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The Hormuz Blockade: Winners, losers, and vulnerabilities

This policy paper presents calculations and modeling of how oil producers and consumers in selected countries may be affected by the de facto blockade of the Strait of Hormuz. We study two scenarios: one where strategic inventories cushion the effects, and one where inventories have run out. Russia profits substantially, equivalent to 6-11% of GDP, driven by higher global oil prices and a potential reduction in the sanctions-induced discount on Russian oil. Net oil importers lose - most substantially India, to some extent China, and to a lesser extent Europe. Within Europe, most countries lose, with the exception of Norway and possibly Estonia. Gulf countries generally lose since they cannot export their oil. Surprisingly, Saudi Arabia can make a net profit by earning high prices for oil redirected to its western ports.

We also analyze oil inventories to measure importers' vulnerability. India is by far the most vulnerable among larger economies, due to limited storage, high net imports, and an oil-intensive economy. China is less vulnerable, and Europe is the least.

Finally, we discuss how the crisis may trigger a macroeconomic recession, reshape long-run oil demand, destabilize OPEC, and create domestic tensions between those who gain and those who lose from an oil-price shock

Introduction

Since the end of February, the Strait of Hormuz has been almost fully closed for oil transports. Under normal circumstances, around 20% of the global supply passes through the Strait. In this policy paper, we present rough calculations and modeling of how producers and consumers of oil in selected countries may be affected by the de facto blockade of the Strait of Hormuz. We then briefly discuss some potential implications and uncertainties on the longer-run effects of the current crisis. A caveat throughout the analysis is that both the conflict and the oil market are evolving rapidly. The assessments and choices are based on our best judgment at the time of writing.

Disruption scenarios - short and medium term

The model we use to assess the changes in consumer surplus and producer profits is a simple supply and demand model of oil. It is akin to Gars et al. (2025), which studies how different countries would be impacted by a Russian oil-export restriction, i.e, a supply shock. In this policy paper, the restriction of supply comes instead from a reduction of the exports of countries inside the Strait of Hormuz. In the appendix, we describe the data and methods we use and briefly discuss their limitations.

Table 1 shows the key parameters for the situation

¹ We deem the assumed redirected volumes as optimistic, as such flows have not been seen historically, and that both routes could be targeted in a prolonged conflict.

² On 11 March, IEA members decided to release 400 mb of their inventories. At a release speed of 5 mb/d that will last for 80 days.

before the disruption and for our two disruption scenarios. Before the war, the affected Gulf countries exported 21 mb/d, of which 18 mb/d is seaborne through the Strait of Hormuz. In our blockade scenarios, exports from Bahrain, Iran, Iraq, Kuwait, and Qatar are zero, since they have no alternative routes. Saudi Arabia has a pipeline to the Red Sea that normally runs at 2 mb/d; we assume this can be increased to 5 mb/d in our analysis. The UAE has a pipeline bypassing the strait that normally runs at 1.1 mb/d; we assume this flow can be increased to 1.8 mb/d.¹ Consequently, the supply disruption from the Gulf is the seaborne oil that cannot be redirected via pipelines, and this is a flow of 14.2 mb/d in both our short and medium-term scenarios. Since we assume that the domestic consumption in the Gulf states is unaffected (see Appendix), we do not include it in our analysis.

Our short-term scenario reflects the period in which non-Gulf countries have inventories to draw from, while our medium-term scenario reflects the situation in which all inventories are depleted. In the short-term scenario, we assume inventory draws of 5 mb/d.² Furthermore, a minor part of the disruption is compensated for by increased production in non-Gulf countries.³ The final global supply disruption is 8.5 mb/d in the short-term scenario and 13.1 mb/d in the medium term. The model then yields a global oil price of 120 \$/b in the short term and 158 \$/b in the medium term.

³ This increase is endogenously generated by the model. The increase is 0.7 mb/d and 1.1 mb/d in the short- and the medium-run scenario respectively.



Table 1: Quantities and prices (data and model) in different scenarios

| | <i>Pre blockade</i> | <i>Short term</i> | <i>Medium term</i> |
|---|---------------------|-------------------|--------------------|
| Gulf countries net exports, mb/d | 21.03 | 6.80 | 6.80 |
| Bahrain, mb/d | 0.12 | 0.00 | 0.00 |
| Iran, mb/d | 2.66 | 0.00 | 0.00 |
| Iraq, mb/d | 3.44 | 0.00 | 0.00 |
| Kuwait, mb/d | 2.36 | 0.00 | 0.00 |
| Qatar, mb/d | 1.58 | 0.00 | 0.00 |
| Saudi Arabia, mb/d | 7.24 | 5.00 | 5.00 |
| United Arab Emirates, mb/d | 3.64 | 1.80 | 1.80 |
| Gulf supply disruption, mb/d | 0.00 | 14.23 | 14.23 |
| Inventory draw, mb/d | 0.00 | 5.00 | 0.00 |
| Non-Gulf production increase, mb/d | 0.00 | 0.7 | 1.11 |
| World oil production (excl. Gulf domestic)⁴, mb/d | 95.02 | 81.49 | 81.90 |
| World supply (production + inventory), mb/d | 95.02 | 86.49 | 81.90 |
| World supply disruption, mb/d | 0.00 | 8.53 | 13.12 |
| Price, \$/b | 75 | 120.03 | 157.67 |

⁴ Gulf domestic production/consumption is 8.31 mb/d in all scenarios.

⁵ In January 2026 the total discount on Russian oil was around 30 \$/b. This discount consisted of a transport cost premium and a buyer's discount at the importer's port. Both of these were driven by sanctions and bargaining power (see Spiro et al., 2025; Kilian et al., 2025) which we assume have

Finally, in the pre-war scenario, we assume a total Russian sales discount of 20 \$/b on Russian oil to China and India due to sanctions, while Russian exports to other countries have no discount. The total discount has two components, the buyer's discount and transport cost premium. China and India receive the buyer's discount of 10 \$/b, while intermediaries receive the transport cost component of 10 \$/b. In the disruption scenarios, we assume that the discount disappears due to relaxed sanctions. This is a key uncertainty in our analysis.⁵

Results: Winners and losers of a blockade in the short run

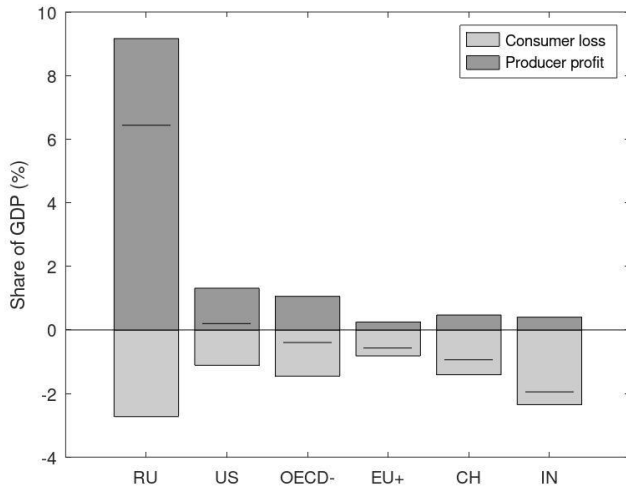
Figures 1-3 show the results of a blockade scenario in the short run, that is, with inventory draws. Figure 1 depicts producer profit increase (dark) and consumer loss (light), both relative to GDP, for selected countries and groups of countries. The total of these (production minus consumption) constitutes the country's change in net gains and is marked by the black bar. As can be seen, Russia profits considerably from the blockade. This is mainly due to the general price effect and to a lesser degree due to the assumed disappearance of the discount on its oil. The US profits marginally since it is a slight net exporter. EU+ (EU, Norway, Iceland, Switzerland and UK) and OECD- in total lose marginally.⁶ China loses more and India loses substantially. The reason for this pattern is that

disappeared under the blockade. This is a key uncertainty. Should the discount not disappear, our results overstate Russian gains, and the losses for China and India.

⁶ OECD- consists of OECD except EU+ and US: Canada, Chile, Mexico, Australia, Japan, South Korea, New Zealand and Turkiye.



Figure 1: Producer profit and consumer loss, relative to GDP, induced by a blockade when inventory draws add 5 mb/d to the global market.



both China and India have a higher oil intensity than EU+ and that they lose both due to the world

oil price increasing and due to the assumed elimination of the discount on Russian oil.

Figure 2 shows the equivalent producer profits and consumer losses broken down for the EU+ group. Notably, nearly all countries make net losses, with the major exception of Norway and the minor exception of Estonia.

Figure 3 shows the producer loss in the Gulf countries subject to the blockade. Most of them lose considerably from the blockade. The exception is Saudi Arabia, which enjoys a profit increase on the oil it does manage to export through its Western ports. This attenuates the loss it makes when not being able to export through its Eastern ports in the Gulf.

Figure 2: Producer profit and consumer loss, relative to GDP, induced by a blockade when inventory draws add 5 mb/d to the global market.

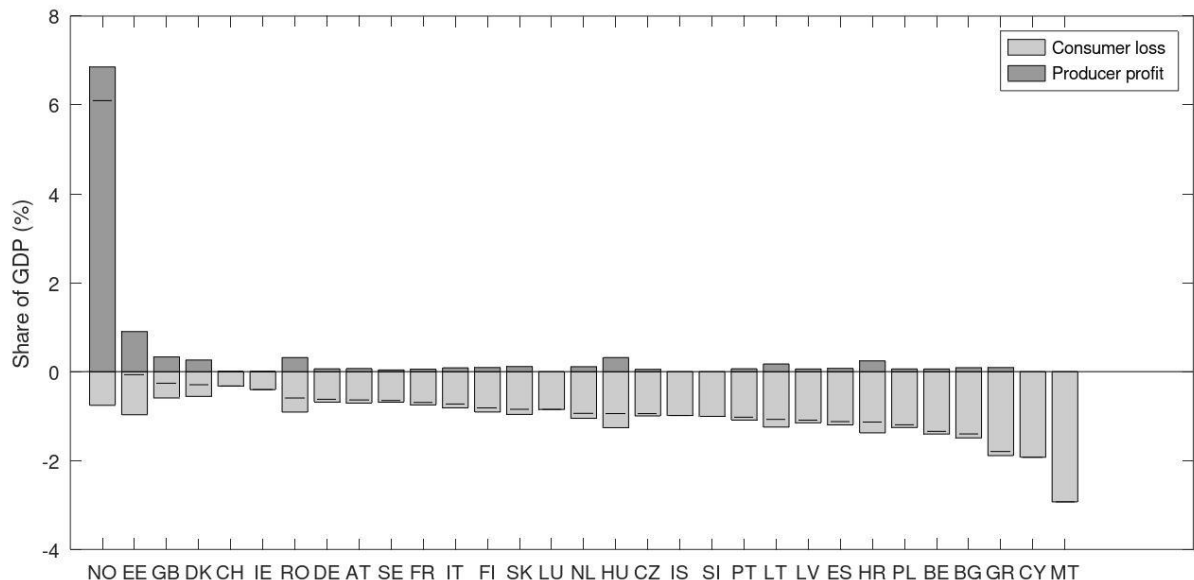
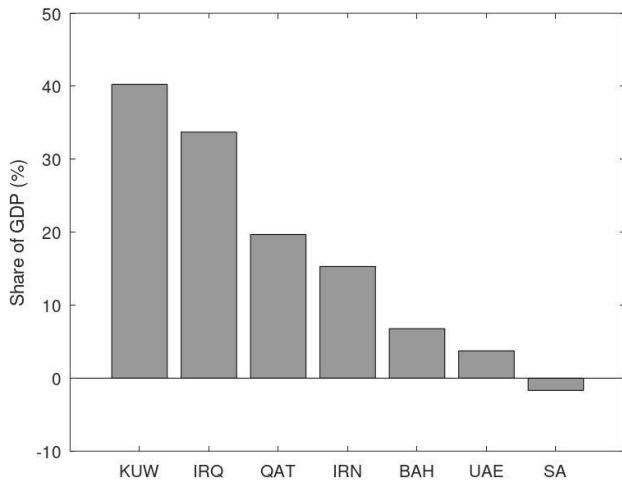


Figure 3: Lost export revenues for the Gulf states, relative to GDP, induced by a blockade, with inventory draws of 5 mb/d to the market.



Results: Winners and losers of the blockade after inventories have run out

Figures 4-6 show the results of a blockade scenario in the medium run. We here use the same parameters and quantities as in the short run, with the difference that we set inventory draws to zero. This is meant to capture the effects after the inventories have run out. This may happen should the blockade last for, say, 12 months. Here the price increases to 158 \$/b. The transition between the previous short-run scenarios and the medium-run scenario will likely come gradually as the inventories are emptied.

Figure 4 shows the producer-profit increase (dark) and consumer loss (light), again relative to GDP, for selected countries. The results are similar to those in the short run, just more pronounced, so

producers make larger profits and consumers make larger losses. Most pronounced is that Russia makes a net profit increase of around 11% of GDP while India's consumers bear a cost equivalent to roughly 4% of GDP.

Figure 4: Producer profit and consumer loss, relative to GDP, induced by a blockade when there are no inventory draws.

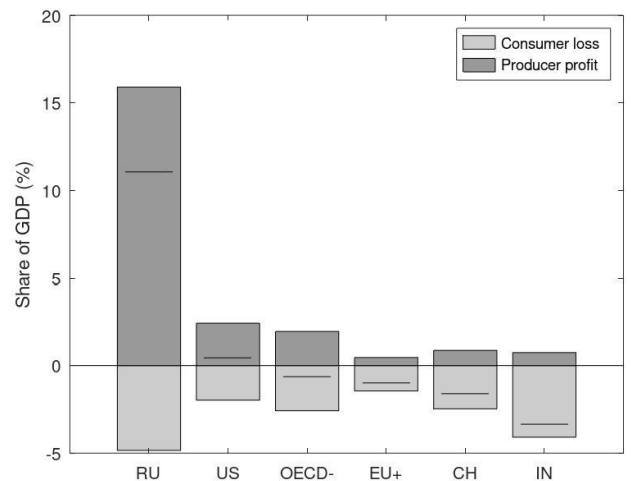


Figure 5 shows the breakdown for the countries in EU+. The results are akin to those in the short run, but again more pronounced.

Figure 6 shows the profit losses in the countries subject to the blockade. The difference to the short run is that now Saudi Arabia enjoys an even higher price effect on its western oil, so in total makes a substantial profit. Furthermore, the price effect is strong enough to make the United Arab Emirates increase its profits.



Figure 5: Producer profit and consumer loss, relative to GDP, induced by a blockade when there are no inventory draws.

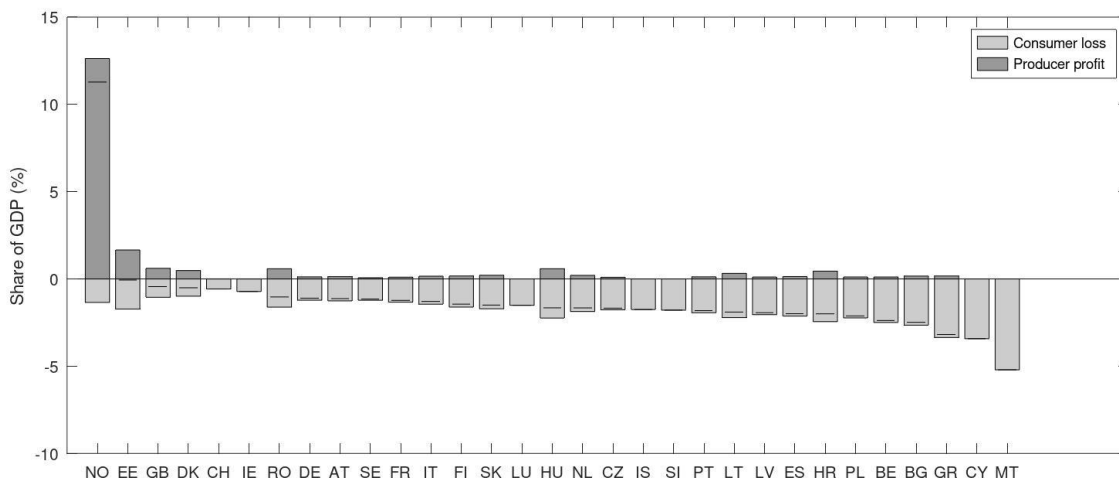
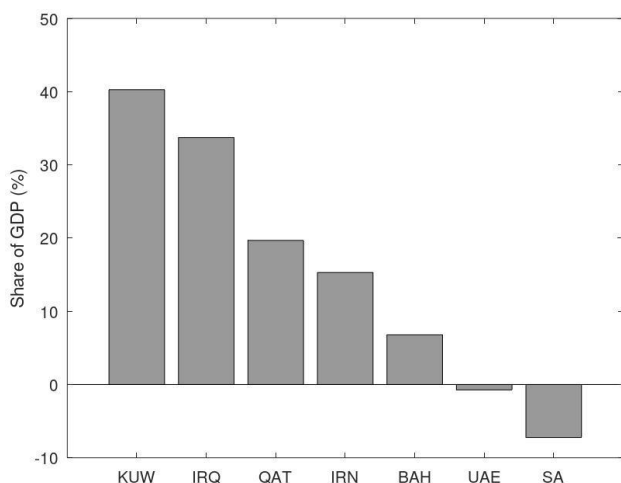


Figure 6: Lost export revenues for the Gulf states, relative to GDP, induced by a blockade, when there are no inventory draws.



Results: Inventories and oil reliance

In total, global oil inventories (crude and products) are estimated at 8210 mb as of January 2026, according to the IEA March 2026 Oil Market Report and other sources. Around half, 4088 mb, is held by OECD countries. OECD Europe holds 1285 mb, and the United States holds 1700 mb. China holds 1200 mb, India 250 mb, and other non-OECD

countries hold 693 mb. Some of these consist of governments' strategic reserves, while others consist of commercial stocks. Oil on water is estimated at 2000 mb. This is oil on tankers, either for storage or on the way to a buyer. Ignoring oil on water, the inventories could in theory cover 60 days of world consumption or around 400 days of disrupted supply due to the blockade.

On 11 March, the IEA and its 32 member countries decided to release 400 mb from their emergency stocks of 1200 mb and 600 mb of industry stocks held under government obligations. 400 mb is equivalent to 28 days of lost exports due to the blockade. In our short-term scenario, we assumed a draw of 5 mb/d. 1200 mb of emergency inventories would last for 240 days with such a draw. Under a slower release, of say 2 mb/d, the release will last for longer, but will then, of course, replace less of the blocked oil.

The oil released through this IEA decision will be released to the global market. It should thus have the same effects as increased production, benefiting any consumers of oil, wherever they reside. Should the blockade outlast this time span,



and under the uncooperative nature of the current geopolitical landscape, it is, however, conceivable that some countries will choose to prioritize supplies for their own markets. In such a scenario, each country or geopolitical block may treat itself as an isolated market.

We briefly look here at how vulnerable different groups of countries would be to such a development. Figure 7 shows for select countries and groups of countries how much storage they have relative to their net imports. The values imply how many days of imports their storage can cover.⁷ India could cover the shortest period of a disruption, followed by China.

Figure 7: Oil inventories divided by daily net imports.

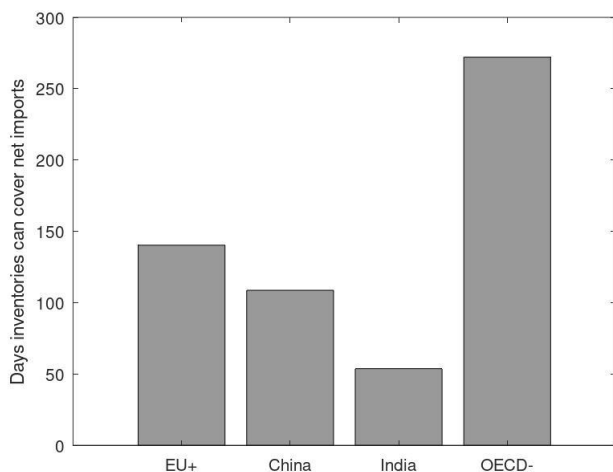


Figure 8 shows oil consumption expenditures as a share of GDP in the pre-blockade scenario. This captures how reliant different economies are on oil. India has the most oil-intensive economy, while the EU+ has the lowest oil intensity among these economies.

Figure 8: Oil intensity defined as oil expenditures divided by GDP pre blockade.

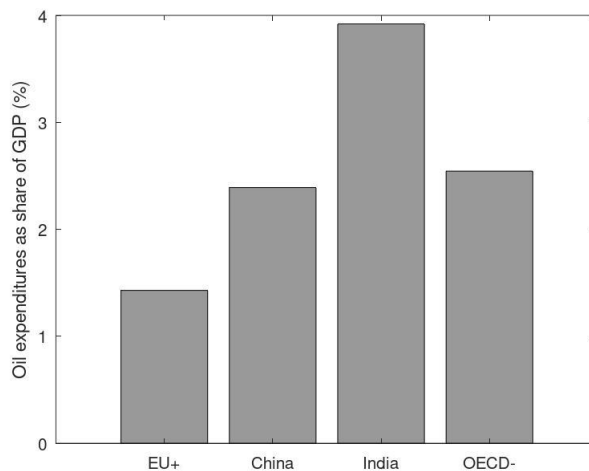
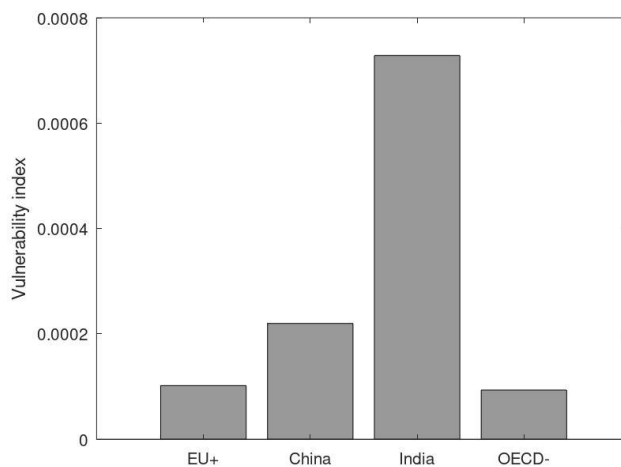


Figure 9 shows an index of vulnerability that takes into account both how oil-intensive and how import-dependent the economies are. More precisely, it calculates as $(\text{net imports/storage}) \times (\text{oil consumption expenditures/GDP})$. Here we clearly see that India is by far the most vulnerable: it has very high imports, low storage, and has an oil-intensive industry structure. EU+ is less vulnerable thanks to its economy having low oil intensity.

Figure 9: Vulnerability index defined as oil intensity multiplied by net imports relative to inventories.



⁷ Russia and US are net exporters so they do not, in theory, rely on storage should the market become fragmented. Hence we omit them from the figure. In practice, the US and

Russia may still be vulnerable as they, especially the US, rely on both imports and exports of various kinds of crude and products to optimize refineries and production, etc.



Discussion of further considerations and effects

Model scenario outcomes vs current market expectations:

Since the war started, global oil prices have been extremely volatile and have increased significantly. At the time of writing, Brent stands above \$100/b.⁸ A likely key driver of market movements is shifting assessments of how long the war and the de facto blockade will last. The current, relatively low price compared to our short- and medium-term scenarios (which assume prolonged disruptions), as well as sharply falling futures prices, indicates that the market expects a relatively short disruption. Our results thus show that if the disruption proves more persistent than currently priced by the market, oil prices could increase substantially from current levels, with significant implications for both energy markets and the broader macroeconomy.

Macroeconomic effects and inflation:

Our analysis is confined to the direct impact of the blockade on consumers and producers in various countries. The oil market is, however, large and fundamental in the sense that it constitutes a large share of GDP, and oil is an essential input to many production processes and economic activities. This means that a price shock can (and most likely will) spread throughout the macroeconomy in the form of inflation, reduced demand, and macroeconomic implications. Historically, such events have had profound effects (e.g., the oil shocks of the 1970s).

⁸ Many physical crude benchmark prices are even higher, as well as certain refined products, indicating a stressed oil market under volatile reconfiguration.

While today's economy is relatively less reliant on oil than it was then, the current disruption is larger. These contagious effects can happen both within a country (domestic buyers of oil-intensive products raise prices) or between countries (imports become expensive). This is not captured by our analysis but may ultimately become more serious and long-lasting than the initial direct effects.

Tensions within countries:

It is important to note that a country that on net gains from the blockade may still experience serious internal tensions since parts of its society gain (oil producers) while other parts lose (oil consumers). The net effects are informative to the extent that a country can reconcile these tensions, either by redistribution (such as in Norway), a high government take (such as in Russia and Norway), or by simply having a political system which can ignore the losers.

A possible excessive rebound effect:

Another factor not captured by the analysis is that the blocked countries have relatively flexible production allowing them to scale it up or down. This means that some of the oil they do not sell today because of the blockade can be sold tomorrow. Hence, over time they may recover some losses. Importantly, when the blockade disappears or eases, their exports of oil may be larger than Business as usual, implying excess supply and a substantial price drop. This may destabilize the world economy in the opposite



direction of what we see now. Countering this, countries may start replenishing their storage.

Long-run structuring of oil demand and supply:

Following the oil-supply shocks in the 70s, importers of oil and more generally energy-intensive industries made substantial investments into alternative energy sources and into energy efficiency. We may, rationally, expect a similar change following this blockade should it last. But there are also forces pulling in the opposite direction. After the energy disruptions and price surges following Russia's full-scale invasion of Ukraine, some countries (not least in the EU) decided to roll back fuel taxes (Gars et al., 2022). The motive for that was to mitigate the increased price facing consumers. Notably, many of these tax reductions remained even after the global oil price fell back. Basic economic theory would suggest an importer should keep fuel taxes when facing a supply disruption and use the proceeds to make transfers to the population. In particular, realizing oil supply shocks do occur, especially in a rivalrous geopolitical world, an oil importer should make efforts to reduce long-run reliance on oil. In the longer run this may benefit China who has a large market share in green technologies and associated materials.

Another pathway, not mutually exclusive with reducing demand, is that countries would increase domestic oil production where possible. Even though it is difficult to fully insulate an economy from global price shocks, the effects could be mitigated.

The effect on OPEC cooperation:

The blockade and, in particular, Iran's attacks on its neighbors' oil production is a stress test for OPEC.

How cooperation will evolve is difficult to predict. One possibility is that Iran is formally or informally left out of OPEC. Another is that Russia breaks out of OPEC+ or that the whole organization collapses. True, key members of OPEC (e.g., Iran and Saudi Arabia) have been regional adversaries for many years. But the escalation during this war is a substantial step into an open conflict.

Conclusion

This policy paper has – based on simple modeling of the oil market, – analyzed the immediate economic effects of the blockade of the Strait of Hormuz across countries and producers and consumers of oil. The effects are substantial, in particular for Russia (which profits significantly, 6-11% of GDP) and India (which incurs costs of around 2-4% of GDP). Europe is less affected compared to other countries and regions (0.5-2% of GDP), despite being a net importer of oil. This is thanks to its economy having low oil intensity. The US gains on net, since it is a net exporter of oil, but its consumers are subject to costs of around 1-2% of GDP due to its economy being oil-intensive. Perhaps surprisingly, even some of the Gulf countries can profit from the blockade if they manage to redirect their exports to ports outside the Strait of Hormuz.

The analysis shows that the existence and usage of oil inventories are of great importance. The inventories can only cover the supply disruption for about a year, or, if they are to last longer, replace only a small part of the shortage from the Gulf. If and when these inventories run out, the economic effects will be substantially larger. The inventories are not spread evenly: India is very



vulnerable to a shortage, while the EU is much less vulnerable.

The blockade puts the oil market under substantial stress. The paper attempts to gauge the direct effects, which are by themselves very uncertain. The indirect and longer-run effects are naturally even more uncertain and may be even more severe, as discussed in the report.

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Appendix: Data, method, and its limitations

We use data on oil production and consumption of different countries (from US EIA for 2024, the most recent year for which the full data set is available) to parameterize a model and compare how they fare without and with a blockade. For GDP, we use World Bank data for 2024.

The model used to assess the changes in consumer surplus and producer profits is a simple supply and demand model of oil. It is akin to Gars et al. (2025), but with the restriction of supply coming from a reduction of the exports of countries inside the Strait of Hormuz rather than sanctions on Russia. We assume demand elasticity is the same in all countries at -0.2 and a supply elasticity of 0.02 .⁹ For the short-run analysis, we assume an inventory draw of 5 mb/d. We abstract from the profits made when selling these. These assumptions are crude and naturally do not capture all the effects and nuances, some of which we discuss at the end of the brief.

The model implicitly assumes that oil on the market can be traded and rotated freely. In other words, even if the blocked oil was originally bound to, say, China, supplies from elsewhere will be redirected to China until prices equalize across destinations. Consequently, our analysis focuses on the price effects of the blockade, and this price effect is assumed to apply equally across countries (though see the discussion below about the discount on Russian oil).

⁹ We view these parameter assumptions as conservative in the sense that it implies assuming the oil market is more adaptable than it may be in practice. Estimates of demand elasticity in the literature are typically -0.125 , though there

To analyze the impact on the Gulf countries directly affected by the blockade, we need to take a stance on what happens in their domestic oil markets. When these countries cannot export their oil, their domestic market will face excess supply. The producers in these countries can then either reduce production or flood their domestic market with oil. Since these countries are overwhelmingly net-exporters of oil, their domestic market cannot absorb all the excess supply that is stuck behind the blockade. Furthermore, these countries have historically had low domestic oil prices, making it unlikely that prices could fall much further and increase consumption significantly. We therefore assume that domestic consumption remains unchanged and that producers instead reduce excess production. Based on this assumption, we measure the effects on these countries as lost export revenues. Note that these countries' production costs are rather low, so lost export revenues are nearly equivalent to profit losses. In analyzing profit gains in other producing countries, we base the costs implicitly on a constant-elasticity supply function. Hence, we do not take into account possible country differences with respect to this cost change, or if their costs would imply a non-constant elasticity. This is a simplification, but without greater loss of precision, since the main source of increasing profits is that the oil price goes up rather than from increased production (this follows from the supply elasticity being very low).

are reasons to believe elasticity is higher for larger price shocks and due to new technologies making a switch between energy sources easier.





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