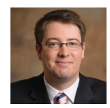
Exploiting Opportunities Amid A Secular Commodity Downturn

Commodity prices could be pressured for several more years.

January 2019



Shawn Driscoll
Portfolio Manager, Global Natural Resources Equity Strategy

KEY INSIGHTS

- Commodities are still in the middle stage of a secular downcycle that may last several more years, driven by an imbalance between global supply and demand.
- With the surge in U.S. oil production and productivity, we expect oil prices will average USD $40 to USD $50 per barrel longer term but could possibly hit USD $30 per barrel in 2019 or 2020.
- Despite these challenges, there are pockets of opportunity, including specialty chemicals and other industries, that benefit from lower commodity prices.

Q. Why should investors consider a natural resources strategy for part of their portfolio?

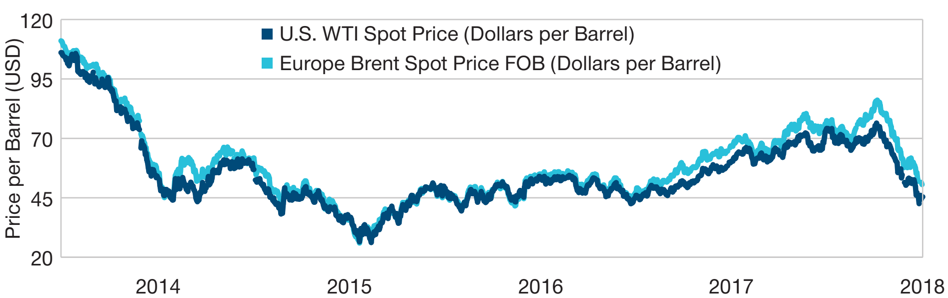
First, there are always opportunities to invest in quality companies benefiting from broader commodity trends, even in a depressed era for commodities. Investing in natural resources has historically provided an effective hedge against inflation—and deflation for that matter.

Historically, natural resources equity performance has run somewhat counter

(Fig. 1) A Volatile Trend in Oil Prices

Wide fluctuation in oil prices since 2014

As of December 31, 2018

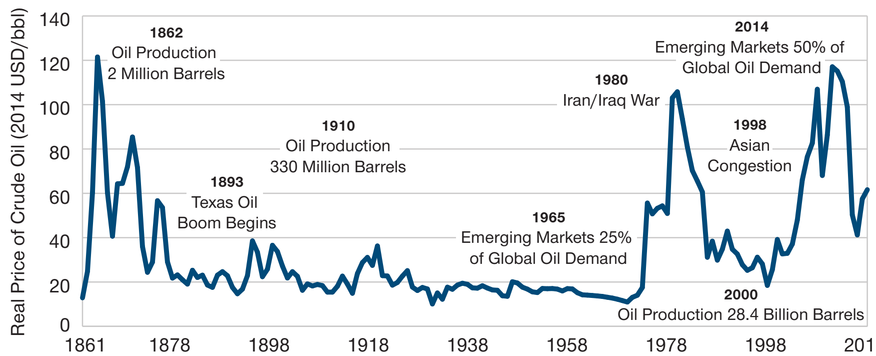


Past performance cannot guarantee future results.
Sources: U.S. Energy Information Administration and Chicago Mercantile Exchange.
Note: West Texas Intermediate (WTI) reflects the U.S. price for oil, and Brent crude reflects the global oil price. Both declined sharply from 2014 to mid-2016 before recovering, only to crash again toward the end of 2018.

(Fig. 2) The Real Price of Oil Since 1861

Prices above USD $40 per barrel are unusual

As of December 31, 2018



Past performance cannot guarantee future results.

Sources: BP Statistical Review, Ned Davis Research, and data analysis by T. Rowe Price.

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to overall equity performance, so the sector can provide diversification and help offset weak performance in overall global equities. Commodities also can provide currency diversification because they have a negative correlation with the dollar. When the dollar strengthens, commodities tend to really struggle, but when the dollar weakens, they have tended to do extraordinarily well.

Even when natural resources lag the overall market, we believe attractive performance can still be achieved. We don't expect the energy sector to outperform broader equity markets for a sustained period, but there have been times, as in the second half of 2017 and early 2018, when energy prices and stocks surged due to any number of catalysts. Even from 1986 to 1999, a challenging period for commodities, there were several significant price rallies. So it makes sense to keep some allocation to resources for their potential diversification benefits.

Q. Oil prices have been on a roller coaster in recent years. U.S. crude oil prices fell from roughly USD $110 per barrel in June 2014 to about USD $26 per barrel in February 2016 and then recovered to USD $76 per barrel in October 2018 before plummeting to the mid-$40s at year-end. The Brent oil price, the global oil benchmark, followed a similar pattern in which it hit a four-year high of USD $86 per barrel in October 2018 before falling to around USD $50 per barrel at year-end. Then, prices suddenly rebounded at the start of this year. Given this volatility, what is your outlook for oil prices?

The rise in oil prices from early 2016 to October 2018 reflected strong global demand, production limits by the Organization of the Petroleum Exporting Countries (OPEC), political instability in the Middle East, and a weaker U.S. dollar. However, higher prices provided incentives for additional rigs to come online and increase production, pressuring prices.

Moreover, while demand has been very strong in recent years, we've been in a global oversupply market for some time, driven by the surge in U.S. shale oil production and productivity. U.S. exploration and drilling have increased dramatically since mid-2016, and oil prices above USD $50 per barrel incentivize the drilling of new wells.

While some market participants expect a return to higher oil prices, we expect prices for U.S. crude, or West Texas Intermediate, will average from USD $40

Our current outlook for oil prices in 2019 is subdued. We believe that estimates for U.S. production are too low.

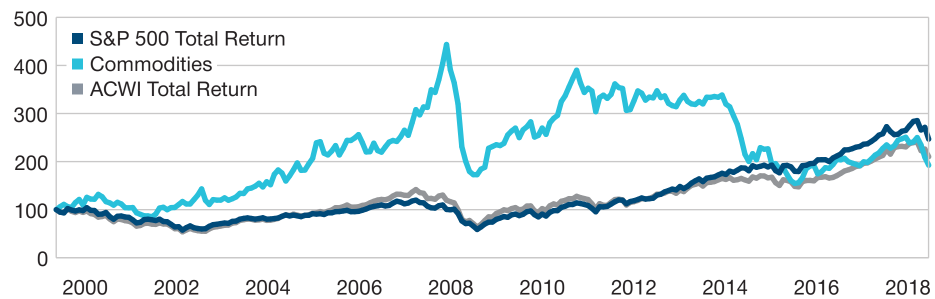
to USD $50 per barrel over the long term. That ultimately depends on the degree to which technological innovation in shale continues to improve productivity and compress drilling break-even costs. However, when you look at a chart of real oil prices over the past century, prices above USD $40 per barrel (in 2014 dollars) are considered unusual.

Our current outlook for oil prices in 2019 is subdued. We believe that estimates for U.S. production are too low. There are more than 7,000 drilled and uncompleted wells that are waiting to bring production online once temporary infrastructure bottlenecks have been resolved. Productivity continues to increase, and we expect the cost curve to continue falling. The recent extension of the OPEC cuts may help keep prices from collapsing, but we do not believe the OPEC cut in production is bullish. The longer oil prices are above USD $50 per barrel, the more incentive it provides to increase supply, particularly North American shale.

(Fig. 3) The Commodity Supercycle Ended in 2011

Relative commodity performance since 2000

Total return indexed to 100, December 31, 1999, through December 31, 2018



Past performance cannot guarantee future results.
Sources: Standard & Poor's and Morgan Stanley Capital International.
Note: Chart reflects performance of the S&P 500 Index, the MSCI All Country World Index (ACWI), and the S&P Goldman Sachs Commodity Index since 2000.
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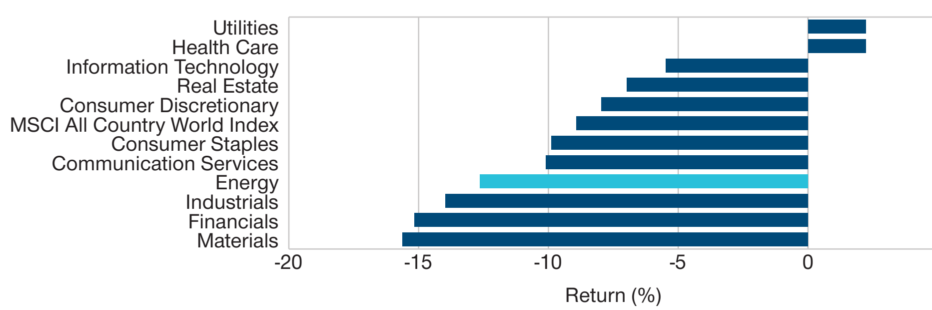
(Fig. 4) Global Equity Sector Performance in 2018

Energy remains an index laggard

MSCI All Country World Index sector performance, December 31, 2017, through December 31, 2018



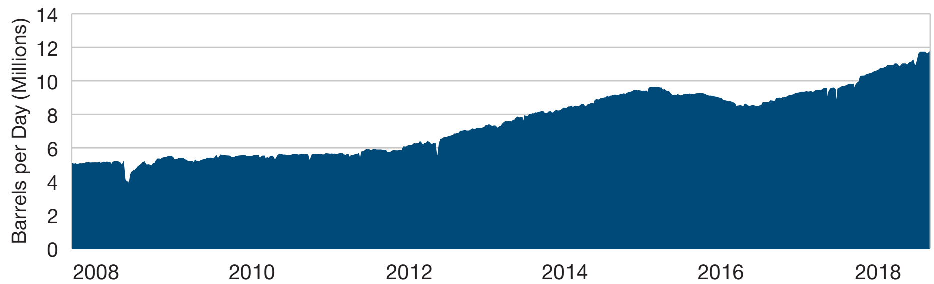
Past performance cannot guarantee future results.
Source: RIMES.

USD $30

Oil prices could hit USD $30 per barrel within the next two years.

(Fig. 5) The Boom in U.S. Oil Production

U.S. field production of crude oil
As of December 31, 2018



Sources: U.S. Energy Information Administration and T. Rowe Price.

While nominal prices below USD $40 per barrel are probably unsustainable for many producers, we believe that the all-in break-even costs of the lowest-cost producers are in the USD $50 per barrel range and falling—so the supply destruction needed for a sustained oil price recovery will not be easily achieved longer term.

When oil prices are above the incentive price to produce, it is very easy to saturate the market. Supply comes on, demand decelerates, and the next thing you know, you are at USD $30 per barrel oil. It would not surprise me if that happens this year or in 2020. That's the future of oil, because of how much technology has changed and how quickly you can bring on low-cost supply.

We believe that the current scenario for oil/commodity prices resembles the 20-year bear cycle in the 1980s to1990s. Again, this is due in large part to the emergence of short-cycle, low-risk, non-OPEC production of North American shale. And we're only recovering less than 10% of the shale oil in place. We have a long way to go. The cost curve is also collapsing on a global scale, with many new offshore projects becoming economical even at lower prices, such as the Johan Sverdrup oil field just off Norway, which is expected to start producing toward the end of 2019.

Q. In the oil bust of the 1980s, profit margins in the oil services industry fell below zero, and almost a third of publicly traded oil services and exploration and production companies went out of business. Over the past four years, 365 public and private energy companies in North America have filed for bankruptcy, according to the law firm Haynes and Boone. Do you expect to see more?

We're probably not completely out of the woods, but near term it's hard to push companies into bankruptcy with oil at around USD $50 per barrel. A lot of balance sheets have been cleaned up, and some of the companies that went bankrupt are back with clean balance sheets. But we expect oil prices will ultimately go a lot lower to balance long-term supply and demand, which would result in more bankruptcies. There is so much hidden leverage in the business that a company can build up debt very quickly in a lower-price environment.

Q. Energy and other commodity stocks significantly lagged the broader markets in 2018 and over the past 5- and 10-year periods as commodity prices collapsed. What is your longer-term outlook for energy and commodities more broadly?

We believe that the commodity supercycle, which started in 2000, ended

> We anticipate a low-price environment over the long term, disrupted by relatively brief periods of oil and commodity outperformance within a secular downcycle.

in 2011 and that we are still in the middle years of a secular downcycle, driven by a long-term imbalance between global supply and demand. The market has begun to realize the long-term disruptive impact of U.S. shale production volumes. As a result, we anticipate a low-price environment over the long term, disrupted by relatively brief periods of oil and commodity outperformance within a secular downcycle.

(Fig. 6) Top 10 Holdings in Global Natural Resources Strategy

T. Rowe Price global natural resources equity representative portfolio
As of December 31, 2018

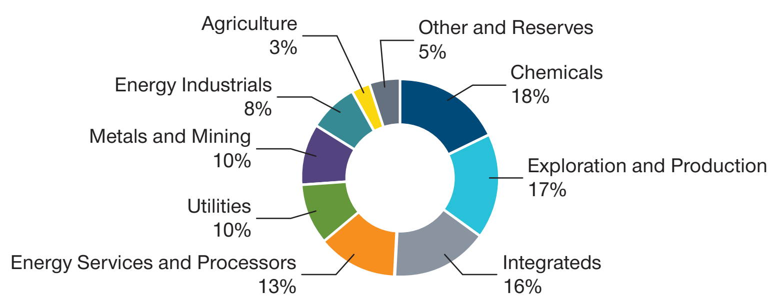
1.	Total	4.8%
2.	Air Products & Chemicals	3.1
3.	Occidental Petroleum	2.9
4.	Concho Resources	2.7
5.	EOG Resources	2.7
6.	BP	2.5
7.	TransCanada	2.3
8.	Atmos Energy	2.0
9.	Valero Energy	1.8
10.	ExxonMobil	1.8

These holdings account for 26.7% of total portfolio assets.
Source: T. Rowe Price.
This representative portfolio is an account we believe most closely reflects current portfolio management style for the strategy. Performance is not a consideration in the selection of the representative portfolio. The characteristics of the representative portfolio shown may differ from those of other accounts in the strategy. Information regarding the representative portfolio and the other accounts in the strategy is available upon request.
The specific securities identified and described above do not necessarily represent securities purchased, sold, or recommended for clients in the strategy. The information is not intended to be a recommendation to take any particular investment action and is subject to change. No assumptions should be made that the securities identified and discussed above were or will be profitable.

(Fig. 7) Sector View of Global Natural Resources Strategy

Broad diversification across resource industries

T. Rowe Price global natural resources equity representative portfolio, as of December 31, 2018



Source: T. Rowe Price.

T. ROWE PRICE BEYOND THE NUMBERS

Tapping in to a Global Research Platform

Shawn Driscoll discusses the experience and approach the firm has gained from investing in energy and other natural resources since 1969.

We have invested through several commodity cycles and understand how different commodities perform depending on industry and macro trends. We spend a lot of time, for example, testing our assumptions about what the prices of commodities should be and how the cost curve might change. Our analysts also benefit from T. Rowe Price's expansive global research platform and five decades of experience investing in natural resources companies.

61%

The U.S. provided over 61% of incremental global oil supply from 2008 through 2017.

Commodity prices are cyclical and tend to move in unison. Moreover, commodity cycles historically last from 15 to 20 years, and the shortest downcycle was the 13-year period in the 1920s preceding the Great Depression, based on analysis done by Ned Davis Research. Within those periods, you can have short-term trading rallies due to cyclical dislocations. But that doesn't change the longer-term fundamental outlook. A lot of capital and technological innovation have been brought to bear in energy production, so the gains in productivity keep deflating the cost curve for oil production. We don't see that ending soon.

Oil fundamentals and market prices are suffering a fate similar to that experienced in the 1980s. In the late 1970s and 1980s, the oil supply picture changed with increased production from new offshore sources. In the 1980s, oil prices fell from USD $40 per barrel to USD $10 per barrel in only six years and did not stage a sustained recovery until the 2000s, according to FactSet data. During those two decades, the cost to find, drill, and produce wells declined by more than half.

Fast-forward to 2006, when the "shale era" of horizontal drilling and hydraulic fracturing really got underway. Since then, productivity (measured by gross barrels produced per rig) has improved at an exceptional rate—about 36% annually in the major U.S. shale regions, according to the U.S. Energy Information Administration. New shale formations—such as those in North Dakota, Texas, and New Mexico—now account for a significant amount of incremental global supply annually.

In fact, the United States now rivals Saudi Arabia and Russia as a leader in total global oil/liquids production. While OPEC accounts for about 43% of total global oil production, the U.S. provided over 61% of incremental global oil supply from 2008 through 2017 and an estimated 70% in 2018, based on research by BP Statistical Review and T. Rowe Price. We saw similar shale development in U.S. natural gas before that. We expect U.S. oil production will continue to surprise investors and that the oil cost curve will continue to deflate. Our internal research shows that U.S. shale exploration and drilling costs are already down as much as 30% to 50% from their peak. So we may be in a chronic oversupply condition for years.

Q. Where do you see opportunities when navigating through a secular commodity bear market?

Overall, we have a defensive posture with a focus on long-term growth and high quality through healthy balance sheets and low costs. Although our opportunity set has narrowed, we still find opportunities in select areas:

Major and integrated oil producers with clean balance sheets and financial and operating leverage. These qualities become more important when oil prices decline.

Refiners poised for healthy margins as crude oil inventories grow and product inventories remain stable. This includes Valero Energy, one of our top 10 holdings, which operates refineries throughout the United States.

Commodities-related companies benefiting from lower input costs and favorable demand trends in some areas, including the specialty chemical producers and packaging industries.

Regulated utilities that should be able to deliver solid cash flow and dividend growth in a relatively low interest rate environment, with an emphasis on gas utilities.

Companies with limited financial leverage and no hidden counterparty risk.

Energy exploration and production companies with strong balance sheets that can reduce costs and generate cash flow and profits when hydrocarbon prices come under pressure. We particularly favor North American shale producers with operations in the Permian Basin in Texas, such as Concho Resources and EOG Resources, two of our top 10 holdings.

Industries, including segments of the utilities, chemicals, and metals industries, with exposure to electric vehicles that stand to benefit from disruption.

Even if the near-term environment presents challenges, we remain committed to our bottom-up stock selection process and our philosophy of buying a diverse selection of fundamentally sound natural resources companies with solid balance sheets and talented management. We believe the market will reward our disciplined and consistent investment approach over time.

WHAT WE'RE WATCHING NEXT

Our key focus is demand for oil amid a slowing global economy and weaker data for housing and autos in the United States. It remains unknown if this deceleration signals something more foreboding. Over recent rolling 12-month periods, gasoline demand has gone negative. So we're watching this very closely because it has an impact on inventories and could mean that OPEC may cut production more.

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