How Innovation is Pushing Down Oil Prices and Increasing Political Pressure on Petro-States to Look for Alternative Ways of Managing Resource Rents

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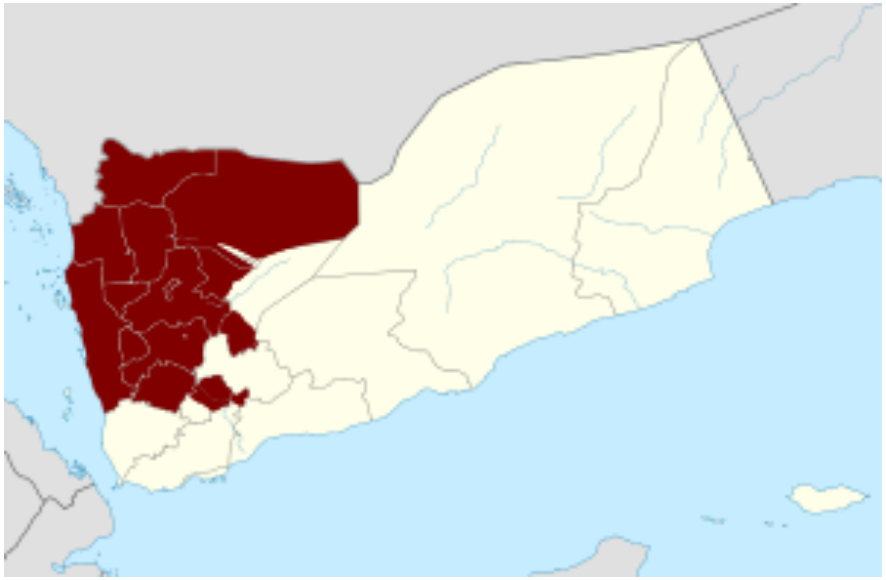
Image: © iStock Photo

The expansion of ISIS in Iraq, Syria, Libya and beyond was possibly the biggest “black swan” event of 2014

In September 2014 Huthi rebels took Yemen's capital Sana. In February 2015 Saudi Arabia together with its allies started a military operation.



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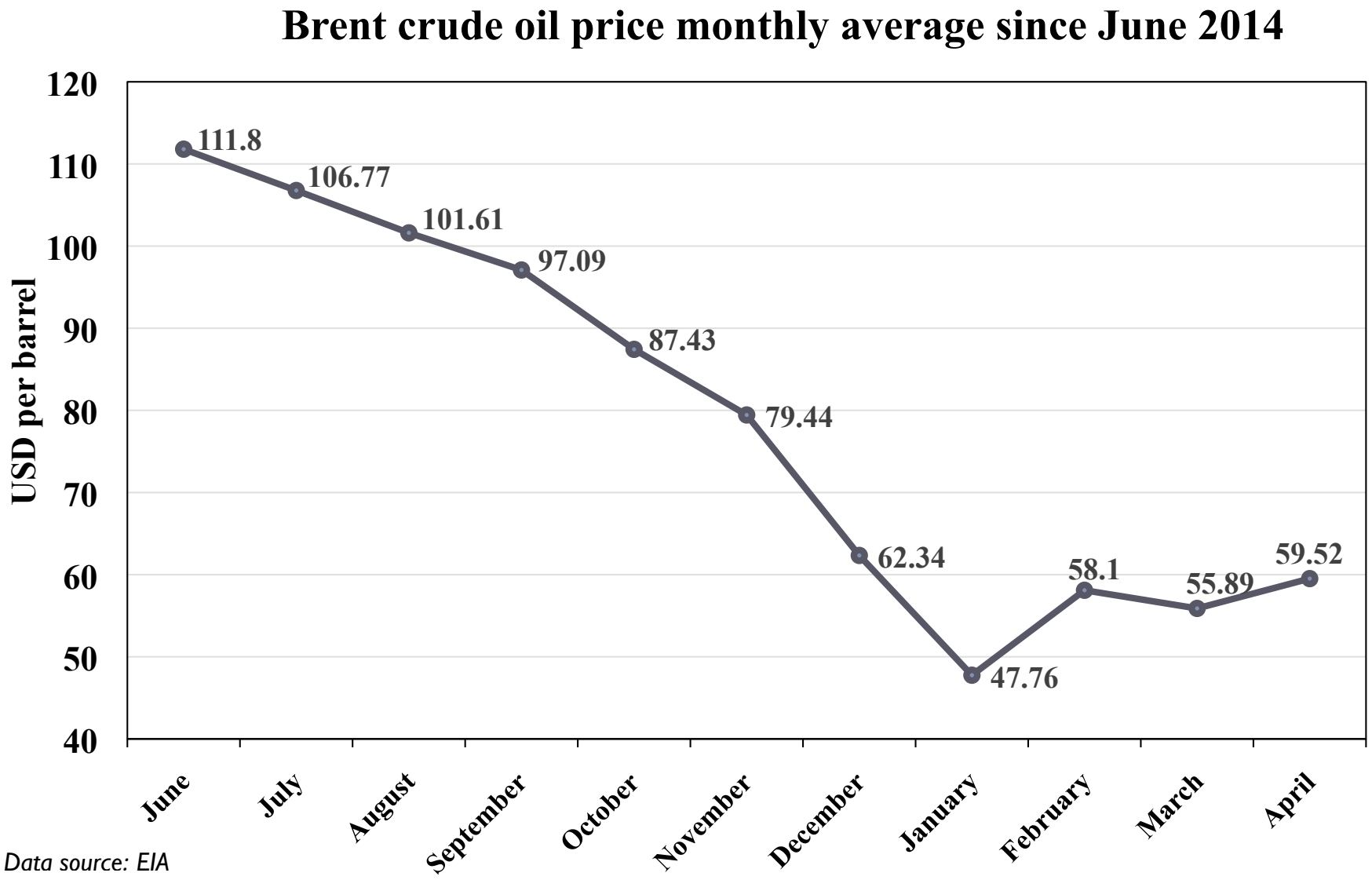
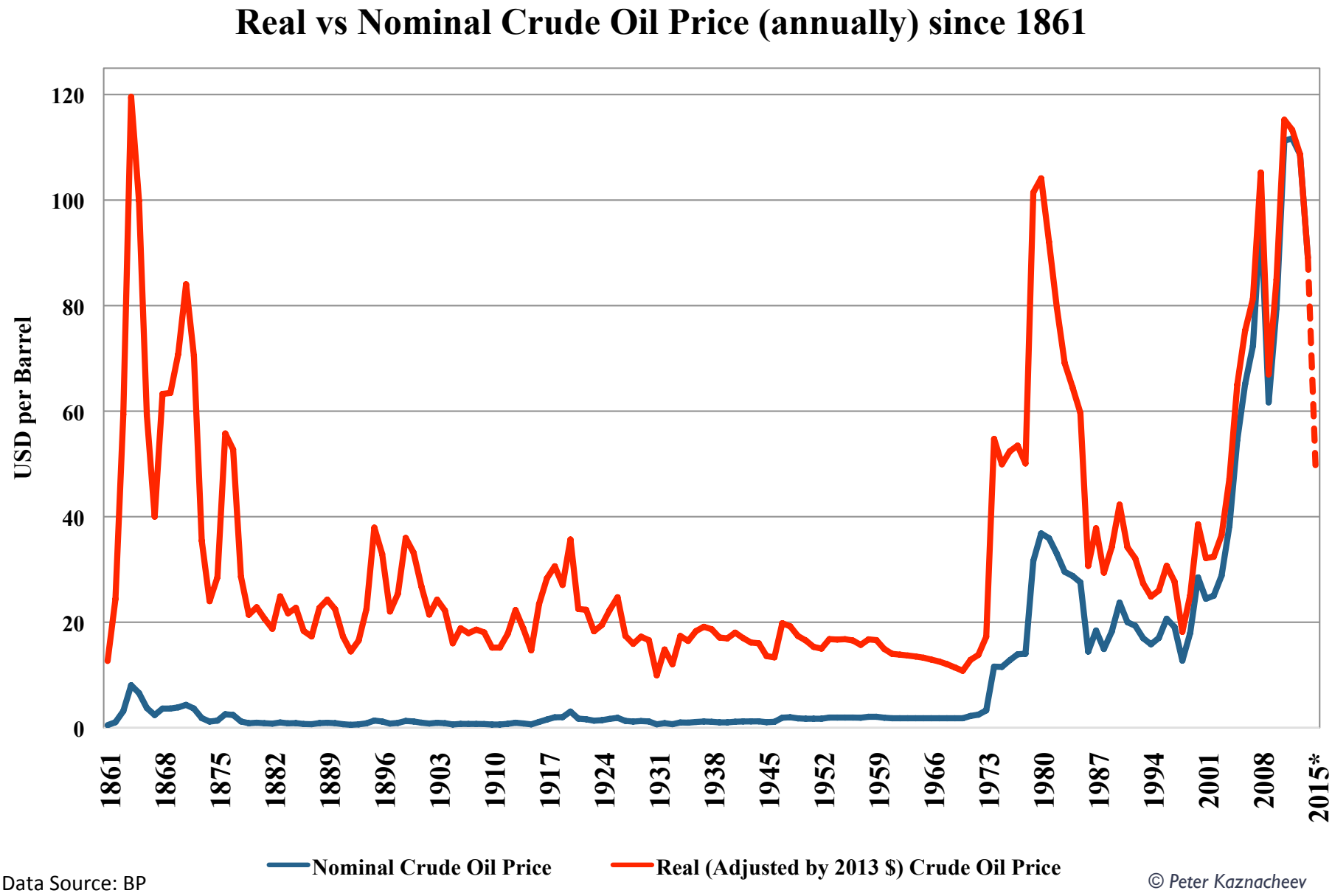
Surprisingly, armed conflicts in the Middle East stopped having a significant influence on the oil price which continued to drop throughout the second half of 2014



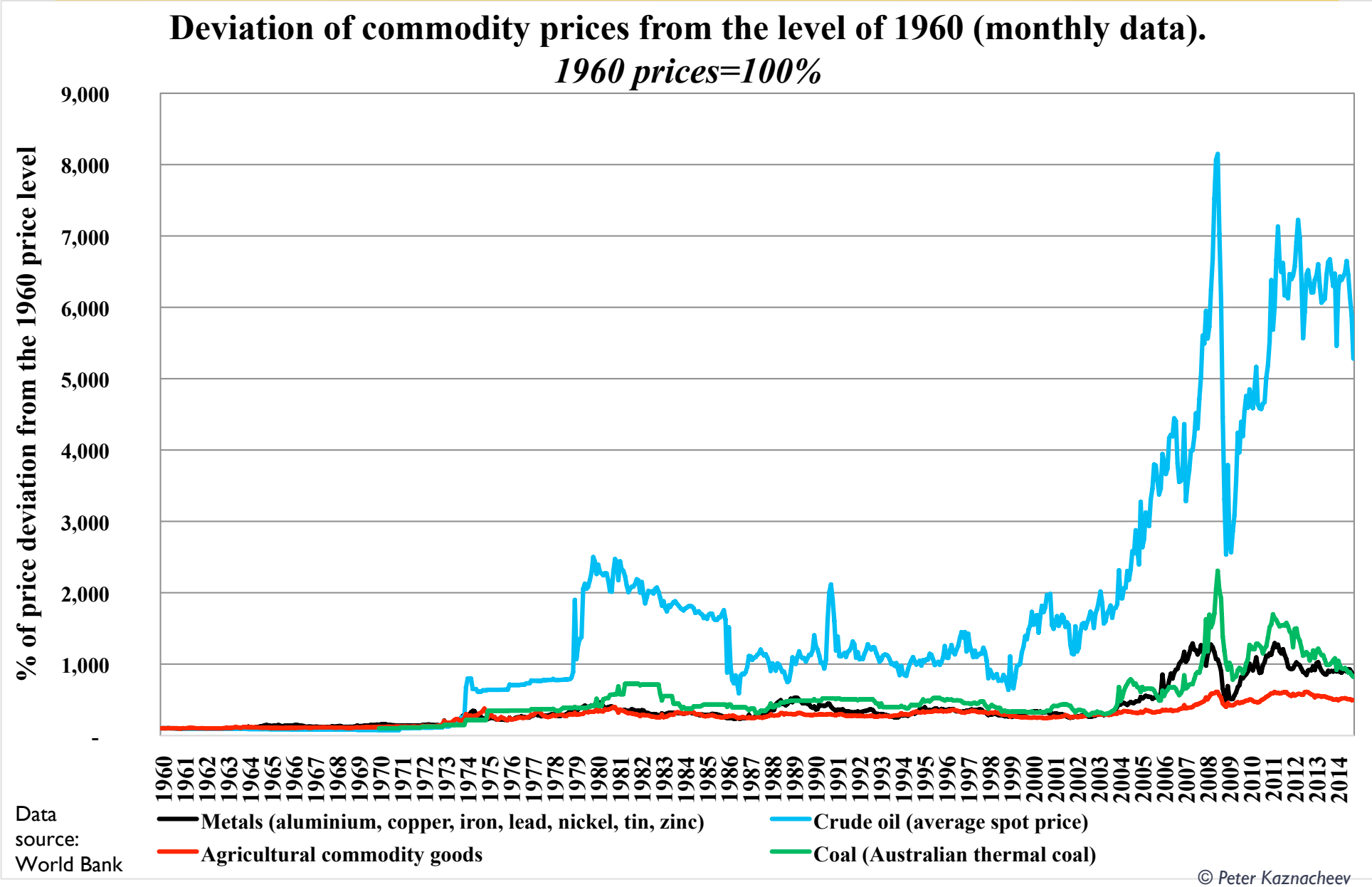
Data source: EIA

The history of the oil price since the beginning of commercial crude production. There were several significant price hikes since the 1970s

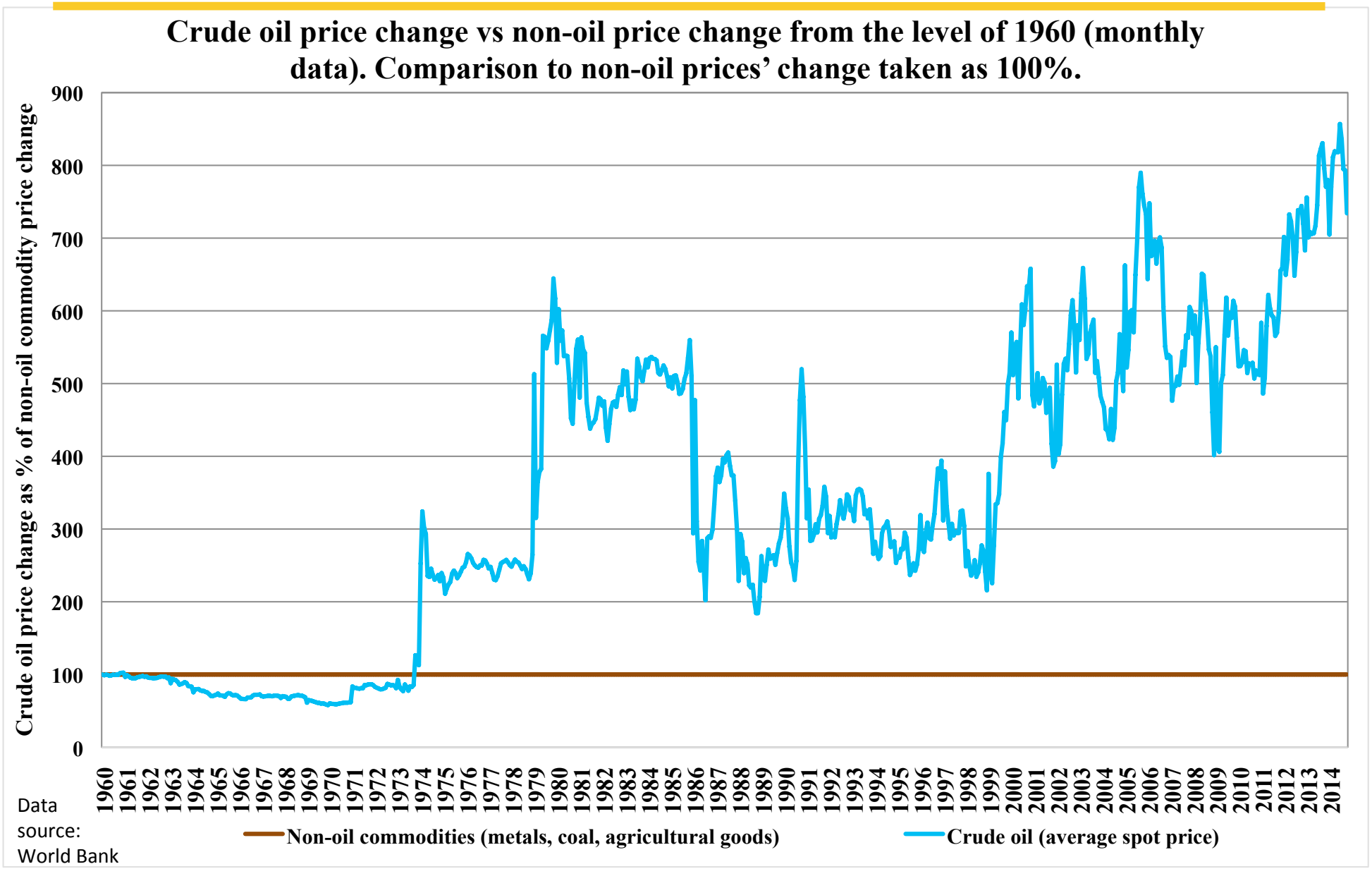


Data Source: BP

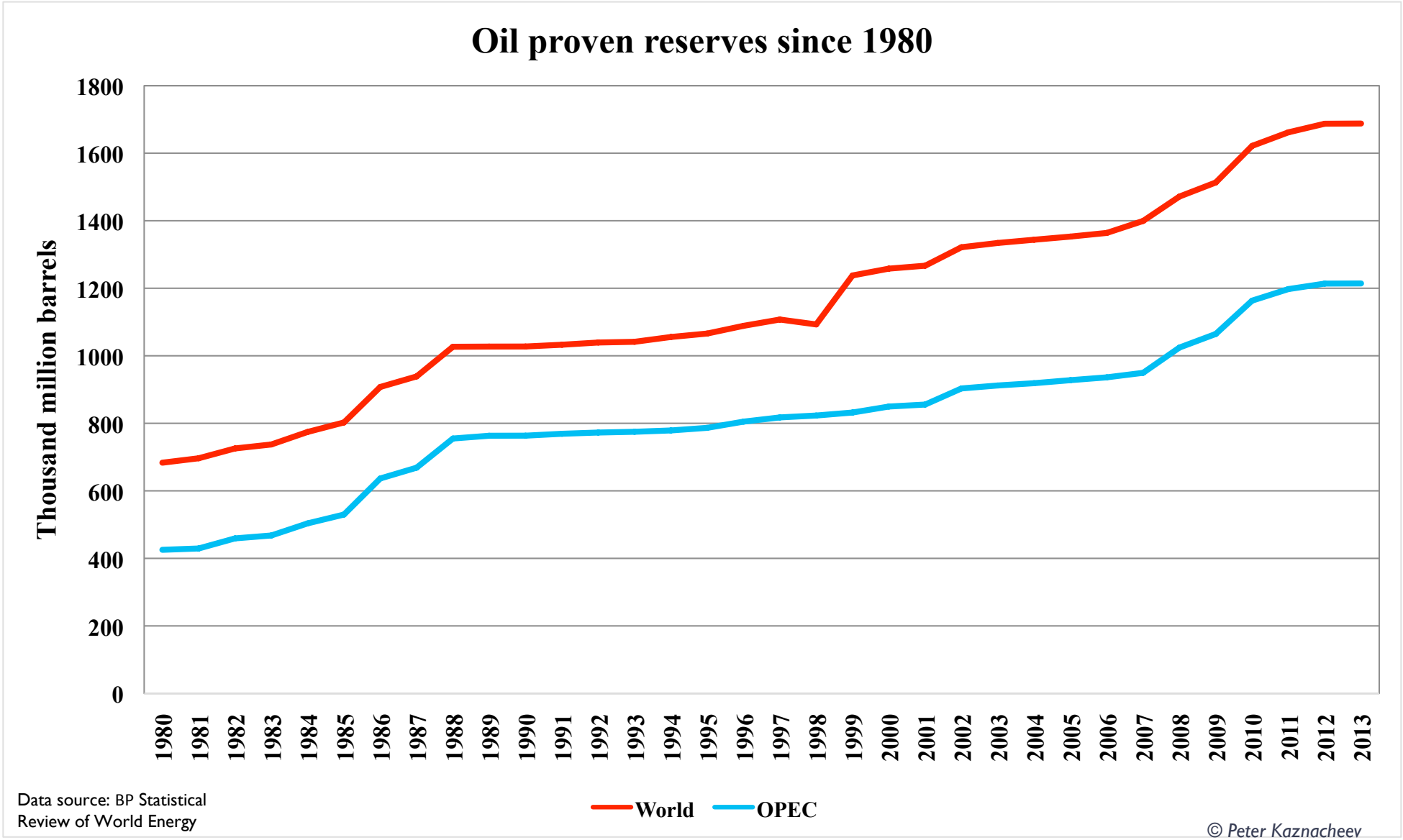
Rapid growth in oil prices cannot be explained by a special "commodity price premium": since the 1970s growth of oil prices considerably outpaced other commodities



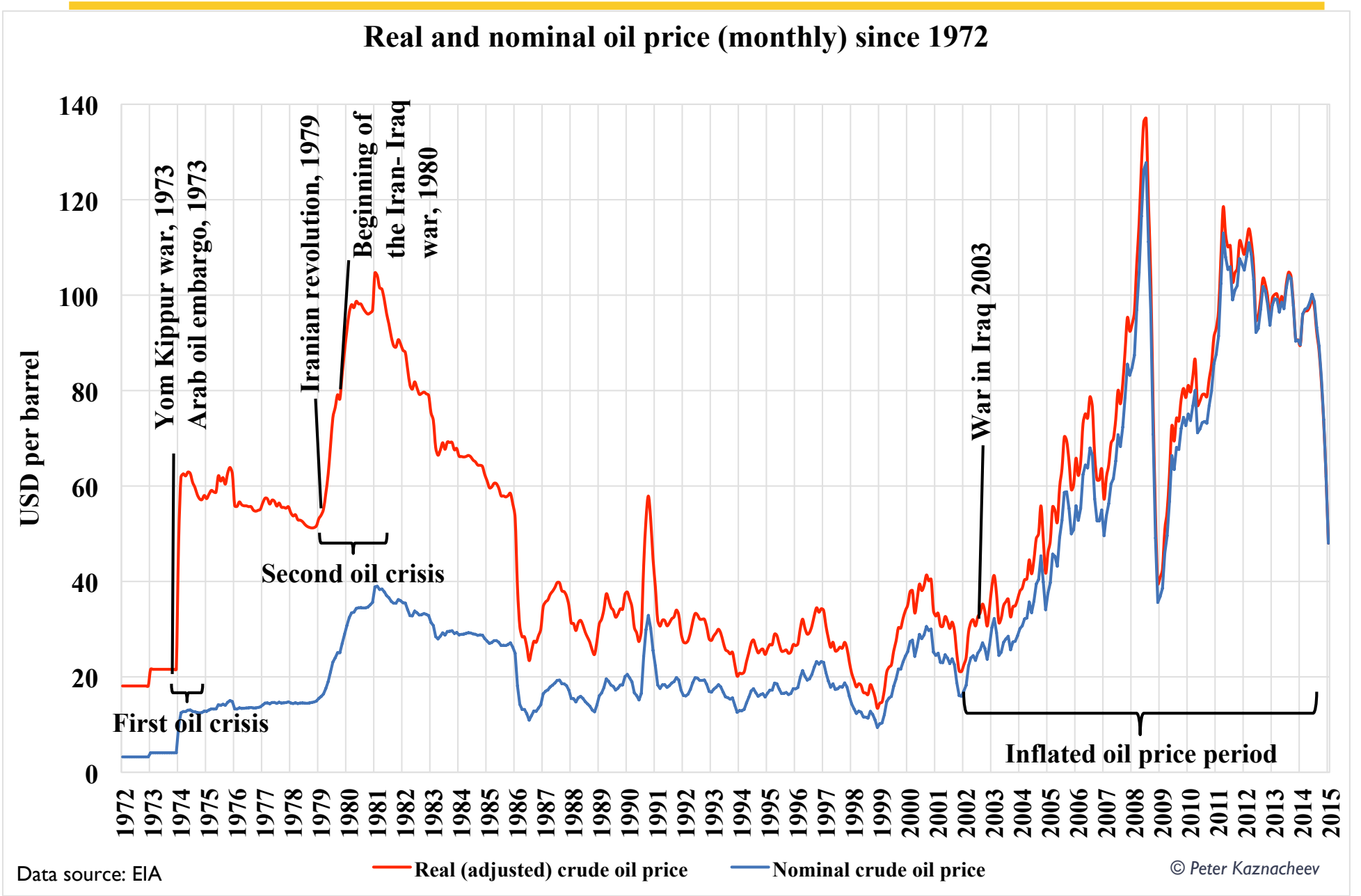
Before the 70s oil price growth had been roughly in line with other commodities. 1973 gave a start to the "great oil price deviation"



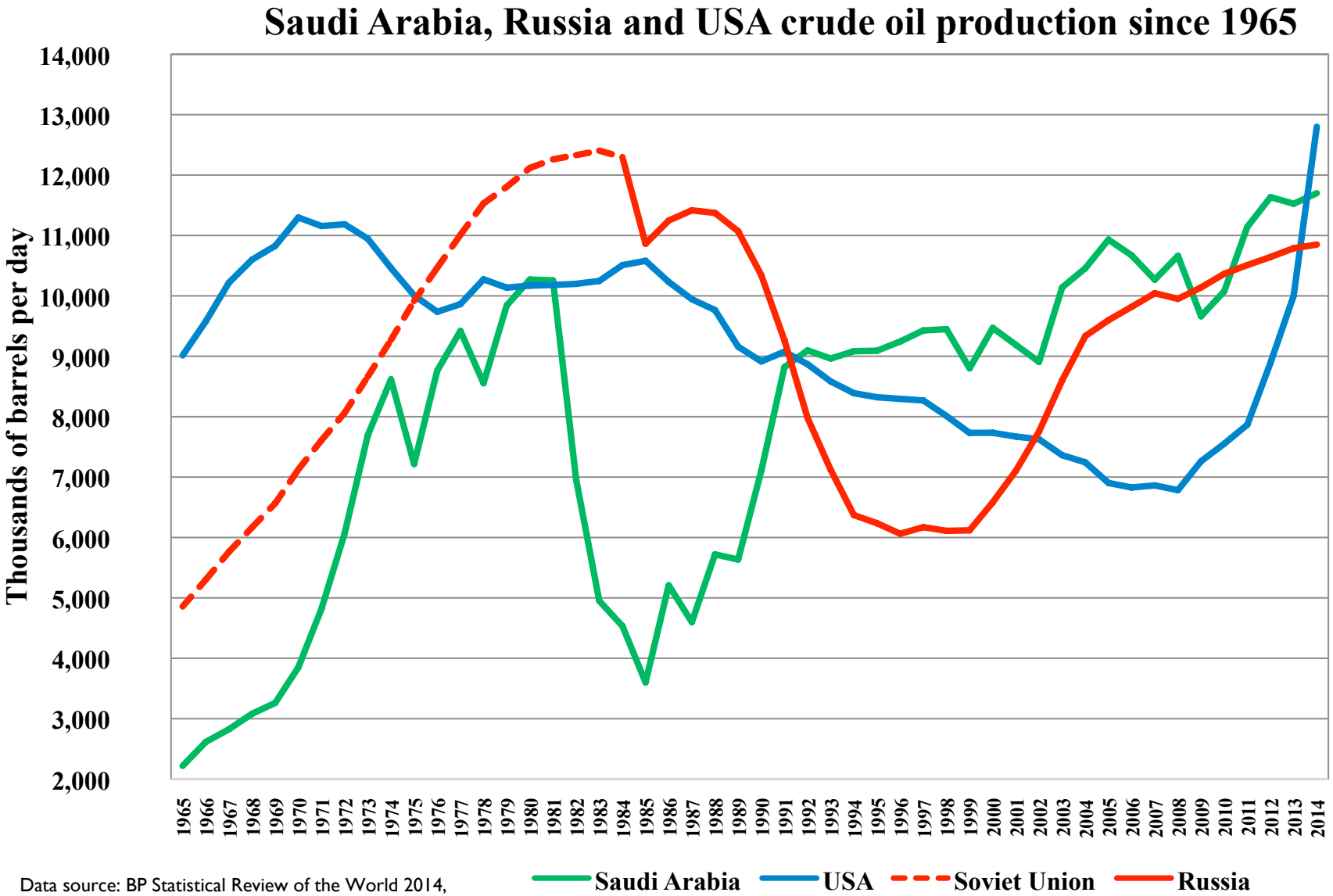
Oil price increases cannot be explained by the "peak oil hypothesis" as crude reserves continued to grow rapidly, contrary to what the hypothesis had predicted



The three most significant oil price hikes coincided with major armed conflicts in the Middle East



In 2014 (for the first time since the 1970s) US crude production surpassed that of Russia and Saudi Arabia. The shale revolution shifted the role of "swing producer" from Saudi Arabia to the US. That removed part of the political risk premium from the oil price

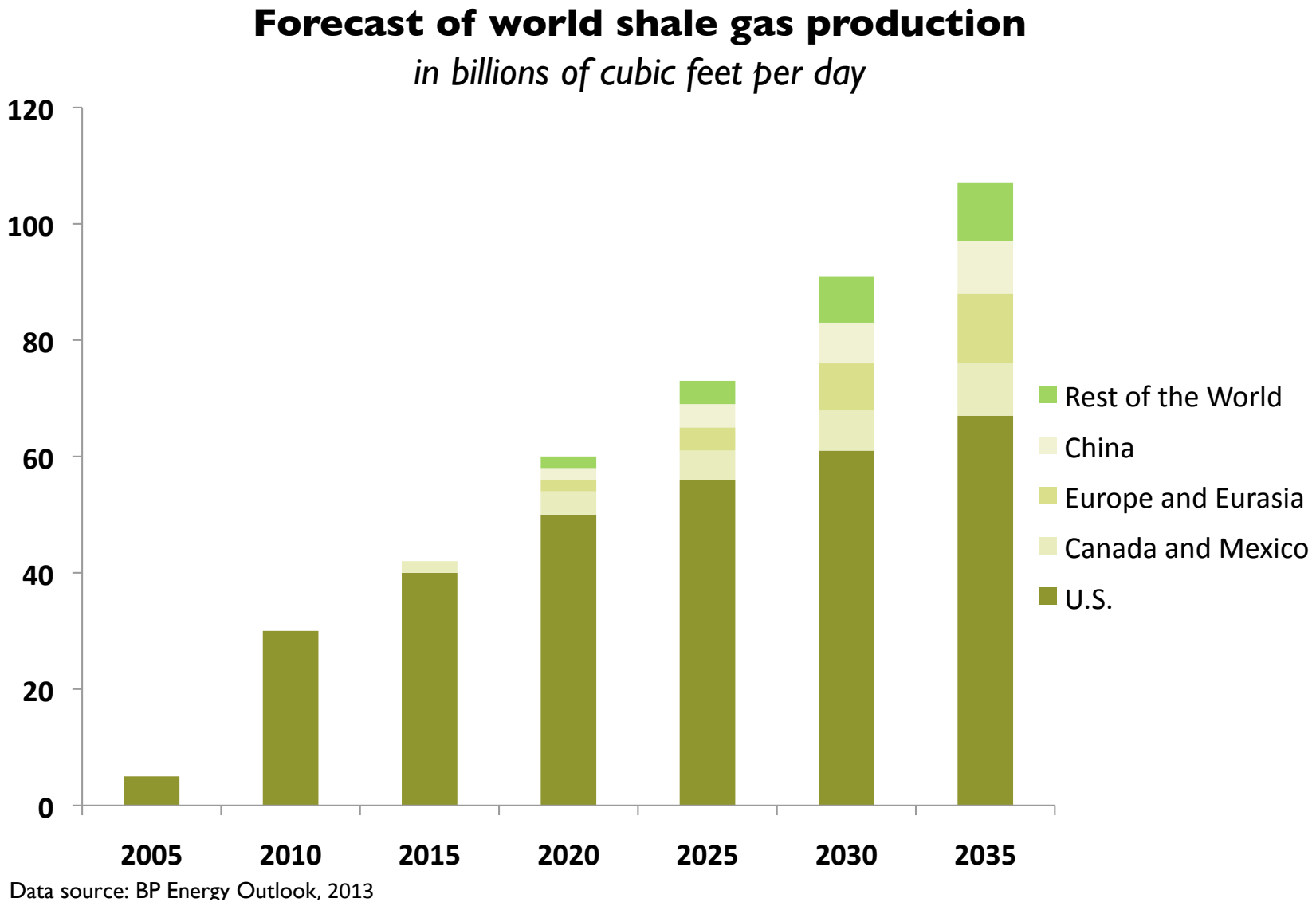


Data source: BP Statistical Review of the World 2014, OPEC Monthly Oil Market Report (March 2015)

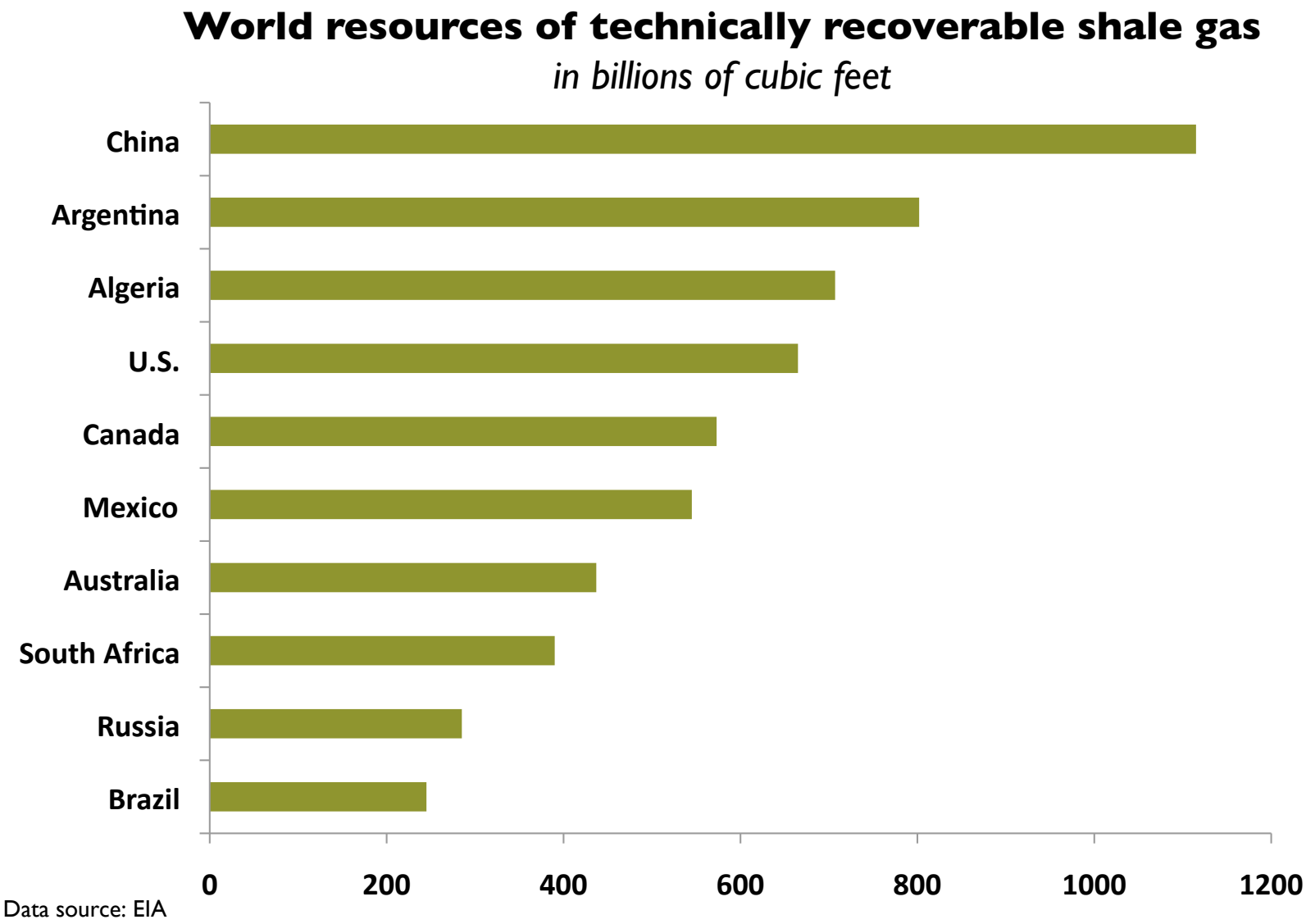
Summary

- Armed conflicts in the Middle East stopped having a significant influence on the oil price which continued to drop throughout the second half of 2014. This is due to the partial de-politisation of of the oil market which was caused by the shale revolution in the US and increased crude production in other countries outside of the Middle East.
- This is strikingly different from the dynamic of the oil price since the 1970s when military clashes in the Middle East were always causing a sharp reaction in the energy market.
- There were three significant price hikes since the 1970s – the longest of them started in 2003 and lasted for over 20 years. This long period of inflated oil prices cannot be explained without looking at political events and the structure of the oil industry.
- One feature of this long period of inflated oil prices is that the price of crude considerably outpaced other commodities.
- Oil price increases cannot be explained by the "peak oil hypothesis" as crude reserves continued to grow rapidly, contrary to what the hypothesis had predicted.
- The three most significant oil price hikes coincided with major armed conflicts in the Middle East, namely the Yom Kippur war, the Iran-Iraq war and the invasion into Iraq in 2003.
- In 2014 (for the first time since the 1970s) US crude production surpassed that of Russia and Saudi Arabia. The shale revolution shifted the role of "swing producer" from Saudi Arabia to the US. That removed part of the political risk premium from the oil price.

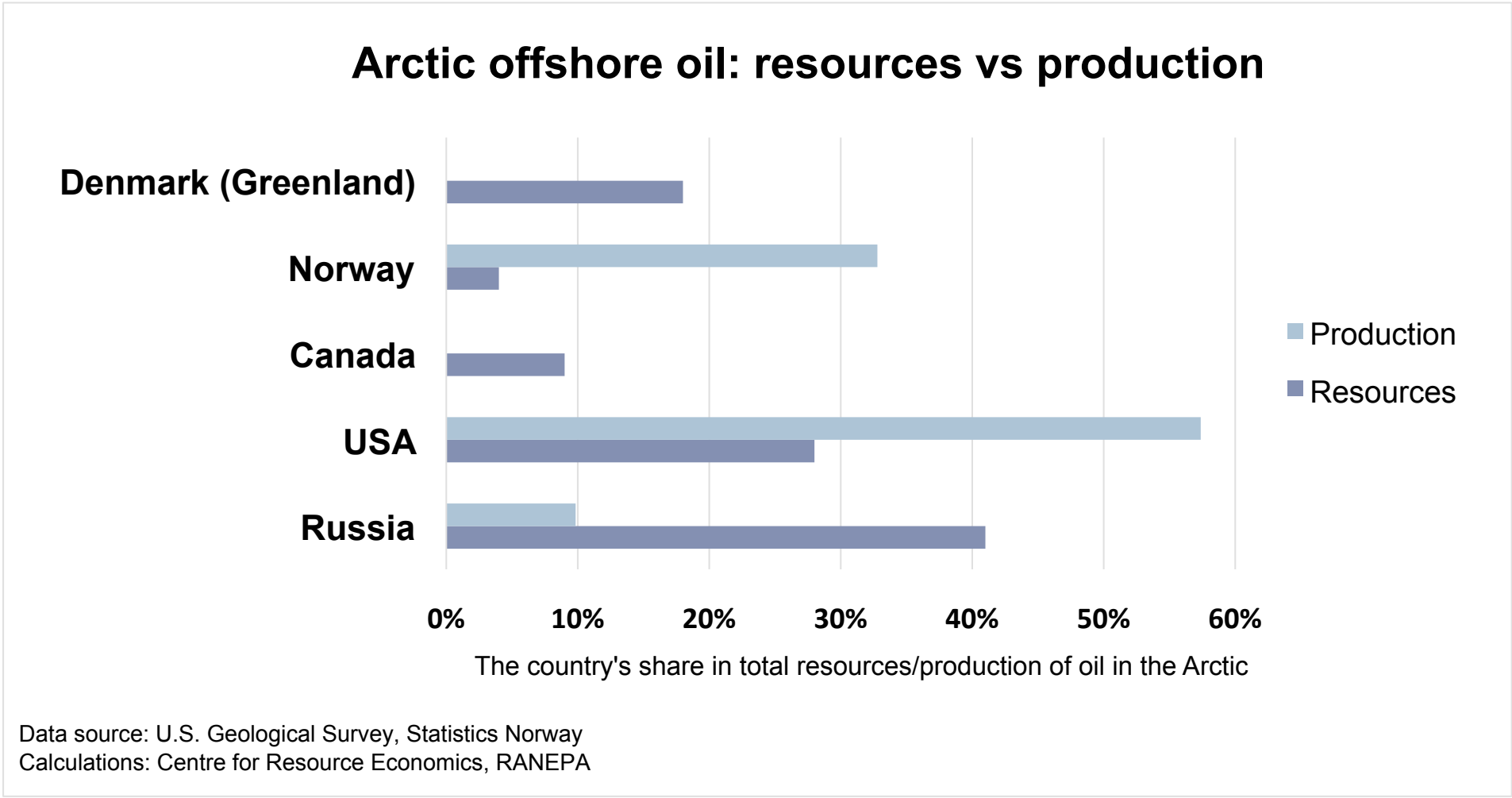
Virtually all current shale gas production comes from the US. Other regions are expected to start producing shale gas in the future but the US will be still producing the bulk of it



The US ranks only fourth in shale gas resources. It shows that the development of a certain commodity depends more on institutions than on physical resources in the ground

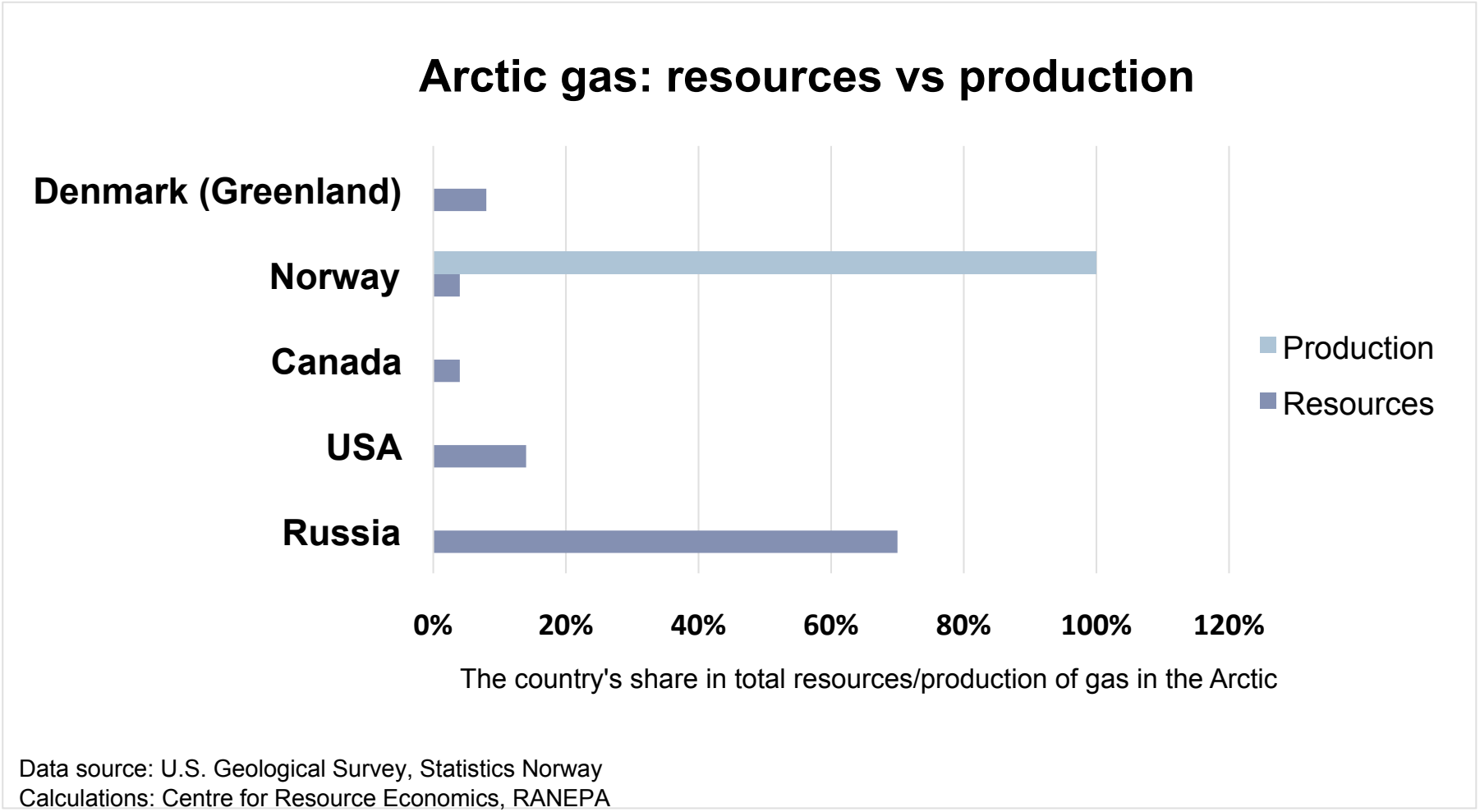


The situation with Arctic offshore exploitation is similar to shale gas: production volumes are determined not so much by the amount of resources...



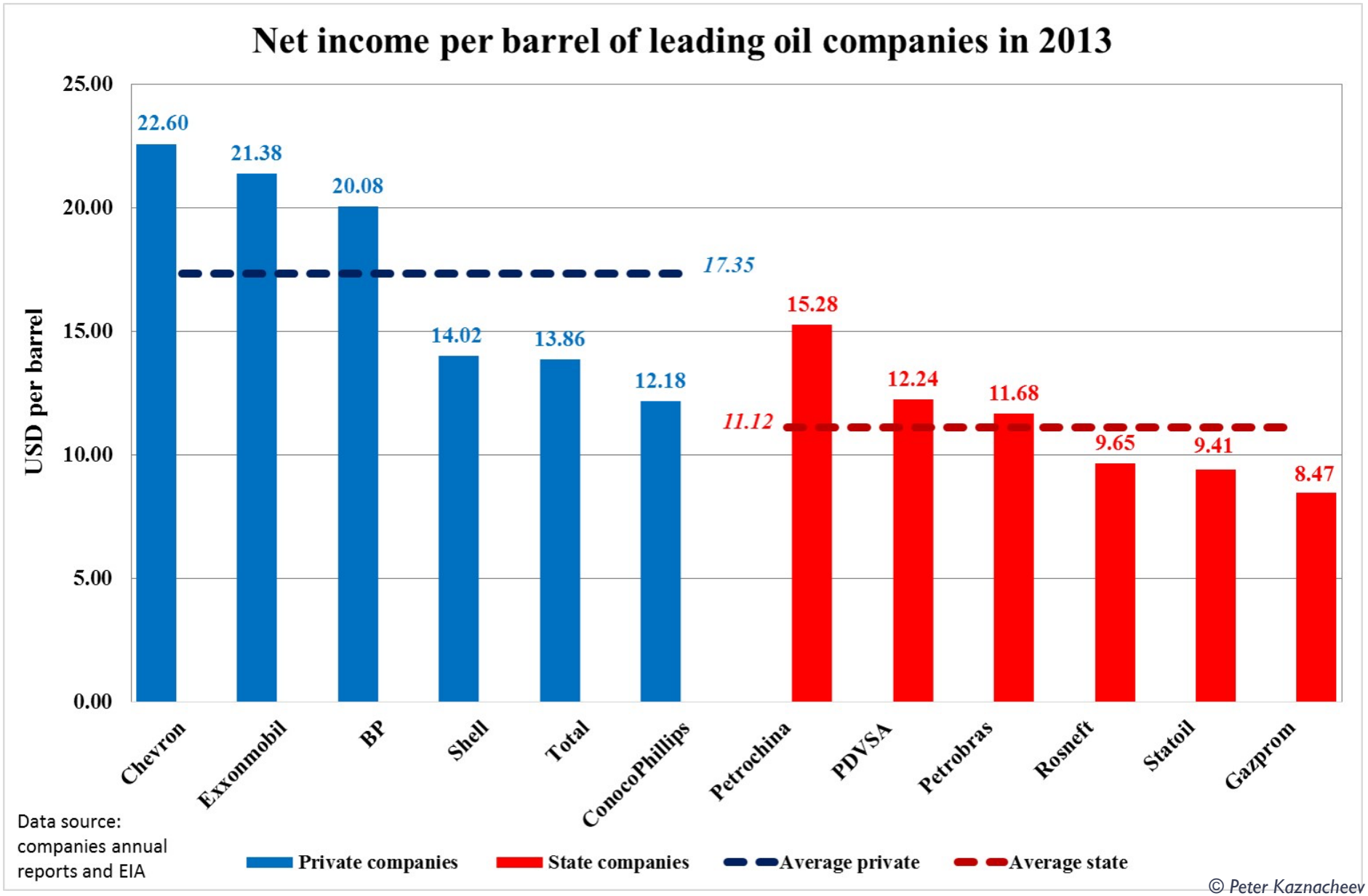
Data source: U.S. Geological Survey, Statistics Norway
Calculations: Centre for Resource Economics, RANEPA

...but by the institutional framework and the regulatory system in place

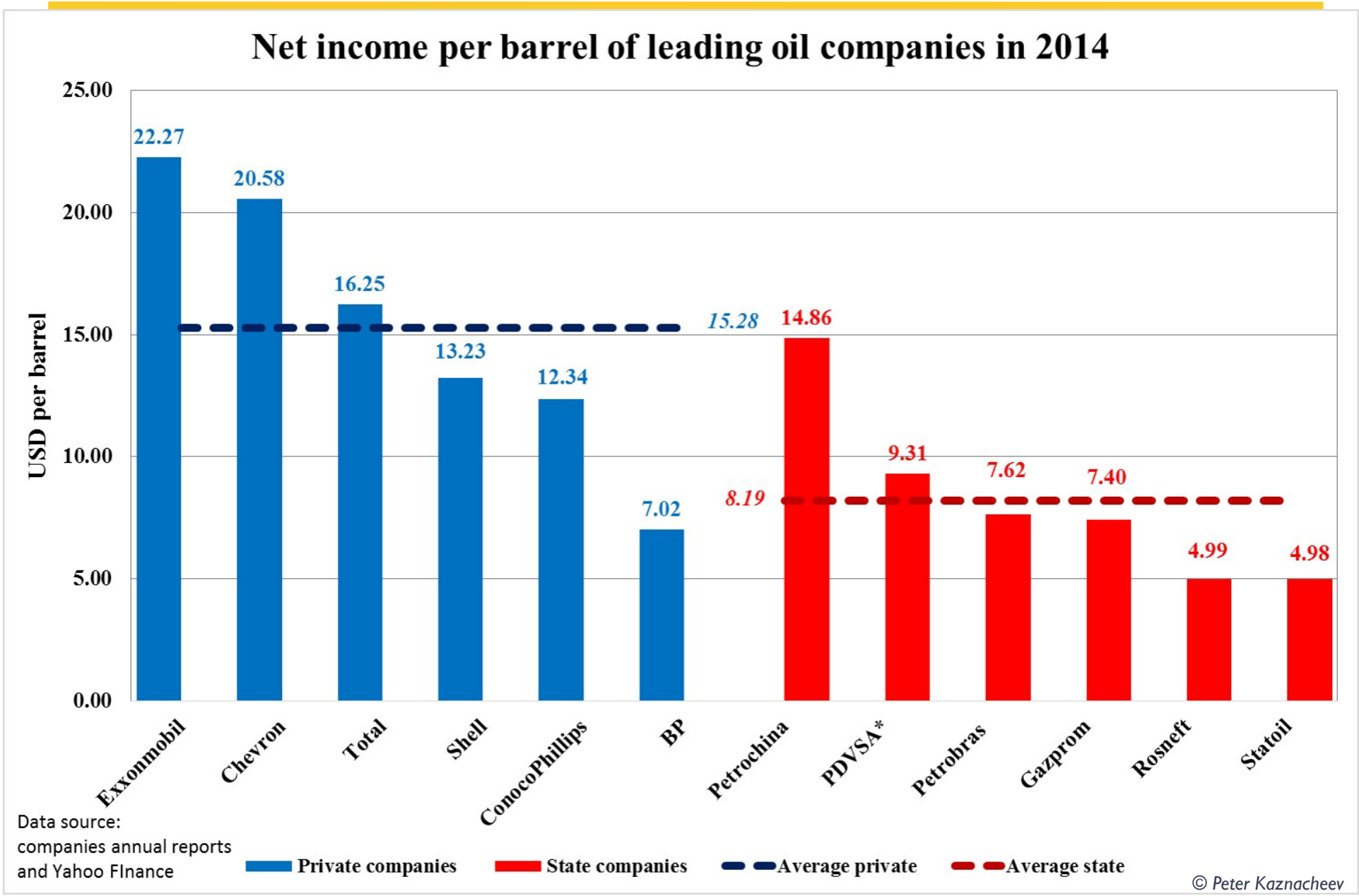


Data source: U.S. Geological Survey, Statistics Norway
Calculations: Centre for Resource Economics, RANEPA

In 2013, before the oil price drop, net income per barrel for the six largest private companies was 56% higher than for the six largest state-owned companies.



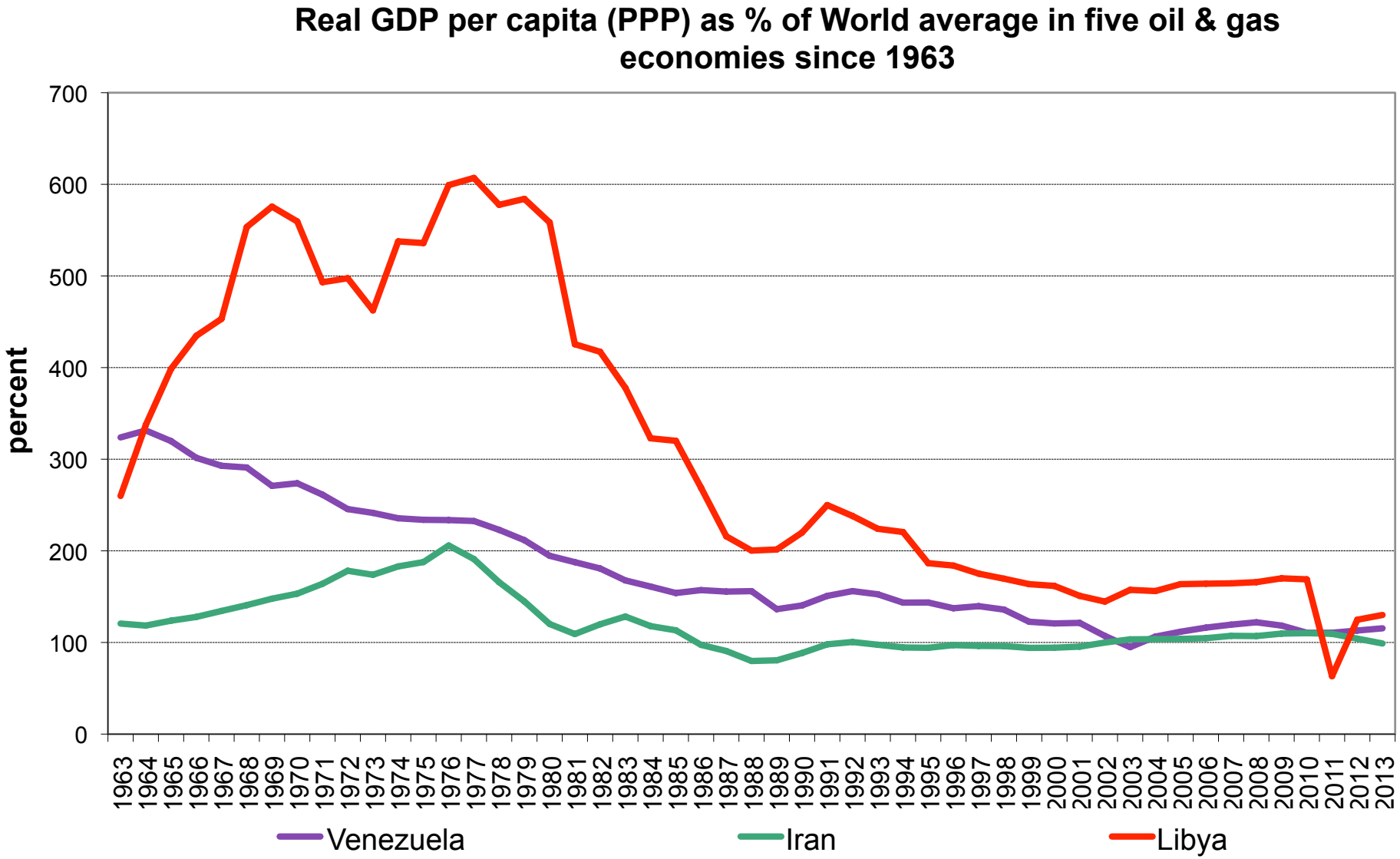
In 2014 the performance gap widened to 86%. This shows the overall advantages of private management of oil production, including stronger resilience to lower oil prices



Summary

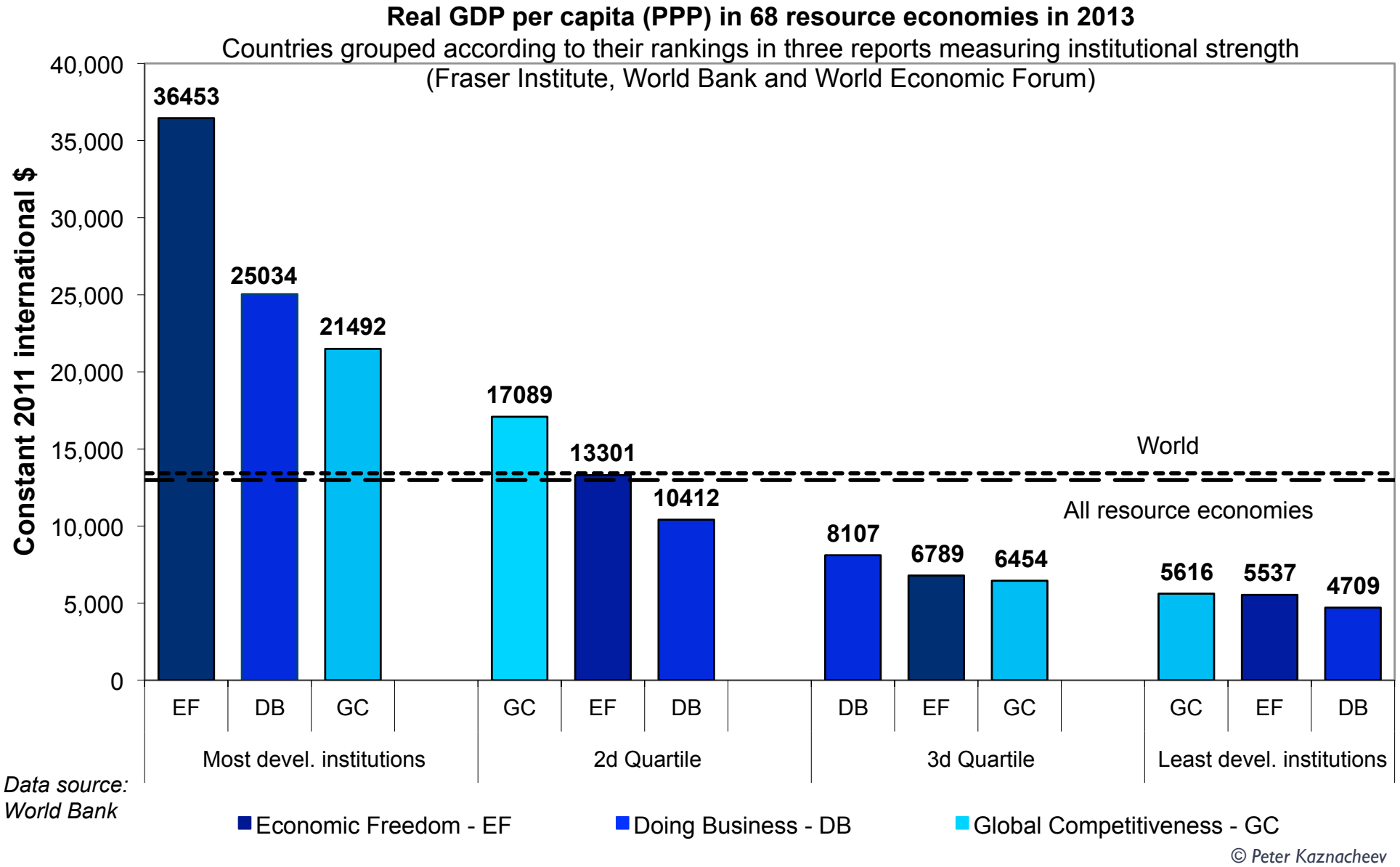
- Several strategic factors that increased supply and slowed down demand created a critical mass of changes on the global oil market. These factors occurred simultaneously, which led to the correction of prices. One of such forces was a breakthrough in developing shale deposits.
- It is no coincidence that the shale revolution took place in the United States where property rights are secure and there is no single state-owned company dominating the oil industry.
- One of the characteristics of shale deposits is the small size of wells. Drilling expenses are significantly lower than on traditional deposits. This affects the structure of the shale industry.
- In some sense the shale industry is conceptually closer to the Silicone Valley model and venture capitalism than the traditional oil and gas sector with its multi-billion projects. The shale revolution's main driving force is junior independent innovation companies, which are fiercely competing with each other.
- The US ranks only fourth in shale gas resources but accounts for practically all of current global shale gas production. Similarly, the US is the leader in developing Arctic offshore deposits although it's only third in resources after Russia and Norway. It shows that production of a certain mineral depends more on the strength of institutions rather than on physical volumes in the ground.
- In 2013, before the oil price drop, net income per barrel for the six largest private companies was 56% higher than for the six largest state-owned companies. In 2014 the performance gap widened to 86%. This shows the overall advantages of private management of oil production, including stronger resilience to lower oil prices.

Effects of institutional deficiency in resource economies. Countries with the most evident institutional failures are facing severe economic stagnation and even decline



Data source: World Bank

In resource economies with developed institutions and high levels of economic freedom, real per capita income and human development scores are significantly higher

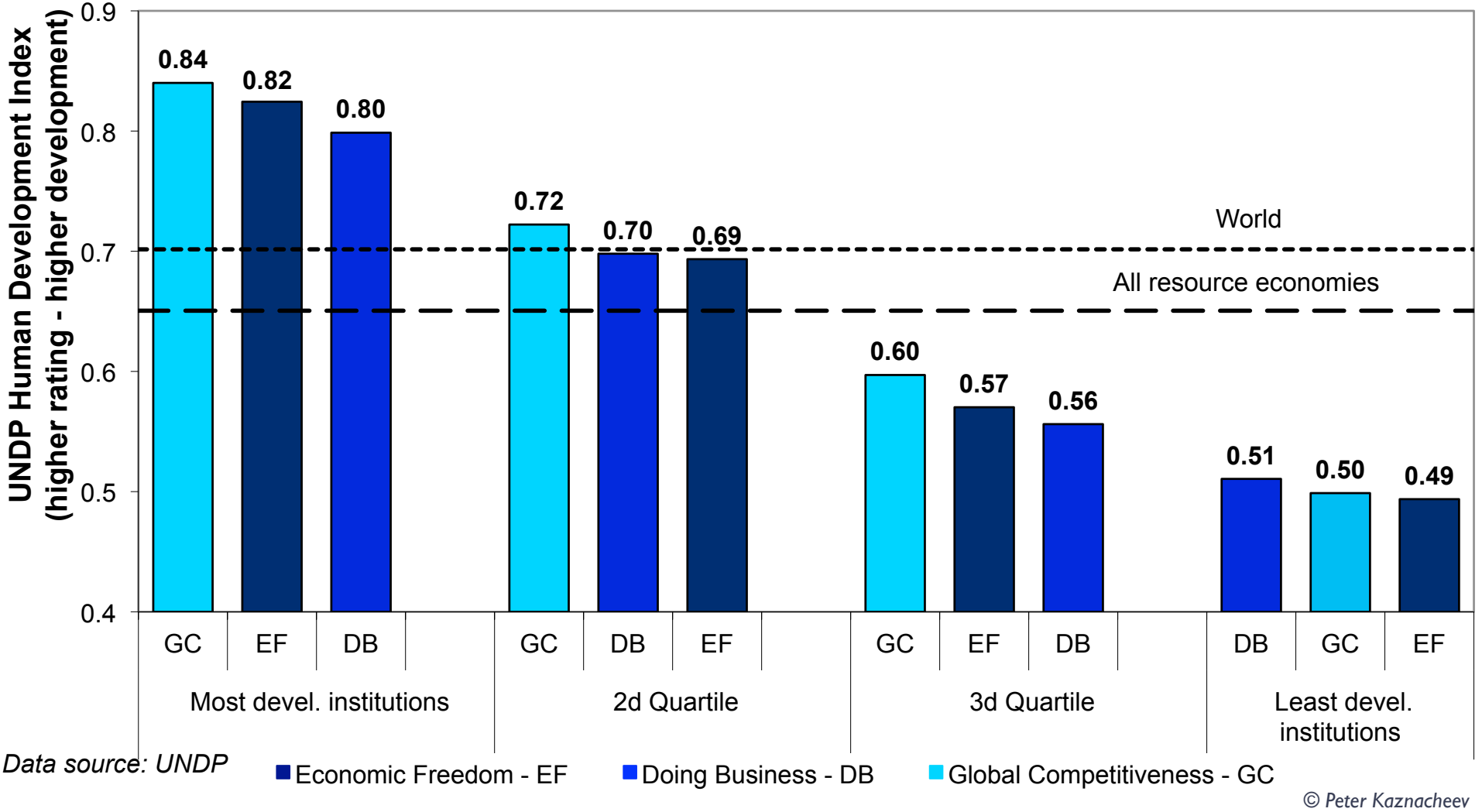


Data source: World Bank

Oil exporting countries, such as Canada, Australia, Norway and Malaysia, demonstrate that it is possible to build a prosperous and innovative economy with a significant share of income from the sale of hydrocarbons

Human Development Index (HDI) in resource economies, 2013

Countries grouped according to their rankings in three reports measuring institutional strength (Fraser Institute, World Bank and World Economic Forum)

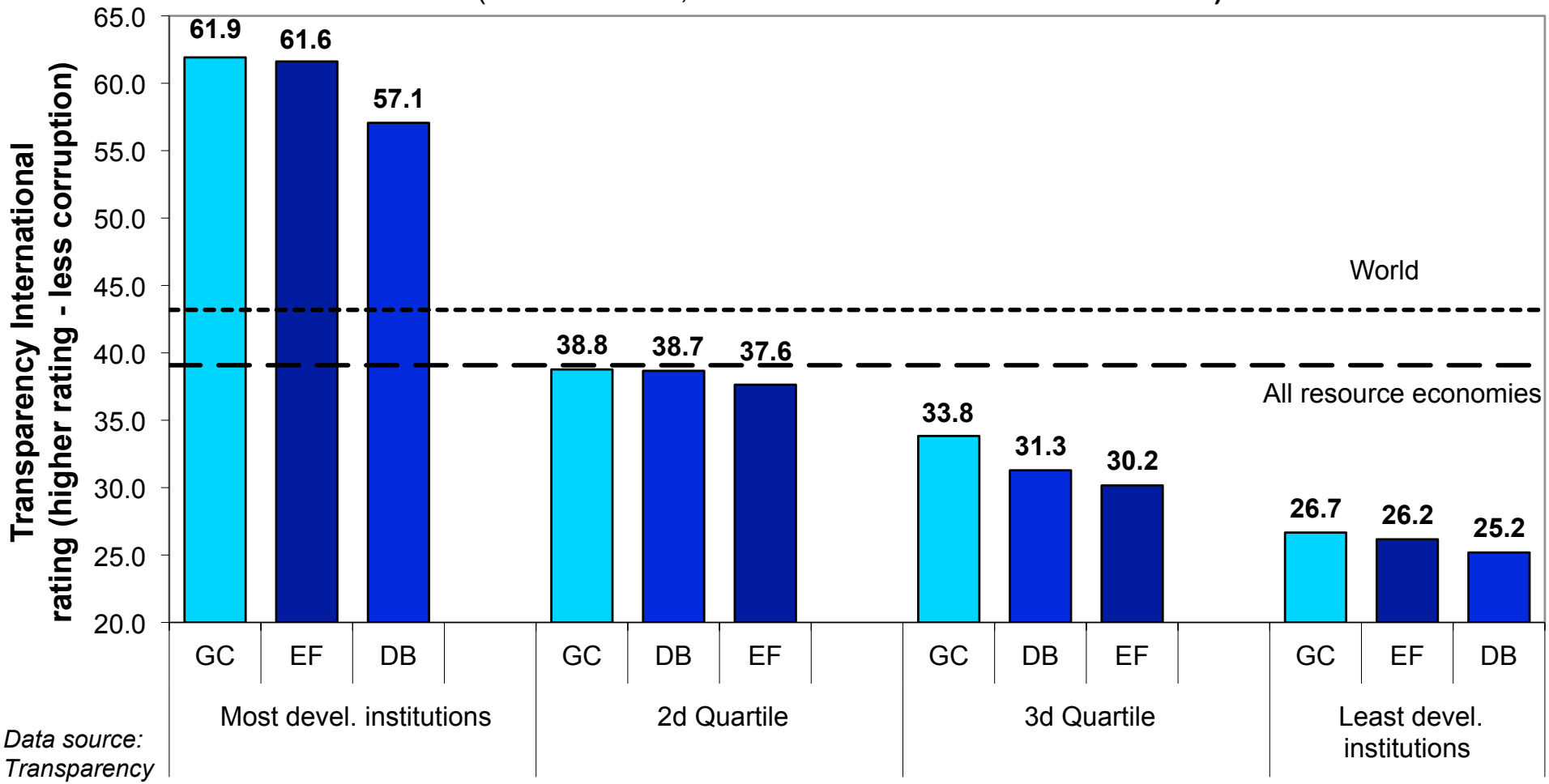


Data source: UNDP

Evidence is at odds with the "resource curse" hypothesis and with the idea that mineral exporting countries are doomed to rent-seeking and corruption. In resource economies with strong institutions corruption levels are significantly lower

Freedom from corruption in resource economies, 2014

Countries grouped according to their rankings in three reports measuring institutional strength (Fraser Institute, World Bank and World Economic Forum)



Data source: Transparency International

The Petrobras corruption scandal triggered a civil protests against Brazil's president Dilma Rousseff and her leftist economic policies. There is a surge in opposition movements in other Latin American petro-states with socialist leaders – Venezuela and Bolivia

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In Nigeria the economic crisis and rampant corruption contributed to a change of the political regime. One of the main campaign messages of the new president Muhammadu Buhari is fighting corruption, specifically in Nigeria's oil sector

Summary

- The 1960s and 1970s saw the peak of resource nationalism which drove the creation of OPEC. The level of institutional development in many OPEC countries then began to fall.
- Oil economies with the most evident institutional failures, such as Venezuela, Iran, Nigeria, Libya, and Algeria, were facing severe economic stagnation and even decline despite record oil prices.
- At the same time, oil exporting countries, such as Canada, Australia, Norway and Malaysia, demonstrated that it is possible to build a prosperous and innovative economy with a significant share of income from the sale of hydrocarbons.
- In oil economies with developed institutions and high levels of economic freedom, real per capita income and human development scores are significantly higher than the world average. This is at odds with the "resource curse" hypothesis.
- The crash of the price of crude is starting to have a noticeable impact on the political landscape in several oil economies, including Brazil, Venezuela, Bolivia and Nigeria.
- Low prices are forcing some governments to look for alternatives to resource nationalism and corrupt rent-seeking as civil protests are demanding a change in the way oil rents are managed and distributed.
- An important reason for a change in social attitudes is the principally new level of availability of information and the speed of its distribution. This relates to investigations into abuses of power by state officials, mismanagement of funds and the overall economic inefficiency all of which are getting harder to hide and become known to millions of people.