

TARIFF EFFECTS IN FRANCE AND USA: COMPARATIVE ANALYSIS

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INTRODUCTION

In recent times France's energy policies have received a great deal of praise by American politicians. The ability of the western European state to wean itself off using foreign oil as an input for electricity generation, replacing it with nuclear power, is quite impressive. Equally notable is the fact that there was no great opposition to making this controversial energy source, which now produces more than 78% of the country's electricity, the central piece of its energy matrix. (Nadal) France's gamble has clearly paid off as it seemingly solved the question of how to power a country with virtually no energy resources without producing financial hardships in the interim.

In fact, if anything, France greatly benefitted from switching its energy inputs. In addition to achieving near energy independence in electricity generation, France has made its nuclear power generation a highly profitable industry. Today, France is the world's largest net exporter of energy. Using the excess electricity generated from its power plants, France exports electricity to neighboring states at a very low cost, making power France's fourth largest export. The sale of nuclear fuel cycle related goods are other major exports, including, but not exclusive to nuclear reactors and fuel. In fact, France's major export to Japan falls into this category. (World Nuclear Association) This nuclear boom is likely to continue into tomorrow as France smartly

cultivated a host of technical expertise in nuclear industry, an area in which many countries have more or less neglected for the past 20 years.

Alongside France's segue to the atomic age, it made an equally important policy choice. Shortly after the embargo imposed by the Organization of Petroleum Exporting Countries (OPEC)¹, in the fall of 1973, France chose to increase the tax on petroleum products in an effort to lessen its dependence on foreign oil. At this time, a little under half of the amount French consumers paid for petroleum went to the government; however, the tax hike greatly increased this percentage. (Bergin, 619) Although the United States also faced a number of difficulties as a result of the embargo, it did not choose to take a similar path. Blessed with a wealth of energy resources, the United States opted to promote conservation efforts instead. As many domestic producers would be harmed by seriously diminishing the country's appetite for oil, American policymakers chose not to pursue an energy overhaul similar to the one France was undergoing.

However, even though such a change in policy would not have benefited the United States yesterday does not mean it could not today. As the price of liquid fuel remains volatile, the production of oil continues to decrease and a greater incorporation of alternative energy of grows more and more appealing, many politicians have considered raising the tax on petroleum. This analysis will examine the tariff structures for petroleum products in France and the United States to determine whether the United States would benefit from the adoption of a similar structure. Taking into consideration France's small country status and the large country status of the United States, this paper will argue that contrary to popular belief among economists, the application of

¹ OPEC countries include: Algeria, Angola, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela.

tariffs can promote industrial growth over the long term as it forces a development of new industries and techniques.

SECTION 1: APPLICATION OF TARIFFS

Economic theories traditionally seek to dissuade policymakers from applying tariffs. In addition to distorting the natural flow of trade from country to country, these theories also argue that tariffs harm domestic consumers and foreign producers. This logic is often lost on policymakers who usually seek to apply tariffs to protect domestic industries and create greater revenue for the country. And, depending on the size of the country, the latter argument may outweigh the relevance of the former. This section will examine what occurs in the marketplace at the international level and within countries when tariffs are applied application of tariffs. As the size of the country can greatly change the affect of the tariff in the marketplace, the paper will give special consideration to differences the differences that exist between large countries and small countries. And, in order to understand how taxes affect various populations different tax schemes will examined.

The Basics

Tariffs can be imposed when goods are exported or imported. Export tariffs are imposed on goods as they exit a country, so that the sale price of the good is higher abroad than it is at home. Although export taxes are often applied to keep goods inside a country's borders, they can also be applied to generate greater revenue for the government. This is often the case in countries that depend on the production and sale of a single or small number of goods to finance a large portion of government expenditures. Many oil-exporting countries, such as Saudi Arabia, who

are rely heavily on oil sales fall into this category. As a result of export taxes on oil, the price of this is sold for higher prices on the international market than inside the producing country. A country may also decide to tax foreign goods upon entry. Such a tax is known as an import tax. This tariff is more familiar to American citizens, as export tariffs are illegal in the United States, as per article 1 section 9 of its Constitution. (National Archives and Records Administration)

The price structure of a tariff may also be flexible or specific. An ad valorem tariff increases the price of a good by the percentage identified by the taxing government, or $t\%$, making the amount collected dependent on the value of the item being taxed. The percentages applied vary greatly and governments may choose to apply dissimilar rates on different items depending on the rationale behind the application of the tariff. If the purpose of the tariff is to generate greater revenue, low tariffs may be applied to items that collect higher revenues when consumed in higher quantities or higher tariffs on items that generate more revenue when consumed at lower levels. In contrast to the mercurial nature of ad valorem tariffs, specific tariffs denote a certain amount of tax to an item or number of items imported. It is important to recognize that amount of tax imposed by a specific tariff also varies across all items and, like ad valorem taxes; they are often applied to achieve a certain objective. This tariff structure is preferable to use on items whose value is not easy to identify given wide price fluctuations in the market. (Krugman, 176)

While tariffs can appear in various forms, the effects they produce are relatively uniform. Regardless of which tariff is applied, they all increase the cost of the good and reduce the consumer surplus of the populace. Consumer surplus is the level of satisfaction of the purchasing population when they are able to pay a less for a good than the maximum amount

they would be willing to pay. In addition to a price increase, there is also often a decrease in the quantity and diversity of items available to purchase. Foreign producers respond to the decrease in demand by importing a smaller number of good and, occasionally, the supply of some items is lost completely. (Kulkarni, "US Steel," 295)

The losses from consumer surplus, as a result of the tariff, are often found in a corresponding increase in domestic producer surplus, albeit different amounts. Conceptually similar to the consumer surplus, producer surplus is defined as the producers' satisfaction for selling a good or service at a price that is higher than the lowest price they would have been willing to accept. Domestic producers gain as they are able to sell their good at the new price, which includes the taxes applied to the normal cost of imported products. In addition to the increase in price, domestic producers now receive a greater share of the market and are able to sell a higher quantity of goods at a greater price. (Kulkarni, "US Steel," 295)

While one might expect that all producers gain from an increase in the price of a good, it is only partially true. While the welfare of the domestic producer certainly improves after the application of a tariff, quite the opposite is true for the foreign producer. The size of the market that foreign producers sell their goods decreases in tandem to the drop in consumer demand for the good they sell. If foreign producers do not recognize the drop in consumer demand, a glut may be produced as producers continue to produce at the level they did before the application of the tax. As there is less demand for the good, after the application of a tariff, producers who remain at the same level of production create an oversupply of the good in the marketplace. When this occurs, it can greatly harm the foreign producer. After the application of the tariff,

foreign producers experience a loss as they are not able to sell the same quantity of their good, but a glut exacerbates the problem as it reduces the price they can sell the good. (Krugman, 186)

Like the domestic producer, the government who applies the tariff also benefits from the application of a tariff. Monies collected from the tariff, equal to the revenue received for each unit of the imported good, increase the state's ability to fund various services and projects.

(Kulkarni, "US Steel," 295) In some states, this revenue accounts for a large portion of the funds available for government to spend for the budgetary year. However, this is not true for all.

Large sums are not always collected nor are they always meant to be used to fund federal projects.

As one might expect, the weight of the results described above vary from country to country, as each state has a unique blend of capital, labor, technology and other resources. Further, the government often experiences the effects from taxation well before the other sectors. Revenue is collected in real time and even if it is not spent as quickly as it is collected, governments do see the available amount increase. In contrast, there is a lag in the time in which consumers and both sets of producers witness the full impact of the tariff. The result is initially felt minimally by the exporting country, as consumers have not yet adjusted their purchasing habits in response to the higher price of the good and producers have not yet scaled back or begun to produce more.

(Hufbauer, 30)

Country Size

The size of the country in the international market greatly contributes to how the aforementioned groups are affected by the application of a tariff. It is important to draw this distinction the

application of a tariff by a large country can be much more damaging to foreign producers. To determine whether a country is a small or large country, one must assess the relative size of a country in the international market. Small countries usually consume less of a commodity than other countries and changes in their consumption do not affect the price of the good at the international level. In contrast, large countries, such as the United States, comprise a sizable share of the market and can influence the price of a commodity. It is important to recognize that not all countries are large countries in all markets, nor are they small countries in all markets, as each country has different preferences and different exchange rates for items.

When a small country applies a tariff an area, known as 'dead weight loss,' is created. This area represents the loss of consumer surplus that is not compensated by gains in government revenue or producer surplus. This phenomenon occurs primarily in small countries, as they are able to push this loss onto foreign producers. Therefore, when small countries apply a tariff, they can often face large losses themselves. Large countries control a higher percentage of the market, and are often able to push losses onto foreign producers, so the application of taxes does not usually negatively impact domestic markets. Their ability to push the tax burden onto others is often used as justification for the application of a tax. (Kulkarni, "US Steel," 295-296)

Foreign producers face far different fates after the application of a tariff by a large country for another important reason. Small countries have much smaller share of the international market of a good, so when there is a decrease in demand for that good, it rarely affects the circumstances of foreign producers as they can easily find other buyers in the market to purchase their goods. When a large country applies a tariff, the affect is much different due to the size of their presence in the market. Large countries have more of an influence over the price and quantity sold, so

when there are great changes in either area, the results can be devastating as greater quantities are in question. (Krugman, 180) Given the possibility of the aforementioned effects, the application of tariffs by large countries, it is often referred to as the ‘beggar-thy-neighbor’ policy as the states who apply the tariff benefit by way of the loss of others. (Krugman, 214)

SECTION II: THE EFFECT OF HIGHER TARIFFS

While the classical rationale for the application of tariffs is economic – to produce gains in one country or seek to bankrupt another – some political economists concede that not only are tariffs applied for non-economic reasons, but that there is logic behind such actions. The underlying rationale for the majority of such actions is political and often in the name of national security. (Husted 207) Another equally influential argument for taxation outside the economic realm is to seek to produce a change consumer behavior. Often times the desired change in behavior is to curb the consumption of a particular good.

When noneconomic motivation prompts a state to apply a tax or raise the current rate of taxation, it is often for both reasons. This was certainly the case for France when it chose to dramatically increase the tariff on petroleum products, following the oil crisis in the early 1970’s. Although it is true that the underlying rationale for this change was economic, the change it sought to produce was political and behavior based. The government did not seek to apply the tax because it believed French oil companies would benefit as a result, nor did it seek to retaliate against the OPEC states the caused it financial strain. It did so to discourage the consumption of petroleum, which it believed would lead gain greater energy independence through a push to incorporate other energy inputs in the state’s energy matrix. (Yergin, 637)

This bold step, made in the mid-1970's, led France on the path to meeting her goals of a decreased "consumption and promotion of efficient use of energy and development of alternative uses over time." (Gupta, 105) To determine whether the United States would benefit from adopting a similar tariff structure the following sections will examine the French oil tax in further detail and the impact it had on oil producing countries.

A Higher Petroleum Tax in France

Occasionally, a country uses a combination of the aforementioned tax structures to achieve a certain political objective, as is the case in France. Once petroleum products enter France's borders, a specific import tariff is placed on them. Barring any changes in the legislation that determines tax rates, in 2009, each 1,000 litres of leaded petroleum will be subject to a standard excise tax of €639.60. It should be noted that tax on petroleum products is not uniform and varies depending on the characteristics of the petroleum product. For example, unleaded petroleum will be taxed at a slightly lower rate of €606.90/1,000 litres. After specific taxes are applied, petroleum is subject to a sales tax, or VAT, of 19.6% at the time of sale. The aforementioned rates are subject to changes made by the central government in France and there is often a range in each tax bracket. For example, in 2008, the specific tax rate ranged from €589.20 to €606.90. These differences exist to provide greater consideration to economically vulnerable regions, promote development in others and provide flexibility for the French Parliament to make changes in the rates, as deemed necessary. (European Commission, "Excise Duty Tables")

Today, taxes comprise over two-thirds of the price of petroleum in France. In the first half of 2007, consumers paid €1.17 for one litre of gasoline; however, only €0.37 of the amount charged

was due to the cost of the fuel itself. The large difference in two prices is due to the hefty domestic tax on the consumption of petroleum products, or the TIPP. Although it may not seem, at first glance, that such this tax scheme could provide any benefits to the individual consumer, it is most certainly the case. (Eurostat, "Compendium")

One benefit of such a tax structure is that it allows room for change in order to insulate the individual consumer, to some degree, from price shocks that occur on the international market. As the tax is by applied the central government in two stages, it can easily adjust either level to ensure the changes it makes produce the desired effect. (Dunn) Further, the tariff on petroleum is a fixed amount of Euros per 1,000 litres, instead of a percentage of the current value of the product, with only 30 percent of the price of petroleum is tied to changes in the market.

Therefore, when great changes occur on the international oil market, the French government can and does intervene to mitigate the shocks felt at the individual level. Such actions are important for the overall health of the country as problems related to fluctuations in oil prices can be isolated, rather than pass on the burden to other sectors of the economy. As seen in the United States, large increases in the price of oil can lead to a drop in consumer purchases and such is problematic as it often then 'infects' other sectors of the economy. So, while the French ultimately pay more over the long term for gasoline, they will not face the hardships other countries with lower import tariffs face when oil prices skyrocket.

It is important to recognize that any decision that is made to lessen the burden on individual taxpayers come at the expense of funding central government programs. Taxes on production and imports comprise a sizable portion of France's GDP, 15.3 percent in 2007, so any reduction in this source of funding is certainly felt in other areas. (Organisation for Economic Co-

operation and Development, “National Accounts of OECD Countries”) This is especially the case with the petroleum tax, which has proved to be more profitable than any other good, including but not exclusive to sales of alcohol, guns and tobacco. Further, as tax revenue in France is used to fund a number of social welfare programs, it should be recognized that if there were losses in these areas, due to the loss of tax revenue, it would be difficult to quantify the true losses.

While it might be tempting to apply the classical small country model to France, doing so would be a mistake. As the state has virtually no energy resources located within it, it would be foolish to seek to greatly increase domestic production of its limited supply of oil. Therefore, the low production of oil in France, a mere 1.5 tons produced a year, is due to the lack of supply not limited demand. And, considering that two major aims of France’s energy policy is to seek to curb the country’s appetite for oil and diversify the country’s energy inputs, to examine the benefits enjoyed by the domestic oil industry would ignore the major premise of the country’s program. (Government of France)

A better indicator in determining the success of France’s initiative is whether it achieved its goal of greater energy independence and a diversification of resources. The answer to this question is yes. Not only has France greatly reduced its reliance on foreign oil as an input for electricity generation, but it has also developed an increasingly profitable nuclear industry. Further, the decreased dependence on foreign oil has in a way helped fuel the development of France’s nuclear industry. The revenue generated from the petroleum tax is collected by the central government in France who can use the monies at its discretion. (Dunn) And, unlike the American nuclear industry, France’s power is derived from government funding.

The American Approach to the Petroleum Tax

The American approach to the oil tax is far different from the French. Today's oil industry was borne out of the American experience, beginning with Col. Edwin L. Drake early endeavors, and in the years since, the oil industry remained a powerful presence in the United States. (Yergin, 6) So, even though the United States faced difficulties as a result of the 1973 Oil Embargo, it had only just hit peak production and with a wealth of the resources remaining within its borders the United States was reluctant to follow a path similar to the one taken by Western Europe. Further, American policymakers were reluctant to deepen the recession sparked by the Oil Embargo. Raising the tariff on petroleum would likely lead to greater inflation, as producers would likely pass on the increased costs of production onto the consumer, and reduces the amount of discretionary income available to consumers that was desperately needed to restart the economy.

So, in contrast to the large changes undertaken across the Atlantic, the United States chose not to change the price of tax on petroleum. Even today, the tax on petroleum remains largely unchanged and the price of petroleum is still just as volatile. To illustrate this point, one needs only to look at the wild price swings that occurred in a recent two-year period. In August 2006, individual consumers paid \$2.90 for a gallon of gasoline. When the price of oil peaked at \$4.10/gallon in the summer of 2008, consumers were paying \$1.20/gallon more than they had just over two years before. The price of petroleum then took a nosedive in December 2008 to \$1.60/gallon. (Energy Information Agency, U.S Retail Gasoline prices) Although these wide fluctuations may appear shocking, when compared to the price stability in Europe, such changes are to be expected in a system with low taxes.

Similar to France, a specific tax on petroleum is applied by the federal government. The amount of this tax ranges between 18.3 cents/gallon and 24.3 cents/gallon depending on the type of fuel. However, while the central government in France is the only body that can apply tariffs on petroleum, the United States allows individual states to apply additional tariffs, if they should choose to do so. Most states do apply another tax and this amount can be as little as 10 cents/gallon or as high as 40 cents/gallon. (Energy Information Agency, "Taxes") Before petroleum is sold to individual consumers, at which point a sales tax may be applied, marketing costs and refining costs are added to the fuel price. So, in the United States, a little over half of the price individual consumers pay is for the cost of the petroleum. Although this sum may seem small, it is important to keep in mind that the sum of additional costs is far less in the United States than in France where the portion paid for petroleum itself is a mere 30 percent.

Although American consumers benefit in the short-run as they pay much lower prices for gasoline, they are much more vulnerable to changes in the market. This relative insecurity is partly due to the much smaller tax buffer. Even if the American government intervened, as France occasionally does, when there are large changes in the market, they have a much smaller space to work with and changes made in the U.S. would likely not have the same impact as they would in France. Further, as the central government in France is the only entity that is able to tax petroleum, it is far easier to reduce taxes, when needed. As both the federal government in the United States and a large number of states have that privilege.

But, what if the United States did decide to increase the specific tax on petroleum at either or both the national and state level? Although one might expect that there would be a change in behavior due to the loss of discretionary income, it is not likely that practice would mirror

theory. As explained by Carol A. Dahl, in an analysis that measures the strength the cost of gasoline and income on consumers' demand for gasoline, the demand for petroleum is relatively inelastic. In her study on consumer responses to the application of gas taxes in various countries, she discovered an average slope of -0.442 in the short run and a slightly steeper -0.448 in the long run. (428) Dahl's findings are not surprising considering how dependent many consumers are of the use of petroleum for many parts of their everyday life, particularly in the Western world. Further, the full impact of higher prices, whether they are due to a producer's increase in prices or the application of tariff, is rarely seen in the short term. As stated above, true effects are normally easier to determine after more time has passed, as consumer demand is normally more elastic in the long-term, due to the adoption of new consumer behavior. This is even true for goods whose demand is traditionally more inelastic such as petroleum. In his own study on the subject, Roberto A. DeSantis confirmed that Dahl's findings regarding price elasticity still hold true. More specifically, he determined that price elasticity demand for petroleum is more inelastic for countries within the Organisation for Economic Co-operation and Development² than countries outside it. (156)

The argument that demand for gasoline would not change greatly after an dramatic tax increase may come as a surprise to any who have recently seen adjustments in the behavior of oil consumers; including, but not exclusive to efforts to drive less, carpooling, use of public transportation and lower heat temperatures in residences; this should not be a surprise. However, current levels of consumption, high costs for changes in infrastructure, and the relative absence

² OECD countries include: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States.

of alternatives, in relation to transportation, greatly affect the ability of the American public to break itself off its oil addiction. So, when taking into account the aforementioned considerations, it should be no surprise that the American demand for is relatively inelastic and only after a tremendous increase in price would there be a widespread changes in the purchasing habits of consumers.

But, even if that the demand for gasoline did not change greatly in the near term, there would certainly be a great loss of consumer surplus. In the longer term, this shock from the loss of consumer surplus would not be as large as consumers would have time to adjust their spending habits. Further, as more time passed since the change in price, the new baseline price for country petroleum would be higher, taking into consideration the expectations of new consumers entering the marketplace. These new consumers would never been able to purchase petroleum at the lower price, the price of petroleum before the application of a higher tax, so *their* baseline price would be the price after the higher tax. Thus, the greater average baseline price would be higher.

It is not likely that the event described above would occur. Such a decision would initially harm consumers and the entity that would need to authorize an increase the tax on petroleum products involve does not really have an incentive to spend the enormous amount of political and economic risk that would be required. Further, as the revenue generated from the collection of the oil tax are used solely to maintain the nations' roads and bridges, lawmakers do not have the same incentive to increase tax as countries who could use additional revenue for a wider range of products.

Changes in oil exporting countries

Although oil-producing states lost the French market in the 1980's, the actual impact of this loss was relatively small. This may come as a surprise, considering that France depended largely on petroleum to fuel its development in the post-war years, however, France was only one of the many countries whose daily demand for oil was increasing at a time when demand was beginning to outstrip supply. The time in which France chose to greatly reduce its petroleum consumption greatly affected the impact it had on oil producers. If the United States' demand plummeted today, oil-producing states would face incomparable losses.

Although the number of states who rely on oil for daily operations has grown exponentially, the United States still comprises one quarter of the oil market. In addition to a dramatic reduction in the size of the market, the oil market would lose its current stability. The United States is a steady buyer of oil, meaning that regardless of its economic state the United States will continue to purchase roughly the same amount of petroleum. Without this stability, the oil market and the financial health of the countries that rely on its sales would be subject to greater fluctuations.

Shocks in international markets can also cause great damage to producers and this is especially in the case for countries within OPEC. Many of the countries within the oil cartel rely almost solely on oil export revenues to finance the daily operation of the country's government. So, a great unexpected change could greatly damage the country's GDP and drastically reduce the amount of services they are able to provide to their citizens. (De Santis, 160, 168) Both of the aforementioned situations would create dangerous political instability that could threaten their rule.

The United States itself could also be threatened if the tax increase is interpreted as an attempt to extract gains at the loss of oil exporting nations. Such a situation occurred when the Smoot-Hawley Tariff was signed into law by American lawmakers in 1930. This tariff resulted was the most expansive and highest tariffs in American history, applying ad valorem taxes on more than 12,000 items of up to and over 50%. Although this law sought to protect domestic producers, it also sparked retaliation by states such as Switzerland who applied that were equally as high and promoted a boycott of American exports. (Husted, 166) Some economists, such as Gary Clyde Hufbauer argue that the extreme loss of consumer surplus, at a time where many consumers were already less willing to spend, was one factor that contributed to the length of the Great Depression. (1)

Considering that the full impact of the shock would not be felt in the near term, it is possible these countries could seek to mitigate the impact the tariff increase would have through economic retaliation. In addition to potential increases in the price of oil, oil-exporting countries could seek to gain additional revenue through the application of higher taxes severance taxes on oil. Such an action could potentially spur retaliation by nations outside the oil cartel, as they would be forced to pay higher prices due to the increased price of oil, as a result of a higher export tax.

Summary and Conclusion

As illustrated above, although taxes force costly adjustments in certain populations, they can also lead to great gains, as evidenced by the French example. But, it is important to recognize that successes in one country are often not mirrored in another. So, should the United States choose to follow the French model of higher taxation on petroleum, as often suggested by aspiring politicians and pundits, it should consider the full ramifications of such an action.

In addition to negative effects that would arise for domestic consumers and foreign producers, described above, another consequence would certainly surface if the United States increased its tariffs on petroleum. To determine the true costs of a tariff it is important to first identify whether the item taxed is used as an input in the production of many products, such as petroleum, or is the final product of a number of inputs. Taxes on inputs are far more harmful to consumers and the domestic economy as the higher cost is passed on to other parts of the manufacturing process, and later the consumer. Petroleum is an input for most items, if only to power machines that are used in the production, so a high tax on petroleum products increases the final cost of an item as many manufacturers prefer to push the cost onto the consumer. Producers chose to do so rather than absorb the increased cost of gasoline, as it would reduce their profit margin. Further, it is likely that as producers choose to push the costs onto consumers, the effect from the increase in costs would also move down the production line as well, potentially bankrupting certain business. (Hufbauer, 24)

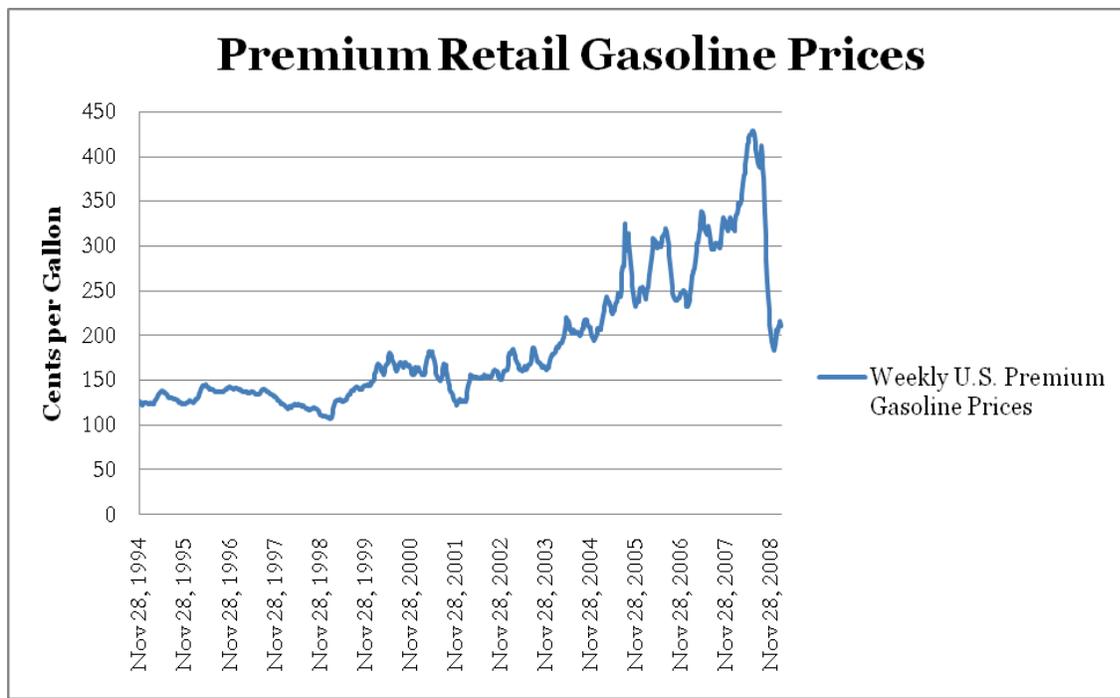
Also, given the current economic climate, the United States cannot afford to create further discord, as it is highly dependent on the good will of other nations to help it regain its economic strength. Even if there is no economic retaliation in the direct sense, there is always the risk of

country's refusal to purchase government bonds, which have so far helped the United States wad through the financial meltdown. If the United States was unable to attract buyers, many of which could be oil-exporting states, it would produce devastating long-term consequences.

In sum, the application of one country's strategy in another is risky, even in the best circumstances, as each state has a unique combination of resources. So, should the United States choose to pursue such a policy objective, it should do so with the knowledge that France is qualitatively different and its success will not necessarily be mirrored in the United States.

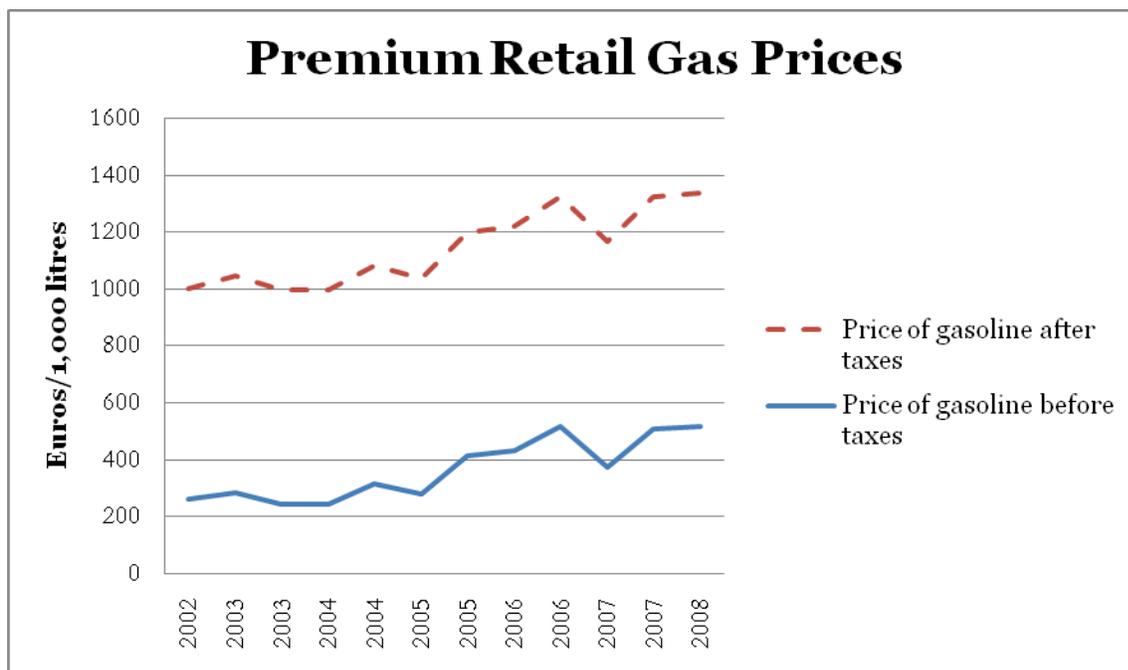
Appendix

Chart 1 – Gas Prices in the United States



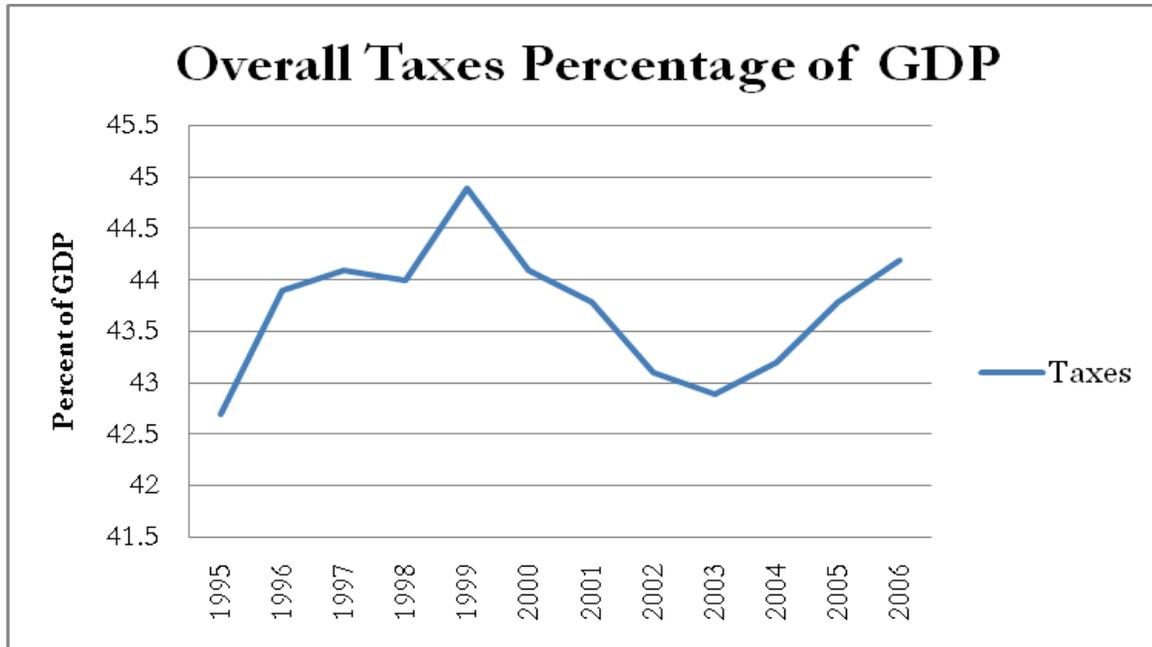
Source: Energy Information Agency. Chart created from information available at http://www.eia.doe.gov/oil_gas/petroleum/data_publications/wrgp/mogas_history.html.

Chart 2 – Gas Prices in France



Source: Eurostat, European Commission. Chart created from information available at http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,39140985&_dad=portal&_schema=PORTAL&screen=detailref&language=en&product=REF_TB_energy&root=REF_TB_energy/t_nrg/t_nrg_price/ten00102.

Chart 3 – Ratio of Overall Tax to GDP in France



Source: European Commission, Taxes and Customs Union, Chart created from information available at http://ec.europa.eu/taxation_customs/taxation/gen_info/economic_analysis/tax_structures/index_en.htm.

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