The Price Impact of Wal-Mart: An Update Through 2007

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I. SUMMARY

Wal-Mart's growth in the U.S. market has sparked increasing debate about the economic impact of its expansion. As a contribution to this debate, Wal-Mart commissioned IHS Global Insight in 2005 to undertake an independent research effort to analyze this issue. The goal of this research was to independently and credibly document the national- and local-area impacts in terms of jobs, wages, prices, consumer buying power, productivity, and gross domestic product (GDP).[1]

In the 2005 report, IHS Global Insight estimated that the existence of Wal-Mart over the 1985 and 2004 period resulted in a cumulative reduction in consumer prices of 3.1% by 2004. This translated into savings for consumers amounting to $263 billion in 2004, $895 per person, and $2,330 per household. The purpose of this study is to estimate the cumulative price impact as of 2007 and generate the cost savings in total, per person, and per household for 2007.[2]

This update, which includes three more years of historical data and some revisions in the square footage of stores in place prior to 2007, continues to support the claim that an economy without Wal-Mart would have meant higher prices for consumers. IHS Global Insight found that the expansion of Wal-Mart over the 1985-2007 period lead to a cumulative 3.6% decline in overall consumer prices as measured by the Consumer Price Index for All Items. (This price index includes prices for both goods and services.) This estimate is in line with other researchers' estimates of Wal-Mart's price effects.[3]

The 3.6% estimate is a cumulative total over the 1985-2007 period and corresponds to a 0.17% reduction in the annual inflation rate over the period. These results were generated through a statistical analysis of the variation in consumer price inflation across a set of Metropolitan Statistical Areas (MSAs) in relation to changes in Wal-Mart's market penetration and other (non-Wal-Mart) drivers of price variation. As discussed in the earlier report, Jerry Hausman of M.I.T. has presented an analysis that the official CPI actually incorporates a bias that excludes some of Wal-Mart's direct cost savings.[4] In both the 2005 and the current 2007 studies, IHS Global Insight's analysis only focused on the CPI "as measured" and did not add any additional cost savings that might be generated by this hypothesized measurement bias.

The updated study concludes that the reduction in the price level due to the presence of Wal-Mart translates directly into savings for consumers amounting to $365 billion in 2007. This corresponds to savings of $1,200 per person and $3,100 per household.

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[1] Global Insight Incorporated, The Economic Impact of Wal-Mart, November 2, 2005.

[2] IHS Global Insight did a similar update in 2006; however, data for 250 Wal-Mart stores were missing from the analysis.

[3] Global Insight Incorporated, The Economic Impact of Wal-Mart, November 2, 2005, Appendix A, Tables 19 and 20.

[4] Hausman, Jerry & Leibtag, Ephraim. "CPI Bias from Supercenters: Does the BLS know that Wal-mart exists?" NBER Working Paper Series Aug 2004:2.

We should also note that our previous analysis also considered the effect of lower price inflation on wages through the use of the IHS Global Insight Macroeconomic Model. Within the macroeconomic model, inflation is modeled as a carefully controlled, interactive process involving wages, prices, and market conditions. Equations embodying a near accelerationist point of view produce substantial secondary wage and price effects after the initial impetus from the efficiency, capital, and import price changes. Thus, nominal wage inflation is also lower (but not by as much) as a result of lower consumer price inflation. Partially offsetting the decline in wage inflation are higher productivity gains and lower unemployment rates that are also attributed to Wal-Mart. As a result, wage rate inflation is not reduced by as much as consumer price inflation. Wal-Mart's presence in the economy, therefore, has led to an increase in the inflation-adjusted or real wage rate. The higher real wage rate, combined with higher employment levels, increased consumers' real purchasing power by $165 billion in 2007 dollars.

Table 1
Consumer Savings and Increased Purchasing Power with Wal-Mart
(Dollars)

	Billions	Per Capita	Per Household
Consumer Expenditure Savings (1)	365	1,200	3,100
Increase in Purchasing Power(2)	165	540	1,400
1. Reflects only changes in prices, nominal dollars			
2. Reflects changes in prices, wage rates, and employment levels, inflation adjusted 2007$			

Source: IHS Global Insight Analysis

II. Background

Data Sources

Both the 2005 and the current price impact studies were based upon a statistical analysis of consumer prices. Historical data for the statistical analyses were obtained from U.S. government agencies, Wal-Mart, and IHS Global Insight's economic databases. IHS Global Insight obtained data from the Bureau of Labor Statistics (BLS) for consumer price indexes, unemployment rates, and industry employment by major metropolitan areas. The average U.S. and MSA population data were acquired from the U.S. Census Bureau. Electricity prices by state were obtained from the U.S. Department of Energy and used to approximate electricity prices by MSA. Wal-Mart provided IHS Global Insight with Wal-Mart store square footage data from 1985-2007 data for over 3000 stores.

IHS Global Insight noted in its 2005 report that the Bureau of Labor Statistics (BLS) creates and publishes consumer price indexes (CPI) to quantify changes in consumer

prices over time, but the procedure that it uses tends to underestimate Wal-Mart's price impact. The BLS has a sample of stores in a market from which it collects prices. When a new retail outlet enters the market, it may replace an existing outlet in the BLS sample. The replacement occurs, however, through a "linking procedure" that ignores differences in the overall level of prices between the two outlets. The BLS assumes that the "quality-adjusted" prices at the new outlet are the same as at the outlet that it is replacing. This "quality adjustment" argument is applied to all items, including identical brand items. Anecdotal evidence suggests that when Wal-Mart enters a market, its everyday low prices are anywhere from 5% to 25% lower for identical goods. Thus, the BLS measuring technique ignores the direct price effect of a lower price outlet such as Wal-Mart in its CPI measurement when the outlet first enters the sample. What it does capture, however, is the indirect effect that the lower price outlet has on the prices of competitors that are in the sample and the direct price effects of the lower price outlet going forward.

The objective of this report is to quantify the impact that Wal-Mart has had on the measured CPI. Because of the technique that the BLS uses to create its CPI, this falls short of Wal-Mart's total impact on consumer prices. IHS Global Insight will quantify the measured impact that Wal-Mart has had on reported consumer prices for 24 MSAs and for the U.S. in total.

Theory

The current analysis is based upon the same underlying theory for prices as the 2005 analysis. That is, prices are determined in combination with demand, supply and financial conditions. Prices adjust in response to gaps between demand and supply potential and to changes in the cost of inputs. Wages adjust to labor supply-demand gaps, current and expected inflation, productivity, tax rates, and minimum wage legislation. The supply of labor positively responds to the perceived availability of jobs, to the after-tax wage level, and to the growth and age-sex mix of the population. Demand for labor is keyed to the level of output in the economy and the productivity of labor, capital, and energy. Tempering the whole process of wage and price determination is the exchange rate; a rise signals prospective losses of jobs and markets unless costs and prices are reduced.

Both studies attempt to explain the variation in consumer price growth across MSAs. The variation to be explained is the difference in the MSA CPI growth relative to U.S. CPI growth. Therefore, the question we need to ask is which of the factors that determine price inflation are likely to vary significantly across regions. We would expect that the impact of financial markets on capital costs and the effect of exchange rates to be relatively uniform across the country. On the other hand, we would expect labor, energy and goods market conditions to vary significantly across U.S. regions. This in turn can lead to significant variations in regional wage and energy cost inflation and in demand pressures. In addition, both studies test whether or not Wal-Mart has had a significant impact on price inflation across the MSAs. This is possible because Wal-Mart's concentration varies significantly by MSA.

The BLS creates and publishes consumer price indexes for 26 MSAs, 24 of which have history going back to 1985. This study attempts to explain the variation in consumer price growth from 1985 to 2007 for the 24 MSAs and the U.S. This analysis tests for the statistical significance of the following factors in explaining variation in consumer price growth using pooled-cross section regression analysis:

- Labor market impacts
    - Change in unemployment rates (wage rate pressures)
    - High wage employment industries (wage rate pressures)
- Energy markets impacts
    - Energy cost growth (cost pressures)
- Goods and services markets
    - Population growth (demand pressures)
- Wal-Mart impacts
    - Change in Wal-Mart square footage

MSA unemployment rates and high-wage industry employment shares (versus manufacturing) were considered factors that could explain the variation in MSA CPI inflation rates because they summarize wage rate pressures. Low (high) unemployment rates put upward (downward) pressures on wage rates, and wage inflation in turn drives price inflation. High-wage industry concentrations versus manufacturing industry concentrations further advance inflation. We choose to measure labor market pressures through the unemployment rate and the employment shares rather than wage rates themselves because of the strong simultaneity between wages and prices. We want to capture only the labor market pressures on wage rates and not the effect of prices themselves on wage rates.

Energy costs were considered in the analysis because they were highly volatile over the 1985-2007 analysis period, and this volatility was not uniform across states and MSAs. The variation in energy price inflation has been largely due to variation in each area's fuel mix and its ability to change its mix in response to changing costs. This ability, in turn, depended upon its existing infrastructure, state and local regulations, and its access to alternative fuel sources. Energy was considered in the analysis since it is the production cost (outside of labor) that varies the most across regions, and it is a cost to all supplying sectors.

Areas with high population growth could experience higher price inflation if the population's product demand is outpacing product supply. Variation in population growth was thus considered as a possible factor affecting the variation in price inflation across the regions.

Wal-Mart is likely to have had a significant impact on price inflation across the MSAs largely for three main reasons. First, its sophisticated logistics and distribution innovations have increased total factor productivity, lowering its overall cost structure

and allowing Wal-Mart to provide its goods at lower prices. Second, Wal-Mart's integrated purchasing system and its sheer size has led its suppliers to offer significant volume discounts, which Wal-Mart in turn has passed along to its consumers. And third, its lower prices have pressured its competitors to adopt more efficient processes and to lower their prices.

III. *The Analysis*

This section presents the results of IHS Global Insight's statistical analysis of the variation in consumer prices inflation across the MSAs in relation to changes in Wal-Mart's market penetration and other (non-Wal-Mart) drivers of price variation. The regression model's structure, the supporting data, the statistical regression analysis, and the measured impact of Wal-Mart on consumer prices by MSA and for the U.S are presented.

Model Structure

The regression equation to explain the variation in consumer price inflation between 1985 and 2007 across MSAs was specified as follows:

$CPIGrowth_j - CPIGrowth_{US} = C + B1*(URChange_j - URChange_{US})$
$+ B2*(HighWageIndustryShareGrowth_j - HighWageIndustryShareGrowth_{US})$
$+ B3*(EPGrowth_j - EPGrowth_{US}) + B4*(POPGrowth_j - POPGrowth_{US})$
$+ B5*(CPISGrowth_j - CPISGrowth_{US}) + B6*(WMSFChange_j - WMSFChange_{US})$
Where:
- CPIGrowth = Growth in CPI for all items from 1985 to 2007 in MSA j and U.S.
- URChange = Change in the unemployment rate, 2007 minus 1990 in MSA j and U.S.
- HighWageIndustryShareGrowth = Growth in concentration of high-wage industry employment versus manufacturing industry employment in MSA j and U.S.
- EPGrowth = Electricity price growth from 1985 to 2004-2006 average in MSA j and U.S.
- POPGrowth = Population growth from 1985 to 2005-2007 average in MSA j and U.S.
- CPISGrowth = Growth in CPI for services from 1985 to 2007 in MSA j and U.S.
- WMSFChange = Change in Wal-Mart square footage per capita, 2005-2007 average minus 1985 in MSA j and U.S.

Since the identical U.S. factors are subtracted from each MSA, the U.S. data can be collapsed into the constant term of the regression.

$CPIGrowth_j = C' + B1*URChangei_j + B2*HighWageIndustryShareGrowth_j$
$+ B3*EPGrowth_j + B4*POPGrowth_j + B5*CPISGrowth_j + B6*WMSFChange_j$

The Supporting Data

MSA Consumer Prices

The BLS publishes consumer prices indexes for 26 MSAs. Twenty-four of these MSAs have historical data back to at least 1985 and could be used in our statistical analysis to explain variation in price changes for all items over the 1985-2007 period. The MSAs include:

1. Anchorage
2. Atlanta-Sandy Springs-Marietta
3. Boston-Cambridge-Quincy
4. Chicago-Naperville-Joliet
5. Cincinnati-Middletown
6. Cleveland-Elyria-Mentor
7. Dallas-Fort Worth-Arlington
8. Denver
9. Detroit-Warren-Livonia
10. Honolulu
11. Houston-Baytown-Sugar Land
12. Kansas City
13. Los Angeles-Long Beach-Santa Ana
14. Miami-Fort Lauderdale-Miami Beach
15. Milwaukee-Waukesha-West Allis
16. Minneapolis-St. Paul-Bloomington
17. New York-Northern New Jersey-Long Island
18. Philadelphia-Camden-Wilmington
19. Pittsburgh
20. Portland-Vancouver-Beaverton
21. San Diego-Carlsbad-San Marcos
22. Seattle-Tacoma-Bellevue
23. San Francisco-Oakland-Fremont
24. St. Louis

Our objective is to determine if Wal-Mart's presence has had an impact on measured consumer prices for urban consumers over the past 22 years. The CPI includes three broad categories: durable goods (11%), non-durable goods (29%), and services (60%). If Wal-Mart has an impact on consumer prices, it would be on the first two categories. Consumer prices for services are dominated by rents, imputed rents, utilities, medical services, and transportation -- all areas outside of Wal-Mart's product offerings. The impact of service prices in the overall analysis is netted out by including the CPI for

services (with a lag) as an explanatory variable in the regression analysis.[5] Hence, the remaining explanatory variables in the regression need only explain the variation in the non-service prices.

Figure 1 illustrates the variation in consumer price inflation for the 24 MSAs over the 1985-2007 period. The San Diego, New York and Boston MSAs experienced the highest consumer price inflation over the period, averaging 3.4-3.5% per year. Anchorage and Houston experienced the lowest price inflation at an average 2.5-2.6% annually. The average compound annual growth in consumer prices for the 24 MSAs was 3.0%, with a standard deviation of 0.28%.

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[5] Alternatively, we could have constrained the coefficient on the services CPI to its weight in the overall consumer price index. Since the estimated coefficient on the services CPI was close to its weight in the overall price index, and the coefficients associated with the remaining explanatory variables were not significantly different with and without the constraint, we left the coefficient on the services CPI unconstrained.

Figure 1
Consumer Price Inflation, 1985-2007, Ranked by MSA
**Compound Annual Rate of Growth**

■ Contribution from Services □ Contribution from Commodities
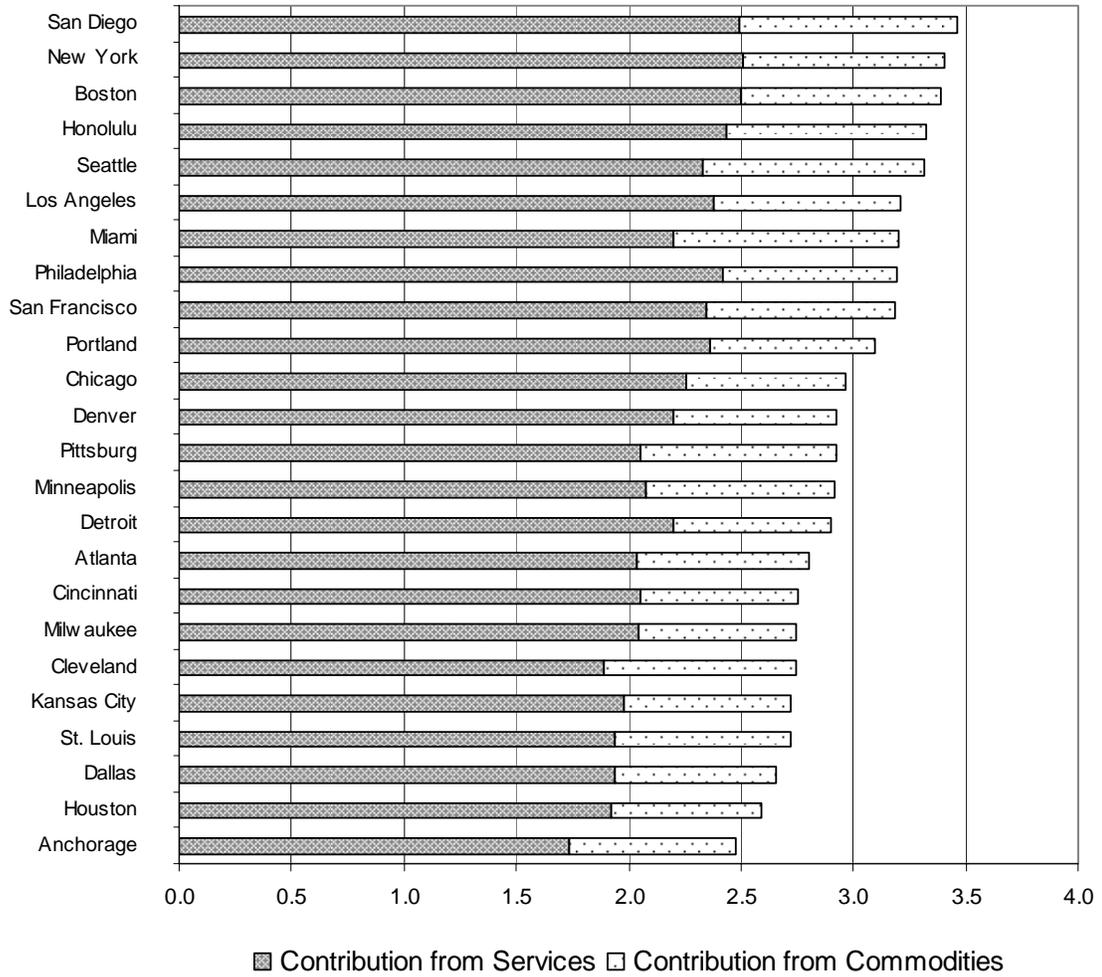
MSA Unemployment Rates

In theory, the most significant economic measure affecting the variation in inflation rates over the analysis period is changes in unemployment rates. Low unemployment rates put upward pressures on wage rates, and wage inflation in turn drives price inflation. We have included the change in the unemployment rates between 1990 and 2007 as an explanatory variable in the analysis to capture changes in labor market pressures on inflation rates. Unemployment rate statistics by MSA are available from the BLS beginning in 1990. We believe that the unemployment rate changes over this 18-year period could still be significant in the analysis, since they cover most of the period and they exhibit considerable variation.

Figure 2 illustrates the variation in unemployment rate changes for the 24 MSAs between 1990 and 2007. The Miami MSA posted the largest drop of 3.3 percentage points in its unemployment rate between 1990 and 2007, while the unemployment rate in the Milwaukee MSA registered the largest rise of 0.9 percentage points over the same period. The average change in the unemployment rate for the 24 MSAs was 0.4 percentage points, with a standard deviation of 0.9 percentage points.

**Figure 2
Change in the Unemployment Rate, 1990-2007, Ranked by MSA
Percentage Point Change**
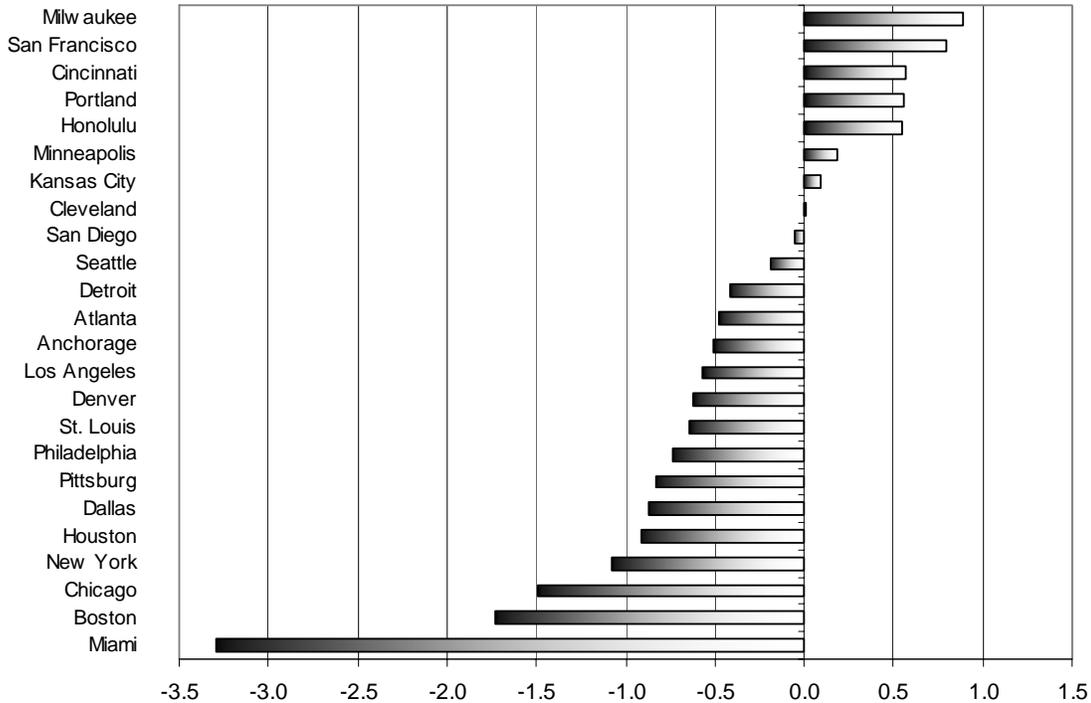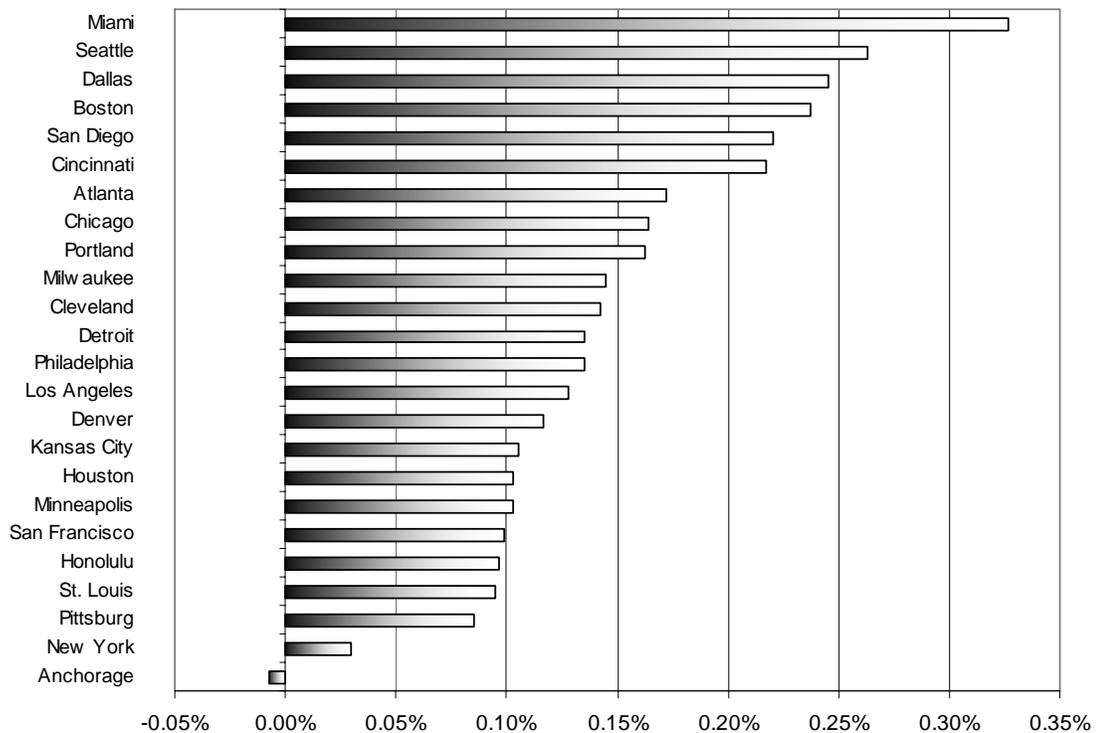
MSA Employment

Growth in high-wage industry employment shares (versus manufacturing) is an additional labor market indicator that explains the variation in MSA CPI inflation rates. High-wage industry concentrations versus manufacturing industry concentrations advance consumer prices through the price-wage spiral.

Growth in high-wage industry employment shares varied significantly across MSAs. Miami posted the strongest gain in high-wage industry employment (an average annual 0.3 percentage point gain in share), followed by Seattle, Dallas, and Boston. The MSAs with the largest decline in manufacturing share (Figure 4) included Los Angeles, St Louis, Cleveland and Dallas, averaging -0.5 to -0.4 percentage points per year.

Figure 3
High-Wage Industry Employment Share, 1990-2007, Ranked by
Average Annual Change in Share of Total Employment

Figure 4
Manufacturing Employment Share, 1990-2007, Ranked by
**Average Annual Change in Share of Total Employment**
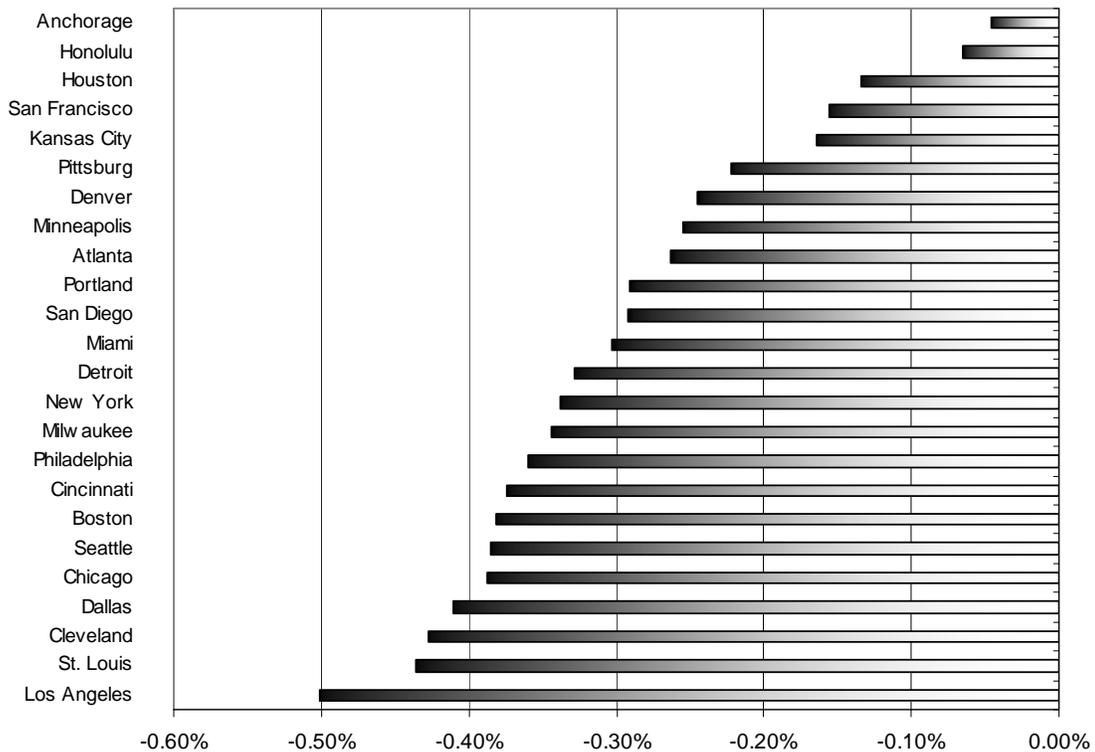
MSA Electricity Prices

Energy costs were highly volatile over the 1985-2007 analysis period and this volatility was not uniform across states and MSAs. The variation in energy price inflation was largely due to variation in each area's fuel mix and its ability to change its mix in response to changing costs. This ability, in turn, depended upon its existing infrastructure, state and local regulations, and its access to alternative fuel sources. Energy was considered in the analysis since it is the production cost (outside of labor) that varies the most across regions, and it is a cost to all suppliers.

We tested a variety of energy costs, including electricity prices, motor fuel prices, and natural gas prices. The electricity price was the only energy cost that proved to be significant in the analysis. This is likely because electricity costs are a major cost to retailers for air conditioning, lighting, and computer systems. In addition, electricity prices reflect the costs of the fuels used in the generation of the electricity. Electricity price statistics were obtained by state from the Department of Energy, Energy Information Administration. Each MSA's electricity price was equated to its state price.

Figure 5 illustrates the variation in residential electricity price changes for the 24 MSAs over the 1985-2006 period since electricity prices were included in the analysis with a one year lag. The Honolulu MSA experienced the largest rise by far in electricity prices, with residential electricity prices growing at a compound annual rate of growth of 3.5% per year over the 1985-2006 period. Over the same period, electricity prices in Chicago declined an average 0.7% per year, and prices in Philadelphia, Pittsburg, Cincinnati and Cleveland posted average annual increases under 1%. The average compound annual growth in residential electricity prices for the 24 MSAs was 1.8%, with a standard deviation of 1.0%.

Figure 5
**Electricity Price Inflation, 1985-2006, Ranked by MSA Compound Annual Rate of Growth**
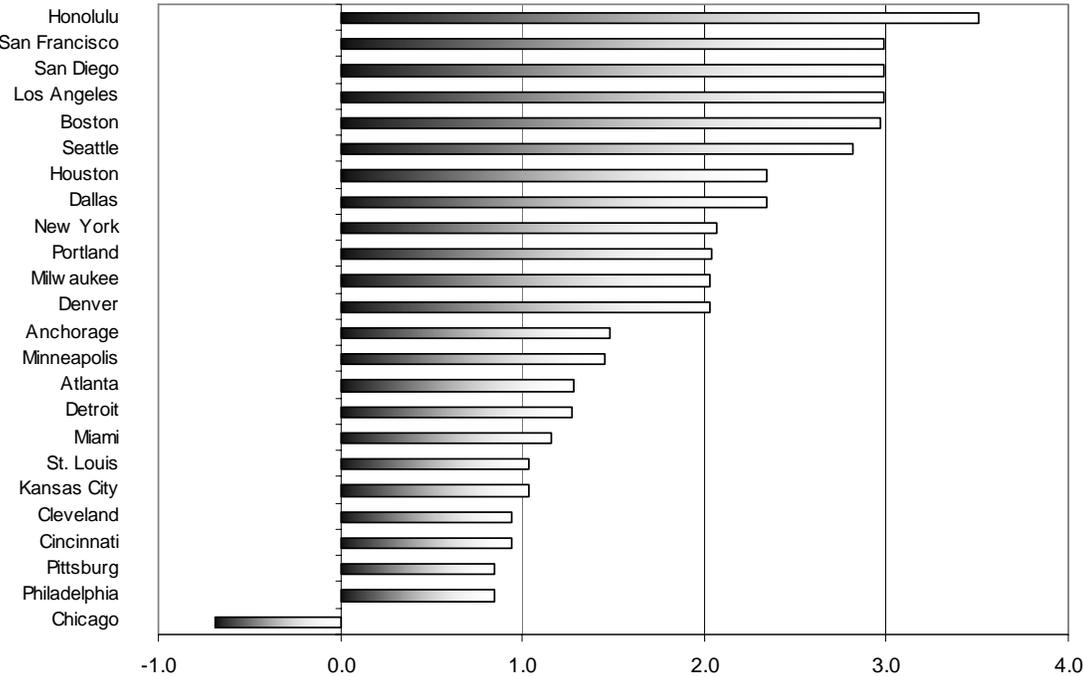
MSA Population

Areas with high population growth could experience higher price inflation if the population's product demand is outpacing product supply. Variation in population growth was thus considered as a possible factor affecting the variation in price inflation across the regions. Our analysis, however, did not find population growth to be a significant explanatory factor. Population estimates by MSA were obtained from the U.S. Census Bureau. Migration in and out of MSAs is largely motivated by job opportunities, so the high-wage industry employment factors may be capturing these demand pressures as well.

Figure 6 illustrates the variation in population growth for the 24 MSAs from 1985 to 2007. The Atlanta MSA experienced the most population growth, at 3.1% per year, followed by Dallas, Portland, and Houston. Population in the Pittsburgh and Cleveland MSAs actually declined slightly over the same period. The average compound annual growth in population for the 24 MSAs was 1.1%, with a standard deviation of 0.8%.

Figure 6
Population Growth, 1985-2007, Ranked by MSA Compound Annual Rate of Growth
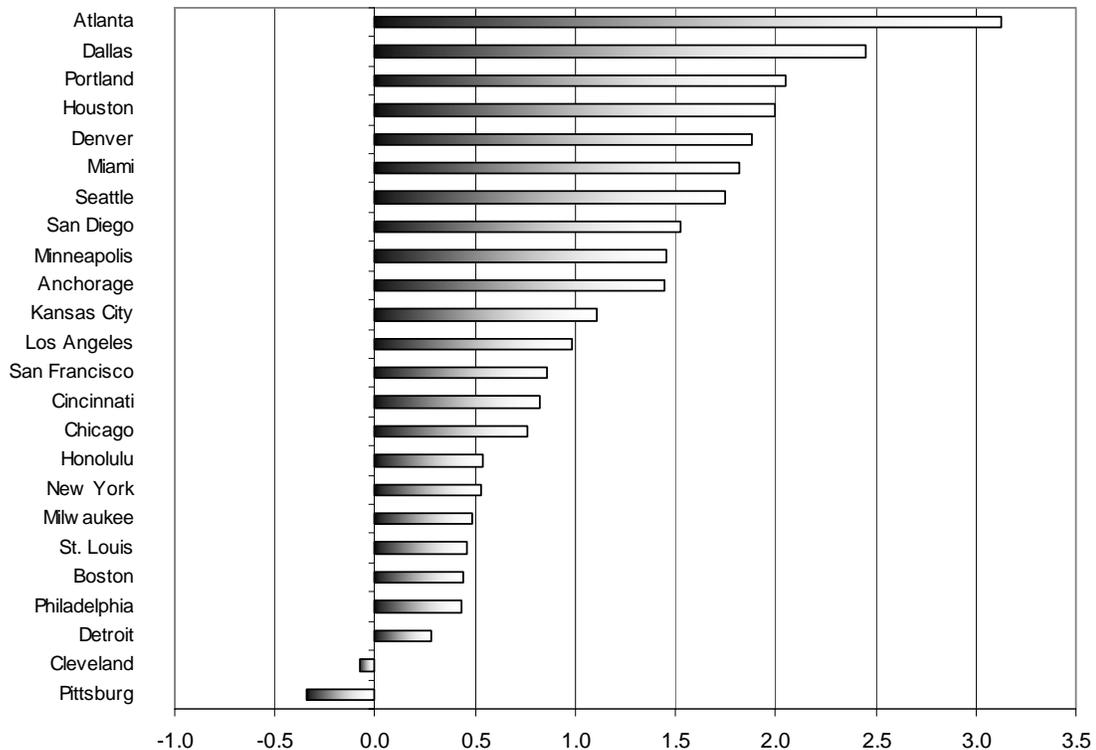
MSA Wal-Mart Square Footage

To measure Wal-Mart's impact on competitors' prices, we included the change in Wal-Mart square footage per capita over the 1985-2007 analysis period as an explanatory variable in the regression analysis. Wal-Mart square footage statistics by MSA were obtained from Wal-Mart.

Our analysis attempts to quantify the impact of Wal-Mart on measured consumer price inflation in MSAs. Data availability has limited the analysis to the 1985 and 2007 period. While Wal-Mart opened its first store in 1962, its growth did not accelerate until after 1985. Wal-Mart's 1985 square footage amounted to just 8.2% of its 2007 square footage. The growth acceleration was even more pronounced for the 24 MSAs in this analysis; Wal-Mart's 1985 square footage in the 24 MSAs represented only 4.6% of the MSAs' 2007 square footage. Consequently, we believe that the 1985-2007

analysis period should reflect the bulk of Wal-Mart's impact on the measured CPI for urban consumers.

Figure 7 illustrates the change in Wal-Mart square footage per capita for the 24 MSAs over the 1985-2007 period. The increase in Wal-Mart square footage per capita ranged from as high as 1.7-1.9 square feet per person in the Dallas, Kansas, and Atlanta MSAs, to as low as 0.3-0.4 square feet per person in the New York, San Francisco, and Los Angeles MSAs. The increase in square footage per person averaged 1.1 square feet per person across the MSAs with a standard deviation of 0.5 square feet.

Figure 7
Change in Wal-Mart Square Footage per Capita, 1985-2007, Ranked by MSA Square Feet per Person
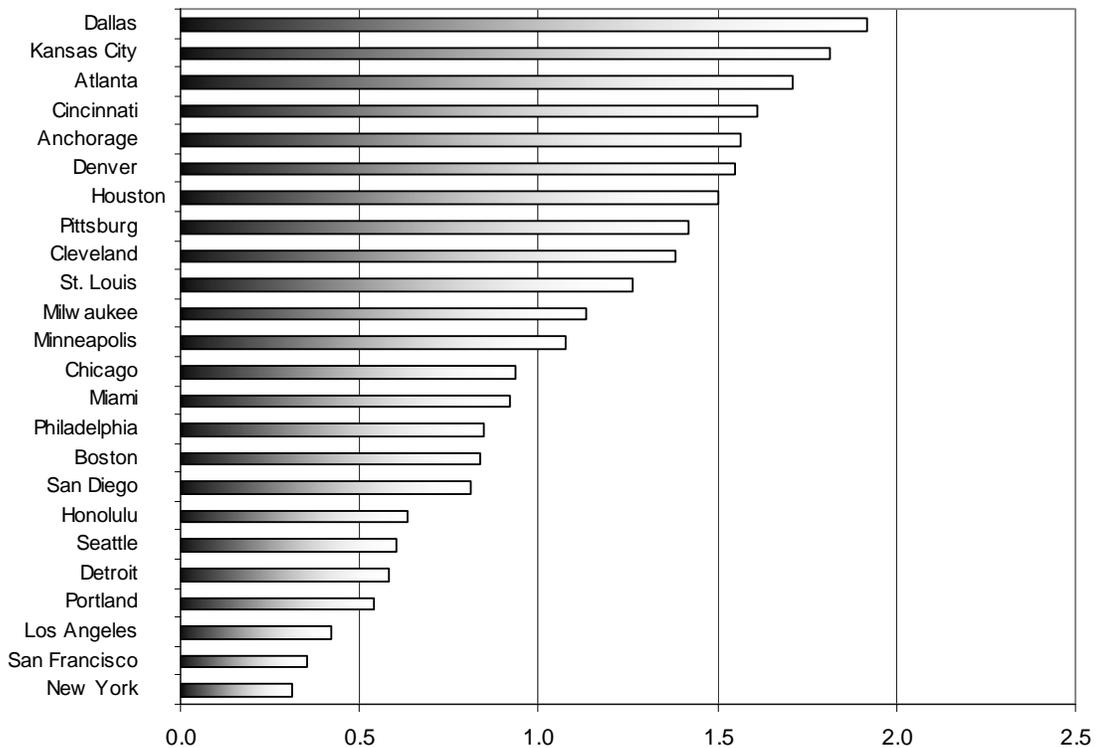
Figure 8 illustrates the relationship between changes in Wal-Mart square footage per capita and consumer price inflation over the 1985-2007 analysis period. The figure indicates a negative relationship between Wal-Mart square footage per capita and consumer price inflation. That is, greater increases in Wal-Mart square footage per capita in an MSA are generally associated with lower consumer price inflation rates. The following section supports this relationship through statistical analyses.

Figure 8
**Linear Relationship between the Compound Annual Growth in the CPI, All Items
and the Change in Wal-Mart Square Footage over the 1985-2007 Period**
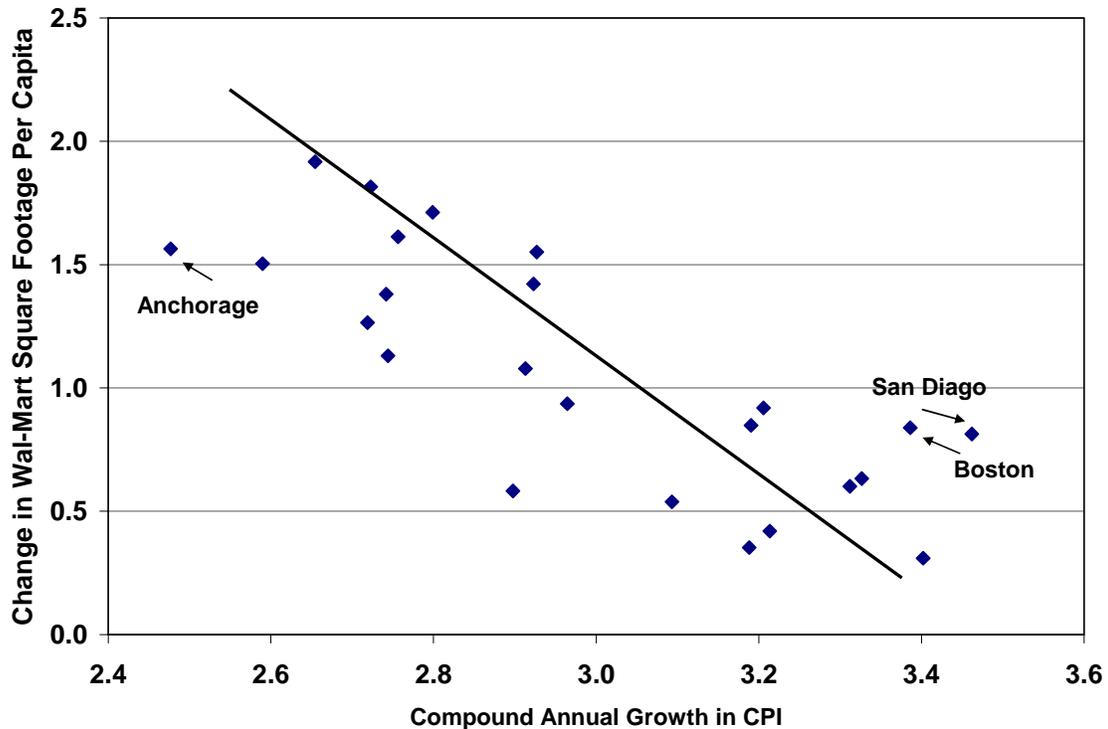
Statistical Results

The statistical regression results for the CPI for all items with and without the Wal-Mart effect are presented in Tables 2 and 3. For both regressions, the coefficient associated with population growth by MSA was not significantly different from zero and was dropped from the regressions. All other explanatory variables are significantly different from zero at the 5% level. Once differences in consumer service prices are accounted for, we are able to explain nearly 89% of the variation in consumer price inflation across the MSAs by considering the variation in unemployment rate changes, high-wage industry employment share growth, and electricity price growth. The same regression with the added variable – changes in Wal-Mart square footage per capita – is presented in Table 3. The Wal-Mart effect is significant at the 5% level and increases the explanatory power of the regression to 91%.

The regression coefficients in Table 3 tell us that each 1% increase in consumer service inflation contributes 0.5% to consumer price inflation as measured by the CPI for all items. This compares with a relative importance of 0.6 for services in the CPI. Electricity is one of the services represented in the CPI for services. Our analysis shows an additional impact on consumer price inflation from growth in electricity prices. Each 1% increase in electricity prices adds another 0.05% to consumer price inflation. This additional impact suggests that changes in retailers' electricity prices are passed along to

the consumers, giving electricity a larger weight than its relative importance in the services CPI.

The regression also tells us that each one point increase in the unemployment rate lowers consumer price inflation 0.7%, while each 1% increase in the high-wage industry employment share or 1% decrease in the manufacturing employment share increases the CPI by 0.08%. And finally, each unit increase in Wal-Mart square footage per capita lowers the CPI by 2.5%.

Table 2
Regression Results for Consumer Price Inflation, All Items, Urban Consumers

Dependent Variable: Growth in CPI for all items from 1985 to 2007 Cross Sections Included: 24 MSAs			
Determinants by MSA	**Coefficient**	**Std. Error**	**t-Statistic**
Constant term	0.1210	0.0457	2.6460
Change in the unemployment rate, 2007 minus 1990	-0.0083	0.0075	-1.1062
Growth in electricity price from 1985 to 2004-2006 average	0.0589	0.0303	1.9403
Growth in CPI for services from 1985 to 2004-2006 average	0.6414	0.0680	9.4303
Growth in financial/information/business services employment share from 1985 to 2005-2007	0.0744	0.0386	1.9260
Adjusted R-squared	0.8906		
S.E. of regression	0.0199		

Table 3
Regression Results for Consumer Price Inflation, All Items, Urban Consumers

Dependent Variable: Growth in CPI for all items from 1985 to 2007 Cross Sections Included: 24 MSAs			
Determinants by MSA	**Coefficient**	**Std. Error**	**t-Statistic**
Constant term	0.2403	0.0715	3.3591
Change in Wal-Mart square footage per capita, 2005-2007 minus 1985	0.0248	0.0129	-2.0618
Change in the unemployment rate, 2007 minus 1990	-0.0070	0.0069	-1.0174
Growth in electricity price from 1985 to 2004-2006 average	0.0534	0.0281	1.9029
Growth in CPI for services from 1985 to 2004-2006 average	0.5152	0.0876	5.8834
Growth in financial/information/business services employment share from 1985 to 2005-2007	0.0760	0.0356	2.1356
Adjusted R-squared	0.9073		
S.E. of regression	0.0183		

Simulation Results

A model for the CPI price indexes was developed from the above regression equation and used to quantify the measured impact of Wal-Mart on consumer prices by MSA and for the U.S. The model was first simulated in 2007 based upon Wal-Mart's actual square footage in 2007 and then simulated in 2007 with Wal-Mart square footage held to 1985 levels. The difference between the two simulations defined the impact of Wal-Mart on the consumer price indexes.

Wal-Mart added 480 million square feet (net) between 1985 and 2007. These additions amounted to 1.6 square feet per capita for all Wal-Mart net additions. Our price model determined that Wal-Mart's growth over the 1985-2007 period reduced consumer prices as of 2006 by 3.6%.

Tables 4 and 5 summarize price impacts by MSA and for the total U.S. in alphabetical order and rank order, respectively. Differences between price impacts for each MSA between the 2005 study and the current study are presented in Table 4. These differences are attributed primarily to the net addition of stores between 2005 and 2007, and revisions to the square footage of existing stores.

Table 4

Measured Impact on MSA and U.S. Consumer Prices from Wal-Mart

2007 Alphabetical Order

(Percent difference in the price level)

MSA	2007	2004	Difference
Anchorage	-3.8%	-4.2%	0.3%
Atlanta-Sandy Springs-Marietta	-4.1%	-3.3%	-0.8%
Boston-Cambridge-Quincy	-2.0%	-1.9%	-0.1%
Chicago-Naperville-Joliet	-2.1%	-1.7%	-0.4%
Cincinnati-Middletown	-3.3%	-2.5%	-0.8%
Cleveland-Elyria-Mentor	-2.8%	-1.5%	-1.3%
Dallas-Fort Worth-Arlington	-4.7%	-3.8%	-0.8%
Denver	-3.6%	-2.7%	-0.8%
Detroit-Warren-Livonia	-1.4%	-1.3%	-0.1%
Houston-Baytown-Sugar Land	-3.8%	-3.5%	-0.3%
Honolulu	-1.3%	-0.8%	-0.5%
Kansas City	-4.4%	-4.2%	-0.2%
Los Angeles-Long Beach-Santa Ana	-1.0%	-0.8%	-0.2%
Miami-Fort Lauderdale-Miami Beach	-2.1%	-1.7%	-0.4%
Milwaukee-Waukesha-West Allis	-2.7%	-2.5%	-0.3%
Minneapolis-St. Paul-Bloomington	-2.6%	-1.9%	-0.7%
New York-Northern New Jersey-Long Island	-0.7%	-0.5%	-0.2%
Philadelphia-Camden-Wilmington	-1.9%	-1.4%	-0.6%
Pittsburgh	-3.3%	-2.6%	-0.8%
Portland-Vancouver-Beaverton	-1.3%	-1.0%	-0.3%
San Diego-Carlsbad-San Marcos	-2.0%	-1.4%	-0.6%
Seattle-Tacoma-Bellevue	-1.2%	-0.9%	-0.3%
San Francisco-Oakland-Fremont	-0.8%	-0.6%	-0.2%
St. Louis	-3.1%	-2.8%	-0.4%
United States	-3.6%	-3.1%	-0.5%

Source: IHS Global Insight Analysis

Table 5

Measured Impact on MSA and U.S. Consumer Prices from Wal-Mart,

2007 Rank Order

(Percent difference in the price level)

MSA	2007 Price Impact	Square Footage Per Capita Increase 1985-2007
Dallas-Fort Worth-Arlington	-4.7%	1.917
Kansas City	-4.4%	1.816
Atlanta-Sandy Springs-Marietta	-4.1%	1.712
Houston-Baytown-Sugar Land	-3.8%	1.504
Anchorage	-3.8%	1.564
Denver	-3.6%	1.551
Pittsburgh	-3.3%	1.421
Cincinnati-Middletown	-3.3%	1.612
St. Louis	-3.1%	1.265
Cleveland-Elyria-Mentor	-2.8%	1.380
Milwaukee-Waukesha-West Allis	-2.7%	1.131
Minneapolis-St. Paul-Bloomington	-2.6%	1.078
Chicago-Naperville-Joliet	-2.1%	0.936
Miami-Fort Lauderdale-Miami Beach	-2.1%	0.919
Boston-Cambridge-Quincy	-2.0%	0.838
San Diego-Carlsbad-San Marcos	-2.0%	0.813
Philadelphia-Camden-Wilmington	-1.9%	0.848
Detroit-Warren-Livonia	-1.4%	0.582
Honolulu	-1.3%	0.633
Portland-Vancouver-Beaverton	-1.3%	0.539
Seattle-Tacoma-Bellevue	-1.2%	0.601
Los Angeles-Long Beach-Santa Ana	-1.0%	0.420
San Francisco-Oakland-Fremont	-0.8%	0.353
New York-Northern New Jersey-Long Island	-0.7%	0.310
United States	-3.6%	1.548

Source: IHS Global Insight Analysis