

# Case Studies from the Middle East and North Africa Region

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## PETROLEUM PRODUCT SUBSIDIES

### Islamic Republic of Iran

#### *Context*

Subsidy reform has been on the policy agenda since the late 1980s, with several administrations working on successive reform plans. Setbacks to previous reform efforts led to a surge in energy consumption by the early 2000s, which made Iran one of the countries with the highest energy intensity in the world. As international oil prices approached US\$150 per barrel and f.o.b. (free on board) gasoline prices hovered around US\$2 per liter, Iran's domestic price of US\$0.10 per liter of gasoline was clearly unsustainable. Oil exports were declining, while Iran was importing increasing amounts of gasoline to meet domestic demand, and the relative price differential was fueling smuggling to neighboring countries. The rationing of gasoline, which started in June 2007, reduced demand growth and smuggling to some extent and encouraged development of alternative fuel vehicles, but the price for gasoline purchases in excess of the subsidized quota was set at a still relatively low level of US\$0.40 per liter.

#### *Reforms Since 2010*

Recognizing the severity of the problems, the authorities launched the first phase of a targeted fuel subsidy reform program in December 2010. The reform made Iran the first major energy-exporting country to drastically cut indirect subsidies and put in place an across-the-board cash transfer program for households. Despite an initial sharp increase in prices, gradual adjustment in prices was a key design feature of the reforms, which planned to increase domestic prices over a five-year period to 90 percent of international prices. In the first phase of the reform, the authorities substantially increased the prices of all major petroleum products and natural gas as well as electricity, water, and bread. In advance of the price adjustments, the authorities also deposited cash transfers in new bank accounts for households, which were to be financed by the revenue from price increases. Part of the revenue from price increases was also allocated to enterprises to help reduce their energy intensity.

TABLE 7.1

Iran: Key Macroeconomic Indicators, 2005–11							
	2005	2006	2007	2008	2009	2010	2011
GDP per capita (US\$)	2924.6	3428.5	4312.1	4857.1	4926.5	5637.9	6419.6
GDP growth (percent)	4.7	6.2	6.4	0.6	3.9	5.9	2.0
Inflation (percent)	10.4	11.9	18.4	25.4	10.8	12.4	21.5
Overall fiscal balance (percent of GDP)	3.0	2.1	7.4	0.7	1.0	1.6	–0.2
Public debt (percent of GDP)	9.6	8.5	7.8	7.2	8.9	11.3	9.0
Current account balance (percent of GDP)	7.6	8.5	10.6	6.5	2.6	6.0	12.5
Oil imports (percent of GDP)	1.2	2.0	1.9	1.6	1.0	0.4	0.2
Oil exports (percent of GDP)	27.5	26.8	27.5	24.7	19.4	20.7	25.0
Oil consumption per capita (liters)	1,155	1,224	1,217	1,223	1,224	1,108	n.a.
Poverty headcount ratio at US\$1.25 per day (PPP) (percent of population)	1.45	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Sources: International Energy Agency (IEA); IMF, *World Economic Outlook* (WEO); World Bank, *World Development Indicators*.

Note: Data for 2011 are projected. PPP = purchasing power parity; n.a. = not applicable.

The subsidy reform was also motivated by the authorities' broader structural reform agenda to foster growth and job creation more than to address fiscal concerns. Unlike other countries, Iran's reform was driven by a need to put its valuable hydrocarbon resources to more productive use rather than by a need to reduce the direct burden of subsidies on the fiscal accounts. The Iranian authorities were clear from the outset that the main reform objective was to reduce waste and rationalize consumption. The reform legislation, and the political debate that preceded it, ruled out using the reduction of energy subsidies to improve the country's fiscal balance. The subsidy reform was intended to complement a larger structural reform package that also included financial sector and tax reforms to enhance the competitiveness of the economy.

Despite a good start at the end of 2010, the implementation of the reform program was suspended in late 2012 owing to growing concerns over its financing and the deteriorating macroeconomic situation. In mid-2012 the authorities postponed the implementation of the second phase of the reform because of lack of parliamentary support for the authorities' proposed cash transfer budget and implied price increases under the second phase. Later in November 2012, the parliament formally voted to halt the implementation of the second phase of the subsidy reform, citing rising inflation and unfavorable economic developments in the country. The parliament's vote kept the existing cash transfer program intact but barred further energy price increases under the subsidy reform. The second phase, originally planned for implementation in the second half of 2012, would have involved further increases in energy prices and cash transfers to households. The new round, as originally proposed, was also expected to replace across-the-board cash transfers with more targeted cash transfers for low-income groups.

### *Mitigating Measures*

- *Cash transfers.* About 80 percent of the revenue from price increases was redistributed to households as bimonthly cash transfers. Initially, the authori-

ties leaned toward targeting the transfers to the poorer segments of society. It became clear, however, that it would be administratively difficult to identify and properly screen the recipients given the time line established.

- *Support for enterprise restructuring.* The remaining balance of the revenue from price increases was to be set aside to provide support for enterprise restructuring, with a view to reducing their energy intensity. The authorities conducted a systematic analysis of more than 12,000 enterprises along several criteria to assess the various channels through which the reform could affect them. Out of these enterprises, 7,000 were selected to receive some form of targeted assistance to restructure their operations. This included direct assistance as well as sales of limited quantities of fuels at partially subsidized rates to moderate the impact of the price increase on the input costs of enterprises in the industrial and agricultural sectors.
- *Multitier tariffs differentiated by quantity and region.* Multitier tariffs on electricity, natural gas, and water were used to moderate the impact of the price increases on small users, mostly the poor. Unit tariffs on electricity, natural gas, and water use were set using escalating schedules. Large household consumers were charged prices marginally higher than in international markets. New tariffs also took into account regional disparities in the availability of different heating fuels. Tariff schedules were further differentiated by region, with prices set at lower rates in hot regions with relatively higher air-conditioning demand. Tariff schedules for natural gas and water were similarly differentiated by quantity used and region. In areas where natural gas was not available, heating costs were to remain closely monitored and regulated, and lower-priced kerosene quotas and lifeline electricity rates were provided to ensure affordability of heating.
- *Continuation of gasoline rationing.* The use of the electronic cards system for gasoline rationing and quotas introduced in June 2007 also provided a de facto multitier energy pricing structure for gasoline, making the reform seem gradual. The price of rationed gasoline was increased, but it remained well below the full price at which households could purchase an unlimited amount of fuel. In addition, households were told that they would not lose any of their unused gasoline quotas. Rationing required the implementation of a comprehensive vehicle registration system and personalized distribution and management of the gasoline quotas.

## Lessons

Cash transfers to all segments of the population were pivotal in acceptance of the subsidy reform by the population. The authorities initially considered a targeted cash transfer scheme toward the poorer segments of the society but determined that it would be administratively difficult to identify and properly screen the recipients. Also, denying support for the upper-income groups risked triggering public discontent among the biggest energy users. In the end, all citizens were allowed to apply for the compensatory transfers, which were made equal for

all applicants. At the same time, with the subsidies being highly regressive, the richest households were encouraged to refrain from applying, with limited success.

Providing all households with equal transfers achieved redistributive effects. For the poor who benefited little from cheap domestic energy prices, the compensation represented a larger share of their income than it did for the middle class; in fact, it was large enough to lift virtually every Iranian out of poverty. In addition, equal transfers helped limit the regressivity of subsidies. This gave the government's economic rationale a powerful public relations stance and built support for the reform.

Maintaining macro-stability has been critical to the success of the reform. Iran suspended the implementation of the second phase of the reform because of concerns over the deteriorating macroeconomic situation. Expansionary monetary and fiscal policies, coupled with the worsening external environment, added to the pressures on the exchange rate, fueled inflation, and put further strain on growth during the implementation of the first phase of the reform. In contrast to the proposed reform, the cash transfer program's budget was reportedly in deficit. Furthermore, high inflation reduced energy prices in real terms and partially offset the impact of energy price increases on consumption, undermining progress under the subsidy reform.

Moving to more energy-efficient production technologies and restructuring enterprises takes more time than initially planned. Although some enterprises were able to continue to expand their production following the subsidy reform, small and medium-sized enterprises were reportedly squeezed by high energy prices and limited government support. There was also reportedly no meaningful progress in adoption of more energy-efficient technologies in enterprises.

Communication is indispensable in creating public ownership of reform. The reform was preceded by an extensive public relations campaign to educate the population on the growing costs of low energy prices and on the benefits expected from the reform. The authorities emphasized that the reform would benefit poor households, which would receive cash benefits, whereas in the past these households had not benefited much from the cheap energy, which was consumed mostly by the richer groups. The Iranian authorities also underlined from the outset that the reforms were not about eliminating subsidies but about switching subsidies from products to households. However, following its implementation, the reform did not seem fully supported by official public information about the *de facto* implementation and outcome of the reform.

## **Mauritania**

### *Context*

Mauritania's macroeconomic performance since 2000 has been rather volatile (see Table 7.2). GDP growth hovered between -1.2 (2009) and 11.4 percent (2006), while inflation ran between 2.1 (2009) and 12.1 percent (2005). This volatility was partly due to external shocks, partly due to policies. In particular, after the discovery of oil in 2006, the authorities embarked on a fiscal expansion

**TABLE 7.2****Mauritania: Key Macroeconomic Indicators, 2000–2010**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
GDP per capita (US\$)	409.1	412.3	410.5	445.9	504.2	609.5	862.6	878.3	1073.2	897.6	1065.5
GDP growth (percent)	1.9	2.9	1.1	5.6	5.2	5.4	11.4	1.0	3.5	–1.2	5.1
Inflation (percent)	3.3	4.7	3.9	5.2	10.4	12.1	6.2	7.3	7.5	2.1	6.3
Overall fiscal balance (percent of GDP)	0.0	0.0	–2.9	–11.8	–4.8	–7.1	35.8	–1.6	–6.5	–5.1	–1.5
Public debt (percent of GDP)	228.8	223.6	194.5	216.4	209.3	182.1	86.8	96.9	110.5	124.5	86.1
Current account balance (percent of GDP)	–9.0	–11.7	3.0	–13.6	–34.6	–47.2	–1.3	–17.2	–14.8	–10.7	–8.7
Oil imports (percent of GDP)	8.6	7.4	7.4	7.8	9.7	10.6	9.4	15.3	16.5	8.2	9.9
Oil exports (percent of GDP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel consumption per capita (liters)	n.a.	n.a.	n.a.	n.a.	n.a.	359.5	309.3	292.2	294.9	284.2	291.5
Poverty headcount ratio at US\$1.25 per day (PPP) (percent of population)	21.2	n.a.	n.a.	n.a.	25.4	n.a.	n.a.	n.a.	23.4	n.a.	n.a.

Sources: IEA; IMF, WEO; World Bank, *World Development Indicators*.

that was reversed only with the start of an IMF-supported program under the Extended Credit Facility (ECF) in March 2010. Mauritania was also hit hard by several droughts and by the 2008–11 spikes in international fuel and food prices.

### *Reforms Since 2008*

Energy subsidy reform in Mauritania was motivated by the above-mentioned fiscal expansion and spikes in international fuel and food prices. The discovery of oil in 2006 prompted large increases in public spending, particularly the wage bill (through adjustment of salaries) and subsidies. When, contrary to expectations, the oil discovery turned out to be very minor, it became clear that the financing of these expenditures was not sustainable, in particular given Mauritania's dependence on volatile mining revenues. The large increases in international fuel and food prices in 2008 and 2011 further increased fiscal pressures. Consequently, subsidy reform, along with wage bill containment, became the cornerstone of the government's fiscal adjustment strategy under the IMF-supported program. The adjustment strategy was designed to free resources while still allowing for much-needed higher social and infrastructure spending.

Better targeting of social protection is an explicit component of the government's fiscal adjustment strategy under the IMF-supported program. The increases in subsidies (diesel, liquid petroleum gas or LPG, electricity) that accompanied the rise in international fuel prices benefited rich households at the expense of the neediest. Almost 80 percent of all energy subsidies were captured by the richest 40 percent of households, thus widening income inequality. Moreover, the emergency relief subsidies on food prices, intended to alleviate the effects of high commodity prices, were not well targeted.

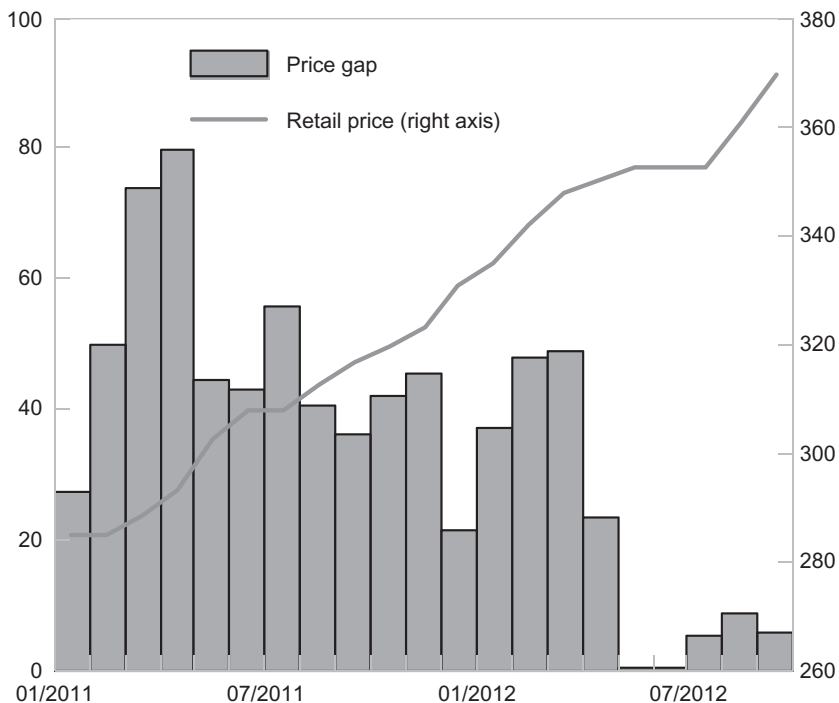
An attempt at energy subsidy reform in 2008 was unsuccessful. A freeze on fuel prices in early 2008 led to huge losses for energy distribution companies (all private). In late June 2008, the government increased the prices of petroleum products by 17.5 percent to 20 percent. No particular public communication strategy was implemented, nor were specific mitigating measures introduced in the context of this fuel subsidy reform episode. Furthermore, subsidy reform-related conditionality was not included in the Poverty Reduction and Growth Facility (PRGF) arrangement covering 2006–9. The one-off price adjustment triggered protests, which contributed to a climate of political instability that culminated in a military coup in August 2008. After the coup, the PRGF was suspended; the price increases were reversed in November 2008.

The timing and magnitude of changes in the prices of petroleum products thus remained discretionary and ad hoc. Prices of petroleum products were controlled by the government and set according to a price structure and formula that in principle was to be adjusted monthly, whenever changes in the international prices or the exchange rate exceeded  $\pm 5$  percent. In practice, the authorities were reluctant to adjust retail prices. In particular, the government limited price increases when international prices were high (e.g., in 2008), thus causing large losses for distribution companies, and it limited domestic price declines when

international prices collapsed, thus allowing petroleum companies to make up for past losses (e.g., in 2009).

The government made progress starting in 2011 under the IMF-supported program agreed after the stabilization of the political situation. The government introduced in May 2012 a new diesel price formula, with the agreement of petroleum distribution companies, following a simplified cost structure. The reform met with relatively limited opposition, despite a price increase of more than 20 percent since January 2011 and the lack of a real public communication strategy. However, unlike in the 2008 episode, the introduction of mitigating measures was an explicit component of the energy subsidy reform strategy. Technical assistance from the IMF fed into the policy dialogue. Despite substantial increases in international fuel prices, the rigorous application of the new simplified automatic fuel price formula on a biweekly basis helped bring domestic fuel prices up to international levels by June 2012 (see Figure 7.1), which was a major achievement.

However, it may still be too early to judge whether gains will prove durable, and much remains to be done. For the rest of 2012, the government was not consistently able to maintain prices at international levels because of the steep



Source: Mauritanian authorities and IMF staff.

Note: The full pass-through price is calculated as the sum of import cost, margins, and taxes. Price gap is calculated as the difference between full pass-through price and domestic retail price.

**Figure 7.1** Mauritania: Diesel Retail Price and Price Gap, 2011–12 (Ouguiyas per liter)

increase in world prices. To ensure that the pricing formula can continue to be applied automatically even in the face of sharp fluctuations in international prices, the government intends to introduce a cap of 3 percent on any one adjustment in cases when the formula would dictate a bigger change. This smoothing approach should avoid excessive domestic retail price volatility, which could undermine the political support for the formula. Additional reduction in subsidies will follow planned increases in electricity tariffs (for large consumers) and in gas prices.

High international prices also aggravated the cost of subsidies to the electricity sector. SOMELEC, the public electricity company that produces almost all the electricity in Mauritania, incurred significant losses from the increase in international fuel prices. Two-thirds of the electricity consumed in the country is generated using thermal plants, evenly split between diesel and fuel oil. Despite higher international prices, electricity tariffs have not been revised upward in recent years. Residential and commercial tariffs are among the lowest in the region and are estimated at more than 30 percent below cost-recovery prices.

Supported by the IMF-supported program, the government also moved to address the electricity subsidies. A restructuring plan was laid out with the help of the World Bank and the French Development Agency. The government recapitalized SOMELEC and clarified its financial relationship with it by (1) paying its electricity bills on time; (2) providing SOMELEC with the required subsidy for its operations at regular intervals throughout the year; and (3) drawing out a plan for the settlement of arrears accumulated through the end of 2010. Furthermore, electricity rates for the services sector were aligned with the rates for medium-voltage electricity starting at the beginning of 2012. These measures, together with a new credit line from the Islamic Development Bank, enabled the company to significantly limit its recourse to bank borrowing at high interest rates, which had been a drain on its finances in the past. A tariff study, conducted by an international firm, will be completed in 2013 and will result in electricity rates being increased, particularly those paid by large consumers. In addition, the authorities have called on a consulting firm to establish a performance contract between SOMELEC and the government.

### *Mitigating Measures*

- *Emergency measures.* In 2011, the Mauritanian authorities introduced emergency relief measures to mitigate the impact on the poor of higher international fuel prices and a drought, which led to a food emergency. Unlike the 2008 emergency plan, the new package, which was worth about UM 40 billion (3.4 percent of GDP) and was the largest in terms of GDP among the region's oil importers, comprised mostly reversible measures (e.g., it did not include a raise in the wages of civil servants). It was thus an improvement over earlier measures, and some social response by the government was certainly needed.
- *Plans for the social safety net.* However, the IMF-supported government program envisages substituting this temporary program with permanent well-



targeted social safety nets. The government plans to conduct a full assessment of the existing drought-emergency program, particularly the functioning of the “subsidized-food shops” programs, which were extended through the end of 2012. This food subsidy program has not always been effective in reaching the poorest households in rural areas. Moreover, with the worst of the drought’s impact now over, there is an opportunity to gradually remove most components of this emergency program, reorienting the savings toward scaling up well-targeted cash transfer schemes.

- *Cash transfers.* With the assistance of the World Food Program, a start has been made with such a cash transfer program. This program, which was rapidly put in place, targets 10,000 vulnerable households in Nouakchott identified through a recent poverty survey. Each household receives UM 15,000 monthly (equivalent to half of the legal minimum wage) via a bank transfer. A positive side effect is that beneficiaries thus also gain access to financial services. The program was extended in June 2012 to 15,000 households in four rural areas deemed to have high food insecurity. The agenda of scaling up such well-targeted cash transfer schemes should benefit from the expansion of the vulnerability and poverty survey to provide nationwide coverage, because most of the poor are in rural areas.
- *Broader social protection.* A broader social protection strategy developed with UNICEF will also further strengthen the coverage of the social protection system and better protect the poor and vulnerable. Accordingly, with the assistance of technical and financial partners, the authorities plan to strengthen programs such as free school cafeterias, food-for-work, and support for pregnant women. Moreover, recognizing the adverse effects of drought on food security, they are developing a national food security strategy for the period 2015–30 and an associated national investment program.

## Lessons

Depoliticizing fuel price adjustments as much as possible can help lock in initial price gains. The automatic implementation of Mauritania’s new diesel-price formula has been very effective in keeping a lid on subsidies. Putting a cap on any one price change would ensure that large international price fluctuations do not lead to excessive retail price volatility, which could undermine political support for the automatic fuel price formula. At the same time, such price smoothing would still allow domestic prices to follow the trend in international prices.

Too rapid a reduction of subsidies can generate opposition to reforms. The sudden, large price increases in 2008 met with strong opposition, stimulated political instability, and ultimately had to be rolled back. The absence of any mitigating social measures at the time exacerbated the situation.

Mitigating social measures can help address opposition to energy price increases and their impact on the poor, but they should be well targeted. Mauritania’s recent cash-transfer schemes, developed with assistance from the World Food Program, appear promising in this respect. In contrast, the earlier emergency-relief

programs were less well targeted and not as effective. Furthermore, care should be taken that temporary emergency programs do not become permanent entitlements, draining fiscal resources. The absence of a fully fledged communication campaign has not been an obstacle to reforms in Mauritania so far. However, the authorities are well advised to accompany energy subsidy reform with an explicit communication campaign that explains its benefits to the population. Transparent reporting on the use of freed-up budget resources should also increase public confidence in the outcome of the reform.

The linkages between fuel and electricity subsidy reform need to be explicitly recognized and addressed. If a highly subsidized electricity sector uses large amounts of fuel, as in Mauritania, fuel price increases can add to problems in the electricity sector. In the case of public sector electricity utilities, reform should also be accompanied by the clarification of their financial relationship with the government.

Involving donor partners that have specialized in other areas can increase the reforms' chance of success. In the Mauritanian case, the role of the World Food Program and UNICEF in the development of social mitigation strategies was clearly helpful. The study on the restructuring of the electricity sector and SOMELEC assisted by the World Bank and the French Development Agency was key in addressing electricity subsidies.

## Yemen

### *Context*

Yemen has undertaken several reforms to reduce fuel subsidies since the 1990s. The size of these subsidies has fluctuated over time, reflecting changes in international fuel prices, consumption volumes, the exchange rate, and domestic prices. Yemen's main goal in subsidy reform has been to improve its fiscal position, while paying due attention to social considerations. Despite these reforms, the subsidy bill in the budget remains large, around 10 percent of GDP in 2012 (having peaked at 14 percent of GDP in 2008). This amount exceeds the total of infrastructure and social expenditures.

### *Reforms Since 1994*

After 1994, the government increased the price of gasoline, but currency depreciation wiped out all the gains from domestic price increases. In the aftermath of the 1990–94 civil war, the government increased the price of fuel products, which is consumed more by better-off households, by 75 percent. However, the depreciation of domestic currency of almost 240 percent that took place in 1995 wiped out the gains from this increase. In 1995–96 the government implemented more price increases, which affected four products. Gasoline increased by 80 percent, diesel by 100 percent, and kerosene by 189 percent; LPG increased in two steps (first by 123 percent and then by 85 percent). However, prices in dollar terms remained well below their 1994 levels. During 2000–2004, the government increased the price of diesel again by 30 percent in two consecutive years.

**TABLE 7.3****Yemen: Key Macroeconomic Indicators, 2000–2011**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
GDP per capita (US\$)	539.6	532.4	560.0	597.8	682.1	797.7	881.6	971.3	1171.1	1061.0	1272.5	1343.3
GDP growth (percent)	6.2	3.8	3.9	3.7	4.0	5.6	3.2	3.3	3.6	3.9	7.7	–10.5
Inflation (percent)	12.2	11.9	12.2	10.8	12.5	9.9	10.8	7.9	19.0	3.7	11.2	19.5
Overall fiscal balance (percent of GDP)	6.1	2.8	–0.6	–4.2	–2.2	–1.8	1.2	–7.2	–4.5	–10.2	–4.0	–4.3
Public debt (percent of GDP)	61.2	60.7	57.8	56.8	52.1	43.8	40.8	40.4	36.4	49.8	40.9	42.4
Current account balance (percent of GDP)	13.8	6.8	4.1	1.5	1.6	3.8	1.1	–7.0	–4.6	–10.2	–4.4	–3.0
Oil imports (percent of GDP)	2.2	5.1	6.2	6.8	7.5	10.5	17.7	18.1	13.3	7.8	6.7	8.7
Oil exports (percent of GDP)	35.1	29.5	29.4	29.3	31.0	35.6	35.3	28.3	28.7	17.6	20.2	23.3
Oil consumption per capita (liters)	n.a.	252.3	260.8	265.4	274.4	280.5	279.1	293.8	305.4	316.4	322.6	n.a.

Source: IEA; IMF, WEO; World Bank, *World Development Indicators*.

Nonetheless, in dollar terms, the price of diesel remained below its level of a decade earlier. Throughout the 1994–2004 period, the depreciation of the currency wiped out all the gains from domestic price increases. During this time, the government also discouraged the use of kerosene for cooking by making it more expensive compared with LPG.

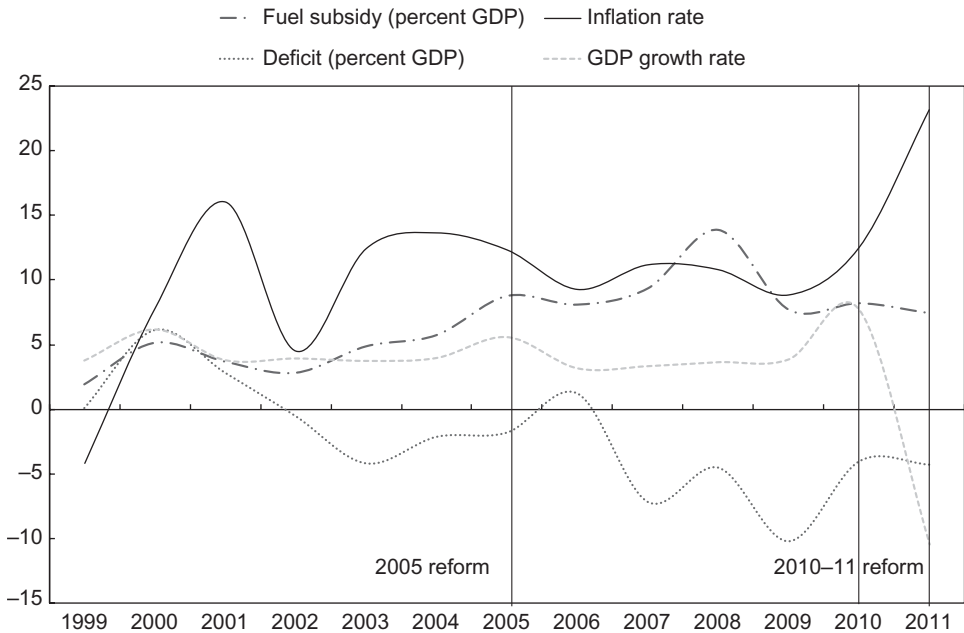
The most important subsidy reform, launched in 2005, aimed at gradually adjusting domestic prices over the medium term. This reform was based on a World Bank study and IMF policy advice, which underlined the need to preserve fiscal sustainability in the face of declining oil reserves. So, in July 2005, the government increased domestic prices by 130 percent on average. This price increase led to violent protests, and the government reacted by partially reversing it. Nonetheless, the net price adjustment remained substantial, at 71 percent for gasoline, 106 percent for diesel, 119 percent for kerosene, and 7 percent for LPG. There was no increase in the price of mazot, which is used mainly for electricity generation.<sup>1</sup> It is important to note that social tensions during this episode were related not only to the subsidy reform but also to reforms in the taxation system. The initial relative success of the fuel price adjustments was canceled by the spike in commodity prices in later years. As a result, the subsidy bill remained high, at almost 9 percent of GDP in 2005.

In 2010, as a part of the reforms supported by an IMF Extended Credit Facility arrangement, the prices of gasoline, diesel, and kerosene were gradually increased by about 30 percent on average, and the price of LPG was doubled over a period of nine months. The reform strategy was based on technical assistance from the World Bank, which drew lessons from the experience of the previous reforms. However, the public information campaign component of the strategy was not adopted. Instead, the government implemented small surprise increases. In addition to fuel price increases, the government also introduced some efficiency-promoting measures, such as replacing diesel-fueled power generators with gas-fueled ones. In late 2010, Yemen started to differentiate diesel prices by charging higher prices to commercial users. The main objective of this reform episode was to reduce fiscal pressures, following the record-high fiscal deficit of 10 percent of GDP in 2009.

In 2011–12, as a consequence of the political crisis and tight fiscal space, the government increased the price of gasoline by 66 percent and doubled the prices of diesel and kerosene.<sup>2</sup> Overall, this reform episode was accepted by the population despite the political tension between the ruling party and the opposition. The major pipeline that provides oil to domestic refineries had been sabotaged. At the same time, the government was able to import only limited quantities of refined fuel products. The ensuing fuel scarcity resulted in the emergence of a black market, with prices that were a multiple of the official sale prices, and long

<sup>1</sup>In addition, the electricity company receives diesel at a lower price than other users.

<sup>2</sup>The price of gasoline was initially increased by 133 percent for 90 percent of consumers, and for 10 percent of consumers (poor households who use gasoline) it was left unchanged. In 2011 the increase was partially reversed, but prices were unified.



Sources: IMF staff and authorities.

**Figure 7.2** Yemen: Macroeconomic Developments and Energy Subsidy Reforms, 1999–2011 (Percent of GDP or rate)

lines at the gas stations. This situation may have played a role in the population's acceptance of the official price increases in exchange for the benefit of uninterrupted supply.

### *Mitigating Measures*

Well-off Yemeni households benefit disproportionately from fuel price subsidies, both directly (because they consume more energy than do poorer households) and indirectly (because they consume more energy-intensive products and services). Overall, about 40 percent of fuel subsidies go to the richest 20 percent of households, while only 25 percent goes to households in the bottom 40 percent (based on updated 2005 Household Budget Survey data). The unequal distribution of benefits varies widely by fuel product. In the case of gasoline, for example, households in the bottom 40 percent receive only 10 percent of the direct value of the subsidy.

To mitigate the impact of the past subsidy reforms on the poor, the authorities introduced or strengthened the following components of the social safety net:

- *Conditional cash transfers.* The Social Welfare Fund was established in 1996 as a poverty alleviation program to provide conditional cash transfers to households. The coverage of the fund was expanded gradually, and transfers were increased in steps. The transfers were meant to partly mitigate the

impact of fuel subsidy reforms. The timeliness in the implementation of measures addressing social support varied. For example, in the 2005 subsidy reform episode, it took three years to approve a social protection law to allow for more streamlined application for benefits and increase monthly transfers. Conversely, the 2010 reform was almost simultaneously mitigated by a 50 percent expansion of the coverage of the cash transfer scheme. Thus far, there have been no mitigating measures in the 2011–12 reform episode, but the government is considering a further increase in the Social Welfare Fund coverage or the size of existing transfers.

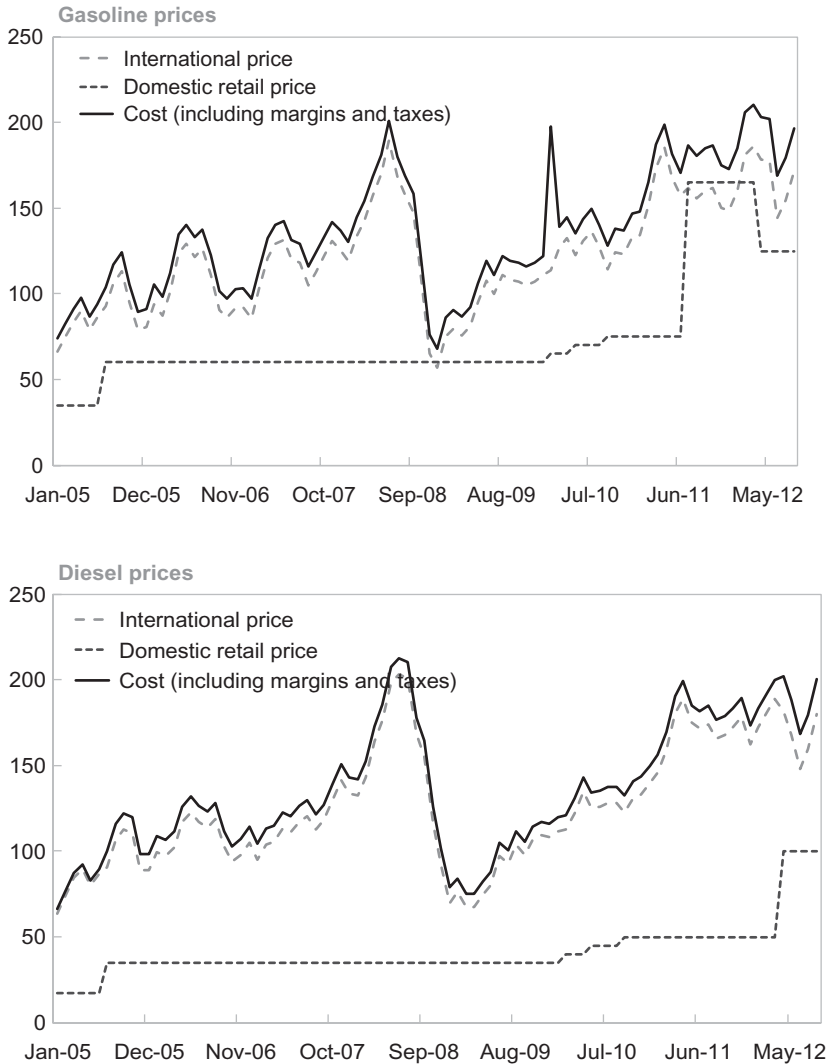
- *Public works.* A program focusing primarily on poverty prevention, the Public Works Project provides short-term employment and support for small-scale contractors through a labor-intensive public works program.
- *Community and enterprise development.* In addition, the Social Fund for Development promotes community and small- and micro-enterprise development and provides short-term employment for both the transitory and chronically poor.
- *Fuel conversion.* Other mitigating measures include conversion from more to less expensive fuels. For example, the government promoted the conversion from kerosene to LPG for residential use starting in the early 2000s. Also, in 2010 the diesel-fueled electricity plants were converted to natural gas.

## Lessons

The experience with the pace and size of price increases varied. When the public was made aware of the need for and the benefits of reforms (e.g., to ensure adequate supply), it accepted large adjustment in prices. Conversely, when reforms were not accompanied by implementation of an effective public information strategy, especially at times of heightened political tension, there were popular protests that forced at least a partial reversal of the adjustments. Adequate planning to strengthen the safety net and communicate assurances regarding the mitigating effort was also essential for gaining public support.

It is important to avoid multiple prices for a single fuel product. The Yemeni government introduced multiple pricing for gasoline and diesel with a view to protecting vulnerable households. However, the implementation of that strategy was difficult and gave rise to arbitrage and distortions. It also raised a governance challenge because it created an incentive for commercial users to try to obtain the product at the cheaper price intended for residential users. This is not the case for metered products, such as electricity, for which differential pricing is easier to implement.

If well designed and implemented in a timely fashion, cash transfers and other social protection programs can be effective in protecting the poor and reducing opposition to reforms. The Social Welfare Fund cash transfers, as well as support from the Public Works Project and the Social Fund for Development, helped to reduce opposition to reforms. Based on this experience, it is possible to argue that



Sources: IMF staff and authorities.

**Figure 7.3** Yemen: Fuel Prices and International Full Pass-through Prices, 2005–12 (Yemeni rials per liter)

opposition to the 2005 reforms could have been reduced if the social protection programs had been simultaneously implemented.

Although adverse economic conditions increase the need for reforms, they can make price adjustments more difficult, especially if combined with political tensions. It is therefore important whenever possible to implement reforms in a timely fashion before economic and social conditions deteriorate further. The large

resources used in generalized subsidies can then be used more effectively to target the poor and to spur growth and employment creation.

Efficiency and governance improvements can also help reduce subsidy costs. Adequate relative pricing (e.g., natural gas vs. diesel and LPG vs. kerosene) provides an incentive for efficient switching of consumption. Strengthening governance would also help to enhance targeting and reduce abuse and smuggling.