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Assessing the Impact of Falling Oil Prices on the Indonesian Economy

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EXECUTIVE SUMMARY

- Recent developments in the international oil market have increased uncertainties about the outlook of Indonesia's state budget this year.

- Falling oil prices have led to a substantial decrease in the country's oil and gas exports earnings. Consequently, there is now a considerable negative impact on the government's tax and non-tax revenue.

- Lower aggregate demand due to the COVID-19 crisis has also substantially slowed down the growth of oil and gas imports in the second quarter (Q2) of this year. This has in turn reduced the trade deficit in the sector.

- The net effect on fiscal balance remains unclear. This is because the government's policy to increase electricity subsidies in response to the COVID-19 crisis will add extra pressure to the already-tightened fiscal space.

- Declining tax and non-tax-revenue from the oil and gas sector, combined with rising energy subsidies, will raise Indonesia's fiscal deficit significantly this year.

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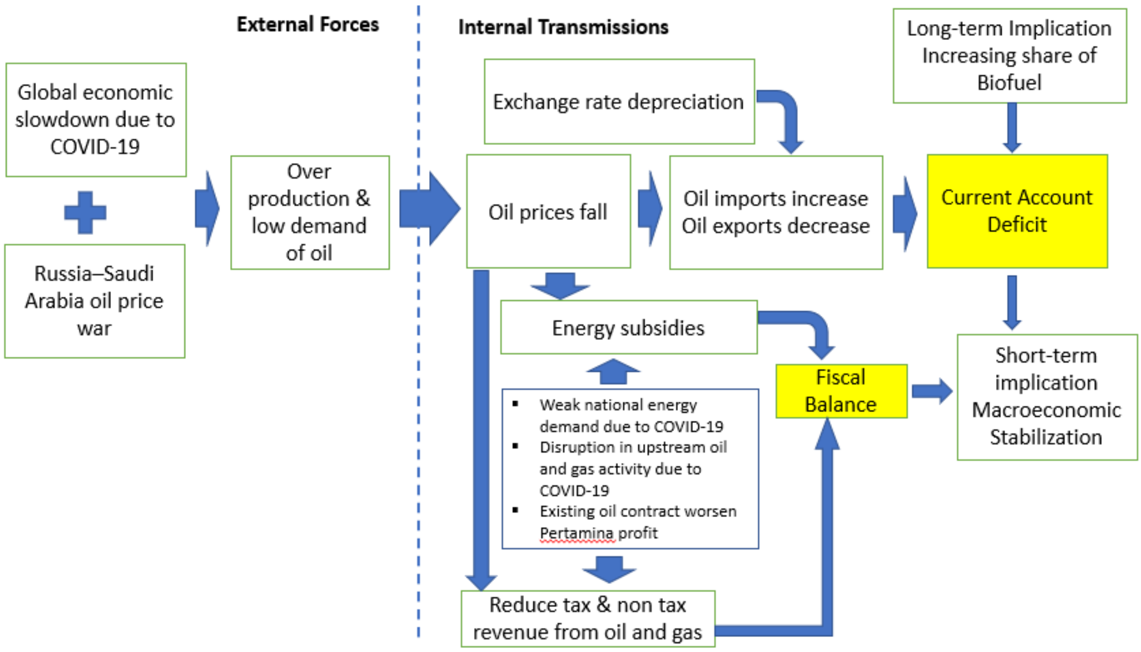
INTRODUCTION

Slowing global economic activities due to the COVID-19 pandemic have significantly reduced the demand for crude oil. At the same time, there is rising tension in the oil market between Russia and Saudi Arabia.[1] These two factors have sent crude oil prices to their lowest level in three decades. The crude oil price has declined by almost 75 per cent from USD 61 per barrel on January 6 to USD 16 per barrel on April 21.[2]

Falling oil prices have significant implications for countries that are both oil-exporting and oil-importing, such as Indonesia. As seen in **Figure 1**, oil price declines lead to oil imports increasing and oil exports decreasing, which in turn worsen the current account deficit. In addition, the state's tax and non-tax revenues from the sector[3] are significantly reduced. For Indonesia, the falling oil prices should lower the cost of energy subsidies for the state. However, with the current COVID-19 crisis, the situation has become rather complicated now that the government has decided to extend the energy subsidy for electricity.[4]

Figure 1: The Transmission Mechanism of Falling Oil Prices in the Indonesian Economy



Source: The authors

This essay examines how falling oil prices affect the Indonesian economy, putting a special focus on the country's current account and fiscal balance. It then discusses the impact of the oil price decline on Indonesia's exchange rate and current account balance. The third section looks at the impact of the oil price decline on oil production and consumption. The fourth section studies the fiscal effects (oil revenues and subsidies), while the final section discusses some policy implications.

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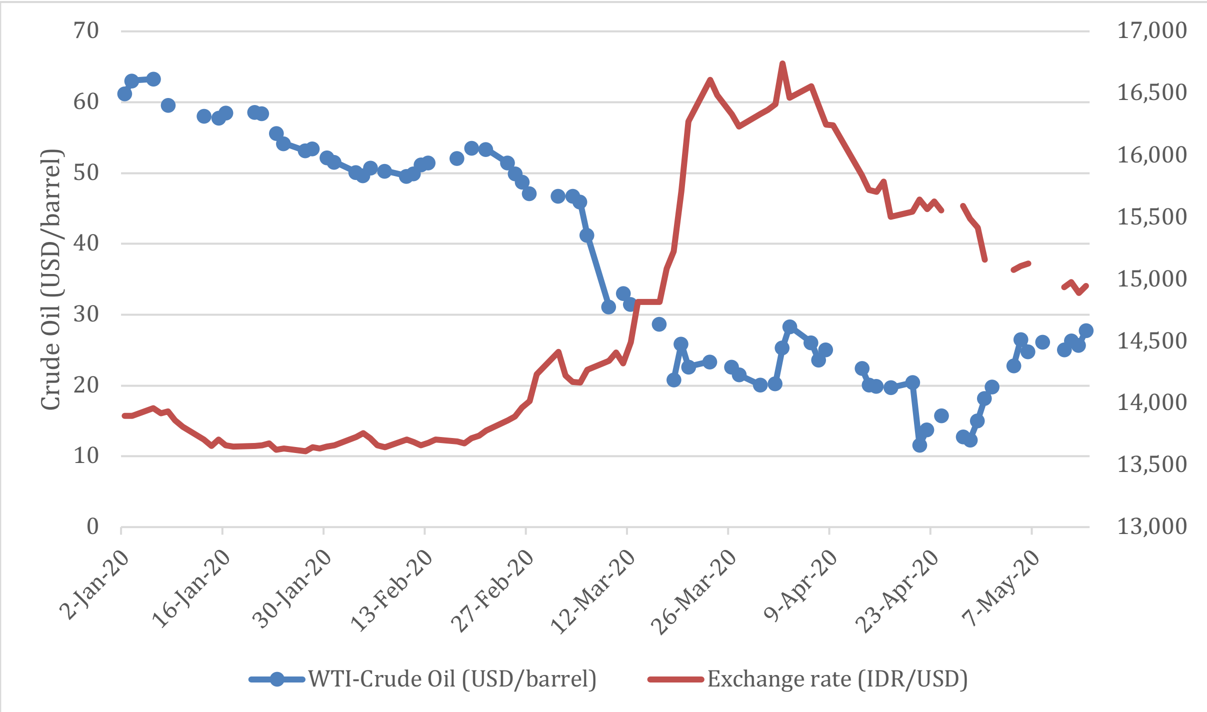
OIL PRICE, EXCHANGE RATE, AND CURRENT ACCOUNT

Increased uncertainty in the global economy and falling oil prices have significant implications for Indonesia's economy. As seen in **Figure 2**, the falling oil price is associated with the depreciation of the Indonesia Rupiah. It shows that since mid-March 2020, when oil prices decreased rapidly, the Rupiah came under significant pressure. Its value has depreciated by 9.1 per cent since early January 2020 until late April 2020. The Rupiah depreciation has in turn increased the costs of Indonesia's imports in general.

Figure 2: Crude oil price and Exchange Rate (Rp/USD), January 2020- May 2020



Note: Price in USD/barrel for Brent Crude
Source: https://oilprice.com/oil-price-charts and Central Bank of Indonesia (Access – 15 May 2020)

Contrary to the common belief that lower oil prices will benefit oil-importing countries, the benefit from lower oil prices is not that straight forward for countries like Indonesia. It is important to note that while Indonesia remains an oil producing country, it needs to import oil and oil products in order to meet its domestic demand. Table 1 shows that between January and May 2020 Indonesia's oil and gas export value has decreased significantly by 35 per cent. Similarly, the value of oil and gas imports has decreased by 25 per cent compared with that of the same period in 2019. Interestingly, in terms of volume, oil and gas imports have continued to increase, though at a slower rate during the same period. As of May, falling oil prices have helped reduce the trade deficit in the oil and gas sector from USD 3.8 billion to USD 3.4 billion. Nevertheless, the volatility of oil prices makes it difficult to predict Indonesia's trade balance in the sector and its overall current account deficit.

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Ensuring higher oil imports to secure domestic energy supplies resulted in greater pressure on the Rupiah between January and March 2020. Between the end of February 2020 until the end of March 2020, the Rupiah depreciated from IDR 14,234 to IDR 16,367 per USD, and the Central Bank (Bank Indonesia or BI) lost USD 9.47 billion from its reserves. Thanks to BI's intervention in the currency market and the capital inflow from government security, the Rupiah has gradually regained some of its lost value against the USD in the last two months. [5]

Table 1 Export – Import of Oil and Gas, January-May 2019 and 2020

Component	Export					
	Value (million USD)		Volume (thousand ton)		Price	
	Jan - May 2019	Jan - May 2020	Jan - May 2019	Jan - May 2020	Jan - May 2019	Jan - May 2020
Industry of processing oil products	493.4	586.7	929.6	2,083.4	530.8	281.6
Gas supply	7.4	0.1	9.3	0.1	795.7	1,000
Mining:	4,863.4	2,903.8	10,249.5	8,435.6	474.5	344.2
Crude oil	694.7	213.5	1,466.8	528.9	473.6	403.7
Gas	4,168.7	2,690.3	8,782.7	7,906.7	474.6	340.3
Total Oil and gas	*5,364.2*	*3,490.6*	*11,188.3*	*10,519.1*	479.4	331.8
Component	**Import**					
	Value (million USD)		Volume (thousand ton)		Price	
	Jan - May 2019	Jan - May 2020	Jan - May 2019	Jan - May 2020	Jan - May 2019	Jan - May 2020
Crude oil	2,271.9	1,944.3	4,637.8	5,393.1	489.9	360.5
Oil products	5,801.7	3,728.7	9,811.7	8,854.8	591.3	421.1
Gas	1,105.4	1,180.0	2,251.4	2,747.7	491.0	429.5
Total Oil and gas	*9,179.0*	*6,853.0*	*16,700.9*	*16,995.6*	549.6	403.2
Net export oil and gas	**(3,814.8)**	**(3,362.4)**	**(5,512.6)**	**(6,476.5)**	**692.0**	**519.2**

Source: Statistics Indonesia (BPS)

OIL PRODUCTION AND CONSUMPTION

To understand the impact of falling oil prices on the economy, we examine the long-term trends of oil production and consumption in Indonesia. Indonesia used to be an oil exporter but, since 2011, it has been a net oil importer after domestic oil production failed to keep up with the increase in oil consumption.[6]

Figure 3 shows the gap between domestic oil production and consumption increasing during President Joko Widodo's first term (2014-18). In 2018, oil consumption was more than double that of production. Indonesia's economy is highly dependent on oil and gas. In 2018, the share of oil and gas (natural gas, petroleum fuel, and LPG) to the total energy consumption was about 65 per cent.[7]

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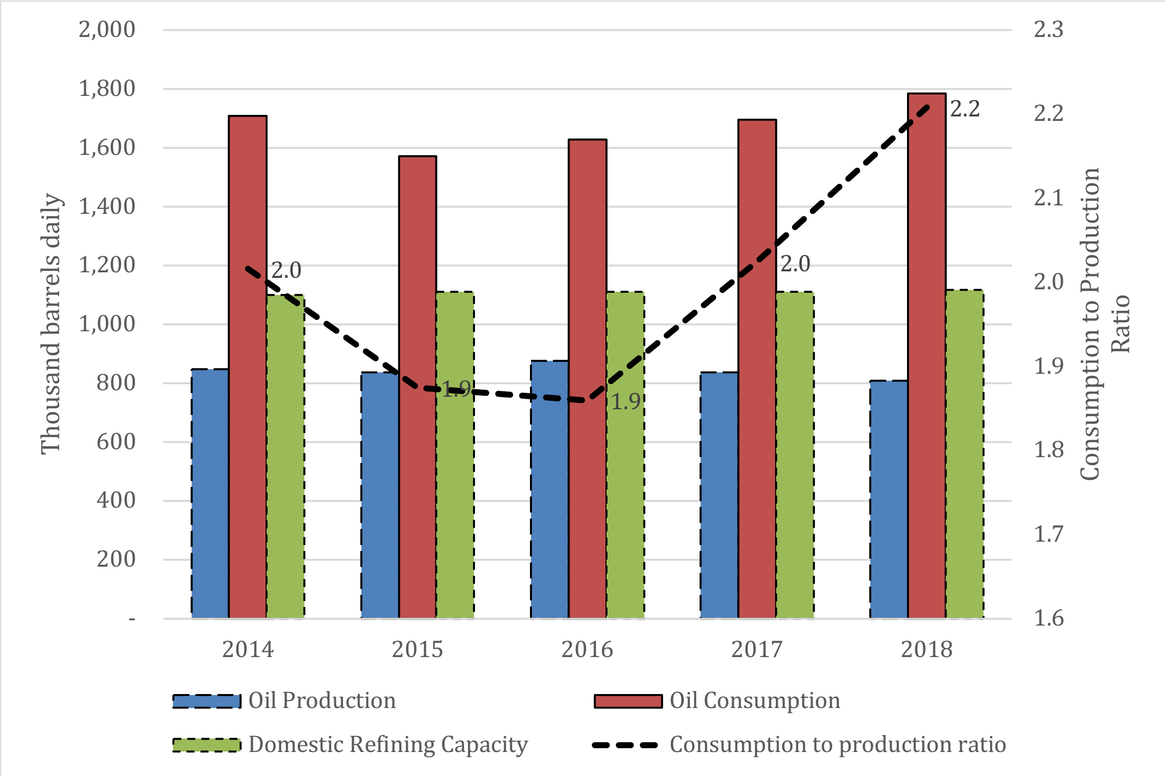
Figure 3: Oil Production, Consumption, and Refining in Indonesia 2014-2018



Source: BP Statistical Review of World Energy June 2019

In recent years, domestic oil production has been declining as almost all of the oil and gas fields are old wells. This appears to be a long-term structural problem, and the regulatory and business climate in this sector has discouraged new investment.[8] Moreover, the current low oil price has reduced incentives to invest and increased domestic production.

Notwithstanding the structural problems, the country has also suffered an exogenous shock. Since the COVID-19 outbreak began, domestic oil and gas production has been adversely affected.[9] Some oil and gas contractors have stopped operations or delayed their business activities. For instance, some critical imported materials, such as those from Italy and China, have had to be postponed. As a consequence, some new investments in the upstream sector have been delayed. For instance, the Merakes project in East Sepinggan, East Kalimantan Province, which was initially expected to operate in the third quarter of 2020, has been delayed until 2021.

The COVID-19 crisis has also caused a significant reduction in fuel consumption. Specifically, the implementation of large-scale social restrictions (*Pengendalian Sosial Berskala Besar* or PSBB) to control the spread of the COVID-19 epidemic has significantly limited the movement of people, goods, and services across the country, thus reducing energy demand from the transportation sector. Pertamina, the state-owned petroleum company, reported that between February and March, the implementation of PSBB reduced oil consumption by 25 per cent nation-wide. In cities such as Jakarta and Bandung, the reduction in fuel consumption has been more than 50 per cent.[10]

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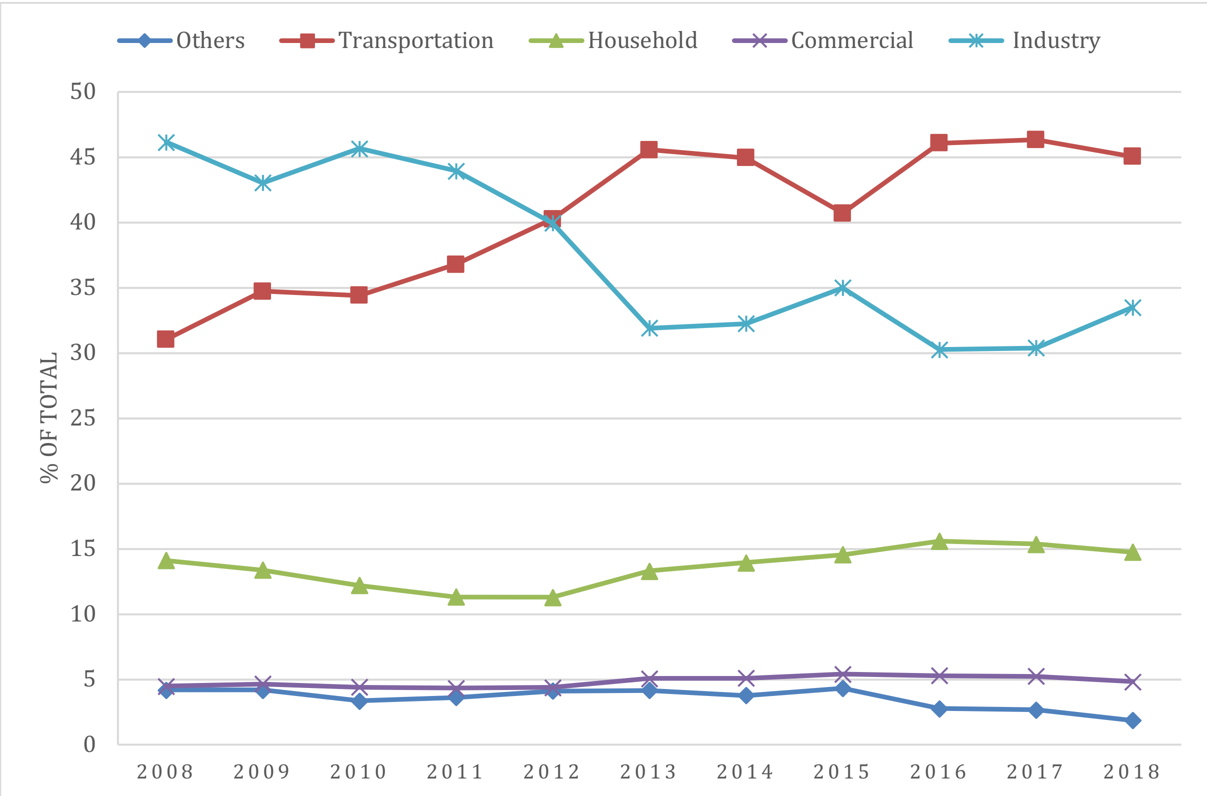
Nevertheless, in a normal situation (prior to COVID-19), the trends of oil consumption have been increasing and mostly driven by demand from the transportation (45 per cent of total fuel consumption) and industrial (34 per cent of total fuel consumption) sectors (**Figure 4**). We foresee this energy consumption pattern returning to normal and then increasing post-COVID-19.

The implication of rising oil consumption and declining oil production has been to increase the country's trade deficit in the oil sector. As mentioned above, to fill the consumption gap, Indonesia has been increasing its oil imports, and this has been having an adverse effect on its current account deficit, which reached about two per cent of GDP in 2019. The share of oil imports to the total imports was about 13 per cent. In 2019, the trade deficit in the oil and gas sector reached USD 9.35 billion, while the non-oil and gas sector had a surplus of USD 6.15 billion.

Figure 4: Fuel Consumption by Sectors (in percentage of the total)



Source: https://databoks.katadata.co.id/datapublish/2020/01/19/sejak-2012-konsumsi-energi-transportasi-kalahkan-sektor-industri

The government has been implementing two policies in an attempt to reduce this deficit. First, it has been restricting oil imports and encouraging the use of mandatory biodiesel (B20) since September 1, 2018. In January 2020, it initiated a policy to expand B20 to B30.[11] Second, the Ministry of Energy and Mineral issued regulation No 42 of 2018, which instructed Pertamina to buy oil from government-appointed domestic oil contractors (*Kontraktor Kerja Kerja Sama*/KKKS).[12] Then in mid-January 2020, the Directorate General of Oil and Gas in the Ministry of Energy and Mineral Resources cut more than 30 per cent of its import quota and instructed Pertamina to buy directly from KKKS[13].

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FISCAL IMPLICATION

The oil and gas sector contributes around eight per cent of total domestic revenue (**Table 2**), and as much as about 39 per cent of total non-tax revenue comes from that sector. Note that oil contributes more than 70 per cent of the revenue within this sector. The share of tax and non-tax revenue to total domestic revenue, was on average about 8.2 per cent (**Table 2**). Meanwhile, the share of non-tax revenue to total tax and non-tax revenue increased from 61 per cent in 2015 to 67 per cent in 2019.[14]

Table 2 Tax and Non-Tax Revenue from the Oil and Gas Sector (in billion Rupiah)

Year	Tax revenue	Non-tax revenue	Domestic Revenue (tax & non-tax)	Share of oil & gas revenue to domestic revenue (%)	Share of energy subsidy to domestic revenue (%)
2015	49,672	78,170	1,496,047	8.5	8.0
2016	36,099	44,094	1,546,947	5.2	6.9
2017	50,316	81,843	1,654,746	8.0	5.9
2018	64,699	142,789	1,928,110	10.8	8.5
2019	57,448	119,498	2,029,418	8.7	7.0
2020	57,427	127,313	2,232,698	8.3	5.6

Source: Ministry of Finance

The fiscal effects of falling oil prices depend on several factors, including domestic oil production, exchange rate and energy subsidy. Certainly, falling oil prices affect fiscal revenue.[15] They have in fact forced the government to make some adjustments to the 2020 budget (APBN). In late April 2020, Minister of Finance Sri Mulyani Indrawati said that Indonesian Crude Oil (ICP) will be about USD 30-40 per barrel.[16] This is a huge revision from the initial assumption of USD 63 per barrel set in September 2019 (see **Table 3**),[17] and will affect the state budget posture on both the revenue side and the expenditure side.

Falling oil prices also affect energy subsidies. Based on the 2020 budget, if the average oil price is around USD 63 per barrel, the government will allocate an energy subsidy (oil and gas; and electricity) of around IDR 125.3 trillion. This is about 7.4 per cent of central government spending. However, this assumption is likely to be revised, since the government recently decided to extend the subsidy in response to the COVID-19 crisis.[18] This policy is meant to help lower-income households, many of whom have been losing their sources of income, cope with the crisis.

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Table 3: Energy Subsidies and Oil Price Assumption (in trillion Rupiah)

Year	Subsidy			Oil Price (USD/Barrel)
	Energy	Oil & LPG	Electricity	
2014	341.8	240.0	101.8	96.51
2015	119.1	60.8	58.3	49.21
2016	106.8	43.7	63.1	40.13
2017	97.6	47.0	50.6	51.19
2018	163.5	103.5	60.1	67.47
2019	142.6	90.3	52.3	62.37[a]
2020	125.3	70.6	54.8	63.00[b]

Note: data energy subsidies from Ministry of Financial; and oil price from the 2018 handbook of energy & economic statistics of Indonesia, ESDM;
[a]*https://www.esdm.go.id/en/media-center/news-archives/icp-desember-kerek-realisasi-icp-2019-ke-angka-usd6237-per-barel;*
[b] *ICP assumption in 2020*

Overall, the decline in oil prices will increase pressure on tax and non-tax revenues from the oil sector. However, the net impact of lower oil prices to Indonesia's fiscal balance will depend on the change in aggregate energy subsidies (increase in electricity subsidy vs decrease in oil and gas subsidies). The COVID-19 outbreak has clearly added more pressure to the already-tightened fiscal space.

CONCLUDING REMARKS

Indonesia is clearly vulnerable to any oil-price shocks. However, it is not a straight forward matter, and it cannot be simply assumed that Indonesia, being an oil-importing country, will benefit from lower oil prices. From the current account perspective, a lower oil price has reduced the trade deficit in the oil and gas sector. However, falling oil prices are highly associated with lower commodity prices, such as coal and palm-oil, and this in turn has an adverse effect on Indonesia's export competitiveness. Note that Indonesia's exports rely very much on commodities.[19] In the first quarter of 2020, the mining sector's exports fell by 21.5 per cent year-on-year.[20]

Falling oil prices have a mixed impact on Indonesia's fiscal balance. On one hand, this reduces the amount of energy subsidies that needs to be paid out. On the other hand, a significant share of Indonesia's fiscal revenue comes from the oil and gas sector. Thus, lower oil prices put the state's tax revenue under pressure at the same time. The situation has been complicated further by the COVID-19 outbreak. Now that the government has decided to extend energy subsidies as one of its economic stimulus policies, the benefits accruing from lower oil prices may be eroded if energy subsidies eventually increase more significantly.

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Some important implications that are worth further research concern the impact of falling oil prices on macroeconomic stability. In the short run, pressure from the fiscal and current account deficit holds significant consequences for the country's macroeconomic stability. The Central Bank of Indonesia has taken some action to ease the growing fiscal gap, such as buying government bonds in the primary market and intervening in the currency market.

In the medium and long term, a lower oil price is likely to discourage new investments in the oil and gas sector, especially upstream. The latter has been put as one of the strategic sectors in the national medium development plan (2019-2024), and the hope has been for revenue from the oil and gas sector to increase and, in the process, securing future energy supplies for the country. Lower oil prices will also adversely affect incentives to reduce Indonesia's dependency on oil as a source of energy.

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[1] https://www.theguardian.com/business/2020/apr/10/opec-russia-reduce-oil-production-prop-up-prices. Accessed 15 May 2020.
[2] Measured by West Texas Intermediate (WTI) crude oil prices. https://www.macrotrends.net/1369/crude-oil-price-history-chart.
[3] Most of the non-tax revenues from the oil and gas sector are generated by Pertamina's business transactions and production activities. Please see https://resourcegovernance.org/sites/default/files/documents/indonesia-oil-and-gas-revenues-using-payments-to-governments-data-for-accountability.pdf, for more details items.
[4] https://money.kompas.com/read/2020/05/18/160742926/subsidi-listrik-diperpanjang-hingga-september-2020?page=all. Accessed 21 May 2020.
[5] https://www.idxchannel.com/market-news/gubernur-bank-indonesia-tegaskan-4-faktor-rupiah-terus-bergerak-stabil. Accessed 15 May 2020.
[6] This sector is highly capital intensive and requires specific technical skills and knowledge. In terms of employment, in 2015, 32,767 workers were employed in the oil and gas sector, making up about 2.5 per cent of the total employment in the mining, oil and gas sector. While direct employment in the sector is relatively small, the sector has significant spillover to other sectors, including logistics, distribution and warehousing.
[7] Data obtained from Indonesia Energy Balance Table 2018.
[8] For further discussions on the structural issues in the oil and gas sector, please see Thee, K.W., and J.T. Lindblad, (2007), Survey of Recent Developments, Bulletin of Indonesian Economic Studies, 43(1): 5-31.
[9] https://www.skkmigas.go.id/berita/kegiatan-hulu-migas-boleh-slow-down-tetapi-tidak-boleh-stop. Accessed 15 May 2020.
[10] https://www.liputan6.com/bisnis/read/4229300/penjualan-bbm-pertamina-turun-34-persen-terendah-dalam-sejarah. Accessed 15 May 2020.
[11] B20 is a type of biofuel blend, which consists of up to 20 per cent biodiesel from crude palm oil (CPO) and 80 per cent petroleum diesel; while B30 has 30 per cent biodiesel content.
[12] KKKS is an oil contractor that conducts explorations for oil fields. KKKS has a right to export oil, but the government now demands that KKKS only sells to Pertamina. This policy aims to reduce oil import.
[13] However, the according to the Director of Pertamina, the price of oil from KKKS is higher than that of imported oil, and tax policies make domestic purchases more expensive than imports. Under the existing KKKS contract, Pertamina must accept higher oil prices compared to the current market price. This may put pressure on Pertamina's profit.

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[14] Pertamina is one of the state enterprises that contribute to non-tax revenue. Between 2015 and 2017, Pertamina brought the highest profit to the government, but in 2018 and 2019, that position was toake over by PT. Telekomunikasi Indonesia.

[15] https://www.iseas.edu.sg/images/pdf/ISEAS_Perspective_2015_5.pdf.

[16] https://nasional.kontan.co.id/news/sri-mulyani-prediksi-icp-tahun-ini-sekitar-us-30-us-40-per-barel. Accessed 15 May 2020.

[17] https://finance.detik.com/berita-ekonomi-bisnis/d-4717696/apbn-2020-bakal-disahkan-jadi-uu-besok. Accessed 15 May 2020.

[18] https://www.kompas.com/tren/read/2020/05/19/153500765/listrik-gratis-pln-diperpanjang-hingga-september-ini-cara-mendapatkannya. Accessed 15 May 2020.

[19] Based on BPS trade data, in 2019, the top 10 exports of non-oil and gas commodities contributed 34.3 per cent to total non-oil and gas export. Of that amount, 20.5 per cent was contributed by natural resource-based exports, including crude palm oil, gold, copper, tin, and other minerals.

[20] https://money.kompas.com/read/2020/05/15/105052326/ekspor-april-turun-jadi-1219-miliar-dollar-as-ini-penyebabnya. Accessed 25 May 2020.

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