

Fuelling the Recovery:

How India's path from fuel subsidies to taxes can help Indonesia

Tara Laan, Anissa Suharsono, and Balasubramanian Viswanathan¹

April 2021

Executive Summary

Indonesia's comparatively low rate of taxation, exacerbated by falling revenues during the COVID-19 pandemic, has created significant fiscal problems. Well-designed transport fuel taxes can be an effective and efficient way to fill this gap, as demonstrated by experience in India. Over the past decade, India transitioned from high transport fuel subsidies to relatively high taxes, delivering significant revenue that most recently has funded the country's COVID-19 response. The revenues from tax can also be used to fund targeted compensation packages to those that would suffer most from increased fuel prices, creating highly progressive outcomes.

Indonesia concurrently taxes and subsidizes gasoline and diesel. The tax rate of 15% is offset by price subsidies: the government-determined price for key fuels is generally lower than the international price, leading to losses by the main fuel supplier, state-owned oil company PT Pertamina. Government revenues from oil and gas production in Indonesia only cover the cost of fuel consumption subsidies. Successive Indonesian governments have attempted to reduce or remove fuel subsidies since 1999, but elimination has been elusive.

Drawing on India's experience, this brief recommends increasing taxes as an alternative approach to price reform that could take place simultaneously with subsidy reform efforts. From a political economy perspective, a fuel tax has several advantages:

1. Revenues could be earmarked for highly visible programs to alleviate the impact of the pandemic on the poor and boost productivity, such as cash transfers or job-creation programs.

¹ The authors would like to thank Assia Elgouacem, Economist, Economics Department of the OECD, and Jacqueline Cottrell, Environmental fiscal policy consultant, for their insightful and helpful comments on the brief.



2. A proportion of revenues could be allocated to provincial and local governments to support regional development.
3. The tax would be a fixed amount: consumers would not be exposed to price volatility, unlike with the elimination of fuel subsidies (at least in the short term: we do recommend the phasing out of subsidies over time).
4. The tax could be publicized as an emergency budgetary measure, as done in India, which may improve public acceptance.

The tax could raise significant revenue. For example, a tax of IDR 500 (~USD 3.5 cents) per litre for gasoline and diesel (less than 8% of retail prices) would provide IDR 31 trillion (USD 2.2 billion) per year in revenue (2% of current government revenue).² In implementing the tax, Indonesia can build on its strong experience implementing social support and economic stimulus measures in the context of fuel subsidy reforms in 2005 and 2015.

Introduction

Indonesia has the lowest tax-to-GDP ratio of similar emerging economies (Figure 1). In 2018, the tax-to-GDP ratio was 11.9%, falling to 9.7% in 2019 and below 8% in 2020 after the COVID-19 pandemic (Gardner, 2020).³ Low tax revenues and pandemic-related spending led Indonesia to temporarily suspend its pre-pandemic budget deficit ceiling of 3% of GDP until 2023 (Kim & Koepke, 2021).

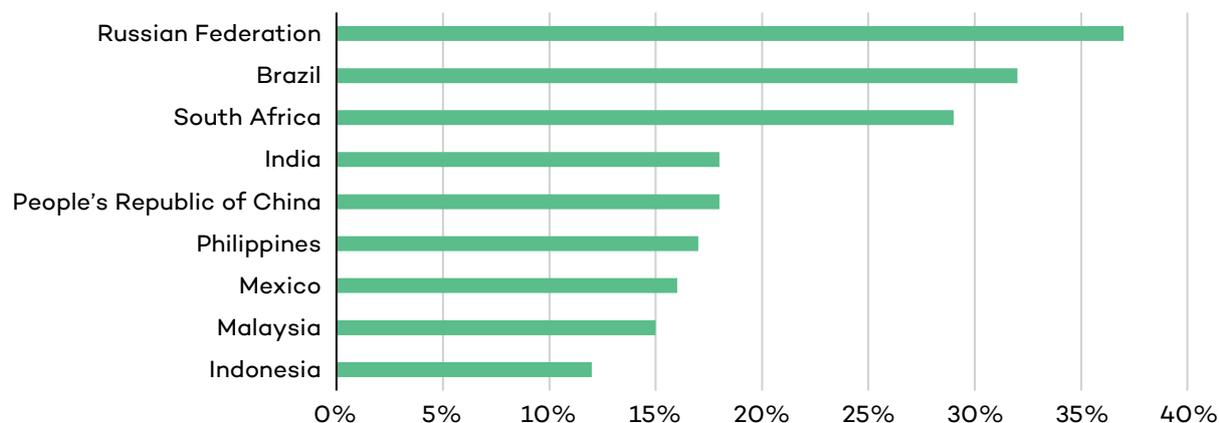
Indonesia's tax collection challenges include a large informal sector, low compliance, and a narrow tax base (UNEP, 2019). The Government of Indonesia has eroded revenues by expanding tax holidays and other incentives for specific sectors, including oil and gas (OECD, 2018). The COVID-19 crisis has compounded these problems: tax revenues have declined due to lower economic activity, and new exemptions have been offered to spur investment, while government expenditure has soared (Energy Policy Tracker, n.d.; OECD, 2020). Indonesia's government aims to raise the tax-to-GDP ratio by around 2 percentage points in the coming years (OECD, 2019). Fuel taxes could make an important contribution to this goal.

² Calculation based on 2019 national gasoline and diesel consumption multiplied by IDR 500 per litre.

³ Note that the tax-to-GDP ratio does not include social security contributions or non-tax revenue. In 2019, Indonesia's revenue-to-GDP ratio was 12.3% (World Bank, 2021).



Figure 1. Tax as a percentage of GDP for Indonesia and comparable economies (2016 data)



Source: OECD, 2018.

Why Fossil Fuel Taxation?

Gasoline and diesel taxes are a significant source of revenue for many countries, particularly developing countries without a robust personal income tax base (Timilsina & Dulal, 2008). Consumer taxes on transport fuels are among the easiest taxes to collect and are difficult to evade (OECD, 2020; Parry, 2019). They provide a wide tax base, capture revenues from the informal sector, and have fewer impacts on employment and output than labour and company taxes (Heine & Black, 2019). In addition, motor fuel taxes tend to be progressive because the bulk of the taxes tend to be paid by the largest consumers of fuel: the wealthy (Stern, 2012). Nonetheless, there will be impacts on the poor, notably inflationary impacts on food and transport services. Fuel tax revenue can be used to mitigate these effects, such as through targeted and inflation-indexed cash transfers, leading to highly progressive outcomes (Pigato & Black, 2019).

In addition to raising revenues, taxes are the most efficient way to internalize the negative impact of fossil fuels on human health and the environment (OECD, 2018). Higher fuel prices encourage energy efficiency and lower fuel use, which reduces air pollution, greenhouse gas emissions, congestion, and traffic accidents (Parry et al., 2014). The cost of these externalities was estimated to be USD 97 billion in Indonesia (11% of GDP) in 2015 (Coady et al., 2019). In 2019, air pollution was responsible for 186,000 deaths in Indonesia, the majority of which were due to ambient air pollution (State of Global Air, 2020). Taxing fossil fuels follows key principles of environmental taxation:

1. The polluter-pays principle, which calls for polluters to be charged with the cost of pollution prevention and control (OECD, 1975); and
2. Pigouvian taxation, where a tax is levied on an actor causing environmental damage as a way to incentivize a change in behaviour to avert or lessen such damage (OECD, n.d.).

Explicit taxes on the carbon content of fuels are one way to ensure that fuel prices reflect negative environmental effects (OECD, 2018). More common are excise and sale taxes on fuel, which are generally levied to raise revenue but can also act as informal pollution taxes (OECD, 2019).



Why Draw on India's Experience?

India has recent experience with fuel pricing reform and, importantly, the reforms have stuck. In the 2010s, during times of low international oil prices, motor fuel taxes were steadily increased while subsidies were phased out. India successfully transitioned from a country with high gasoline and diesel subsidies to one with relatively high motor fuel taxes. India further increased its central excise duty on gasoline and diesel with the explicit intention of raising funds for COVID-19 response and recovery. India's fuel taxes have delivered significant revenue and have not caused major social or political upheaval.

Indonesia and India have commonalities but also important differences (Table 1). Indonesia is an oil exporter (although not a net exporter), which tends to be correlated with fuel subsidization (Mahdavi et al., 2020). Indonesia is also more reliant on fossil fuel revenues, potentially exacerbating path dependency regarding the economic and social importance of fossil fuels.

Table 1. Similarities and differences between India and Indonesia, as relevant to fuel pricing reform

	Indonesia	India
Country circumstances		
Poverty at USD 1.90 per day	4.3%	10.7%
GDP per capita	USD 4,135	USD 2,099
Transport fuel subsidies and taxes		
International commitments to phase out fossil fuel subsidies ^a	Yes	Yes
Consumer subsidies for gasoline and diesel ^b	Yes	No
Tax as proportion of retail transport fuel price	15%	~60%
Petroleum tax revenues as a proportion of GDP	2.7% GDP	1.3% GDP
Oil trade	Net importer	Net importer
Public exposure to price volatility	No	Yes
Current under-recoveries for petroleum state-owned enterprises (SOEs)	Yes	No
Economically important petroleum SOEs	Yes	Yes

Notes: ^aBoth countries have made commitments in the Asia-Pacific Economic Cooperation (APEC) forum, the Group of 20 (G20) and under the United Nations Sustainable Development Goals. ^bAt the national level.

Sources: Poverty – Asian Development Bank, 2021; GDP per capita – World Bank, 2021; Oil trade – International Energy Agency, 2019; International commitments – APEC, 2009; G20, 2009; United Nations, 2019; Revenue as % GDP – Braithwaite & Gerasimchuk, 2019; Mukherjee, 2019. If not specified, information summarized from this report.



Subsidies

Until the late 1990s, India's fuel prices were controlled through a policy called the Administered Pricing Mechanism (APM). The APM was dismantled in 2002 and retail prices for all fuels were subject to market determination (Clarke, 2015). However, with rising international oil prices and an impending national election in 2004, the then government required state-owned oil marketing companies (OMCs)⁴ to limit the pass-through of international to retail prices (Clarke, 2015). The policy of ad hoc price control led to price subsidies for consumers and losses for the OMCs whenever the retail price was lower than the cost of supply (primarily comprising of the international oil price and exchange rate).

Between 2005 and 2010, the government issued petroleum bonds to reimburse OMCs for their losses. These bonds amount to INR 1,440 billion (USD 20 billion, around 2% of GDP) (Ministry of Finance, 2012). The bonds were effectively subsidies that the government must pay when the bonds mature. The last of the petroleum bonds mature in 2025 (Ministry of Finance, 2020). In addition, the government lost revenue through lower profitability of the OMCs, causing lower dividends and tax revenue.

In 2010, gasoline subsidies were removed rapidly during a time of low international oil price (Garg et al., 2017; Government of India, 2010). Diesel subsidies were more problematic, noting diesel was India's most consumed petroleum product, commonly used fuel for agriculture and transport, thus diesel prices have an indirect impact on expenditure by the poor (Clarke, 2015). The government commissioned several expert inquiries into diesel pricing, all of which recommended that diesel pricing be liberalized (Clarke, 2015). The diesel subsidy was gradually phased out by 2014, which marked the end of central government consumer subsidies for gasoline and diesel.⁵ While the reforms were successful, there are both positive and cautionary lessons from the Indian government's management of the reform process (Table 2).

⁴ OMCs are responsible for the large majority of retail fuel sales in India.

⁵ India's central government continues to subsidize the oil & gas sector through consumption subsidies, particularly for kerosene and LPG (Garg et al., 2020). Some Indian state governments still provide targeted subsidies for diesel to farmers during periods of drought, and most coastal states continue to provide diesel subsidies for fishers.



Table 2. Political economy lessons from India's gasoline and diesel pricing reforms

Positive	Cautionary
<ul style="list-style-type: none"> • Commissioning expert inquiries: Provided public, transparent and independent endorsement of fuel price liberalization. • Timing – low international oil prices: elimination of gasoline subsidies during a period of low international oil prices, with liberalization causing a price fall rather than a price hike. • Gradual phase out: Removal of diesel subsidies over several years limited price shocks and therefore economic disruption and immediate political opposition. • Staggered approach: Gasoline subsidies were removed first, then diesel over several years. • Complementary social programs: While not explicitly linked to the reforms, the government continued to fund anti-poverty and energy access programs. • Mandate for reform: In 2014 a new government was elected with a mandate for economic reform; the public were tolerant of change and widespread approval enabled the government to implement the pricing reforms. 	<ul style="list-style-type: none"> • Communication failure: Failure to clearly and effectively communicate the possibilities of enhanced social expenditure and public investment arising from fuel subsidy reform. • Timing – reforming under pressure: The government avoided diesel subsidy reforms until a crisis arose in 2012 of record high subsidy expenditure, escalating fiscal and current account deficits, and strong currency depreciation. • Lack of earmarking: Failure to explicitly assign fiscal savings from fuel pricing reforms to popular social programs.

Source: Clarke, 2015; Garg et al., 2020.

Taxes

India historically imposed consumer subsidies and taxes for motor fuels at the same time (as Indonesia does now). In 2005, when price support subsidies were provided through the OMCs, the central government levied customs duty, excise duty, and special levies for road construction and education, while the states levied significant sales taxes (Government of India, 2006). Together these constituted a significant proportion of the retail prices of gasoline and diesel: approximately 55% and 34% of the retail prices in Delhi, respectively (Government of India, 2006).

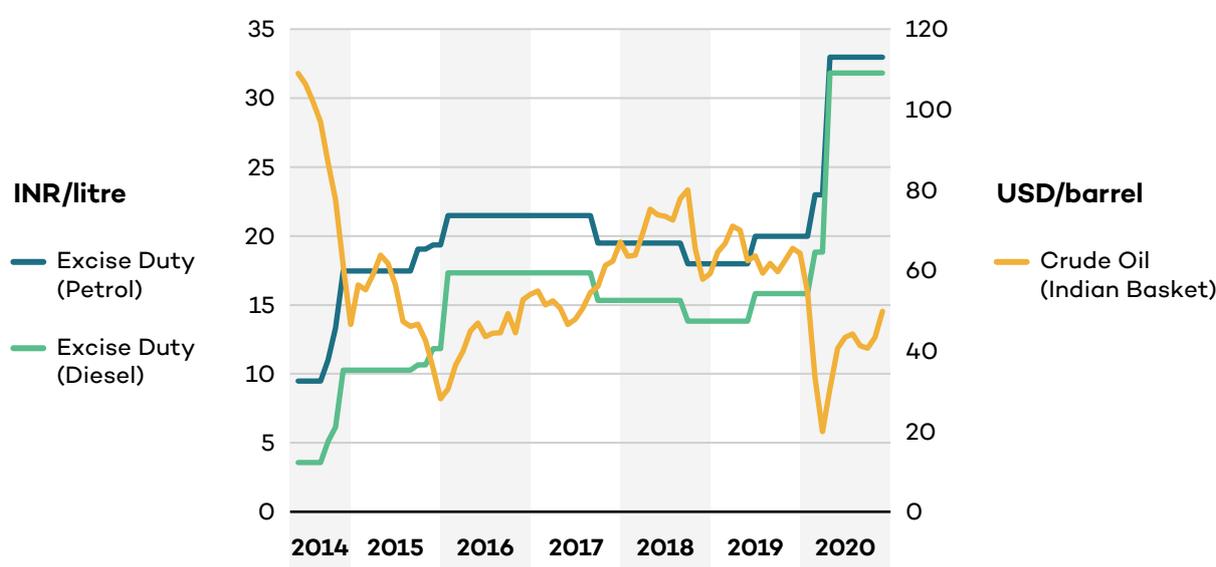
The Government of India has gradually increased the excise duty on gasoline and diesel since 2014. However, it has done so in a flexible way, increasing the tax during times of low oil international oil prices and reducing the tax during times of high prices (Figure 2). The net effect is a gradual rise in taxes, but also some smoothing of price fluctuations. In 2017 and 2018, for example, the excise duty on motor fuels (gasoline and diesel) was lowered to cushion the impact of rising international oil prices. The central government requested that



states also lower their VAT on fuels, which several did (Laan & Jain, 2019). The reduction in excise duty resulted in foregone revenue for the government of INR 26,957 crore (USD 3.9 billion) between October 2018 to June 2019 (Laan & Jain, 2019). The tax reductions were later reversed.

Since 2019, the excise duty has been increased several times with falling world oil prices. This demonstrates that India is using a variable tax regime, albeit one applied in an ad hoc manner. The ad hoc adjustment of taxes is problematic because tax fluctuations are unpredictable for consumers and are determined by political decision making rather than established rules (therefore, a temporary tax cut could easily become a permanent subsidy). A transparent mechanism with specified triggers and limits for tax reductions and increases would reduce both uncertainty and the risk of political (rather than economic) decision making.

Figure 2. Excise duty vs. crude oil price in India.



Source: Petroleum Planning & Analysis Cell (PPAC), 2020.

Further ad hoc decisions on fuel taxation were made following the COVID-19 crisis: plummeting revenues due to reduced economic activity and reduced fuel consumption led the central government to increase the central excise duty on gasoline and diesel as an emergency budgetary measure. The excise duty was raised twice: INR 3 (USD 0.04) per litre for both in March 2020 and INR 10 (USD 0.13) per litre for gasoline and INR 13 (USD 0.17) per litre for diesel in May 2020 (Gupta, 2020; Press Trust of India [PTI], 2020).

Every rupee hike in excise duty was expected to yield roughly INR 13,000–14,000 crore (1.7 billion–1.8 billion USD) annually, based on pre-pandemic levels of fuel consumption (“Explained,” 2020). In just nine months, these tax hikes generated an estimated INR 1,41,580 crore (USD 19.4 billion), equivalent to 7% of the *Atma Nirbhar Bharat* special economic and comprehensive package, which in turn was equivalent to 10% of GDP.⁶ Several

⁶ Authors’ estimates based on PPAC consumption data for gasoline and diesel over nine months from April to December 2020 (PPAC, 2020).



state governments followed suit and raised their VAT. For example, Delhi increased the VAT on diesel from 16.75% to 30% and on gasoline from 27% to 30% (Energy World, 2020b, 2020c). When international oil prices were at their lowest in May 2020, taxes comprised over 69% of the pump price of gasoline and diesel in Delhi (Energy World, 2020a).

The central government announced that the excise duty increase would be used to cover the revenue shortfall and support the INR 20 lakh crore (USD 274 billion) *Atma Nirbhar Bharat* plan (Government of India, 2020). In the 2021 union budget, the revised tax revenue estimates were down 18% or INR 2.9 lakh crore (USD 39 billion) (Government of India, 2021).

The slump in global crude oil prices initially enabled the government to raise taxes without substantially increasing domestic prices. However, in response to recovering international prices since June 2020, OMCs raised domestic prices of gasoline and diesel. The prices have risen by 20% and 19%, respectively, so far.⁷ In response, a political opposition party called for a rollback of the fuel excise. Despite some criticism, the fuel tax increases have not resulted in major protests, so they appear to have been broadly accepted.

Political Economy Lessons

Over the past decade, the Government of India used the strategy of removing gasoline and diesel subsidies during low international oil prices and gradually increasing taxes (“Explained,” 2020). This strategy helped to defuse both negative economic impacts and public backlash. In addition, the Indian government has delivered significant social welfare and energy access programs that deliver benefits to the public while demonstrating that tax revenues will be used judiciously. Indian consumers are accustomed to fluctuating transport fuel prices, with some smoothing provided by taxation adjustments.

Indonesia's Consumer Transport Fuel Subsidies and Taxes

Subsidies

Indonesia has made significant progress reforming its fuel subsidies, which at times have risen to over 20% of total government expenditure (World Bank, 2007). In 2005, cash transfers were provided alongside reforms that increased prices, reduced the number of subsidized fuels, and eliminated fuel subsidies for industry (Government of Indonesia, 2019). Further reforms were made to gasoline and diesel subsidies in 2014, using the opportunity presented by a decline in international oil prices.⁸ The majority of subsidy savings—equal to around IDR 211 trillion (USD 15.6 billion), or 10% of all government expenditure—were allocated to social protection and infrastructure (Pradiptyo et al., 2016).

⁷ Authors' estimates based on PPAC retail selling prices in Delhi for gasoline and diesel over nine months from April to December 2020 (PPAC, 2021).

⁸ Government Regulation No. 191/2014 concerning the Supply, Distribution and Selling Price of Retail Fuel Oil, December 2014.



However, the government continued to control fuel prices in an effort to maintain consumer spending and reduce inflation (Laan & McCulloch, 2019). Reforms in 2014 and later adjustments in 2018 led to a system of three fuel categories:

1. Certain fuels (BBM Tertentu): Retail prices for PT Pertamina's diesel brands (Solar and Biosolar) are determined by the Minister of Energy and Mineral Resources (MEMR) and receive a budgetary subsidy (initially IDR 500 per litre and later increased to IDR 1,000).
2. Special fuels (BBM Khusus): Retail prices for PT Pertamina's low-octane gasoline brand (Premium, RON 88) are determined by the MEMR.
3. General fuels (BBM Umum): Unsubsidized fuels with prices set by PT Pertamina and private petroleum suppliers with the approval of the MEMR (Zuhra, 2017).

This arrangement gives the government the right to refuse price increases, even for non-subsidized fuel sold by private entities (Ayuningtyas & Rita Hartati, 2018).

Since the 2014 reforms, no *budgetary* subsidies have been provided for gasoline, significantly reducing the government's fuel subsidy burden. Initially, prices were adjusted every month, then every three months, then frozen despite a near doubling in the international oil price (Laan & McCulloch, 2019). Subsidies re-emerged as price support (domestic prices less than international market prices) and lower revenue due to PT Pertamina's reduced profitability. Between 2014 and 2019, underpricing of Premium alone resulted in subsidies of IDR 54.5 trillion (USD 3.8 billion), funded by losses from PT Pertamina (Braithwaite & Gerasimchuk, 2019; Suharsono & Lontoh, 2020). In addition, budgetary subsidies continued to be provided for diesel as well as under-recoveries by PT Pertamina.

Even when international oil prices dropped in March 2020 with the onset of the COVID-19 pandemic, gasoline and diesel prices remained unchanged. This effectively removed the price subsidy once again. The government cited various factors for this decision, one of which is how the lower demand and unfavourable exchange rate will affect PT Pertamina's finances (Suharsono & Lontoh, 2020). A major problem with the current system is its lack of transparency: PT Pertamina subsidizes when prices are high, and it makes a profit when prices are low, but the extent of these losses and gains is not made public. In 2020, the Government also provided a bailout to PT Pertamina of IDR 37.83 trillion (USD 2.59 billion) as part of an economic recovery and compensation program (Energy Policy Tracker, n.d.).

Taxes

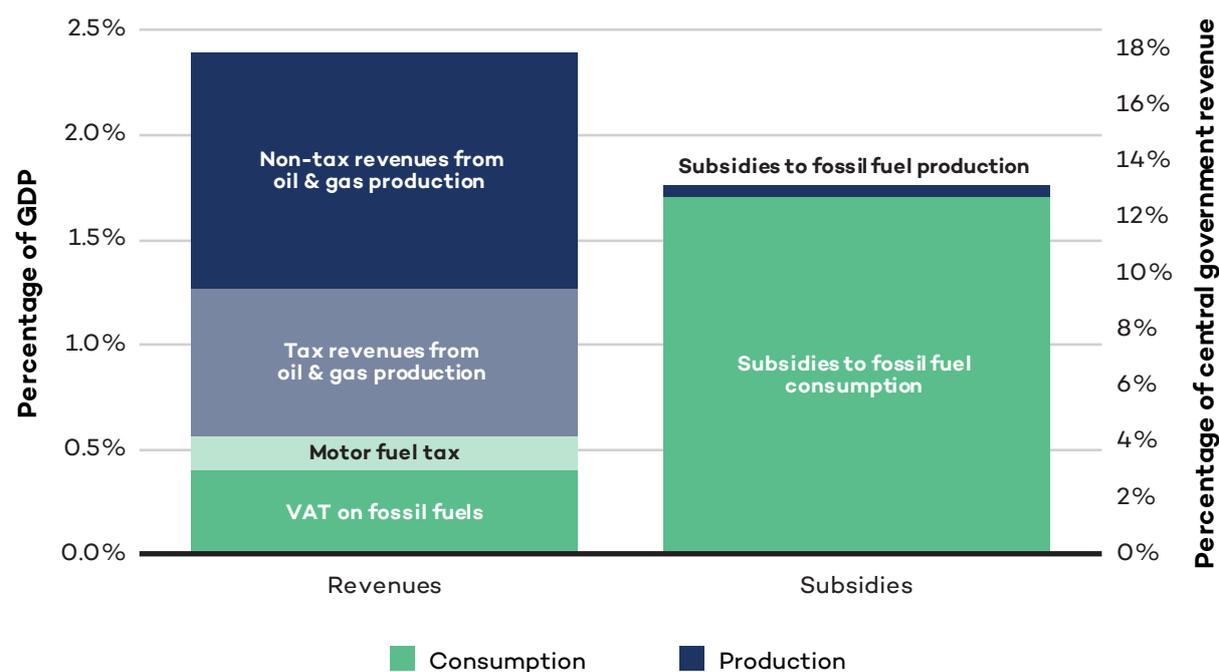
Consumer fuel taxes are 10% value added tax (VAT, a federal tax) and 5% Motor Vehicle Fuel Tax, 70% of which is allocated to local governments (OECD, 2019). Together, these revenues collected are equivalent to 0.57% of GDP, which is low compared to the value of budgetary subsidies for fuel (diesel, kerosene, and liquefied petroleum gas [LPG]) and electricity, at 1.7% of GDP (Braithwaite & Gerasimchuk, 2019). As illustrated in Figure 3, on-budget⁹ consumer subsidies for fossil fuels in Indonesia (diesel, LPG, and electricity) tend to be

⁹ If off-budget subsidies were included (price support provided through PT Pertamina's losses for selling fuel at below cost), the consumer subsidies in Figure 3 for fossil fuels would be even higher.



much greater than energy tax revenues (for 2014–2016). As a result, the majority of revenue derived from Indonesia's oil wealth is being used to make fuel cheaper, rather than investing in human capital such as education and health, or economic growth and diversification, such as infrastructure and small businesses.

Figure 3. Government revenues and subsidies related to fossil fuels and electricity in Indonesia (2014–2016 average).



Source: Braithwaite & Gerasimchuk, 2019.

A tax of IDR 500 (~USD 0.35) per litre on all gasoline and diesel sales in the transport sector would raise IDR 32 trillion (USD 2.2 billion) per year in revenue.¹⁰ A rate of IDR 500 per litre is 7.7% of the Premium (RON 88) gasoline price and 6.6% of the Pertalite (RON 90) gasoline price (i.e., retail prices including VAT and Motor Fuel Tax). The tax could be implemented simultaneously with the current subsidy regime and used to fund targeted and strategic economic recovery and social welfare programs.

Political Economy Issues

Higher fuel prices will only be politically accepted in Indonesia if members of the public are confident that higher taxation can improve their quality of life through such things as improved government services, increased equity, and better air quality. The key is to consult and educate on these points before reforms are attempted and to earmark revenues for highly

¹⁰ Based on consumption of 62,931 million litres of gasoline and diesel in the transport sector in 2019 (ESDM, 2020), a tax of IDR 500 resulting in revenue of IDR 31.465 trillion (USD 2.248 billion). USD conversion based on average 2020 exchange rate from the Reserve Bank of Indonesia.



visible, popular, and productive initiatives, such as assisting the poor using cash transfers, free public transport or job creation programs.

In developing such programs, Indonesia can build on its extensive experience with fuel subsidy reform including tested methods of revenue recycling (cash transfers and funding for education, health and infrastructure), and consultation and communication strategies.

From a political economy perspective, a fuel tax may be more likely to succeed in the short term than subsidy elimination in Indonesia. This is primarily because the fuel tax increase would result in government revenue while subsidy reform would result in increased revenue for PT Pertamina. Pertamina's profitability does have flow-on effects for government revenues (such as through its dividends and tax payments) but a tax would yield direct revenues that could be:

1. Earmarked for highly visible programs to alleviate the impact of the pandemic on the poor and boost productivity, such as cash transfers or job-creation programs.
2. Allocated to provincial and local governments to support regional development.

The tax could be publicized as an emergency budgetary measure, as done in India, which may improve public acceptance. In addition, the tax would be a fixed amount: consumers would not be exposed to price volatility, unlike with elimination of fuel subsidies (at least in the short-term: we do recommend the phase-out of subsidies over time).

Recommendations for Indonesia

Take advantage of low oil prices. India always took advantage of low oil prices as the impetus to align domestic prices with international prices, as well as phasing in higher taxes. The low price of oil helps smooth the impact of the price hike for customers.

Create clear rules for adjusting fuel prices and taxes and ensure they are implemented. An ad hoc approach to fuel pricing tends to be synonymous with subsidies because decision makers are frequently pressured to lower fuel prices. Transparent and independent price-setting mechanisms and institutions circumvent this problem, separating political leaders from fuel-pricing decisions. Legislation is needed to establish an independent fuel pricing authority and ensure active competition in retail fuel pricing.

Do not wait to reform subsidies before phasing in higher taxes. Small tax increases—even concurrently with subsidies—spread over a longer period will reduce the impact on consumers and defuse protests. As shown in the India case, subsidies and tax adjustments can coexist.

Use the COVID-19 crisis to generate public support for a tax increase to fund response and recovery as India has done with its fuel tax increase that helped fill the government revenue gap by yielding approximately 1% of GDP. Public support can be further increased by sharing revenues with provinces and local governments, or earmarking funds for popular programs such as targeted cash transfers.



Reinvest revenues in highly visible social programs and economic stimulus, preferably using explicit earmarking of funds. In response to the COVID-19 pandemic and potential recession, additional revenue that may come from increased taxes can be used to soften the impact of the pandemic by reinvesting in recovery programs and economic stimulus that benefit a large share of the population such as education, health, transport, and job creation. Transparent earmarking can increase public confidence that tax revenues are being spent on the promised programs.

References

- Aiyar, S. (2020, July 5). *Higher fuel taxes, fewer subsidies are good policy*. Times of India Blog. <https://timesofindia.indiatimes.com/blogs/Swaminomics/higher-fuel-taxes-fewer-subsidies-are-good-policy/>
- Asia-Pacific Economic Cooperation (APEC). (2009). *APEC summit. Leaders' declaration—sustaining growth, connecting the region*. https://www.apec.org/meeting-papers/leaders-declarations/2009/2009_aelm.aspx
- Asian Development Bank (ADB). (2021, February 22). *Where we work*. <https://www.adb.org/where-we-work/main>
- Ayuningtyas, R. & Rita Hartati, E. (2018). *Pertamina dan Swasta Akan Ikuti Kebijakan Baru BBM Nonsubsidi*. Beritasatu.com. <https://www.beritasatu.com/whisnu-bagus-prasetyo/ekonomi/487415/pertamina-dan-swasta-akan-ikuti-kebijakan-baru-bbm-nonsubsidi>
- Braithwaite, D., & Gerasimchuk, I. (2019). *Beyond fossil fuels: Indonesia's fiscal transition*. International Institute for Sustainable Development. <https://www.iisd.org/library/beyond-fossil-fuels-indonesias-fiscal-transition>
- Clarke, K. (2015). *Diesel subsidy reform in India: Lessons learned*. International Institute for Sustainable Development. https://www.iisd.org/gsi/sites/default/files/ffsr_india_lessons%20learned_may_2015.pdf
- Coady, D., Parry, I., Le, N., & Shang, B. (2019). *Global fossil fuel subsidies remain large: An update based on country-level estimates*. International Monetary Fund. Working Paper WP/19/89. <https://www.imf.org/en/Publications/WP/Issues/2019/05/02/Global-Fossil-Fuel-Subsidies-Remain-Large-An-Update-Based-on-Country-Level-Estimates-46509>
- Deloitte. (2013). *Deloitte taxation and investment guides: Oil and gas taxation in Indonesia*. <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Energy-and-Resources/gx-er-oilandgas-indonesia.pdf>
- ESDM. (2020). *Handbook Of energy & economic statistics Of Indonesia*. Ministry of Energy and Mineral Resources. Government of Indonesia. <https://www.esdm.go.id/en/publication/handbook-of-energy-economic-statistics-of-indonesia-heesi>



- Energy Policy Tracker. (n.d.). *Track public money for energy in stimulus packages* [Database]. <https://www.energypolicytracker.org/>
- Energy World. (2020a). *India now has the highest taxes on fuel in the world!* ET Energyworld. <https://energy.economictimes.indiatimes.com/news/oil-and-gas/india-now-has-the-highest-taxes-on-fuel-in-the-world/75590141>
- Energy World. (2020b). *Petrol, diesel prices spike as Delhi government increases VAT.* ET Energyworld. <https://energy.economictimes.indiatimes.com/news/oil-and-gas/petrol-diesel-prices-spike-as-delhi-government-increases-vat/75548783>
- Energy World. (2020c). *Tamil Nadu hopes to earn Rs 2,500 cr by hiking VAT on petrol, diesel prices.* ET Energyworld. <https://energy.economictimes.indiatimes.com/news/oil-and-gas/tamil-nadu-hopes-to-earn-rs-2500-cr-by-hiking-vat-on-petrol-diesel-prices/75552641>
- Explained: Why govt has raised excise duty cap on fuel amid coronavirus scare. (2020, March 24). *The Indian Express*. <https://indianexpress.com/article/explained/explained-why-government-raised-excise-duty-cap-on-fuel-coronavirus-6328357/>
- G20. (2009). *Leaders' statement. The Pittsburgh Summit. September 24–25, 2009.* https://www.treasury.gov/resource-center/international/g7-g20/Documents/pittsburgh_summit_leaders_statement_250909.pdf
- Gardner, S. (2020, October 2). *Indonesia needs bigger tax take post-virus, OECD officials say.* Bloomberg. <https://news.bloombergtax.com/daily-tax-report-international/indonesia-needs-bigger-tax-take-post-virus-oecd-officials-say-1>
- Garg, V., Gerasimchuk, I., Beaton, C., Bandyopadhyay, K.R., Whitley, S., Worrall, L., Scott, A., Patel, S., Chugh, G., Gupta, A., Jain, A., Malhotra, R., & Sodhi, G. (2017, November 28). *India's energy transition: Mapping subsidies to fossil fuels and clean energy in India.* International Institute for Sustainable Development. <https://www.iisd.org/library/india-energy-transition-mapping-subsidies-fossil-fuels-and-clean-energy-india>
- Garg, V., Viswanathan, B., Narayanaswamy, D., Beaton, C., Ganesan, K., Sharma, S., & Bridle, R. (2020). *Mapping India's energy subsidies 2020: Fossil fuels, renewables, and electric vehicles.* International Institute for Sustainable Development. <https://www.iisd.org/publications/mapping-indias-energy-subsidies-2020-fossil-fuels-renewables-and-electric-vehicles>
- Government of India. (2006). *Report of the Committee on Pricing and Taxation of Petroleum Products.*
- Government of India. (2010). *Report of The Expert Group on a Viable and Sustainable System of Pricing of Petroleum Products.* <http://petroleum.nic.in/sites/default/files/reportprice.pdf>
- Government of Indonesia. (2019). *Indonesia's effort to phase out and rationalise its fossil fuel subsidies (A self-report on the G-20 peer-review of inefficient fossil fuel subsidies that encourage wasteful consumption in Indonesia).* Organisation for Economic Co-operation and Development. <https://www.oecd.org/fossil-fuels/publication/Indonesia%20G20%20Self-Report%20IFFS.pdf>



- Gupta, S. (2020, May 5). Excise duty on petrol raised by Rs 10, diesel by Rs 13 per litre; no change in prices. *Hindustan Times*. <https://www.hindustantimes.com/india-news/excise-duty-on-petrol-raised-by-rs-10-diesel-by-rs-13-per-litre-no-change-in-prices/story-RVV2cqgnus4hEUYN1qrQfcP.html>
- Heine, D. & S. Black. (2019). Benefits beyond climate: Environmental tax reform. In M. A. Pigato (Ed.), *Fiscal policies for development and climate action*. World Bank Group. <https://www.ceintelligence.com/files/documents/9781464813580.pdf>
- International Energy Agency. (2019). *IEA statistics*. <https://www.iea.org/statistics>
- Kim, M. & Koepke, R. (2021, March 3). *Indonesia has an opportunity to boost growth*. IMF Country Focus. <https://www.imf.org/en/News/Articles/2021/03/03/na030321-indonesia-has-an-opportunity-to-boost-growth>
- Laan, T., & Jain, P. (2019). *India's energy transition: Subsidies for petrol, diesel and electric vehicles*. International Institute for Sustainable Development. <https://iisd.org/sites/default/files/publications/india-energy-transition-subsidies-petrol-diesel-electric-vehicles.pdf>
- Laan, T., & McCulloch, N. (2019). *Energy transition in support of the Low-Carbon Development Initiative in Indonesia: Transport sector*. International Institute for Sustainable Development. <https://www.iisd.org/publications/energy-transition-indonesia-transport-sector>
- Mahdavi, P., Martinez-Alvarez, C. B., & Ross, M. (2020). *Why do governments tax or subsidize fossil fuels?* (Working Paper No. 541). Centre for Global Development. <https://www.cgdev.org/publication/why-do-governments-tax-or-subsidize-fossil-fuels>
- Ministry of Finance, Government of India. (2012). *Government debt: Status report*.
- Mukherjee, S. (2020). Estimation and projection of petroleum demand and tax collection from petroleum sector in India. *Journal of Infrastructure Development*, 12(1), 39–68. <https://journals.sagepub.com/doi/abs/10.1177/0974930620903558>
- Organisation for Economic Co-operation and Development (OECD). (n.d.). *OECD Glossary of statistical terms—Environmental taxes definition*. <https://stats.oecd.org/glossary/detail.asp?ID=6437>
- Organisation for Economic Co-operation and Development. (1975). *The polluter pays principle: Definition, analysis, implementation*. https://www.oecd-ilibrary.org/environment/the-polluter-pays-principle_9789264044845-en
- Organisation for Economic Co-operation and Development. (2018). *OECD economic surveys: Indonesia*. <http://www.oecd.org/economy/surveys/Indonesia-2018-OECD-economic-survey-overview.pdf>
- Organisation for Economic Co-operation and Development. (2019). *Taxing energy use 2019: Using taxes for climate action*. <http://www.oecd.org/ctp/taxing-energy-use-efde7a25-en.htm#:~:text=Taxing%20Energy%20Use%202019%20presents,energy%20source%20and%20tax%20type>



- Organisation for Economic Co-operation and Development. (2020). *Tax and fiscal policy in response to the Coronavirus crisis: Strengthening confidence and resilience*. OECD. https://read.oecd-ilibrary.org/view/?ref=128_128575-o6raktc0aa&title=Tax-and-Fiscal-Policy-in-Response-to-the-Coronavirus-Crisis
- Parry, I. (2019). Putting a price on carbon: Carbon-pricing strategies could hold the key to meeting the world's climate stabilization goals. *Finance & Development, The Economics of Climate*. <https://www.imf.org/external/pubs/ft/fandd/2019/12/pdf/fd1219.pdf>
- Parry, I., Heine, D., Lis, E., & Li, S. (2014). *Getting energy prices right: From principle to practice*. International Monetary Fund. <https://www.elibrary.imf.org/view/IMF071/21171-9781484388570/21171-9781484388570/21171-9781484388570.xml?redirect=true>
- Petroleum Planning & Analysis Cell (PPAC). (2020). *Consumption of petroleum products*. https://www.ppac.gov.in/content/147_1_ConsumptionPetroleum.aspx
- Petroleum Planning & Analysis Cell. (2021). *Retail selling prices for gasoline and diesel*. https://www.ppac.gov.in/WriteReadData/userfiles/file/PP_9_a_DailyPriceMSHSD_Metro.pdf
- Pigato, M. & Black, S. (2019). Executive summary. In M.A. Pigato (Ed.), *Fiscal Policies for development and climate action*. World Bank Group. <https://www.ceintelligence.com/files/documents/9781464813580.pdf>
- Pradipto, R., Beaton, C., Susanto, A., Wirotomo, A., & Adisasmita, A. (2016, May 23). *Financing development with fossil fuel subsidies: The reallocation of Indonesia's gasoline and diesel subsidies in 2015*. International Institute for Sustainable Development. <https://www.iisd.org/publications/financing-development-fossil-fuel-subsidies-reallocation-indonesias-gasoline-and>
- Press Trust of India (PTI). (2020). *Diesel prices In India hit record high after rates hiked for 15th day in a row*. <https://www.bloomberquint.com/economy-finance/diesel-price-hits-record-high-after-rates-hiked-for-15th-day-in-a-row-petrol-up-35-paise>
- Rangarajan, D. C. (2006). *Report of the Committee on Pricing and Taxation of Petroleum Products*.
- Soni, A. (2011). *Country profile: Petroleum-product subsidies in India*. Global Subsidies Initiative. <https://www.iisd.org/gsi/subsidy-watch-blog/country-profile-petroleum-product-subsidies-india>
- State of Global Air. (2020). *Number of deaths attributable to air pollution*. <https://www.stateofglobalair.org/data/#/health/plot>
- Sterner, T. (2012). *Fuel taxes and the poor: The distributional effects of gasoline taxation and their implications for climate policy*. <https://www.routledge.com/Fuel-Taxes-and-the-Poor-The-Distributional-Effects-of-Gasoline-Taxation/Sterner/p/book/9781138184237>
- Suharsono, A., & Lontoh, L. (2020). *Indonesia's energy policy briefing July 2020*.
- Timilsina, G., & Dulal, H. (2008). *Fiscal policy instruments for reducing congestion and atmospheric emissions in the transport sector: A review*. World Bank.
- United Nations. (2019). *Sustainable Development Goal 12*. <https://sustainabledevelopment.un.org/sdg12>



United Nations Environment Programme (UNEP). (2019). *Fiscal policies to address air pollution from road transport in cities and improve health: Insights from country experiences and lessons for Indonesia* [Working Paper]. <https://greenfiscalspolicy.org/reports/unep-study-on-fiscal-policies-to-address-air-pollution-from-road-transport-in-cities-and-improve-health-insights-from-country-experiences-and-lessons-for-indonesia/>

Zuhra, W. U. N. (2017). *Cara Pemerintah dan Pertamina Menetapkan Harga BBM*. tirtto.id. <https://tirtto.id/cara-pemerintah-dan-pertamina-menetapkan-harga-bbm-cvzz>

© 2021 The International Institute for Sustainable Development
Published by the International Institute for Sustainable Development.

This publication is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-nc-sa/4.0/).

INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT

The International Institute for Sustainable Development (IISD) is an award-winning independent think tank working to accelerate solutions for a stable climate, sustainable resource management, and fair economies. Our work inspires better decisions and sparks meaningful action to help people and the planet thrive. We shine a light on what can be achieved when governments, businesses, non-profits, and communities come together. IISD's staff of more than 120 people, plus over 150 associates and consultants, come from across the globe and from many disciplines. Our work affects lives in nearly 100 countries.

IISD is a registered charitable organization in Canada and has 501(c)(3) status in the United States. IISD receives core operating support from the Province of Manitoba and project funding from governments inside and outside Canada, United Nations agencies, foundations, the private sector, and individuals.

Cover photo: Ed Wray/IISD

Head Office

111 Lombard Avenue, Suite 325
Winnipeg, Manitoba
Canada R3B 0T4

Tel: +1 (204) 958-7700

Website: www.iisd.org

Twitter: [@IISD_news](https://twitter.com/IISD_news)

