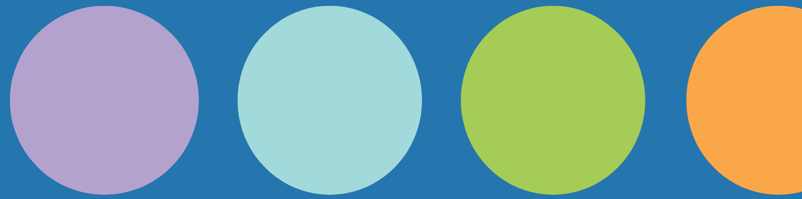


JPMorgan Chase Institute

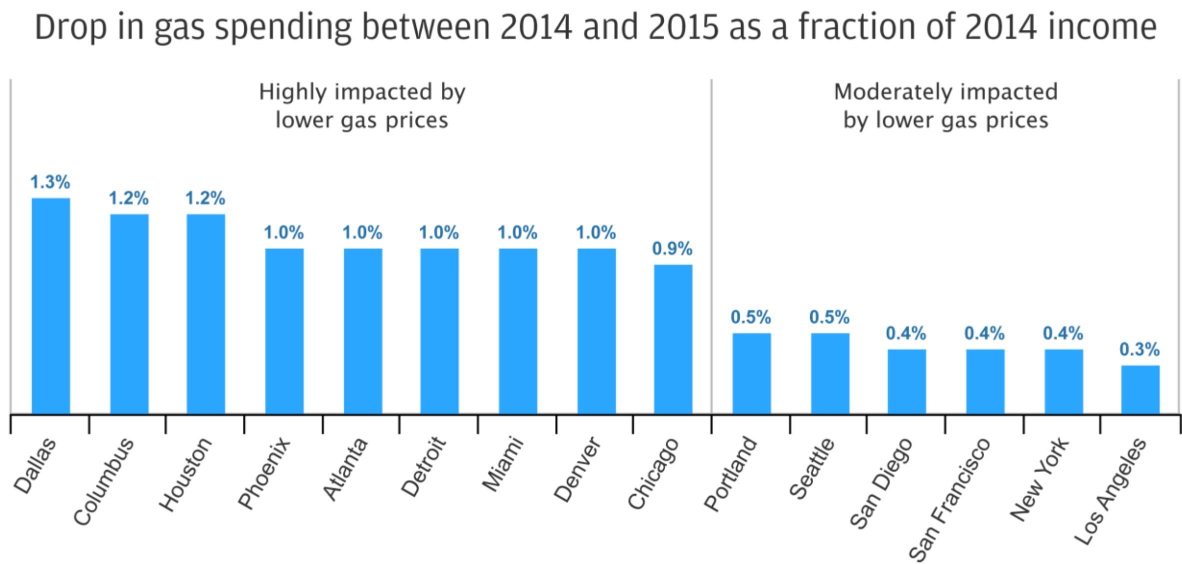
A global think tank dedicated to delivering data-rich analyses and expert insights for the public good

A Year of Low Gas Prices: The Consumer Response in 15 Metro Areas

In our recent report, *The Consumer Response to a Year of Low Gas Prices*, we quantified the impact of lower gas prices in 2015 on consumer spending across the nation. We observed that the drop in gas spending as a fraction of income varied geographically – with the largest drops in gas spending experienced in areas in the South and Midwest. In this brief, using the JPMorgan Chase Institute's Local Consumer Commerce data, we explore the impact of lower gas prices in 2015 on consumer spending in 15 major metro areas – Atlanta, Chicago, Columbus, Dallas, Denver, Detroit, Houston, Los Angeles, Miami, New York, Phoenix, Portland (OR), and Seattle. We found that the two cities with the largest decelerations in non-gas spending–Houston and Dallas–are two of the three cities most exposed to the oil and gas industry.

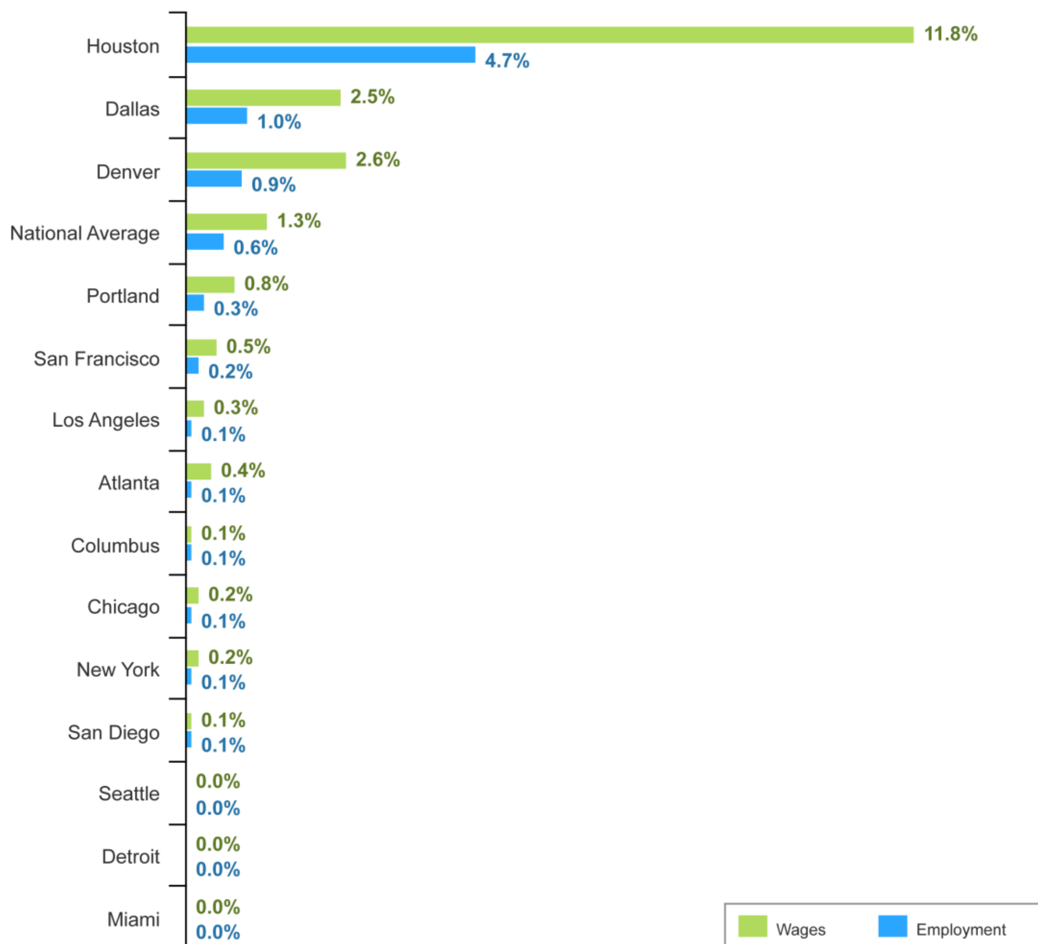
The consumer response to lower gas prices might have differed across these metro areas for a number of reasons. First, the drop in gas prices in 2015 was much more tempered in California than in other parts of the country. Second, people in some cities spent a higher fraction of their income on gas than in others. As a result of these two factors, the drop in fuel spending between 2014 and 2015 was the equivalent of a 1.3 percent increase in annual income in Dallas compared to just a 0.3 percent increase in income in Los Angeles (Figure 1). Nine of the 15 cities were highly impacted by lower gas prices in that the drop in gas spending represented 0.9 percent or more of annual income. In the other six cities, the drop in gas spending represented at most 0.5 percent of annual income.

Figure 1: Consumers in Midwestern and Southern cities spent the most on gas and experienced large drops in spending at gas stations



A third key factor is that some cities have more exposure to the oil and gas industry. In these cities, a large drop in gas prices could lead to wider, negative economic impacts like lower profits, wages, or job loss. Across the 15 cities in the Index, Houston has by far the most exposure to the oil and gas industry. Home of the "Energy Corridor", Houston is where many of the nation's largest oil and gas production and distribution companies, as well as numerous pipeline construction companies, are headquartered. In Houston, 11.8 percent of wages and 4.7 percent of employment in 2014 were from the oil and gas industry (Figure 2). Dallas and Denver were distant followers to Houston with less than 3 percent of wages and just 1 percent of employment coming from the oil and gas industry in 2014. The other 12 cities derived less than 1 percent of wages and employment from the oil and gas industry.

Figure 2: Houston has over four-fold more exposure to the oil and gas industry than the other 14 cities in the Local Consumer Commerce Index



* Oil and gas industry includes wages and employment from privately owned companies in five sub-industries: oil and gas extraction (NAICS 211), drilling oil and gas wells (NAICS 213111), support activities for oil and gas operations (NAICS 213112), oil and gas pipeline construction (NAICS 23712), and petroleum refineries (NAICS 32411).

Source: Bureau of Labor Statistics Quarterly Census of Employment and Wages

We compare the year-over-year growth in local consumer spending on non-gas goods and services from 2014 to 2015. We define local consumer commerce as credit or debit spending within a metro area by households that live within that same metro area, which excludes air travel and most e-commerce. Across the 15 cities, there was a considerable slowdown in spending on non-gas goods and services from a growth rate of 4.9 percent in 2014 to 2.8 percent in 2015. Put differently, the boost to non-gas spending that occurred due to lower gas prices was overshadowed by a much larger slowdown in nominal non-gas spending that occurred between 2014 and 2015.

Figure 3 presents the growth in non-gas spending in 2014 and 2015 and the percentage point drop in growth in non-gas spending between 2014 and 2015. We break these 15 cities into three comparison groups:

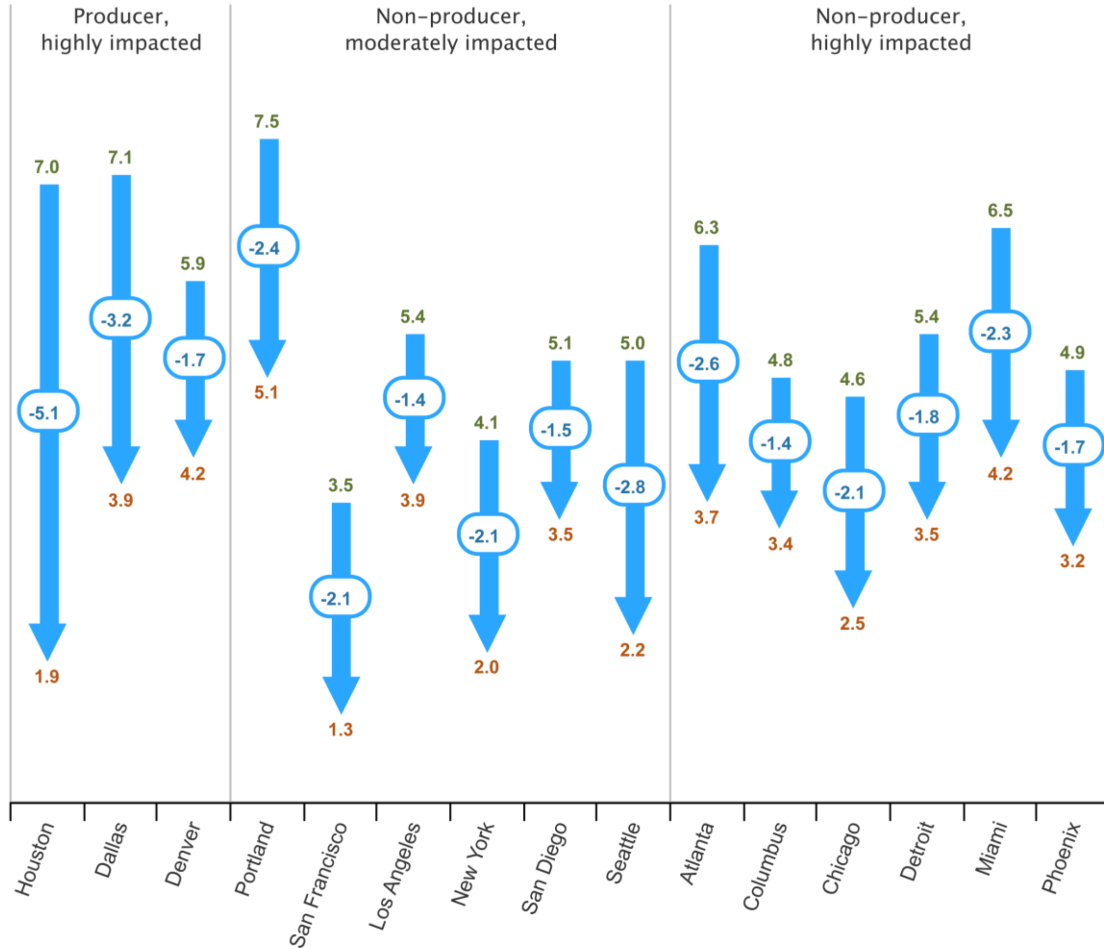
1. **Producer, highly impacted cities:** These cities include Houston, Dallas, and Denver, where the drop in gas spending in 2015 was equivalent to 0.9 percent or more of annual income, and there is significant exposure to the oil and gas industry. All else equal, we might expect a more tempered impact from lower gas prices on growth in non-gas spending in these cities due to the potential spillover impacts on employment and wages.

2. **Non-producer, moderately impacted cities:** These cities include Portland, San Francisco, Los Angeles, New York, San Diego, and Seattle where the drop in gas spending in 2015 was equivalent to 0.5 percent or less of annual income and there is little exposure to the oil and gas industry. All else equal, we might expect a more tempered impact from lower gas prices on growth in non-gas spending in these cities because the drop in gas spending as a fraction of income was smaller in these cities.

3. **Non-producer, highly impacted cities:** These cities include Atlanta, Columbus, Chicago, Detroit, Miami, and Phoenix, where the drop in fuel spending in 2015 was equivalent to 0.9 percent or more of annual income, but there is little exposure to the oil and gas industry. All else equal, we might expect a positive growth impact on non-gas spending in these cities, or, in this context, a smaller deceleration.

Figure 3: Houston experienced the largest deceleration in non-gas spending between 2014 and 2015

Percentage point change in non-gas spending between 2014 and 2015:
(percent growth in 2014, percent growth in 2015, percentage point change in growth between 2014 and 2015)*



* Estimates reflect credit or debit spending within a metro area by households that live within that same metro area and therefore exclude air travel and most e-commerce.

Source: JPMorgan Chase Institute

Across all 15 cities, Houston experienced by far the largest deceleration in non-gas spending – a 5.1 percentage point drop from 7.0 percent in 2014 to 1.9 percent in 2015. Houston also experienced the slowest absolute growth in non-gas spending in 2015 (1.9 percent), with the exception of San Francisco (1.3 percent). While these trends may not be directly attributable to the gas price decline, they are consistent with other negative economic trends in Houston, principally in the oil and gas industry. Houston experienced a marked slowdown in employment growth between 2014 and 2015 from 3.8 percent growth in employment in 2014 to 1.8 percent growth in 2015, with

significant contractions occurring in drilling oil and gas wells (-22.4 percent), support activities for oil and gas operations mining (-8.5 percent), and oil and gas extraction (-2.6 percent).[1]

Dallas experienced the second largest deceleration in non-gas spending after Houston – a 3.2 percentage point drop in the growth rate. The decelerations in non-gas spending were smaller than 3 percentage points in the remaining 13 cities.

The decelerations were not noticeably smaller in highly impacted cities, where the boost from lower gas prices might have been greater, compared to more moderately impacted cities. The deceleration ranged from as high as 2.8 percentage points in Seattle to as low as 1.4 percentage points in Los Angeles and Columbus. The aggregate percentage drop in the growth rate from 2014 to 2015 was 2.0 percentage points among both highly impacted cities and moderately impacted cities. This 2.0 percentage point drop did represent a larger drop relative to the 2014 growth rate in moderately impacted cities (4.5 percent) compared to highly impacted cities (5.3 percent). Nonetheless, differences in economic conditions among these cities could have easily overwhelmed the differential impact of lower gas prices.

These findings highlight some reasons why the impact of gas price declines has been difficult to identify in the aggregate macroeconomic data. It is not the case that consumers are saving most of their gains from lower gas prices, as some have reported. Our recent report shows consumers spent the majority of their gas savings. Instead, the drop in gas prices occurred during a considerable slowdown in consumer spending on non-gas categories, which potentially overshadowed the boost to consumer spending attributable to lower gas prices. In Houston, home to the "Energy Corridor", that slowdown was most dramatic, suggesting that the savings from lower gas prices experienced by Houston households may have been counteracted by their exposure to the oil and gas industry.

The JPMorgan Chase Institute is committed to delivering data-rich analyses and expert insights for the public good. In our recently released report The Consumer Response to a Year of Low Gas Prices, we quantified the impact of lower gas prices in 2015 on consumer spending across the nation. Our regularly updated Local Consumer Commerce Index measures the monthly year-over-year growth rate of everyday debit and credit card spending by over 50 million anonymized Chase customers across 15 cities in the U.S.

[1] Percentage changes reflect changes in employment in privately owned establishments between 2014 and 2015 in Houston metropolitan service area based on the Bureau of Labor Statistics' Quarterly Census of Employment and Wages.