OPEC Likely to Keep Pumping Despite Budget Woes of Some Members

By Martin Stuermer and Navi Dhaliwal

ABSTRACT: Low oil prices are hurting OPEC countries' budgets. However, differences in their ability to cope with depressed prices have increased the likelihood that the cartel will keep on pumping, creating further downside risks to prices and Texas oil producers.

The Organization of the Petroleum Exporting Countries (OPEC) abandoned its traditional role of cutting production to keep the world oil market in balance in November 2014.[1] Faced with declining oil prices and falling market share, the cartel decided to keep on pumping rather than cut supply.

The cartel's declared goal was to squeeze competitors that had higher production costs, such as those in U.S. shale plays. Prices have fallen since then, hurting producers in Texas and the U.S. that have trimmed rig counts and reduced employment.

OPEC's strategy has also come at a cost to its members. Most are highly dependent on oil and gas sector revenues to finance their government budgets, and low oil prices have led to substantial deficits. OPEC countries' average fiscal balance—the difference between revenues and expenditures, expressed as a share of gross domestic product (GDP)—reversed from a surplus of more than 5 percent of GDP in 2012 to a deficit exceeding 10 percent of GDP in 2015 (*Chart 1*).

The shortfall raises the question of how long OPEC countries can sustain deficits if oil prices stay low. Could this deterioration in fiscal balance prompt the cartel to reverse course?

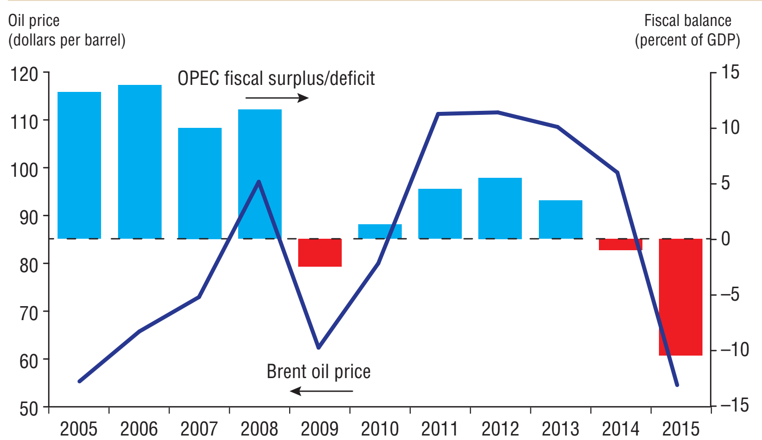
Differences Within OPEC

Three indicators of OPEC members' ability to cope with low oil prices are highly divergent: fiscal breakeven prices, oil asset buffers and gross debt-to-GDP ratios (*Table 1*).

The differences are significant in the first measure, the fiscal breakeven oil price—the price at which a government can balance its 2015 budget.[2]

The estimates range from $36 to $207 per barrel. For example, Libya, Venezuela and Algeria would require oil prices of about $207, $87 and $100, respectively, in 2015 to balance their

Chart 1 OPEC Members' Deficit Expands on Falling Oil Prices, Rising Expenditures



NOTES: Fiscal balance is a GDP-weighted average of all OPEC members. 2015 forecasts use data through Sept. 16, 2015. Iran and Qatar data use April–March fiscal years; all others are calendar years.

SOURCES: Energy Information Administration; International Monetary Fund; authors' calculations.

budgets. Meanwhile, Kuwait and Qatar both are expected to run a surplus in 2015, and therefore, their fiscal breakeven oil prices are below the International Monetary Fund (IMF) 2015 forecast of $52 per barrel. Saudi Arabia would need to fetch about $89 per barrel to balance its budget.

The estimates are a lower bound that assume all oil produced by members is sold at the world price, though in some countries oil is stockpiled or its sale is subsidized domestically.

The second indicator, oil asset buffers, shows strong differences in members' capabilities to sell assets in order to balance their budgets.[3] Many oil-rich countries have used seed money from oil sales to build sovereign wealth funds that they can draw upon in times of fiscal distress. By dividing the total value of a country's sovereign wealth fund by its forecast 2015 deficit, an estimate can be obtained of how many years a shortfall could be bridged through a fund liquidation. The estimate assumes no revenue increases or additional debt, and that the assets held are liquid and constant in value over the term of the liquidation.

Saudi Arabia and Iran could sustain the current strategy for several years, as both have relatively large asset bases. The United Arab Emirates could potentially sustain it for decades, given a low 2015 deficit and trillion-dollar sovereign wealth funds. Kuwait and Qatar, likewise, have sovereign wealth funds valued in the hundreds of billions of dollars beyond their 2015 surpluses. By comparison, Libya, Iraq and Venezuela possess very few sovereign wealth fund assets, making low oil prices difficult to navigate. Ecuador has no sovereign wealth fund assets.

A third indicator, the gross debt-to-GDP ratio, suggests how much more debt a country could take on were it to keep incurring its current deficit in future years. If a country has a low debt-to-GDP ratio, it has room to issue new debt to finance a government funding shortfall.

While there is debate within the economic literature on what levels of debt are sustainable, high debt may lead to volatile or reduced economic growth. Again, there are pronounced differences between the relatively low debt ratios

OPEC's strategy has come at a high cost to its members. Most are highly dependent on oil and gas sector revenues to finance their government budgets, and low oil prices have led to substantial deficits.

Table 1 Fiscal Breakeven Prices, Oil Asset Buffers and Debt-to-GDP Ratios Suggest Mixed Ability to Endure Depressed Market

Country	Fiscal breakeven price (dollars per barrel)	Oil asset buffers (years)	Debt-to-GDP ratio (percent)
Saudi Arabia	89	4.94	7
Iraq	78	0.02	76
Iran	61	5.41	16
United Arab Emirates	70	55.66	19
Nigeria	74	0.07	12
Venezuela	87	0.02	53
Kuwait	50	No 2015 deficit	10
Qatar	36	No 2015 deficit	30
Libya	207	2.81	51
Algeria	100	2.09	10
Angola	57	1.40	57
Ecuador	86	No sovereign wealth funds	37

NOTES: Fiscal breakeven price calculations are based on 2015 oil reserves, assuming all production was sold at a world crude oil price of $52 per barrel (International Monetary Fund October estimate). 2015 daily oil production was assumed to equal daily production from January to August. Iran national account and government finance data use April–March fiscal years; Qatar government finance data use April–March fiscal years. All other countries use calendar years.

SOURCES: Energy Information Administration; International Monetary Fund; Sovereign Wealth Fund Institute; authors' calculations.

> *In Texas alone, employment in drilling-related industries tumbled 20 percent from January to October 2015.*

of Saudi Arabia, Iran and Kuwait and the higher ratios of Iraq, Venezuela and Libya.

These three indicators provide a snapshot of current fiscal capacity to sustain low oil prices. Countries can also adjust to declines in oil revenues by raising taxes and slashing government expenditures, which would strongly affect the estimates. The indicators are sensitive to exchange rate movements and to changes in oil production, which are also partly a function of differing geological costs of production.

Supply Cuts Unlikely

The broad differences among member countries to withstand low oil prices help make OPEC supply curbs unlikely. If fiscal constraints were approximately the same and all countries would suffer as much from low oil prices as Venezuela and Algeria do, OPEC would more likely change course and curb production in a bid to support prices. However, Saudi Arabia and its Persian Gulf allies, which informally lead OPEC, are able to offset diminishing revenue from the oil sector by taking on debt or selling government assets while making budget adjustments.

Moreover, if output cuts were to occur, the burden of reduced production would likely also fall on Saudi Arabia and its Gulf allies. Saudi Arabia is by far the most important cartel member, accounting for 30 percent of OPEC's output. It is also the only country with a significant amount of spare production capacity.

The Saudis shouldered most of the production cuts from 1980 to 1985 in an effort to prop up prices and again in 2008 in response to the global economic crisis. While countries in fiscal trouble such as Libya, Ecuador, Iraq and Venezuela might be most eager to benefit from the price support of OPEC supply cuts, their share of cartel oil production is relatively low and they likely wouldn't substantially contribute to any potential output cut.

It is also unclear that Saudi-backed supply cuts would successfully drive up prices and boost revenues. When Saudi Arabia and other countries restrained oil production in the 1980s, they experienced larger oil revenue declines than countries that did not cut. Ultimately, the output curbs couldn't substantially increase prices, and Saudi Arabia ramped up production in 1986.

This time around, Iraq and Libya have expressed plans to boost production as much as possible. Similarly, Iran has said it intends to increase production after economic sanctions are lifted in 2016.

Even if supply cuts could raise prices, the result would likely prompt increased drilling by rival producers in the Middle East, the U.S. and Russia. Since U.S. shale producers are important marginal producers and also able to relatively quickly start and stop production, they would be among the first to increase supply in an oil market with higher prices. That could again drive prices down.

Compensating for Lower Income

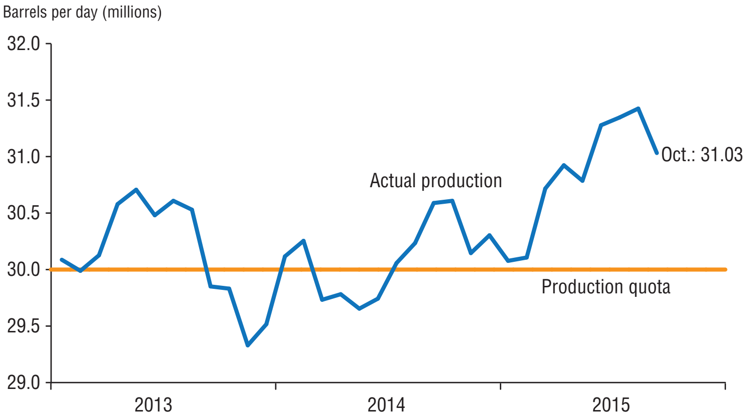
With Saudi Arabia unlikely to budge, other OPEC countries will compensate for low oil prices by pumping at even higher rates. This will perpetuate the status quo of lower oil prices in the wake of increasing oil supply from OPEC because none of the parties alone has an incentive to reduce production. This is consistent with statements from OPEC's general secretary, who said at the cartel's June 2015 meeting that the production quota is not a ceiling anymore but an "indicator."

OPEC countries produced about 1 million barrels per day in excess of the current quota, amounting to roughly 3 percent more than planned (*Chart 2*). Unless there is an unexpected positive shock to demand, this will pose a sizeable downside risk to oil prices.

Effects on Texas Producers

U.S. and Texas producers will continue to face the consequences of low oil prices.[4] They were among the first to cut drilling activity. As a result, U.S. oil and gas extraction and support industries have experienced a production slowdown. The U.S. rig count has

Chart 2
OPEC Is Producing Above Its Target



SOURCE: Energy Information Administration.

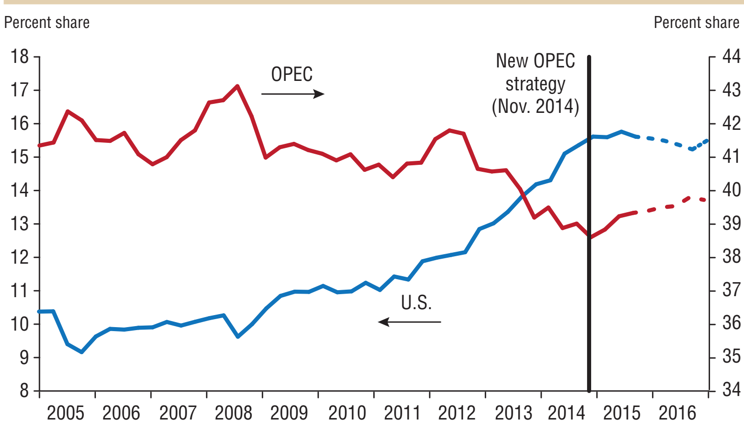
declined about 60 percent since last year's OPEC decision, and oilfield-related employment is off nearly 16 percent. In Texas alone, employment in drilling-related industries tumbled 20 percent from January to October 2015. U.S. producers' world market share has flattened since OPEC implemented its strategy, while the cartel transformed earlier market share losses into market share gains (*Chart 3*). These trends will likely continue.

Overall, the OPEC strategy is one of collateral damage, where all parties are losing but some can sustain more losses than others. It is highly unlikely that OPEC will agree to curb production in the short-to-medium term.

Saudi Arabia and its Gulf allies have the least to gain from supply cuts; they enjoy significant fiscal buffers and risk losing market share to other countries if output is trimmed. As a consequence, OPEC will further increase its market share, while U.S. producers experience a flattening or even a decrease in the near future.

Sturmer is a research economist and Dhaliwal is a research assistant in the Research Department of the Federal Reserve Bank of Dallas.

Chart 3
Shift in Market Share from OPEC to U.S. Halts in 2015



NOTES: Market share is defined as the share of production in total world production. Dashed lines are forecasts.

SOURCE: Energy Information Administration.

Notes

[1] OPEC member countries are Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates and Venezuela. Indonesia, a net oil importer, rejoined OPEC in December.

[2] The fiscal breakeven price equals government expenditures minus nonoil revenue in current U.S. dollars, divided by oil production in barrels.

[3] Oil asset buffers equal the ratio of sovereign wealth fund assets to the fiscal deficit, both in current U.S. dollars.

[4] See "Lower Oil Prices Weaken Prospects for Job, Economic Growth in Texas," by Michael D. Plante, *Southwest Economy*, First Quarter, 2015.