, the set of cities exhibiting the most severe levels of economic difficulty was designated Weak Market. We then used cluster analysis to create a typology of the weak market cities based on our two measures of economic health and on the individual indicators included in the measures. We also used cluster analysis to examine how the economic health of the cities' MSAs affects the cluster groupings. We conclude that: 1) there are, in fact,

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meaningful differences among types of economically distressed cities; and 2) the economic

health of cities in inextricably bound up in the economic health of their MSAs.

Identifying Weak Market Cities

We began by including in our data set the 302 cities that met at least one of the following

criteria either in 1990 or 2000:

- Cities with populations of at least 50,000 that were the primary city in a metropolitan

  area;

- Cities with populations of at least 50% of the population of the primary city in their

  metropolitan area; or

- Cities with populations of at least 150,000 regardless of whether they were the

  primary city in a metropolitan area.

We collected data on eight indicators of city economic health, and divided them into two

intuitively distinct groups. One group of indicators reflects cities' economic growth during the

1990s. These indicators include: growth in employment, growth in annual payroll, and growth in

establishments.[1] The second group of indicators measure the economic wellbeing of city

residents in 2000. These measures are: per capita income, median household income, poverty

rate, unemployment rate, and labor force participation rate. (See Table 1 for variable definitions

and data sources.) We used Cronbach's alpha to confirm that our indicator groupings

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[1] Due to data availability constraints, the earnings and establishments variables were measured at
the county level.

represented two internally cohesive sets of variables. The alpha coefficient in both cases showed a high degree of reliability.[2]

The two sets of indicators were used to create two indexes of economic health: City Economic Condition, and Residential Economic Wellbeing. We used z-scores to standardize the variables, and summed the z-scores across the variables within each index. For those variables for which a lower value indicates a lesser degree of economic distress, such as poverty rate, the signs on the z-scores were reversed so that a higher z-score always indicated better economic health. To get each city's index scores, we divided by the number of variables in the index. As a result, the index scores for each index were on roughly the same scale and could easily be compared. We then ranked each city on the indexes according to the index scores. (See Table 2 for cities and their index scores and corresponding rankings.)[3]

A typology of central cities was formed using the two sets of index scores. The cities were divided into thirds for each index based on their rankings, with the top third of cities considered Strong on that index, the middle third Moderate, and the bottom third Weak. The typology was created by grouping the cities according to the nine possible combinations of strong, moderate, and weak economic health as measured by the two indexes. (See Tables 3a through 3i for the typology groupings.) Sixty-five of the 302 central cities were considered Weak on both the City Economic Condition index and the Residential Economic Wellbeing index. These 65 cities were designated as Weak Market cities. (See Table 3i for the list of these cities.)

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[2] For the indicators in the City Economic Condition index, $\alpha = 0.8598$. For the Residential Economic Wellbeing index, $\alpha = 0.8991$.

[3] The Pearsonian correlation coefficient between the two indexes was 0.4597, meaning they are measuring two distinct aspects of economic health and are not closely correlated with one another. The rank-order correlation between the two indexes was 0.5033.

Characteristics of Weak Market Cities

Over half of the weak market cities (58%) are concentrated in just eight states: Connecticut, Indiana, Massachusetts, Michigan, New Jersey, New York, Ohio, and Pennsylvania. (Cities in these states made up only 20.5% of the set of all central cities.) This reflects the difficulties facing the northeastern region of the country, as the so-called "rust belt" states attempt to revitalize the region's stagnant economy and stem the decline of its cities. The three states with the highest proportion of cities that are weak market are New York, with seven of its eight cities considered weak market, Pennsylvania (nine out of ten), and Ohio (eight out of eleven). California also had seven of its 33 cities fall into the weak market category.

The set of weak market cities was characterized by slow economic growth, or even retraction in many cases, and high levels of residential economic distress. The overall mean index score for both indexes is approximately zero. The mean City Economic Condition index score for the weak market cities is –0.89, or approximately one standard deviation below the mean for all cities. Likewise, the mean Residential Economic Condition index score for the weak market cities is –0.96, about 1.1 standard deviations below the overall mean. On average, the weak market cities lost 8% of their jobs, compared to an average employment growth of 18% among non-weak market cities. Weak market cities saw average payroll growth of only 50% (in current dollars) and average growth in establishments of 1.4%, compared to 91% average payroll growth and 18% average establishment growth among the rest of the central cities.

In terms of the Residential Economic Wellbeing indicators, average per capita income in weak market cities was 78% of the average for non-weak market cities ($16,019 compared to $20,424), and average median household income was 76% of the average for other cities

($29,138 compared to $38,510). Weak market cities had an average unemployment rate of 10% and labor force participation rate of 59%, compared to an average 6% unemployment and 65% labor force participation in non-weak market cities. And the average poverty rate in weak market cities was 23%, compared to an average of 15% in other cities. (See Table 4 for summary statistics comparing weak market cities to non-weak market cities and to all central cities.)

Testing the Typology of Central Cities

To test our typology of cities, we did a cluster analysis using the index scores as the variables around which cities would cluster. (See the Appendix for a description of the cluster analysis methodology.) Using hierarchical agglomerative cluster analysis, the preferred cluster solution gave us 8 clusters, plus one city, Plano, TX, that did not group with any others cities.[4] (See Table 5 for cluster groupings.) We conducted one-way analysis of variance (ANOVA) models for each index and determined that the mean index scores for both indexes were significantly different among the clusters.[5]

There were two clusters, termed Strong Economic Health (32 cities, including Omaha, NE, and Greensboro, NC) and Strongest Economic Health (14 cities such as Boise, ID, and Austin, TX) that had high average index scores on both indexes. On the opposite end of the spectrum, there were two clusters, the High Economic Distress (74 cities such as Cincinnati, OH and Pittsburgh, PA) and Highest Economic Distress (36 cities, including Birmingham, AL, and Providence, RI) with low average index scores on both indexes. There were also clusters characterized by Low Residential Wellbeing (17 cities such as Tallahassee, FL, and Brownsville,

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[4] Plano was an outlier because of its extremely high score on the City Economic Condition index.
[5] For the Residential Economic Wellbeing index, the F-statistic was 405.52 (p=0.000); for the City Economic Condition index, the F-statistic was 212.32 (p=0.000).

TX), Strong City Economic Condition (41 cities, including Salt Lake City, UT, and San Antonio, TX), and High Residential Wellbeing (19 cities such as Rochester, MN, and Seattle, WA). One large cluster of 67 cities, the Average Levels of Distress cluster, had mean index scores that were near the average scores for all cities and included Boston, MA, and Houston, TX.[6] (See Table 5 for the mean index scores for each cluster.)

We were primarily interested in how these clusters corresponded with our central city typology, and particularly whether our set of Weak Market cities clustered together. For the most part, they did. All of the 36 cities in the Highest Economic Distress cluster were weak market cities. The 27 remaining weak market cities fell into the High Economic Distress cluster. Of the 74 cities in this cluster, therefore, 39% of them were weak market cities. The weak market cities that comprise the Highest Economic Distress cluster were generally much worse off than were those weak market cities in the High Economic Distress cluster, particularly with regards to the Residential Economic Wellbeing index. The cities in the Highest Economic Distress cluster had a mean Residential Economic Wellbeing index score of −1.23, while the Residential Economic Wellbeing index score for the weak market cities that were in the High Economic Distress cluster was about half that, -0.62. Looking at just the cities in the High Economic Distress cluster, those in the cluster that were weak market had lower average index scores that those that were not, again particularly on the Residential Economic Wellbeing index − the mean index score was −0.62 for weak market cities, compared to −0.23 for the non-weak market cities in the cluster. Weak market cities that are in Pennsylvania were much more likely to be in the High Economic Distress cluster, whereas six of the seven weak market cities in New York were in the Highest Economic Distress cluster.

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[6] We repeated this process using the individual indicators that comprised the indexes as the variables in the cluster analysis. The resulting clusters, though not identical, were quite similar.

Differentiating Among Types of Weak Market Cities

We next performed cluster analysis on just the weak market cities to determine if the set of cities could be divided into distinct groups with interpretable defining characteristics. The indicators that were the components of our economic health indexes were used as the variables in the cluster analysis. We found that there were, in fact, groups of cities within the set of weak market cities that could be differentiated according to their degree of economic distress, both overall and on the various indicators. Again using hierarchical agglomerative cluster analysis, the preferred cluster solution gave us five distinct clusters, plus two outlier cities (Bridgeport, CT, and Allentown, PA) that clustered together.[7] (See Table 6 for the cluster groups.) ANOVAs again showed that the clusters were significantly different on both of the economic health indexes and on all of the indicators except for per capita income and change in employment. (See Table 7 for summary statistics by cluster and Table 8 for the results of the analysis of variance.)

One cluster of 12 cities had high index scores relative to the rest of the weak market cities. These cities are termed the Least Economically Distressed and include Canton, OH, and Springfield, MA. While this cluster did not have the highest mean index scores on either index, this was the only set of cities to have mean index scores that were significantly higher than the overall mean for both indexes. The cluster is also characterized by having the lowest mean unemployment rate, 8.1%, the lowest mean poverty rate, 19.3%, and the highest growth in establishments, 8.3%. The Pennsylvania and Massachusetts weak market cities are largely concentrated in this cluster – all of the weak market cities that are in Massachusetts are in this

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[7] These two cities were anomalous due to a combination of extremely high employment loss at the city level and high annual payroll growth at the county level.

cluster, as are five of Pennsylvania's nine weak market cities (Altoona, Erie, Harrisburg, Lancaster, and Scranton). Eight of the 12 cities in the cluster are in these two states.

The 15 cities in the High Residential Wellbeing cluster had the highest mean Residential Economic Wellbeing index score of all the cluster groupings with –0.66, but a mean score on the City Economic Condition index that was not significantly different from the overall mean index score. The cluster has the highest mean median household and per capita incomes, $32,430 and $18,355, respectively, and the highest labor force participation rate, 61.5%. The group also has the highest growth in annual payroll, though there were two other clusters that had payroll growth that was almost as high. Typical of cities in this cluster are Albany, NY, which had a median household income of $30,041, a per capita income of $18,281, and a labor force participation rate of 63.6%; and Jackson, MS, with median household income of $30,414, per capita income of $17,116, and labor force participation rate of 62.2%.

A cluster of 13 cities had the worst mean Residential Economic Wellbeing index score by far, -1.49, and their mean index score on the City Economic Condition index was close to the overall average. This is termed the Worst Residential Wellbeing cluster, and includes Detroit, MI, with a Residential Economic Wellbeing index score of –1.51, and Miami, FL, with an index score of –1.78. This cluster is also characterized by having the lowest mean median household income with $26,172, the highest mean unemployment and poverty rates, 12.3% and 26.4% respectively, and the lowest labor force participation rate at 56%. The mean per capita income for the cluster is close to the lowest for the clusters. The cities also had the highest loss in employment, 12.7%. Three of the four Michigan weak market cities are in this cluster (Detroit, Flint, and Saginaw), as are two of the three Connecticut weak market cities (Hartford and New Haven).

There are 15 cities in the Worst City Economic Condition cluster. They had a mean City Economic Condition index score of –1.14, and a mean index score on the Residential Economic Wellbeing index that was close to the overall mean score. This is the only cluster to have a net loss in establishments during the 1990s, a mean change of –4.9 percent. The cluster also had the lowest payroll growth at 41.3%. Cities in this cluster include Baltimore, MD, with a 6.9% loss in the number of establishments and a 46.9% growth in annual payroll, and Syracuse, NY, which lost 6.7% of its establishments and saw payroll growth of only 31.6%. The New York weak market cities are concentrated in this cluster – five of the states' seven weak market cities are in this group (Binghamton, Rochester, Schenectady, Syracuse, and Utica).

Finally, eight cities are in a cluster we are terming the Mixed Economic Picture cluster. These cities had the highest mean score on the City Economic Condition index, -0.60, but did relatively poorly on the Residential Economic Wellbeing index with a mean score of –1.14. This group of cities was the only cluster with negligible average employment loss, -0.5%, and had the highest mean payroll growth with an increase of 61.5%. However, the cluster also had the lowest mean per capita income, $14,553, and a relatively high mean unemployment rate at 11%. Typical of the cities in this cluster are Stockton, CA, with earnings growth of more than 63% but an unemployment rate of 12.4%, and Trenton, NJ, which had greater than 69% earnings growth but per capita income of only $14,621. The California weak market cities were largely concentrated in this cluster, with five of the states' seven weak market cities (Fresno, Merced, San Bernardino, Santa Maria, and Stockton) having a pattern of higher city economic condition but lower residential wellbeing.

The Health of Cities' Metro Areas

We wanted to look at weak market cities in the context of the economic health of their MSAs. To do this, we created an MSA Economic Condition index for all central cities similar to the City Economic Condition index. The four indicators used to form this index are the change in MSA-level employment, wages, and gross metropolitan product from 1990 to 2000 and the gross metropolitan product per job in 2000. (See Table 9 for the list of indicators, their definitions, and data sources.) We again used Cronbach's alpha to test the cohesion of the index's four indicators, and found a relatively high degree of internal validity ($\alpha = 0.7785$). As with the other two economic health indexes, these indicators were standardized using z-scores, summed across the standardized values, and divided by the number of indicators to create each city's index score. We then ranked the MSAs according to their index scores and divided them into thirds to get the Weak, Moderate, and Strong groups. (See Table 10 for a list of the MSAs and their index scores and rankings.)

Not surprisingly, there is a strong link between the economic health of cities and that of their MSAs.[8] The 65 weak market cities were in MSAs with an average MSA Economic Condition index score of –0.51, compared with a mean index score of 0.15 for the non-weak market cities' MSAs. Only three weak market cities were in MSAs that had Strong scores on the MSA Economic Condition index (Bridgeport, CT; Richmond, VA; and San Bernardino, CA). Fifteen were in MSAs with Moderate index scores, while the majority, 46 cities, were in MSAs with Weak MSA Economic Condition index scores.

We repeated the cluster analysis of the weak market cities, this time adding the indicators in the MSA Economic Condition index to the analysis, to see how much the cluster groups would change when the economic health of cities' MSAs was taken into account. The preferred

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[8] The correlation coefficient between the City Economic Condition index and the MSA Economic Condition index was 0.7473.

cluster solution gave us six clusters of cities. (See Table 11 for the cluster groupings.) We found that the MSA-level indicators were strong drivers of the clustering, likely due to their strong relationship to the City Economic Condition indicators. ANOVAs showed that only the two Economic Condition indexes were significantly different among the clusters. The Residential Economic Wellbeing index scores showed no significant difference, nor did any of the indicators in the index with the exception of per capita income. Of the indicators in the City Economic Condition index, the change in employment was not significantly different among the groups; of those in the MSA Economic Condition index, GMP per job also showed no significant difference among the clusters. (See Table 12 for summary statistics for the clusters and Table 13 for results of the analysis of variance.)

The description of the different clusters in this analysis largely mirror those for the previous cluster analysis that did not include the MSA-level indicators. Four cities grouped together to form the Least Economically Distressed cluster: Bridgeport, CT; Detroit, MI; Miami, FL; and San Bernardino, CA. The cities had the only mean MSA Economic Condition index score that was greater than zero, an average of 0.277, meaning that the average index score for the cities in this cluster was higher than the index scores of more than half the MSAs in the set of all central cities. The cluster also had the highest mean City Economic Condition index score, -0.77. The mean growth in annual payroll at the city level of 70.2% was the highest of all the clusters, and the cluster had the highest mean values for all of the MSA-level indicators except for GMP per job, though it was less than 1% lower than the highest mean value on that indicator. Interestingly, though this cluster had the highest mean scores on the City and MSA Economic Condition indexes, it had the worst average score on the Residential Economic Wellbeing index

and the lowest mean per capita income, the one indicator in this index for which there are significant differences among the clusters.

Seven cities clustered to form the Most Economically Distressed group, which had the lowest mean MSA Economic Condition index score by far, -1.08, and the second worst average City Economic Condition index score. The cluster had the slowest mean growth in annual payroll at the city level, 41.1%, and was one of only two clusters that had an average loss in establishments. At the MSA level, the cities also had the slowest mean total wage and GMP growth, at 36.7% and 38.6%, respectively. This cluster also had a low mean Residential Economic Wellbeing index score. Typical of cities in this cluster is Binghamton, NY, with city-level loss in establishments of almost 7.5% and payroll growth of only 23.2%, and only 25.8% and 40.2% MSA growth in total wages and GMP, respectively.

The Worst City Economic Condition cluster contained six cities that, with a mean index score of −1.12, had the worst City Economic Condition. The cities' MSA Economic Condition average index score was also below the average for all weak market cities, and the group's Residential Economic Wellbeing index score was quite low. The cluster was characterized by the highest average loss in employment at the city level, -18.8 %, as well as the highest mean unemployment and poverty rates, though these variables were not significantly different among the clusters. Included in the cluster are Flint, MI, which had 34% employment loss, and Hartford, CT, with more than 23% employment loss.

A cluster of ten cities was characterized by a high mean City Economic Condition index score of −0.77 and a relatively low average MSA Economic Condition index score. This group is termed the Strong City, Weak MSA cluster. The cities in this cluster had the highest average growth in establishments, 7.8%, but the lowest mean GMP per job, $64,834. The cluster did,

however, have a high average Residential Economic Wellbeing index score. Cities in this cluster include Erie, PA, with establishments growth of over 10% and a GMP per job of just under $64,000, and Canton, OH, which saw growth in establishments of around 8% and had a GMP per job under $64,000.

The cluster termed Strong MSA, Weak City contained 14 cities, such as Los Angeles, CA, and Newark, NJ, that had the second highest mean MSA Economic Condition index score at –0.38, but a relatively low mean score on the City Economic Condition index at –0.96. The cluster also had the highest average Residential Economic Wellbeing index score with –0.608, and the highest mean per capita income, $18,482.

And finally, the Average Levels of Distress cluster includes 23 cities with unremarkable mean indicator values and index scores. Cities in this cluster include Cleveland, OH, New Orleans, LA, and St. Louis, MO.

Comparing the Two Weak Market Cluster Groups

Despite their similar sounding characteristics, the weak market cluster analysis that included the MSA-level variables resulted in largely different cluster groupings than the cluster analysis that did not include that variables. Of the 15 cities in the non-MSA cluster termed Worst City Economic Condition, only one, Rochester, NY, was in the corresponding cluster in the MSA cluster groupings. Three of the 15 were in the Most Economically Distressed MSA cluster. In contrast, however, of the 12 cities in the Least Economically Distressed non-MSA cluster, 10 grouped together to form the Strong City, Weak MSA cluster in the MSA cluster groupings. Apart from this cluster, however, the non-MSA cluster groupings and the MSA cluster groupings had little overlap and were not really comparable.

There was also less clustering of states' cities in the MSA clusters than there was in the non-MSA groups. Instead of grouping together in the MSA clusters, the New York cities were divided between the Most Economically Distressed and Worst City Economic Condition clusters. However, the Massachusetts weak market cities did group together as part of the Strong City, Weak MSA cluster.

Next Steps and Policy Implications

Our next steps in this research are to explore other descriptive characteristics that may help differentiate among the types of weak market cities, including factors such as MSA size, percentage of the metropolitan area population living in the central city, region, demographic structure, and industry mix. We also will engage in causal modeling of the index scores and their indicators in order to get at what causes economic distress among weak market cities. What we hope to show is that economic distress includes many facets and has many causes, and that policy solutions for weak market cities attempting to improve their economic health should be appropriate according to both the causes of distress and its effects on city residents.

TABLE 1: Indicators used to measure city economic health
All variables are measured at the city level unless otherwise indicated.

	Definition	Source
City Economic Condition Indicators		
Change in Employment	Change in the number of jobs by place of work, 1990-2000	State of the Cities Data Systems, Census Data 1990 and 2000
Change in Annual Wages	Change in annual wages of the county containing the majority of city residents[9], 1990-2000	County Business Patterns 1990 and 2000
Change in Establishments	Change in the number of establishments in the central county (see above), 1990-2000	
Residential Economic Wellbeing Indicators		
Median Household Income	Median income of city households 2000	State of the Cities Data Systems, Census Data 2000
Unemployment Rate	Employed residents as a percent of residents in the labor force 2000	
Poverty Rate	Percent of residents with household incomes below the poverty line 2000	
Labor Force Participation Rate	Percent of working-age residents in the labor force 2000	
Per Capita Income	Total income per city resident 2000	U.S. Census of Population and Housing 2000

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[9] If city population was more or less evenly split between two counties, both were included. The five counties that are contiguous with the New York City boroughs were combined.

TABLE 2: Central city index scores and rankings

Rankings are out of 302[10] central cities. A high index score indicates better economic health.

City	State	City economic condition index	Rank: City economic condition index	Residential economic wellbeing index	Rank: Residential economic wellbeing index
Abilene	TX	-0.424	196	-0.278	193
Akron	OH	-0.570	217	-0.223	183
Albany	GA	-0.562	214	-1.242	283
Albany	NY	-0.829	260	-0.808	251
Albuquerque	NM	0.120	109	0.419	95
Allentown	PA	-0.762	248	-0.464	215
Altoona	PA	-0.557	213	-0.751	245
Amarillo	TX	-0.036	135	0.203	118
Ames	IA	0.187	105	0.192	119
Anaheim	CA	-0.331	180	0.371	101
Anchorage	AK	0.001	129	1.507	10
Anderson	IN	-1.072	285	-0.201	180
Ann Arbor	MI	0.047	119	0.875	43
Appleton	WI	0.911	39	1.383	16
Arlington	TX	0.660	57	1.256	18
Arlington	VA	-0.169	154	2.554	2
Asheville	NC	0.360	82	-0.036	152
Athens-Clarke County	GA	0.327	84	-0.898	260
Atlanta	GA	0.727	49	-0.522	222
Augusta-Richmond County	GA	0.566	67	-0.447	212
Aurora	CO	1.621	17	1.161	26
Austin	TX	2.904	3	0.978	35
Bakersfield	CA	-0.542	212	-0.154	175
Baltimore	MD	-1.178	293	-1.029	267
Baton Rouge	LA	-0.077	140	-0.593	230
Battle Creek	MI	-0.599	223	-0.052	156
Beaumont	TX	-0.679	235	-0.453	213
Bellingham	WA	0.806	42	-0.359	206
Bend	OR	2.420	6	0.829	46
Bethlehem	PA	-0.899	265	-0.235	187
Billings	MT	0.367	81	0.500	83
Binghamton	NY	-1.530	301	-0.867	257
Birmingham	AL	-0.979	274	-1.160	277
Bismarck	ND	0.200	101	0.982	34
Bloomington	IL	0.485	73	1.428	12

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[10] Rankings for the City Economic Condition index are out of 301 cities; Carson City, NV does not have an index score and was not ranked due to missing data on the payroll and establishments variables.

City	State	City economic condition index	Rank: City economic condition index	Residential economic wellbeing index	Rank: Residential economic wellbeing index
Bloomington	IN	-0.003	131	-0.840	254
Boise	ID	2.232	8	1.138	27
Boston	MA	0.032	123	0.151	123
Boulder	CO	2.481	5	0.880	42
Bridgeport	CT	-0.681	236	-0.608	234
Brownsville	TX	0.708	53	-2.274	302
Bryan	TX	1.771	12	-0.291	195
Buffalo	NY	-1.115	288	-1.442	290
Canton	OH	-0.744	246	-0.621	236
Cape Coral	FL	0.624	58	0.700	53
Carson City	NV	na	na	0.460	89
Cedar Rapids	IA	0.289	87	1.169	25
Champaign	IL	0.015	128	-0.205	181
Charleston	SC	0.197	102	0.020	141
Charleston	WV	-0.512	211	0.189	121
Charlotte	NC	0.912	38	1.236	19
Chattanooga	TN	-0.098	143	-0.263	191
Cheyenne	WY	0.136	108	0.628	62
Chicago	IL	-0.564	215	-0.340	202
Chico	CA	-0.190	158	-0.833	253
Cincinnati	OH	-0.850	263	-0.353	204
Clarksville	TN	1.247	25	0.507	81
Cleveland	OH	-0.866	264	-1.374	288
College Station	TX	1.066	30	-1.759	298
Colorado Springs	CO	1.782	11	1.103	31
Columbia	MO	0.720	50	0.135	127
Columbia	SC	-0.225	163	-0.437	210
Columbus	GA	-0.360	185	0.010	144
Columbus	OH	0.033	122	0.605	68
Corpus Christi	TX	-0.266	173	-0.176	177
Dallas	TX	0.064	118	0.208	117
Danbury	CT	-0.228	166	1.384	15
Danville	VA	-1.138	291	-0.928	263
Davenport	IA	-0.053	137	0.305	110
Dayton	OH	-1.064	283	-0.935	264
Daytona Beach	FL	-0.201	159	-1.094	273
Decatur	AL	-0.056	138	0.158	122
Decatur	IL	-0.933	269	-0.341	203
Deltona	FL	0.940	35	0.347	106
Denver	CO	0.238	91	0.637	60
Des Moines	IA	-0.214	161	0.509	79
Detroit	MI	-0.960	271	-1.509	292

City	State	City economic condition index	Rank: City economic condition index	Residential economic wellbeing index	Rank: Residential economic wellbeing index
Dothan	AL	0.077	116	0.058	135
Dubuque	IA	-0.265	172	0.532	77
Duluth	MN	-0.130	148	-0.054	157
Durham	NC	1.054	31	0.588	72
Eau Claire	WI	0.746	47	0.474	87
El Paso	TX	-0.169	153	-0.926	262
Elkhart	IN	-0.408	193	0.294	111
Erie	PA	-0.683	237	-0.657	239
Eugene	OR	0.167	106	0.190	120
Evansville	IN	-0.449	202	0.008	145
Fairfield	CA	-0.128	147	0.821	47
Fall River	MA	-0.582	220	-0.514	220
Fargo	ND	0.594	61	0.881	41
Fayetteville	AR	1.509	19	-0.504	219
Fayetteville	NC	0.088	115	-0.065	158
Flagstaff	AZ	1.305	23	0.502	82
Flint	MI	-1.406	299	-1.352	287
Fort Collins	CO	1.625	16	0.889	40
Fort Lauderdale	FL	0.206	100	0.360	105
Fort Smith	AR	-0.247	170	0.015	143
Fort Wayne	IN	-0.491	209	0.369	103
Fort Worth	TX	0.261	90	0.122	129
Fremont	CA	0.582	64	2.430	4
Fresno	CA	-0.579	218	-1.091	272
Gainesville	FL	0.023	126	-0.965	265
Glendale	CA	-0.769	249	0.620	65
Grand Rapids	MI	-0.251	171	0.111	131
Great Falls	MT	-0.399	191	-0.044	155
Greeley	CO	1.324	21	0.018	142
Green Bay	WI	0.223	96	0.673	56
Greensboro	NC	0.230	93	0.633	61
Greenville	NC	0.799	44	-0.555	225
Greenville	SC	0.108	111	0.245	115
Gulfport	MS	1.582	18	-0.181	178
Harrisburg	PA	-0.688	239	-0.870	258
Hartford	CT	-1.220	296	-1.967	300
Honolulu	HI	-1.134	290	0.582	73
Houston	TX	0.031	124	-0.102	167
Huntington	WV	-0.702	242	-1.338	286
Huntsville	AL	0.227	95	0.511	78
Idaho Falls	ID	0.402	77	0.490	84
Indianapolis	IN	-0.130	149	0.679	55

City	State	City economic condition index	Rank: City economic condition index	Residential economic wellbeing index	Rank: Residential economic wellbeing index
Iowa City	IA	0.720	51	0.363	104
Irving	TX	0.949	34	1.210	22
Jackson	MS	-0.817	256	-0.672	241
Jackson	TN	0.781	45	-0.246	190
Jacksonville	FL	0.105	112	0.597	70
Jacksonville	NC	1.258	24	0.646	59
Janesville	WI	-0.025	134	1.125	29
Johnson City	TN	0.583	63	-0.027	150
Jonesboro	AR	0.495	71	-0.020	148
Kalamazoo	MI	-0.685	238	-0.763	248
Kansas City	MO	-0.581	219	0.332	108
Kennewick	WA	0.984	33	0.486	85
Killeen	TX	0.915	37	0.336	107
Knoxville	TN	-0.118	144	-0.495	218
La Crosse	WI	-0.371	186	0.027	139
Lafayette	IN	0.413	76	0.578	74
Lafayette	LA	0.672	56	0.052	136
Lake Charles	LA	0.069	117	-0.598	231
Lakeland	FL	-0.226	164	-0.318	199
Lancaster	PA	-0.631	230	-0.629	237
Lansing	MI	-0.812	255	0.137	126
Laredo	TX	1.694	14	-1.537	293
Las Cruces	NM	0.876	41	-0.757	246
Las Vegas	NV	2.592	4	0.447	93
Lawrence	KS	0.925	36	0.310	109
Lawton	OK	-0.007	132	-0.091	165
Lexington-Fayette	KY	-0.125	146	0.755	51
Lincoln	NE	0.500	69	1.023	32
Little Rock	AR	-0.083	141	0.460	90
Long Beach	CA	-1.130	289	-0.459	214
Longview	TX	-0.416	195	-0.183	179
Los Angeles	CA	-1.010	277	-0.423	209
Louisville	KY	-0.392	190	-0.536	223
Lubbock	TX	-0.278	176	-0.120	169
Lynchburg	VA	-0.377	189	-0.245	189
Macon	GA	-0.734	245	-1.181	278
Madison	WI	0.399	78	0.924	38
Manchester	NH	-0.339	181	0.852	44
Mansfield	OH	-0.820	257	-0.398	208
McAllen	TX	1.315	22	-0.876	259
Medford	OR	0.610	60	0.035	138
Melbourne	FL	-0.118	145	0.073	134

City	State	City economic condition index	Rank: City economic condition index	Residential economic wellbeing index	Rank: Residential economic wellbeing index
Memphis	TN	-0.175	155	-0.444	211
Merced	CA	-0.620	229	-1.498	291
Mesa	AZ	1.484	20	0.683	54
Miami	FL	-0.822	258	-1.777	299
Midland	TX	-0.290	177	0.420	94
Milwaukee	WI	-0.972	272	-0.576	229
Minneapolis	MN	0.093	114	0.610	67
Missoula	MT	1.129	28	-0.129	171
Mobile	AL	-0.429	198	-0.617	235
Modesto	CA	-0.468	205	-0.275	192
Monroe	LA	-0.092	142	-1.537	294
Montgomery	AL	-0.142	151	-0.091	164
Muncie	IN	-0.782	250	-0.913	261
Napa	CA	0.221	97	0.983	33
Nashua	NH	-0.275	175	1.479	11
Nashville-Davidson	TN	-0.002	130	0.589	71
New Bedford	MA	-0.669	232	-0.863	256
New Haven	CT	-1.080	287	-1.224	281
New Orleans	LA	-0.979	273	-1.109	274
New York	NY	-0.213	160	-0.393	207
Newark	NJ	-1.025	278	-2.044	301
Newport News	VA	-0.824	259	0.371	100
Norfolk	VA	-1.075	286	-0.155	176
North Charleston	SC	0.735	48	-0.745	244
Norwalk	CT	-0.373	188	1.900	7
Oakland	CA	0.111	110	-0.067	160
Odessa	TX	-0.928	268	-0.476	217
Ogden	UT	0.804	43	-0.223	184
Oklahoma City	OK	-0.160	152	0.145	124
Omaha	NE	0.234	92	0.811	48
Ontario	CA	0.300	86	-0.224	185
Orem	UT	2.310	7	0.795	49
Orlando	FL	0.524	68	0.448	92
Oshkosh	WI	-0.674	234	0.473	88
Owensboro	KY	-0.497	210	-0.208	182
Oxnard	CA	-0.233	169	0.094	133
Palm Bay	FL	-0.372	187	0.243	116
Paradise	NV	3.891	2	0.482	86
Pensacola	FL	-0.462	204	-0.026	149
Peoria	IL	-0.469	206	-0.100	166
Philadelphia	PA	-1.211	295	-1.077	270
Phoenix	AZ	1.192	27	0.382	97

City	State	City economic condition index	Rank: City economic condition index	Residential economic wellbeing index	Rank: Residential economic wellbeing index
Pine Bluff	AR	-0.909	266	-1.332	285
Pittsburgh	PA	-0.812	254	-0.768	250
Plano	TX	5.219	1	2.966	1
Pocatello	ID	0.213	98	0.130	128
Port Arthur	TX	-0.567	216	-1.668	297
Port St. Lucie	FL	0.685	55	0.376	98
Portland	ME	0.044	120	0.612	66
Portland	OR	0.212	99	0.602	69
Providence	RI	-0.911	267	-1.228	282
Provo	UT	2.072	9	-0.538	224
Pueblo	CO	0.228	94	-0.677	242
Racine	WI	-1.068	284	0.044	137
Raleigh	NC	1.700	13	1.173	24
Rapid City	SD	0.702	54	0.509	80
Reading	PA	-1.037	280	-1.207	280
Redding	CA	-0.708	243	-0.317	198
Reno	NV	0.591	62	0.628	63
Richmond	VA	-1.390	298	-0.359	205
Riverside	CA	0.029	125	-0.037	153
Roanoke	VA	-0.671	233	-0.090	163
Rochester	MN	0.574	66	1.402	13
Rochester	NY	-1.046	281	-0.985	266
Rockford	IL	-0.478	207	0.140	125
Rocky Mount	NC	-0.761	247	-0.571	228
Sacramento	CA	-0.349	183	-0.332	200
Saginaw	MI	-0.783	251	-1.549	295
Salem	OR	0.495	70	-0.039	154
Salinas	CA	-0.270	174	-0.664	240
Salt Lake City	UT	0.994	32	0.403	96
San Angelo	TX	-0.437	200	-0.123	170
San Antonio	TX	0.613	59	-0.074	162
San Bernardino	CA	-0.595	222	-1.431	289
San Buenaventura	CA	-0.308	179	1.185	23
San Diego	CA	0.019	127	0.663	58
San Francisco	CA	-0.302	178	1.626	9
San Jose	CA	1.102	29	1.737	8
Santa Ana	CA	-0.402	192	-0.520	221
Santa Barbara	CA	-0.583	221	0.928	37
Santa Cruz	CA	-0.435	199	0.907	39
Santa Fe	NM	0.899	40	0.844	45
Santa Maria	CA	-0.457	203	-0.600	232
Santa Rosa	CA	0.190	103	1.127	28

City	State	City economic condition index	Rank: City economic condition index	Residential economic wellbeing index	Rank: Residential economic wellbeing index
Sarasota	FL	0.033	121	-0.066	159
Savannah	GA	-0.181	156	-0.639	238
Schenectady	NY	-1.468	300	-0.558	226
Scottsdale	AZ	1.956	10	2.092	5
Scranton	PA	-0.792	252	-0.563	227
Seattle	WA	0.490	72	1.296	17
Sheboygan	WI	-0.183	157	0.788	50
Shreveport	LA	-0.614	225	-0.760	247
Sioux City	IA	-0.412	194	0.562	75
Sioux Falls	SD	0.711	52	1.222	20
South Bend	IN	-0.667	231	-0.292	196
Spokane	WA	0.389	79	-0.237	188
Springfield	IL	-0.227	165	0.748	52
Springfield	MA	-0.952	270	-0.849	255
Springfield	MO	0.326	85	-0.146	173
Springfield	OH	-0.849	262	-0.468	216
St. Cloud	MN	0.577	65	0.672	57
St. Joseph	MO	-0.342	182	-0.115	168
St. Louis	MO	-0.993	276	-1.082	271
St. Paul	MN	-0.216	162	0.451	91
St. Petersburg	FL	-0.009	133	0.253	114
Stamford	CT	-0.232	167	1.970	6
Stockton	CA	-0.617	227	-1.049	269
Syracuse	NY	-1.286	297	-1.187	279
Tacoma	WA	0.268	89	0.023	140
Tallahassee	FL	0.368	80	-0.606	233
Tampa	FL	0.188	104	-0.074	161
Tempe	AZ	1.628	15	0.931	36
Terre Haute	IN	-0.688	240	-0.765	249
Thousand Oaks	CA	0.268	88	2.474	3
Toledo	OH	-0.841	261	-0.285	194
Topeka	KS	-0.488	208	0.370	102
Trenton	NJ	-0.600	224	-1.033	268
Tucson	AZ	0.485	74	-0.310	197
Tulsa	OK	-0.232	168	0.376	99
Tuscaloosa	AL	0.453	75	-0.722	243
Tyler	TX	0.160	107	-0.020	147
Utica	NY	-1.159	292	-1.126	275
Vallejo	CA	-0.693	241	0.534	76
Victoria	TX	-0.051	136	0.279	113
Vineland	NJ	-1.035	279	-0.138	172
Virginia Beach	VA	0.332	83	1.401	14

City	State	City economic condition index	Rank: City economic condition index	Residential economic wellbeing index	Rank: Residential economic wellbeing index
Visalia	CA	-0.616	226	-0.032	151
Waco	TX	-0.137	150	-1.327	284
Warren	OH	-1.203	294	-0.818	252
Warwick	RI	-0.444	201	1.123	30
Washington	DC	-0.800	253	0.120	130
Waterloo	IA	-0.426	197	0.102	132
West Hartford	CT	-0.982	275	1.220	21
Wichita	KS	-0.355	184	0.623	64
Wichita Falls	TX	-0.712	244	0.000	146
Wilmington	NC	1.216	26	-0.229	186
Winston-Salem	NC	-0.065	139	0.287	112
Worcester	MA	-0.619	228	-0.149	174
Yakima	WA	0.105	113	-1.149	276
Youngstown	OH	-1.061	282	-1.658	296
Yuma	AZ	0.764	46	-0.335	201

TABLE 3: Typology of Central Cities

Table 3a: STRONG Residential Economic Wellbeing, STRONG City Economic Condition (n=57)

Appleton, WI	Denver, CO	Lafayette, IN	Raleigh, NC
Arlington, TX	Durham, NC	Las Vegas, NV	Rapid City, SD
Aurora, CO	Eau Claire, WI	Lincoln, NE	Reno, NV
Austin, TX	Fargo, ND	Madison, WI	Rochester, MN
Bend, OR	Flagstaff, AZ	Mesa, AZ	Salt Lake City, UT
Billings, MT	Fort Collins, CO	Napa, CA	San Jose, CA
Bismarck, ND	Fremont, CA	Omaha, NE	Santa Fe, NM
Bloomington, IL	Green Bay, WI	Orem, UT	Scottsdale, AZ
Boise, ID	Greensboro, NC	Orlando, FL	Seattle, WA
Boulder, CO	Huntsville, AL	Paradise, NV	Sioux Falls, SD
Cape Coral, FL	Idaho Falls, ID	Phoenix, AZ	St. Cloud, MN
Cedar Rapids, IA	Irving, TX	Plano, TX	Tempe, AZ
Charlotte, NC	Jacksonville, NC	Port St. Lucie, FL	Thousand Oaks, CA
Clarksville, TN	Kennewick, WA	Portland, OR	Virginia Beach, VA
Colorado Springs, CO			

Table 3b: MODERATE Residential Economic Wellbeing, STRONG City Economic Condition (n=28)

Asheville, NC	Gulfport, MS	Lawrence, KS	San Antonio, TX
Bryan, TX	Iowa City, IA	Medford, OR	Spokane, WA
Columbia, MO	Jackson, TN	Missoula, MT	Springfield, MO
Deltona, FL	Johnson City, TN	Ogden, UT	Tacoma, WA
Fort Lauderdale, FL	Jonesboro, AR	Ontario, CA	Tucson, AZ
Fort Worth, TX	Killeen, TX	Pocatello, ID	Wilmington, NC
Greeley, CO	Lafayette, LA	Salem, OR	Yuma, AZ

Table 3c: WEAK Residential Economic Wellbeing, STRONG City Economic Condition (n=16)

Athens-Clarke County, GA	Brownsville, TX	Laredo, TX	Provo, UT
Atlanta, GA	College Station, TX	Las Cruces, NM	Pueblo, CO
Augusta-Richmond County, GA	Fayetteville, AR	McAllen, TX	Tallahassee, FL
Bellingham, WA	Greenville, NC	North Charleston, SC	Tuscaloosa, AL

Table 3d: STRONG Residential Economic Wellbeing, MODERATE City Economic Condition (n=36)

Albuquerque, NM	Dubuque, IA	Minneapolis, MN	Santa Rosa, CA
Anaheim, CA	Fairfield, CA	Nashua, NH	Sheboygan, WI
Anchorage, AK	Indianapolis, IN	Nashville-Davidson, TN	Sioux City, IA
Ann Arbor, MI	Jacksonville, FL	Norwalk, CT	Springfield, IL
Arlington, VA	Janesville, WI	Portland, ME	St. Paul, MN
Cheyenne, WY	Lexington-Fayette, KY	San Buenaventura, CA	Stamford, CT
Columbus, OH	Little Rock, AR	San Diego, CA	Tulsa, OK
Danbury, CT	Manchester, NH	San Francisco, CA	Warwick, RI
Des Moines, IA	Midland, TX	Santa Cruz, CA	Wichita, KS

Table 3e: MODERATE Residential Economic Wellbeing, MODERATE City Economic Condition (n=45)

Abilene, TX	Dothan, AL	Lakeland, FL	Riverside, CA
Amarillo, TX	Duluth, MN	Lawton, OK	Sacramento, CA
Ames, IA	Elkhart, IN	Longview, TX	San Angelo, TX
Boston, MA	Eugene, OR	Lubbock, TX	Sarasota, FL
Champaign, IL	Fayetteville, NC	Lynchburg, VA	St. Joseph, MO
Charleston, SC	Fort Smith, AR	Melbourne, FL	St. Petersburg, FL
Chattanooga, TN	Grand Rapids, MI	Montgomery, AL	Tampa, FL
Columbus, GA	Great Falls, MT	Oakland, CA	Tyler, TX
Corpus Christi, TX	Greenville, SC	Oklahoma City, OK	Victoria, TX
Dallas, TX	Houston, TX	Oxnard, CA	Waterloo, IA
Davenport, IA	La Crosse, WI	Palm Bay, FL	Winston-Salem, NC
Decatur, AL			

Table 3f: WEAK Residential Economic Wellbeing, MODERATE City Economic Condition (n=19)

Baton Rouge, LA	El Paso, TX	Memphis, TN	Santa Ana, CA
Bloomington, IN	Gainesville, FL	Mobile, AL	Savannah, GA
Chico, CA	Knoxville, TN	Monroe, LA	Waco, TX
Columbia, SC	Lake Charles, LA	New York, NY	Yakima, WA
Daytona Beach, FL	Louisville, KY	Salinas, CA	

Table 3g: STRONG Residential Economic Wellbeing, WEAK City Economic Condition (n=7)

Glendale, CA	Newport News, VA	Santa Barbara, CA	West Hartford, CT
Honolulu, HI	Oshkosh, WI	Vallejo, CA	

Table 3h: MODERATE Residential Economic Wellbeing, WEAK City Economic Condition (n=28)

Akron, OH	Evansville, IN	Pensacola, FL	Toledo, OH
Anderson, IN	Fort Wayne, IN	Peoria, IL	Topeka, KS
Bakersfield, CA	Kansas City, MO	Racine, WI	Vineland, NJ
Battle Creek, MI	Lansing, MI	Redding, CA	Visalia, CA
Bethlehem, PA	Modesto, CA	Roanoke, VA	Washington, DC
Charleston, WV	Norfolk, VA	Rockford, IL	Wichita Falls, TX
Chicago, IL	Owensboro, KY	South Bend, IN	Worcester, MA

Table 3i: WEAK Residential Economic Wellbeing, WEAK City Economic Condition (n=65)
WEAK MARKET CITIES

Albany, GA	Erie, PA	Milwaukee, WI	Saginaw, MI
Albany, NY	Fall River, MA	Muncie, IN	San Bernardino, CA
Allentown, PA	Flint, MI	New Bedford, MA	Santa Maria, CA
Altoona, PA	Fresno, CA	New Haven, CT	Schenectady, NY
Baltimore, MD	Harrisburg, PA	New Orleans, LA	Scranton, PA
Beaumont, TX	Hartford, CT	Newark, NJ	Shreveport, LA
Binghamton, NY	Huntington, WV	Odessa, TX	Springfield, MA
Birmingham, AL	Jackson, MS	Philadelphia, PA	Springfield, OH
Bridgeport, CT	Kalamazoo, MI	Pine Bluff, AR	St. Louis, MO
Buffalo, NY	Lancaster, PA	Pittsburgh, PA	Stockton, CA
Canton, OH	Long Beach, CA	Port Arthur, TX	Syracuse, NY
Cincinnati, OH	Los Angeles, CA	Providence, RI	Terre Haute, IN
Cleveland, OH	Macon, GA	Reading, PA	Trenton, NJ
Danville, VA	Mansfield, OH	Richmond, VA	Utica, NY
Dayton, OH	Merced, CA	Rochester, NY	Warren, OH
Decatur, IL	Miami, FL	Rocky Mount, NC	Youngstown, OH
Detroit, MI			

TABLE 4: Summary statistics of Weak Market cities compared to other cities

The Weak Market cities are those listed in Table 3i. Each cell shows the mean value, with the standard deviation in parentheses.

	Weak Market Cities	Non-Weak Market Cities	All Central Cities
City Economic Condition Index	-0.888 (0.25)	0.243 (0.84)	-0.001 (0.89)
Change in Employment	-8.29% (9.58)	17.95% (20.03)	12.30% (21.23)
Change in Annual Payroll	50.19% (12.92)	91.19% (36.44)	82.34% (36.90)
Change in Establishments	1.43% (6.15)	17.99% (15.82)	14.42% (15.84)
Residential Economic Wellbeing Index	-0.960 (0.42)	0.263 (0.74)	-0.0001 (0.85)
Median Household Income	$29138 (3134.1)	$38510 (8532.3)	$36493 (8605.6)
Per Capita Income	$16019 (1756.1)	$20424 (4249.5)	$19476 (4254.7)
Unemployment Rate	10.04% (2.14)	6.46% (2.12)	7.23% (2.58)
Poverty Rate	22.98% (3.64)	15.22% (5.42)	16.89% (6.01)
Labor Force Participation Rate	58.83% (3.11)	65.48% (4.59)	64.05% (5.11)

TABLE 5: Cluster groupings for all central cities
Cities were clustered on the two index score variables using hierarchical agglomerative clustering.

Table 5a: High Economic Distress (n=74)
Mean City Economic Condition index score: -0.612
Mean Residential Economic Wellbeing index score: -0.380

Abilene, TX	Erie, PA	Memphis, TN	Salinas, CA
Akron, OH	Evansville, IN	Milwaukee, WI	San Angelo, TX
Albany, NY	Fall River, MA	Mobile, AL	Santa Ana, CA
Allentown, PA	Great Falls, MT	Modesto, CA	Santa Maria, CA
Altoona, PA	Harrisburg, PA	Muncie, IN	Savannah, GA
Anderson, IN	Jackson, MS	New Bedford, MA	Scranton, PA
Bakersfield, CA	Kalamazoo, MI	New York, NY	Shreveport, LA
Baton Rouge, LA	Knoxville, TN	Norfolk, VA	South Bend, IN
Battle Creek, MI	La Crosse, WI	Odessa, TX	Springfield, MA
Beaumont, TX	Lakeland, FL	Owensboro, KY	Springfield, OH
Bethlehem, PA	Lancaster, PA	Pensacola, FL	St. Joseph, MO
Bridgeport, CT	Lansing, MI	Peoria, IL	Terre Haute, IN
Canton, OH	Long Beach, CA	Pittsburgh, PA	Toledo, OH
Chicago, IL	Longview, TX	Racine, WI	Vineland, NJ
Cincinnati, OH	Los Angeles, CA	Redding, CA	Visalia, CA
Columbia, SC	Louisville, KY	Roanoke, VA	Washington, DC
Columbus, GA	Lubbock, TX	Rocky Mount, NC	Wichita Falls, TX
Corpus Christi, TX	Lynchburg, VA	Sacramento, CA	Worcester, MA
Decatur, IL	Mansfield, OH		

Table 5b: Highest Economic Distress (n=36)
Mean City Economic Condition index score: -0.983
Mean Residential Economic Wellbeing index score: -1.234

Albany, GA	Flint, MI	Newark, NJ	San Bernardino, CA
Baltimore, MD	Fresno, CA	Philadelphia, PA	Schenectady, NY
Binghamton, NY	Hartford, CT	Pine Bluff, AR	St. Louis, MO
Birmingham, AL	Huntington, WV	Port Arthur, TX	Stockton, CA
Buffalo, NY	Macon, GA	Providence, RI	Syracuse, NY
Cleveland, OH	Merced, CA	Reading, PA	Trenton, NJ
Danville, VA	Miami, FL	Richmond, VA	Utica, NY
Dayton, OH	New Haven, CT	Rochester, NY	Warren, OH
Detroit, MI	New Orleans, LA	Saginaw, MI	Youngstown, OH

Table 5c: Strong Economic Health (n=32)
Mean City Economic Condition index score: 0.279
Mean Residential Economic Wellbeing index score: 0.716

Albuquerque, NM	Denver, CO	Janesville, WI	Orlando, FL
Ann Arbor, MI	Fargo, ND	Lafayette, IN	Portland, ME
Billings, MT	Fort Lauderdale, FL	Lincoln, NE	Portland, OR
Bismarck, ND	Green Bay, WI	Madison, WI	Reno, NV
Cape Coral, FL	Greensboro, NC	Minneapolis, MN	San Diego, CA
Cedar Rapids, IA	Huntsville, AL	Napa, CA	Santa Fe, NM
Cheyenne, WY	Idaho Falls, ID	Nashville-Davidson, TN	Santa Rosa, CA
Columbus, OH	Jacksonville, FL	Omaha, NE	St. Cloud, MN

Table 5d: Strongest Economic Health (n=14)
Mean City Economic Condition index score: 0.970
Mean Residential Economic Wellbeing index score: 2.188

Aurora, CO	Boulder, CO	Mesa, AZ	Raleigh, NC
Austin, TX	Colorado Springs, CO	Orem, UT	Scottsdale, AZ
Bend, OR	Fort Collins, CO	Paradise, NV	Tempe, AZ
Boise, ID	Las Vegas, NV		

Table 5e: Low Residential Wellbeing (n=17)
Mean City Economic Condition index score: 0.327
Mean Residential Economic Wellbeing index score: -1.095

Athens-Clarke County, GA	Daytona Beach, FL	Laredo, TX	Tallahassee, FL
Bloomington, IN	El Paso, TX	McAllen, TX	Tuscaloosa, AL
Brownsville, TX	Gainesville, FL	Monroe, LA	Waco, TX
Chico, CA	Lake Charles, LA	Pueblo, CO	Yakima, WA
College Station, TX			

Table 5f: High Residential Wellbeing (n=19)
Mean City Economic Condition index score: 0.337
Mean Residential Economic Wellbeing index score: 1.626

Anchorage, AK	Charlotte, NC	Norwalk, CT	Sioux Falls, SD
Appleton, WI	Danbury, CT	Rochester, MN	Stamford, CT
Arlington, TX	Fremont, CA	San Francisco, CA	Thousand Oaks, CA
Arlington, VA	Irving, TX	San Jose, CA	Virginia Beach, VA
Bloomington, IL	Nashua, NH	Seattle, WA	

Table 5g: Strong City Economic Condition (n=41)
Mean City Economic Condition index score: 0.898
Mean Residential Economic Wellbeing index score: -0.016

Atlanta, GA	Greeley, CO	Lafayette, LA	Provo, UT
Augusta-Richmond County, GA	Greenville, NC	Las Cruces, NM	Rapid City, SD
Bellingham, WA	Gulfport, MS	Lawrence, KS	Salem, OR
Bryan, TX	Iowa City, IA	Medford, OR	Salt Lake City, UT
Clarksville, TN	Jackson, TN	Missoula, MT	San Antonio, TX
Columbia, MO	Jacksonville, NC	North Charleston, SC	Spokane, WA
Deltona, FL	Johnson City, TN	Ogden, UT	Springfield, MO
Durham, NC	Jonesboro, AR	Ontario, CA	Tucson, AZ
Eau Claire, WI	Kennewick, WA	Phoenix, AZ	Wilmington, NC
Fayetteville, AR	Killeen, TX	Port St. Lucie, FL	Yuma, AZ
Flagstaff, AZ			

Table 5h: Average Levels of Distress (n=67)
Mean City Economic Condition index score: -0.197
Mean Residential Economic Wellbeing index score: 0.314

Amarillo, TX	Eugene, OR	Melbourne, FL	Sioux City, IA
Ames, IA	Fairfield, CA	Midland, TX	Springfield, IL
Anaheim, CA	Fayetteville, NC	Montgomery, AL	St. Paul, MN
Asheville, NC	Fort Smith, AR	Newport News, VA	St. Petersburg, FL
Boston, MA	Fort Wayne, IN	Oakland, CA	Tacoma, WA
Champaign, IL	Fort Worth, TX	Oklahoma City, OK	Tampa, FL
Charleston, SC	Glendale, CA	Oshkosh, WI	Topeka, KS
Charleston, WV	Grand Rapids, MI	Oxnard, CA	Tulsa, OK
Chattanooga, TN	Greenville, SC	Palm Bay, FL	Tyler, TX
Dallas, TX	Honolulu, HI	Pocatello, ID	Vallejo, CA
Davenport, IA	Houston, TX	Riverside, CA	Victoria, TX
Decatur, AL	Indianapolis, IN	Rockford, IL	Warwick, RI
Des Moines, IA	Kansas City, MO	San Buenaventura, CA	Waterloo, IA
Dothan, AL	Lawton, OK	Santa Barbara, CA	West Hartford, CT
Dubuque, IA	Lexington-Fayette, KY	Santa Cruz, CA	Wichita, KS
Duluth, MN	Little Rock, AR	Sarasota, FL	Winston-Salem, NC
Elkhart, IN	Manchester, NH	Sheboygan, WI	

TABLE 6: Cluster groupings for weak market cities
Cities were clustered on the indicators in the economic health indexes using hierarchical agglomerative cluster analysis.

Table 6a: Least Economically Distressed (n=12)

Altoona, PA	Harrisburg, PA	Scranton, PA
Canton, OH	Lancaster, PA	Springfield, MA
Erie, PA	Mansfield, OH	Terre Haute, IN
Fall River, MA	New Bedford, MA	Warren, OH

Table 6b: High Residential Wellbeing (n=15)

Albany, NY	Kalamazoo, MI	Odessa, TX
Beaumont, TX	Long Beach, CA	Pittsburgh, PA
Cincinnati, OH	Los Angeles, CA	Rocky Mount, NC
Decatur, IL	Milwaukee, WI	Shreveport, LA
Jackson, MS	Newark, NJ	Springfield, OH

Table 6c: Worst Residential Wellbeing (n=13)

Buffalo, NY	Huntington, WV	Port Arthur, TX
Cleveland, OH	Miami, FL	Reading, PA
Detroit, MI	New Haven, CT	Saginaw, MI
Flint, MI	Pine Bluff, AR	Youngstown, OH
Hartford, CT		

Table 6d: Worst City Economic Condition (n=15)

Baltimore, MD	Muncie, IN	Rochester, NY
Binghamton, NY	New Orleans, LA	Schenectady, NY
Birmingham, AL	Philadelphia, PA	St. Louis, MO
Danville, VA	Providence, RI	Syracuse, NY
Dayton, OH	Richmond, VA	Utica, NY

Table 6e: Mixed Economic Picture (n=8)

Albany, GA	Merced, CA	Stockton, CA
Fresno, CA	San Bernardino, CA	Trenton, NJ
Macon, GA	Santa Maria, CA	

TABLE 7: Summary statistics by Weak Market clusters
Each cell shows the mean value, with the standard deviation in parentheses.

	Least Economically Distressed	High Residential Wellbeing	Worst Residential Wellbeing	Worst City Economic Condition	Mixed Economic Picture
City Economic Condition Index	-0.751 (0.06)	-0.860 (0.14)	-0.964 (0.22)	-1.141 (0.21)	-0.596 (0.08)
Change in Employment	-8.34% (6.59)	-4.37% (7.97)	-12.72% (13.03)	-10.72% 5.62	-0.52% (9.18)
Change in Annual Payroll	49.50% (11.54)	49.73% (9.40)	49.22% (9.35)	41.34% (10.45)	61.47% (8.06)
Change in Establishments	8.30% (2.74)	0.07% (4.60)	1.59% (5.15)	-4.93% (4.99)	4.69% (3.30)
Residential Economic Wellbeing Index	-0.692 (0.15)	-0.662 (0.41)	-1.492 (0.22)	-0.970 (0.24)	-1.141 (0.28)
Median Household Income	$28850 (1104.6)	$32430 (2883.1)	$26172 (2088.6)	$27524 (1939.1)	$31615 (3114.2)
Per Capita Income	$15738 (943.3)	$18355 (1743.1)	$14647 (1142.2)	$16469 (1307.8)	$14553 (1162.6)
Unemployment Rate	8.13% (0.97)	9.43% (1.52)	12.27% (1.82)	9.43% (1.32)	11.03% (1.40)
Poverty Rate	19.31% (2.73)	20.93% (2.27)	26.42% (1.80)	24.12% (2.61)	24.86% (3.05)
Labor Force Participation Rate	59.28% (2.43)	61.51% (2.37)	55.99% (3.10)	58.77% (2.33)	58.05% (1.69)

TABLE 8: ANOVA results for Weak Market clusters

	F-statistic	p-value
City Economic Condition Index	13.02 ***	0.0006
Change in Employment	0.01	0.9238
Change in Annual Payroll	5.70 **	0.0200
Change in Establishments	26.39 ***	0.0000
Residential Economic Wellbeing Index	10.28 ***	0.0021
Median Household Income	5.96 **	0.0175
Per Capita Income	1.41	0.2398
Unemployment Rate	4.67 **	0.0346
Poverty Rate	28.49 ***	0.0000
Labor Force Participation Rate	3.70 *	0.0589

*** = significant at the 0.01 level; ** = significant at the 0.05 level; * = significant at the 0.10 level

TABLE 9: Indicators used to measure MSA economic health

All variables are measured at the metropolitan area level unless otherwise indicated. MSAs are defined using OMB's 2003 metro area definitions.

	Definition	Source
MSA Economic Condition Indicators		
Employment Growth	Change in the number of jobs by place of work, 1990-2000	State of the Cities Data Systems, Census Data 1990 and 2000
Earnings Growth	Change in total earnings, 1990-2000	Economy.com
GMP Growth	Change in Gross Metropolitan Product, 1990-2000	
GMP per job	Gross Metropolitan Product per job, in thousands of current dollars, 2000	

TABLE 10: MSA Economic Condition index scores and rankings
Rankings are out of 255 MSAs.[11]

MSA/PMSA	MSA Economic Condition Index	Rank: MSA Economic Condition Index
Abilene, TX	-0.607	214
Akron, OH	-0.279	149
Albany, GA	-0.422	181
Albany-Schenectady-Troy, NY	-0.545	198
Albuquerque, NM	0.619	42
Allentown-Bethlehem-Easton, PA-NJ	-0.318	161
Altoona, PA	-0.602	212
Amarillo, TX	0.119	91
Ames, IA	-0.554	201
Anchorage, AK	-0.320	162
Anderson, IN	-1.438	253
Ann Arbor, MI	-0.029	115
Appleton, WI	0.119	92
Asheville, NC	-0.027	114
Athens-Clarke County, GA	0.121	90
Atlanta-Sandy Springs-Marietta, GA	1.546	12
Augusta-Richmond County, GA	-0.591	211
Austin-Round Rock, TX	2.966	2
Bakersfield, CA	-0.104	121
Baltimore-Towson, MD	-0.546	199
Baton Rouge, LA	-0.332	168
Battle Creek, MI	-0.663	224
Beaumont-Port Arthur, TX	-0.630	219
Bellingham, WA	0.432	55
Bend, OR	1.870	6
Billings, MT	-0.294	155
Binghamton, NY	-1.120	249
Birmingham-Hoover, AL	-0.409	178
Bismarck, ND	-0.581	207
Bloomington, IN	-0.198	138
Bloomington-Normal, IL	0.850	29
Boise City-Nampa, ID	1.953	5
Boston-Cambridge-Quincy, MA-NH	0.409	59
Boulder, CO	2.659	3
Bridgeport-Stamford-Norwalk, CT	0.681	37
Brownsville-Harlingen, TX	0.415	58
Buffalo-Niagara Falls, NY	-0.730	234
Canton-Massillon, OH	-0.739	235

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[11] The Danville, VA MSA is not ranked due to missing data.

MSA/PMSA	MSA Economic Condition Index	Rank: MSA Economic Condition Index
Cape Coral-Ft. Myers, FL	0.391	61
Carson City, NV	1.037	22
Cedar Rapids, IA	0.163	83
Champaign-Urbana, IL	-0.256	148
Charleston, WV	-0.628	218
Charleston-North Charleston, SC	-0.890	241
Charlotte-Gastonia-Concord, NC-SC	0.985	24
Chattanooga, TN-GA	-0.166	128
Cheyenne, WY	-0.857	239
Chicago-Naperville-Joliet, IL-IN-WI	-0.002	109
Chico, CA	0.081	97
Cincinnati-Middletown, OH-KY-IN	-0.168	130
Clarksville, TN-KY	0.545	47
Cleveland-Elyria-Mentor, OH	-0.506	192
College Station-Bryan, TX	0.431	56
Colorado Springs, CO	1.524	13
Columbia, MO	0.144	85
Columbia, SC	-0.331	167
Columbus, GA	-0.176	134
Columbus, OH	0.224	79
Corpus Christi, TX	-0.323	165
Dallas-Fort Worth-Arlington, TX	1.117	20
Davenport-Moline-Rock Island, IA-IL	-0.524	193
Dayton, OH	-0.837	238
Decatur, AL	-0.574	205
Decatur, IL	-0.387	173
Deltona-Daytona Beach-Ormond Beach, FL	-0.191	137
Denver-Aurora, CO	1.679	11
Des Moines, IA	0.268	75
Detroit-Warren-Livonia, MI	0.074	98
Dothan, AL	-0.981	246
Dubuque, IA	-0.781	236
Duluth, MN-WI	-0.297	156
Durham, NC	0.793	32
Eau Claire, WI	0.140	86
El Paso, TX	-0.234	143
Elkhart-Goshen, IN	0.345	67
Erie, PA	-0.620	215
Eugene-Springfield, OR	0.057	100
Evansville, IN-KY	-0.137	125
Fargo, ND-MN	-0.025	113
Fayetteville, NC	-0.129	124
Fayetteville-Springdale-Rogers, AR-MO	1.237	17

MSA/PMSA	MSA Economic Condition Index	Rank: MSA Economic Condition Index
Flagstaff, AZ	0.925	26
Flint, MI	-0.868	240
Fort Collins-Loveland, CO	1.742	9
Fort Smith, AR-OK	-0.394	175
Fort Wayne, IN	-0.539	196
Fresno, CA	-0.313	159
Gainesville, FL	0.002	108
Grand Rapids-Wyoming, MI	0.567	44
Great Falls, MT	-1.203	250
Greeley, CO	0.810	31
Green Bay, WI	0.608	43
Greensboro-High Point, NC	0.146	84
Greenville, NC	0.189	80
Greenville, SC	-0.137	126
Gulfport-Biloxi, MS	0.712	35
Harrisburg-Carlisle, PA	-0.415	180
Hartford-West Hartford-East Hartford, CT	-0.185	136
Honolulu, HI	-1.308	251
Houston-Baytown-Sugar Land, TX	0.669	40
Huntington-Ashland, WV-KY-OH	-1.434	252
Huntsville, AL	-0.681	226
Idaho Falls, ID	0.229	77
Indianapolis, IN	0.367	64
Iowa City, IA	-0.174	133
Jackson, MS	-0.318	160
Jackson, TN	0.846	30
Jacksonville, FL	0.127	89
Jacksonville, NC	-0.179	135
Janesville, WI	-0.168	129
Johnson City, TN	-0.170	132
Jonesboro, AR	-0.123	123
Kalamazoo-Portage, MI	-0.302	157
Kansas City, MO-KS	0.013	104
Kennewick-Richland-Pasco, WA	0.449	54
Killeen-Temple-Fort Hood, TX	-0.024	112
Knoxville, TN	0.015	103
La Crosse, WI-MN	-0.249	147
Lafayette, IN	-0.023	111
Lafayette, LA	0.680	38
Lake Charles, LA	-0.585	208
Lakeland, FL	-0.378	172
Lancaster, PA	-0.304	158
Lansing-East Lansing, MI	-0.395	176

MSA/PMSA	MSA Economic Condition Index	Rank: MSA Economic Condition Index
Laredo, TX	1.262	15
Las Cruces, NM	0.009	105
Las Vegas-Paradise, NV	2.984	1
Lawrence, KS	0.307	73
Lawton, OK	-1.536	255
Lexington-Fayette, KY	0.026	102
Lincoln, NE	-0.236	145
Little Rock-North Little Rock, AR	-0.282	151
Longview, TX	-0.230	142
Los Angeles-Long Beach-Santa Ana, CA	-0.475	190
Louisville, KY-IN	-0.111	122
Lubbock, TX	-0.236	144
Lynchburg, VA	-0.673	225
Macon, GA	-0.222	141
Madison, WI	0.311	71
Manchester-Nashua, NH	0.134	87
Mansfield, OH	-1.089	248
McAllen-Edinburg-Pharr, TX	1.237	16
Medford, OR	0.422	57
Memphis, TN-MS-AR	0.086	96
Merced, CA	-0.651	222
Miami-Fort Lauderdale-Miami Beach, FL	0.043	101
Midland, TX	-0.076	119
Milwaukee-Waukesha-West Allis, WI	-0.388	174
Minneapolis-St. Paul-Bloomington, MN-WI	0.488	52
Missoula, MT	0.350	66
Mobile, AL	-0.473	189
Modesto, CA	-0.220	140
Monroe, LA	-0.564	204
Montgomery, AL	-0.440	184
Muncie, IN	-0.961	245
Napa, CA	0.931	25
Nashville-Davidson--Murfreesboro, TN	0.679	39
New Haven-Milford, CT	-0.320	164
New Orleans-Metairie-Kenner, LA	-0.711	230
New York-Northern New Jersey-Long Island, NY-NJ-PA	0.096	
Odessa, TX	-0.439	183
Ogden-Clearfield, UT	0.552	46
Oklahoma City, OK	-0.476	191
Omaha-Council Bluffs, NE-IA	-0.169	131
Orlando, FL	0.908	27
Oshkosh-Neenah, WI	0.225	78
Owensboro, KY	-0.640	220

MSA/PMSA	MSA Economic Condition Index	Rank: MSA Economic Condition Index
Oxnard-Thousand Oaks-Ventura, CA	0.106	93
Palm Bay-Melbourne-Titusville, FL	-0.702	229
Pensacola-Ferry Pass-Brent, FL	-0.414	179
Peoria, IL	-0.209	139
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	-0.289	153
Phoenix-Mesa-Scottsdale, AZ	1.798	8
Pine Bluff, AR	-1.522	254
Pittsburgh, PA	-0.545	197
Pocatello, ID	0.393	60
Port St. Lucie-Fort Pierce, FL	-0.149	127
Portland-South Portland-Biddeford, ME	-0.585	210
Portland-Vancouver-Beaverton, OR-WA	1.096	21
Providence-New Bedford-Fall River, RI-MA	-0.550	200
Provo-Orem, UT	1.693	10
Pueblo, CO	0.131	88
Racine, WI	-0.782	237
Raleigh-Cary, NC	1.836	7
Rapid City, SD	-0.281	150
Reading, PA	-0.687	227
Redding, CA	-0.375	171
Reno-Sparks, NV	0.768	33
Richmond, VA	0.474	53
Riverside-San Bernardino-Ontario, CA	0.311	72
Roanoke, VA	1.120	19
Rochester, MN	0.064	99
Rochester, NY	-0.627	217
Rockford, IL	-0.293	154
Rocky Mount, NC	-0.585	209
Sacramento--Arden-Arcade--Roseville, CA	0.492	50
Saginaw-Saginaw Township North, MI	-0.423	182
Salem, OR	0.340	69
Salinas, CA	-0.718	232
Salt Lake City, UT	1.329	14
San Angelo, TX	-0.353	170
San Antonio, TX	0.528	48
San Diego-Carlsbad-San Marcos, CA	0.257	76
San Francisco-Oakland-Fremont, CA	0.634	41
San Jose-Sunnyvale-Santa Clara, CA	1.960	4
Santa Barbara-Santa Maria-Goleta, CA	-0.288	152
Santa Cruz-Watsonville, CA	0.174	82
Santa Fe, NM	0.379	63
Santa Rosa-Petaluma, CA	0.880	28
Sarasota-Bradenton-Venice, FL	0.491	51

MSA/PMSA	MSA Economic Condition Index	Rank: MSA Economic Condition Index
Savannah, GA	0.004	107
Scranton--Wilkes-Barre, PA	-0.658	223
Seattle-Tacoma-Bellevue, WA	1.030	23
Sheboygan, WI	-0.245	146
Shreveport-Bossier City, LA	-0.579	206
Sioux City, IA-NE-SD	-0.057	117
Sioux Falls, SD	0.740	34
South Bend-Mishawaka, IN-MI	-0.397	177
Spokane, WA	0.513	49
Springfield, IL	-0.336	169
Springfield, MA	-0.558	203
Springfield, MO	0.380	62
Springfield, OH	-0.951	244
St. Cloud, MN	0.331	70
St. Joseph, MO-KS	-0.641	221
St. Louis, MO-IL	-0.453	187
Stockton, CA	-0.327	166
Syracuse, NY	-0.902	242
Tallahassee, FL	0.006	106
Tampa-St. Petersburg-Clearwater, FL	0.341	68
Terre Haute, IN	-0.700	228
Toledo, OH	-0.535	195
Topeka, KS	-0.730	233
Trenton-Ewing, NJ	-0.451	186
Tucson, AZ	0.701	36
Tulsa, OK	-0.450	185
Tuscaloosa, AL	-0.555	202
Tyler, TX	0.356	65
Utica-Rome, NY	-0.943	243
Vallejo-Fairfield, CA	-0.533	194
Victoria, TX	0.183	81
Vineland-Millville-Bridgeton, NJ	-0.712	231
Virginia Beach-Norfolk-Newport News, VA-NC	-0.020	110
Visalia-Porterville, CA	-0.320	163
Waco, TX	0.099	94
Washington-Arlington-Alexandria, DC-VA-MD-WV	0.557	45
Waterloo-Cedar Falls, IA	-0.627	216
Wichita Falls, TX	-0.602	213
Wichita, KS	-0.456	188
Wilmington, NC	1.212	18
Winston-Salem, NC	-0.036	116
Worcester, MA	-0.076	118
Yakima, WA	-0.095	120

MSA/PMSA	MSA Economic Condition Index	Rank: MSA Economic Condition Index
Youngstown-Warren-Boardman, OH-PA	-0.997	247
Yuma, AZ	0.287	74

TABLE 11: Cluster groupings of weak market cities, with MSA economic health indicators
Cities were clustered on the indicators in the City Economic Condition, MSA Economic Condition, and Residential Economic Wellbeing indexes using hierarchical agglomerative cluster analysis.

Table 11a: Least Economically Distressed (n=4)

City	MSA	City	MSA
Bridgeport, CT	Bridgeport-Stamford-Norwalk, CT	Miami, FL	Miami-Fort Lauderdale-Miami Beach, FL
Detroit, MI	Detroit-Warren-Livonia, MI	San Bernardino, CA	Riverside-San Bernardino-Ontario, CA

Table 11b: Most Economically Distressed (n=7)

City	MSA	City	MSA
Binghamton, NY	Binghamton, NY	Syracuse, NY	Syracuse, NY
Huntington, WV	Huntington-Ashland, WV-KY-OH	Utica, NY	Utica-Rome, NY
Pine Bluff, AR	Pine Bluff, AR	Youngstown, OH	Youngstown-Warren-Boardman, OH-PA
Port Arthur, TX	Beaumont-Port Arthur, TX		

Table 11c: Worst City Economic Condition (n=6)

City	MSA	City	MSA
Albany, NY	Albany-Schenectady-Troy, NY	Hartford, CT	Hartford-West Hartford-East Hartford, CT
Buffalo, NY	Buffalo-Niagara Falls, NY	New Haven, CT	New Haven-Milford, CT
Flint, MI	Flint, MI	Rochester, NY	Rochester, NY

Table 11d: Strong City, Weak MSA (n=10)

City	MSA	City	MSA
Altoona, PA	Altoona, PA	New Bedford, MA	Providence-New Bedford-Fall River, RI-MA
Canton, OH	Canton-Massillon, OH	Scranton, PA	Scranton--Wilkes-Barre, PA
Erie, PA	Erie, PA	Springfield, MA	Springfield, MA
Fall River, MA	Providence-New Bedford-Fall River, RI-MA	Terre Haute, IN	Terre Haute, IN
Mansfield, OH	Mansfield, OH	Warren, OH	Youngstown-Warren-Boardman, OH-PA

Table 11e: Strong MSA, Weak City (n=14)

City	MSA	City	MSA
Beaumont, TX	Beaumont-Port Arthur, TX	Newark, NJ	New York-Northern New Jersey-Long Island, NY-NJ-PA
Cincinnati, OH	Cincinnati-Middletown, OH-KY-IN	Odessa, TX	Odessa, TX
Decatur, IL	Decatur, IL	Richmond, VA	Richmond, VA
Jackson, MS	Jackson, MS	Rocky Mount, NC	Rocky Mount, NC
Long Beach, CA	Los Angeles-Long Beach-Santa Ana, CA	Schenectady, NY	Albany-Schenectady-Troy, NY
Los Angeles, CA	Los Angeles-Long Beach-Santa Ana, CA	Shreveport, LA	Shreveport-Bossier City, LA
Milwaukee, WI	Milwaukee-Waukesha-West Allis, WI	Springfield, OH	Springfield, OH

Table 11f: Average Levels of Distress (n=23)

City	MSA	City	MSA
Albany, GA	Albany, GA	Muncie, IN	Muncie, IN
Allentown, PA	Allentown-Bethlehem-Easton, PA-NJ	New Orleans, LA	New Orleans-Metairie-Kenner, LA
Baltimore, MD	Baltimore-Towson, MD	Philadelphia, PA	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
Birmingham, AL	Birmingham-Hoover, AL	Pittsburgh, PA	Pittsburgh, PA
Cleveland, OH	Cleveland-Elyria-Mentor, OH	Providence, RI	Providence-New Bedford-Fall River, RI-MA
Dayton, OH	Dayton, OH	Reading, PA	Reading, PA
Fresno, CA	Fresno, CA	Saginaw, MI	Saginaw-Saginaw Township North, MI
Harrisburg, PA	Harrisburg-Carlisle, PA	Santa Maria, CA	Santa Barbara-Santa Maria-Goleta, CA
Kalamazoo, MI	Kalamazoo-Portage, MI	St. Louis, MO	St. Louis, MO-IL
Lancaster, PA	Lancaster, PA	Stockton, CA	Stockton, CA
Macon, GA	Macon, GA	Trenton, NJ	Trenton-Ewing, NJ
Merced, CA	Merced, CA		

TABLE 12: Summary statistics by Weak Market clusters (MSA-level indicators added)
Each cell shows the mean value, with the standard deviation in parentheses.

	Least Economically Distressed	Most Economically Distressed	Worst City Economic Condition	Strong City, Weak MSA	Strong MSA, Weak City	Average Levels of Distress
City Economic Condition Index	-0.765	-1.031	-1.116	-0.769	-0.959	-0.806
	(0.16)	(0.33)	(0.19)	(0.19)	(0.24)	(0.21)
Change in Employment	-17.99%	-4.97%	-18.79%	-7.52%	-4.48%	-7.75%
	(7.75)	(12.19)	(8.75)	(6.96)	(8.53)	(8.75)
Change in Annual Payroll	70.15%	41.11%	45.88%	47.23%	45.53%	55.68%
	(19.91)	(10.13)	(11.94)	(11.26)	(10.92)	(8.60)
Change in Establishments	5.99%	-3.89%	0.32%	7.79%	-2.76%	2.60%
	(4.43)	(4.73)	(4.66)	(2.53)	(5.68)	(5.47)
MSA Economic Condition Index	0.277	-1.078	-0.546	-0.706	-0.384	-0.475
	(0.30)	(0.31)	(0.26)	(0.19)	(0.34)	(0.19)
Change in Employment	11.40%	-0.01%	-1.35%	4.18%	4.40%	5.71%
	(7.58)	(4.09)	(3.09)	(2.75)	(6.75)	(3.36)
Change in Total Wages	79.11%	36.72%	43.75%	50.00%	58.46%	55.94%
	(7.13)	(9.25)	(6.27)	(7.14)	(13.01)	(8.11)
Change in GMP	76.42%	38.57%	50.71%	56.20%	54.65%	60.44%
	(3.78)	(6.43)	(6.36)	(6.76)	(10.63)	(10.27)
GMP per job (in thousands)	80.53	65.49	81.37	64.84	75.90	69.24
	(15.45)	(11.11)	(8.85)	(5.30)	(11.99)	(5.19)
Residential Economic Wellbeing Index	-1.331	-1.311	-1.296	-0.680	-0.608	-1.037
	(0.50)	(0.29)	(0.40)	(0.16)	(0.43)	(0.27)
Median Household Income	$29702	$25245	$27357	$28951	$32652	$29223
	(4666.8)	(1351.0)	(2329.6)	(985.8)	(2837.9)	(2906.6)
Per Capita Income	$14769	$15188	$15736	$15912	$18482	$15471
	(1401.7)	(1340.2)	(1600.8)	(837.0)	(1871.5)	(1396.9)
Unemployment Rate	11.85%	9.94%	13.00%	8.00%	8.70%	10.40%
	(1.42)	(2.12)	(1.87)	(0.89)	(0.89)	(1.54)
Poverty Rate	25.12%	25.09%	25.94%	18.59%	20.69%	24.32%
	(4.61)	(1.13)	(2.92)	(2.25)	(2.13)	(2.90)
Labor Force Participation Rate	55.90%	54.79%	60.01%	58.44%	61.16%	59.31%
	(4.43)	(2.44)	(2.63)	(1.59)	(1.49)	(2.68)

TABLE 13: ANOVA results for Weak Market clusters (MSA-level indicators added)

	F-statistic	p-value
City Economic Condition Index	13.14 ***	0.0006
Change in Employment	0.32	0.5753
Change in Annual Payroll	14.04 ***	0.0004
Change in Establishments	7.71 ***	0.0073
MSA Economic Condition Index	5.13 **	0.0270
Change in Employment	14.27 ***	0.0004
Change in Total Wages	10.90 ***	0.0016
Change in GMP	19.19 ***	0.0000
GMP per job (in thousands)	2.55	0.1155
Residential Economic Wellbeing Index	0.03	0.8633
Median Household Income	0.85	0.3593
Per Capita Income	3.54 *	0.0645
Unemployment Rate	0.10	0.7479
Poverty Rate	0.15	0.6952
Labor Force Participation Rate	0.09	0.7660

*** = significant at the 0.01 level; ** = significant at the 0.05 level; * = significant at the 0.10 level

APPENDIX: Cluster Analysis

Cluster analysis is a mathematical technique that groups cases into homogenous groups. There are several cluster analysis methods that will provide a variety of different cluster solutions, all of which would be legitimate groupings of the cases. The choice of which clustering method to use is ultimately a subjective one – the researcher must decide which cluster solution best achieves the research objectives. For this research, we attempted to maximize the differences among the clusters of cities in such a way so that each would be distinct and with easily interpretable characteristics.

We ultimately chose cluster solutions created with Ward's method, or Ward's linkage clustering, in which cities were grouped in order to minimize within-cluster variance (Aldenderfer & Blashfield, 1984). The variables in the cluster analysis were standardized in order to keep the indicators with the highest degree of variance from dominating the clustering (StataCorp, 2003). Ward's method is one of several hierarchical agglomerative clustering methods, which begin with the same number of clusters as there are cases. Each step groups the two clusters that are most similar until all cases are grouped together in one cluster (Hill, Brennan, & Wolman, 1998). Ward's method uses squared Euclidean distances as the dissimilarity measure by which the distance between the clusters are measured.

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