
Report by the House Small Business Committee
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Impact of Rising Energy Costs on Small Business



*Congress of the United States
House of Representatives*

The Implications of Rising Energy Costs upon Small Businesses

I. Introduction

The country is experiencing an energy crisis characterized by rapid and drastic price increases as well as threatened shortages. These conditions are significantly impacting the overall health of the U.S. economy. In 2005, Americans spent \$1 trillion on energy, over \$200 billion more than the previous year¹. Prices will continue to rise, according to the Secretary of Energy, for at least the next three years. As evidence of this trend, between 2005 and 2006, the national growth rate for energy costs increased from 17 percent to 23 percent². Consumers of these resources will face long-lasting problems as this crisis continues.

While different sectors of the economy have varying volume and purposes for energy usage, all industries increasingly rely upon energy resources. The raw consumption of energy, as opposed to dollars being spent on energy, is projected to grow 1 percent annually over the next 25 years³. As its supply will become increasingly costly and volatile, resulting inflationary pressures will burden all aspects of the economy.

The energy crisis has disproportionately impacted the small business sector. The rising cost of energy is the top concern among U.S. entrepreneurs, according to a recent PNC Economic Outlook surveys of small firms⁴. Overall, it is responsible for dampened business confidence. Persistent and projected increases have deflated entrepreneurs' expectations for future growth as they struggle to adjust to inflationary conditions whereby the input costs are rapidly rising. Two-thirds anticipate lower profits from these new economic conditions.

Changes to these resources have a more significant impact on small businesses due to their comparatively higher production costs and tighter profit margins. Their unique financial situation, in comparison to larger firms, makes them less able to absorb or pass on energy price hikes. Higher resource prices directly impact the firms' budgets and profits as they have few financial reserves to cover additional expenditures. Smaller firms are vulnerable to rapid price spikes as they are unable to balance these against long term revenues and sources of capital. These small entities lack the ability to "weather the storm" by tapping into reserves when prices rise dramatically.

Small firms also lack the capacity to reduce the costs by investing in energy efficient or create alternative methods of production that do not rely so heavily on energy use. With limited access to technologies and training resources to mitigate energy use, entrepreneurs have had to maintain steady consumption rates even as prices rise.

¹ Energy Information Administration (EIA) Short Term Energy Outlook, Energy Expenditures: Summer Recap/Winter Preview" (September 7, 2005).

² Bureau of Labor Statistics (BLS) Consumer Price Index Summary (June 2006).

³ EIA Annual Energy Outlook 2006 (February 2006).

⁴ The PNC Financial Services Group "The PNC Economic Outlook Survey" (October 2005, April 2006).

To offset rising production costs, small businesses generally have two options, restrict other investments and/or increase the price of their goods. Today, the majority of entrepreneurs plan to implement both options. These actions, however, will make small businesses less competitive and impede their long-term profitability.

The small business sector is also challenged by the new economic conditions, as these firms dominate many energy-intensive industries. Additionally, firms are indirectly affected by these trends in the inflated price of finished goods and cash-strapped customers. The energy crisis is squeezing profit margins of small firms from different sources. Consequently, they are at a competitive disadvantage to their large, corporate counterparts who, through economies of scale, can afford equipment and technology to reduce energy use. Firms with larger capital and production resources also maintain a greater capacity to negotiate favorable prices for inputs from suppliers and to control the price of products sold.

The energy crisis creates common problems for small businesses; yet, each industry faces unique obstacles to overcome the pressures of rising prices and volatile supplies of this resource. This report evaluates the implications of energy price spikes on the overall economy as well as providing an examination of its effects upon small businesses in particular sectors.

Energy Trends

As all industries rely upon some type of fuel, the impacts of the crisis are severe. The varying availability and affordability of these sources will determine how dependent sectors will endure these new economic conditions.

Oil (petroleum), currently accounts for more than half of the consumption generally in the form of gasoline and in many petroleum-based products such as plastics. With rising demand and a relatively constant supply, prices for oil have skyrocketed. This month, oil exceeded its record high at \$76 per barrel, increasing 40 percent since last year and more than doubling over the last 5 years⁵. The direct and indirect impacts are having a far-ranging economic effect, as discussed in the sector-specific industry analysis of the report.

Natural gas used to heat buildings and for industrial production has quadrupled in consumption since the 1950s⁶. Increasing demand, government deregulation, and weather conditions have created exponential price hikes. In fact, over the last 5 years, the cost of natural gas has jumped by 90 percent. Many businesses reliant on this resource have been crippled by these dramatic cost shifts.

⁵ Peters, Jeremy "Oil Prices Shoot Up as BP Shuts Huge Field" *New York Times* (August 7, 2006).

⁶ EIA, Short Term Energy Outlook, (July 2006).

Electricity, which is an output from many energy resources, is used to power most equipment and facilities. Given its importance to the residential, commercial, and industrial sectors, its generation has grown with the expansion of the overall US economy. Its usage has increased to ten times of the 1950s level⁷. The nation's capacity to generate and distribute electricity has not increased in accordance with growing demand. This gap has led to power reliability problems resulting in major blackouts throughout the country. Power outages severely disrupt business operations and result in the loss of significant portions of business inventories.

In general, energy markets are experiencing high demand and limited supplies, resulting in volatile and soaring prices. The end product will be inflationary pressures that continue to challenge the country's businesses as they struggle to adjust to the new economic conditions.

⁷ Ibid.

II. Implications of Skyrocketing Energy Costs

As a fundamental factor in the different aspects of operating a business, energy fluctuations significantly impact industries directly reliant upon these sources for production of a good or service, as well as providing indirect impacts for those companies that may not directly use the energy. The three major impacts of the energy crisis upon businesses, particularly small firms, are production cost increases due to higher input costs, operational disruptions, and inflationary economic conditions.

Rising Production Costs

The rising prices for these resources have increased the input costs for many businesses in the U.S. economy, both large and small employers. A recent survey indicates that nearly 70 percent of manufacturers are paying higher prices for raw materials, the highest level of respondents in 25 years⁸. Since energy is a key input in the production process, businesses face sharp increases per unit in their goods and services.

These new conditions create higher costs for other inputs as well – as an example, most of the goods with the highest price increases utilize significant energy inputs for their production and delivery. These include such products as iron, steel, copper, and plastics. Thus, production expenditures are rising in direct relation to the price of energy as goods move through the supply chain.

The supply of these goods will also likely dwindle as their production generates less revenue and businesses reduce their output or shift operations to less energy intensive industries. As a result, many goods become both unprofitable to produce and cost-prohibitive to purchase; consequently threatening the viability of the industries that produce and consume these products. A clear indicator of this trend is that many commodities dependent upon significant energy inputs are becoming scarcer in the country and their prices are becoming more costly.

Small businesses that dominate many of the industries most severely impacted by energy prices are attempting to modify their operations to meet new energy demands. With limited access to technology and resources to reduce their energy needs, these firms must shift scarce expenditures to energy-related products rather than investing in the development of their enterprises.

Operational Disruptions

The energy crisis is impacting the way small businesses operate their enterprises. As access to affordable energy and resource-intensive products dwindles, these firms are compelled to reduce services, production, or investments.

⁸ *USA Today*, “Smaller Firms Plan Significant Price Hikes” (October 6, 2005).

One impact of higher production costs, particularly for small businesses reliant upon the production of undersupplied and overpriced energy-intensive products, has been a delay in service delivery. As energy prices rise, the costs to transport goods and services increases. Many businesses have attempted to overcome this operational difficulty by reducing customer visits and service delivery. As small businesses attempt to move goods in an increasingly expensive transportation system, business operations have become less efficient and profitable. Many have responded by scaling back markets to a more localized geographic sphere in order to reduce delivery costs. However, these actions constrict small firms' operational capacity and opportunities for profit.

A similar impact from production cost increases, due to energy spikes, has been a reduction in business inventories. As businesses attempt to shift resources to offset more expensive energy-related products, they have fewer remaining resources to restock shelves. Smaller inventories reduce the ability to sell more products and services, while placing small businesses at a disadvantage to larger companies that have the ability to advance purchase a greater volume of products.

Business contracting practices are challenged by the energy crisis. Higher energy prices have altered the financial benefits of contracting with domestic producers. Many companies have become less willing to commit to long-term business contracts due to the uncertainty of prices for energy and energy-related products. For example, as natural gas has widely fluctuated over the last 5 years, businesses have been faced by highly dynamic conditions, impeding their ability to determine the profitability of potential contracts. Consequently, many businesses have responded by negotiating shorter contracts for the provision of various services. This new approach to business commitments has reduced the length and scale of contracts available to small firms.

Business operations have also been temporarily, yet, severely disrupted by natural disasters that decrease energy resources and limit refinery facility capabilities. The recent Gulf Coast hurricanes demonstrate how drastically business operations can be impacted by disasters. The hurricanes resulted in immediate and long-term price increases and supply delays as they landed directly in the country's oil and gas producing regions. Consequently 70 percent of the domestic energy production capacity was restricted and the country experienced a steep drop in the availability of affordable energy resources. Products derived from these resources became less accessible as well.

Small firms, which operate on tight budgets, are less able to quickly adjust to severe disruptions in their operations. Therefore, rapid and significant changes to energy resources create significant and long-term impacts upon these firms.

Inflationary Pressures

Persistent energy price hikes have significantly altered the bottom line of U.S. businesses. Inflationary pressures particularly burden entrepreneurs due to their limited opportunities to adjust to price increases of their inputs, as well as pass on their goods or services at a higher price. As businesses face increased costs for their inputs, their revenues are contracted and profit margins squeezed. As these economic conditions continue, lost profits will undermine the ability of small firms to reinvest in the improvement of their enterprises.

Industries that expend a significant portion of their resources on energy have suffered the highest profit losses. Many small businesses have attempted to offset rising energy costs by raising prices charged to consumers. In a recent small business survey, nearly ½ of the firms in the manufacturing sector planned to pass additional expenditures for energy resources on to their customers.

As businesses cover their costs by increasing their prices, consumers and other firms will feel the impacts of higher energy prices. One response to higher costs already occurring is a decrease in purchases by businesses and consumers. Energy hikes have demonstrated a direct impact on consumption levels; in fact, for every 10 percent increase in oil prices over a constant period of time, the economy loses between \$80 to \$160 billion in economic growth. Therefore, as energy prices continue to rise at a rapid and sustained rate, small firms will retain fewer customers while facing higher expenditures.

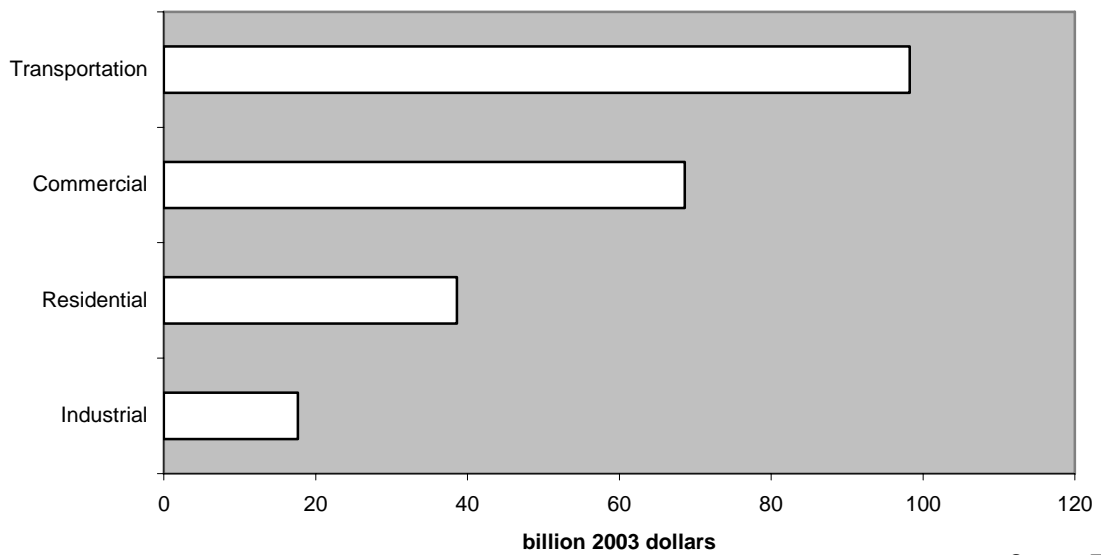
As the nation's 23 million small business owners are responsible for half of the nation's GDP, price increases will likely create local and national inflationary pressures. There are many indicators of rising inflation in the country. The Consumer Price Index increased by 4 percent over the last quarter of FY 05, with 1.8 percent of that increase directly attributable to food and energy costs. Real disposable income has also decreased by 1 percent during this time period. With such impacts on small businesses, energy price hikes will increasingly disrupt the entire economy.

The energy crisis threatens the competitiveness of small businesses and their impact upon their respective communities. As small firms dominate many of the specialized industries within the manufacturing, service and agricultural sectors, how well each firm can adjust to the energy crisis will impact the productivity of the national economy.

III. An Analysis of Energy Impacts by Sector

The economic conditions brought about by changes in energy resources impact all industries and firms. As rising energy prices filter throughout the economy, more of the country's resources will be expended upon these resources (See Chart A). These conditions have created a cost shift in which productive resources are allocated towards existing inputs and away from new investments. As a result of this strategy, to adjust to the energy crisis, the country's economic growth will be diminished and our businesses less competitive in global markets.

Chart A. Projections of US Non-Renewable Energy Expenditures by Sector, 2005-2025



Source: EIA

Manufacturing

While all major US industries are experiencing higher production costs as a result of the energy crisis. Businesses in the manufacturing sector have been particularly hard hit, facing significantly higher prices for raw materials (see Table A). This is the result of the fact that energy is ubiquitous in nearly every facet of their enterprise, including all parts of the manufacturing process from powering machines to transporting products. The industry consumes one-third of the total energy in the country and is heavily dependent upon affordable access to this resource in their production and delivery of goods.

**Table A. Prices Paid by Manufacturing Based Industries
July - October 2005**

Prices	Manufacturing		
	% Higher	% Same	% Lower
Oct-05	70	28	2
Sep-05	60	36	4
Aug-05	36	53	11
Jul-05	24	49	27

Source: Institute for Supply Management, November 2005

The manufacturing sector, which includes many energy intensive industries, has been directly impacted by price increases (Table B). Overall, manufacturing industries experienced an almost 70 percent decline in expected profits from 2000 to 2003, with almost one-quarter of the loss directly attributed to increased energy costs⁹.

Small firms increasingly operate manufacturing plants and face the most difficulties adjusting to energy spikes and volatility. Of the industries significantly impacted by profit losses due to energy cost increases, small businesses comprise 71 percent of the fabricated metal product industries, 64 percent of industrial machinery firms, 60 percent of electrical equipment firms, 70 percent of motor vehicle firms, and 64 percent of chemical manufacturing producers¹⁰. These firms possess unique financial conditions that are threatened by a major energy crisis. As energy prices rise rapidly, these firms' revenues are more likely to be impacted. They must shift more of their revenues to cover expenses given their limited access to capital and financial reserves. Therefore inflationary pressures impact entrepreneurs more than their corporate counterparts.

⁹ National Association of Manufacturers "The Profit Squeeze for U.S. Manufacturers: A Close Look at Five Major Industries" October 2005.

¹⁰ US Census, Statistics of US Businesses, 2001.

**Table B. Impact of Rising Energy Prices on Profits in Five Key Manufacturing Industries
2000-2003
(billions of dollars, relative to 1999 baseline)**

	Fabricated metal products	Machinery	Electrical Equipment	Motor Vehicles	Chemicals
2000	-0.7	-0.4	-0.2	-0.7	-2.6
2001	-0.8	-0.4	-0.2	-0.8	-3.1
2002	-0.5	-0.2	-0.1	-0.5	-1.7
2003	-1	-0.5	-0.3	-1	-4.1

Source: National Association of Manufacturers, "The Profit Squeeze for US Manufacturers" October 2005

Metal Products

Small businesses are leaders in one of the most energy intensive industries, metal manufacturing. These firms create equipment, tools, and machines in addition to raw and finished metal products by using large amounts of natural gas and electricity to power their facilities and operations. Input materials for the sector are energy intensive, particularly steel products, which fluctuates in price in direct relation to energy costs. Metal manufacturers' top concern, consequently, are these input prices.

Energy costs have had a direct impact on fabricated metal manufacturers. The industry cost for its inputs increased by over \$700 million from \$9 to \$10 billion in 5 years. As a result of energy price hikes between 2000 and 2003, nearly 6 percent of the industries' profits declined and, in 2003 alone, these manufacturers lost \$1 billion. Energy price hikes have created serious pressures upon metal manufacturers' financial reserves and will likely result in a reduction in their market share to foreign and large domestic corporations.

Over 96 percent of metal manufacturing plants, which produce products used in the construction of facilities and goods, are small operations with fewer than 100 employees¹¹. Small businesses in this industry also dominate export manufacturing, shipping 90 percent of the metal goods to foreign countries. With rising energy prices, small metal manufacturers have had to alter their operations, at times scaling back their production. These actions decrease their profitability, result in job losses, and reduce the competitiveness of the firms and the industry.

¹¹ *ibid*

Biotechnology

Biotechnology firms consume significant amounts of energy inputs to develop advanced pharmaceuticals and medical devices. Access to affordable energy supplies aided industry growth over the last several decades. However, as the supply of energy has become more volatile and expensive, firms in this industry are struggling to continue their operations.

Similar to other manufacturers, increases in energy costs have directly negatively impacted the biotechnology industry. The price chemical inputs derived from natural gas and petroleum, used by the industry have soared. In 2001, industries reliant upon these chemicals spent \$31.4 billion in energy purchases, a 65 percent increase since 1999¹². The costs will have a long-lasting impact upon the industry. Studies have found that an increase by one dollar in the cost of natural gas adds \$3.7 billion to the industry's expenses¹³.

In addition to higher prices for petroleum-based chemicals, the production capacity of biotechnology firms is impacted by problems with the energy supply. Volatility in the form of electricity blackouts, in areas such as the Silicon Valley, has caused disruptions in research and production facilities¹⁴. Inconsistent supplies of natural gas have required firms to shift to alternative fuels interrupting their production processes.

Small biotechnology companies comprise a major portion of the industry. Almost 60 percent of pharmaceutical and medical manufacturing firms employ 20 or fewer staff. These are largely start-up companies developing much of the innovative products and inventions in the industry. They are unique enterprises, which depend upon capital to initiate their operations and moderate production costs to ensure adequate resources to research and develop their products.

As these firms shift resources from investments to basic expenditures, they will become less competitive and their operations less stable. Rising energy costs threaten the viability of small biotech firms and the innovativeness they bring to the industry.

¹² US Department of Energy, Energy Efficiency and Renewable Energy "Chemicals: Industry of the Future, Fiscal Year 2004 Annual Report"

¹³ American Chemistry Council White Paper "Higher Natural Gas Prices Impacting Manufacturing".

¹⁴ Steinberg, Douglas. *The Scientist* "Biotech Firms Confront the Energy Crisis: Rate Increases and blackouts hurt the business environment" (July 23, 2001).

Transportation

Production costs in the transportation sector alone will increase by \$5 billion each year due to energy price increases. Businesses operating in this industry have had to rapidly adjust to exponential price increases while maintaining competitive enterprises. As production becomes significantly more expensive, many small businesses have become priced out of these industries.

The Trucking Industry

Rising energy costs are a major concern for the trucking industry, and especially for the small trucking firms that dominate the sector. The cost of diesel fuel is currently the top concern among motor carriers. The trucking industry is significantly impacted by energy trends as these firms consume approximately half of total fuel used in the transportation sector. Fuel costs represent truck companies' largest expense, after labor, generally accounting for 25 to 30 percent of operating costs. The trucking industry has spent \$88 billion on fuel this year, a \$20 billion increase over last year and \$30 billion more since 2003¹⁵.

Many small trucking firms will cease operations as a result of rising energy prices. The industry standard for the impact of rising prices is that generally 1,000 firms close for every additional 10 cents in fuel costs¹⁶. Retail diesel fuel prices rose by 23 percent between December 2004 and 2005, from 1.987 to 2.448/gallon.

The difficulty that this poses for these small companies is that their operations are constrained by increased expenditures as they shift resources away from hiring and investing in their business. Larger truck companies, on the contrary, have the financial leverage to influence wholesale prices or absorb higher costs. Independent truckers and small business owners that rely upon motor vehicles, such as delivery companies, have also had to alter routes, costs to consumers, and business contracts to address rising fuel costs. Public entities contracting for transportation services, such as schools, have also had to expend higher portions of their revenues on energy costs.

Truck companies' incomes have declined as a result of fuel increases. Between May and June, 2005, the freight value of for-hire trucks declined by .2 percent with concurrent declines in many preceding months. Projections indicate that fuel prices will continue to increase, including an additional 7 cents/gallon in 2006, which portends additional trucking firm closures in the near and long-term future¹⁷. Further, since communities across the country receive 80 percent of their goods by truck, rising energy costs will create a ripple effect, impacting all sectors of the economy. In fact, higher fuel and transportation prices have been found to be inflationary factors and may promote higher interest rates and dampened economic growth.

¹⁵ American Trucking Associations *National Fuel Price Crisis Watch* (January 2006).

¹⁶ Machalaba, Daniel. *Wall Street Journal* "How Rising Prices Squeeze Small Truckers" (online edition 2003).

¹⁷ American Trucking Associations *National Fuel Price Crisis Watch* (January 2006).

The Motorcoach Industry

Similar to the trucking industry, as an energy-intensive sector, motorcoach firms who operate tour and travel companies expend a large portion of their resources on fuel, and are directly impacted by rising energy costs. According to a recent American Bus Association survey, energy price hikes have impacted 88 percent of member companies' profits. Further, fuel prices have increased rapidly and exponentially – just since last year, diesel fuel, the primary energy source for motorcoaches, has increased in price by 31 percent, from \$1.78 to \$2.34/gallon.

Small companies dominate the industry with approximately 90 percent of U.S. motorcoach firms in the country that own 25 or fewer buses. In such a competitive market, these firms face difficulties passing on increased fuel costs to customers. Yet they are challenged with setting a service fee that will recover costs as gas prices continue to rise. Utilizing cost-benefit analysis, many operators have found their enterprises are non-profitable and have scaled back services significantly. By reducing operations, these businesses have become less influential in determining how the industry can adjust its energy practices.

Agriculture

Farming is an energy-intensive sector. Fuel is used in various forms to fertilize, process, and transport agricultural products. Recent energy hikes and volatility have severely altered the cost and benefits of farming. Currently, 14 percent of farm expenditures are used for energy-related production inputs, a 3 percent increase from a relatively stable period between 1980 to 1999. Farmer's fuel, oil and electricity expenditures increased \$8.6 billion to \$11.5 billion between 1999 and 2005, and fertilizer expenditures increased from 7.9 billion to 11.5 billion during this time, amounting to a total increase of \$4.5 billion of agricultural expenditures towards energy inputs over the last six years¹⁸. Consequently, farmers have lost opportunities to invest and add value to their farm operations. This provides with them with diminished capacity to remain competitive in global and domestic markets.

Since 70 percent of farming operations are small and independently owned, the energy crisis will have a lasting impact on this industry. These producers are less able to guard against volatility and price hikes in raw materials. As a result, severe and significant price swings reduce small farmers' ability to produce at competitive rates and develop innovative, high-quality goods.

¹⁸ Daniel T. Kelly, National Council of Farmer Cooperatives. Congressional Testimony, Senate Agriculture Committee Hearing on Agricultural Transportation and Energy Issues. (November 9, 2005).

Commodity Producers

As the economy becomes increasingly globalized, producers of commodities, such as corn and wheat, have found that energy costs are becoming a major determinant in the competitiveness of their businesses. As production spreads to the lowest cost producers throughout the world, prices of agricultural commodities have consistently dropped. With rising energy costs, small farmers will find it increasingly more difficult to lower production costs and remain competitive in their pricing. As the energy crisis alters the financial outlook of these producers, small farmers will increasingly close operations resulting in greater concentration of the agricultural industry.

Corn, wheat, and feed grain farmers' operating costs are largely driven by the price of energy inputs. Approximately half of these farmers' production costs are comprised of energy expenditures. Energy related costs for corn, grain, and wheat products in 2003 were \$66 per acre, \$51 per acre, and \$34 per acre respectively. By 2005, energy based production expenses increased by 20 cents for corn, 45 cents for grain, and 31 cents for wheat. Production costs for wheat are expected to continue to rise by nearly 20 percent between 2004 and 2007, while corn and grains will increase by over 25 percent during this time period¹⁹. Concurrent with production cost increases, producers of these crops expect to generate fewer revenues. Both corn and wheat crops are projected to generate 30 percent less between 2004 and 2007, while grain returns will decrease by nearly 70 percent during this time period. With high production costs, largely from energy inputs, farmers will increasingly experience a squeeze between production increases and prices received.

Along with rising farm costs, prices for agricultural goods are decreasing. This has resulted in declining farm incomes, especially for operators with higher per unit production costs. As small farmers face chronically rising energy costs, their ability to remain competitive with large producers is threatened. The U.S. agricultural industry and its firm structure will therefore be significantly altered by the energy crisis.

¹⁹ Dr. Keith Collins, US Department of Agriculture. Congressional Testimony, Senate Agriculture Committee Hearing on Agricultural Transportation and Energy Issues. (November 9, 2005).

Services

Rising production costs also significantly impacts service-based industries with higher levels of energy inputs. Firms involved in sectors such as wholesale and retail trade require significant energy resources to operate facilities and deliver their goods (Table C). As production costs rise, these sectors increasingly feel pressure on their bottom line.

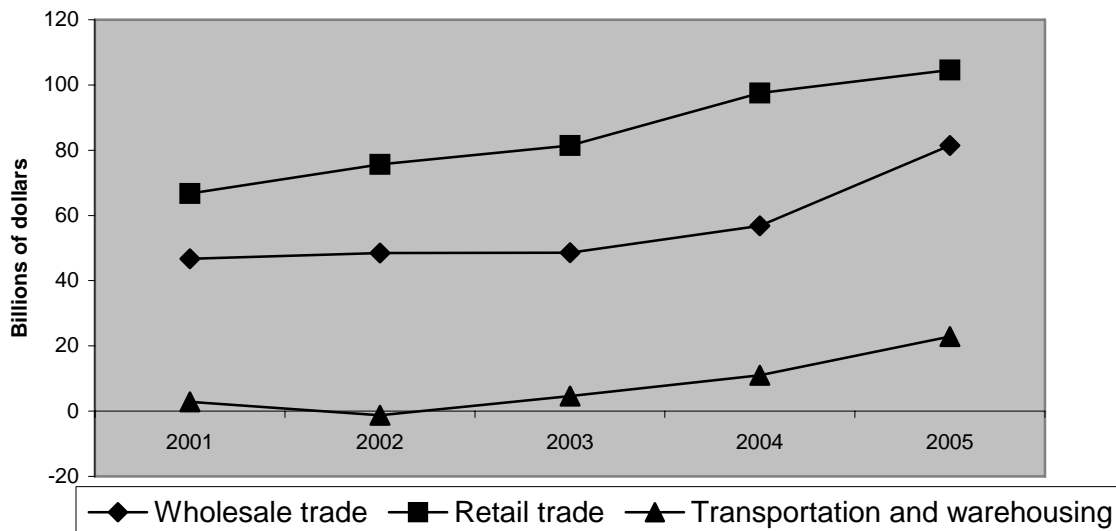
**Table C. Prices Paid by Service Based Industries
July - October 2005**

Prices	Services		
	% Higher	% Same	% Lower
Oct-05	54	41	5
Sep-05	58	40	2
Aug-05	36	58	6
Jul-05	39	58	3

Source: Institute for Supply Management, November 2005

Many firms in the service industry have experienced unstable and stagnant profits as energy prices have increased (Chart B). Small firms are also concentrated in service industries impacted by deflated profits due to rising energy costs. These firms account for 90 percent of the retail trade enterprises, 88 percent of warehouse owners, and 85 percent of the wholesale trade all of which have experienced stagnant and minimal profit increases as energy costs have skyrocketed²⁰.

Chart B. Service Industry Corporate Profits 2003-2005



Source: Bureau of Economic Analysis, 2005

²⁰ US Census, Statistics of US Businesses, 2001.

Convenience Stores

The convenience store industry, a critical component of the economy, also faces impacts from the energy crisis. In 2005, convenience stores sold more than three-quarters of all gasoline purchased in the U.S., according to the National Association of Convenience Stores. Since gasoline and motor fuels comprise nearly 70 percent of the industry's sales, skyrocketing prices and volatile supplies for crude oil resources have significantly impacted convenience store owners across the country. These stores have been unable to pass on these costs to consumers and have resulted in lower profit margins.

Single store operators own 55 percent of these operations²¹. Given their limited share of the wholesale and retail energy market, these businesses have been squeezed on both sides of the consumption and production process. As a result of the energy crisis, production costs for convenience stores are rapidly rising. In 2005, crude oil, which comprises the bulk of retail prices, increased 85 percent over the previous 5-year average. Owners have limited control over the prices that are set for energy resources. Generally, they purchase supplies on the spot market, which is highly volatile and impacted by speculative transactions. They also face additional costs, in the form of gas taxes, fees for credit cards, and to transport gas.

Convenience store owners are dependent upon the supply of energy from refiners as well as foreign and domestic producers. To ensure a stable supply of gas, 55 percent of convenience store owners contract with a specific energy brand. However, constant resource supply shortages threaten the ability of "branded" and independently-supplied stores from obtaining affordable fuel. Low volumes and unstable supplies have the potential to create severe operational disruptions for convenience stores, while reducing their competitiveness if consumer demand is unfulfilled.

As energy costs increase, convenience stores face reduced revenues. For every 35 cents increase in prices, estimates have found that retailers lose one cent in their profit margins. These stores face obstacles passing on additional costs to consumers, who are highly price sensitive. In fact, a 2002 study indicated that 40 percent of consumers would change gas retailers to obtain a reduction of 3 cents/gallon²². It generally takes nearly 3 months between the time the convenience store owners has a cost increase and can pass on increased energy prices to consumers²³. The sale of fuels by the industry has become less valuable as a result of soaring energy prices in this competitive market.

The sale of fuel is increasingly becoming an unstable and unprofitable venture for many small convenience store owners. Hypermarkets are emerging as a result, which are represented by mass retailers with large economies of scale. Currently, they account for just 2-3 percent of total motor fuel retailers yet they generate nearly 8 percent of total fuel sales. Further, they are rapidly increasing in product scope and total outlets.

²¹ National Association of Convenience Stores "Gasoline Prices 2006: Oh No, Not You Again" (February 2, 2006).

²² Ibid.

²³ EIA "Gasoline Price Pass-through" 2003.

Concentration of this industry is emerging, as the energy crisis creates worsening economic conditions for small convenience store owners.

Restaurants

Restaurants consume significant amounts of energy resources throughout their operations. They depend upon it to prepare food and power their facilities. Between 3 to 5 percent of total operation costs for these businesses are expended upon it²⁴. With rising energy prices, restaurant owners are paying higher costs for food-service related electricity demands, including water-heating and refrigeration, as well as for petroleum-based products, such as take-out containers and plastic ware.

Large portions of restaurant owners are reeling from cost pressures due to rising energy prices. Many are already operating narrow profit margins; particularly the 70 percent of restaurants that are small, independently owned. As prices for oil and natural gas in particular have risen rapidly and are often quite volatile, these businesses have difficulty ensuring adequate and affordable supplies of resources that are integral to the daily operations of their enterprise.

Persistent problems with our energy resources have depressed the economic outlook for most restaurant owners. In a recent survey by the National Restaurant Association, approximately 90 percent of quick service and two-thirds of full service restaurant owners indicated that high energy costs have an adverse effect on their businesses²⁵. With expenses rising indefinitely, these entrepreneurs have not been able to adjust to the new economic conditions.

Energy costs are also depressing restaurateurs' profits as consumers reduce spending to cover additional expenses originating from higher energy costs. Thirty-six percent of consumers in a recent survey indicated that to address fluctuating gas prices they would dine out less²⁶. As consumers' expectations and budgets decline, due to inflationary prices, businesses have become less optimistic about generating profits. They have found it difficult to pass their additional costs on to customers, such as through delivery surcharges, particularly as their consumers are already struggling with rising costs.

Entrepreneurs have had more difficulty addressing energy issues than their corporate counterparts. Large chain restaurant companies have significant purchasing power to obtain cheaper and more stable energy resources through bulk contracts. They also can afford energy-efficient products and training on conserving resources. Small businesses, however, have fewer opportunities to reduce energy consumption and their costs. Consequently, they are becoming less competitive with their counterparts in the pricing of goods and delivery of services.

²⁴ Platts, McGraw Hill Companies, Inc. "Managing Energy Costs in Restaurants" (2002).

²⁵ National Restaurant Association "Regular upkeep, efficient equipment can help restaurants control energy costs: As the cost of energy rises, restaurateurs take steps to cushion the impact of energy on the bottom line" (January 11, 2005).

²⁶ National Retail Federation. "2006 Gas Prices Consumer Intentions and Actions Survey" (May 18, 2006).

Small restaurants are generally considered the cornerstone of neighborhoods in a community. Yet inflationary pressures from energy costs, along with constant demand for these resources, are squeezing these enterprises and threatening their viability.

Sector Analysis Insights

The sector analysis highlights many specific impacts from rising energy costs upon U.S. businesses. There are common obstacles small firms must overcome when addressing their current energy needs.

Many small businesses have attempted to protect their enterprises from the impacts of the energy crisis by altering their production processes. The transportation sector, particularly the trucking and motorcoach industries, has suffered with depleted profits directly as a result of input cost hikes. Consequently, with lower profit margins, smaller operators are challenged with reconfiguring the business plan to offset the costs. Working largely through long-term contracts, these operations are pursuing various strategies to determine service rates and surcharges in hyper competitive markets. With little capacity to protect against rising costs, these firms are forced to make critical business decisions with little control over the process.

The agricultural sector further demonstrates the disparate impacts of energy increases on small and large farm operators. The key to farm production is economies of scale. Large corporations can take advantage of this given their significant acres of land under production and, consequently, have been more successful in absorbing higher energy costs. With many communities dependent upon small farms, the declining incomes and closures of these establishments due to energy hikes will have a great impact upon the whole country.

By depressing firms' profits, the energy crisis will have an inflationary impact on all aspects of the economy. The interrelatedness of the food supply sector illustrates that increased expenditures for any single industry will impact all others in the production and distribution chain. For example, when a farmer raises the price of his crops to offset increased energy prices, processors pay more for their inputs and then charge more to wholesalers and retailers for the finished products. Therefore, how each firm in the chain addresses energy hikes will determine how affordably and efficiently food is delivered to consumers. Further, jobs and economic growth will continue to be impacted by how well each sector in the chain is functioning.

Significant growth in price and unstable supply of energy, has, and will, continue to have deleterious impacts upon most sectors of the country's industries and will have a disproportionately larger effect upon small firms. Given the importance of small businesses to all sectors and the communities that are dependent upon them – and given the integrated nature of the product and service supply chains – the impacts of rising energy costs will be felt throughout local and national economies.

IV. Conclusion

Although energy prices had declined after the sharp hike following the Gulf Coast disasters, by the beginning of this year, they had risen again and are projected to continue the incline. This month, the price of crude oil reached a new peak at \$76/barrel, less than two months from a then-record of \$75.35/barrel in April. With no end in sight, public concerns have surged over the seemingly perpetual state of an energy crisis. In a recent national poll, over three quarters of respondents expected supply shortages and nearly half see major problems in the energy industry.

The impacts from the perceived and actual status of our energy supplies are significant. Last month, the Federal Reserve Chairman projected that higher energy rates will create some inflation in the economy. He cited the cumulative impacts of escalating energy prices as causing consumers and businesses to spend less, and to pass on costs to others. U.S. industries are also showing signs of deflation due to energy problems. Last month, the manufacturing sector growth index was the lowest since the previous August. Industry officials attributed energy costs, along with other inflationary impacts, such as interest rate increases, as impediments to expansion.

Given the impacts from the energy crisis, including inflation and slowed economic growth, these firms - in an attempt to cover rising production costs - have constricted operations while limiting their investment and expansion plans. Facing an increasingly unequal playing field, the extreme volatility of energy prices only creates larger financial burdens and operational disruptions for small firms when compared to their corporate counterparts.

The current energy crisis is just one more in a series of challenges that have recently befallen small businesses. These firms already face rising costs from many aspects of their enterprises, particularly health care, pensions, and regulatory requirements - all which deplete key resources from their operations. On top of these demands, energy affects entrepreneur's human, capital, and raw materials. If these conditions continue, the economic climate will become increasingly harsh for this country's small businesses and entrepreneurs.