Analysis

Oil markets seeking a new balance

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The oil market drifted into an imbalance in 2014 as supply grew and demand was subdued. Oil prices have subsequently dropped, from around USD 110 per barrel to the current level of just under USD 50 per barrel. According to futures prices monitored in the Bank of Finland forecast for the international economy, oil prices will rise only slightly in the near future. Futures prices are however surrounded with considerable uncertainty.



Oil is still the world's most important source of energy, accounting for approximately one-third of world energy consumption. Even though oil demand is forecast to continue to grow, the share of oil in energy consumption will decrease. In the longer term, oil market trends will be impacted by, for example, environmental pressures and urbanisation as well as technological and demographic developments.

The price of oil was fairly stable – around USD 110 per barrel – from the beginning of 2011 until

summer 2014. Since autumn 2014, the price of oil has fallen by half on two occasions, in autumn 2014 to around USD 60, and again in autumn 2016, to around USD 30. The oil market shock was due to both supply and demand factors. In recent years, supply factors have played a larger role. Prior to the collapse in prices, oil production rose significantly for a number of years due, in particular, to US shale oil production and many other new sources of oil. As a result, the United States became the world's largest oil producer, in addition to already being the largest consumer of oil.

Table.

World's largest oil producers and consumers 2015*

Producers	Thousands barrels/ day	Customers	Thousands barrels/ day
USA	15,044	USA	18,961
Saudi Arabia	11,949	China	10,480
Russia	11,030	Japan	4,557
China	4,723	India	3,660
Canada	4,506	Russia	3,493
Iraq	4,050	Brazil	3,003
United Arab Emirates	3,474	Saudi Arabia	2,961
Iran	3,447	Germany	2,435
Brazil	3,183	Canada	2,374
Kuwait	2,710	South Korea	2,328
Venezuela	2,685	Mexico	2,090
Mexico	2,625	Iran	1,885
Nigeria	2,322	Indonesia	1,718

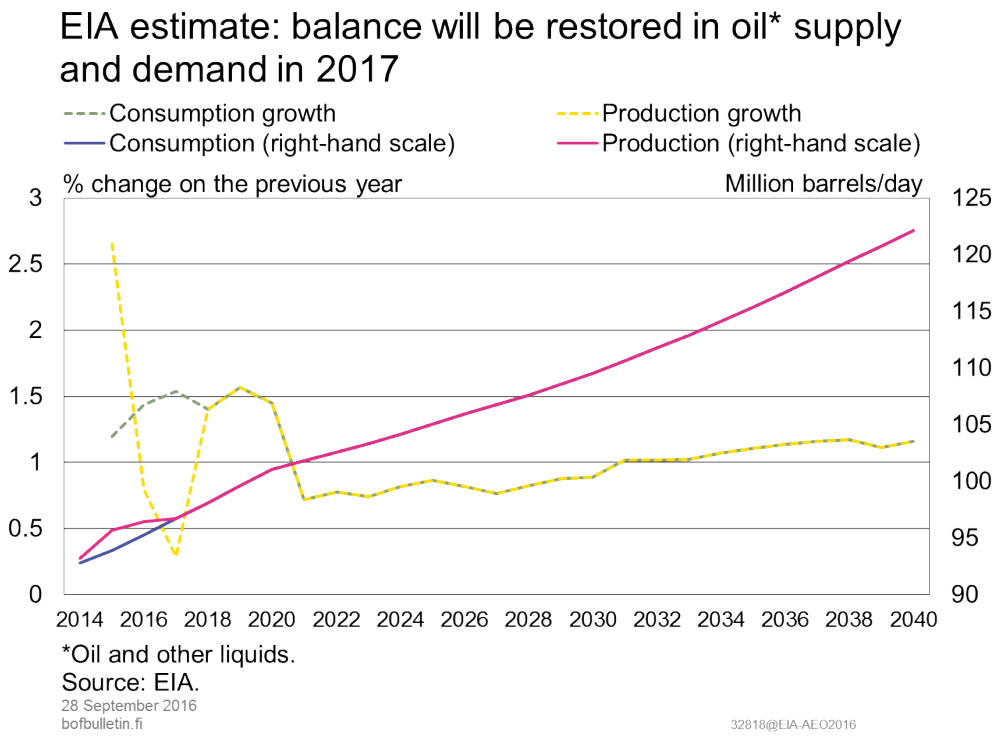
Source: EIA.

World's largest oil producers and consumers 2015*			
Qatar	2,053	France	1,713
Norway	1,958	United Kingdom	1,502
*For many of the countries, the latest data refer to 2013.			

Source: EIA.

In 2016 the price of oil has risen to around USD 50 per barrel (Chart 1). In the Bank of Finland forecast for the international economy, as in most other macroeconomic forecasts, the oil price assumption is based on market futures. According to these oil futures (15 September 2016), the price of oil will rise only slightly during the forecast horizon, and at the end of the decade, it will still be below USD 60. From a historical perspective, the forecasting ability of oil futures is not particularly good, however. Oil futures reflect the information currently available and may change considerably as a result of new information. (The uncertainty is illustrated in Chart 1 by the grey area, which shows the difference in futures prices in June 2014 and January 2016.)

Chart 1.



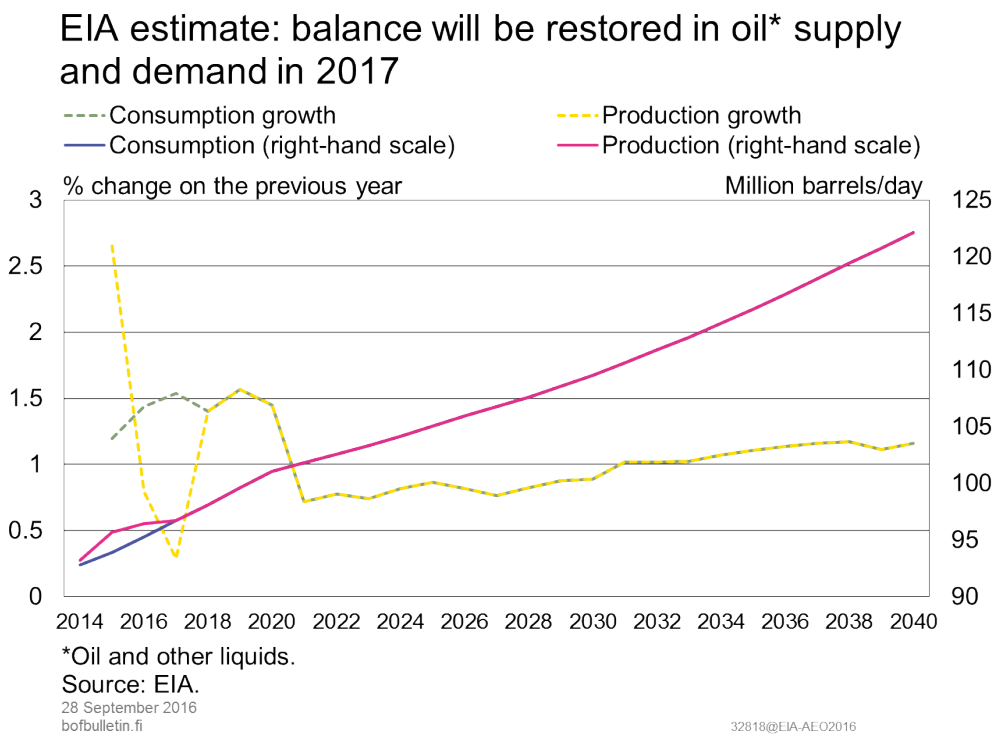
An alternative assessment of oil price developments can be obtained from, among other sources,

forecasts by the U.S. Energy Information Association (EIA) and the International Energy Agency (IEA)I[1]. According to the EIA projection, the price of crude oil per barrel is in 2020 significantly higher than futures prices (USD 77/bbl), and exceeds USD 100 in 2029. In addition to cyclical factors, the price of oil is currently affected by a number of structural factors. On the demand side, the structural change is related to slower growth in China and changes in the composition of growth, from investment and industry-based, to growth that is based increasingly on consumption and services. Climate objectives and changes in attitudes are also reflected in the demand for fossil fuels. In transportation, technological advances decrease the demand for crude oil-based fuels. The difficulties of forecasting are illustrated by the fact that, for example, the EIA has cut its projection for oil demand several times in recent years, but actual demand has still remained below the forecast.

Forecasting developments on the supply side has also become more difficult. The Organization of the Petroleum Exporting Countries (OPEC) has previously adjusted its production to stabilise the price of oil, but this time it could not reach a joint decision to restrict output as the price of oil collapsed. The lifting of economic sanctions on Iran at the start of the year brought the country back to the oil market. Iran has an urgent need to return its production to the pre-sanctions level. Saudi Arabia, on the other hand, has not agreed to limit production if Iran does not participate.

In its long-term projection, the EIA estimates that balance will be restored in oil supply and demand already in 2017, and that their annual growth rates will slow in the 2020s to below 1%.[2]

Chart 2.



Considerable differences in the profitability margins of the various forms of oil production

The cost structure of the various forms of oil production plays a key role in the adjustment of production and investment in the oil sector to lower prices. The least expensive form of oil production is still traditional onshore drilling in the Middle East. When prices are high, producers resort to oil sources that are increasingly difficult to exploit and the costs of which are higher. When prices fall, production is usually cut from these sources first. There is a downward shift in the cost structure of the sector as many unconventional forms of production (such as shale oil, oil sands, and deep-water oil) become unprofitable. The most expensive form of production is the recovery of oil from oil sands in Canada, and the second most expensive form is shale oil production in North America.[3]

The profitability margin of oil production depends mainly on the nature of the oil extracted and the associated geology. However, through experience and technological improvements, costs have declined, even for the new sources of oil. The collapse in oil prices has also boosted other means of improving operational efficiency and cutting costs.

The volume of US shale production remained high for a long period, even after the downturn in oil

prices. In shale oil, producers have succeeded, for example, in reducing the margins of the dependent service industry in order to support the upstream sector. A further advantage was that the new sector was only at the onset of the investment cycle, where experience reduces costs more easily and more rapidly than in the traditional forms of oil production.

Sources:

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EIA (U.S. Energy Information Association) (2016) Annual Energy Outlook 2016. See http://www.eia.gov/forecasts/aeo/

IEA (2016) Oil Market Report, August 2016. See https://www.iea.org/oilmarketreport/omrpublic/

Rystad Energy (2015) See http://www.rystadenergy.com/NewsEvents/PressReleases/global-liquids-supply-cost-curve

Notes

1. EA (2016). ↑
2. EIA (2016). ↑
3. See e.g. Arezki 2016. ↑

Keywords

energy, oil, oil markets, oil price