ANGOLA

TECHNICAL ASSISTANT REPORT—ANGOLA—FUEL PRICE SUBSIDY REFORM THE WAY FORWARD

February 2015

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FUEL PRICE SUBSIDY
REFORM: THE WAY
FORWARD

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PREFACE

In response to a request from the Minister of Finance, Dr. Armando Manuel, a Fiscal Affairs Department (FAD) technical assistance mission led by Stefania Fabrizio (FAD) including Kamil Dybczak, Valentina Flamini, and Javier Kapsoli visited Luanda, Angola from September 24 to October 7, 2014. The mission analyzed the magnitude of fuel subsidies in Angola and their distributional incidence on household income, evaluated options for mitigating the impact of fuel subsidy reform on vulnerable households, and helped design a strategy to gradually eliminate subsidies over the medium term.

The mission met with the Ministers of Finance, Agriculture, Commerce, Health, Industry as well as their Secretaries and staff. It also met with the Secretaries of the Ministries of Education, Petroleum, Social Assistance, and Transport, the Director of the National Statistical Institute (INE), the President of the Institute of Regulation of the Electricity Sector and their staff, and staff of Customs and the Central Bank of Angola. In addition, it met with representatives of the oil company Sonangol, academia, the private sector, and UNICEF. Furthermore, it met with the World Bank in Washington DC.

The mission wishes to thank the authorities for their excellent cooperation and for providing the information and data needed to prepare this report. The mission would like to express its appreciation to the IMF resident representative, Mr. Staines, and his staff, Mr. Joao and Ms. Boavida, for their logistical and technical support. In addition, it would like to thank Tracy Bowe, Adam Boyd, and Mileva Radisavljević for their administrative support and Mr. Leao, Ms. Van Niekerk, and Mr. Kioza for their excellent interpretation service.

EXECUTIVE SUMMARY

The Angolan authorities' plan to scale up priority spending will intensify fiscal pressures. The overall fiscal balance is projected to reach a deficit of about 4 percent of GDP in 2014, owing to a temporary decline in oil production. Despite the predicted recovery in production, the fiscal balance is expected to deteriorate further in the medium term, mirroring the forecast decline in oil prices. At the same time, in response to the mounting demand for infrastructure and poverty alleviation, the authorities aim at increasing priority spending, in particular investment.

The reduction of fuel price subsidies can help create the needed fiscal space. Despite the recent fuel price increase, the first one in four years, subsidies are estimated to remain high, at 3.7 percent of GDP in 2014. This estimate includes fuel subsidies for electricity generation. The gap between domestic and international fuel prices is large and varies among products from 441 percent of domestic price for asphalt to 50 percent for gasoline.

Besides being fiscally costly, fuel subsidies are inefficient and inequitable. They crowd out growth-enhancing spending—Angola's spending in fuel subsidies is roughly the same as outlays in education and 42 percent larger than health spending. They also create incentives to smuggling, effectively financing low-cost fuel consumption in neighboring countries. In addition, they provide rent seeking opportunities and raise governance challenges. Furthermore, subsidies create incentives for overconsumption and in turn worsen traffic congestion and accidents—after malaria, road accidents are the second leading cause of death in Angola. Moreover, because most of the benefits of fuel price subsidies accrue to well-off households, they reinforce inequality—more than 50 percent of subsidies go to households in the top 20 percent of the income distribution.

The authorities plan to reduce fuel subsidies gradually. They intend to implement a gradual fuel subsidy reform, with the objective of reducing subsidies to about 1 percent of GDP in the medium term**.**

This report provides a reform option that would eliminate fuel subsidies and result in fiscal savings of 2 percent of GDP. Savings could reach 3.3 percent of GDP if higher fuel prices for electricity generation were fully passed on to electricity tariffs. The illustrative plan comprises three stages (Tables 1 and 2) and shows how a gradual and sequenced reform can cut the fiscal cost of fuel price subsidies while limiting the negative impact of the reform on the welfare of lower-income groups. The phasing differs among fuel products to take into consideration fiscal needs, social impacts, and institutional capacity. The reduction of subsidies is frontloaded for fuel products that are fiscally costly and mostly consumed by well-off households, such as gasoline, while it is back loaded for fuel products that are more heavily consumed by poor households, such as kerosene. Other measures could help accelerate the reform—revising the domestic margins that contribute to the high level of subsidies and assessing the efficiency of the Luanda refinery. The plan provides savings for

the budget while mitigating the impact of the reform on the poor and also allowing time to strengthen the social assistance system over the medium term. In the short run, there is a need to identify the existing programs that are best targeted and have the capacity to be expanded, while a cash transfer system is developed in the medium term.

Table 1. An Illustrative Action Plan for Subsidy Reform

Stage	Action	Goals and Modalities
Stage I (immediately)	Develop and implement a public information strategy	Communicate: the need for subsidy reform; how it will be designed and implemented; measures to compensate for the price increases; how savings will be used; the government's long-term commitment to the planned price increases and long-term goals.
(first year or so)	Start to reduce fuel price subsidies	Start to eliminate the subsidies for the most fiscally costly fuel products that are mostly consumed by the better-off (such as gasoline). Gradually reduce subsidies for other fuel products that are mostly consumed by the poor (such as kerosene).
	Compensate the most vulnerable in the short run expanding and strenghtening existing social programs	Using some of the fiscal savings generated by the reform, identify existing social programs that are best targeted and can be expanded.
	Start to develop a cash transfer system to be fully implemented in the medium term	Develop the institutional and administrative capacity for implementing a cash transfer system, start with pilot programs.
	Expand priority spending	Consider using some of the realized savings to fund public investment, basic health services and primary education. Focus should be on increasing the productivity of workers in poorer households that can alleviate poverty
Stage II (one/two years)	Let retail fuel prices mirror international fuel price increases	Keep them constant if international prices drop so that subsidies decrease without intervention
	Continue to compensate vulnerable low-income households	Continue to use existing social programs
	Continue to develop cash transfer program	
	Continue to expand other priority spending	
Stage III (two/three years)	Eliminate remaining price subsidies	
	Implement a cash transfer system	
	Continue with the implementation of other high-priority programs	

Source: IMF staff.

Table 2. Action Plan: Cumulative Fuel Price Subsidies and Fiscal Savings

(In percent of GDP)

	2014	2015	2016	2017	2018	2019	2020
Fuel price subsidies	3.7	2.3	2.2	2.1	1.5	0.6	0.0
Fiscal impact of reform		1.4	1.5	1.6	2.2	3.1	3.7
of which							
Impact of changes in international oil prices		0.6	0.7	0.8	0.9	1.0	1.0
Impact of the reform		0.8	0.8	0.8	1.4	2.1	2.7
Impact on fiscal savings of government consumption of subdidized fuels[1]		-0.1	-0.1	-0.1	-0.2	-0.2	-0.3
Net savings if fuel price increases are not passed on to electricity tariffs		1.0	1.0	1.0	1.5	2.0	2.0
Net savings if fuel price increases are passed on to electricty tariffs		1.3	1.4	1.5	2.1	2.8	3.3

Source: IMF staff calculations.

[1] Includes the cost of fuel products used by the public sector.

I. INTRODUCTION

1.   **The Angolan authorities' plan to scale up public investment and social spending over the coming years presents significant fiscal challenges.** After four years of surplus, the overall fiscal balance is projected to reach a deficit of around 4 percent of GDP in 2014, due to a substantial decline in oil revenue, reflecting lower oil production. A recovery in production is forecast over the next five years, but oil revenues are expected to fall in GDP terms, mirroring the expected decline in oil prices. This would lead to larger fiscal deficits over the medium term. At the same time, the authorities aim at increasing spending on infrastructure and poverty alleviation as stated in the national development plan.

2.   **Fuel subsidy reform can help generate fiscal space to address fiscal pressures and increase public investment and social spending.** Despite the recent fuel price increases in September, fuel subsidies remain substantial at an estimated 3.7 percent of GDP in 2014 (including fuel subsidies for electricity generation).[1] As well as being fiscally costly, these subsidies are inefficient and inequitable. A gradual reform can help create the fiscal space to increase priority spending and provide social assistance to limit the negative impact of the reform on the most vulnerable.

3.   **This report proposes an illustrative plan for fuel subsidy reform.** The report is organized as follows. Section II analyzes the costs of fuel subsidies. Section III assesses the distributional incidence of fuel price subsidies. Section IV discusses the role of social assistance in fuel subsidy reform. Section V presents an illustrative action plan which is meant to guide the authorities in structuring their plans for reform.

II. THE COSTS OF FUEL PRICE SUBSIDIES

4.   **Despite the recent increase, domestic fuel prices still fall considerably below international levels.** Currently, the average gap between domestic and international prices is estimated at 146 percent, but it varies substantially across products from 441 percent of domestic price for asphalt to 50 percent for gasoline (Figure 1). Fuel prices in Angola are among the lowest in the world (IMF, 2014). The price of gasoline and diesel are 55 and 67 percent below the average price for sub-Saharan Africa, respectively.

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[1] In September 2014, the prices for gasoline and diesel increased by 25 percent, for LPG by 21.6 percent, for kerosene by 34.6 percent, for heavy fuels by 100 percent, and for asphalt by 18.8 percent.

Figure 1. Retail Fuel Prices and Subsidies, 2014[1]

(Kwanzas per liter/Kg)
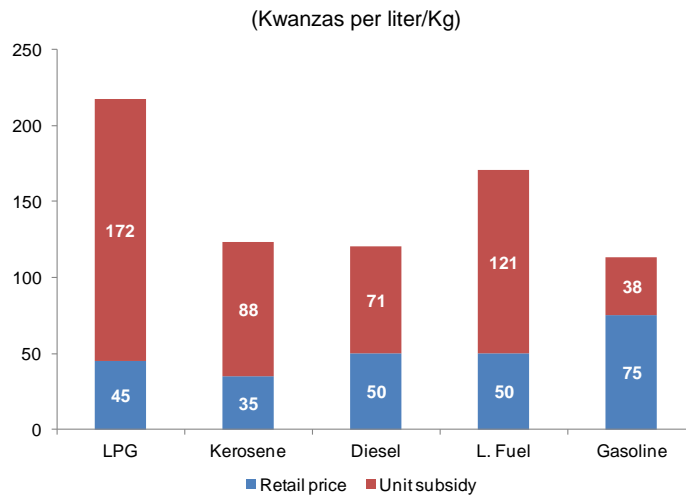
Sources: Authorities; and IMF staff calculations.

[1] As of September 2014.

Figure 2. Retail Fuel Prices in Selected Countries in Sub-Saharan Africa, 2012

(US$ per liter)
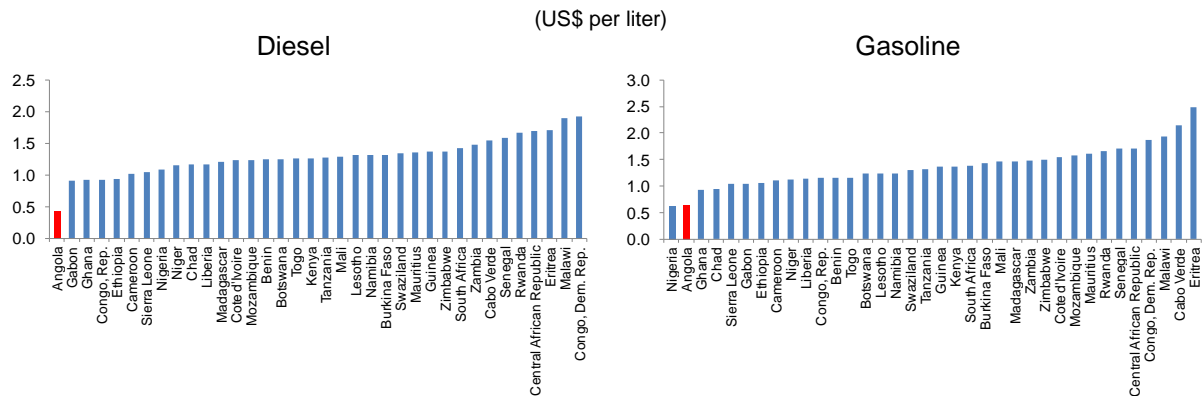
Sources: IMF; and World Bank.

5.   **The cost of fuel price subsidies is estimated using the price gap approach.**
Following Clements and others (2013), subsidies are calculated by comparing retail prices of
the various fuel products with the international prices augmented by the operational,
marketing, and resale margin set by the authorities (Table 3). For the fuel products for which
an international price is not easily available (LPG, fuel oils, and asphalt), the benchmark
prices established by decree is considered (see below). Diesel used for electricity generation
is fully subsidized.[2]

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[2] The price of diesel for electricity generation is zero. The amount of diesel for such use is about 26 percent of
total fuel consumption.

Table 3. Parameters Used to Determine Subsides, 2014

(Kwanzas)

	Unit	Ref. price	Operational margin (30%)	Marketing margin (10%)	Resale margin (0-15%)	Total margins	Ref. price plus margins	Retail price	Subsidy
LPG	Kg.	135.86	40.76	13.59	27.17	81.52	217.38	45.00	172.38
Gasoline	Liter	74.13	22.24	7.41	9.27	38.92	113.05	75.00	38.05
Kerosene	Liter	79.42	23.83	7.94	11.91	43.68	123.10	35.00	88.10
Diesel	Liter	77.95	23.39	7.80	11.69	42.87	120.83	50.00	70.83
Diesel [1/]	Liter	77.95	23.39	7.80	11.69	42.87	120.83	0.00	120.83
L. Fuel	Kg.	68.26	20.48	6.83	0.00	27.30	95.56	50.00	45.56
H. Fuel	Kg.	34.23	10.27	3.42	0.00	13.69	47.92	34.00	13.92
Asphalt	Kg.	73.44	22.03	7.34	0.00	29.38	102.82	19.00	83.82

Sources: International Energy Agency (IEA); Authorities; and IMF staff estimates.

Note: International prices from the IEA were used for gasoline, diesel, and kerosene. For the products for which international prices are not easily available, post-refinery prices as stated in decree 289/14 are considered.

[1/] Diesel used for electricity generation.

6.   **Domestic margins seem high by international standards and contribute to the high level of subsidies**. About 80 percent of refined fuel products is imported (Box 1). For imported products, the authorities calculate subsidies as the difference between the fixed retail price and the international price augmented by domestic margins. For domestically refined products, instead of the international price the authorities use a benchmark price that corresponds to the budgeted price for crude oil augmented by a refinery margin fixed by decree (12.5 percent in 2014). [3] Total margins amount to about 43 Kwanzas (or US$0.44) per liter on average in 2014, which appears to be high by international standards (World Bank, 2005; IMF, 2013). Also, international evidence suggests that refinery margins, including in the Singapore market (the origin of most Angolan fuel imports), are falling (British Petroleum, 2014).[4] Furthermore, fuel products, which should be subject to the same tax regime as other consumption goods, are exempt from consumption taxes and custom duties.

7.   **The fiscal cost of fuel price subsidies is substantial.** Subsidies are estimated at 3.7 percent of GDP (or 480 billion Kwanzas) in 2014.This number includes subsides to the price of diesel for electricity generation, which amount to 1.3 percent of GDP. The recent increase in domestic fuel prices reduced subsidies by about ½ percent of GDP (on an annual basis). Diesel, gasoline, and LPG account for 94 percent of total consumer subsidies. At a sector level, industry absorbs 47 percent of total fuel subsidies, the government 21 percent, and households 32 percent, as suggested by their fuel consumption share (Figure 3). Reflecting the full annual impact of the recent price increases and the expected decline in international oil prices, subsidies are forecast to decline further in 2015 and reach 2.7 percent of GDP by 2020 (Figure 4).

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[3] At the end of the period, an adjustment is made to the amount if the benchmark price is lower than the price of the domestically refined products.

[4] The domestic refinery margin could generate producer subsidies; however, the mission was not able to quantify them, due to data limitations.

Box 1. The Downstream Oil Sector in Angola

The public company *Sonangol* is the main player in the oil market. In the downstream sector, it operates through its subsidiaries *Sonangol Logística* (import and storage of oil derivatives), *Sonangas* (LPG), *Refinaría de Luanda* (refinery), and *Sonangol Distribuidora* (marketing).

The consumption of fuel products quadruplicated since 2005, reaching 119,000 barrels per day in 2013. Diesel accounts for the bulk of consumption (63 percent), followed by gasoline (15 percent) and LPG (11 percent). Most refined products are imported (82 percent) and the remainder is domestically processed by the domestic refinery. The refinery, which was constructed in 1955 and operates at about 70 percent of its capacity, seems quite inefficient and the cost of its products is in general higher than that of imported fuels. Construction of a new refinery with more than double the capacity of the existing one is ongoing since December 2012 and is scheduled to start operating in 2017.

Petroleum products are consumed by 32 percent by households, 47 percent by the industry, and 21 percent by the government.[1] Households consume mainly gasoline (54 percent) and diesel (45 percent) while industry and the government consume mostly diesel (78 percent) and other non-subsidized products such as Jet A and Jet B.

[1] Information based on the 2007 input/output tables for Angola shows that fuel consumption in agriculture is about 1 percent of total agriculture production. This does not appear separately in the table on fuel consumption provided to the mission.

Figure 3. Consumption of Fuel Products by Sector, 2014

(In percent of total fuel consumption)
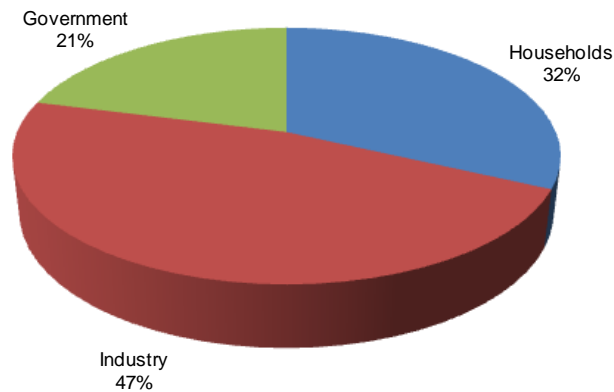
Sources: Authorities; and IMF staff calculations.

Figure 4. Subsidies and International Oil Prices, 2006–20

Oil Subsidies (% of GDP) — Angola Oil Price (US$)
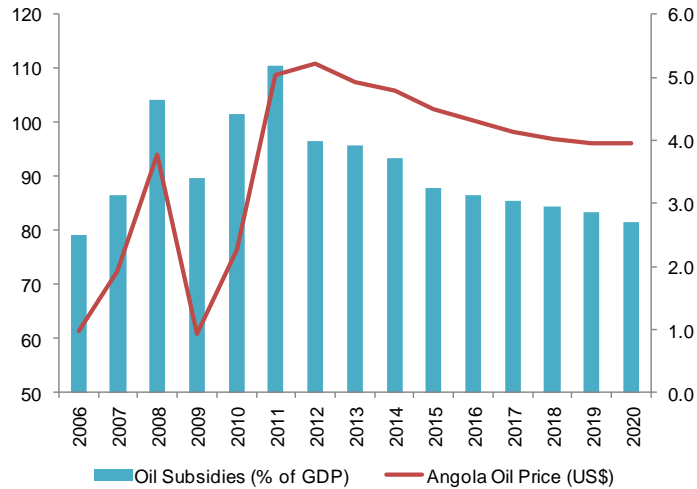
Sources: Authorities; IMF, World Economic Outlook; and IMF staff calculations.

8.   **Besides their negative impact on fiscal balances, fuel subsidies are very costly for the economy and create perverse incentives.**

- *Fuel subsidies crowd out growth-enhancing spending.* Angola spends in fuel subsidies the same as in education and 42 percent more than in health (Figure 5).

Figure 5. Spending on Fuel Subsidies, Education, and Health, 2014

(In percent of GDP)
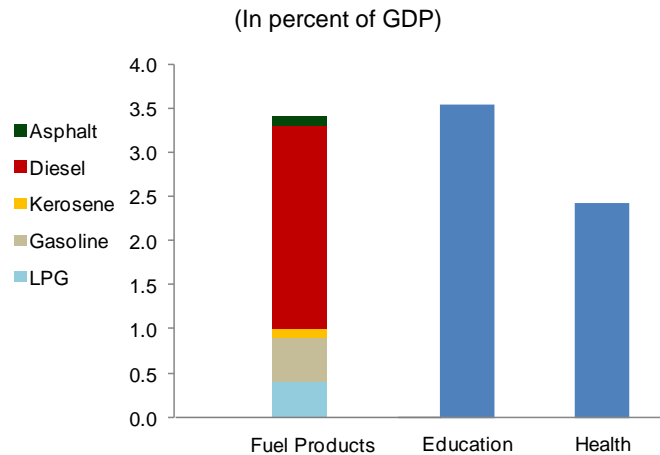
Sources: Authorities; and IMF staff calculations.

- *Fuel subsidies create incentives for smuggling.* Anecdotal evidence suggests that smuggling to neighboring countries, in particular the Republic of Congo and the Democratic Republic of Congo, amounts to 10 percent of total fuel consumption. In 2013, customs detected about 80 million liters of smuggled fuel products, which corresponds to about 2 percent of total consumption.

- *Fuel subsidies create incentives to overconsumption, with deleterious effect for traffic congestion and accidents.* After malaria, road accidents are the second cause of death in Angola. Also, overconsumption can aggravate local pollution and climate change (IMF, 2013).

III. DISTRIBUTIONAL INCIDENCE OF FUEL PRICE SUBSIDIES

9. **Comparatively better-off households consume a larger share of fuel products.** Roughly 80 percent of refined fuels is consumed by the richest 40 percent of households, while only 7 percent is consumed by the poorest 40 percent (Figure 6). Well-off households also consume most of the goods and services that use fuel products as production inputs, such as fishing and transportation (Appendix I).

Figure 6. Consumption by Fuel Product, Economic Sector, and Income Quintile, 2014

(Percent of total household consumption)

Sources: Instituto Nacional de Estadística (INE), 2008–09 IBEP and 2007 input-output tables; and IMF staff calculations.

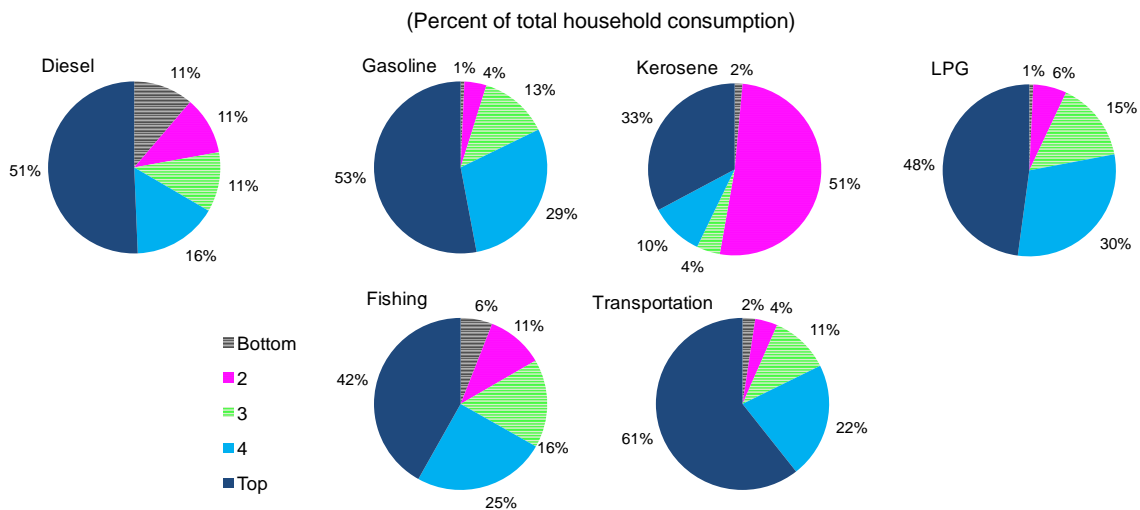Note: Household income quintiles are based on household consumption per capita. Estimates of the consumption shares for 2014 are based on 2008–09 Inquérito Integrado Sobre o Bem Estar da Populacão (IBEP) data adjusted by the 2009–14 CPI inflation and price increases for each fuel product. The high share of kerosene consumed by households in the second quintile is not in line with consumption patterns in other countries and raises some concerns about the accuracy of itemized consumption data.

10. **Because of their higher consumption, well-off households benefit disproportionately from fuel price subsidies.** Comparatively, well-off households consume more fuel products as well as goods and services that rely on subsidized fuels as production inputs than poor households. Overall, 77 percent of fuel price subsidies goes to the richest 40 percent of households (Figure 7) while only 10 percent goes to households in the bottom 40 percent. The unequal distribution of benefits varies widely by product. In the case of gasoline and LPG, for example, households in the bottom 20 percent receive less than 1 percent of the direct value of the price subsidy (the benefit deriving from households' direct consumption of those products).

Figure 7. Fuel Price Subsidies by Income Quintile, 2014
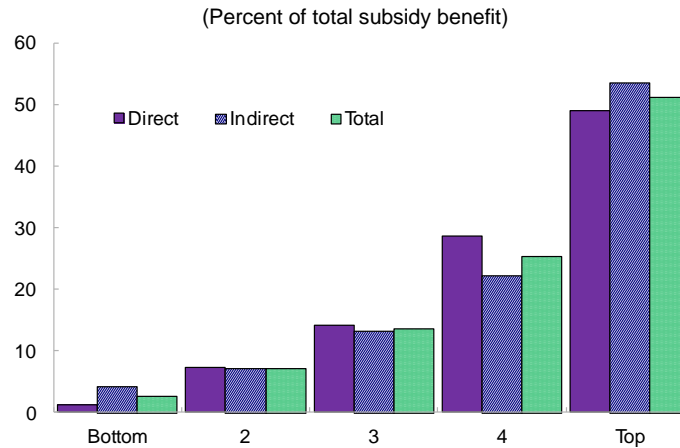
(Percent of total subsidy benefit)

Sources: INE, 2008–09 IBEP and 2007 input-output tables; and IMF staff calculations.

Note: Household income quintiles are based on household consumption per capita. Estimates of the consumption shares for 2014 are based on 2008–09 IBEP data adjusted by the 2009–14 CPI inflation and price increases for each fuel product.

11.   **Although poor households consume less fuel products in absolute terms, they spend a higher share of their total budget on these products than do the better-off households.** At over 4 percent of total consumption, on average, direct spending by households on subsidized fuels is substantial. However, spending on fuel products as a share of total consumption is higher for poor households compared to well-off households (Figure 8) due to their significantly lower levels of total consumption (Appendix II). Poor households spend most of their consumption budget on agricultural goods, but they also spend a significant share on goods and services that rely heavily on fuel products as production inputs, such as fishing and transportation (Appendix I).

12.   **Because the benefits of fuel price subsidies accrue disproportionately to well-off households, subsidies are an inefficient and costly way of protecting the poor.** For every Kwanza in benefits received by households in the bottom 20 percent of the distribution, 19 Kwanzas are received by the richest 20 percent. In the case of gasoline, the distribution is even more skewed—for each Kwanza received by the poorest 20 percent, 74 Kwanzas are received by the richest 20 percent. Well-designed social safety net programs can substantially reduce this leakage of benefits to higher income groups, thereby better protecting poor households at much lower fiscal cost.

Figure 8. Direct and Indirect Consumption of Fuel Products by Income Quintile, 2014

(Percent of total household consumption)

Sources: INE, 2008–09 IBEP and 2007 input-output tables; and IMF staff calculations.

Note: Household income quintiles are based on household consumption per capita. Estimates of the consumption shares for 2014 are based on 2008–09 IBEP data adjusted by the 2009–14 CPI inflation and price increases for each fuel product.

13.   **Although fuel price subsidies benefit the poor less than well-off households, their elimination will nonetheless impact poor households severely.** On average, increasing fuel prices will result in more than a 10 percent decrease in real income for households in the bottom 40 percent of the welfare distribution (Figure 9),[5] with one quarter of the reduction attributable to the indirect effect of rising fuel prices of goods and services that rely on fuel products as inputs. Unlike in other countries, the indirect effect is estimated to be smaller than the direct effect, reflecting the structure of the economy that relies heavily on imported goods and high value added on domestic production.

Figure 9. Welfare Impact of Fuel Subsidy Reform

(Percent of total household consumption)
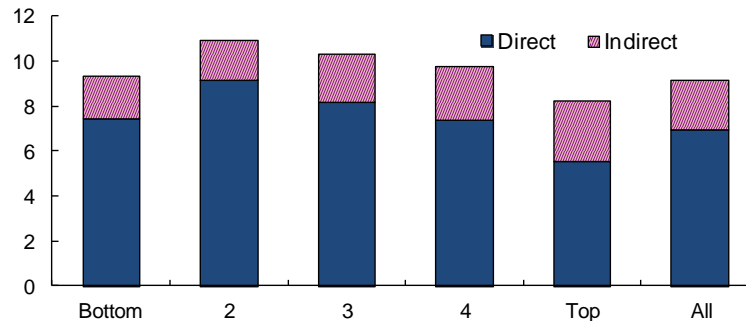
Sources: INE, 2008–09 IBEP and 2007 input-output tables; and IMF staff calculations.
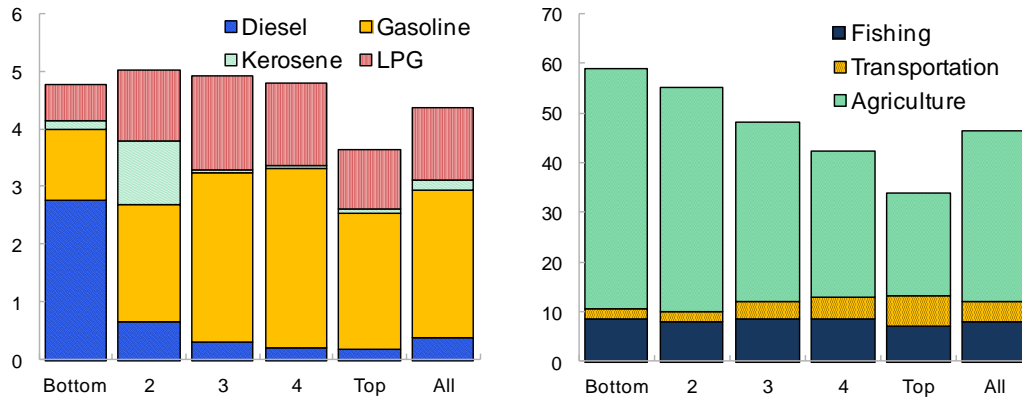
Note: Household income quintiles are based on household consumption per capita. Estimates of the consumption shares for 2014 are based on 2008–09 IBEP data adjusted by the 2009–14 CPI inflation and price increases for each fuel product. Estimates do not incorporate behavioral responses to the price increase.

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[5] In Angola, it is estimated that 36.6 percent of population lives in poverty (INE, 2013).

IV. ROLE OF SOCIAL ASSISTANCE IN FUEL SUBSIDY REFORM

14.   **The most effective way to mitigate the impact of fuel subsidy reform on vulnerable households is through the use of cash transfers**. Targeted cash transfers or near-cash transfers (vouchers) are the preferred approach to compensation. Cash transfers give beneficiaries the flexibility to purchase the level and type of energy that best suit their needs. They also remove the need for the government to be directly involved in the distribution of subsidized fuel to households, which is often extremely costly and prone to abuse. In countries like Ethiopia, Ghana, Kenya, Mozambique, Mauritius, Rwanda, and Zambia cash transfers to vulnerable households proved to be an efficient tool for poverty alleviation (Monchuk, 2014). In particular, regular and predictable transfers of small amount of cash provide poor households with regular flow of income that improves their livelihood, increases their resilience to shocks (such as natural disasters or price increases) and increase productivity in the long run (Monchuk, 2014). When compared to energy subsidies, their impact on the public budget is expected to be much smaller due to better targeting (World Bank, 2012).

15.   **A cash transfer system requires strong administrative and institutional capacity that Angola still has to create.** Currently, the Ministry of Social Assistance (MINARS) is working on a program to strengthen the social assistance policy, which includes the development of a cash transfer to poor vulnerable households. The program is funded by the EU and implemented with the assistance from EU and UNICEF (Appendix III).

16.   **When cash transfers are not available, existing programs can be expanded while administrative capacity is developed.** In the context of fuel subsidy reforms, targeted social spending programs were expanded to protect lower-income households from fuel price increases in Gabon, Ghana, Niger, Nigeria, and Mozambique (IMF, 2013). In Ghana, for example, measures included the elimination of fees for state-run primary and secondary schools, a price ceiling on public-transport fares, purchases of additional public transport buses, and funding for health care in poor areas.

17.   **Currently, social assistance in Angola is provided through a number of social programs.** The majority of the programs are under the direction of the MINARS but other ministries are also involved, such as the Ministry of Family and Women, the Ministry of Commerce and the Ministry for War Veterans. The coverage of these programs is limited and the effectiveness of the targeting appears to be poor. The main programs focus on (i) in kind aid to vulnerable children, elderly, poor, disabled, and war veterans; (ii) professional training and reintegration of the poor and unemployed; and (iii) school feeding (Appendix III).

V. ILLUSTRATIVE ACTION PLAN FOR FUEL SUBSIDY REFORM

A. Policy Challenges: Lessons from International Experience[6]

18. **International experiences with energy subsidy reform suggest a number of barriers to successful reform.** This includes (1) lack of information regarding the magnitude and shortcomings of subsidies; (2) lack of government credibility and administrative capacity; (3) concerns regarding the adverse impact on the poor; (4) concerns regarding the adverse impact on inflation, international competitiveness, and volatility of domestic energy prices; (5) opposition from specific interest groups benefiting from the status quo; and (6) weak macroeconomic conditions.

19. **Many countries that have successfully reformed energy subsidies have incorporated specific measures into their subsidy reform strategies to overcome these barriers.** While there is no single recipe for success, recent analysis of international reform experiences suggest the following six reform ingredients can help to address reform barriers and increase the likelihood of reforms achieving their objectives and help avoid policy reversals.

- *Develop a comprehensive reform plan*. The reform plan should have clear reform objectives. It should identify specific measures that will achieve these objectives, and a timeline for implementing and assessing these measures. Designing and executing such a reform plan therefore needs advance and careful planning.

- *Develop an effective communications strategy*. An extensive public communication campaign can help generate broad political and public support, help avoid misinformation, and should be undertaken throughout the reform process. Ensuring transparency is a key component of a successful communication strategy.

- *Appropriately phase and sequence price increases*. Phasing-in price increases and sequencing them differently across energy products may be desirable. The appropriate phasing-in and sequencing of price increases will depend on a range of factors, including the magnitude of the price increases required to eliminate subsidies, the fiscal position, the political and social context in which reforms are being undertaken, and the time needed to develop an effective communications strategy and social safety nets. However, gradual reform can create additional reform challenges, including lower budgetary savings in the short term, distortion in consumption patterns due to sequencing of reform by energy product and the risk that opposition may build up over time.

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[6] This section draws heavily from a recent IMF book on energy subsidy reform (Clements and others, 2013).

- *Improve the efficiency of energy state-owned enterprises (SOEs).* Improving the efficiency of SOEs (refineries, distribution companies, etc.), can reduce the fiscal burden of the energy sector. Energy producers often receive substantial budgetary resources—both in terms of current and capital transfers—to compensate for inefficiencies in production, distribution, and revenue collection. Improvements in efficiency can strengthen the financial position of these enterprises and reduce the need for such transfers.

- *Implement targeted mitigating measures.* Well-targeted measures to mitigate the impact of energy price increases on the poor are critical for building public support for subsidy reforms. The degree to which compensation should be targeted is a strategic decision that involves trade-offs between fiscal savings, capacity to target, and the need to achieve broad acceptance of the reform. Subsidy reform involving SOE restructuring may require temporary sector-specific social measures to support employees and enterprises.

- *Depoliticize energy pricing.* Successful and durable reforms require a depoliticized mechanism for setting energy prices. Establishing an automatic pricing formula for fuel products that links domestic energy prices to international energy prices can help distance the government from pricing of energy and make it clearer that domestic price changes reflect changes in international prices which are outside the control of the government.

B. Stages and Tasks

20.   **The action plan presented below is intended to illustrate how a well-designed reform strategy can be a viable option for Angola**. The precise modalities of the reform (including its sequencing, speed, and duration) can only be determined by the authorities. Nevertheless, the plan is meant to illustrate how a gradual and well-sequenced reform can reduce the fiscal cost of fuel price subsidies in order to maintain fiscal stability while creating fiscal space for investment and social spending, which would help protect the welfare of lower-income groups. The action plan builds on the social programs that already exist in Angola and allows time to strengthen the institutional and administrative capacity for implementing a more comprehensive social protection system. However, a gradual reform can pose the challenges discussed in the previous section. To address these concerns, a gradual reform must be accompanied by the government's long-term commitment to follow through on planned price increases and the long-term goals of the reform.

21.   **Table 4 presents a potential path for fuel price increases over the three stages of the envisaged reform.** The proposed cumulative price increases would allow eliminating fuel price subsidies in the medium term. The strategy would envisage the frontloaded elimination of gasoline that is fiscally costly and mostly consumed by well-off households. The increase of prices of products that are less fiscally costly and are mostly consumed by the poor, such as kerosene, would be back loaded. This would provide fiscal space while mitigating the initial impact of the reform on the poor and providing time to strengthen the

social assistance system over the medium term. To compensate fully households in the bottom 40 percent of the income distribution, roughly the part of the population below the poverty line, would costs about 0.2 percent of 2015 GDP.[7]

22. **Stage I (immediately)—develop and implement a public information strategy.**

- *The information campaign should identify clearly the shortcomings of current price subsidies and the urgency for reform.* It should inform of the gap between domestic and international fuel prices. It should explain the magnitude of energy subsidies, their implication for the budget, their inequitable nature, and the negative effects on the economy, on traffic congestion and the climate. It should clearly spell out the design and timing of the reform and the benefits of removing subsidies, in particular the scope for using part of the budgetary savings to finance high-priority spending on infrastructure, health, education, and social protection.

- It is crucial that fuel price subsidy reform be supported by a clear and consistent message and communications strategy. This will require close coordination across ministries, the Central Bank, and Sonangol. In addition, engaging nongovernment organizations (including the media, the private sector, social organizations, and religious organizations) through public workshops and other means can also help to leverage public support and ensure the durability of the reform.

23. **Stage I (one or two steps in 12–14 months)—(i) eliminate subsidies for gasoline and heavy fuels and reduce subsidies for all other fuel products; (ii) identify the existing social programs that are best targeted and have the capacity to be expanded; (iii) start to develop a cash transfer system; and (iv) use some of the realized savings to expand health and education and fund public investments.**

- While existing programs should be used to protect the vulnerable in the short run, institutional and administrative capacity for implementing a cash transfer system should be developed, starting with pilot projects. Also, higher health and education spending should be channeled mostly to the provision of basic health services and primary education.[8]

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[7] This does not take into account errors of inclusion and exclusion. The probability that households in the bottom two quintiles will actually be fully compensated can be increased by widening the population eligible for compensation, but this will also imply higher leakages to households in the top three quintiles and higher budgetary outlays.

[8] Angola is among the countries with the highest levels of infant mortality and malnutrition in the world (UNICEF, 2014).

Table 4. Magnitude and Sequencing of Fuel Price Adjustments

	Current	Stage I	Stage II		Stage III		
		2015	2016	2017	2018	2019	2020
	Nominal prices (Kwanzas)						
LPG	45	63	63	63	95	142	216
Gasoline	75	111	111	111	111	111	111
Kerosene	35	42	42	42	59	82	122
Diesel	50	65	65	65	90	120	120
Diesel [1]	0	30	30	30	45	72	120
L. Fuel	50	94	94	94	94	95	95
H. Fuel	34	47	47	47	47	48	48
Asphalt	19	32	32	32	48	73	102
	Percentage Changes						
LPG		40.0	0.0	0.0	50.0	50.0	52.4
Gasoline		48.2	0.0	0.0	0.0	0.0	0.0
Kerosene		20.0	0.0	0.0	40.0	40.0	48.7
Diesel		30.0	0.0	0.0	38.0	34.0	0.0
Diesel [1]		0.0	0.0	0.0	50.0	60.0	66.8
L. Fuel		87.9	0.0	0.0	0.0	0.0	0.0
H. Fuel		38.5	0.0	0.0	0.0	0.0	0.0
Asphalt		70.0	0.0	0.0	50.0	50.0	40.7
Total (average)		47.8	0.0	0.0	28.5	29.2	26.1

Sources: Authorities; and IMF staff calculations.

[1] Diesel for electricity generation.

24.   **Stage II (one to two years)—(i) let prices of fuel products to mirror increases in international prices, but keep them constant if international prices drop or remain constant; (ii) continue expanding existing social programs; (iii) continue to develop a cash transfer system.**

- During the second stage, prices of all fuel products would be kept broadly stable, and let move only if international prices would increase, but not if international prices drop. This would give time to the authorities to develop an efficient social assistance system, and to the economy and households to adjust to the new price regime.

- In addition, some of the savings realized from fuel subsidy reform can be used to increase spending on high priority areas as health, education, public transportation, and infrastructure.

25.   **Stage III (three steps in two to three years)—(i) eliminate remaining price subsidies; (ii) implement a cash transfer system; and (iii) continue funding high priority and pro-growth spending.**

- It should be noted that such an approach could present drawbacks, as households usually prefer consumption smoothing and pressures could arise when, after a period of price stability, the authorities renege on the planned price increases.

26.   **During this process of fuel price adjustment, other reforms should be considered that could help accelerating the reduction of fuel subsidies.** First, domestic margins applied to international fuel prices, which appear to be high by international standards, could be revised. Second, the efficiency of the domestic refinery should be assessed and measures taken accordingly.

C. Illustrative Action Plan: Fiscal, Sectoral, and Inflationary Impact

27.   **The net fiscal savings from the reform are expected to be significant.** Budget savings could reach 2 percent of GDP by the end of the reform (Table 5). This takes into consideration the government consumption of fuel products (and the reduction in subsidies that will increase public spending in fuel products used by the government sector). However, if higher fuel prices were fully passed on to electricity tariffs, net savings could reach 3.3 percent of GDP.

Table 5. Fiscal Impact of Subsidy Reform

(Percent of GDP, cumulative)

	2014	2015	2016	2017	2018	2019	2020
Fuel price subsidies	3.7	2.3	2.2	2.1	1.5	0.6	0.0
Fiscal impact of reform		1.4	1.5	1.6	2.2	3.1	3.7
of which							
Impact of changes in international oil prices		0.6	0.7	0.8	0.9	1.0	1.0
Impact of the reform		0.8	0.8	0.8	1.4	2.1	2.7
Impact on fiscal savings of government consumption of subdidized fuels[1/]		-0.1	-0.1	-0.1	-0.2	-0.2	-0.3
Net savings if fuel price increases are not passed on to electricity tariffs		1.0	1.0	1.0	1.5	2.0	2.0
Net savings if fuel price increases are passed on to electricty tariffs		1.3	1.4	1.5	2.1	2.8	3.3

Source: IMF staff calculations.

[1/] Includes the cost of fuel products used by the public sector.

28.   **Fuel-intensive sectors may find it challenging to accommodate sizeable increases in fuel prices.** Transportation, fishing, electricity and water, and the mining sectors are the most fuel-intensive sectors of the economy (Appendix I). As such, these sectors would experience higher increase in production costs as fuel prices adjust. If the authorities wish to consider short-term measures that give these enterprises time to adjust to higher fuel prices,[9] the amount of such subsidies should be subsequently reduced and then eliminated. Additional support in the form of credit would enable these enterprises to finance investments to increase energy efficiency but should only be awarded on the basis of profitable business plans and be offered at market rates of interest.

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[9] Designing such programs would require more extensive analysis of the sectors (including an assessment of their competitiveness) and of Angola's credit markets, which falls beyond the scope of this report.

29.   **If supported by monetary and fiscal policies, the reform is expected to have only short term and contained effects on inflation.** The first-round effect of higher fuel prices on domestic prices is estimated at about 11 percent, which would spread out over six years, reflecting the gradualism of the reform (Appendix IV).[10] The impact takes into account the direct and indirect effects of higher fuel prices, based on the composition of household consumption.[11] To ensure that these effects are temporary, monetary and fiscal policies should be geared towards contain expectations for further increases in prices of other goods and services and wages. The monetary authority and the government should develop a communication strategy to explain to the general public that energy price increase is just a one-off adjustment with no permanent impact on inflation dynamics in the following years. The improved government budgetary position due to a subsidy reform should also help contain demand pressures on prices.

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[10] If the increases in fuel prices are fully passed on to electricity tariffs, the additional impact on domestic prices could reach about 13 percent over 2015–20. However, due to the limited data availability, these very crude estimates should be taken with great caution and considered only indicative.

[11] The overall impact of higher fuel prices on domestic prices reflects the fact that a significant part of final consumption goods in Angola are imported and thus their production is not affected by higher fuel costs. Appendix IV provides details on the structure of consumer's basket.

Appendix I. Fuel-Intensive Sectors

This section discusses how the most fuel-intensive sectors can be identified. The identification requires the selection of indicators that accurately capture fuel intensity. This appendix was prepared using data available from the 2007 input-output (IO) table for Angola. The extent of fuel-intensity was identified as follows. First, the key fuel product sectors being subject to subsidy reform were identified; for this analysis, sector 13 of the IO table (refining of crude petroleum) was considered. Second, the "direct" fuel cost for each sector was calculated as the cost share of petroleum products in the final production of the relevant sector. Third, the "indirect" cost was calculated by appropriately inverting the input-output coefficient matrix to identify the "total" (i.e., "direct" plus "indirect") cost share and subtracting the "direct" share. The indirect cost share captures the energy consumed indirectly through other intermediate goods and services that, in turn, use fuels in their production and distribution. Figure 10 shows the fuel-intensity of each sector in the input-output table. Sectors with comparatively high fuel-intensity are transportation and warehousing, fishing, and electricity and water.

Figure 10. Energy Intensity Index
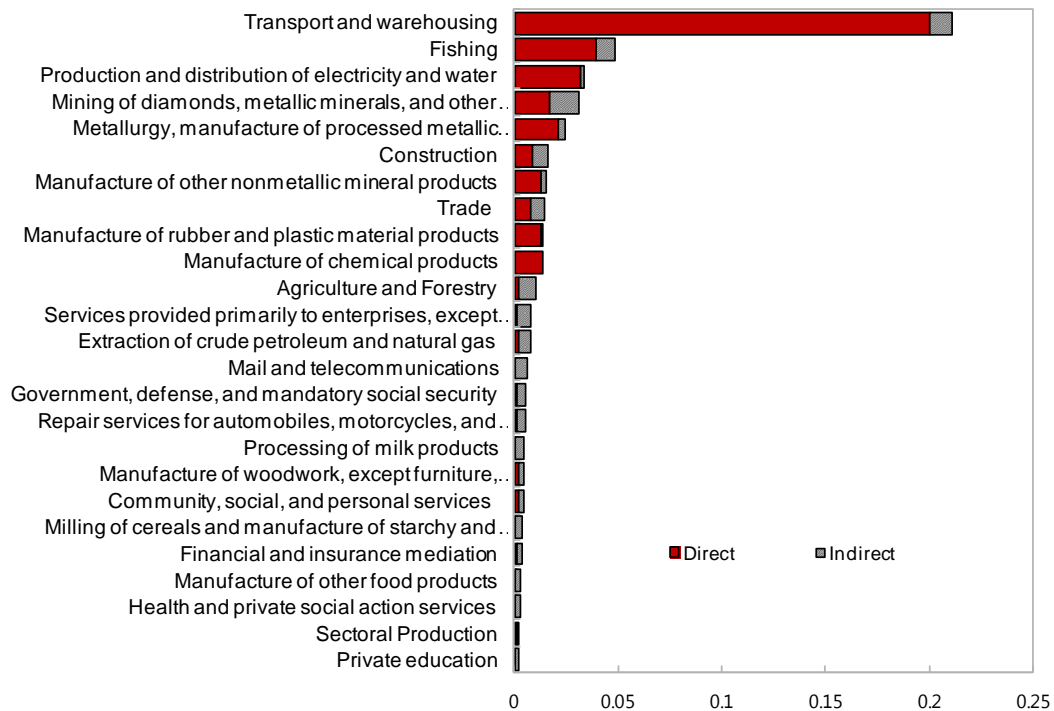
Sources: INE, 2007 input-output tables; and IMF staff calculations.

Note: The direct effect represents the share of fuel products in the production costs, while the indirect effect is the indirect cost from inputs that also use fuel products. The energy intensity index is calculated as the sum of the direct and the indirect costs.

Appendix II. Distributional Incidence of the Fuel Price Subsidies

30.   **Mitigating the impact of fuel subsidy reform on poor households requires the evaluation of the impact of rising fuel prices on the cost of living in Angola.** In this context, three exercises were performed using the 2008–09 Inquérito Integrado Sobre o Bem Estar da Populacão. It was estimated:

- first, how spending on fuel products varies across households relative to household consumption;

- second, the *direct* benefits that consumers receive as a result of buying fuel products at prices below cost recovery levels; and

- third, the *indirect* benefits that consumers receive because subsidized fuel prices are passed through to the prices of other goods and services that consumers purchase—most importantly fishing, transportation, and agriculture.[12]

31.   **Household characteristics vary significantly according to household welfare and geographical distribution**. Table 6 shows the distribution of per capita household consumption (in quintiles), used herein as a measure of welfare.[13] In 2009, per capita monthly consumption of households in the top quintiles was almost 9 times higher than for households in the bottom quintile, and 36.6 percent of the population lived below the real national poverty line of US$64 per capita (adult equivalent) per month. About 45 percent of the population lived in rural areas, of which 63 percent were in the bottom 40 percent of the income distribution, while 80 percent of people in the top two quintiles were urbanized. Average household size decreases with welfare, driven largely by the variation in the number of children in the household. Consequently, quintiles at the upper end of the distribution include a much larger share of households than they do of people.

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[12] The methodology used in this analysis draws from Coady and Newhouse (2006).

[13] Household welfare quintiles were derived by classifying households according to their actual per capita consumption as reported in the 2008–09 IBEP. Households were sorted based on per capita consumption, and the resulting distribution was divided into 5 weighted percentiles, each of which contains 20 percent of the total number of households with welfare increasing from the bottom to the top (i.e., the bottom quintile contains the poorest 20 percent of households, while the top quintile contains the richest 20 percent of households).

Table 6. Household Characteristics by Income Quintile

	Bottom Quintile	2nd Quintile	3rd Quintile	4th Quintile	Top Quintile	All Households
Number of households	537,955	590,034	618,132	674,483	815,071	3,235,674
Number of persons (thousands)	3,274	3,276	3,276	3,272	3,270	16,400
Share of population	20	20	20	20	20	100
Household consumption (Kwanzas/month)	7,849	12,730	18,479	25,928	49,175	24,949
Per capita consumption (Kwanzas/month)	1,762	3,114	4,669	7,099	17,010	7,517
Household size	6.1	5.6	5.3	4.9	4.0	5.1

Sources: INE, 2008–09 IBEP and 2007 input-output tables; and IMF staff calculations.

Note: Household income quintiles are based on household consumption per capita. Estimates of the consumption shares for 2014 are based on 2008–09 IBEP data adjusted by the 2009–14 CPI inflation and price increases for each fuel product.

32.   **Consumption patterns vary between poor and rich households.** Expenditure on energy accounts for more than 4 percent of total household consumption, on average, with expenditures on gasoline accounting for the highest share followed by LPG and diesel (Table 7, upper panel). However, budgetary shares of total fuel consumption decreases with income, with households in the bottom quintile spending 4.8 of their total consumption on fuel products compared to 3.6 for households in the top quintile. Although the fuel share of household consumption is higher among poorer households, well-off households consume significantly more fuel products than poor households (Table 7, lower panel), due to their higher levels of total consumption (Table 6). When looking at the shares of overall fuel consumption by quintiles, households in the top income quintile account for more than 50 percent of total fuel consumption, compared to only 1.3 percent consumed by households in the bottom quintile. In this respect, while consumption of gasoline and LPG is most skewed toward higher income quintiles, consumption of diesel and kerosene is more evenly distributed.

33.   **Energy subsidies reduce the retail prices of energy products—and other goods and services for which fuel is a significant input—thus increasing effective household purchasing power.** While gasoline, kerosene, and LPG are consumed directly by households, diesel is also used as input for industrial production and electricity generation. For the direct consumption of petroleum products, the magnitude of fuel price subsidies is proportional to the consumption of energy by households described above. The indirect impact of subsidies on the prices of other consumption items is estimated by applying a Leontief Input-Output Model (Leontief, 1951)—which captures the interdependencies between different sectors.

Table 7. Expenditure on Subsidized Fuel Products

	Bottom Quintile	2nd Quintile	3rd Quintile	4th Quintile	Top Quintile	All Households
	Percent of total household consumption					
Total fuels	4.8	5.0	4.9	4.8	3.6	4.3
Diesel	2.8	0.7	0.3	0.2	0.2	0.4
Gasoline	1.2	2.0	2.9	3.1	2.4	2.6
Kerosene	0.1	1.1	0.1	0.0	0.1	0.2
LPG	0.6	1.2	1.6	1.4	1.0	1.2
	Percent of overall consumption					
Total fuels	1.3	6	13	28	51	100
Diesel	11	11	11	16	51	100
Gasoline	0.7	4	13	29	53	100
Kerosene	1.5	51	4	10	33	100
LPG	0.7	6	15	30	48	100

Sources: INE, 2008–09 IBEP and 2007 input-output tables; and IMF staff calculations.

Note: Household income quintiles are based on household consumption per capita. Estimates of the consumption shares for 2014 are based on 2008–09 IBEP data adjusted by the 2009–14 CPI inflation and price increases for each fuel product. The high share of kerosene consumed by households in the second quintile is not in line with consumption patterns in other countries and raises some concerns about the accuracy of itemized consumption data.

34.   **A very large share of the benefits of price subsidies is captured by higher income households.** Overall, more than ¾ of subsidies go to the richest 40 percent of households (Table 8). This reflects the high share of energy consumed directly by such households, as well as their greater consumption of other goods and services that rely on fuel products as a production input.

35.   **Only less than a tenth of direct subsidies go to households in the bottom two quintiles of the welfare distribution**. The share of direct benefits accruing to the top two quintiles is systematically higher than that accruing to the bottom two quintiles for all fuel products except kerosene—and the share exceeds 80 percent for gasoline. The lowest two quintiles receive about 50 percent of the direct benefits of kerosene subsidies and about 20 percent of the direct benefits for diesel—but kerosene and diesel account for only 0.2 and 0.4 percent respectively of total household consumption. Overall, the bottom quintile receives only about 3 percent of the direct benefits received by the top quintile.

36.   **The indirect benefits of subsidies are also unequally distributed across welfare quintiles.** The bottom quintile receives slightly more than 8 percent of the indirect benefits received by the top quintile. However, the total share of benefits accruing to households in different quintiles hides crucial differences in the *per capita* benefits because the bottom quintile includes far more people (because poor households, on average, are larger). The average monthly indirect per capita benefit for the bottom quintile is only 43 Kwanzas—an order of magnitude smaller than the indirect benefit of 562 Kwanzas enjoyed by persons in the top quintile of the welfare distribution.

Table 8. Distribution of Subsidies by Household Income

(Percent of total subsidy benefit)

	Bottom Quintile	2nd Quintile	3rd Quintile	4th Quintile	Top Quintile	All Households
Direct effect	1.3	7.3	14.1	28.6	48.9	100
Diesel	11.3	10.9	11.3	15.9	50.9	100
Gasoline	0.7	4.1	13.0	29.2	53.0	100
Kerosene	1.5	51.3	4.4	10.1	32.9	100
LPG	0.7	6.3	15.0	30.1	48.1	100
Indirect effect	4.1	7.1	13.1	22.1	53.4	100
Total effect	2.7	7.2	13.6	25.4	51.1	100

Sources: INE, 2008–09 IBEP and 2007 input-output tables; and IMF staff calculations.

Note: Household income quintiles are based on household consumption per capita. Estimates of the consumption shares for 2014 are based on 2008–09 IBEP data adjusted by the 2009–14 CPI inflation and price increases for each fuel product.

37.   **The impact of fuel price subsidy reform will manifest itself through two channels.** First, real household incomes will fall because fuel products will become more expensive—and all households use fuel products for cooking, lighting, heating, and private transportation. This is the *direct* impact. Second, real household incomes will fall as a consequence of the rising prices of other products and services—such as food, and public transportation—which rely on fuel products for production and distribution. This is the *indirect* impact. The welfare impact of subsidy reform for gasoline, kerosene, and LPG subsidy will only be felt directly, whereas the welfare impact of for diesel will also be felt indirectly.

38.   **This appendix simulates the welfare impact of eliminating price subsidies on these fuel products**. Eliminating fuel subsidies would require the following price increases: 148 percent for regular diesel (from 50 to 124 Kwanzas per liter); 50 percent for gasoline (from 75 to 112 Kwanzas per liter); 228 percent for kerosene (from 35 to 115 Kwanzas per liter); and 380 percent for LPG (from 45 to 216 Kwanzas per kilogram).

39.   **The direct impact of eliminating price subsidies is higher as a share of total consumption for households in the bottom quintiles.** The direct effect of higher prices of fuel products results, on average, in a 7½ percent decrease in real income for households in the bottom quintile of the income distribution compared with a 6 percent decrease for households in the top quintile (Table 9). The incidence of the overall direct impact is a result of direct effects for gasoline and LPG increasing with income, and direct effects of diesel and kerosene decreasing with income, which mirrors the distribution of consumption across products.

40.   **The indirect impact of eliminating subsidies for diesel is slightly progressive.** Overall, the effect of eliminating subsidies on fuel products for the prices of other

consumption items will result in a reduction in real income of about 2 percent, ranging from just below 2 percent for households in the bottom quintile of the income distribution to 3 percent for households in the top quintile. The indirect impact of higher prices for agricultural and fishing products, and transportation accounts on average for about 85 percent of indirect impact (equivalent to a 1.9 percent decrease in household income). While the high indirect effect for fishing products and transportation is a result of higher changes in prices in these sectors due to their high fuel intensity production, the high indirect impact for agriculture stems from a high average household consumption shares in agricultural products. Table 10 shows the indirect price and real income effects by production sector.

41.   **Overall, the total welfare effect of fuel subsidy reform is substantial and higher as a share of total consumption for households at the bottom of the income distribution**. On average, the required price increases result in a 9 percent decrease in real household income. Slightly more than ¼ of this impact comes from the indirect inflationary effect of higher diesel prices on the prices of other goods and services consumed by households. The relatively small share of the indirect impact is a result of the high import content of the consumption in Angola, as well as the high value added component of domestic production. In this respect, only a minor share of sectors is affected by higher production costs while the price of imported products is only affected by higher transportation costs. At the same time, the high share of value added reduces price increases in other sectors of the economy following an increase in the price of the input of diesel. The total impact of higher fuel prices is higher for lower income households, with the real incomes of the lowest quintile decreasing by more than 9 percent, compared to just above 8 percent for the highest quintile. The total welfare effect of the subsidy reform is highest for households in the second quintile, due to higher direct consumption of fuels compared to households in the bottom quintile, and lower total consumption than households at the top of the income distribution.

Table 9. Welfare Impact of Eliminating Price Subsidies

(Percent of total household consumption)

	Bottom Quintile	2nd Quintile	3rd Quintile	4th Quintile	Top Quintile	All Households
Direct impact	7.4	9.1	8.2	7.4	6.0	6.9
Diesel	4.1	1.0	0.4	0.3	0.3	0.5
Gasoline	0.6	1.0	1.4	1.5	1.2	1.3
Kerosene	0.3	2.5	0.1	0.1	0.1	0.4
LPG	2.4	4.6	6.2	5.4	4.0	4.7
Indirect impact	1.9	1.8	2.2	2.4	3.0	2.2
Total impact	9.3	10.9	10.3	9.8	8.2	9.2

Sources: INE, 2008–09 IBEP and 2007 input-output tables; and IMF staff calculations.

Note: Household income quintiles are based on household consumption per capita. Estimates of the consumption shares for 2014 are based on 2008–09 IBEP data adjusted by the 2009–14 CPI inflation and price increases for each fuel product.

42.   **The total effect on household real income will be gradual and more back loaded for poor households**. The gradual nature of the proposed reform implies that the full welfare effect of fuel price increase will only manifest at the end of the third stage of reform. In the first stage, the average decrease in real household income would be less than 2.5 percent of total consumption. Moreover, the phased nature of the reform, with a frontloaded elimination of subsidies on gasoline and a more gradual reform of other fuel prices implies a more back loaded welfare effect on poor households.

Table 10. Indirect Price and Real Income Effect by Sector

(Percent)

	Price Change	Budget Share	Indirect Impact	Percent of Total Indirect Impact
Agriculture and Forestry	0.02	19.4	0.30	13.5
Fishing	0.07	7.9	0.56	25.0
Extraction of crude petroleum and natural gas	0.01	0.0	0.00	0.0
Mining of diamonds, metallic minerals, and other nonmetallic minerals	0.05	0.0	0.00	0.0
Preparation and conservation of meat, fish, fruit, and horticultural products	0.00	6.0	0.02	0.7
Manufacture of animal and vegetable oils and fats	0.00	2.8	0.01	0.3
Processing of milk products	0.01	1.2	0.01	0.4
Milling of cereals and manufacture of starchy and related products	0.01	15.9	0.10	4.2
Manufacture of other food products	0.00	2.2	0.01	0.4
Manufacture of Beverages and Tobacco	0.00	2.7	0.01	0.3
Manufacture of textiles, apparel, leather goods, and footwear	0.00	5.1	0.01	0.6
Manufacture of woodwork, except furniture, manufacture of paper, publishing and printing	0.01	1.4	0.01	0.3
Refining of crude petroleum	0.00	4.3	0.00	0.0
Manufacture of chemical products	0.02	1.4	0.02	1.0
Manufacture of rubber and plastic material products	0.02	1.2	0.02	1.1
Manufacture of other nonmetallic mineral products	0.02	1.2	0.03	1.2
Metallurgy, manufacture of processed metallic products, machines, and equipment	0.04	1.2	0.04	1.9
Manufacture of other unspecified goods, waste, and scrap	0.00	0.0	0.00	0.0
Production and distribution of electricity and water	0.00	0.0	0.00	0.0
Construction	0.02	0.0	0.00	0.0
Trade	0.02	0.0	0.00	0.0
Repair services for automobiles, motorcycles, and goods for personal and domestic use	0.01	0.0	0.00	0.0
Accommodation, restaurant, and similar services	0.00	1.4	0.00	0.2
Transport and warehousing	0.31	3.4	1.05	47.0
Mail and telecommunications	0.01	1.7	0.02	0.7
Financial and insurance mediation	0.01	0.0	0.00	0.0
Real estate and rental services	0.00	9.5	0.00	0.1
Services provided primarily to enterprises, except financial and real estate services	0.01	0.0	0.00	0.0
Government, defense, and mandatory social security	0.01	0.0	0.00	0.0
Private education	0.00	0.5	0.00	0.1
Health and private social action services	0.00	3.4	0.01	0.6
Other activities of community, social, and personal services	0.01	1.3	0.01	0.4
Domestic services	0.00	4.8	0.00	0.0
Total		100	2.2	100.0

Sources: INE, 2008–09 IBEP and 2007 input-output tables; and IMF staff calculations.

**Appendix III. Reducing the Impact of Fuel Subsidy Reform on the Most Vulnerable:
The Role of Social Assistance**

43.   **Social assistance in Angola is provided through a number of small-scale social
programs.** Most programs are granted by the MINARS but other ministries are also
involved, such as the Ministry of Family and Women, Ministry of Commerce and the
Ministry for War Veterans. The main programs focus on (i) in-kind support to poor,
vulnerable children, disables, elderly, and war veterans; (ii) professional training and
reintegration of unemployed; and (iii) school feeding.

44.   **The coverage of the current system is limited.** Recent assessment of the existing
social assistance policy in Angola by the World Bank and UNICEF Angola (EU, 2013)
shows that actual coverage of existing social assistance programs is substantially smaller than
potential beneficiaries. Also, there is large scope for improving the quality of program
implementation, planning, procurement, and monitoring. Furthermore, the social system
would benefit from clear allocation of mandates, resources and responsibilities among
ministries, and between central and local governments. In general, the current system would
benefit from strengthening of its structure and organization, training and human resource
development, information technology systems and infrastructure, case management practices,
and management processes and procedures.

45.   **In the short run, part of fiscal savings from the fuel subsidy reform could be
used to expand and strengthen existing social programs.** In this context, the government
should make an extensive effort to identify the programs that are best targeted and have the
capacity to be expanded.

46.   **Based on international experience, the most effective way to mitigate the
immediate impact of subsidy reform on vulnerable households is through the use of
cash transfers.** Moreover, the cash transfers to vulnerable households are an efficient tool of
poverty alleviation. Based on international experience from sub-Saharan countries, cash
transfer programs have generally proven most successful when they are managed through a
dedicated institutional structure and when they start small and are progressively expanded to
include more beneficiaries―while learning from implementation and improving functioning
of the program. Currently, the MINARS is developing a program to strengthen the social
assistance policy framework, with a focus on cash transfer system. The program is funded by
the EU and implemented with the assistance of UNICEF. The central focus of the program is
to increase access of vulnerable families to social assistance by introduction of a cash transfer
system. The project is expected to start with a development of the operational framework to
set up decentralized centers for accessing of social welfare services and setting up the
programmatic, operational and institutional framework to pilot a cash transfer program with
seed funding from the EU. The costs of such a system would be contained (IMF, 2014).

47.   **Priorities for the development of an effective social safety net include**:

- Accelerate efforts to (i) strengthen the selection of beneficiaries; (ii) ensure regular payments; (iii) improve speed and effectiveness of payment arrangements; (iv) ensure regular monitoring and third party evaluation; and (v) address benefit dependency issues.

- Establish a coherent institutional structure with clear delineations of roles and responsibilities for policy development and program implementation, including at national, state, local and community levels. At the national level, clarify the role and competences of MINARS and of other ministries and semiautonomous agencies in social assistance programs. Introduce information technology-enhanced programs (e.g., e-payments, the construction of a national beneficiary database across programs) that will be crucial for developing an effective and transparent social protection system.

- Develop a comprehensive social protection strategy. Review existing large number of small social policies under various ministries and agencies and develop a coherent and comprehensive social protection strategy that would guide social protection interventions in the future. With the assistance of the EU and UNICEF, implement the strategy to leverage regional and international knowledge and experience towards the creation of a comprehensive social protection system. In particular, focus on the introduction of the pilot cash transfer system which should be expanded in the future.

Appendix IV. Estimating the Impact of Fuel Subsidy Reform on Domestic Prices

48.   **The first-round effect of higher fuel prices on the domestic prices captures both the direct effect of higher energy prices and the indirect effect of the latter on prices in other goods and services.** The latter is estimated using the 2007 input/output table (Table 10) mapped into the consumer price index basket. Based on the consumer price index weights, on average the bulk of households spending is on food and nonalcoholic beverages (44 percent); housing, water, and energy (13 percent); transportation (8 percent), and clothing (7 percent) (Table 11). Under the illustrative reform scenario, fuel prices for households increase by 133 percent over the period 2015 to 2020 (Table 4). The direct impact of fuel price increase on the consumer prices over the same period is estimated at 7.9 percent, the indirect at 3.2 percent, resulting in an overall effect of about 11 percent. These estimates take into account the fact that a large part of the consumed goods are imported and, therefore, their production is not affected by higher fuel prices. Table 12 presents the profile of price increases over the reform period. The largest price increase would occur in 2019, but it would still be contained to about 4 percent.

49.   **The impact on domestic prices would be higher if the increases in fuel prices were passed on to electricity tariffs.** Given the limited data availability, only a very crude estimate of such an impact can be provided. Taking this in mind, to calculate the impact of the planned accumulated increase of 124 Kwanzas in the price of diesel to electricity, we assume that total revenues of electricity production would have to reflect the increase in the price of diesel, taking into account technical losses and the under-collection of electricity bills. Under these assumptions, the electricity price would have to increase by approximately 11 times. The accumulated (direct and indirect) impact of such an increase to domestic prices could reach about 13 percent over 2015–20.

$$\Delta P_{Electr} = \frac{\Delta P_{Diesel} \cdot INPUT_{Diesel}}{TAR_{Electr} \cdot SUP_{Electr} \cdot (1 - Loss_{Tech} - Loss_{Collection})},$$

Where:

ΔP_{Electr}.......... Estimated increase in price of electricity

ΔP_{Diesel}.......... Increase in the price of diesel (124 Kwanzas)

$INPUT_{Diesel}$..... Number of liters consumed to produce

TAR_{Electr}........ Electricity tariff (3 Kwanzas)

SUP_{Electr}........ Electricity supply

$Loss_{Tech}$......... Technical loss (12 percent)

$Loss_{Collection}$... Under collection of electricity bill (20 percent)

Table 11. Mapping between Input Output Tables and CPI Basket

(In percent)

Input/Output Table Industries	Price Change	Weight Based on Budget Survey	CPI item	CPI Weight
Agriculture and forestry	2	35		
Fishing	7	14		
Slaughter of animals and preparation and conservation of meat, fish, fruit, and horticultural products	0	11	Food, non alcoholic beverages	44
Manufacture of animal and vegetable oils and fats	0	5		
Processing of milk products	1	2		
Milling of cereals and manufacture of starchy and related products	1	29		
Manufacture of other food products	0	4		
Manufacture of Beverages and tobacco	0	100	Alcoholic beverages and tobacco	3
Sectoral Production	0	100	Clothing and shoes	7
Refining of crude petroleum	133	47		
Domestic services	0	39	Housing, water, electricity and fuels	13
Production and distribution of electricity and water	5	14		
Manufacture of rubber and plastic material products	2	33		
Manufacture of other nonmetallic mineral products	2	33	Furniture and house appliances	6
Metallurgy, manufacture of processed metallic products, machines, equipment, and transport material	4	33		
Health and private social action services	0	100	Health	3
Transport and warehousing	31	100	Transports	8
Mail and telecommunications	1	100	Comunnications	3
Other activities of community, social, and personal services	1	100	Leisure, and recreation	2
Private education	0	100	Education	2
Accommodation, restaurant, and similar services	0	100	Hotels,cafes and restaurants	3
Financial and insurance mediation	1	0		
Real estate and rental services	0	77		
Services provided primarily to enterprises, except financial and real estate services	1	0		
Government, defense, and mandatory social security	1	0		
Extraction of crude petroleum and natural gas	1	0		
Mining of diamonds, metallic minerals, and other nonmetallic minerals	5	0		
Manufacture of woodwork, except furniture, manufacture of folders, paper, and cardboard, publishing and printing	1	12	Other goods and services	6
Manufacture of chemical products	2	12		
Manufacture of other unspecified goods, waste, and scrap	0	0		
Construction	2	0		
Trade	2	0		
Repair services for automobiles, motorcycles, and goods for personal and domestic use	1	0		

Sources: INE; IBEP, 2008–09 and input-output table, 2007; and IMF staff calculations.

Table 12. First-Round Effect of Fuel Subsidy Reform on Domestic Prices

(Percent of 2014 Price Level)

	Stage I	Stage II		Stage III			Overall
	2015	2016	2017	2018	2019	2020	
Indirect efect	0.9	0.0	0.0	0.9	1.2	0.2	3.2
Direct effect	2.2	0.0	0.0	2.2	3.0	0.5	7.9
Total	3.1	0.0	0.0	3.0	4.2	0.7	11.1

Source: IMF staff calculations.

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