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Crude Oil Exports

History: The crude oil export ban was implemented in the aftermath of the devastating oil price spike that followed the 1973–74 OPEC oil embargo.

Rising Domestic Oil Production: Domestic light, tight oil (LTO) production has surged since 2007, and petroleum product exports have increased to their highest levels ever.

Transportation and Refining Capacity: Pipeline capacity and the use of rail shipments is increasing to transport this crude, and operational adjustments and new investments are being made by refiners to process it.

U.S. and Global Oil Market Context: Surging production has nevertheless created a crude oil glut and significant price variance between different crude varieties.

Debate: The need for the ban is being revisited given the current market context.

I. History

The U.S. crude oil export ban was enshrined in the Energy Policy and Conservation Act of 1975 (EPCA). This law also established the Strategic Petroleum Reserve and Corporate Average Fuel Economy standards. It was passed following a quadrupling of annual average crude prices from \$2.48 per barrel in 1972 to \$11.58 in 1974 due to the OPEC oil embargo and a direct ban by Arab states on oil exports to the United States.¹ The law was designed to ease the pain inflicted on American industry and consumers by ensuring that whatever oil supplies could be kept at home would be, particularly in the instance of another embargo. To this day, crude oil remains on the Commerce Control List as a commodity in “short supply.”²

The impact of the export ban is somewhat questionable, as the United States was not a significant crude exporter when it was first implemented. In fact, with the exception of a few short-term aberrations, the country had only made negligible exports of crude oil after the mid-1950s.³ Under EPCA, the post-ban era has in fact seen far higher export levels (made possible through exemptions) than the era that

¹ BP, plc., Statistical Review of World Energy (Statistical Review) 2013, Historical workbook

² U.S. Department of Commerce, Bureau of Industry and Security, Export Administration Regulation, Part 754

³ U.S. Department of Energy (DOE), Energy Information Administration (EIA), U.S. Exports of Crude Oil (monthly data)

preceded the ban. On an annualized basis, U.S. crude oil exports peaked at almost 290,000 barrels in 1980.⁴ If another goal was to decrease American dependence on the Arab oil producers who had caused the pain of the 1973–74 embargo, the export ban appears to have also had little immediate effect here, as Arab states in the Middle East and North Africa supplied approximately 40 percent of U.S. imports of crude oil and petroleum products throughout the second half of the 1970s despite supplying less than 20 percent in the year leading up to the embargo.⁵

II. Rising Domestic Oil Production

From 1968 to the signing of EPCA in 1975, the United States went from producing 82 percent of the oil it consumed to 64 percent.⁶ The country is on a very different trajectory today, with the share rising from 38 percent in 2007 to 64 percent in 2013.⁷ This current trajectory has been facilitated by high oil prices through the 2000s and improvements in drilling technology that have helped companies unlock massive light, tight oil (LTO) resources in North Dakota, Texas, and elsewhere.⁸ As a result, and after more than two decades of decline, U.S. crude oil production has surged, reaching 7.4 million barrels per day (mbd) in 2013 from just 5.0 mbd in 2008.⁹ The U.S. Department of Energy’s Energy Information Administration (EIA) currently forecasts production to reach 8.4 mbd in 2014 and 9.2 mbd in 2015.¹⁰ Alongside this rapid rise in domestic oil production, various economic, demographic, and policy factors have contributed to a stabilization in the long-term outlook for U.S. oil demand, with 2040 demand projected at 18.7 mbd compared to today’s 18.9 mbd.¹¹ Together, these supply and demand trends have reduced U.S. net liquid fuel imports by 50 percent from their 2005 high—a total decline of more than 6 mbd.¹² The shift has been so dramatic that in 2011 the United States became a net exporter of refined petroleum products for the first time since 1948.¹³ These exports increased to 1.4 mbd in 2013.¹⁴

III. Transportation and Refining Capacity

U.S. crude oil transportation capacity has effectively been overwhelmed by oil production growth, and despite an increase in pipeline capacity and the expanded use of rail to move oil around the continent—an estimated 1.4 mbd of crude oil and petroleum products were transported by rail in the first half of 2013, up from an average of 0.6 mbd in the 2006 to 2010 period¹⁵—it remains inadequate.¹⁶ This has resulted in downward pressure on the American crude oil benchmark, West Texas Intermediate (WTI), which has traded at a significant discount to the international Brent

⁴ Id.

⁵ SAFE analysis based on data from: U.S. DOE, EIA, U.S. Imports by Country of Origin

⁶ SAFE analysis based on data from: U.S. DOE, EIA, Monthly Energy Review (MER), Table 3.1

⁷ Id.

⁸ See, e.g., Securing America’s Future Energy (SAFE), “The New American Oil Boom,” May 2012

⁹ U.S. DOE, EIA, Short Term Energy Outlook (STEO), February 2014, Custom Table Builder

¹⁰ Id., Table 4a

¹¹ U.S. DOE, EIA, Annual Energy Outlook (AEO) 2014 Early Release Overview, Table A11; and Id., STEO, February 2014, Table 3a

¹² Id., Custom Table Builder

¹³ Id., MER, December 2013, Table 3.3b

¹⁴ Id., STEO, January 2014, Custom Table Builder

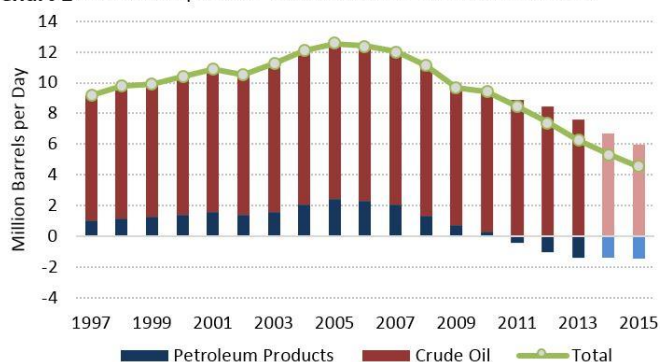
¹⁵ Id., Today in Energy, “Rail deliveries of U.S. oil and petroleum products continues to increase, but pace slows,” July 10, 2013

¹⁶ See, e.g., U.S. DOE, EIA, Presentation, John Powell, “Implications of Increasing U.S. Crude Oil Production,” 2013 EIA Energy Conference, June 18, 2013

benchmark, with the difference peaking at more than \$22 per barrel in 2012.¹⁷ The difference between Brent and Bakken crude prices peaked even higher, at \$35 per barrel in March 2012, and remains above \$22 per barrel as of December 2013 (Chart 2).¹⁸

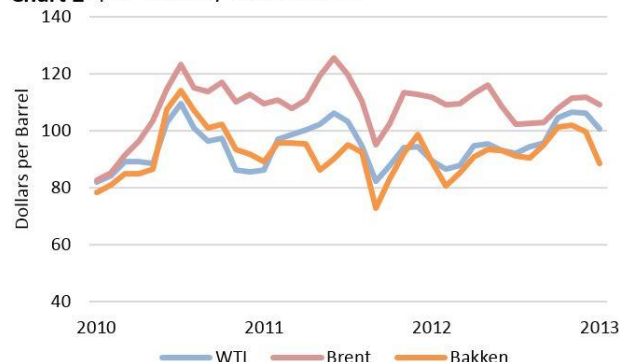
As domestic oil production of light, sweet crude grades has surged, U.S. refiners have attempted to maximize their capacity for refining these grades in order to take advantage of the cost discount they currently hold—in part by making investments in capacity expansions and equipment alterations. However, these investments follow earlier ones—made when rising imports of heavier crudes seemed inevitable—which focused on developing refining capacity that can remove high levels of sulfur and process the larger molecules present in heavier crude grades. As such, this capacity is today in some cases being underutilized or at least utilized in a manner that is far less efficient (and therefore less economical) than it could be. Making yet another shift to processing large quantities of light, sweet crude is therefore a generally unattractive proposition for many refiners. Nevertheless, surging oil production has still resulted in U.S. output of refined products rising to unprecedented levels (Chart 1).¹⁹ However, like the expansions in transportation capacity, refining capacity also remains stretched, and uncertainty regarding the regulatory landscape (*vis-à-vis* the prospect of the crude oil export ban being lifted and other factors) and the level of capital expenditure required render the construction of new refinery capacity unlikely.²⁰ In some cases, producers are seeking to skirt the ban by investing in capacity that will refine crude oil only just enough to avoid the restrictions. BP’s \$360 million investment in a Houston mini-refinery is a recent example.²¹

Chart 1 U.S. Net Imports of Crude Oil and Petroleum Products



Source: U.S. DOE, EIA, Short Term Energy Outlook, January 2014

Chart 2 Spot Prices by Crude Stream



Source: U.S. DOE, EIA, Bloomberg

IV. U.S. and Global Oil Market Context

Further decline in the sale price of U.S. light, sweet crude—either due to an even more substantial domestic glut or global dynamics—could make extracting it unprofitable and lead to decreased production over time.²² Allowing for export would likely bring the price of various U.S. light-sweet oil

¹⁷ SAFE analysis based on data from: U.S. DOE, EIA

¹⁸ SAFE analysis based on data from: U.S. DOE, EIA and Bloomberg

¹⁹ Id.

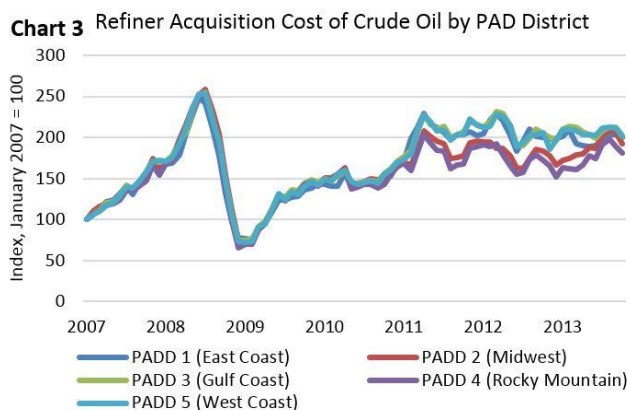
²⁰ See, e.g., Citi Research, Presentation, Edward L. Morse and Eric G. Lee, “Out of America: Aspects of the US crude export debate,” February 10, 2014

²¹ See, e.g., PennEnergy, “BP using mini crude oil refinery to evade export ban,” March 7, 2014

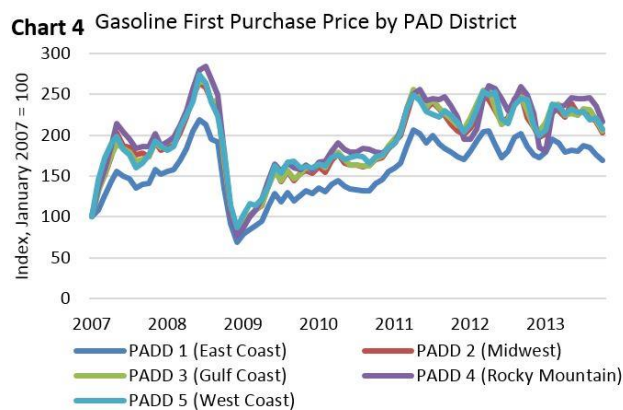
²² IEA, Monthly Oil Market Report, January 21, 2014

markers closer to global benchmarks like Brent and Saudi Light. Such a shift in policy could help decrease the domestic supply glut, ensure production remains incentivized, and support employment in the sector, among other benefits.

Although increasing refinery capacity and exporting still higher quantities of petroleum products is another option, existing demand for U.S. gasoline in Latin America and Europe—America’s two main export markets—may not grow with U.S. output.²³ Europe is on a trend of decreasing consumption and Latin America may experience local refinery growth. Furthermore, U.S. refineries are not considered competitive enough to supply Asia (where demand for petroleum products is rising) with diesel and gasoline.²⁴ Such factors complement those listed above, suggesting that growth in new refinery capacity dedicated to light sweet oil grades that matches the expected increases in domestic production remains unlikely.²⁵



Source: U.S. DOE, EIA



Source: U.S. DOE, EIA

Although enabling U.S. crude oil exports will likely raise the price of Bakken, WTI, and other American crude prices, it should, everything else equal, lower global crude prices (i.e. by facilitating some re-convergence between the prices of U.S. and global crude oils).²⁶ The impact on U.S. gasoline and other product prices paid by users, however, may be far less noticeable. For example, the divergence in regional refiner acquisition cost of crude oil during recent years is not strongly reflected in gasoline prices (Charts 2 and 3).²⁷ In fact, while the prices refiners in the Midwest and Rocky Mountain regions pay for crude oil has increased relatively less than other regions, these areas of the country have observed gasoline prices generally rise and fall with the rest of the country, and gasoline prices there have actually increased more than in the rest of the country since 2007 in percentage terms.²⁸ U.S. gasoline and crude prices do, however, still share the very similar volatility characteristics associated with global oil prices.

²³ See, e.g., U.S. DOE, EIA, Presentation, John Powell, “Implications of Increasing U.S. Crude Oil Production,” 2013 EIA Energy Conference, June 18, 2013

²⁴ Id.

²⁵ See, e.g., IHS Energy Insight, Presentation, Roger Diwan, “The Unbearable Lightness of US Crudes: When Will the Levee Break?” February 10, 2014

²⁶ See, e.g., Citi Research, Presentation, Edward L. Morse and Eric G. Lee, “Out of America: Aspects of the US crude export debate,” February 10, 2014

²⁷ SAFE analysis based on data from: U.S. DOE, EIA

²⁸ Id.

With respect to the effect of U.S. crude oil production (and exports) on prices, however, it would be imprudent to overestimate the potential downward pressure in a market where daily oil demand and supply is approximately 92 million barrels.²⁹ U.S. crude oil production must be considered in that context. Moreover, in the near term at least, the ability of OPEC countries, and particularly Saudi Arabia, to lower production in order to mitigate downward pressure on global oil prices—and thereby offset the effect of increases in production from the United States and other countries—is likely to endure. Perhaps more importantly, adhering to its historical pattern, OPEC members appear to view rising non-OPEC oil production as a signal to forestall investments in new capacity. Thus, beyond the near term, and towards the end of the current decade, a supply crunch could be looming due to underinvestment in Middle East oil production capacity.³⁰

V. Debate

The sharp increase in domestic oil production has prompted debate over whether the ban on crude exports should continue. Government figures including Energy Secretary Ernest Moniz have suggested a policy review, citing “an energy world that is no longer like the 1970s,”³¹ and legislators including Senator Lisa Murkowski (R-AK) have called for an end to the ban. Meanwhile, opponents like Senator Robert Menendez (D-NJ) and Senator Ed Markey (D-MA) have said the ban is necessary to reinforce national security and protect U.S. consumers against the volatility of the global oil market, while environmentalists are concerned allowing exports will raise fossil fuel production. Industry appears to be somewhat divided, with producers—particularly independents developing LTO—in favor of lifting the ban, while some refiners are in favor of maintaining it.³² Producers are seeking higher U.S. crude oil prices more closely aligned with those being paid in other parts of the world, while refiners hope to retain a discounted crude oil acquisition cost—a discounted cost that they have not passed on to consumers in the form of lower petroleum product prices (Charts 3 and 4). On January 30th, 2014, the Senate Energy and Natural Resources Committee held a full hearing to “explore opportunities and challenges associated with lifting the ban on U.S. crude oil exports” and received testimony from both those in favor of lifting and in favor of maintaining the ban.³³

²⁹ See, e.g., SAFE, Commission on Energy and Geopolitics, “Oil Security 2025: U.S. National Security Policy in an Era of Domestic Oil Abundance,” January 15, 2014

³⁰ See, e.g., Ajay Makan and Neil Hume, Financial Times, “International Energy Agency warns of future oil supply crunch,” November 12, 2013

³¹ Clifford Kraus, New York Times, “Energy Secretary Calls Oil Export Ban Dated,” December 13, 2013

³² See, e.g., National Journal, “Lobbying Rift Brewing Over Oil-Export Ban,” January 6, 2014

³³ U.S. Senate Committee on Energy and Natural Resources, Hearings and Business Meetings, U.S. Crude Oil Exports: Opportunities and Challenges, January 30, 2014