

Author Information, Abstract, Keywords

Authors:

Kurt Stanberry, MBA, JD. Professor Stanberry holds the Petroleum Land Management Endowed Professorship in the Marilyn Davies College of Business at the University of Houston-Downtown.

Forest Aven, PhD. Professor Aven is the Dean of the HEB School of Business at the University of the Incarnate Word in San Antonio.

Abstract:

This paper focuses on important policy issues related to oil and gas exports, and evaluates the potential effect of recent policy changes in federal law. The changes have the potential to help reverse the U.S. balance of trade deficit at the heart of the current debate on global trade. As a corollary, increased energy exports would also benefit state and local economies in energy producing and exporting states such as Texas and Louisiana.

Keywords:

Energy, oil and gas, imports/exports, trade policy

Exports of U.S. Oil and Natural Gas are Rapidly Increasing

Introduction

One of the most hotly debated political topics of 2018 centers around global trade wars, and the U.S. is in the middle of the controversy. Tariffs and threats of retaliation have dominated the headlines, and the uncertainty surrounding the global economic outlook has taken the world's stock markets on a rollercoaster ride. Dueling comments by leading politicians such as U.S. President Donald Trump, Canadian Prime Minister Justin Trudeau, and German Prime Minister Angela Merkel can make the daily life of an oil trader a nightmare. While some leaders such as Trudeau and Merkel continue to support global free trade, others like Trump are retreating to positions that are more nationalist.

This paper focuses on important policy issues related to oil and gas exports, and evaluates the potential effect of recent policy changes. Oil and gas exports have the potential to help reverse the U.S. balance of trade deficit. As a corollary, increased energy exports would also benefit state and local economies in energy producing and exporting states such as Texas and Louisiana.

Problem Statement: The U.S. Trade Deficit

The US trade deficit for 2016 was approximately \$500 billion, according to the US Dept. of Commerce (DiSavino, 2017). However, oil, gas, and petrochemical exports from the US may end up being an important part of the solution to the US trade deficit problem; a preferable alternative to raising tariff barriers. Tariffs are not, in the opinion of most economists, a long-

term solution to the U.S. trade problem, and are likely to lead to negative consequences for the entire global economy.

The US oil and gas industry has been on a trade rollercoaster over the past forty years, ranging from protectionism to free trade, and points in between. However, due in part to changes in both law and policy, as well as technological developments in exploration and production, the future looks promising for US exports of energy.

Experts forecast that within four years, by 2022 at the latest, the US will become a net exporter of oil, (Slav, 2018). The economic impact of the rapidly expanding U.S. energy output is very significant. It will cut the nation's oil imports by twenty percent over the next decade (Slav, 2018). When coupled with the political impact of governmental decisions allowing large-scale energy exports, the combination of these two developments could very well lead to a dramatic decrease in the trade deficit.

Review of Trade Data and Related Trade Policy

Over forty years ago, US President Gerald Ford, on Dec. 22, 1975, signed into law the Energy Policy and Conservation Act (EPCA), a ban on most U.S. oil exports passed by the 94th Congress, (42 USC 6201). Congress passed EPCA in response to the 1973 Arab oil embargo, which shook the US, as oil prices skyrocketed and gasoline shortages produced long lines at gas stations. Americans were worried about the future. The goal of the EPCA was to insulate the U.S. from volatile and sometimes unpredictable global trade policies by enacting a nationalist policy aimed at preventing exports of US oil.

However, even with the export ban, the US was a net importer of oil, a major contributor the annual trade deficit of the US. According to the Energy Information Administration (EIA),

thirty years ago the OPEC countries supplied over half (54%) of US crude oil imports. Saudi Arabia supplied almost one-fifth of the total (Egan, 2018). However, fast forward from 1990 to 2005, and Canada's share of those imports reached 40%, while OPEC's share fell to 33%, Saudi Arabia, with less than 10%, lags far behind Canada, (Egan, 2018).

There have been statements made by the current administration critical of NAFTA, in part because the U.S. had a \$17 billion trade deficit in goods with Canada in 2017, according to the Office of the U.S. Trade Representative (OTR). However, as trade experts point out, that is only the manufacturing side of the trade equation; when services are included in the trade numbers, the picture changes dramatically. According to the OTR, the total US goods and services trade balance with Canada was a net surplus of \$8.4 billion in 2017. In reality, the US would run a very large surplus with Canada were it not for oil imports. In an article in a recent issue of Forbes entitled “Blame Oil for Our Trade Deficit with Canada”, (Rapier, 2018), an oil policy expert points out that the value of oil imports from Canada in 2017 was approximately \$65 billion. That translates into the overwhelming majority of imports from Canada, and means that without oil imports; the US would have a \$70 billion trade surplus with Canada.

Addressing the Problem: Changing Energy Export Policies

On December 18, 2015, the US Congress voted to end the 40-year-old oil export ban as part of the omnibus budget bill. The Senate voted 65-33 to approve lifting the ban, the House voted 316-113 to approve it, and President Obama signed it into law (Ham, 2015). Congress lifted the ban for two reasons. One reason was a concession to US-based multinational oil companies who lobbied for it. More importantly, the second reason was the ability of the US to reduce its trade deficit by taking advantage rapidly increasing production of large quantities of oil, thanks mostly to technological developments such as fracking, which allows production of

oil that was hard to get out of the ground (tight oil). The US is now awash in oil and gas reserves, taking over the number one spot in the world, ahead of Russia and Saudi Arabia (Mathews, 2016). US natural gas reserves are over 350 trillion cubic feet, and oil is more plentiful as well, with reserves exceeding 35 billion barrels. It did not take long for the market to react to the new trading policy. Only a few weeks after Congress lifted the ban on exporting oil, the first shipments of oil left U.S. ports, headed for ports in Europe. On Dec. 31, 2015 ConocoPhillips announced what they said was the first exports of U.S.-produced crude oil since the ban was lifted, (Ham, 2015). Conoco exported oil produced in the west Texas field known as the Eagle Ford shale. The first free-trade shipments of U.S. crude in four decades were a symbol of the new role of the US as a leading producer of oil.

The Solution Part A: Increased Oil Exports

Oil companies are initiating actions to take advantage of the new trade policy for exports; however, it will take time to reach full potential after a forty-year hiatus. For example, there have been logistical challenges in preparing to maximize exports. The Texas Gulf Coast has the leading ports for US oil exports that are due to reach record levels shipped to foreign markets such as Europe. (See Appendix A). Not only will exports to Europe increase, but China and India are also buying more US oil as their economies expand, coupled with middle class growth.

Most oil exports go out of ports such as Houston and Corpus Christi (Eaton, 2018). However, some Gulf ports including Corpus Christi do not currently have all the equipment in place needed to load the giant supertankers that other countries typically use to ship oil long distances, according to market analysts at ClipperData, (Egan, 2018). Smaller ships can be used to carry oil to Latin America and Europe, but are not a best fit for distant locations in areas such as Asia. The United States is, according to the US Dept. of Energy, routinely exporting more

than 1 million barrels of oil each day, with some days reaching closer to 2 million barrels of oil. In addition, more than 6 million barrels of petroleum products are exported each day, with two-thirds of those petroleum exports leaving Gulf Coast ports. Houston is the world's energy gateway, and increasingly the flow of oil and refined products consists of exports rather than imports. Of course, with the importance of the free flow of oil comes infrastructure challenges. For example, in the aftermath of Hurricane Harvey in 2017, which caused wide scale flooding and forced the shutdown of refineries in the greater Houston area, as well as the Port of Houston, the IEA called for renewed investment in infrastructure, and deemed the Texas Gulf Coast too important to fail, (Lejeune, 2018).

According to energy industry analysts, regardless of what the OPEC nations have tried to offset the growing American share of the global oil market, increasingly efficiently U.S. oil and gas producers are very likely to keep expanding their share of the total global market. Costs of production for relatively new fracking operations have gone down, meaning that exploration and production companies (E&P) can make money when oil is at \$50-\$60/barrel, rather than needing prices to be at an unsustainable level of \$100/barrel (Blum, 2018).

As an example, Continental Resources, an Oklahoma exploration and production company, said that it is putting more than 1 million barrels of Bakken shale oil from North Dakota, one of the biggest plays in the US, in the pipeline to Texas ports to export to China. However, the biggest play in the US is now the west Texas field known as the Permian Basin. The Permian field alone will eventually bypass all OPEC nations except Saudi Arabia. A grid of pipeline projects are underway to transport more oil from the Permian Basin to Houston and other hubs, for subsequently exportation. The volume of U.S. crude exports should rise to 3 million a day by 2025, according to projections by the research firm IHS Markit, and the

expansion of U.S. exports is a trend that will likely continue for years, especially to China and Europe. China is now the second biggest foreign market for U.S. oil. According to the US Dept. of Energy, China imports 163,000 barrels of American oil a day (Wagman, 2017).

The Solution Part B: Increased Liquefied Natural Gas Exports

The US is also poised to become one of the largest exporters of liquefied natural gas (LNG). The last time the United States was a net exporter of natural gas was 1957, but that is changing. (See Appendix B). In 2018, the US will become the world's third-largest exporter of natural gas (Clemente, 2018), with Louisiana leading the way from its Sabine Pass facility. Natural gas exports were prohibited by law for decades, as was the case with oil. However, Congress amended the law in 1992 to allow natural gas exports to countries that had a free trade agreement with the United States.

In reality, that list was rather small, so it was not worth the multi-billion dollar capital investment to build the large and very expensive facilities to load LNG onto large tankers used for exporting. So natural gas exports remained at minimal levels until the regulatory framework was changed in 2015 to allow expanded LNG exports to a broader range of trading partners, such as China and India.

LNG exports from the US more than quadrupled in 2017, a development of particular interest to the state of Louisiana (Clemente, 2018). Until 2018, the US only had one facility for exporting LNG, operated by Cheniere Energy and located in Louisiana. However, such facilities are set to expand. Dominion Energy recently shipped its first LNG export cargo from its terminal in Maryland. This becomes the second US-based LNG export facility. The export of LNG, as with oil, will help the US move towards balancing its trade deficit.

Additional oil and gas related products are also on the rise as exports. For example,

distillate fuel oil, essential in refining diesel and heating oil, rose almost 20% in 2017, compared to 2016, according to the US Dept. of Energy. Also rising are exports of propane, and there is a growing foreign market for other energy products such as ethane, a natural gas liquid. The world's largest ethane export terminal opened in 2016 in Houston.

Conclusion

The International Energy Agency, under the leadership of Fatih Birol who is the executive director, projects that the United States is poised to surpass Saudi Arabia and Russia as the world's oil production leader by the end of 2018, (Blum, 2018). US crude oil is expected to satisfy almost two-thirds of the projected growth in global oil demand through 2023, said Birol at the 2018 CERA annual energy conference held in Houston.

Kurt Barrow, an analyst at research firm IHS Markit, states, "Energy exports are particularly important to economic growth because they pump new money into regional, state and national economies", (Blum, 2018). The International Energy Agency projects that the US oil export capacity will more than double to 5 million barrels a day by 2023, as companies expand export terminals in the coming decade.

Another reality driving oil exports is the fact that domestic refineries can only handle a portion of the oil produced here because many of them were built to refine heavy crude (from Canada, Saudi Arabia, Venezuela, etc.). Therefore US oil companies must sell most of the new oil they produce to be refined overseas. Global oil consumption is projected to grow by more than 1 million barrels a day each year through 2023, according to the International Energy Agency, which monitors the world's oil markets. US companies will export 1.6 million barrels a day to Europe and 1.3 million barrels a day to Asia, mostly to China, (Zaretskaya, 2018). The

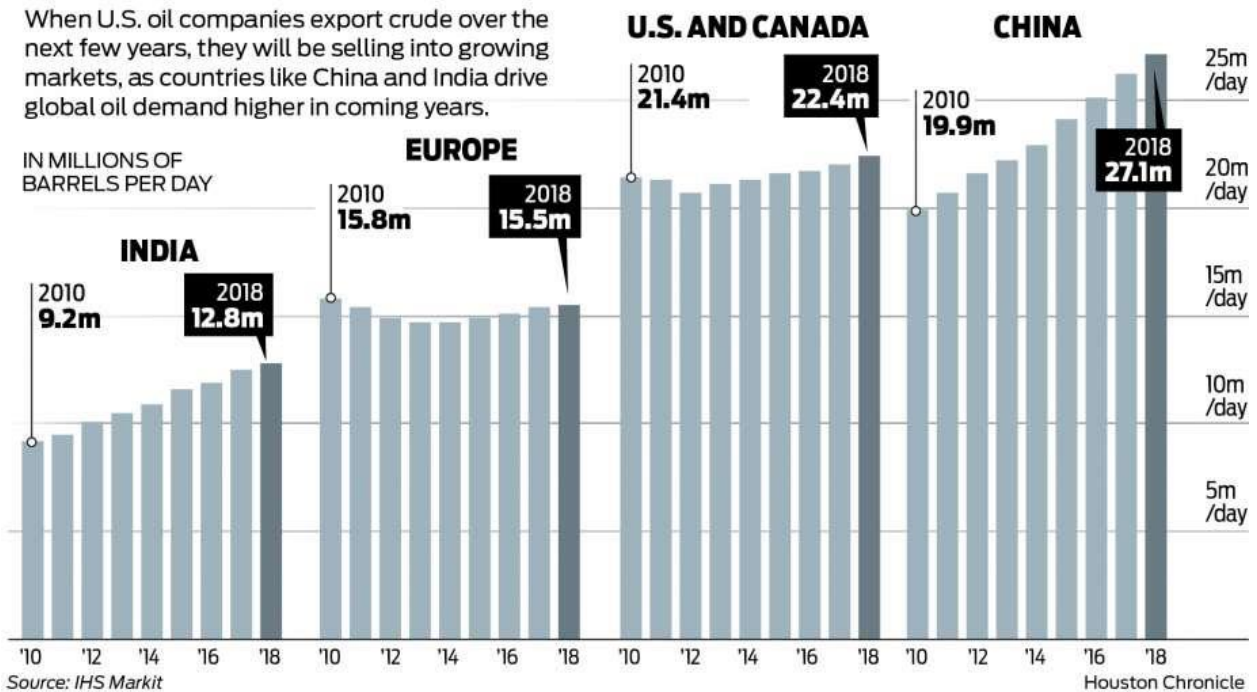
combined totals mean the US will ship approximately 4 million barrels a day of crude around the world, according to energy research and consulting firm Wood Mackenzie.

Ultimately, fossil fuel demand may retreat as concern for the environment leads to sustainability solutions including carbon taxes, the increased use of renewable energy sources, the advancement of electric vehicles, and more. However, for the next several decades, the US is likely to benefit from the large-scale export of oil and gas as a means to reduce its trade deficit.

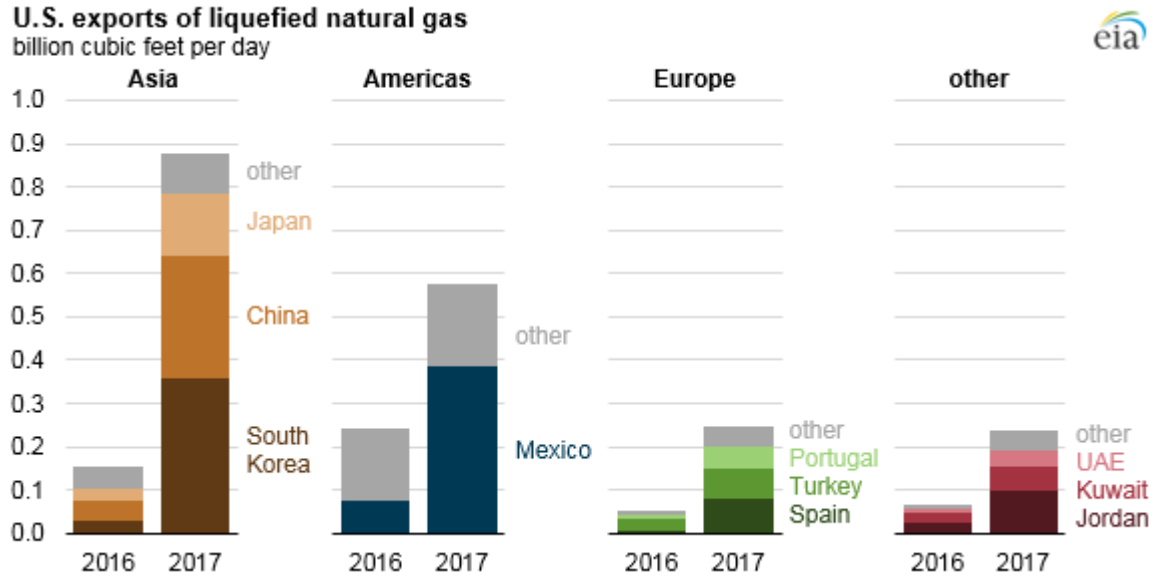
Appendix A: Increased Demand for Oil Exports (*Source: IHS Markit)

Sharpest increases in oil demand: India and China

When U.S. oil companies export crude over the next few years, they will be selling into growing markets, as countries like China and India drive global oil demand higher in coming years.



Appendix B: Increased Demand for Natural Gas Exports (*Source: US Energy Information Administration)



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