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Adjusting to Low Prices

Prospects for Fossil-Fuel Subsidy Reform in Oil-Producing and Exporting Countries

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In many of the world's large oil-producing and -consuming countries, the government subsidizes the consumption of fossil fuels—particularly petroleum products used for cooking, driving, and heating. These subsidies can be costly when oil prices are high because the governments bear the cost of selling these fuels to their populations at below-market levels. These consumer-oriented subsidies also have a market-distorting and economic effect—driving increased consumption of the subsidized products and leading the domestic economy to invest further in industries that rely on artificially cheap fuels. Most importantly the subsidies are usually an inefficient way of providing economic support to a given country's population—a main goal of their existence.

While in the past the international community has joined in a variety of forums to encourage fossil-fuel subsidy reform during a time of high oil prices—when the burden on governments is the heaviest—today's low oil price environment may very well be a more viable time to pursue this pathway of reform. The impetus for reform may increase, especially if oil prices stay around their current low price threshold for an extended period, thus putting increased financial pressure on governments that rely on oil export revenue to fund government activity.

This paper addresses consumer-oriented fossil-fuel subsidy reform as one especially promising reform pathway for oil producers and exporters in the current low oil price environment. The paper opens by reviewing the array of reform responses (including and beyond subsidy reform) that a selection of oil-producing countries has undertaken in response to current market conditions and the possibility of their continuation. It suggests that fossil-fuel subsidy reform could be an especially promising pathway for improving how natural resource wealth is spent in countries that are economically and politically vulnerable to the current low energy price environment. Moreover, should these market conditions persist, less economically and politically vulnerable countries may also consider such reforms more seriously—indeed, in recent months some of these countries have already begun debating fossil-fuel subsidy reform. As they do, the recent experiences of other reformer efforts are worth taking into account. The paper concludes by examining fossil-fuel subsidy reform in Iran, India, Mexico, and Nigeria, arguing that as governments debate and prepare for subsidy reform, these examples provide the following lessons: that alternatives to fossil-fuel subsidies have the potential to better satisfy the same

policy goals; that state capacity (ability to enact and carry out policy) is central to pursuing those alternatives; that reforms can be incremental and subsidies can be better targeted to the most needy; that automatic pricing mechanisms can distance politicians from the price-setting process and allow fuel prices to fluctuate with the market while protecting consumers from dramatic swings; and that fossil-fuel subsidies can be inextricably bound up in issues like corruption that need to be resolved or circumvented before reform can take place.

Subsidies in the Current Oil Market

More than a year into the oil price downturn, market analysts are still speculating about how low prices will be, and for how long, based on market fundamentals like supply and demand but also the strategic imperatives and production capabilities of major oil-producing countries. Many analysts now predict a fairly sustained lower price environment out to the end of the decade, absent any currently unforeseen supply or demand shock. As the prospect of sustained lower prices becomes more widely accepted, oil-producing countries that rely on much higher prices to meet their domestic budget needs have started to look more seriously at reform pathways that could cut budget deficits and make the use of public funds more efficient. Thus far, reforms by many oil-producing states have been relatively modest, and have been intended to weather a temporary oil price downturn, or have been part of preexisting reform efforts that have struggled to materialize. But such reforms are important not only because they could potentially bolster the resilience of these economies during times of low oil prices, but also because the performance of these economies in terms of oil production, export, and consumption will help shape future markets.

One potentially ripe reform pathway is fossil-fuel subsidy reform, which has attracted a high level of attention among governments, international organizations, businesses, and nongovernmental organizations (NGOs). The goal of eliminating wasteful fossil-fuel subsidies was recently reaffirmed by the G20 and by a coalition of governments, NGOs, and companies under the aegis of the Friends of Fossil Fuel Subsidy Reform at the opening of the COP21 climate negotiations in Paris in December 2015. Fatih Birol of the International Energy Agency (IEA) recently called fossil-fuel subsidies “public enemy number one,” and Oxfam has denounced them as “irrational and inefficient.”¹ Reforms are under discussion among a number of previously resistant countries, including important oil exporters like Saudi Arabia, Qatar, and Kuwait.

The stakes of reform are high. In the short term, low oil prices represent a serious threat to the fiscal health of more oil producers more economically and politically vulnerable to the price drop, and could chip away at the positions of the less vulnerable. However, low prices also represent an opportunity for some oil producers to insulate their fiscal health from the commodity cycle in the long term, and thus prevent such severe crises from recurring in the future, or at least maximize the benefit they derive from their oil resources. States that

¹ Fatih Birol, “IEA’s World Energy Outlook 2015” (presentation at CSIS, November 30, 2015); Chris Arsenault, “Oxfam slams fossil fuel subsidies, tells rich nations to help poor,” Reuters, November 13, 2015, <http://www.reuters.com/article/2015/11/13/climatechange-g20-subsidies-idUSL8N1364R920151113#LDtHfUdEWIE7tUxr.97>.

successfully reform stand to leave the low-price environment stronger than they entered it. States that merely muddle through, on the other hand, could be even more vulnerable to a future price collapse. Fossil-fuel subsidy reform represents one promising pathway for oil producers.

Yet for producers attempting to reform subsidies for domestic fossil-fuel consumption, incentives are mixed and timing matters. When prices are high, selling energy at low domestic prices costs the most and the most could therefore be gained by raising prices to market levels, but these high prices raise the political cost of removing subsidies and high export revenues reduce the fiscal urgency of doing so. When prices are low, selling energy at below-market prices is much less costly, but fiscal strain is higher for governments earning less revenue in a low-price environment and the political cost of raising prices to market levels is lower. For these reasons, fossil-fuel subsidy reform is often less urgent but more feasible when prices are low, but reform at low prices could substantially improve conditions when the commodity cycle swings again. The most vulnerable might benefit from reforming subsidies by reducing the small amount of fiscal pressure they currently exert, but all oil producers would gain from subsidy reform in the longer run.

The path toward subsidy reform is neither easy nor inevitable, but the combination of the incentives to reform during a low-price period, in addition to currently high levels of political pressure to reform, makes it a particularly ripe and important reform arena. Many analysts and policymakers assume that fiscal distress in oil exporting countries, or indeed in high-price cases in oil-consuming countries, automatically raise the likelihood of reform. Determining relative levels of vulnerability is more difficult, however, than simply examining the fiscal breakeven price of oil or any annual budgetary balances.

In section one, we will review the risks that low prices pose to oil producers, offer one viewpoint of how vulnerable various producers are to a sustained low-price environment, and then discuss some of the reform efforts that such countries are undertaking. In section two, we examine some of the main debates around the issue of fossil-fuel subsidy reform, and propose a standard by which parties that both support and oppose removing fossil-fuel subsidies might judge their efficacy vis-à-vis alternative policy options. While subsidy reform is complex and unique to each country, in section three we offer several instructive examples of fossil-fuel subsidy reform efforts by oil producers that may be of use to policymakers.

Vulnerability to the Low-Price Environment

Who Is Vulnerable?

It is important to understand that a short- or even medium-term oil price downturn will affect oil-producing countries differently and that many oil revenue-dependent countries are much more economically resilient to oil price downturns than others. Nearly all oil producers feel the impact of low oil prices, but some are more vulnerable than others. Many oil revenue-dependent countries have a fiscal breakeven oil price (annual estimate of the average price of oil required to balance a country's tax revenue with budgetary expenditures) that is much higher than the

current price of a barrel of oil. But taken on their own, fiscal breakeven oil prices are not sufficient proxies for a given country's vulnerability to an oil price decline. It is important to consider several other factors including overall macroeconomic standing, financial assets, and currency reserves. Société Générale, in its February 2015 Econote, examined 17 oil-producing countries—mainly exporters—across this range of factors and divided countries into three tiers of vulnerability (Table 1). Nearly all of the countries analyzed in the report are expected to post budget deficits for 2015, but some countries are positioned to withstand the downturn better than others.

Saudi Arabia, Kuwait, Qatar, and United Arab Emirates (UAE) were the least vulnerable because of their relatively strong budget condition at the outset of the downturn and ample financial resources (defined as foreign exchange reserves, sovereign wealth funds, oil revenue stabilization funds, deposits at the central bank and commercial banks). The moderately vulnerable were Algeria, Angola, Bahrain, Oman, Iran, Kazakhstan, Azerbaijan, Russia (heavily caveated), and Nigeria. These were listed as moderately vulnerable for a variety of reasons, but most had significant financial resources to draw from. The most vulnerable include Yemen, Iraq, Libya, and Venezuela because they combined current account and budget deficits with very limited financial resources.

Table 1. Vulnerability of Oil Producers

		Public finances				External accounts		
		fiscal breakeven oil price, 2015 (USD/bbl)	budget balances, 2014 (% du PIB)	Government deposits (months of spending)	Public debt, 2014 (% of GDP)	External accounts, 2014 (% of GDP)	External assets, 2014 (months of imports)	
Vulnerability	High	Yemen	145	-5,7	0,5	48,2	-1,3	5,5
		Venezuela	160	-14,2	3,3	46,1	1,7	4,0
		Iraq	101	-3,0	4,5	30,7	3,0	13,3
		Libya	184	-52,1	15,3	-	-27,1	60,8
	Medium	Algeria	130	-4,9	9,1	9,9	-3,0	33,6
		Angola	110	-4,1	4,4	38,4	-2,2	17,6
		Nigeria	110	-1,7	3,6	10,6	3,7	13,0
		Bahrain	127	-4,8	5,8	47	7,0	35,1
		Iran	131	-2,1	-	11,2	4,2	12,6
		Kazakhstan	68	3,8	1,6	13,7	0,3	9,8
		Azerbaijan	95	0,3	2,9	15,9	14,6	12,8
		Russia	110	-0,9	5,1	15,7	2,7	21,1
	Low	Oman	103	3,0	4,7	8,1	4,8	23,1
		Saudi Arabia	106	5,2	16,5	2,6	15,1	53,6
		Qatar	60	11,4	5,6	25,5	27,0	125,7
		UAE	77	10,5	7,6	11,4	11,1	24,1
		Kuwait	54	28,8	3,2	5,9	40,8	84,1

Sources: IMF, Moody's, Fitch, SG calculations

Source: Société Générale.

The Société Générale analysis provides a useful but limited view of vulnerability in the face of low oil prices. It assesses economic vulnerability, but leaves out political instability, which functions as an additional risk in some of these countries, and is seen by some market analysts as exacerbated by lower oil prices. The relationship between economic fragility and political instability is difficult to determine but it is often assumed that countries in fiscal distress will try to improve their situation if they are able to do so in order to strengthen their governance

position. If the markedly lower oil price environment persists, the question of how countries develop medium and long-term strategies to adjust to the new price environment will likely become more important to their fiscal and political viability.

What Are the Options for Reform?

Countries have several pathways for improving their position in the face of lower oil prices: they can spend less money (or be more judicious about the money they spend), attract more investment, reduce fuel subsidies, and improve economic competitiveness in sectors outside of oil thereby reducing imports and increasing non-oil exports. Table 2 provides a brief summary of the reform efforts announced thus far (note these are just announced efforts, not enacted efforts).

In the area of fiscal reform, several oil-producing countries have cut the oil price estimate in their annual budget by \$15 to \$50. The largest adjustment thus far has been taken by Russia—hit by the dual challenge of the low oil price environment and Western sanctions. Notably, several countries in the highly vulnerable category like Yemen and Libya have not announced changes to their annual budget; this is understandable given the severe instability in these countries.

Several countries have altered ongoing investment reforms to attract additional oil and gas investment, but only a few show real signs of delivering on the promised reforms and it is unclear how much additional investment these reforms would attract given the severe cost-cutting underway in the oil and gas industry. Two noteworthy examples of renewed effort to attract investment are Mexico and Iran. Mexico, after decades of state dominance in the oil sector, instituted reforms to attract private investment, only to receive sparse interest in their first bid round. Mexican authorities quickly revised investment terms in the face of low oil prices and dampened investor interest and have experienced more interest in the subsequent bid round. Iran, in the wake of a nuclear accord, is poised to try and entice oil and gas investors to develop its ample oil and gas reserves and help lift the country out of the crippling economic condition created by international economic sanctions. Traditionally known as a difficult place to invest, Iran has a great deal of work ahead of it to offer an investment environment that will deliver on the country's high expectations.

Most oil exporting countries have some sort of diversification of the electric power sector underway to reduce the amount of oil consumed for power generation, although low oil prices can sometimes dissuade or postpone reforms in these areas by making oil a more attractive fuel. Iran and other Persian Gulf states have undertaken a shift from petroleum- to gas-fired generation, and Saudi Arabia, which burned between 150,000 and 900,000 bpd of crude oil for power generation between 2009 and 2013, has stated that it plans to bring on-line 18 GW of nuclear power and 4 GW of other non-hydrocarbon sources by 2032, and 41 GW of solar by

2040.² Outside of the Middle East, Angola is pursuing a slew of renewable energy projects to wean itself off of petroleum products in power generation.³

Table 2. Select Oil Exporters' Reform Efforts

HIGH VULNERABILITY	Budget oil price revision	Investment reform	Renewable power target	Subsidy reform
Yemen	No information available	None	15 percent by 2025	Ongoing
Venezuela	No change	None	No information available	Under discussion
Iraq	From \$70 to \$56	Under discussion	2 GW by 2030	None
Libya	No information available	None	10 percent by 2020	None
MEDIUM VULNERABILITY				
Algeria	No change (from \$37)	Ongoing	22 GW by 2030	Under discussion
Angola	From \$81 to \$45	Ongoing	No information available	Under discussion
Nigeria	From \$77.50 to \$53	Ongoing	23 percent by 2025	Ongoing
Iran	From \$72 to \$40	Ongoing	5 GW by 2020	Ongoing
Kazakhstan	From \$80 to \$50	Ongoing	3 percent by 2020	No information available
Azerbaijan	From \$90 to \$50	Ongoing	20 percent by 2020	Ongoing
Oman	From \$75 to \$55	None	No information available	Ongoing
Russia	From \$100 to \$50	Ongoing	4.5 percent by 2020	None
LOW VULNERABILITY				
Saudi Arabia	No price stated in budget	None	45 GW by 2040	Under discussion
Qatar	From \$65 to \$45	None planned	1.8 GW by 2020	Ongoing
UAE	No change	None planned	5-7 percent by 2020	Ongoing
Kuwait	From \$75 to \$45	None planned	15 percent by 2030	Under discussion
NOT LISTED				
Mexico	From \$79 to \$50	Implemented	35 percent by 2026	Ongoing

Source: Vulnerability categories from Société Générale; table contents from CSIS analysis of press sources.

Countries considering subsidy reform before the oil price downturn appear to be continuing those efforts, but many of these reforms face steep political challenges and mixed incentives. Two countries in Table 2, Iran and Mexico, are in the midst of implementing subsidy reform and have valuable lessons to provide other countries attempting reform. Other countries have had less success with their reform efforts with some, such as in Nigeria, experiencing previous false starts.

Each of these reform pathways presents its own unique challenges and opportunities, making success far from inevitable. We outline the particular case of fossil-fuel subsidy reform because

² U.S. Energy Information Administration (EIA), "Country Analysis Brief: Saudi Arabia," September 10, 2014, http://www.eia.gov/beta/international/analysis_includes/countries_long/Saudi_Arabia/saudi_arabia.pdf; EIA, "Saudi Arabia uses largest amount of crude oil for power generation since 2010," September 24, 2014, <https://www.eia.gov/todayinenergy/detail.cfm?id=18111>; Mark Osborne, "Saudi Arabia bursts solar energy bubble—reports," *PV-Tech*, January 19, 2015, http://www.pv-tech.org/news/saudi_arabia_burst_solar_energy_bubble; Ian Clover, "Algeria targets 13.5 GW solar PV by 2030," *PV Magazine*, February 26, 2015, http://www.pv-magazine.com/news/details/beitrag/algeria-targets-135-gw-solar-pv-by-2030_100018363/#axzz3c23IVcvT.

³ IEA, "Angola: Towards an Energy Strategy," 2006, <https://www.iea.org/publications/freepublications/publication/angola2006.pdf>; Republic of Angola, "Draft Intended Nationally Determined Contribution (INDC) of the Republic of Angola," November 2015, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Angola/1/INDC%20Angola%20deposito.pdf>.

of its potential contribution to both the economic efficiency of major oil exporting economies but also the complementary benefits it would have for other reform options and the oil market more generally. The following section outlines debates around fossil-fuel subsidy reform, and offers several instructive examples of such reform in oil-producing countries that emphasize the importance of assessing how alternatives to fossil-fuel subsidies better meet subsidies' policy goals, how capable states are of pursuing different reform pathways, and the promises and pitfalls of those pathways.

Fossil-Fuel Subsidy Reform as a Reform Pathway

International Support for Fossil-Fuel Subsidy Reform

Fuel subsidy reform has received significant attention from international organizations in recent years—especially during the high oil price environment of 2010–2014.⁴ Organizations with broad mandates like the International Monetary Fund (IMF), G20, United Nations Environment Program, and the World Bank, along with numerous government development agencies and nongovernmental organizations like the Natural Resources Defense Council and International Institute for Sustainable Development have all pushed for the removal of fossil-fuel subsidies for various reasons.

The main critique of fossil-fuel subsidies is that they disproportionately benefit the rich, encourage wasteful energy consumption and smuggling, undermine incentives for investment in energy efficiency and clean energy, place unpredictable burdens on government budgets, and represent an inefficient use of public funds when compared to direct cash transfers and spending on public works. The International Energy Agency estimated the value of fossil-fuel subsidies to consumers worldwide to be \$548 billion in 2014. This estimate covers subsidies to fossil fuels consumed directly by households, industries, and businesses, as well as subsidies to the consumption of electricity generated by fossil fuels. This figure is greater than the \$390 billion the IEA estimated in 2009 when the G20 first took on the issue of fossil-fuel subsidy reform but is less than the \$610 billion that the IEA estimates would have comprised the total bill for fossil-fuel subsidies in 2014 absent reforms adopted since 2009.⁵ The IMF made a comparable calculation in 2013, estimating that 176 countries spent \$480 billion—almost 1 percent of global GDP.⁶

How these measurements are made is critical to understanding the debate about subsidy reform. Though specific mechanisms for delivering fuel subsidies to consumers vary, the most common method is for governments to set below-market prices at which state-controlled companies must sell fuels. Because this does not entail a direct payment to consumers, the IEA and IMF measures these subsidies according to a “price-gap” approach, in which the difference between the official price and an estimated market price for a commodity is equal to its “implicit” subsidy. At times, governments provide direct subsidies to consumers of energy per unit of fuel purchased, or sell

⁴ “Fueling Controversy,” *The Economist*, January 11, 2014.

⁵ IEA, *World Energy Outlook 2015* (Paris: IEA, 2015), 96.

⁶ IMF, “Energy Subsidy Reform: Lessons and Implications,” January 28, 2013, <https://www.imf.org/external/np/pp/eng/2013/012813.pdf>.

electricity generated by burning fossil fuels at below-recovery rates. These three measurements together make up most “pre-tax” subsidy estimates, including those used by the IEA. Some measures also include production subsidies including tax breaks to oil and gas exploration within their “pre-tax” estimates, and although these are important—especially in rich countries without national oil companies like the United States—for the sake of analytical clarity they will not be examined here. More recently, the IMF has shifted to also include the negative economic effects of fossil-fuel use in their subsidy estimates. These “post-tax” estimates include negative externalities such as pollution, traffic congestion, and deaths caused by traffic accidents, and may eventually include the costs associated with greenhouse gases. By this logic, taxing fossil fuels at the cost of the damage they cause merely brings them to their true cost, eliminating “post-tax” subsidies.

The IEA and IMF’s sustained effort to quantify fossil-fuel subsidies and track reform efforts has helped shine a light on the distorting impact of the subsidies as well as the drivers for reform. The push for fossil-fuel subsidy reform has, however, been hampered by a lack of agreement on the definition of “subsidy” or the need for reform more generally. One rebuttal to the push for subsidy reform, written on behalf of the Organization of the Petroleum Exporting Countries (OPEC), contested the notion that the price at which sovereign governments, or the national companies they control, choose to sell fuel to their citizens should be a subject of debate. More convincingly, it argued that all governments—including the United States—employ many different kinds of subsidies, and that it is more important to determine whether or not policies to provide cheap or subsidized energy meet their intended goals and represent effective uses of natural resources.⁷ Indeed, in many energy-subsidizing countries, nationalized oil companies often represent the most historically effective apparatus through which governments can intervene in the economy and deliver natural resource wealth to their citizens. Proponents of fossil-fuel subsidy reform are moving in the opposite direction of this argument, widening their definition of “subsidies” to include estimates of a growing list of negative externalities into their subsidy impact assessments. While the inclusion of negative externalities like traffic and pollution in subsidy calculations is an admirable aspiration, it is not yet part of the debate among the heaviest subsidizers and quite likely much more difficult to accomplish.

Indeed, since proponents of fossil-fuel subsidy reform must convince subsidizing governments to reform, those governments’ positions should be taken seriously when formulating policy questions about fossil-fuel subsidies. Two central questions could serve as a means by which both opponents and proponents of fossil-fuel subsidies could judge their usefulness: *Do fossil-fuel subsidies—as distributed through the particular mechanisms available to subsidizing governments—constitute an efficient use of natural resources in meeting subsidizing countries’ goals of equitable growth and protections for the most vulnerable? If not, are there other mechanisms that could meet those goals more effectively?* Some governments—a selection of which will be discussed in the following section—have indeed used more effective tools including cash transfers to citizens, public investment, and increased spending on social safety nets, and

⁷ Joerg Spitzky, “Energy Subsidies—an OPEC Perspective,” *Oxford Energy Forum* 88 (May 2012), http://www.oxfordenergy.org/wpcms/wp-content/uploads/2012/06/OEF_881.pdf.

the IMF has duly commended them for their efforts. In other cases, fossil-fuel subsidies have often remained relatively effective means of meeting policy goals given states' administrative capacities and a lack of public trust in states' abilities to reroute savings realized from subsidy reform to productive ends.

So what prospect for subsidy reform exists today? Following the drop in oil prices and the advent of a sustained low-price environment, a number of governments dependent on hydrocarbon revenues have begun examining the possibility of removing fossil-fuel subsidies to improve their fiscal positions in the short term, conserve their hydrocarbon resources for higher-price environments, and take advantage of the opportunity to connect local prices to global markets while global price levels are low. Hydrocarbon producers as varied as Algeria, Angola, Bahrain, Egypt, India, Indonesia, Iran, Kuwait, Malaysia, Mexico, Nigeria, Oman, Saudi Arabia, Venezuela, and others are currently undertaking fossil-fuel subsidy reform, have announced intentions to do so, or are studying the possibility of reforming their subsidy systems. Yet as noted, strong incentives to reform fossil-fuel subsidies are less acute in a low-price environment but—somewhat counterintuitively—the low oil price environment allows some degree of political cover to reform efforts when fuel prices are naturally low. Moreover, increasingly severe fiscal strain resulting from prolonged low prices also drives subsidizing governments to look into the possibility of removing or rerouting the currently relatively small amount of money used to lower energy prices to consumers. As noted, there have been recent discussions in Saudi Arabia and Kuwait about cutting fuel subsidies, and reports surfaced in recent months that Saudi and Kuwaiti policymakers are discussing raising fuel prices as part of larger reform efforts.⁸ Given high levels of fossil-fuel consumption, the importance of Persian Gulf oil production, and the political sensitivity of reform in those countries, these discussions have drawn significant press attention. These countries, and others looking to reform subsidies amidst the current low-price environment, would do well to learn from the experiences, both positive and negative, of others.

Case Studies: Iran, India, Mexico, and Nigeria

Despite the recently announced intentions, the path to successful and sustainable subsidy reform is difficult. Even among countries only now considering reform, examples of previous and ongoing efforts complete with lessons learned and technical assistance, could provide useful insights for their efforts.

Four examples that offer distinct but complementary lessons on fossil-fuel subsidy reform include Iran, India, Mexico, and Nigeria. Each faces distinct conditions in a low-price environment, has slightly different mechanisms for delivering subsidies, has somewhat different goals for reform, aims to reform in distinct ways, and is at a different point in the reform process.

⁸ Simeon Kerr, "Saudi Arabia looks to reform energy subsidy programme," *Financial Times*, November 12, 2015, <http://on.ft.com/1lUjHD>; "Kuwaiti authorities show 'willingness' to push reforms including subsidy cuts—IMF," Reuters, December 7, 2015, <https://en-maktoob.news.yahoo.com/kuwaiti-authorities-show-willingness-push-reforms-including-subsidy-154431630--sector.html>.

These cases can therefore help illustrate the potential and pitfalls of different methods of reforming subsidies, the importance of state capacity to enact reform. Such lessons include:

- Iran’s novel policy solutions and lessons about the importance of state capacity and effective implementation;
- India’s targeted and incremental approach and use of subsidy reform as an opportunity to expand state capacity;
- Potential and limitations of Mexico’s cleverly designed automatic pricing mechanisms;
- Difficulty for Nigeria to disentangle fuel-subsidy reform from other issues like endemic corruption.

It should be noted that India is not a net crude exporter so oil price dynamics affect it differently than the other countries examined here, as will be discussed. Yet India’s long and unique experience with fossil-fuel subsidy reform nonetheless makes it an instructive case.

Iran: A Struggle to Achieve a More Equitable Distribution of Wealth and Extend the State’s Reach

Iran serves as a useful example of novel alternatives to fossil-fuel subsidies that could better satisfy the same policy goals as fossil-fuel subsidies, as well as the importance of state capacity and effective implementation in creating those alternatives.

Iran is one of the world’s largest oil holders and producers but also a significant regional energy consumer with a variety of unique economic challenges including the period of relative economic isolation as a result of global sanctions. Iran did not undertake fossil-fuel subsidy reform to repair its finances, but rather to more efficiently and equitably distribute the wealth generated by its natural resource endowment. In 2009, Iran spent \$66 billion on subsidies—nearly 10 percent of GDP—and ranked highest in the world for energy subsidization the year before.⁹ The country’s most recent round of subsidy reforms began in the high-price environment of 2010, but has been slowed by poor implementation and difficult macroeconomic conditions. The Iranian government indirectly subsidizes energy for consumers and businesses by fixing prices below market levels, and continues to provide highly subsidized energy.

Iran has maintained that price-fixing system while attempting to slowly shift the means of distributing its oil wealth from cheap fuel to direct cash transfers to citizens. It is important to reemphasize that the goal of this reform was not to save the government money, but rather to distribute wealth more equitably than with highly regressive energy subsidies, and to use Iran’s

⁹ Semira N. Nikou and Cameron Glenn, “The Subsidies Conundrum,” United States Institute of Peace, August 2015, <http://iranprimer.usip.org/resource/subsidies-conundrum>; Elham Hassanzadeh, “Recent Developments in Iran’s Energy Subsidy Reforms,” International Institute for Sustainable Development, October 2012, http://www.iisd.org/gsi/sites/default/files/pb14_iran.pdf.

natural resource endowment more efficiently—oil consumption had quintupled since the 1979 revolution, eating into exports and encouraging overconsumption, which exacerbated pollution and urban traffic.¹⁰ When the reform law was finalized, 80 percent of the savings were intended for Iranian citizens, and 20 percent for businesses that would be negatively affected by price increases. In the first phase under President Mahmoud Ahmadinejad, the government raised fuel prices dramatically, but timed the price increase with simultaneous universal, direct cash deposits in bank accounts, reaching almost all of Iran’s population of 75 million. Accomplishing this was no easy feat, and required cooperation from banks, which opened 16 million new accounts for Iranians who previously had none, and which installed ATMs in rural areas to allow previously underserved Iranians to withdraw their cash.¹¹ The reforms also required drivers to register their vehicles to receive rations of low-cost gasoline, that diesel be sold at tiered rates to different kinds of customers, and that natural gas and electricity prices be tiered to account for geographical variance in heating and cooling needs.¹²

This reform mechanism originally worked quite well, lifting “nearly every single Iranian out of poverty,” as defined by the IMF, through a guaranteed basic income for all Iranian citizens.¹³ It was also immediately visible to the population—Iranians could see their account balances rise instantaneously, leaving little room for doubt that the government intended to follow through with its promises. Yet the Ahmadinejad government miscalculated, spending about twice as much as had been saved by the subsidy cuts. The cash transfers were set arbitrarily at around \$45 per month per citizen, costing the government twice as much as implicit subsidies had.¹⁴ Parliament then refused to compensate for the cost overrun by raising fuel prices. The Iranian government responded by effectively printing money to pay for cash transfers at the level promised, exacerbating the inflation caused by raising fuel prices and worsened by U.S. and EU sanctions, and the value of targeted cash transfers was thereby reduced to around \$17 per month by 2014, undoing much of the good that the reform had accomplished.¹⁵

Since this reform effort floundered, the government has slowed down the removal of subsidies and is attempting to make crucial adjustments. Fuel prices were raised in two phases, with one rapid increase in May 2014 and another more modest price jump in May 2015. The government also sought to recalibrate the cash transfer system. In April 2014, the government halted cash transfers and asked wealthy Iranians not to reapply for them, but only 3 million citizens complied.¹⁶ Payments then resumed, and the Iranian government is now attempting to target cash transfers to lower- and middle-income citizens, and to raise fuel prices more slowly to restrain the impact on inflation and on the population. One major obstacle to reform is administrative: though the government was extremely successful in mobilizing citizens to

¹⁰ Nikou and Glenn, “The Subsidies Conundrum.”

¹¹ Dominique Guillaume, Roman Zyteck, and Mohammad Reza Farzin, “Iran—The Chronicles of the Subsidy Reform,” IMF, July 2011, <https://www.imf.org/external/pubs/ft/wp/2011/wp11167.pdf>.

¹² Ibid.

¹³ Jahangir Amuzegar, “Iran: The Subsidies Dilemma” *Middle East Economic Survey*, October 9, 2015.

¹⁴ Nikou and Glenn, “The subsidies conundrum” Djavad Salehi-Isfahani, “Iran’s Subsidy Reform: From Promise to Disappointment,” Economic Research Forum, June 2014.

¹⁵ “Cut those subsidies,” *The Economist*, April 30, 2014, <http://www.economist.com/blogs/pomegranate/2014/04/iran>.

¹⁶ Ibid.

voluntarily provide bank account information or create new bank accounts in order to receive cash transfers, it is having much more difficulty convincing wealthier Iranians to volunteer to withdraw themselves from those lists.¹⁷ In the second phase of reforms being implemented by the Rouhani government, Iran's parliament required that Iranians in the top 30 percent income bracket be removed from the payments lists, but the government has had difficulty identifying wealthier citizens. Many wealthy Iranians have reapplied for the cash transfers, and many apparently have not accurately reported their own incomes.¹⁸ Since the government lacked the capacity to audit all of these applications, rumors swirled in the Iranian press that the government had discreetly removed from its lists Iranians who enjoyed what were understood as proxies of wealth: living outside of the country, luxury car ownership, and holding certain highly paid professional jobs.¹⁹ The government ultimately acknowledged that it had removed a quarter million recipients from its lists, and allowed them to reapply.²⁰ Though fuel prices remain below market estimates in Iran, they continue to rise to meet them without incurring significant popular resistance.

Iran's reform efforts have shown some of the promises and pitfalls of reforming fossil-fuel subsidies by transforming them into direct cash transfers to citizens. The Iranian government's capacity to secure the cooperation of a relatively extensive and well-functioning financial system allowed it to give almost its entire citizenry instantaneous, visible access to the nation's oil wealth. Yet the difficulty of identifying wealthier Iranians and removing them from payment lists demonstrated that the sheer capacity to transfer cash is not the same as the capacity to transfer cash to specific populations. As a result, Iran's universal cash transfers were less regressive than energy subsidies had been, but making them genuinely progressive remains difficult.²¹ Moreover, as others have noted, the execution and context of subsidy reforms is critical: the Ahmadinejad government distributed much more wealth to the population than it saved by raising fuel prices, exacerbated inflation by borrowing money to cover the gap, and was struck by U.S. and EU sanctions soon afterward.²² Though Iran did not originally seek to improve its finances by removing fuel subsidies, governments attempting to lower their subsidy costs could limit the impact on the poor by routing some of the savings into targeted cash transfers to them, provided that those governments have the means to assess citizens' wealth and direct cash flows to them.

Iran's subsidy reform methods are novel, and demonstrate the opportunity provided by fossil-fuel subsidy reform to expand the state's capacity to serve its population. It also shows how limits to state capacity can prevent these reforms from reaching their full potential.

¹⁷ Hassanzadeh, "Recent Developments in Iran's Energy Subsidy Reforms"; Amuzegar, "Iran: The Subsidies Dilemma."

¹⁸ Amuzegar, "Iran: The Subsidies Dilemma."

¹⁹ Ibid.

²⁰ Ibid.

²¹ Javier Arze del Granado, David Coady, and Robert Gillingham, "The Unequal Benefits of Fuel Subsidies: A Review of Evidence for Developing Countries," IMF, September 2010, <https://www.imf.org/external/pubs/ft/wp/2010/wp10202.pdf>.

²² Benedict Clements et al., "Case Studies on Energy Subsidy Reform: Lessons and Implications," IMF, January 28, 2013, <http://www.imf.org/external/np/pp/eng/2013/012813a.pdf>; Bijan Khajepour, "Can Rouhani Resolve Iran's Economic Conundrum?," July 2013, https://www.wilsoncenter.org/sites/default/files/can_rouhani_resolve_irans_economic_conundrum.pdf.

India: A Large Consumer and Producer Expands State Capacity with a Targeted and Incremental Response

India's experience with fossil-fuel subsidy reform shows the possibilities of gradual, targeted reforms that remove the most wasteful subsidies while improving the means by which the subsidies upon which the poor rely most are delivered. Moreover, for India fossil-fuel subsidy reform represents an opportunity to radically extend the state's ability to interact with—and distribute wealth to—its population.

India is an outlier among this group as a large producer (over 900,000 bpd) that does not export crude oil, but it shares state control over the energy sector and a history of fossil-fuel subsidization with the other cases.²³ India's estimated spending on petroleum subsidies equaled 1 percent of GDP in the 2012–2013 fiscal year, but falling oil prices and reform measures have led the IMF to project that figure to fall to 0.4 percent of GDP in 2014–2015.²⁴ Though India is not a major oil exporter, it is a relatively large producer, and although it does not face the same fiscal threat from low prices as oil exporters, its attempt to remove fossil-fuel subsidies resembles exporters' subsidy reform efforts, and could hold lessons for them. It should be noted that the subsidy reform incentives that India faces are therefore slightly different. High oil prices bring fiscal strain due to higher import and subsidy bills, while making raising domestic prices to market levels more costly. Low prices give a greater opportunity to reform because the gap between fixed and market levels is smaller, but far less incentive to do so because of the fiscal boon to importers brought about by a price decline.

Despite these differences, the value of examining the case of India comes from its multidimensional response, which combines targeted cash transfers to poor citizens with fuel-specific reform mechanisms. It also comes from the challenges India has faced in making those specific changes, which have mainly emerged from limitations in the state's capacity to reach its citizens effectively by means other than price fixing. Though India is not an oil exporter, like many countries it has inherited a history of state control over the energy sector, and has used that control to intervene in the economy by lowering the cost of energy to consumers and industry. In recent years India's innovative approach to increasing the state's capacity to interact directly with citizens makes the country worthy of the attention of other governments attempting to develop more targeted and efficient means of wealth distribution.

India has undergone a series of subsidy reforms since the 1990s that have adjusted how subsidies are delivered in order to target them to poorer citizens.²⁵ These methods have varied widely by fuel, and the government has typically set lower prices and maintained greater control over fuels

²³ India production figure from U.S. Energy Information Administration, <https://www.eia.gov/beta/international/country.cfm?iso=IND>.

²⁴ IMF, "2015 Article IV Consultation—Staff Report; Press Release; and Statement by the Executive Director for India," March 2015, <https://www.imf.org/external/pubs/ft/scr/2015/cr1561.pdf>.

²⁵ Center for Energy Economics, Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin, "LPG Subsidies in India," http://www.beg.utexas.edu/energyecon/new-era/case_studies/LPG_Subsidies_in_India.pdf.

that are disproportionately important to the livelihoods of the poor. Before the last round of reforms, India had a diverse set of fossil-fuel subsidies and taxes. All households received a ration of subsidized liquefied petroleum gas (LPG), used as a cooking fuel by the poor. Rations of kerosene, often used in small generators, heaters, and agricultural machinery, were sold at government-set tiered prices based on household income, but kerosene purchased above the ration was sold at market prices. Diesel, used across the economy in transportation and generation, was sold at a fixed low price to all consumers. Gasoline, used mainly by relatively wealthy owners of private cars, was taxed. Marketers and the government typically shared the burden of selling fuel below market prices, and the government reimbursed marketers for selling diesel at below-market prices.²⁶

Since 2013, several fuels' price-setting mechanisms have changed in various ways. LPG is now sold at retail prices, but lower-income households—as defined by state and federal authorities—receive direct per-unit subsidies for LPG via bank accounts set up through India's new "Aadhaar" biometric ID system.²⁷ So far, almost 200 million new bank accounts have been set up—in part to take advantage of this subsidy—significantly increasing Indians' access to the financial sector.²⁸ This subsidy system allows the price to fluctuate in response to market pressures, while defraying the cost to the poor and eliminating redundant access to subsidies. The kerosene subsidization system—which is complicated and varies by state—has not been reformed yet, but there is discussion of tying it to the Aadhaar system and applying the LPG model to it. Diesel prices were entirely "decontrolled," meaning that the government sets prices according to an automatic mechanism designed to track global prices, and taxes were placed on diesel as well as gasoline to raise government revenue. As a result, the government therefore no longer compensates retailers for the "price-gap" between low, government-fixed diesel prices and estimated market prices. There is logic to this mixed system, but it also faces obstacles. The wealthy pay more for diesel and gas used in private automobiles, while fuels of disproportionate importance to lower- and middle-income Indians like kerosene and LPG remain subsidized. The government's use of direct subsidies on these fuels—rather than implicit subsidies created by fixing prices below market levels—also allows the Indian government to modulate the subsidy allocation in its budget autonomously from global market fluctuations. More importantly, the rollout of the Aadhaar ID system is reported to have been very effective, with almost 950 million cards distributed in a country of 1.25 billion.²⁹ Yet there have also been reports that the physical

²⁶ IISD, "A Citizens' Guide to Energy Subsidies in India," 2012, https://www.iisd.org/gsi/sites/default/files/ffs_india_czguide.pdf; Anmol Soni, "Country Profile: Petroleum-Product Subsidies in India," ISSD, June 21, 2011, <https://www.iisd.org/GSI/news/country-profile-petroleum-product-subsidies-india>.

²⁷ IMF, "2015 Article IV Consultation—Staff Report; Press Release; and Statement by the Executive Director for India."

²⁸ Saurabh Kumar, "After Supreme Court nod, UIDAI speeds up Aadhaar seeding process," *Live Mint*, December 2, 2015, <http://www.livemint.com/Politics/DmV1J8ShGT02zU4Fc7Q2J/After-Supreme-Court-nod-UIDAI-speeds-up-Aadhaar-seeding-pro.html>.

²⁹ Remya Nair, "Govt ready to give Aadhaar legislative support, signals Jaitley," *Live Mint*, November 7, 2015, <http://www.livemint.com/Politics/BHeZ7Cfv4w5TagSlB4gKDN/Govt-signals-strong-support-for-Aadhaar.html>.

inaccessibility of banks to many poor Indians has handicapped the distribution of LPG subsidies, forcing some of India's most vulnerable to pay full retail price.³⁰

The Indian government has found a nuanced way of responding to the balancing act of allowing prices to fluctuate while mitigating the impact of those fluctuations on India's budget and poorest citizens. Pricing different fuels differently allows the government to expose different constituencies to varying amounts of the burden of price movements. Taxing gasoline and diesel allows the government to collect revenues from wealthier Indians, while providing direct cash transfers to consumers of LPG defrays the cost of fuel to India's poorest. Such a mixed system may be especially useful to states that wish to manage some prices to protect the most vulnerable while ending the most inefficient, regressive subsidies, and India's efforts serve as an example of the potentially complementary relationship between subsidy reform and state capacity building.

Mexico: Automatic Price Adjustments

Mexico's recent efforts show the utility of well-designed automatic pricing mechanisms, as well as the potential complications involved in leaving layers of government control over pricing.

Mexico's fossil-fuel subsidy reforms are still underway, but Mexico's new pricing system appears well equipped to deal with price fluctuations despite potential vulnerabilities. Energy subsidies cost the Mexican government \$18.5 billion—around 1.5 percent of GDP—in 2012. The government's plan to reform subsidies in 2014 was to move gasoline and diesel pricing to an automatic mechanism to determine maximum prices, based on estimated inflation, starting in 2015, then to adjust that mechanisms to move both fuels to market levels by 2018.³¹ Yet with the price collapse, oil prices fell below government-mandated levels. As a result, the government switched its subsidy on gasoline and diesel, the *Impuesto Especial sobre Producción y Servicios por Enajenación de Gasolinas y Diesel* (IEPS), to a revenue-generating tax as prices fell. The World Bank estimated that the IEPS would generate 1 percent GDP in tax revenue in 2015.³² In response, the government moved to bring prices to market levels early—during fiscal year 2016—within minimum and maximum bounds, and the government will continue collecting taxes via the IEPS.³³

³⁰ Kieran Clarke, "India's Direct Benefit Transfer for the LPG Program Is Not Subsidy Reform," IISD, March 9, 2015, <https://www.iisd.org/GSI/news/indias-direct-benefit-transfer-lpg-programme-not-subsidy-reform>. Egypt has made similar efforts, delivering a limited amount of per-unit fuel subsidies directly to citizens via a smart card system rather than bank deposits. This system has the advantage of not relying on consumers' access to bank accounts to subsidize limited amounts of fuel, but implementation was delayed in June and remains incomplete as E-Finance, the company responsible for manufacturing and distributing the cards, attempts to extend their reach to certain commercial users. There is now some skepticism among observers that Egypt can meet its energy subsidy removal goals by the original target date of 2019. "Egypt Looks Beyond Current Storms to Gas-Fueled Upland," *Middle East Economic Survey*, November 27, 2015.

³¹ Mexican Energy Commission, "Presentación sobre las iniciativas a la legislación secundaria en materia energética," April 30, 2014, http://www.senado.gob.mx/comisiones/energia/docs/reforma_energetica/presentacion.pdf.

³² World Bank, "Update on Recent Progress in Reform of IFFs [Illicit Financial Flows] That Encourage Wasteful Consumption," October 2, 2015.

³³ *Excelsior*, "SHCP [Secretaría de Hacienda y Crédito Público]: Ley de Ingresos 2016 mantiene las finanzas sanas e impulsa el crecimiento," November 1, 2014, <http://www.excelsior.com.mx/nacional/2015/11/01/1054667>; Jorge Ramos,

The reformed Mexican system has the advantages of automatic price adjustments, of setting bounds to prevent disruptive fluctuations, and of using the IEPS to collect revenue amidst low prices and defray costs to consumers amidst high prices. It remains to be seen if the automatic mechanism proposed will escape government intervention if prices increase again, however.³⁴ Should global prices increase substantially, the Mexican government would be in a strong position to defray the impact on consumers by providing limited implicit subsidies through maximum prices and direct subsidies through the IEPS, while allowing local prices to track the market. However, if the government continues to set maximum prices and subsidy levels, popular pressure or short-term economic calculations could reduce the government's ability to minimize Mexico's subsidy bill should prices jump.

Nonetheless, Mexico's automatic price-setting, combined with the IEPS's mitigation of the impacts of price movements, offers an elegant means of tracking the market while minimizing the impact of its fluctuations, but may also include the risk of backsliding to heavily subsidizing fuel.

Nigeria: Corruption and a Lack of Public Trust

In Nigeria, the issue of fossil-fuel subsidies is inextricably linked to that of government corruption and the resulting lack of public faith in the government, which may hamper any effort to reform subsidies because of the understandable skepticism directed at alternative proposals. Subsidies are always embedded in countries' political economies, and are therefore never totally autonomous policy issues, but in some instances they are so deeply imbricated in broader matters of concern like corruption that they cannot be dealt with independently. So while Nigeria has no real track record of successful subsidy reform at this juncture, it serves as a potential example of how anticorruption efforts could serve as an effective and necessary bridge to broader subsidy reform. Moreover, it also serves as a prime candidate for reforms that could be informed by some of the lessons gleaned from other cases.

Nigeria is only moderately vulnerable to low prices according to Société Générale, but the country will face more drastic challenges if the low-price environment persists. Its fossil-fuel subsidy burden has tended to be high—2.2 percent of GDP and 20 percent of oil and gas revenue in 2012—but extremely challenging to remove.³⁵ Though President Muhammadu Buhari has rejected the notion of reforming fossil-fuel subsidies for now—likely for fear of popular backlash of the sort that prevented major price increases by his predecessor Goodluck Jonathan in 2012—the government may find itself reconsidering if oil revenue remains low. Yet because subsidy funds are often rerouted into corrupt patronage networks and subsidized fuels are often

"Las gasolinas compensarán recorte 2016; calcula SHCP en ley de ingresos," *Excelsior*, September 10, 2015, <http://www.excelsior.com.mx/nacional/2015/09/10/1044954>.

³⁴ In Indonesia, fuel price increases toward market levels languished due to government concerns over the short-term effects of price fluctuations on Indonesia's economy. Mriganka Jaipuriyar, "Indonesia Energy Reforms Look Like a Lost Cause: Fuel for Thought," *The Barrel*, November 9, 2015, <http://blogs.platts.com/2015/11/09/indonesia-energy-reforms-lost-cause/>.

³⁵ IMF, "2015 Article IV Consultation—Staff Report; Press Release; and Statement by the Executive Director for Nigeria."

smuggled abroad, little of the subsidy actually reaches its intended targets, impeding the accomplishment of its policy objectives.³⁶

While the price-gap cost of subsidies has fallen along with international oil prices, Nigeria's method of subsidization is directly tied to the systemic corruption within the Nigerian National Petroleum Corporation (NNPC). The NNPC operates a number of state-owned refineries through its subsidiary, the Pipelines and Products Marketing Company (PPMC), which is required to sell petroleum products at fixed low prices. The government sets a Domestic Crude Allocation (DCA) requirement that forces the NNPC to sell a specified amount of crude oil at low prices to the PPMC to be refined for domestic use, and delivers its petroleum subsidies by compensating the NNPC for those below-market sales. However, the NNPC deducts these subsidies from its payments to the government on its own, limiting oversight. It also withholds DCA revenues from the PPMC, preventing the maintenance work necessary to keep Nigeria's refineries running and forcing the NNPC to import refined products for the domestic market instead. Nigeria's refineries reportedly ran under 2 percent capacity in September, and since DCA crude cannot be refined under this arrangement, the NNPC either exports it or swaps it for imported refined products.³⁷ Until very recently, Nigeria has relied on a large network of intermediaries with purported links to corrupt officials.³⁸ The NNPC does not reliably report on revenues from DCA sales, and reportedly secures additional government funds by over-invoicing the government for refined product imports.³⁹ Domestic and international observers like Pricewaterhouse-Coopers have estimated the NNPC's missing funds in the billions of dollars, and persistent low refinery runs and insufficient fuel imports have led to recurring fuel shortages despite Nigeria's massive oil resources and high oil production, estimated around 2.4 million barrels per day.⁴⁰ Though the Nigerian energy sector has a host of other problems, fixed low fuel prices have unintentional effects that feed deep corruption and inefficiency in the NNPC. Fuel subsidization thus has the perverse effect of sustaining the corruption that makes the Nigerian public skeptical that spending removed from subsidies would be rerouted anywhere but corrupt officials' pockets.

Nigeria's now-discontinued Subsidy Reinvestment and Empowerment Program (SURE-P) aimed to bridge that trust gap and improve the efficiency of public spending. When the Jonathan government attempted to remove subsidies in 2012, it established SURE-P as a means of allocating subsidy savings through a transparent application process to provincial development

³⁶ Jun Rentschler, "Incidence and Impact—A Disaggregated Poverty Analysis of Fossil Fuel Subsidy Reform," Oxford Institute for Energy Studies, December 3, 2015, <http://www.oxfordenergy.org/2015/12/incidence-and-impact-a-disaggregated-poverty-analysis-of-fossil-fuel-subsidy-reform/>.

³⁷ Aaron Sayne, Alexandra Gillies, and Christina Katsouris, "Inside NNPC Oil Sales: A Case for Reform in Nigeria," Natural Resource Governance Institute, August 2015, http://www.resourcegovernance.org/sites/default/files/NRGI_InsideNNPCoilSales_MainReport.pdf; "Nigeria's refineries only worked at 1.96 per cent capacity in September," *Premium Times*, November 1, 2015, <http://www.premiumtimesng.com/business/oil-and-gas/192468-nigerias-refineries-only-worked-at-1-96-per-cent-capacity-in-september.html>.

³⁸ Michelle Faul, "Nigeria to sell, buy oil directly, cut out middlemen," *Business Insider*, November 3, 2015, <http://www.businessinsider.com/ap-nigeria-to-sell-buy-oil-directly-cut-out-middlemen-2015-11>.

³⁹ "Problems at the Pump," *The Economist*, May 28, 2015, <http://www.economist.com/news/middle-east-and-africa/21652306-fuel-crisis-nigeria-highlights-desperate-need-subsidy-reform-problems>.

⁴⁰ Bassey Udo, "Nigeria: Nationwide Fuel Scarcity Looms As Key NNPC Depots Run Dry," *Premium Times*, November 15, 2015, http://allafrica.com/stories/201511160245.html?aa_source=nwsltr-petroleum-en.

and social safety net projects—for example, the Maternal and Child Health Initiative, which seeks to expand access to medical services to lower infant and maternal mortality rates. SURE-P’s mandate only extended to 2015, however, and President Buhari ended the program and ordered a report on its operations in November.⁴¹ Amidst allegations of fraud in several states, the findings of that report could determine the shape of subsidy reform efforts toward public works or direct cash transfers, if they are resumed.⁴²

Other means of delivering the benefit of Nigeria’s oil wealth to the public would be preferable from the perspective of efficiently using natural resources, but the state may not have the administrative machinery or public trust required to do so. Endemic corruption makes the public less likely to accept large-scale public works projects as a substitute, since citizens have little reason to believe that the removal of subsidies would actually reach such projects and not corrupt patronage networks. While an Iranian-style approach to reroute subsidy funds into direct cash transfers might be an attractive alternative, there are only around 30 million bank accounts in a country of over 170 million.⁴³ India’s experience with the Aadhaar ID system and direct LPG subsidies, however, could show a way forward that limits the impact of price fluctuations on the poor while increasing their access to the financial system. Indeed, simply changing the means by which fuel subsidies are delivered—for instance, through bank accounts or smart cards rather than government compensation to the NNPC for below-market prices—could cut waste and ensure that a greater proportion of the country’s wealth reached its intended targets.

Any alternative to Nigeria’s fossil-fuel subsidies will need to overcome the specter of corruption. Public spending on a provincial scale, as in the SURE-P program, or on a national scale would require a degree of public trust that is understandably lacking. President Buhari’s recent decisions to review the SURE-P program and eliminate middlemen in fuel importation, and his wider anticorruption efforts within the NNPC, could be first steps toward restoring enough faith in government for the Nigerian public to see reason in allowing subsidies to be replaced with investment in infrastructure or social services. In the absence of such an achievement, alternatives to subsidies could be found in a more transparent process of wealth distribution like Iran- or Indian-style cash deposits in Nigerians’ bank accounts. In other countries attempting subsidy reform, those efforts may be difficult to disentangle from issues like corruption, which will either need to be addressed or worked around for reform to be effective.

⁴¹ Chika Ebuzor, “President sacks SURE-P committee,” *Pulse.ng*, November 5, 2015, <http://pulse.ng/politics/buhari-president-sacks-sure-p-committee-id4327677.html>; Rose Ejembi, “Benue govt sacks 11 per secs, discontinues SURE-P program,” *The Sun*, November 11, 2015, <http://sunnewsonline.com/new/benue-govt-sacks-11-perm-secs-discontinues-sure-p-program/>; “SURE-P Scrapped,” *This Day Live*, November 4, 2015, <http://www.thisdaylive.com/articles/sure-p-scrapped/224646/>; Evelyn Okakwu, “Low Oil Prices: SURE-P excluded from 2015 budget,” *Premium Times*, September 19, 2015, <http://www.premiumpages.com/news/top-news/190304-low-oil-prices-sure-p-excluded-from-2015-budget.html>.

⁴² Emman Ovuakporie, Dapo Akinrefon, and Johnbosco Agbakwuru, A reproduction of or an excerpt from an article originally contained in a larger publication, “Aggrieved SURE-P staff protest over N4.9bn fraud,” *Vanguard*, October 7, 2015, <http://www.vanguardngr.com/2015/10/aggrieved-sure-p-staff-protest-over-n4-9bn-fraud/>.

⁴³ Clarke, “India’s Direct Benefit Transfer for the LPG Program Is Not Subsidy Reform”; Christopher Thompson, “Reforms Prompted by Nigeria’s Central Bank Boost Professionalism,” *Financial Times*, May 4, 2014, <http://www.ft.com/intl/cms/s/0/fa3e2578-bb15-11e3-948c-00144feabdc0.html#axzz3pt5MSgnP>.

Conclusion

A wide array of policymakers and commentators agree that consumption-oriented fossil-fuel subsidies ought to be reformed or removed due to their regressiveness, encouragement of waste, smuggling, and investment in capital- rather than labor-intensive projects, discouragement of energy efficiency and clean energy, and inefficiency as a use of public funds. These arguments are understandably more pronounced when hydrocarbon prices and price-gap subsidy estimates are high, as they were between 2010 and 2014. Yet high market prices make the removal of subsidies—even if those subsidies are ostensibly to be routed to more efficient uses—too politically costly for most governments. When prices and implicit subsidies fall, as they have since mid-2014, the political opportunity for reform emerges as the incentive vanishes. Still, sustained low prices may ultimately provide more favorable conditions for governments to turn to subsidy reform to relieve budgetary pressure.

As the examples of Iran, India, Mexico, and Nigeria have shown, there are a wide variety of methods available to reform fossil-fuel subsidies, and specific reform methods have particular strengths and limitations in each country's own circumstances. How subsidies are delivered or removed matters: Iran's transparent cash transfers to citizens secured public acceptance of subsidy removal; India's continued subsidization of fuels used mainly by the poor improved subsidies' targeting; and Mexico's automatic fuel pricing mechanism allows fuels to track the market while providing government revenue and insulating consumers against rapid swings. Individual states' capacities to implement specific reforms are a key consideration: Iran was capable of turning subsidies into universal cash transfers, but is still refining its ability to target those transfers. Subsidy reforms can also act as a catalyst for increasing those capacities: in India, the move from low fuel prices to direct cash transfers spurred the distribution of the Aadhaar national ID and the opening of hundreds of millions of bank accounts ready for deposits from the government. However, subsidy reforms can also be intertwined with—and hampered by—distinct policy problems: in Nigeria, subsidies feed corruption that in turn makes the public mistrust subsidy reform. A sustained low-price environment is a challenge to oil producers, but well-conceived fossil-fuel subsidy reforms could turn that challenge into an opportunity.

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