

Characterization and Analysis of Small Business Energy Costs

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When viewed at the macroeconomic level, even substantial energy price increases may not entail significant firm-level impacts because energy costs are a relatively small proportion of total overall production costs. However, energy expenditures are a much higher percentage of total input costs in certain industry sectors, and small entities often face unique challenges that affect their ability to absorb price increases.

To add to the state of knowledge on small entity impacts of energy price increases, this report compiles available information to (1) characterize the potential impact of energy price increases on small entities in individual industry sectors; and (2) identify whether, and to what extent, small entities face higher energy prices by major economic sector. The study results indicate that small entities in the manufacturing and commercial sectors have the greatest exposure to energy price rises.

Overall Findings

An analysis of sector-level energy price information indicates that small entities in the manufacturing and construction sectors pay higher prices for most, but not all, fuels. These price disparities are most pronounced for electricity and natural gas, with electricity in the manufacturing sector responsible for the greatest price differential. The smallest size establishment category (under 50 employees) pays 35 percent more for electricity than the sector average, while the largest establishment category (1,000 or more employees) pays 17 percent less than the sector average. Therefore, small manufacturing sector entities that use substantial amounts of electricity face a significant competitive disadvantage.

Highlights

The analysis found significant price differentials between what the smallest and largest entities paid for energy in the commercial and manufacturing sectors. Small businesses in the commercial sector faced a 30 percent price differential for electricity and a 20 percent price differential for natural gas. In the manufacturing sector, small businesses faced a 28 percent price differential for distillate fuel oil, a 27 percent price differential for natural gas, and a 14 percent price differential for coal.

Discussion

Of the 17 manufacturing sector industries for which 2002 data were available, small entities in 10 of these sectors spent considerably more on energy than larger entities when measured on the basis of expenditures per value of industry shipments. Three manufacturing sector industries had energy costs per dollar of output that were more than double those incurred by larger entities (food manufacturing; leather and allied products manufacturing; and computer and electronic product manufacturing). Profitability data further illustrate the challenges that small entities face from price increases in energy and other production inputs—13 of the 19 manufacturing sector industries with available profit data have profit margins that are lower for small entities than their larger counterparts.

Similarly, small entities have higher energy expenditures per dollar of sales than larger entities in 26 of the 31 commercial sector industries studied. The median commercial sector industry has a small entity energy cost per sales ratio that is 2.7 times the ratio

of large entities. General merchandise stores; food and beverage stores; and couriers and messengers are three of the commercial sector industries with the highest small entity energy cost per sales ratios relative to those of their larger counterparts. The couriers and messengers industry is particularly affected; its small entity energy expenditures add up to more than 10 percent of total small entity sales. As with manufacturing industries, a majority of commercial sector industries have lower small entity baseline profit margins than their larger industry counterparts.

Although the results for other economic sectors (agriculture, mining, construction, electric generation) show a more equal distribution of small and large entity baseline profit margins and energy expenditures per unit of output, all but the electric generation sector has one or more individual industries for which available data suggest that energy price increases are expected to result in greater impacts on small entities than large entities.¹

This study highlights some of the unique challenges that confront small entities when energy prices rise, and identifies the economic sectors and specific industries in which small entities are most vulnerable to such price increases. Given continuing energy price trends, it is reasonable to assume that more and more small firms will see their competitive positions weakened, leading to impacts on capital availability and profitability, and the potential for small business closures.

Scope and Methodology

The researchers used publicly available data on energy costs from the Economic Census conducted by the U.S. Bureau of the Census in the Department of Commerce, the Department of Energy's Energy Information Administration (EIA), and the U.S. Department of Agriculture. All surveys measured expenditures by firms of various sizes on an array of energy goods, including fuels and electricity. The EIA surveys included considerably greater detail, but only covered the manufacturing, commercial, and electricity generation industries. Further data on firm size and revenues were taken from the Economic Census of 2002. Firm size, revenue, and energy use

¹ Data do not suggest that small entities in the Electric Generation sector face disproportionate energy price impacts—the likely cause for this phenomenon is the relative lack of competition in this sector (e.g., most jurisdictions grant monopolies to electricity providers, with retail electricity rates generally requiring the approval of the local public service commission).

data were synthesized into industry tables and firms were compared across size categories to ascertain whether small firms pay proportionately more or less than their larger counterparts within an industry.

This report was peer reviewed consistent with the Office of Advocacy's data quality guidelines. More information on this process can be obtained by contacting the director of economic research at advocacy@sba.gov or (202) 205-6533.

Ordering Information

The full text of this report and summaries of other studies performed under contract with the U.S. Small Business Administration's Office of Advocacy are available on the Internet at www.sba.gov/advo/research. Copies are available for purchase from:

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