

Middle East and Central Asia Department

Subsidy Reform in the Middle East and North Africa

Recent Progress and Challenges Ahead



Carlo Sdravovich, Randa Sab, Younes Zouhar, and Giorgia Albertin

I N T E R N A T I O N A L M O N E T A R Y F U N D

Subsidy Reform in the Middle East and North Africa

Recent Progress and Challenges Ahead



Carlo Sdravovich, Randa Sab, Younes Zouhar, and Giorgia Albertin

© 2014 International Monetary Fund

Cataloging-in-Publication Data
Joint Bank-Fund Library

Subsidy Reform in the Middle East and North Africa : Recent Progress
and Challenges Ahead / Carlo Sdravovich, Randa Sab, Younes Zouhar,
and Giorgia Albertin. – Washington, D.C. : International Monetary
Fund, c2014.
pages ; cm

Includes bibliographical references.
ISBN: 978-1-49835-043-3

1. Subsidies—Middle East. 2. Subsidies—Africa, North.
I. Sdravovich, Carlo. II. Sab, Randa. III. Zouhar, Younes.
IV. Albertin, Giorgia. V. International Monetary Fund.

HC415.15.Z9 S9 2014

Disclaimer: The views expressed herein are those of the authors
and should not be reported as or attributed to the International Monetary
Fund, its Executive Board, or the governments of any of its member
countries.

Please send orders to:
International Monetary Fund, Publication Services
P.O. Box 92780, Washington, DC 20090, U.S.A.
Tel.: (202)623-7430 Fax: (202) 623-7201
Email: publications@imf.org
Internet: www.imfbookstore.org

Contents

Acknowledgments	vii
Executive Summary	ix
1. Introduction	1
2. Subsidies in the Middle East and North Africa: Widespread and Expensive	3
The Cost and Role of Subsidies in the Middle East and North Africa Countries	3
A Taxonomy of Subsidizing Countries	7
Disadvantages of Generalized Subsidies	12
3. An Empirical Analysis of the Determinants of Successful Subsidy Reform	28
Methodology	28
Singling Out Success Factors	36
4. Recent Experiences of Subsidy Reform in the Middle East and North Africa	44
Overview of Recent Reforms	44
Plans Ahead	50
Oil Exporters: Despite Limited Progress, Subsidy Reform is Increasingly on the Agenda	51
Conclusions	54
5. Issues of Special Interest to the Middle East and North Africa	56
Social Safety Nets	56
Macroeconomic Impact of Subsidy Reform	61
Impact on the Productive Sector	63
Managing the Political Economy of Subsidy Reform	67
6. Conclusions	70
Main Lessons and Takeaways	70
The Way Forward	70
References	73

Annex

1. Synopsis of Subsidy Reform Case Studies [79](#)
2. Subsidies in Selected Middle East and North Africa Countries [93](#)

Boxes

- 2.1. What are Price Subsidies and How are They Measured? [4](#)
- 2.2. Environmental Impact of Fossil Fuel Subsidies [25](#)
- 3.1. Summary of Key Elements for Successful Reform [29](#)
- 4.1. Subsidy Reform in Iran [51](#)
- 5.1. Examples of Successful Cash Transfers in the Middle East and North Africa [60](#)
- 5.2. Egypt: Adverse Consequences of Subsidies—High Energy Intensity Industries and Shortages [65](#)

Figures

- 2.1. MENA: Total Pretax Energy Subsidies by Region, 2011 [3](#)
- 2.2. MENA: Total Pretax Energy Subsidies by Product, 2011 [6](#)
- 2.3. MENA: Total Pretax Subsidies on Diesel and Gasoline, 2008–12 [6](#)
- 2.4. MENA: Total Posttax Subsidies on Diesel and Gasoline, 2008–12 [8](#)
- 2.5. Average Diesel Price, End-December 2011 [9](#)
- 2.6. MENA: Diesel Pass-Through to Domestic Price [9](#)
- 2.7. MENA: Gasoline Pass-Through to Domestic Price [10](#)
- 2.8. MENA: Total Subsidies on Diesel and Gasoline, 2012 [10](#)
- 2.9. Pretax Electricity Subsidies in MENA Countries, 2011 [11](#)
- 2.10. Food Subsidies in MENA Countries, 2011 [12](#)
- 2.11. Share of Energy Subsidies Benefiting the Bottom 40 Percent of the Population [13](#)
- 2.12. Share of Food Subsidies Benefiting the Bottom 40 Percent of the Population [14](#)
- 2.13. Share of Benefits from Energy Subsidies in Selected MENA Countries [15](#)
- 2.14. Share of Benefits from Food Subsidies in Selected MENA Countries [17](#)
- 2.15. MENA Oil Exporters: Total Pretax Energy Subsidies, Capital and Social Spending, 2011 [18](#)
- 2.16. MENA Oil Importers: Total Pretax Energy Subsidies, Capital and Social Spending, 2011 [19](#)
- 2.17. MENA Oil Importers: Ratios of Fiscal Balance and Total Pretax Energy Subsidies to GDP, 2011 [19](#)
- 2.18. MENA Oil Importers: Fiscal Deficit, 2009 and 2012 [20](#)
- 2.19. MENA Oil Importers: Public Debt, 2009 and 2012 [20](#)

2.20.	Fiscal Breakeven Oil Prices, 2009 and 2012	21
2.21.	Energy Intensity by Region, 2010	22
2.22.	Annual Variation of Energy Intensity by Region, 2000–10	23
2.23.	High Energy-Intensive Exports and Gasoline Price, 2011	23
2.24.	MENA Oil Importers: Current Account Balance and Oil Imports, 2012	24
3.1.	Budget Transparency Index, 2012	40
4.1.	Selected Macroeconomic Variables, 2012	47
4.2.	Public Debt, 2009 and 2012	47
5.1.	Energy Intensity by Country, 2000 and 2010	64
A2.1.	Egypt: Key Macroeconomic Indicators	96
A2.2.	Jordan: Key Macroeconomic Indicators	100
A2.3.	Mauritania: Key Macroeconomic Indicators	104
A2.4.	Morocco: Key Macroeconomic Indicators	107
A2.5.	Sudan: Key Macroeconomic Indicators	110
A2.6.	Tunisia: Key Macroeconomic Indicators	113
A2.7.	Yemen: Key Macroeconomic Indicators	117

Tables

2.1.	Regression Coefficient of Energy Use on Real GDP, 1980–2011 Panel Regression	21
3.1.	Summary of Subsidy Reform Outcomes for Fuel and Food Products	31
3.2.	Reform Themes and Spearman Rank Correlations	32
3.3.	Success Rates for Each Question	35
4.1.	Most Recent Subsidy Reforms in the Middle East and North Africa	45
4.2.	Implementation Status of Most Recent Subsidy Reforms in MENA Based on Key Factors for Success	48
4.3.	Reduction of Pretax Subsidies on Gasoline and Diesel due to Adjustments in Retail Prices in Local Currency	49

This page intentionally left blank

Acknowledgments

The authors would like to thank Masood Ahmed, Director of the Middle East and Central Asia Department, and Daniela Gressani, Deputy Director of the Middle East and Central Asia Department, for their guidance and comments.

Special thanks are due to Andreas Bauer, Paul Ross, and Samah Mazraani for their contributions; Ozgur Demirkol for the box on Iran; Gohar Abajyan, Mark Fischer, Kamal Krishna, Anna Maripuu, and Rafik Selim for research support; Kia Penso for editorial assistance; Norma Cayo and Cecilia Pineda for administrative support; and Joanne Johnson of the Communications Department.

The authors would also like to thank Khaled Abdelkader, Prasad Ananthakrishnan, Alberto Behar, Nabil Ben Ltaifa, Abdelrami Bessaha, Martin Cerisola, Benedict Clements, David Coady, Valerio Crispolti, Javier Arze del Granado, Ozgur Demirkol, Stefania Fabrizio, Andrea Gamba, Edward Gemayel, Claire Gicquel, Christopher Jarvis, Andrew Jewell, Kadima Kalonji, May Khamis, Roland Kpodar, Prakash Loungani, Alina Luca, Edouard Martin, Amine Mati, Samah Mazraani, Luc Moers, Eric Mottu, Sanaa Nadeem, Lawrence Norton, Sergio Rodriguez, Issouf Samake, Marika Santoro, Gazi Shbaikat, Robert Sierhej, and SeokHyun Yoon, as well as Shantayanan Devarajan, Thomas Laursen, and Maria Vagliasindi, World Bank staff, for their comments.

This page intentionally left blank

Executive Summary

In the Middle East and North Africa (MENA) countries, generalized price subsidies have for many years been part of the “social compact” and are still common, especially on food and fuels. Yet, generalized price subsidies are neither well targeted nor cost-effective as a social protection tool. Though subsidies may reach the poor and vulnerable to some extent, they benefit mostly the better off, who consume more of subsidized goods, particularly energy products: for example, in Egypt in 2008, the poorest 40 percent of the population received only 3 percent of gasoline subsidies.

Subsidies are not only inefficient in supporting the poor, but they also impose a much heavier burden on the public finances than more targeted social protection tools. In addition, subsidies—especially those on energy products—impose welfare costs by distorting relative prices in the economy, which fosters overconsumption. Overconsumption, in turn, reduces exportable resources and thus limits wealth accumulation for energy-exporting countries, and weakens the current account of energy-importing countries. In addition, it leads to adverse impacts on congestion, health, and the environment, and inefficient specialization of domestic production, often in less labor-intensive industries.

Subsidies also discourage investment in the energy sector and crowd out growth-enhancing public spending. Finally, subsidies encourage smuggling and black market activity, which can lead to shortages of subsidized products. All this has a dampening effect on growth potential, deriving from price distortions, which reduce efficiency in the allocation of resources, crowding out productive spending on human and physical capital, and higher inequality linked to inefficient support of the poor.

MENA countries spend on average much more on subsidies than other regions, and have increasing difficulty financing them. Total pretax energy subsidies in 2011 cost \$237 billion—equivalent to 48 percent of world subsidies, 8.6 percent of regional GDP, or 22 percent of government revenue. They amounted to \$204 billion (8.4 percent of GDP) in oil exporters and \$33 billion in oil importers (6.3 percent of GDP). For 2012, preliminary IMF estimates show that pretax subsidies for diesel and gasoline only, which represent about half of total energy subsidies in MENA, were 3.8 percent of regional GDP. Food subsidies are also common in MENA countries, though less costly. In 2011, they amounted to 0.7 percent of GDP for the region, though they were distributed unevenly among countries.

Subsidy spending has risen in response to commodity price increases and the greater social demands that have accompanied the wave of political transitions in the region. In many oil-importing countries, cheap subsidized prices have contributed to a widening of current and fiscal deficits, often against the backdrop of relatively large or rising public debt levels. In these countries, fiscal consolidation through subsidy reform is needed to avoid risking solvency crises, which would be socially and economically costly. At the same time, rapidly rising fiscal breakeven oil prices in oil-exporting countries have also highlighted rising fiscal pressures. In these countries, subsidy reforms that would align energy prices closer to world market or cost recovery levels would increase revenues and support fiscal sustainability.

As a result of these pressures, subsidy reform has recently gained a new momentum in the region; in particular, several MENA countries have taken steps to lower energy subsidies. Sustained progress in these countries will require additional efforts to consolidate their gains, by introducing or implementing rigorously automatic price setting mechanisms—which could be coupled with smoothing mechanisms to avoid sharp domestic fuel price volatility—and extending the scope of reform to tackle energy subsidies to enterprises and restructure the energy sector. Well-targeted and adequately resourced social safety nets will also be needed to cushion the impact of price increases on the vulnerable. These measures are equally relevant for oil-importing and oil-exporting countries.

Replacing generalized subsidies with appropriate social safety net instruments could lead to stronger social protection and generate, at the same time, substantial fiscal savings. Social safety nets that target poor households—such as conditional or unconditional cash transfers, in-kind transfers, or nongeneralized price subsidies—are more efficient than generalized price subsidies. Moreover, because targeted social safety nets are more cost-effective, they leave more fiscal resources for other priority spending, such as investment in infrastructure, education, and health, which would also benefit the wider population.

Removing generalized price subsidies and replacing them with more equitable and efficient social safety net instruments pose, however, a number of challenges. The removal of subsidies will in the short term have inflationary effects and adversely affect the competitiveness of industries that rely on subsidized products and services as inputs. However, in the medium term, subsidy reform will have positive effects on growth by eliminating distortions, rationalizing energy use, increasing export revenues in oil exporters, enhancing competitiveness, and strengthening budget structure.

Perhaps the biggest challenges to subsidy reform arise from its political economy aspects. Beneficiaries of the status quo will resist losing the tangible benefit that subsidies provide. Obstacles can take the form of resistance from a small but organized group of potential losers from reform, the tension between the immediate loss of subsidies and the future benefit from more targeted and efficient social spending, and the lack of trust in the state's capacity to introduce and manage social safety nets. These areas of resistance can be addressed through appropriate reform elements, primarily transparency as to the cost and beneficiaries of subsidies, and effective communication of the advantages of reform.

Successful subsidy reforms that overcome these challenges share common features. Reforms are considered successful if they deliver better support to the poor and achieve significant and durable budgetary or quasi-fiscal savings, while avoiding social and political disruptions that could lead to reversal of the reform. Although experience shows that there is no single recipe for success—and indeed governments should tailor reform strategies to individual country situations—a cross-country study of subsidy reforms finds that initial economic, social, and political conditions are important, and identifies a number of factors that have often accompanied successful episodes:

- Thorough preparation, including clear diagnostics and careful planning of the pace and breadth of reform. In this regard, the role of partners—in particular, technical assistance from international stakeholders to help guide governments in designing, sequencing, and implementing the reform—is key;
- Strong ownership and commitment of the government to reform, which can be achieved by building consensus for reform, involving key stakeholders such as political parties, civil society, and the private sector, and communicating clearly and effectively to publicize the costs of subsidy systems, who benefits from them, and the benefits of the reform;
- The introduction or scaling up of effective social safety nets to mitigate the impact of subsidy reform on the vulnerable;
- Favorable economic conditions, particularly higher economic growth; and
- A multiparty government that builds consensus for reform among different parties, and, therefore, makes reform less likely to be reversed.

Experience also indicates that there are measures that can be taken in parallel or in advance of launching comprehensive reform, to prepare the ground

for future action. In particular, governments can improve transparency and awareness about the costs and beneficiaries of subsidies, and gather data and information on household consumption and poverty that will help establish or improve social safety nets. Past reform cases have shown that it takes several years for the preparation, consensus building, and implementation of well-designed subsidy reforms. Thus, governments should start acting now to prepare the ground to achieve successful and durable reform later.

Introduction

The Middle East and North Africa (MENA) region is going through a period of unprecedented change.¹ Political transitions—ranging in intensity from gradual reforms of the existing order to full-fledged transitions—are under way in a number of countries as their populations seek more voice and broader participation in political and economic life.

Governments are under pressure to urgently address the need for greater access to economic opportunity. The momentum for political reform has been driven in part by widespread dissatisfaction with social outcomes and frustration at the lack of economic opportunities. As a result, governments are expected to promote policies that will help achieve economic inclusion and afford more effective support to the poor and vulnerable.

At the same time, the region is confronting an adverse economic environment. In many countries, increased uncertainty and insecurity—short-term costs associated with the ongoing political transformations—have weighed on investment, tourism, and economic activity more generally. In addition, MENA oil importers have had to grapple with high commodity prices, lower global growth, and negative spillovers from the crisis in the euro area.

The challenging economic environment and rising social demands have increased risks to macroeconomic stability. Governments have responded to high commodity prices and growing social hardship by increasing current spending—including on wages and food and fuel subsidies—even as revenues faltered. As a result, fiscal deficits in oil-importing countries increased in 2012 to about 8.5 percent of GDP on average from 5 percent in 2009, levels that are increasingly difficult to sustain.² Even in oil-exporting countries, which

¹ In this paper, MENA oil importers include Djibouti (DJI), Egypt (EGY), Jordan (JOR), Lebanon (LBN), Mauritania (MRT), Morocco (MAR), Sudan (SDN), Syria (SYR), and Tunisia (TUN). Oil exporters include Algeria (DZA), Bahrain (BHR), Iran (IRN), Iraq (IRQ), Kuwait (KWT), Libya (LBY), Oman (OMN), Qatar (QAT), Saudi Arabia (SAU), United Arab Emirates (UAE), and Yemen (YEM).

² Fiscal balances in this paper include grants.

have performed relatively well, expansionary policies have pushed fiscal and current account breakeven oil prices upwards.

Subsidy reform could help reconcile the two seemingly conflicting needs of strengthening social protection and consolidating fiscal positions. Price subsidies are large in most MENA countries, because they often constitute governments' main instrument for providing social protection and support for certain industrial sectors and, in oil exporters, a way to share the wealth. At the same time, however, a large share of the subsidies does not reach the neediest segments of the population, and their cost has become a burden that many countries cannot afford. Furthermore, subsidies introduce distortions that weigh on economic potential, employment, and the environment. Governments could improve social protection, generate substantial fiscal savings, and build the basis for stronger growth by replacing subsidies with better-targeted social safety net instruments, especially cash transfers.

This paper focuses on subsidy reform in MENA countries, building on the work by Clements and others (2013), which was based on an IMF Board paper on energy subsidy reform, prepared jointly by the Fiscal Affairs department, the African department, and the Middle East and Central Asia department. That study fully brought subsidy reform into the fold of fiscal policy recommendations. It presented estimates of energy subsidies for all countries in the world for 2011, summarized the negative consequences of subsidies, reviewed experience with subsidy reform, and identified the ingredients for successful subsidy reform. Further analyzing key themes of the joint paper, the present study:

- Reviews the main features of fuel, electricity, and food subsidies in the MENA region, and provides estimates for subsidies on diesel and gasoline for 2012;
- Refines the analysis of the “factors for success” and the policy recommendations through an empirical analysis that relies on 25 episodes of subsidy reform in 15 countries in MENA and elsewhere;
- Looks at recent and ongoing reform episodes in the MENA region prompted by the social and fiscal pressures partly associated with the Arab transition, investigates the extent to which the recent reforms incorporate the “factors of success,” and lays out recommendations for deepening and extending subsidy reform;
- Examines in more depth selected topics of particular interest to the MENA region, namely social safety nets, the macroeconomic impact of subsidy reform, effects on the productive sector, and the political economy of subsidy reform.

CHAPTER

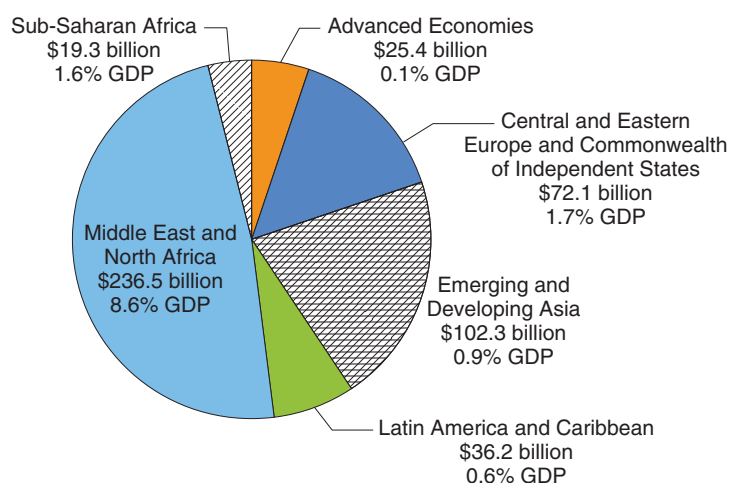
2

Subsidies in the Middle East and North Africa: Widespread and Expensive

The Cost and Role of Subsidies in the Middle East and North Africa Countries

Subsidies are common in many developing and emerging countries; they are particularly pervasive in the Middle East and North Africa (MENA), where all countries subsidize the prices of certain products, typically fuels, electricity, and food.¹ According to IMF estimates, pretax energy subsidies in the region amounted to \$237 billion in 2011, equivalent to 48 percent of world subsidies, 8.6 percent of regional GDP, or 22 percent of government revenue (Figure 2.1 and Box 2.1).²

Figure 2.1. MENA: Total Pretax Energy Subsidies by Region, 2011¹
(\$492 billion; 0.7 percent of GDP)



Source: Clements and others (2013).

¹ Includes petroleum, electricity, natural gas, and coal subsidies.

¹ This chapter mostly relies on 2011 data, which are the latest complete dataset; therefore, it does not reflect the impact of the latest reforms covered in Chapter 4.

² Because of the calculation methodology used to allow for cross-country comparisons, subsidy estimates may differ from subsidy spending recorded in individual countries' government budgets, and, therefore, from those reported in Annex 2.

Box 2.1. What are Price Subsidies and How are They Measured?

A consumer subsidy arises when government intervention reduces the price of a product below the market price that would otherwise have prevailed. Measuring the cost of subsidies uniformly across countries is challenging because some of their cost may be borne by entities other than the general budget (“implicit subsidies”), because fiscal reporting may follow different methodologies across countries or suffer from weaknesses, and because of limited data availability.

The unit subsidy is calculated, in general, as the difference (“gap”) between the actual selling price of a product or service and a benchmark price that reflects the free market value.

Determining the appropriate benchmark price to establish the cost of subsidies is often a challenge. This is especially the case for products that are not easily traded (e.g., electricity) for which the relevant benchmark is the cost recovery price, including a normal return to capital and distribution costs. But even for widely traded commodities, such as fuels, the appropriate benchmark price has to be chosen carefully. For instance, in oil-producing countries, the appropriate benchmark price is the international or border fuel price, because the country would generally incur an opportunity cost if it simply sold the fuel at the domestic production cost.¹

Taxation plays a key role in determining the cost of subsidies. The price of a product (e.g., gasoline) may be set at a level that covers its production and other costs, but not the tax that would normally prevail on such a good. In this case, in “pretax” terms, the good is not subsidized, but it is, in “posttax” terms, because the government forgoes tax revenues.

Subsidies are not always visible. Interventions to reduce the price of goods and services can be channeled through budget transfers directly to consumers or producers (explicit subsidies) or through administrative setting of prices without compensating budget appropriations (implicit subsidies). The cost of implicit subsidies is borne by (often state-owned) producers and distribution companies. If left in place long enough, such subsidies will affect the financial position of these firms, their investment and maintenance capacities, and the quality of the service they provide.²

Price-Gap Methodology to Measure the Cost of Energy Subsidies

The gap between the subsidized price and a benchmark price (the latter is defined as the supply cost of an energy product, including transport and distribution costs), which reflects the opportunity cost or the straight loss, is a good measure of price subsidy, whether implicit or explicit (Koplow, 2009). It can be written as:

¹ The border price would be adjusted for market exchange rates, transport and distribution costs, and the desired/prevalent taxes.

² A common form of implicit subsidy is *cross-subsidization* (e.g., between different petroleum products), which involves financing the subsidies of goods or services to one group of customers by charging higher prices to other customers (typically, for utilities).

Box 2.1. (concluded)

$$(1) \quad PG = RP - BP$$

where PG is the price gap, RP the retail or consumer price of a product, and BP the product's benchmark price. A pretax subsidy arises whenever retail (consumer) prices are lower than the benchmark price.

$$(2) \quad \text{Pretax subsidy per unit} = -PG = BP - RP, \text{ if } RP < BP; = 0 \text{ otherwise}$$

When the tax on the energy product is set below the desirable taxation levels, this can give rise to posttax subsidy. The latter is derived as the gap between the benchmark price augmented by the desirable taxation T^* and the consumer price:

$$(3) \quad \text{Posttax subsidy per unit} = BP + T^* - RP, \text{ if } RP < BP + T^*; = 0 \text{ otherwise}$$

The total cost of subsidies can be obtained by multiplying the per unit subsidy with the estimated consumption volume over the period of time under consideration (e.g., one quarter or one year).

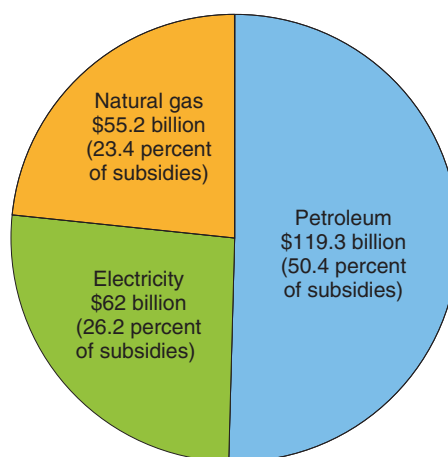
In some approaches, desirable taxation of fuel is set at the efficient level that encompasses a tax for externalities and a revenue component (Clements and others, 2013). In practice, the share of taxes in consumer prices varies widely across countries, reaching 11 percent in the United States and almost 50 percent on average among European Union countries. For the sake of simplicity and illustration, we calculate posttax subsidies for Middle East and North Africa countries using a 20 percent share of fuel taxes in the retail price, abstracting from assumptions on the breakdown between fiscal revenue and externality components.

In MENA, energy subsidies account for the bulk of subsidies. About 50 percent of the total cost of pretax energy subsidies (\$119.3 billion or 4.3 percent of GDP) is related to petroleum products, another 23 percent (\$55.2 billion or 2 percent of GDP) to natural gas, and 26 percent (\$62 billion or 2.3 percent of GDP) to electricity (Figure 2.2). In contrast, food subsidies amounted to \$21.6 billion or 0.7 percent of GDP in 2011. In addition, many countries maintain subsidies on water, financial products, medicines, housing, and other products and services that are difficult to measure and are not included in the overall estimate provided above.

The cost of providing subsidies has been rising since 2009 after the fall in commodity prices in the aftermath of the global financial crisis (Figure 2.3). For 2012, preliminary IMF estimates show that pretax subsidies on diesel and gasoline, which represent about half of total energy subsidies, reached 3.8 percent of regional GDP, up from 2.9 percent in 2009.³

³ Calculations are based on annual average of quarterly domestic petroleum prices.

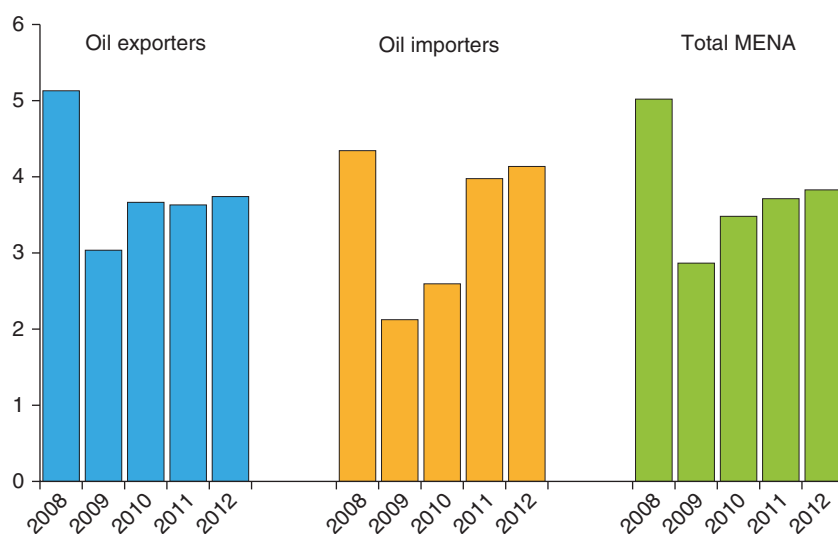
Figure 2.2. MENA: Total Pretax Energy Subsidies by Product, 2011¹
 (\$236.5 billion; 8.6 percent of GDP; 22 percent of revenues)



Source: Clements and others (2013).

¹ Includes petroleum, electricity, and natural gas.

Figure 2.3. MENA: Total Pretax Subsidies on Diesel and Gasoline, 2008–12
 (In percent of GDP)



Sources: National authorities; and IMF staff calculations.

Governments rely on subsidies to meet several objectives:

- Supporting real incomes and fighting poverty through low prices on widely consumed products. Subsidies, directly on these products or on inputs used for their production, are thus perceived as a form of social protection, often compensating for the absence of comprehensive and adequate social security systems;

- Shielding the population from shocks caused by large swings in commodity prices, particularly in fuel-importing countries;
- In oil-producing countries, distributing natural resource wealth among the population. Subsidies are a sort of generalized “in-kind” transfer to address the citizens’ expectations of sharing in their countries’ wealth; and
- Boosting certain industries and supporting employment in the private sector, in the form of producer subsidies, such as below-market-price energy inputs. Subsidies can also result from the losses incurred by state-owned enterprises as a result of inefficiencies and provision of goods and services at subsidized prices.

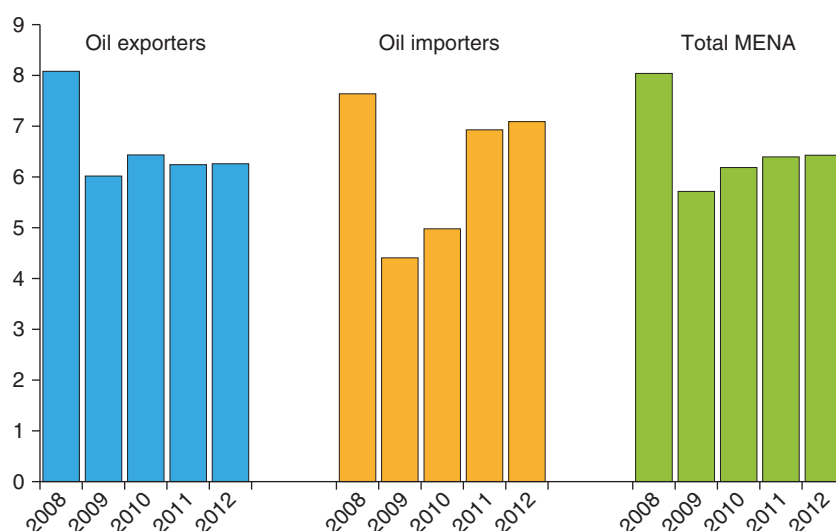
A Taxonomy of Subsidizing Countries

The most common type of subsidy in MENA countries is the generalized price subsidy, whereby products are made available at artificially low prices to the entire population. Countries with pretax subsidies also have positive posttax subsidies. But posttax subsidies do not necessarily imply pretax subsidies. In this light, countries can be broadly classified in three categories:

- Countries that set the prices of goods and services below the cost of importation or domestic production, and cover the ensuing pretax subsidies through fiscal or quasi-fiscal resources (e.g., electricity in Lebanon and petroleum products in Egypt);
- Countries where prices are set high enough to cover goods and services’ supply costs, but not enough to be consistent with prevailing tax rates, giving rise to a posttax subsidy in the form of foregone tax revenues (Figure 2.4).⁴ Some countries have automatic price adjustment mechanisms for certain products (especially fuels, as is the case in Jordan, Mauritania, and Morocco), which help the price to cover import costs, giving rise to posttax subsidies. Other countries have high taxation of subsidized products but fixed-price-setting or ad hoc mechanisms (Tunisia, until recently), with the consequence that international price increases could ultimately erode tax revenues and even lead to pretax subsidies; and
- Natural resource-rich countries where domestic fuel prices are below international prices, reflecting the low cost of domestic extraction. For

⁴For a discussion on taxation, see Box 1.

Figure 2.4. MENA: Total Posttax Subsidies on Diesel and Gasoline, 2008–12
(In percent of GDP)



Sources: National authorities; and IMF staff calculations.

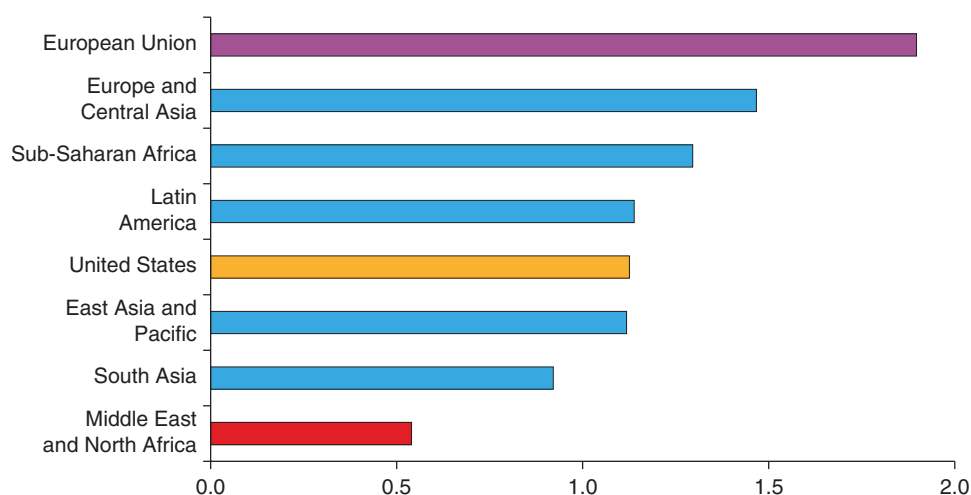
this reason, in oil-producing countries low fuel prices are often not seen as subsidies. In these cases, subsidization arises from the double opportunity cost of not exporting the oil or gas at international prices (now or in the future) and not taxing it. Some of these countries also incur fiscal losses, typically on imported refined products such as gasoline.

Fuels

In most MENA countries, fuel prices are low by international comparisons. On average, diesel and gasoline prices in the MENA region are lower than in any other region (Figure 2.5). Gasoline and diesel prices are below the lowest price in the European Union, and in a majority of countries, prices at the pump are lower than the prices in the United States. Fuel prices are particularly low in oil-exporting countries, reflecting low cost recovery and implying a large deviation relative to international market prices.

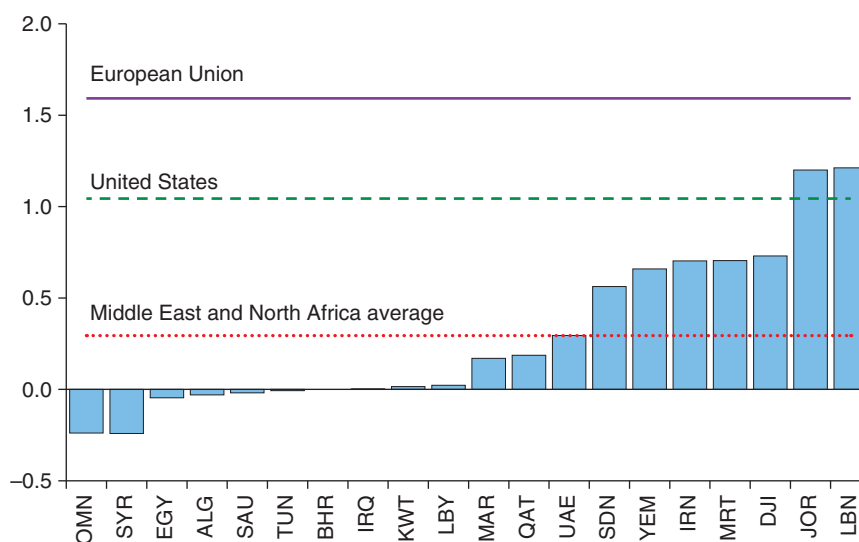
Most MENA countries have only passed a small portion of the price increase to domestic markets since the last trough in global prices of petroleum products in March 2009. By comparison, prices were fully passed through in the United States, while in the European Union prices at the pump rose 50 percent more than international prices, reflecting the impact of ad valorem fuel taxes (Figures 2.6 and 2.7).

Figure 2.5. Average Diesel Price, End-December 2011
(In dollars per liter)



Sources: *Deutsche Gesellschaft für Internationale Zusammenarbeit*; and IMF, Fiscal Affairs Department database.

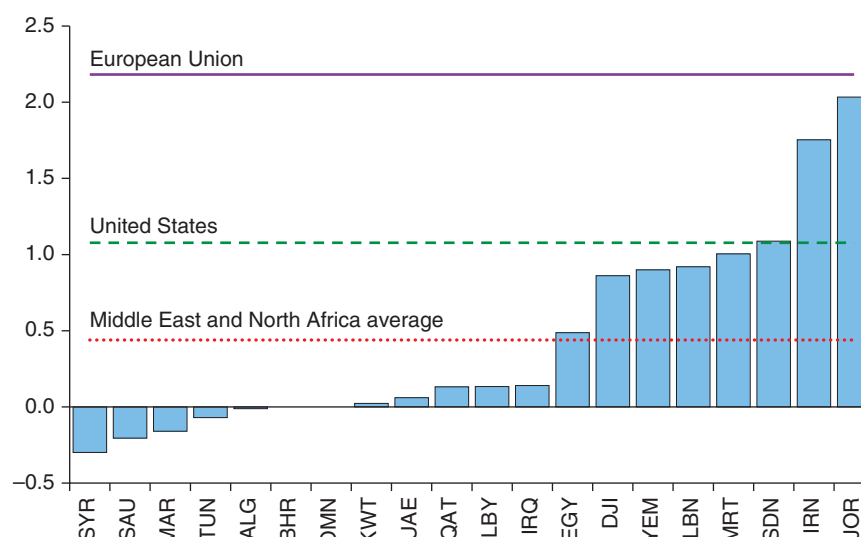
Figure 2.6. MENA: Diesel Pass-Through to Domestic Price
(Mar. 2009–Dec. 2012)



Sources: National authorities; and IMF staff calculations.

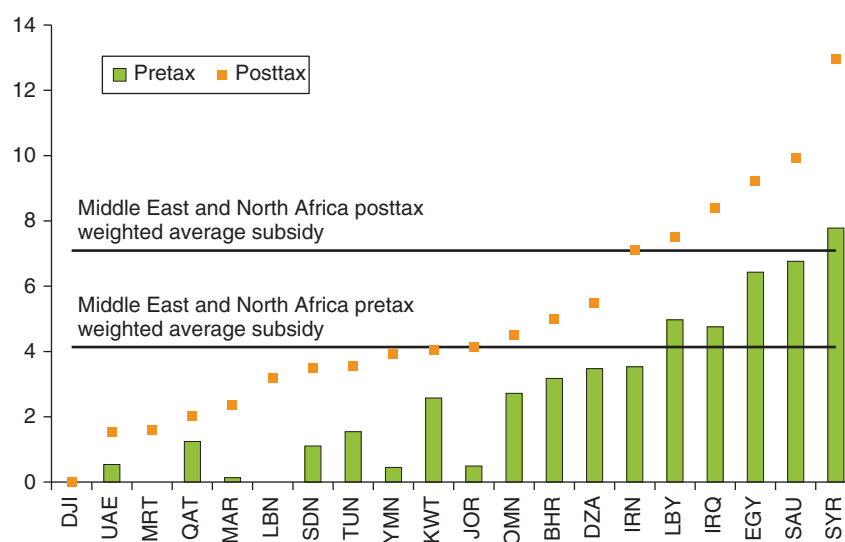
There is a wide dispersion of subsidies in the region, with subsidies being more prevalent in oil exporters (Figure 2.8). In 2012, pretax subsidies on diesel and gasoline exceeded 3 percent of GDP in 40 percent of the countries in the region, while posttax subsidies exceeded 3 percent in 75 percent of the countries.

**Figure 2.7. MENA: Gasoline Pass-Through to Domestic Price
(Mar. 2009–Dec. 2012)**



Sources: National authorities; and IMF staff calculations.

**Figure 2.8. MENA: Total Subsidies on Diesel and Gasoline, 2012
(In percent of GDP)**



Sources: National authorities; and IMF staff calculations.

Electricity

Electricity subsidies are widespread in the MENA region, but their magnitude is difficult to estimate with precision because of lack of data and the complexity of subsidization modalities. Generally, subsidies arise when electricity revenues are below production costs. This may occur when tariffs are set below cost recovery

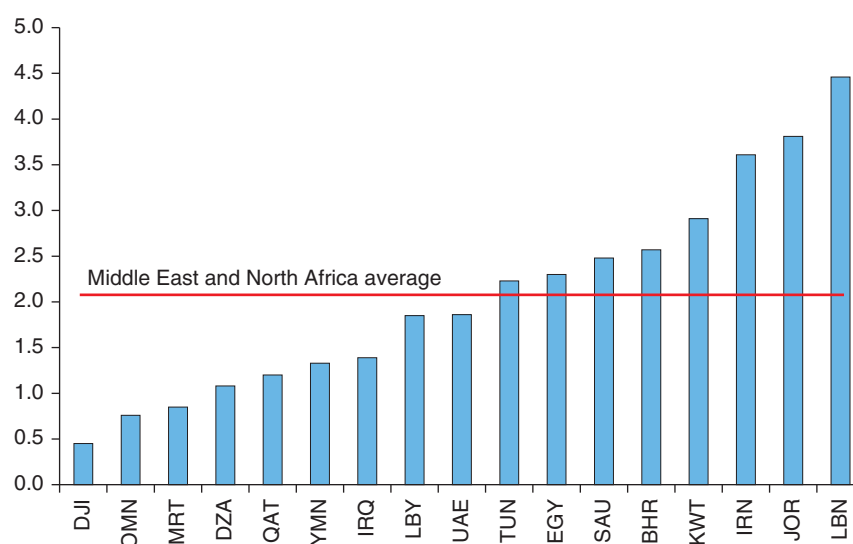
levels, when illegal connection and leakages are widespread, or when revenue collection is low, reflecting the so-called nontechnical losses. Pretax electricity subsidies are above 2 percent of GDP in close to half of the MENA countries, with Lebanon and Jordan bearing the highest subsidy bill in 2011 (Figure 2.9).

Food

Three-fourths of MENA countries record food subsidies on their budgets. Food subsidies are generally less costly than fuel and electricity subsidies. In 2011, in nine countries, they represented less than 1 percent of GDP; they are, however, important in Iraq, Syria, and Egypt, where they represented more than 2 percent of GDP (Figure 2.10). Food subsidies often arise from government-managed sale of foodstuffs at below-market prices, but can take more complex modalities, such as in-kind transfers or government production and distribution of food products. In addition, as is the case in several countries across the world, basic food products are either exempt or subject to a lower consumption tax rate. Focus on those basic food items, which are mostly consumed by the poor, takes advantage of the self-targeting features of these items and thus limits budget costs and economic distortions.

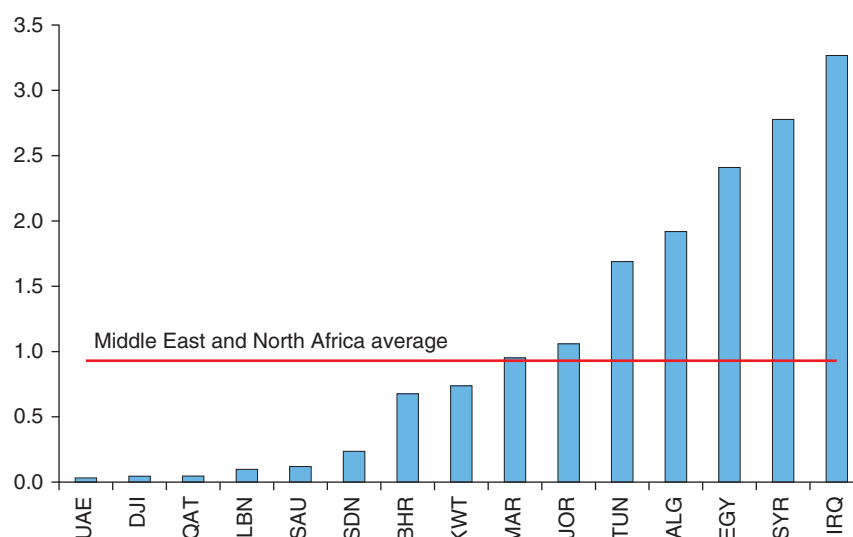
In Iraq, the government provides an in-kind staple ration to every household as a basic social safety net; it includes rice, cooking oil, flour, and milk powder. The costs of this Public Distribution System are recorded in the government budget and, in 2012, amounted to almost \$5 billion, equivalent to more than 2 percent of GDP, falling from over 3 percent in 2011.

Figure 2.9. Pretax Electricity Subsidies in MENA Countries, 2011
(In percent of GDP)



Source: Clements and others (2013).

Figure 2.10. Food Subsidies in MENA Countries, 2011
(In percent of GDP)



Sources: National authorities; and IMF staff calculations.

- In 2008, the government of Djibouti exempted five basic food items (rice, edible oil, sugar, flour, and powdered milk) from indirect taxes to offset the world food price shock, implying a loss in indirect tax revenue of about 0.5 percent of GDP. In 2009, the government started to cultivate agricultural land in Ethiopia and Sudan to address the population's structural lack of access to food and stabilize domestic food prices. The IMF estimates the cost of this program at 0.1 percent of GDP.

Because market prices for food staples are difficult to track, the cost of food subsidies (e.g., the difference between the production/distribution cost and the administered price) is estimated in this paper mostly based on spending recorded in national budgets. Actual costs are likely to be higher, because in some countries subsidies are being absorbed by institutions that are not part of the budget. In many cases, governments set administered prices on certain items supposedly consumed by poor households: bread, for example, in Egypt, Lebanon, and Tunisia. The cost of the subsidy may be borne by private producers, in which case, besides not being recorded on the budget, it might not be directly compensated by the government.

Disadvantages of Generalized Subsidies

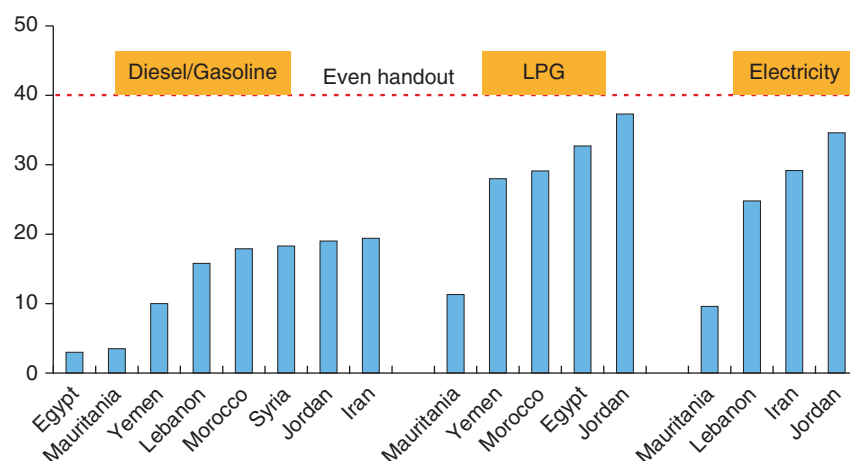
Despite the popularity of price subsidies with governments and populations alike, subsidies create a number of problems, of which cost is only the most apparent.

Limited Effectiveness as a Social Protection Tool

International experience has shown that generalized price subsidies do not always reach the most vulnerable segments of the population.⁵ Even when subsidies reach a substantial portion of the poor, most of the benefits still accrue to the well-off. Numerous studies, including some by IMF staff, show that middle- and high-income groups receive the largest share from energy subsidies, partly because of higher consumption levels and the higher rates of car ownership and connection to the national electricity grid among these segments of the population.⁶ Food subsidies are somewhat better targeted than fuel subsidies, reflecting the use of self-targeting mechanisms such as quality differentiation (because subsidized lower-quality items are more likely to be consumed by the poor) and food rationing/queuing schemes. Still, food subsidies are generally not better targeted than a uniform cash handout to the entire population. We will analyze alternative social safety nets in Chapter 5.

- The share of subsidy spending on kerosene, liquefied petroleum gas, and food that accrues to the poor tends to be higher than for diesel, gasoline, and electricity, but there is wide variation across countries (Figures 2.11 to 2.14).

Figure 2.11. Share of Energy Subsidies Benefiting the Bottom 40 Percent of the Population¹
(Direct effect)



Sources: World Bank/United Nations Development Program Energy Sector Management Assistance Program (2005); IMF and World Bank reports; Salehi-Isfahani and others (2013); and IMF staff calculations.

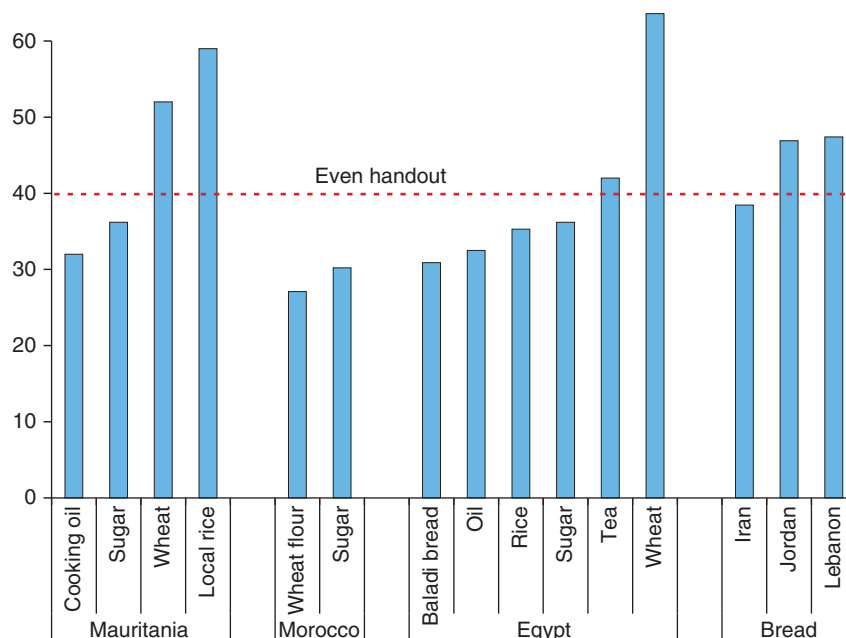
Note: LPG = liquefied petroleum gas.

¹ Based on household surveys conducted between 2003 and 2009.

⁵ Coady and others (2010), Komives and others (2007), Komives and others (2005), and Arze del Granado, Coady, and Gillingham (2010).

⁶ Plante (2014) takes a different angle, suggesting that subsidies cause a welfare loss (equivalent to 3 percent of GDP for subsidies spending of 10 percent of GDP) driven by the distortions in relative prices created by subsidies rather than by the means of financing them.

Figure 2.12. Share of Food Subsidies Benefiting the Bottom 40 Percent of the Population¹ (Direct effect)

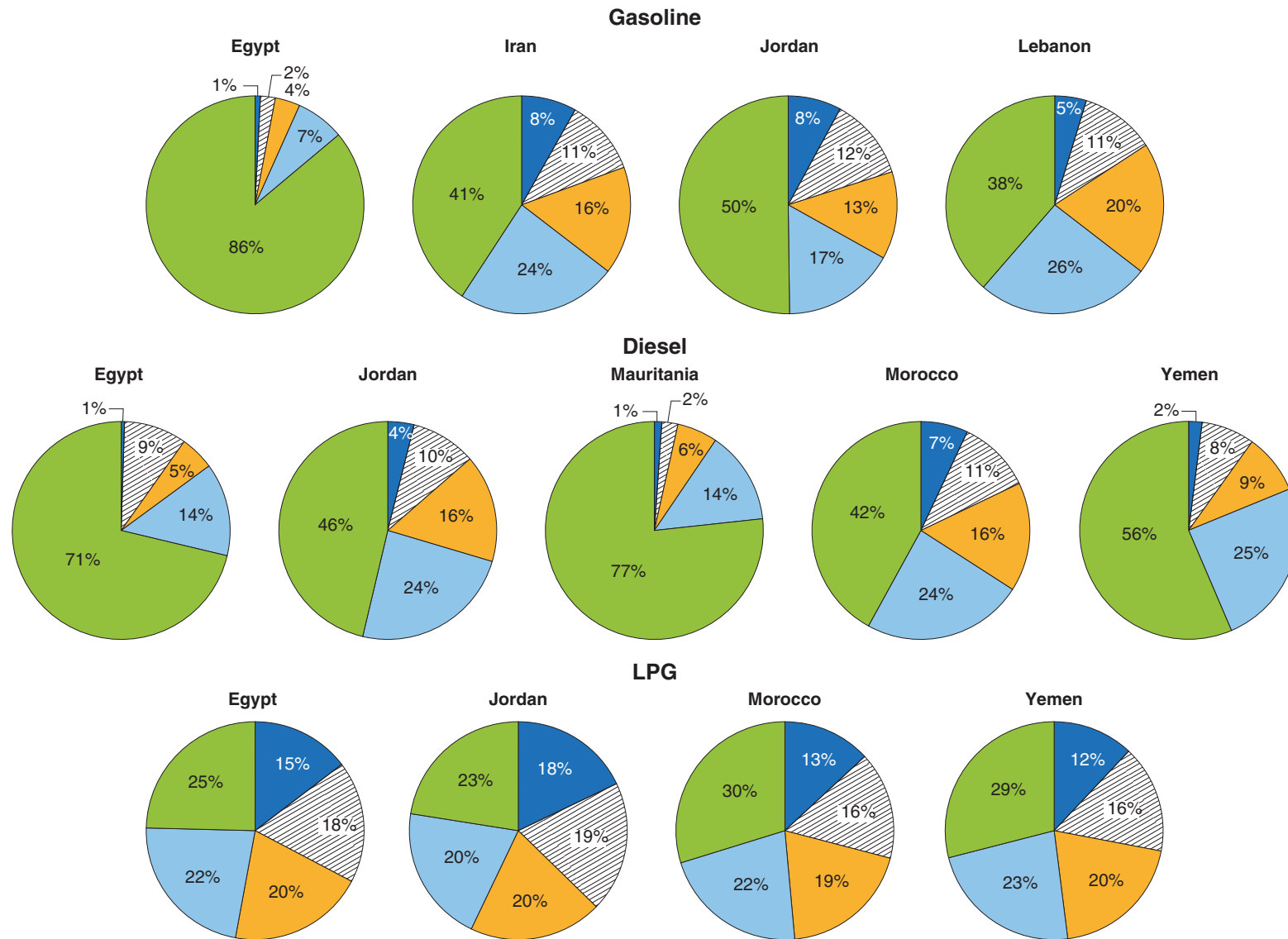


Sources: IMF and World Bank reports; Salehi-Isfahani and others (2013); and IMF staff calculations.

¹ Based on household surveys conducted between 2004 and 2009.

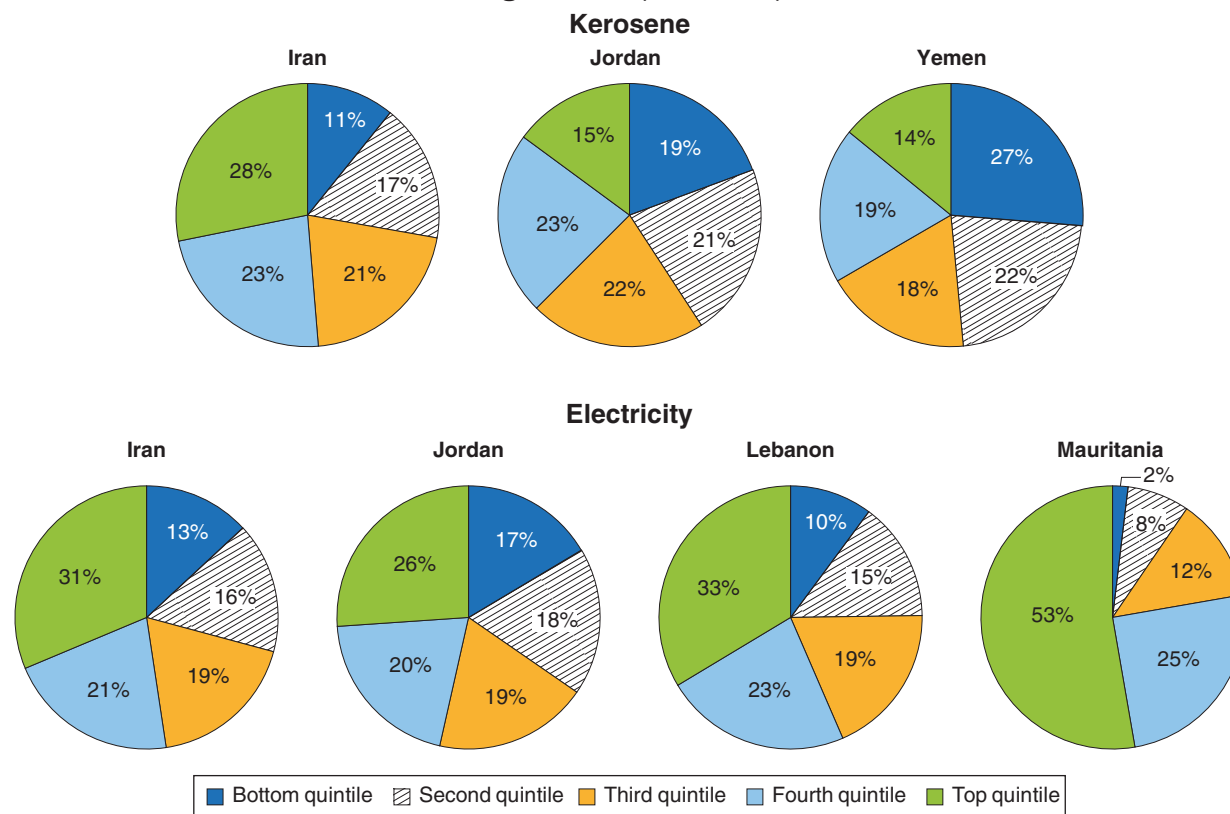
- The poorest quintile in Egypt, Iran, Jordan, and Lebanon received only 1 percent to 8 percent of total gasoline subsidies, while the richest quintile received subsidies of 38–86 percent of the total, according to household surveys conducted in 2004–10.
- According to household surveys conducted in 2003–09, the poorest quintile in Egypt, Jordan, Mauritania, Morocco, and Yemen received only about 1 percent to 7 percent of total diesel subsidies (direct effect), while the richest quintile received subsidies of 42–77 percent of the total.
- Incidence of fuel subsidies can vary according to the subsidized product. In Egypt, according to a household survey conducted in 2008–09, the poorest 40 percent of the population received only 3 percent of direct gasoline subsidies, 7 percent of natural gas subsidies, and 10 percent of diesel subsidies.
- Similarly, energy subsidies received by Jordan's richest quintile were about 20 percentage points higher than those received by the poorest quintile, according to a 2008 household survey. The leakage of subsidy benefits to rich households was most pronounced in the cases of gasoline and diesel subsidies, where the richest quintile received nearly 6½ (12) times more in gasoline (diesel) subsidies than the poorest quintile.

Figure 2.13. Share of Benefits from Energy Subsidies in Selected MENA Countries¹
(Direct effect)



(Continued)

Figure 2.13 (concluded)

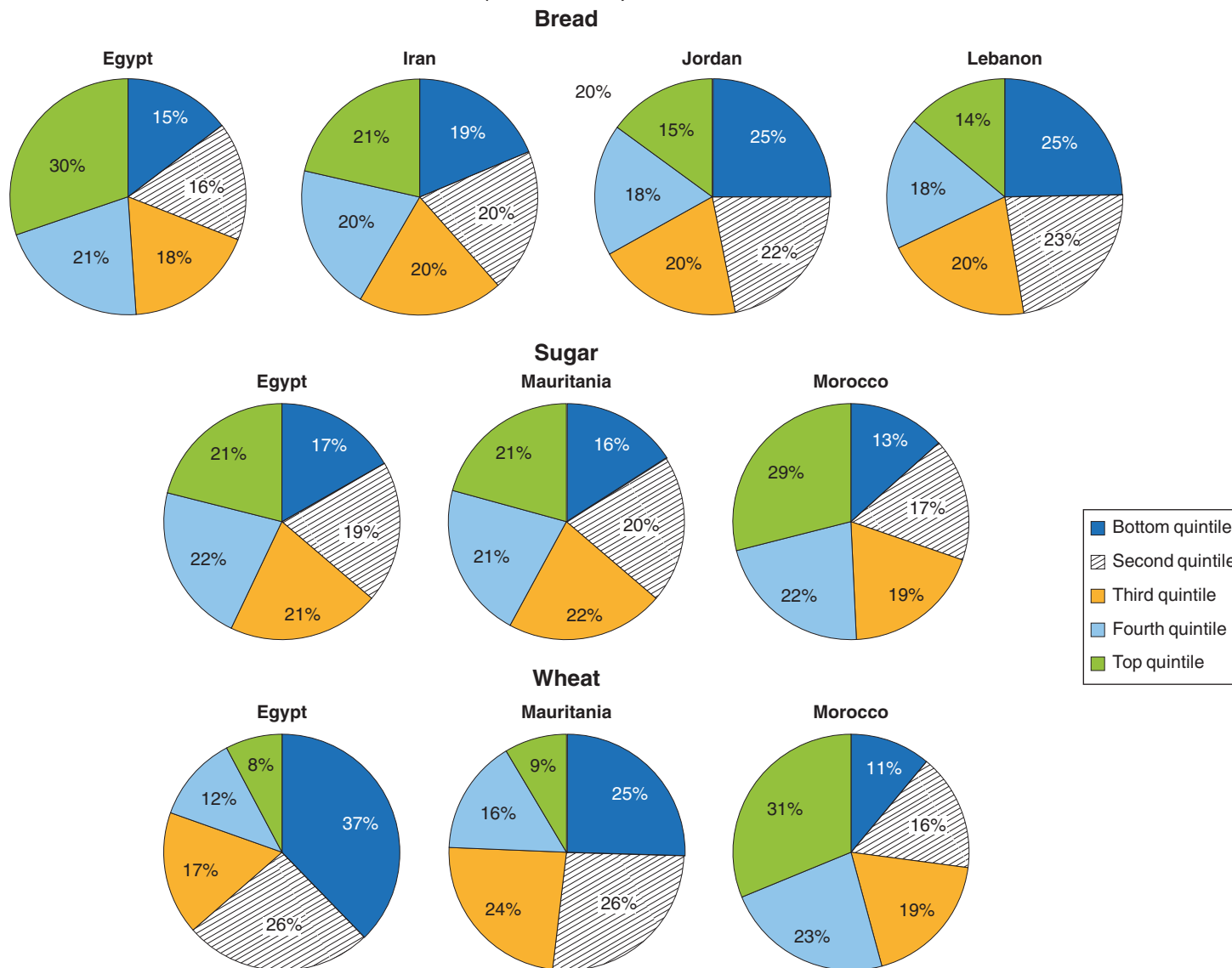


Sources: World Bank/UN Development Program Energy Sector Management Assistance Program (2005); IMF and World Bank reports; and Salehi-Isfahani and others (2013).

Note: LPG = liquefied petroleum gas.

¹ Based on household surveys conducted between 2003 and 2009.

Figure 2.14. Share of Benefits from Food Subsidies in Selected MENA Countries¹
(Direct effect)



Sources: IMF and World Bank reports; and Salehi-Isfahani and others (2013).

¹ Based on household surveys conducted between 2004 and 2009.

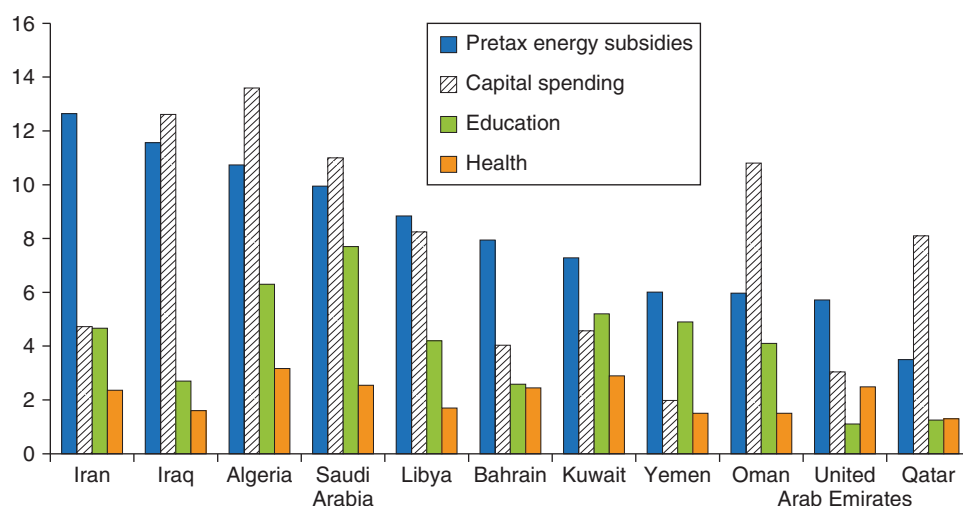
- In Tunisia, the benefits of energy subsidies accrue mostly to high-income households. The highest-income households benefit almost 40 times more from energy subsidies than do the lowest-income ones.
- Food subsidies are better targeted than energy subsidies. In Egypt, Iran, Jordan, and Lebanon, the poorest quintile received bread subsidies equivalent to 15–25 percent of the total, according to surveys conducted in 2004–10. But even food subsidies still mostly benefit the nonpoor: in Egypt, nearly 50 percent of the subsidy on baladi bread goes to the top 40 percent of the income distribution.

High Fiscal Burden

Subsidies entail high fiscal or quasi-fiscal costs and crowd out budgetary space for productive spending (Figures 2.15 and 2.16). In about half of MENA countries, total pretax energy subsidies were higher than capital spending in 2011. In all oil exporters, total pretax energy subsidies exceeded spending on education and on health, while in Egypt, Jordan, and Lebanon spending on total pretax energy subsidies was higher than spending on capital, health, or education.

Moreover, when subsidies are provided through fixed prices, they can lead to substantial budgetary uncertainty, as fiscal costs will fluctuate with global commodity prices.

Figure 2.15. MENA Oil Exporters: Total Pretax Energy Subsidies, Capital and Social Spending, 2011^{1,2}
(In percent of GDP)

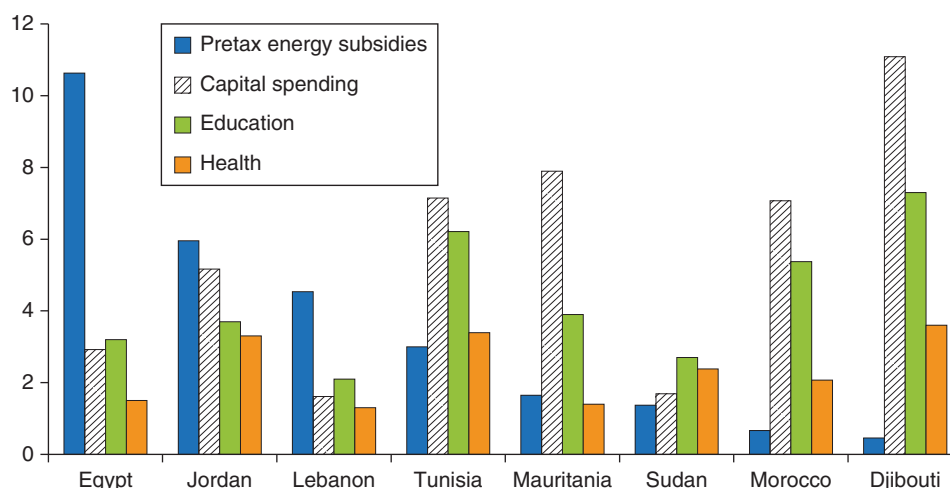


Sources: Clements and others (2013); Middle East and Central Asia Regional Economic Outlook database; and World Bank World Development Indicators database.

¹ Includes petroleum, electricity, and natural gas subsidies.

² Education and health refer to data ranging between 2007 and 2011.

Figure 2.16. MENA Oil Importers: Total Pretax Energy Subsidies, Capital and Social Spending, 2011^{1,2}
(In percent of GDP)

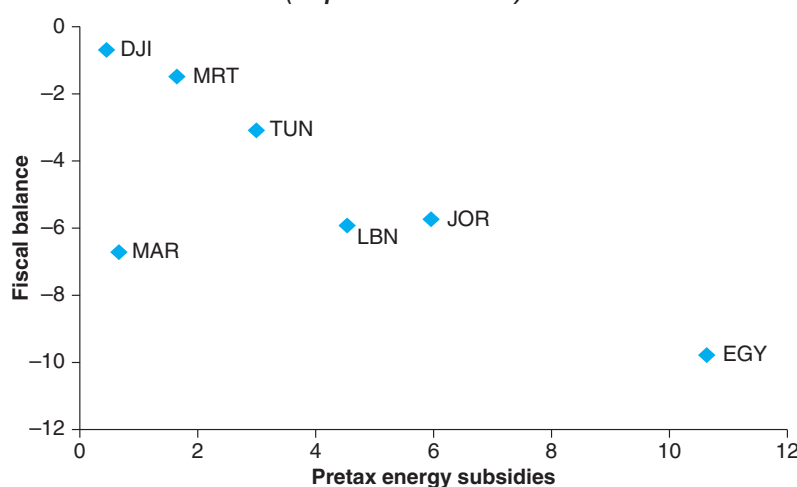


Sources: Clements and others (2013); Middle East and Central Asia Regional Economic Outlook database; and World Bank World Development Indicators database.

¹ Includes petroleum, electricity, and natural gas subsidies.

² Education and health refer to data ranging between 2007 and 2011.

Figure 2.17. MENA Oil Importers: Ratios of Fiscal Balance and Total Pretax Energy Subsidies to GDP, 2011
(In percent of GDP)



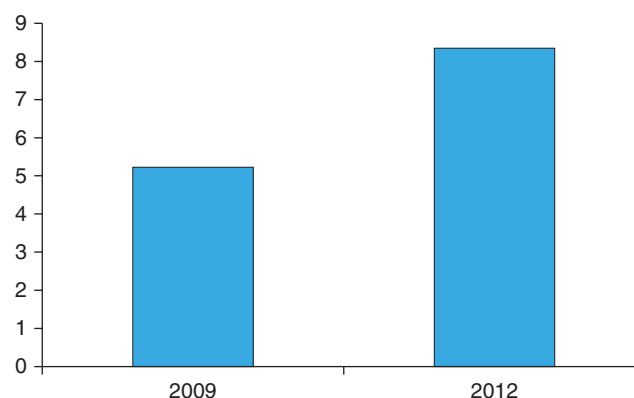
Sources: Clements and others (2013); and IMF World Economic Outlook database.

Generalized subsidy schemes are unlikely to be sustainable over time in many countries, as they weigh heavily on already vulnerable fiscal positions (Figure 2. 17).

In oil-importing countries, budget deficits have increased significantly in the past five years, often against the backdrop of large and rising public debt levels. The average public debt level in MENA oil importers increased from 70 percent of GDP in 2009 to 79 percent in 2012. Fiscal consolidation is needed to reconstitute the current low fiscal buffers and, given the size of subsidies, a gradual process of rationalization and better targeting of social protection spending (Figures 2.18 to 2.19).

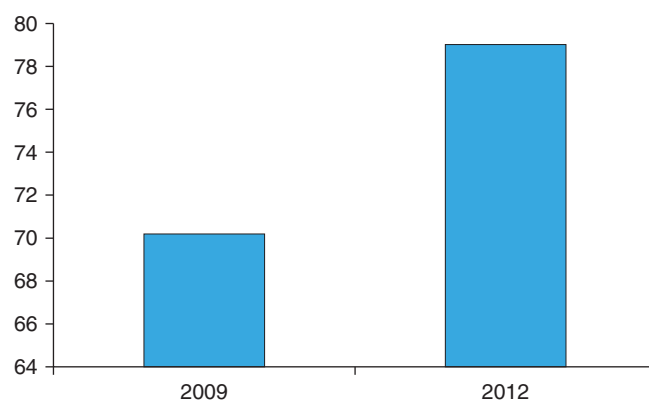
In oil-exporting countries with abundant reserves, solvency is not a concern in the short term. However, generous government handouts have pushed up fiscal breakeven oil prices—that is, the prices at which the fiscal balance is zero—to unprecedented levels, creating an important vulnerability should oil prices fall significantly (Figure 2.20). Foregone tax revenues on oil products contribute to this vulnerability. Moreover, energy subsidies also encourage

Figure 2.18. MENA Oil Importers: Fiscal Deficit, 2009 and 2012
(In percent of GDP)



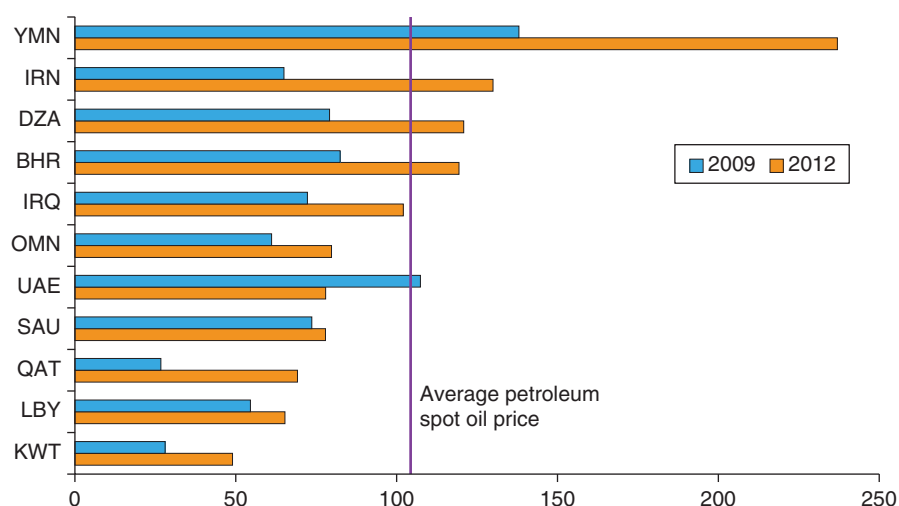
Source: IMF World Economic Outlook database.

Figure 2.19. MENA Oil Importers: Public Debt, 2009 and 2012
(In percent of GDP)



Source: IMF World Economic Outlook database.

Figure 2.20. Fiscal Breakeven Oil Prices
(In dollars per barrel)



Source: Middle East and Central Asia Regional Economic Outlook database.

overconsumption, which leads to lower oil exports, deterioration of the balance of payments, and fewer resources for future generations.⁷

Procyclical Aspects of Subsidy Spending

Energy subsidies are procyclical and in some cases can give fiscal policy a procyclical bias.⁸ In MENA countries, the elasticity of energy consumption to growth was about 1 over the period 1980–2011, significantly higher than the world average (Table 2.1). This suggests that, in the region, energy subsidies are positively correlated with real GDP growth. Moreover, energy consumption elasticity is higher in MENA oil exporters, which can be explained by their lack of incentives to be energy-efficient, reflecting their large subsidies. In these countries, the positive correlation between growth

Table 2.1. Regression Coefficient of Energy Use on Real GDP, 1980–2011 Panel Regression

All (163 countries)	Middle East and North Africa		
	Total	Oil Exporters	Oil Importers
0.764	1.080	1.293	0.924

Sources: World Bank World Development Indicators database; and IMF staff calculations.

⁷ International Institute for Sustainable Development (2012) and Krane (2013).

⁸ Assessing co-movements between energy subsidies and growth is difficult because of the lack of historical data on subsidies. However, given the low frequency of fuel price adjustment, the paper employs the energy consumption time series, estimated by the World Bank, as a proxy for energy subsidies, to analyze co-movement properties.

and world oil prices further amplifies the procyclicality of subsidies: higher oil prices translate into a larger gap between domestic and world prices.

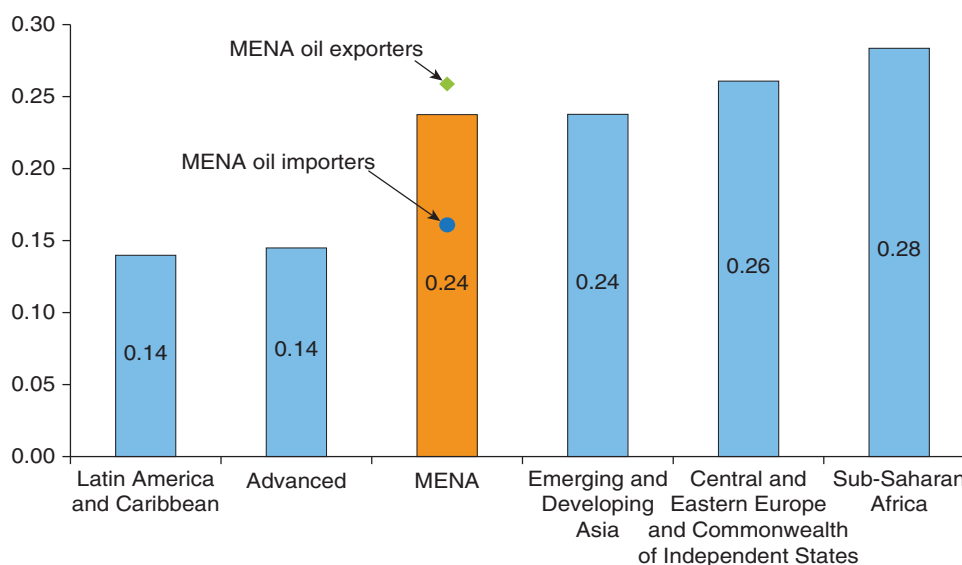
In most MENA countries, energy subsidies tend to increase during boom episodes and decline during downturns. This tendency can push the fiscal stance in a procyclical direction. Specifically, in oil importers with pretax subsidies, actual government spending increases when consumption and growth accelerate, adding to domestic demand as a sort of automatic destabilizer.

By contrast, in oil exporters, subsidies generally do not lead to direct fiscal spending, but rather constitute an opportunity cost. Therefore, the fiscal stance does not change depending on consumption; nor does the economy's position on the cycle. Government spending, thus, does not add to domestic demand and does not explicitly play a reinforcing, procyclical role.

Economic and Environmental Distortions

Energy intensity in MENA—as measured by 2010 consumption levels at constant 2005 purchasing power parity—is high in both oil-importing and oil-exporting countries, and has increased significantly in oil-exporting countries during the past decade, in contrast with the declining trend observed in other regions (Figures 2.21 and 2.22). Generous energy subsidies that encourage excessive energy consumption and promote energy-intensive industries, such as petrochemicals and fertilizers, crucially contribute to high energy intensity (Figure 2.23). At the same time, this overconsumption leads to higher fuel imports or lower exports, and contributes to deterioration in balance of payments (Figure 2.24).

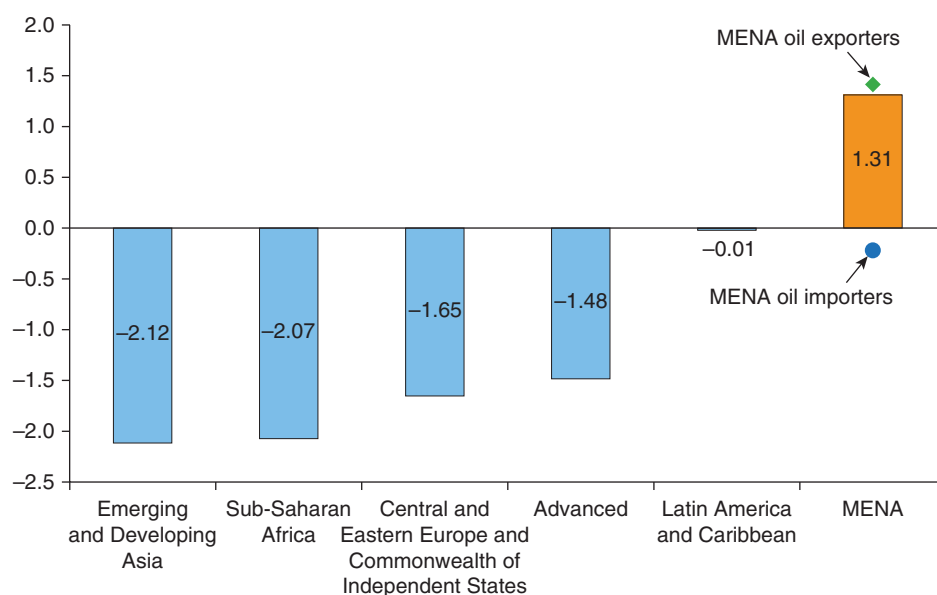
Figure 2.21. Energy Intensity by Region, 2010
(In kg of oil equivalent/PPP GDP using nominal GDP-weighted averages)



Sources: World Bank World Development Indicators database; and IMF staff calculations.

Note: PPP = purchasing power parity.

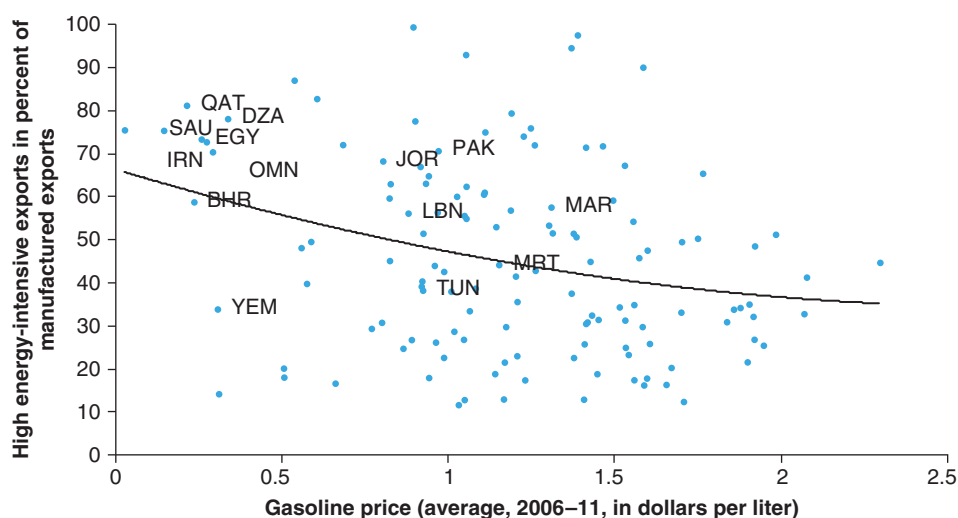
Figure 2.22. Annual Variation of Energy Intensity by Region, 2000–10
(In percent, kg of oil equivalent/PPP GDP using nominal GDP-weighted averages)



Sources: World Bank World Development Indicators database; and IMF staff calculations.

Note: PPP = purchasing power parity.

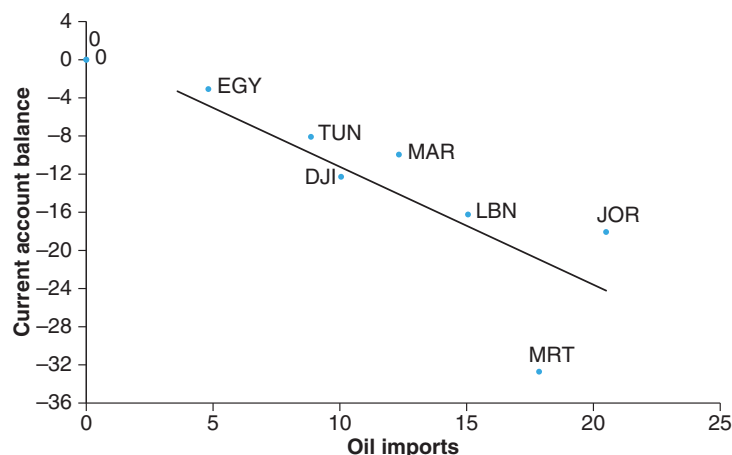
Figure 2.23. High Energy-Intensive Exports and Gasoline Price, 2011¹



Sources: UN COMTRADE database; and IMF staff calculations.

¹ Excludes petroleum production and refining.

Figure 2.24. MENA Oil Importers: Current Account Balance and Oil Imports, 2012
(In percent of GDP)



Source: IMF World Economic Outlook database.

Moreover, consumer fuel subsidies often result in large losses for national oil and electricity companies or local distributors, discouraging the improvement of energy production and access to utility services, and reducing incentives for the private sector to invest in the energy sector.⁹ Ultimately, this results in poor service quality and shortages.

Fuel and electricity subsidies also distort production structures, promoting capital-intensive production.¹⁰ The resulting bias against labor is a particular problem for MENA countries, which are struggling to create enough jobs for their rapidly growing labor force.

Economic distortions created by subsidies are not confined to energy products. Subsidizing food staples can also lead to waste: an often-quoted example is the use of subsidized bread as animal feed.

- In Egypt, the leakage of subsidized food items (i.e., the difference between quantities of subsidized food products supplied by government agencies and the quantities consumed by households) has been estimated at 28 percent on average, which means that it costs the Egyptian government \$1.39 to deliver \$1 in food subsidies to end-consumers.¹¹

The negative environmental externalities from energy subsidies are substantial. Subsidies cause overconsumption of petroleum products, coal, and natural

⁹ Fattouh and El-Katiri (2012).

¹⁰ Clements and others (2013).

¹¹ World Bank (2007a, 2010a, and 2010b).

gas, and reduce incentives for investment in energy efficiency, public transport, and renewable energy. This overconsumption aggravates local pollution, traffic congestion, and global warming.¹² Not surprisingly, the negative environmental externalities are particularly acute in the MENA region, which is the second largest world producer of carbon dioxide emissions per capita (Box 2.2).

Governance issues

Low prices of staples and especially fuels create opportunities for corruption and increase governance challenges. In particular, they encourage smuggling, with the unintended consequence that the subsidy is captured by foreigners and/or by those who are involved in smuggling. Besides undermining governance, smuggling creates vested interests that are likely to increase the resistance to reform.

Box 2.2. Environmental Impact of Fossil Fuel Subsidies

Energy subsidies lead to fuel overconsumption, which aggravates global warming and worsens local pollution.¹ In addition, subsidies exacerbate the Middle East and North Africa (MENA) region's vulnerabilities to regional scarcity of water, adding to land, coastal, and marine environment degradation.

The MENA region is the second-largest producer of carbon dioxide emissions per capita after the Organization for Economic Cooperation and Development countries (Figure 2.2.1). Carbon emissions per capita in the MENA region have almost doubled in the past 30 years. There is a wide dispersion of emissions across the region but oil-rich countries lead the way, mainly because of inefficient energy use. For example, carbon dioxide per capita emissions for the Gulf Cooperation Council were all above 15 metric tons in 2010 compared to about 5 metric tons for the world average (Figure 2.2.2).²

MENA carbon dioxide emissions from transportation were only 8 percent of the world total in 2010. Most emissions derive from excessive gas production, air conditioning, electricity generation, and water desalination—an energy-intensive activity.

Energy subsidies also lower the cost of groundwater pumping and irrigation, which may cause farmers to cultivate crops that offer low value-added in relation to the water

¹ Clements and others (2013).

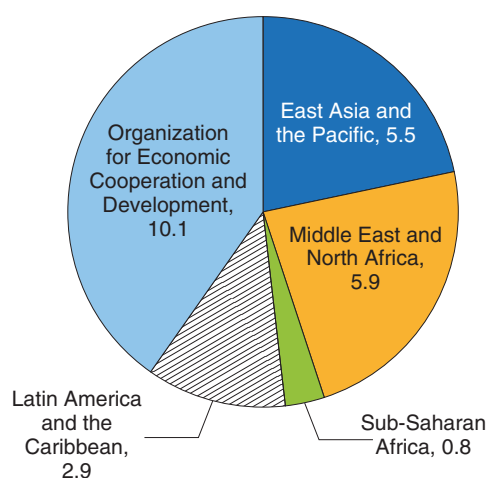
² Besides addressing subsidies, the introduction of energy and water efficiency measures would also reduce energy consumption. A Chatham House study (Lahn, Stevens, and Preston, 2013) recommended measures that could be studied at the Gulf Cooperation Council level, including (1) agreement on common prices for electricity trading and fuel among countries; and (2) setting a common building code and building materials standard, as well as common efficiency standards for buildings, appliances, vehicles, and air conditioning. Some countries in the region, such as Saudi Arabia, are already taking steps toward better energy efficiency through stronger building and appliance standards, diversification of energy sources (e.g., gas and solar energy), and development of public transportation options.

¹² See Clements and others (2013).

Box 2.2. (concluded)

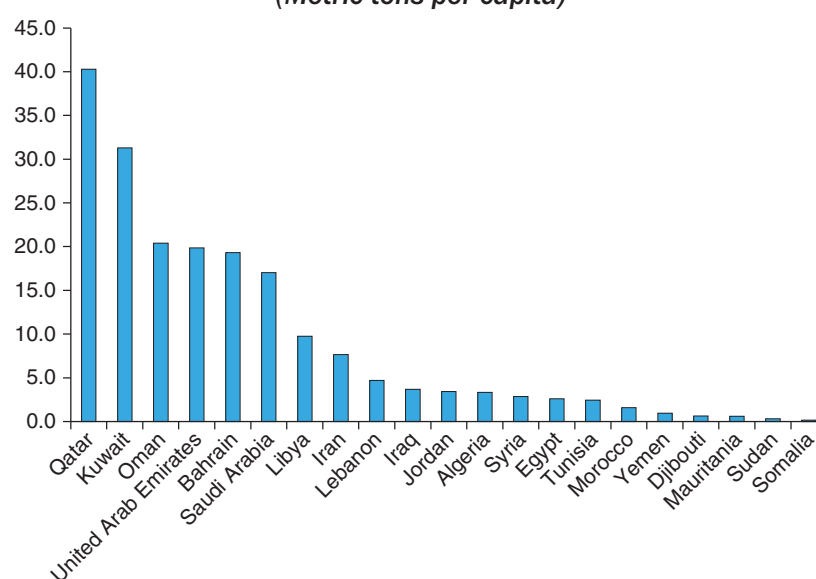
used. As a consequence of under-pricing of fuels used in ground water extraction, in addition to under-pricing of water, the majority of MENA countries' water extraction exceeds the availability of renewable water resources, resulting in groundwater depletion that represents an estimated wealth loss of as much as 1–2 percent of GDP for some countries.³

Figure 2.2.1. Carbon Dioxide Emissions by Region, 2010
(Metric tons per capita)



Source: World Bank, World Development Indicators database.

Figure 2.2.2. MENA: Carbon Dioxide Emissions, 2010
(Metric tons per capita)



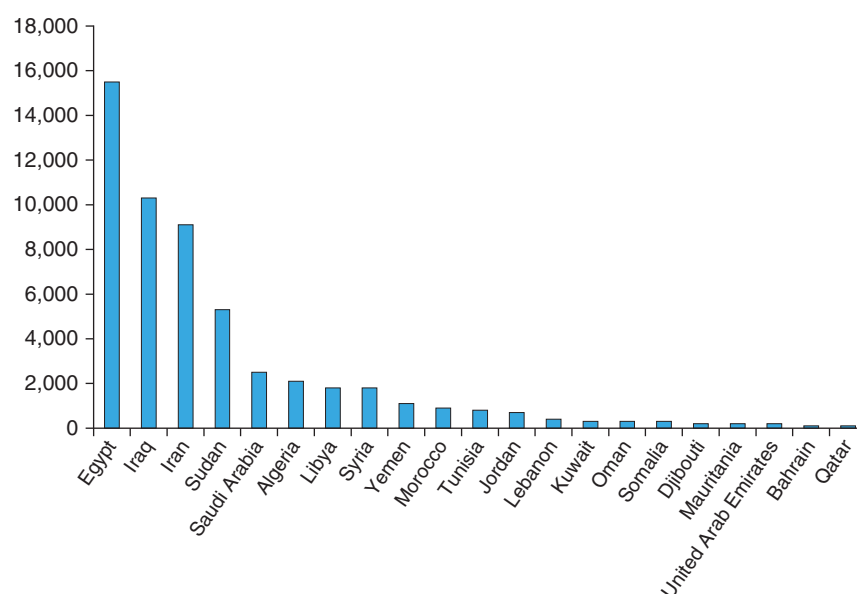
Source: World Bank, World Development Indicators database.

³ Ruta (2005), and World Bank (2007b).

Fuel subsidies can also deter the development of renewable and clean energy technologies—for instance, solar and wind—as they cannot compete with the cheaper subsidized fossil fuels.

Energy subsidies' impact on health, resulting from the deteriorating environment, is substantial and mostly felt by the poor. The estimated number of deaths per year caused by air pollution, which is partly caused by high fuel consumption, varies significantly in the region, with Egypt, Iran, Iraq, Saudi Arabia, and Sudan each incurring more than 2,000 fatalities per year (Figure 2.2.3). In Cairo and Alexandria, the overall cost—including mortality, morbidity, and potential loss of tourism revenue—from urban air pollution has been estimated at about 2 percent of GDP.⁴

Figure 2.2.3. MENA: Air Pollution, 2004
(Deaths per year)



Source: World Health Organization.

⁴ See Swedish International Development Cooperation Agency (2010).

An Empirical Analysis of the Determinants of Successful Subsidy Reform

In this chapter, we develop a rigorous and detailed approach to the problem of identifying the potential determinants of a successful subsidy reform. Our analysis builds on the existing literature, including the recent wide-ranging study by Clements and others (2013), which identified six elements of success for subsidy reform (Box 3.1), and by the Organization for Economic Cooperation and Development (2009). Here, we add a focus on aspects that we believe are particularly relevant to subsidy reform in Middle East and North Africa (MENA) countries, namely political economy factors (including type of government), macroeconomic environment and fiscal pressures, and, in light of the key social dimension of reform in the Middle East, social safety nets and mitigating measures.

In our analysis, we combine a narrative-based country-case study with a quantitative analysis of variables related to the main elements of reform episodes, organized according to a common matrix. This study covers 25 episodes of food and fuel subsidy reforms in 15 low- and middle-income countries from different regions in the world, including seven MENA countries, three countries in Africa, three in Latin America, and one country each in Europe and Asia (see Annex 1 for a synopsis of the subsidy reform case studies). We consider a reform episode to be successful if it entails a durable increase in prices of subsidized goods, thus reducing fiscal costs and freeing resources to better support the poor, even if it does not fully bring prices up to international levels. Of the many countries that have tried to remove universal price subsidies with varying outcomes, few have experienced subsidy reform episodes that are linear, achieve all their objectives fully, or avoid setbacks. Hence, even the “success stories” encountered setbacks and reversals.

Methodology

For each reform episode in the countries we surveyed, we completed a questionnaire comprising seven themes articulated in 23 quantitative and qualitative questions. The themes include (1) time and scope of the reform; (2) ownership, communication, and consultation; (3) external factors;

Box 3.1. Summary of Key Elements for Successful Reform

A recent IMF study on energy subsidy reform (Clements and others, 2013) gathered 22 country case studies, with a broad regional coverage that included 28 reform episodes of which 12 were successful, 11 were partially successful, and 5 were unsuccessful. The study found that in the more successful cases, subsidy reforms required, on average, about five years. The country experiences reviewed in the paper suggest the following six key ingredients for successful reform:

1. **A comprehensive energy sector reform plan.** Such a plan should be drawn up in consultation with stakeholders, and include clear long-term objectives and an assessment of the impact of the reforms.
2. **A comprehensive communications strategy.** A well-planned communications campaign is essential to help generate broad political and public support, and should be undertaken throughout the reform process. The communication campaign should inform the public of the cost of subsidies and the benefits of the reform, including the budgetary savings generated to finance high-priority spending on education, health care, infrastructure, and social protection. Another key component of a successful communications strategy involves strengthening transparency in reporting subsidies in the budget.
3. **Appropriately phased and sequenced price increases.** Phasing in price increases and sequencing them differently across energy products may be preferable. Too sharp an increase in energy prices can generate intense opposition to reforms, especially where there has not been sufficient communication or mitigating measures. A phased strategy will allow households and enterprises to adjust and give governments time to develop social safety nets.
4. **Improved efficiency of state-owned enterprises to reduce producer subsidies.** Improving the efficiency of state-owned enterprises can reduce the fiscal burden of the energy sector. Energy producers often receive substantial budgetary resources to compensate for inefficiencies in production and revenue collection. Strengthening the financial position and operational performance of these enterprises can reduce the need for budget transfers.
5. **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. Targeted cash transfers or vouchers are the preferred approach to compensation. When cash transfers are not feasible because of limited administrative capacity, other initiatives, such as public works programs, can be expanded while capacity is developed. It is crucial that those who are hardest hit by the removal of subsidies be compensated from the beginning through more targeted social protection.

Box 3.1. (concluded)

6. **Depoliticized price setting.** Successful and durable reforms require a depoliticized and rules-based mechanism for setting energy prices, which can help reduce the chances of reform reversal. Adoption of an automatic fuel pricing mechanism is not in itself a solution for achieving sustained energy subsidy reform, but should be part of a broader reform strategy. This mechanism could be coupled with a smoothing feature to avoid domestic fuel price volatility by allowing sharp increases in international prices to be only gradually transmitted to domestic prices (e.g., prices changes could be limited to a maximum of, say, 5 percent of the current consumer price in any given month).¹ In general, responsibility for implementing an automatic pricing mechanism can be given to an independent body to help shield it from political pressures. Over the longer term, subsidy reforms for petroleum products should aim to fully liberalize pricing.

¹ For more details on designing and implementing fuel pricing mechanisms with price smoothing, see Coady and others (2012).

(4) macroeconomic cycle indicators; (5) fiscal pressures; (6) socioeconomic context of reform and mitigating measures; and (7) political context of reform. Each question was coded using binary (0–1) or simple rank order (0–2) values. For instance, for the question on preparation of the reform under the theme of time and scope of the reform, a score of 1 was given if an assessment of the incidence of subsidy removal had been conducted before the reform, and zero otherwise. The sources for the responses comprised a wide range of documents, including IMF staff reports and selected issues papers, Clements and others (2013), World Bank and Organization for Economic Cooperation and Development studies, *Deutsche Gesellschaft für Internationale Zusammenarbeit* papers, press articles, and IMF staff calculations.

The outcomes of the reform episodes were assessed based on three criteria: (1) a qualitative review of the country experiences, (2) the change in the gap between domestic and international prices (for fuels), and (3) the magnitude of domestic price adjustments in local currency. Reform attempts that were short-lived, as reflected in the rollback of the initial price adjustment, are judged to have been *unsuccessful* (score = 0). Reform episodes were considered *partially successful* (score = 1) if prices were not adjusted beyond the initial adjustments at the time of the implementation of the reform and/or when there were significant adjustments of domestic prices (following exchange rate depreciation or an increase in international prices) but not enough to reduce the price gap. Finally, a reform was judged to have been *successful* (score = 2) if the initial price adjustment was followed by additional adjustments leading to a significant reduction of the subsidy burden and the price gap. Based on this methodology, 7 episodes were judged successful, 13 partially successful, and 5 unsuccessful (Table 3.1).

Given the small size of the sample and the ordinal nature of the independent variables, the empirical analysis was carried out through Spearman correlations and a “bucket” approach. First, we applied a Spearman rank correlation analysis to measure the strength and direction of the links between reform outcomes and individual potential factors. Correlation coefficients for most indicators are of the expected sign, and many of the indicators are significant at the 5 percent or 10 percent level (Table 3.2). Second, we used a “bucket” approach, computing success rates among episodes where a given factor was present at the time of the reform, and among episodes where it was not (Table 3.3). For example, with regard to the preparation of the reform, 86 percent of the episodes for which a study of subsidy removal

**Table 3.1. Summary of Subsidy Reform Outcomes
for Fuel and Food Products**

Country	Reform Episode	Reform Outcome
Fuel products		
Bolivia	2010	Failed
Brazil	1990s	Partially successful
Ghana	2001	Failed
Ghana	2003	Partially successful
Ghana	2005	Partially successful
Indonesia	1998	Failed
Indonesia	2005	Partially successful
Iran	2010	Partially successful
Jordan	2005	Successful
Mauritania	2008	Failed
Mauritania	2011	Successful
Nigeria	2012	Partially successful
Poland	1996	Successful
Senegal	1998	Partially successful
Syria	2008	Partially successful
Yemen	1995	Partially successful
Yemen	2005	Partially successful
Yemen	2010	Partially successful
Food products		
Iran	2010	Partially successful
Jordan	1990	Partially successful
Mexico	1990	Successful
Morocco	1999	Successful
Tunisia	1983	Failed
Tunisia	1991	Successful
Yemen	1996	Successful

Source: IMF staff calculations.

Table 3.2. Reform Themes and Spearman Rank Correlations

			Correlation with the Reform Outcome ¹
Time and scope of the reform			
Preparation	Did the authorities conduct studies of the incidence of subsidy removal before designing/introducing the reform?	= 1 if an assessment of the incidence of subsidy removal was conducted before the reform; = 0 otherwise	0.4438**
Pace of adjustment	Pace of adjustment	= 2 if the price adjustment at the start of the reform is higher than 50 percent; = 0 if lower than 20 percent; = 1 otherwise	-0.3727*
Breadth of the reform	How comprehensive was the reform?	= 0 if reform was targeted only at a subset of products; = 1 otherwise (i.e., comprehensive reform of most/all products)	0.4702**
Ownership, communication, and consultation			
Government leadership	How strong was the ownership and commitment of the government to the reform?	= 1 if the government was strongly and publicly committed to reform; = 0 otherwise. Possible indications include the president or prime minister's speech announcing the reform	0.3683*
Consensus building	Did the government rely on specialized commissions or other consensus-building institutions to win adoption of the reform?	= 1 if the government tried to build a consensus; = 0 otherwise. Possible indications include the discussion of the reform in the parliament and organization of outreach forums	0.3581
Communication strategy	Did the government undertake an information campaign to support the reform?	= 1 if a public awareness/information campaign was undertaken; = 0 otherwise	0.2440
External factors			
Commodity price cycle	At what stage of the commodity cycle was the reform undertaken?	= 2 (0) if price at the time of reform is one standard deviation higher (lower) than the average over the previous three years; = 1 otherwise.	0.0309

(continued)

			Correlation with the Reform Outcome ¹
Role of partners	Was the reform undertaken with technical assistance from development partners (IMF or other) and/or in the context of an IMF arrangement?	= 1 if technical assistance was provided at the time of the reform; = 0 otherwise	0.613**
		= 1 if the country had an IMF arrangement at the time of the reform; = 0 otherwise	0.0994
Macroeconomic cycle indicators			
Economic downturn	Was the reform undertaken in the context of an economic crisis?	= 1 if the growth rate in the year preceding the reform implementation is one standard deviation below the average growth rate over the previous five years; = 0 otherwise	-0.4869**
Inflationary pressures	Was the reform undertaken in the absence of price pressures in the economy?	= 1 if the inflation rate in the year preceding the reform implementation is higher than 10 percent or one standard deviation higher than the average inflation rate over the previous five years; = 0 otherwise	-0.0981
Fiscal pressures			
Ongoing fiscal consolidation	Was subsidy reform part of a broader reform/consolidation effort?	= 1 if the subsidy reform was a component of a broad fiscal reform; = 0 otherwise	0.1995
Fiscal pressures	Was the country facing high fiscal pressures at the time of the reform?	= 3 if the budget deficit was higher than 5 percent of GDP and public debt higher than 80 percent of GDP; = 2 if the budget deficit is lower than 5 percent of GDP and public debt higher than 80 percent of GDP; = 1 if the budget deficit is higher than 5 percent of GDP and public debt higher than 80 percent of GDP; = 0 otherwise	0.0072

(continued)

Table 3.2. (concluded)

			Correlation with the Reform Outcome ¹
Resource richness (only for fuel reforms)	Was the country a significant oil producer?	= 2 if the country is a net oil exporter; = 1 if the country has significant oil production but is a net importer; = 0 if the country has no or only marginal oil production	-0.1579
Socioeconomic context of reform and mitigating measures			
Poverty		= 2 if the poverty rate at the time of the reform is higher than 40 percent; = 1 if the poverty rate is between 40 and 20 percent; = 0 otherwise	-0.1363
Existing social safety nets	To what extent was a social safety net in place at the time of the reform?	= 1 if country had cash and in-kind transfers at the time of the reform; = 0 otherwise	0.0000
Mitigating measures	What mitigating measures did the authorities put in place or expand, if any?	= 1 if a wage increase was granted; = 0 otherwise	-0.0761
		= 1 if cash and in-kind transfers were put in place at the time of the reform; = 0 otherwise	0.559**
		= 1 if subsidies were targeted at a specific group; = 0 otherwise	0.4175**
		= 1 if other programs/ social safety nets were put in place at the time of the reform; = 0 otherwise	0.6866**
		= 1 if the mitigating measures targeted/ benefited the middle class; = 0 otherwise	-0.2033
Political context of reform			
Government composition	What was the type of government at the time of the reform?	= 0 for fragmented coalition; = 1 dominant party coalition; = 2 for single-party government	-0.2867

(continued)

			Correlation with the Reform Outcome¹
Government control of parliament	How much control did the government have in parliament at the time of the reform?	This composite indicator reflects the strength of the government vis-à-vis parliament and opposition parties	0.1887

Source: IMF staff calculations.

¹ *Significant at the 10 percent confidence level; **significant at the 5 percent confidence level.

Table 3.3. Success Rates for Each Question^{1,2,3}
(Percentage of successful cases for which the answer was Yes/No)

		Yes	No
Time and scope of the reform			
Preparation**	Was a study on the incidence of subsidy removal conducted prior to the reform?	86	20
Pace of adjustment	Was the price adjustment higher than 50 percent?	33	75
Breadth of the reform**	Was this a comprehensive reform of most/all products?	78	0
Ownership, communication, and consultation			
Government leadership**	Was there strong ownership and commitment of the government to the reform?	100	33
Consensus building*	Did the government try to build a consensus to win adoption of the reform?	100	43
Communication strategy**	Did the government undertake an information campaign to support the reform?	100	50
External factors			
Commodity price cycle	Were commodity prices high when the reform was undertaken?	50	63
Role of partners**	Was the reform undertaken with technical assistance from development partners?	88	0
	Did the country have an IMF arrangement at the time of the reform?	63	50
Macroeconomic cycle indicators			
Economic conditions**	Was the reform undertaken in the context of slower growth/economic contraction?	0	78
Inflationary pressures	Was the reform undertaken in the absence of price pressures in the economy?	50	67
Fiscal pressures			
Ongoing fiscal consolidation	Was subsidy reform part of a broader reform/consolidation effort?	67	33
Fiscal pressures	Was the country facing high fiscal pressures at the time of the reform?	63	50
Resource richness (only for fuel reforms)	Was the country a significant oil producer?	67	56

(continued)

Table 3.3. (concluded)

		Yes	No
Socioeconomic context of reform and mitigating measures			
Poverty	Was poverty high at the time of the reform?	60	57
Existing social safety nets	Were there cash and in-kind transfers at the time of the reform?	57	60
Mitigating measures	Was a wage increase granted as a mitigating measure?	50	67
**	Were cash and/or in-kind transfers granted as a mitigating measure?	100	17
*	Were subsidies targeted at a specific group?	100	38
**	Were there other programs/social safety nets?	100	0
	Did the mitigating measures target/benefit the middle class?	33	67
Political context of reform			
Government composition	Was the government a fragmented coalition?	75	50
Government control of parliament	Was there a single-party majority in the parliament?	67	33

Source: IMF staff calculations.

¹ Success rates are calculated using only failed and successful reform episodes.

² Higher scores are associated with better outcomes.

* means that the difference in success rates is significant at the 10 percent confidence level; ** means that the difference is significant at the 5 percent confidence level.

³ To interpret the table, for example, with regard to the preparation of the reform, 86 percent of the episodes for which a study of subsidy removal incidence had been carried out prior to the reform were successful (“Yes”), while only 20 percent of the episodes where this was not the case were successful (“No”).

incidence had been carried out prior to the reform were successful (“Yes”), while only 20 percent of the episodes where this was not the case were successful (“No”).

The findings from this analysis should be interpreted with caution, given the relatively small sample size. Moreover, the analysis focuses on attempted reforms, so the results do not necessarily single out the triggers of the reform. Notwithstanding these caveats, some important insights can be drawn, and many of the findings are consistent with work done elsewhere on this topic.

Singling out Success Factors

The results from the combination of the Spearman correlations and the “bucket” approach point to six key factors for success:

- Good reform preparation, gradual pace of adjustment, and breadth of the reform;

- Strong government leadership and consensus building;
- Support from international partners, particularly technical assistance;
- Introduction of mitigating measures to soften the impact of the reform on the poor;
- Favorable economic conditions, particularly higher economic growth; and
- Presence of a coalition government at the time of the reform.

Reform Preparation, Pace of Adjustment, and Breadth of the Reform

Reform preparation: Well-prepared reforms, which draw on accurate diagnostics and allow for gradual pacing and adequate implementation time, tend to be more successful. The cost of inadequate preparation can be high. Poor preparation (and communication) led to the failure of the 2010 fuel subsidy reform in Bolivia, where a 20 percent price increase was rolled back within five days, and the 1983 reform of subsidies on cereals in Tunisia, where a 100 percent price increase—announced to the public only 24 hours in advance—led to riots and forced the cancellation of the price increases within a month.

Sufficient analysis of subsidy incidence: The analysis of the incidence of subsidy removal contributes to the quality of policy discussions and the targeting of mitigating measures, thus enhancing the prospects for the implementation of the reform. Eighty-six percent of the cases where authorities conducted an incidence analysis of subsidy removal were associated with a successful outcome, while only 20 percent of the cases where the incidence analysis was not carried out were successful.

Gradual pace of reform: The choice of a gradual versus a shock approach in economic reform has been widely debated. In our sample, gradualism seems to pay off. The case studies indicate that relatively gradual price increases (defined as a price increase of less than 50 percent at the start of the reform) are more likely to be successful. Seventy-five percent of the cases where price increases were gradual (i.e., below 50 percent) were associated with a successful outcome, while 33 percent of the cases that had an increase higher than 50 percent resulted in a successful reform. These results are consistent with the anecdotal evidence that large (initial or ad hoc) price increases contributed to protests and, ultimately, in some cases, to the fall of the government (Mauritania in 2008). The implication is that the pace of subsidy phase-out should allow recipients time to adjust and the mitigating measures to take effect. However, some countries may have little choice but to adjust rapidly (Iran in 2010, Nigeria in 2012, and Yemen in 1995 and 2005).

Breadth of reform: Successful reforms in our sample were associated with more comprehensive scope, targeting a wide range of fuel or food products, or even trigger a “climate of reform” or a broader structural reform program. Examples include the reform of value-added tax on fuel in Poland, or reforms that improve service delivery or product availability in return for tariff and price increases, such as electricity tariff adjustment and the beginnings of power sector restructuring in Mauritania. In the particular case of fuel products, the development of substitute forms of energy is often an effective component of the strategy and can facilitate reform when the new product (substitute) offers a lower-cost alternative that also has economic benefits (e.g., reducing the import bill). Examples include the program for conversion from kerosene to liquefied petroleum gas (LPG) in Indonesia, use of solar power for rural electrification in Morocco, conversion from diesel to fuel oil and LPG in electricity generation in Mauritania, and conversion from kerosene to LPG for residential use and from diesel to natural gas–fueled electricity plants in Yemen.

When countries are not ready to implement a comprehensive subsidy reform, phasing in price increases and sequencing them differently across energy products may be appropriate. The right approach to phasing-in and sequencing price increases is determined by several factors. These include the magnitude of the price increases needed to remove subsidies, the fiscal stance, the political economy conditions at the time of reform, and the time needed to adopt an effective communications strategy and social safety nets. For example, petroleum price increases can initially be larger for products, such as gasoline and jet kerosene, that are consumed more by higher-income households or by industry. As social safety net mechanisms are improved, subsidies on other fuels that are more important in the budgets of poor households could be phased out, and budgetary savings can be partly used to finance targeted transfers to those households. Similarly, electricity tariff increases can initially focus on large residential and commercial users.¹ However, it is possible that removing certain fuel subsidies while maintaining price support on other fuel products leads to market distortions, increasing the risk of arbitrage across products and fraud (e.g., the adulteration of unsubsidized fuel products with subsidized ones).²

- In Brazil, the adjustment of prices was gradual, beginning in 1991 with petroleum products used by few consumers (asphalt, lubricants) and moving progressively to widely used products (gasoline, diesel, fuel oil, LPG).³ In general, the subsidies benefitting politically weak interest groups were removed before the politically more difficult subsidies (liquid fuels for transport and manufacturing).

¹ Clements and others (2013).

² Beaton and others (2013).

³ De Olivera and Laan (2010).

- Morocco also raised fuel prices gradually. For example, the government increased the price of products at different rates, with fuel oil increasing by 27 percent, gasoline by 20 percent, and diesel by 14 percent in June 2012. In September 2013, the government implemented a partial indexation mechanism for certain petroleum products and, as a result, diesel prices increased by 8.5 percent, gasoline by 4.8 percent, and fuel by 14.2 percent. In January 2014, subsidies on gasoline and industrial fuel were eliminated, and the per-unit subsidy on diesel was reduced. In addition, the reform will continue and become more comprehensive.

Ownership, Communication, and Consensus Building

Our analysis shows that government leadership that includes strong ownership and commitment to reform was a crucial determinant of a successful outcome.⁴ Effective communication, consultation with key players, including parliament, and the organization of outreach forums could help the government build consensus for reforms and bolster its own commitment.⁵

Communication strategy: The strategy should, in the first place, underline the costs of the subsidy (including the distortions it creates in the form of pollution, misallocation of resources, inefficiency, and smuggling), who benefits from it, and what are the reform benefits, as opposed to the costs of nonreform. The strategy should also explain that there are other options for assisting the poor, and why they are better. Comparison with peer countries more advanced in the reform process can also be very useful.

- A government awareness campaign preceded price adjustments in Tunisia's 1991 food subsidy reform. In addition, newspapers focused on the weight of food subsidies on the budget and compared food prices in Tunisia with those in neighboring countries.

Stakeholder consultation and consensus building: Our analysis finds that parliament outreach plays a positive role in reform. Outreach to influential beneficiaries who are directly affected by subsidy reform, which is much more difficult to observe, is also necessary to manage the vested interests that may oppose the reform. The costs of a generalized subsidy are usually spread throughout the economy, while its benefits may accrue to only a relatively limited segment of society—and not necessarily the intended target group. For example, fuel subsidies could be meant to lower transportation, heating, and cooking costs for the poor, but may actually benefit, to a much larger extent, owners of collective taxis or monopolistic oil importers. Those

⁴ United Nations Environment Programme (2003).

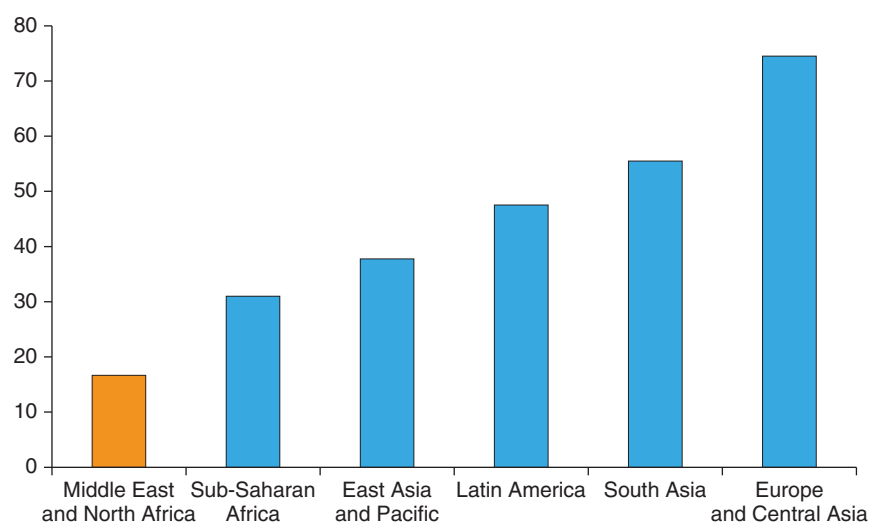
⁵ Vagliasindi (2013).

beneficiaries will always have an interest in defending their subsidy (political mobilization bias, see Chapter 5). Therefore, policymakers should consult with key stakeholders and may have to negotiate with industry groups or the government opposition in order to win support for the reforms.

Transparency: Transparency about subsidy systems plays an important role in supporting effective communication, and, more broadly, the reform effort. Communication is more credible if it is accompanied by a systematic effort at improving transparency overall, while providing timely data on costs and alternative options. In the case of fuel, it is useful to explain the composition of the prices at the pump and corresponding tax, the size of subsidies, and the functioning of automatic pricing mechanisms—which will help depoliticize price setting—as well as identify clearly who the beneficiaries are. This is particularly important given that, in most cases, the subsidy cost is not well known even among policymakers, particularly if it is implicit. This problem is more acute in the MENA region because transparency is lacking in the budget and in the pricing mechanisms used for energy and food products (Figure 3.1).

Improvements in transparency should precede the launch of the reform. Transparency on subsidies can allow governments to better shape the narrative and build the motivation for the reform. The role of the government in the sectors producing subsidized goods should be transparent so as to avoid conflicts of interest, reduce the power of vested interest groups, and allow the identification of political and economic relationships. The need for transparency applies equally to social safety net measures.

Figure 3.1. Budget Transparency Index, 2012¹



Source: International Budget Partnership, 2012 *Open Budget Survey*.

¹ Higher scores indicate more transparency.

Role of International Partners

Collaboration with and support from international partners such as international financial institutions, multilateral agencies, and donors can be essential to national efforts to reform subsidies. In addition to supplying political legitimacy and peer pressure, international partners can also offer research and technical assistance, sharing of information and best practices, establishment of rules, financial support, and increased accountability.⁶

Our analysis focused particularly on technical assistance for fuel subsidy reform (e.g., analyzing the magnitude of subsidies), evaluating options for mitigating the impact of fuel subsidy reform on vulnerable households, and helping design a strategy to gradually eliminate subsidies over the medium term. We find that technical assistance made a positive and statistically significant contribution. In fact, 88 percent of the cases where the reform was undertaken with technical assistance were associated with a successful outcome. Economic programs supported by IMF financial arrangements and IMF policy advice have often helped reforms, while Article IV Consultations in the context of surveillance have pushed the subsidy reform agenda.

Mitigating Measures

Introduction of mitigating measures: Our analysis shows that reforms were more successful when governments introduced measures to mitigate the impact of the price increase on the poor and most vulnerable. Previous studies have stressed the importance of introducing appropriate social protection tools to compensate for the removal of subsidies, which disproportionately affects the poor because of the larger share of subsidized goods in poor households' consumption basket.⁷ In addition, the sudden loss of benefits for the middle class can weaken their support for reform. Reforms might also impose an unfair burden on a narrow group of vulnerable categories, which could mobilize and block the overall reform.

For these reasons, the introduction of alternative measures, appropriately designed to support those most affected by subsidy removal, is crucial for supporting the poor and for increasing society's broader acceptance of reform. Priority should, nonetheless, be given to protecting the poor, by compensating the immediate impact of the subsidy removal in the short term and replacing the subsidy model of social support with a different model centered on targeted social safety nets in the longer term. These measures can include, in particular, cash and in-kind transfers.⁸ It can be easier and quicker

⁶ Lang, Wooders, and Kulovesi (2010).

⁷ Vagliasindi (2013).

⁸ Gupta (2000).

to expand these programs, to the extent they are already in place, than to set up new instruments (see Chapter 5). Of the cases where cash and in-kind transfers were introduced, 100 percent were associated with a successful outcome, while only 17 percent of the cases where these transfers were not introduced resulted in a successful reform.

To ensure buy-in for the reform, some governments extend these measures or introduce other specific measures to benefit the middle class. For example, in the 2010 episode in Iran, which was not designed to produce fiscal savings, the government included a generalized cash compensation scheme to be rolled out simultaneously with the rise in fuel prices. Also, as was the case in Sudan in 2013, governments can be tempted to award wage increases at the time of the increase in fuel prices, which is tantamount to a cash compensation targeted to workers in the public sector and recipients of social security benefits. Tax reduction is another instrument sometimes used by governments, which can, however, end up being permanent. In general, measures aimed at the middle class suffer from lack of targeting (unless, for example, wages only at the lowest levels in the pay scale are increased) and, perhaps more importantly, are difficult to reverse. In addition, they may not deliver: in the reviewed episodes, wage increases or mitigating measures that benefited the middle class were not associated with better reform outcomes.

Reform follow-up: Subsidy reform, especially if accompanied by the introduction of mitigating measures, can be long and complex, requiring prolonged attention after the initial phase. This is particularly the case for building and maintaining consensus because subsidy reform involves many domestic stakeholders. Governments must keep the reform momentum to resist the push-back from the vested interests that are likely to mobilize when the effects of reform begin to be felt. Therefore, the continued implementation of a communication and transparency campaign is crucial for following up on the initial reform effort. Changing circumstances in the social climate or in market conditions (volatile prices, exchange rate fluctuations, or inflation) may also require an adjustment in the pace of reform and a revision of price-setting mechanisms. Finally, transparent monitoring and periodic assessment of the reform's impact (e.g., measurement of food intake among vulnerable households) can enable policymakers to make necessary adjustments.

- In Iran, the reform was preceded by a broad communications campaign to educate the population on the growing costs of low energy prices, and on the benefits expected from the reform; however, following its implementation, the government did not seem to provide equally extensive public official information about the de facto implementation and outcome of the reform.

Initial Conditions

Our review also singles out conjunctural factors that facilitated subsidy reform, such as favorable macroeconomic conditions.

Growth: Reforms that were launched in the context of low growth were less successful than reforms undertaken in an environment of higher economic activity, possibly reflecting strong public resistance to additional economic losses in the midst of economic slowdown. This result, confirmed by the statistically significant Spearman correlation, suggests that governments should capitalize on favorable economic conditions when implementing subsidy reforms.

Inflation and international commodity prices: In the sample, a high level of initial inflation was associated with least successful outcomes. Possible reasons could be the limited tolerance for further erosion of real incomes deriving from subsidy reform, with the related challenges of selling the reform to the public. Furthermore, commodity prices do not seem to play a significant role in the reform outcome.

Public finances: Our results suggest that fiscal pressure helps undertaking subsidy reforms as is consistent with the findings in the literature: reforms have been more successful when they were part of a broad-based fiscal strategy to reduce fiscal deficits and free resources toward social spending and infrastructure—which could help boost growth and reduce poverty and inequality. This is, in general, the case of program or near-program countries as well as the recent experiences witnessed in the MENA region (see Chapter 4).

Political conditions: Political indicators reflecting government composition and the strength of government vis-à-vis parliament affected reform outcomes. More successful reforms were associated with a multiparty government. These results are broadly in line with the findings of the Organization for Economic Cooperation and Development (2009) study, which suggests that under a minority government, while more negotiation may be required for reforms, they are also less likely to be reversed because their implementation likely required the support of the opposition.

Conclusions: What is the Ideal Situation for Subsidy Reform?

Combining all the above results, our analysis suggests that the highest likelihood of success derives from a well-prepared reform that enjoys strong ownership on the part of the government; benefits from technical assistance from international partners; is centered on a gradual increase in prices compensated by mitigating measures; and is part of a wider reform effort led by a committed government in a multiparty political system, under favorable economic conditions.

Recent Experiences of Subsidy Reform in the Middle East and North Africa

In the past three years, subsidy reform in Middle East and North Africa (MENA) countries has received a new impulse, for two main reasons.¹ First, fiscal and external buffers have been exhausted by the rebound in commodity prices after the trough of the global financial crisis and the related increase in subsidy and fuel import costs, together with the higher government spending and lower revenues that followed the onset of the Arab Spring. Second, policymakers and the public have become more aware of the problems arising from subsidies.

In this chapter, we summarize the recent reform experiences in the MENA region and provide policy recommendations on how to extend and consolidate the gains. The present chapter also looks at the slow pace of reform in the oil exporters.

Overview of Recent Reforms

Since 2011, several MENA countries have taken steps to lower energy subsidies (Table 4.1). To identify common elements among the reforms undertaken by Egypt, Jordan, Mauritania, Morocco, Sudan, Tunisia, and Yemen, we employ a country case analysis approach using a common template (Annex 2). The next paragraphs summarize these reform experiences.

Triggers of reform: Large external and fiscal deficits and higher public debt were the main drivers of reform (Figures 4.1 and 4.2). Country-specific factors also played an important role. In Mauritania, the discovery of oil in 2005 led to a surge in government spending, which became unsustainable when the oil potential turned out to be much smaller than initially expected. In Egypt, a slowdown of liquefied natural gas production and an increase in domestic consumption led to lower exports after the 2011 revolution, hitting the revenues of the state-owned electricity company and creating

¹ Most of the analysis in this chapter reflects information as of end-February 2014.

Table 4.1. Most Recent Subsidy Reforms in the Middle East and North Africa

Countries	Recent Measures	Main Mitigating Measures	Next Steps
Egypt	2012–13: prices for 95 octane gasoline increased by 112 percent for high-end vehicles, fuel oil for non-energy-intensive industries by 33 percent, and for energy-intensive industries by 50 percent. January 2013: electricity prices to households increased by 16 percent on average, natural gas and fuel oil prices for electricity generation rose by one-third.	No electricity tariff change for the lowest consumption bracket.	Adopt smartcards. Expand priority social programs and targeted cash transfer.
Jordan	June 2012: electricity tariffs increased for selected sectors (banks, telecommunications, hotels, mining) and large domestic corporations and households. November 2012: elimination of fuel subsidies. January 2013: monthly fuel price adjustment mechanism resumed. August 2013 and January 2014: electricity tariffs increased by 7.5–15 percent for selected consumers.	Cash transfers to families below a certain income threshold (70 percent of the population) if oil prices are above US\$100.	Gradually increase electricity tariffs and develop new energy sources with lower generation costs.
Mauritania	May 2012: new automatic diesel price formula introduced, bringing domestic fuel prices up to international levels. January 2012: electricity tariffs increased for the service sector.	Gradual reorientation of social safety nets toward well-targeted cash transfer schemes.	Ensure diesel pricing formula is applied automatically. Eliminate electricity and gas subsidy; Develop a nationwide cash transfer program.
Morocco	June 2012: diesel prices increased by 14 percent, gasoline by 20 percent, and industrial fuel by 27 percent. September 2013: implementation of a partial indexation mechanism for certain petroleum products. As a result, diesel prices increased by 8.5 percent, gasoline by 4.8 percent, and fuel by 14.2 percent. January 2014: gasoline and industrial fuel subsidies eliminated, their prices are reviewed twice a month. February 2014: the per-unit subsidy on diesel was reduced, with additional quarterly reductions announced for the remainder of 2014.	Gradual strengthening of the existing social safety nets and their targeting to vulnerable groups through improvements in education, health, and assistance to poor widows and the disabled. Supporting public transport.	Continue implementing the comprehensive subsidy reform combined with cash transfers and other social assistance programs.

(continued)

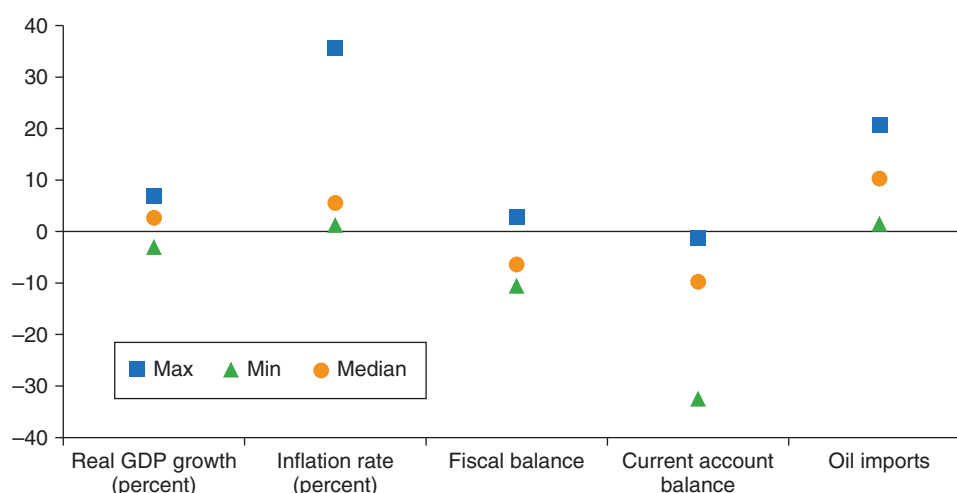
Table 4.1. (concluded)

Countries	Recent Measures	Main Mitigating Measures	Next Steps
Sudan	June 2012: gasoline, diesel, and liquefied petroleum gas prices increased by 47 percent, 23 percent, and 15 percent, respectively; jet fuel liberalized. September 2013: diesel prices increased by 74.7 percent, gasoline by 68.0 percent, and liquefied petroleum gas by 66.7 percent.	Public sector wage increase of about SDG100, a monthly grant allocation of SDG150 for about 500,000 urban poor families, lower health insurance premium for about 500,000 poor families, and an exemption of school and transportation fees for disabled people.	Gradually phase out the remaining subsidies on petroleum products and other staples while strengthening the social safety net through higher social spending and a more coherent and better targeted social safety net.
Tunisia	September 2012: gasoline and diesel prices and electricity tariffs increased by 7 percent, on average. March 2013: further 7–8 percent price increase, on average for the same products. January 2014: energy subsidies to cement companies reduced by half by increasing electricity tariff by 47 percent and natural gas price by 35 percent, with a view to fully eliminate these subsidies by June 2014. Electricity tariff and natural gas prices increased for medium- and low-voltage consumers with a 10 percent rate hike in January 2014 and another 10 percent in May 2014. An automatic gasoline price formula adopted.	Introduction of an additional lifeline electricity tariff for households consuming less than 100 kwh per month. Creation of a new social housing program for needy families. Increase of income tax deduction for the poorest household.	Gradually phase out energy subsidies by increasing electricity tariffs and fuel prices. Introduce a new targeted household support strategy. Prepare a new unified registry system for vulnerable households.
Yemen	2011–12: gasoline prices increased by 66 percent and diesel and kerosene prices doubled. 2013: diesel price unified across users, including the electricity sector.	Coverage of the Social Welfare Fund was expanded to 500,000 additional families.	Further reduce energy subsidies through gradual increase in fuel prices. Strengthen support through an expansion of the Social Welfare Fund.

Source: IMF staff reports for Article IV Consultations.

fiscal losses. In Jordan, imports of cheap liquefied natural gas from Egypt slowed down significantly since 2011, mainly because of the recurring sabotage to the Arab gas pipeline and, to a lesser extent, a price dispute; as a consequence, the state-owned electricity company has been pushed into losses that had to be covered by budget transfers. In Sudan, existing fiscal pressures were greatly amplified by the secession of South Sudan in 2011, which severely affected oil export revenues. In Yemen, because of severe

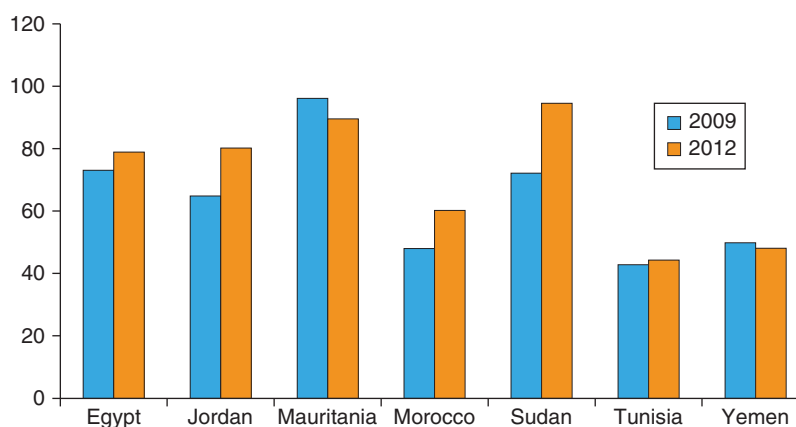
Figure 4.1. Selected Macroeconomic Variables, 2012¹
(In percent of GDP, unless otherwise specified)



Source: IMF, World Economic Outlook database.

¹ Include Egypt, Jordan, Mauritania, Morocco, Sudan, Tunisia, and Yemen.

Figure 4.2. Public Debt, 2009 and 2012
(In percent of GDP)



Source: IMF, World Economic Outlook database.

shortages in fuel products during 2011/12, the government had to import these products, but at much higher prices, to ensure adequate supply.

Focus of the reforms: Reform in these seven countries has focused on fuel products and electricity tariffs, while food subsidy reform has received less attention, reflecting the relatively small fiscal cost of these subsidies and the high social sensitivity of food products. The experiences differ

Table 4.2. Implementation Status of Most Recent Subsidy Reforms in MENA Based on Key Factors for Success

	Preparation	Gradual Pace of Adjustment	Breadth of Reform	Consensus Building and Communications Strategy	Role of Partners	Mitigating Measures
Egypt	✓				✓	✓
Jordan	✓	✓	✓	✓	✓	✓
Mauritania	✓	✓	✓		✓	✓
Morocco	✓	✓	✓	✓	✓	✓
Sudan					✓	✓
Tunisia	✓	✓	✓	✓	✓	✓
Yemen	✓				✓	✓

Source: IMF staff reports for Article IV Consultations.

across countries in terms of preparation, breadth of reform, and pace of adjustment (Table 4.2). Some countries increased prices sharply, but these gains were often wiped out by high international oil prices and exchange rate depreciation. Other countries followed a price adjustment mechanism to bring, and keep, domestic fuel prices up to international levels. For example, Jordan resumed a monthly fuel price adjustment mechanism in January 2013; Tunisia increased fuel prices on an ad hoc basis in 2012–13, and re-introduced an automatic price formula for gasoline in January 2014 to allow for future convergence to international prices over time; Mauritania adopted a new automatic diesel price formula in May 2012; and Morocco started implementation of a partial indexation mechanism for certain petroleum products in September 2013, eliminated subsidies on gasoline and industrial fuel in January 2014, and introduced bimonthly review of these prices.

Some countries also started addressing subsidies in the electricity sector, by increasing tariffs (Egypt, Jordan, Mauritania, Tunisia) and implementing plans for restructuring of state-owned electricity companies (Mauritania at an incipient stage, Tunisia having completed an audit of the three state-owned energy companies, with the objective of reducing cross-subsidies among them). In most countries, reform was part of a wider fiscal consolidation agenda aimed at creating fiscal space for priority capital and social spending. Table 4.3 shows the fiscal savings from price increases in diesel and gasoline in some recent subsidy reform episodes (keeping everything else equal). The gains from even these somewhat limited reforms are remarkable, even though they have been partly reversed by subsequent exchange rate depreciations and international fuel price increases.

Mitigating measures: Most countries complemented the increase in fuel prices with mitigating measures, mainly through the introduction or scaling-up of cash transfer programs. In Jordan, a new cash transfer system targets 630,000 families with an annual income below JD 10,000 (US\$14,100)—representing

Table 4.3. Reduction of Pretax Subsidies on Gasoline and Diesel due to Adjustments in Retail Prices in Local Currency¹
(In percent of GDP, cumulative)

	2011	2012
Jordan	1.4	2.4
Mauritania	3.0	5.6
Morocco	n.a.	0.7
Tunisia	n.a.	0.3
Yemen	2.3	5.5

Source: IMF staff calculations.

¹ This represents savings compared to a nonreform scenario.

70 percent of the population—if the oil price is above US\$100 per barrel. The transfer amounts to about US\$100 per person per year and is capped at a maximum of six family members; for 2013, its cost was estimated at 0.8 percent of GDP. In Yemen in 2011, the coverage of the Social Welfare Fund was expanded, with the assistance of the World Bank, to 500,000 additional families.

Other approaches were also pursued. Sudan increased civil service wages, a measure that will likely be difficult to reverse in the future as it entails recurrent spending and may create a sense of entitlement. Mauritania relied on the existent dedicated shops that sell selected subsidized basic foodstuffs (rice, cooking oil, and sugar). This experience has been disappointing, because these shops were not always located in the most vulnerable areas and were not effective in supporting the poor, who do not always have enough disposable cash to purchase the subsidized goods. Moreover, the administrative implementation of the initiative has been problematic, for reasons that include governance risks and moral hazard.

In Tunisia, in parallel with the implementation of the energy subsidy reform, the government introduced a new lifeline electricity tariff to protect households consuming less than 100 kwh per month, a new social housing program for needy families, and an increased income tax deduction for the poorest households. In addition, the government is finalizing a new targeted household strategy, which would expand the number of beneficiary families in the existing cash transfer mechanism (PNAFN) from 220,000 to 250,000, broaden the definition of vulnerable families, and increase school allowances for children and university students.

Lastly, Morocco is gradually strengthening existing programs and their targeting to vulnerable groups. Along with the continuous improvement of actions taken in the context of the National Initiative for Human Development to reduce poverty and social exclusion, the coverage of the TAYSSIR education program and the RAMED health insurance program has been expanded, while the resources of the social cohesion fund were

increased, particularly to finance a program of assistance for poor widows and the disabled. Also, measures were taken in support of public transport to ease the impact of fuel price hikes.

Communication strategies: Reform was generally accompanied by public communication campaigns, including media coverage showcasing the government's commitment to reform. But in Mauritania, Sudan, and Yemen, price increases were enacted without forewarning or prior public debate.

Role of the IMF: In all these countries, the IMF supported subsidy reform with policy advice and technical assistance. In addition, subsidy reform measures were explicitly part of programs supported by IMF arrangements in Jordan (Stand-by Arrangement in 2012), Mauritania (Extended Credit Facility in 2010), Morocco (Precautionary and Liquidity Line in 2013), Tunisia (Stand-by Arrangement in 2013), and Yemen (Extended Credit Facility in 2010).

Plans Ahead

Many countries intend to follow up on the reforms already undertaken:

- In Egypt, to better address the reform's impact on the poor, the government plans to introduce a targeted cash transfer and is considering plans for energy subsidy reform over the medium term while protecting sensitive sectors, including public transportation and food industries;
- Jordan plans to gradually increase electricity tariffs and develop new energy sources with lower generation costs;
- Mauritania plans to eliminate the general electricity and gas subsidy. The authorities are now developing a nationwide cash transfer program with the World Bank, to be deployed after the results of the 2014 household survey;
- Morocco plans to implement a comprehensive subsidy reform, which could be combined with cash transfers and other social assistance programs;
- Sudan aims at gradually phasing out the remaining subsidies on oil and other staples while enhancing social protection;
- Tunisia aims at gradually phasing out energy price subsidies and replacing them with well-targeted social safety nets made possible by a new unified registry system for vulnerable households under preparation. As a result, it already plans to increase fuel prices by 6 percent on average by July 2014; and
- Yemen plans to further reduce energy subsidies by gradually increasing fuel prices and to strengthen support to the poor through an expansion of the Social Welfare Fund.

Oil Exporters: Despite Limited Progress, Subsidy Reform is Increasingly on the Agenda

Subsidy reform in oil exporters is proceeding slowly, and in many countries there is not yet a sense of urgency for reform. In recent years, Iran has been the only major oil exporter to undertake a comprehensive subsidy reform (Box 4.1).² In many oil exporters, low energy prices are seen as passing on the low cost of natural resources and not as involving a true cost to the budget. Low energy prices are also considered rights of citizenship and a key element of legitimacy which substitutes for political participation.³ Very large subsidy programs, such as those in many oil-exporting countries, are more difficult to reform than more limited subsidy programs. Political stability concerns also play an important role; many governments see subsidy reform as a potential source of unrest. And, for some large oil exporters, such as Libya and Iraq, political instability and lack of security make it very difficult to start a subsidy reform program.

Box 4.1. Subsidy Reform in Iran

Iran's Targeted Subsidy Reform remains one of the most ambitious attempts to reform subsidies in an energy-exporting country. This homegrown reform was unprecedented in Iran's economic history in its scale, preparations, and potential implications. It primarily aimed at removing implicit subsidies on energy (estimated at about 13 percent of GDP on a pretax basis) and other products. The authorities reached out to more than 70 million citizens and engaged in a months-long public relations campaign. The reform envisaged changing the domestic relative prices for energy products by bringing them close to international levels over five years, reducing pollution, and helping transform Iran into a more competitive market economy.

The reform attempted to replace direct price subsidies with universal cash transfers to households. It also envisaged direct assistance to enterprises to facilitate adjustment to the new price structure, and to the government so as to facilitate payments of the government's own higher energy bill. 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 with price increases by up to 4 to 20 times. The plan was to use the revenue from these price increases to compensate households with universal cash transfers. In addition, the enterprises were to receive subsidized loans for the adoption of new, energy-saving technologies and credit lines to mitigate the impact of energy price increases on their production. The universal cash transfers to

² Also, Saudi Arabia increased the average price of electricity sold to nonindividual users by 9.6 percent on July 1, 2010, but it still remains below its actual production cost.

³ Krane (2013).

Box 4.1. (Concluded)

households were to improve income distribution because low-income households, with their limited energy consumption, benefited little from subsidized domestic energy prices. Moreover, with the opening up of bank accounts for receiving cash transfers, financial access would be increased.

After a smooth start in December 2010, the second phase of the reform, which would involve a new round of price increases, was postponed in mid-2012 following the marked deterioration in economic conditions and with mounting implementation problems. Economic growth decelerated and inflation rose after the first phase of the reform. The Targeted Subsidy Reform, which was designed to be fiscally neutral, faced cash-flow imbalances because a large share of the revenues expected from energy price increases failed to materialize, and such revenues fell short of the committed cash transfers to households. Intensification of international sanctions and the large exchange rate depreciation led to reversal of the gains achieved and eventual postponement of the reform.

The initial success of the reform in driving down the consumption of the subsidized products and improving income distribution waned because of the sharp increase in inflation in the absence of supportive macroeconomic policies.

- The consumption of subsidized products initially declined. Domestic consumption of liquid fuels fell by about 3 percent in 2011 compared to 2009, driven by the decline in gasoline and fuel oil consumption. Natural gas consumption continued to rise, but its growth significantly decelerated. Likewise, the growth in electricity consumption dropped to 2 percent in 2011, its slowest pace in a decade. Consumption of wheat, a key staple targeted by the subsidy reform, also fell in 2011 for the first time in a decade, with price increases significantly reducing smuggling of flour to neighboring countries. But despite the initial positive response of demand to price changes, the growth in consumption of subsidized products rebounded in 2012 as the price increases under the second phase of the reform were suspended, energy prices remained unchanged, and inflation and nominal incomes rose. Some indicators also suggest that the energy intensity briefly declined during the first phase of the reform.
- Direct cash transfers to households improved income distribution. The poverty rate declined by about 5 percentage points in the first three months of the program. Monthly cash transfers, 445,000 rials (about US\$45 when the reform was launched) per person doubled incomes for many large and poor families and brought per capita income above the US\$2 per capita a day poverty threshold. As a result, the Gini coefficient is estimated to have improved to 0.37 in 2011 from 0.41 in 2010, with a sharp drop in inequality in rural areas. Although no official data are available, the sharp contraction of the economy, rapid increase in inflation, and decline in real value of wages and cash transfers since 2012 are likely to have eroded some of the gains in income distribution.

However, subsidy reform is increasingly being considered in oil-exporting countries, and some countries have even started limited action:

- Dubai raised water and electricity tariffs by about 15 percent in January 2011;⁴
- Qatar raised the pump prices of gasoline by 25 percent and of diesel by 30 percent in January 2011;⁵
- Industrial tariffs for gas in Bahrain were increased by 50 percent on January 1, 2012;
- There is realization among policymakers that the general welfare system in Kuwait has become unsustainable because of the large subsidies on fuel, electricity, and water. For example, fuel prices have not changed in the past 15 years, while power is offered to citizens and the 2.7 million foreign residents at less than 5 percent of the cost; and
- To enhance revenues, Oman has entered into agreement with industrial users to double the feedstock gas prices to \$3 per million British thermal units by 2015.

The emergence of subsidy reform in the policy agenda of these countries is mainly due to worrying fiscal trends reflected in rising breakeven oil prices and shrinking fiscal surpluses. The average fiscal balance of MENA oil exporters is expected to turn into a deficit starting in 2017, compared to a surplus of about 7 percent in 2012. Already in 2014, 7 out of 12 MENA oil exporters, including Algeria, Bahrain, Iran, Iraq, Libya, Sudan, and Yemen, are expected to run fiscal deficits. These trends are in part caused by increases in public wages and social spending to mitigate the economic impact resulting from the global financial crisis and to address domestic social pressures. But in many oil exporters, fiscal policy suffers structurally from a “ratchet effect,” whereby spending increases in times of high oil prices but does not symmetrically decline when prices decline. Often, only part of oil revenues are saved in sovereign wealth funds or central bank reserves, with the remainder channeled to the economy via a large public sector wage bill and public infrastructure, subsidies for industries, and subsidies and provision of services for nationals. Moreover, governments devote extensive resources to helping diversify their economies through structural and development policies.⁶

As a result, oil-exporting countries have become more dependent on high oil prices to finance their high government expenditures, much of which is

⁴ McGinley (2010).

⁵ Bloomberg (2011).

⁶ Espinoza, Fayad, and Prasad (2013).

difficult to reverse. At the same time, the volatility of oil production has risen during the past decade because of supply disruptions and actions to maintain balance in global oil markets, increasing uncertainty for government oil revenues and balances.⁷ Consolidation strategies to address these fiscal risks could rely in part on the reduction of fuel subsidies through an increase in prices or taxation levels.

In MENA oil exporters with shorter oil production horizons, such as Algeria, Bahrain, and Oman, the need for reform is even more urgent. In these countries, subsidy reform could finance more targeted spending and better protect the poor; it would also support productive spending for future generations once oil reserves are depleted.

- In Algeria, fiscal and external vulnerabilities to developments in the hydrocarbon sector are deteriorating. Despite ongoing fiscal consolidation, public finances are not on a sustainable path. Fiscal policy is de facto procyclical, and the nonhydrocarbon primary deficit is well above its long-term sustainable level and is expected to result in negative net public savings in the long term, absent reforms to contain current expenditures and increase revenue.⁸
- Fiscal consolidation is needed to stabilize debt in the medium term in Bahrain. Fiscal deficits are projected to widen, and public debt is estimated to continue to rise, reaching 63 percent of GDP in 2018 from about 37 percent of GDP in 2012. There is an urgent need to launch a medium-term fiscal strategy for gradually retargeting subsidies, containing public sector wages, raising non-oil revenues, rationalizing capital expenditures, and reforming the pension fund.
- In Oman, as crude oil production starts to decline, the accumulated fiscal buffers could erode quickly, especially if the increasing wage bill and current spending, including subsidies, are not contained. These trends could endanger the government's longer-term fiscal sustainability.

Conclusions

How do the reforms enacted in the MENA region conform to the prescription for success emerging from the previous chapter? These reforms have generally been well prepared and supported by international partners. To varying degrees, the reforms were also supported by the introduction

⁷ IMF (2013).

⁸ IMF (2014).

or strengthening of mitigating measures which, however, were not always adequate or sufficiently targeted. In addition, price increases were not gradual in all cases, and only few countries communicated to the public and explained to insiders the need for reform. Also, reforms were enacted under fiscal and external pressures, when growth was lower than in the previous decade.

Moreover, when some countries implemented ad hoc price increases that were not linked to pricing formulae, fiscal savings from reform were eroded later by higher international fuel prices and exchange rate movements. Furthermore, the reform effort was limited to a relatively small number of countries, almost all oil importers. Many countries, particularly oil exporters in MENA, have yet to act on subsidy reform.

Issues of Special Interest to the Middle East and North Africa

This chapter will cover topics of particular importance to the Middle East and North Africa (MENA), based on recent reform experiences: best practices in social safety nets, impact of subsidy removal on the macro economy and productive sectors, and the political economy of subsidy reform.

Social Safety Nets

Countries in the MENA region have historically relied heavily on food and fuel price subsidies as a form of social protection, rather than on social safety net instruments and social insurance. Cash transfers and other forms of direct income support are not used widely and, where they exist, are generally underfunded. A recent World Bank study found that social safety nets (excluding subsidies) in the region attract public resources equivalent to less than 0.7 percent of GDP on average.¹ These are fragmented among several small programs with large overlaps, and suffer from high leakages. The study also found that the average social safety net program (excluding subsidies) in MENA allocates only 23 percent of its total benefits to the bottom quintile, against 59 percent in Latin America and the Caribbean and in Eastern Europe and Central Asia. The social safety net programs in MENA have limited impact on poverty and inequality because of low coverage, inefficient targeting, and poor or absent monitoring and evaluation systems.

As a result, governments in MENA tend to cope with crises by scaling up subsidies or increasing public sector employment. This is also the experience of the Arab Spring, when several MENA countries expanded subsidies or reduced taxes on food and fuel products to address social demand at a time of high commodity prices.² Those countries in the region with social safety net programs—such as cash transfers—were able to scale these up.

¹ Silva, Levin, and Morgandi (2012).

² For a full set of measures undertaken since late 2010 in the MENA region, see IMF (2011).

But, as discussed in Chapter 2, generalized price subsidies do not target those in most need, strain public finances, and foster overconsumption, particularly of energy. Social safety nets, including targeted price subsidies, are better at supporting poor households. Social safety nets are also more cost-effective, and thus leave more fiscal resources for other priority spending, such as investment in infrastructure, education, and health, which also benefit populations at large.³ World Bank and IMF work confirms these advantages:

- World Bank simulations in a computable general equilibrium model showed that poverty in Egypt could be cut by one-third if energy subsidies were reduced by 50 percent and the savings distributed uniformly in cash to the population (a targeted transfer would reduce poverty even more);⁴ and
- Similarly, IMF staff simulations in 2011 for Jordan showed that a gradual elimination of price subsidies on energy products, bread, and water, and replacement through a well-targeted cash transfer system could improve the welfare of the poorest 40 percent of the population, while producing fiscal savings of 5 percent of GDP.

Improving Targeting

Targeting public interventions is key to providing cost-effective social protection for the poor and vulnerable. Proper targeting helps direct resources to the envisaged beneficiaries by reducing errors of exclusion (cases of intended recipients who do not get the benefit) and errors of inclusion (cases of unintended recipients who do get the benefit).

- Lebanon launched a central targeting program in 2009 (National Poverty Targeting Program) building the basis for an effective social safety net.⁵ The National Poverty Targeting Program provides a basket of benefits including partial medical bill payment, school fee waiver, and free books.

Ideally, governments should target social protection programs to the neediest through effective means testing. Means tests use income or poverty thresholds to determine benefit eligibility, and should normally be designed to phase out benefits gradually as income rises, to reduce disincentives for seeking work. Well-implemented means tests have been shown to deliver good results in minimizing targeting errors; however, they require significant administrative capacity and good-quality data (including data from poverty and consumption surveys), and are thus quite costly.⁶ Where means testing is not practical, other

³ Bauer (2011).

⁴ World Bank (2005).

⁵ Silva, Levin, and Morgandi (2012).

⁶ Coady, Grosh, and Hoddinott (2004), and Gelbach and Pritchett (2002).

targeting methods can be used that demand less administrative capacity and data. Alternative methods include proxy means tests (beneficiary selection based on easy-to-observe household characteristics such as quality of housing and/or ownership of durable goods), categorical targeting methods (beneficiary selection based on location or demographic attributes such as age or gender), and self-targeting (free access is given to a benefit, but design features provide incentives ensuring that a substantial portion of the benefit reaches the target population):

- Yemen reformed its Social Welfare Fund, its main cash transfer program, by improving poverty targeting with a proxy means-test formula, strengthening capacity for service delivery, and adopting a new legal policy framework.⁷

Self-targeting has been adopted by a number of countries in the MENA region for food products and—to a lesser extent—for fuels:⁸

- In Tunisia in the early 1990s, the authorities were able to improve the targeting performance of food subsidies in part by using differentiated (less attractive) packaging, including selling certain products such as cooking oil from bulk containers;⁹ and
- In several countries, including Morocco and Egypt, higher octane fuel used predominantly by more expensive cars and sport utility vehicles is less subsidized than diesel fuel used in public transport.

Another approach to limiting benefit leakages is keeping the amount of subsidized product below a certain threshold corresponding to the service or product volumes usually consumed by the poor:

- Many countries, such as Jordan and Egypt, provide cheap electricity to households for consumption up to a certain threshold (so-called lifeline tariffs);
- In Iran, the electronic card system introduced in June 2007 for gasoline rationing and quotas also provided a de facto multi-tier energy pricing structure for gasoline. This structure introduced an element of gradualism in the reform, while accomplishing the main objective of increasing “free market” prices. The subsidized price of rationed gasoline was increased but remained well below the full price at which consumers could purchase an unlimited amount of fuel. Rationing also required

⁷ Silva, Levin, and Morgandi (2012).

⁸ Grosh and others (2008), Alderman (2002), and Adams (2002).

⁹ Alderman and Lindert (1998).

the implementation of a comprehensive vehicle registration system and personalized distribution and management of the gasoline quotas;¹⁰ and

- In Egypt, subsidized food is provided in limited quantities through ration cards/coupons, although the latter are widely used (by almost 68 percent of households in Egypt). Similarly, in Jordan, where subsidized food is provided in limited quantities through ration cards and/or coupons, the government is planning to review the general food subsidy on wheat flour in the course of 2014 to prevent abuse.

Cash Transfers

Even with some form of targeting, price subsidies tend to be less cost-effective and incentive-compatible than other safety net instruments. In particular, self-targeted food subsidies rarely perform better than a uniform cash handout. Similarly, rationing strategies such as lifeline tariffs have been shown to have a relatively poor targeting performance, because of the low access to electricity among the most vulnerable. Moreover, these targeting mechanisms do not remove the price distortions created by subsidies; hence, incentives for waste and smuggling remain—albeit to a lesser degree if access to subsidized goods is rationed.

Cash or near-cash transfers, especially when means-tested, offer a number of advantages over subsidies as a social protection instrument.^{11, 12} They do not directly distort prices, provide flexibility and more choice to recipients, have a relatively low administrative cost once the infrastructure has been set up, and can be easily scaled up in case of need (for example, in crises). IMF estimates indicate that well-designed cash transfer systems in MENA can typically result in about 50–75 percent of spending reaching the bottom 40 percent of the population, compared with 20 percent of the amount spent to subsidize fuel prices and 35 percent to subsidize food prices.¹³ Several MENA countries have had successful experiences with the adoption of cash transfers (Box 5.1).

Cash transfers can be made conditional on recipient households taking human capital-enhancing actions such as sending children to school or receiving immunizations.¹⁴ Though more complex to administer than unconditional transfers, conditional cash transfers can provide additional

¹⁰ Guillaume, Zyteck, and Farzin (2011).

¹¹ Near-cash transfers include coupons/vouchers that may be used to purchase food or other essential goods and services. Income support can also be provided through public works programs.

¹² Baffes and others (2009).

¹³ IMF (2012).

¹⁴ Successful programs in this area include *Bolsa Familia* (Family Grant) in Brazil and *Oportunidades* (Education, Health, and Employment Program) in Mexico. For further discussion of conditional cash transfer programs, see Grosh and others (2008).

Box 5.1. Examples of Successful Cash Transfers in the Middle East and North Africa¹

Iran: In December 2010, Iran cut indirect subsidies and put in place an across-the-board cash transfer program for households. In advance of the price adjustments, the authorities deposited cash transfers in new bank accounts for households, which were to be financed by the revenue from price increases. The cash was released with the launch of the reform.

Jordan: The National Aid Fund was established in 1986 as a means-tested program. The recurrent cash assistance program, providing cash support to the poor and vulnerable, is the largest program administered by the National Aid Fund in terms of scope. The fund provides the beneficiaries with monthly cash transfers ranging from JD 40 (US\$56) to JD 180 (US\$254) depending on income. It also provides emergency assistance, disability and health benefits, and vocational training.

Mauritania: With the assistance of the World Food Program, the government has launched a cash transfer program targeting 10,000 vulnerable households in Nouakchott identified through a poverty survey. Each household receives UM 15,000 monthly or about US\$51 (equivalent to half of the legal minimum wage) via a bank transfer.

Morocco: The conditional cash transfer pilot program to encourage education in underprivileged areas was launched in the second half of 2007. The direct transfers to households are conditioned on the children regularly attending primary school. The pilot program reaches more than 160,000 households and nearly 300,000 students.

Yemen: The Social Welfare Fund was established in 1996 as a poverty alleviation program to provide conditional cash transfers to more than 1.5 million households. The coverage of the fund as well as the transfers has been gradually increased. The transfers were partly meant to mitigate the impact of fuel subsidy reforms.

¹ Clements and others (2013), Silva, Levin, and Morgandi (2012), and International Labor Organization Social Security Inquiry database.

incentives for households to take actions that can help increase their future earnings potential and reduce the intergenerational transmission of poverty.

Cash and in-kind benefits can normally be delivered to beneficiaries using one of two main methods. The first method requires that the distributing agencies directly distribute cash or in-kind benefits. The second one involves giving the beneficiaries access to the benefits through checks, vouchers, direct deposits, smart cards, cell phones, and the like that can be redeemed at one of the distributing agencies. Money transferred electronically to beneficiaries has the potential to cut costs, reduce leakages, promote access to financial

services, and provide better security compared to physically delivering cash. But the lack of regulatory and financial infrastructure in low-income countries means that e-payment systems need substantial up-front investment.¹⁵

Cash transfers do suffer from some drawbacks. The main issues arise from implementation. Cash transfers (even if uniform, but particularly if conditional) require a fairly precise census of individuals and households and simple but sound methodologies to verify that conditions have been satisfied. Furthermore, when governance is weak, cash transfers open the way to abuse by making it easier to channel public resources to unintended beneficiaries, for example, to obtain political support. Lastly, cash transfers may create disincentives to work for recipients.

Macroeconomic Impact of Subsidy Reform

Inflationary Effects

Food and fuel subsidy reform may translate into an increase in inflationary pressures if price increases are large enough. The hike in previously subsidized prices will cause a first-round increase in food and/or fuel inflation, with the magnitude of the pass-through dependent on the weights of food and fuel products in the consumer price index. The price dynamics will also be affected by the second-round impact on core inflation (nonfood and fuel prices), which depends on expectations of future inflation and the presence of indexation mechanisms in the economy (particularly if based on the overall price index). Empirical evidence from a sample of countries has pointed out that hikes in food prices have higher second-round effects on inflation than hikes in fuel prices.¹⁶ This difference may reflect the large weight of food products in the consumer basket, resulting in higher impact on real household incomes and therefore stronger wage pressures. However, the difference in impact between food and fuel prices may not always hold in the case of subsidy removal, because price increases taking place in the context of subsidy reform may be limited to a relatively narrow range of food products and may therefore have a more limited impact on household incomes.

In line with the standard recommendations on the response to price shocks, the first-round impact should be accommodated, since it is a one-off shock that reflects the realignment of relative prices following the removal of the policy-induced distortions represented by subsidies. Monetary policy should accommodate this realignment and allow the pass-through of higher food and fuel prices to inflation. This policy stance would avoid the output loss

¹⁵ HelpAge International (2012).

¹⁶ De Gregorio (2012).

resulting from the mistaken tightening of monetary policy in response to a temporary inflationary shock. The policy-driven nature of the first-round increase in prices should also make it easier for the central bank to single out the temporary component among other possible inflation pressures. In parallel, the government should address the erosion of poor households' real incomes caused by the first-round inflation push, by introducing or strengthening social safety nets.

Monetary policy should, however, respond to second-round effects. If inflation expectations and indexation mechanisms play an important role in the economy, the central bank should focus on noncore inflation to judge whether a tightening of policy is needed to stifle a wage-price spiral. Prompt policy reaction would be particularly important for countries where inflation was already on the rise before the implementation of the subsidy reform.

A strong anti-inflationary stance before the launch of subsidy reform can help contain second-round effects. Tight monetary policy in advance of reform can anchor the public's inflationary expectations.

- In Tunisia, the increase in inflation from 5.1 percent in January 2012 to 6.4 percent in April 2013 is mainly explained by higher food and energy prices. For energy products, all of the increases reflected recent rises in administered prices of petroleum products and energy tariffs, while food price rises reflected increases in nonadministered prices.
- In Mauritania, inflation fell from 5.5 percent at end-2011 to 3.4 percent at end-2012, significantly lower than projected, as the regular increases in retail fuel prices were more than offset by the decline in food prices (which make up 49 percent of the consumption basket).

Macrofiscal Impact

In the long term, subsidy reform has a positive effect on growth, thanks to the elimination of distortions, the rationalization of energy use, the increase in export revenues in oil exporters, the enhanced competitiveness, and a stronger budget structure.¹⁷ However, in the short term, the removal of subsidies is equivalent to a reduction in current public spending and can have a contractionary effect if it produces net budgetary savings, assuming a positive fiscal multiplier in line with the findings of empirical analysis for developing countries.¹⁸ Recent IMF work shows that fiscal multipliers may be

¹⁷ World Bank (2010c).

¹⁸ Spilimbergo, Symansky, and Schindler (2009), and Espinoza and Senhadji (2011).

higher in recessionary environments; these results suggest that subsidy reform can be less “growth-damaging” if undertaken when the economy is doing well. Furthermore, the dampening effect on growth can be minimized to the extent that all or part of the savings are redirected to other public spending, especially transfers to the poor (who have a very high propensity to consume) and investment (which generally has a high multiplier). These demand considerations provide an additional argument in favor of introducing compensating measures concurrently with the elimination of subsidies:

- According to a study conducted by Morocco’s State Planning Agency, the increase in energy prices in September 2013 may cut economic growth by 0.2 percent in 2013 and 0.5 percent in 2014 by slowing domestic demand. Overall, reducing subsidies for energy products is expected to improve the budget deficit by 0.2 percent of GDP in 2013 and 0.6 percent in 2014, but it would hike domestic consumer prices by 0.4 percent in 2013 and 1.1 percent in 2014. The estimates assume that no measures would be put in place to counter the rise in costs.¹⁹

Impact on the Productive Sector

The removal of subsidies—particularly those on fuel—represents a negative shock for the productive sector. A fuel price hike effectively amounts to an increase in indirect taxation on enterprises’ inputs. The increase in enterprises’ production costs depends at the individual level on the goods and services produced and on the production function. The impact at the aggregate level is related to the economy’s energy intensity and its openness to external competition and markets. Examples of energy-intensive industries are aluminum, metal casting, chemicals, mining, forest products, petroleum refining, glass, and steel.²⁰ The increase in energy prices can also have significant second-round effects on less energy-intensive sectors, such as agriculture. For example, higher fuel prices could push up the cost of water and fertilizers, and, in turn, reduce agricultural revenues, with important social implications for small farmers—who may not be able to pass the higher cost to consumers—in the absence of compensating measures.

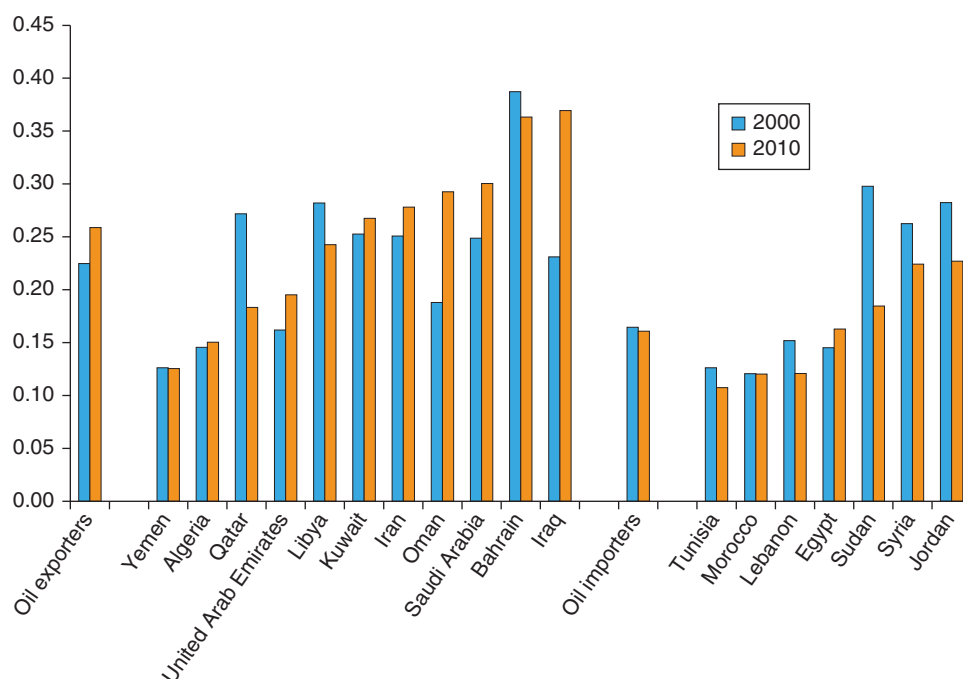
In most MENA countries where fuel subsidies are very large, the economy is generally much more energy-intensive, and the increase in prices triggered by subsidy reform would have a bigger impact than it would have in economies that have already adapted to the high oil prices of recent years (Figure 5.1 and Box 5.2).²¹

¹⁹ Reuters (2013).

²⁰ U.S. Department of Energy, 2012.

²¹ Manzoor, Shahmoradi, and Haqiqi (2012).

Figure 5.1. Energy Intensity by Country, 2000 and 2010
(In kg of oil equivalent/PPP GDP)



Sources: World Bank, World Development Indicators database; and IMF staff calculations.

Note: PPP = purchasing power parity.

Export-oriented industries are likely to be particularly affected by subsidy reform. The increase in input costs translates into smaller profits (and possibly bankruptcy and exit from the market) unless firms are able to pass on the increases to final consumers. This is likely to be more challenging for industries that are export-oriented or face competition from imports, and therefore are price-takers. For those sectors that are more oriented toward domestic consumption and captive markets, the rise in costs will lead to an increase of product prices that can be, at least in part, absorbed by the final consumer. Overall, the change in relative prices will lead to a shift in the production mix away from energy-intensive goods.

- In Jordan, electricity tariffs increased for selected service and manufacturing companies in June 2012. The impact is estimated to have been stronger for energy-intensive sectors such as the phosphate industry, but relatively limited for the less energy-intensive light industry, which makes up for the bulk of nonprimary exports. However, the negative impact on external competitiveness must be seen in the perspective of better provision of electricity in Jordan compared to neighboring countries, where the unreliability of the electricity network forces operators to rely on expensive private generators. Moreover, to

Box 5.2. Egypt: Adverse Consequences of Subsidies—High Energy Intensity Industries and Shortages

Impact on the productive sector: In addition to subsidizing motor fuel and liquid petroleum gas (LPG) for general consumption, Egypt has for decades provided a generous subsidy scheme for industrial use. In 2011, natural gas and fuel oil were available for Egyptian companies at less than 40 percent of the cost recovery price. This has resulted in distortions, generating a bias in favor of capital- and energy-intensive industries that encourages diversion of resources—including foreign direct investment—to these sectors, to the detriment of more energy-efficient or labor-intensive industries. As a result:

- Egypt exports less textile and garment products than Tunisia and Morocco despite significantly lower wages. At the same time, Egypt's exports from its high energy-intensive sectors have increased significantly. Egypt has become a significant exporter of cement and ceramics, despite the associated high shipping costs; and
- Even excluding the energy sector, almost 50 percent of the manufacturing sector is composed of high energy-intensive industries; 15 percent represents low energy-intensive industries, and the rest are medium energy-intensive industries.

Shortages of subsidized products: Generous subsidies encourage excessive consumption and entail a prominent government role in the distribution of subsidized products, exacerbating existing distortions. In Egypt, 60 percent of gas stations and most of the LPG cylinder deposits and distribution centers are publicly managed. State-owned enterprises' lack of optimal distribution strategy and inefficiencies and mismanagement, combined with excess demand, have in recent years pushed retail prices of LPG cylinders to six times the official price, defeating the purpose of the subsidy policy and hurting mainly the poor households that are likely to suffer from the diversion of supply to wealthy neighborhoods.

reduce dependence on energy imports, other energy sources, with lower generation costs, are being developed.

- Industrial tariffs for gas in Bahrain were increased by 50 percent on January 1, 2012, with an annual estimated savings of 1.4 percentage points of GDP. This mostly affected Bahrain's aluminum industry, which comprises the bulk of the country's manufacturing sector. However, the aluminum industry continues to be profitable and competitive, because of the still relatively low prices of gas.

In designing fuel subsidy reform, the government should consider the impact on the productive sector and could introduce temporary relief measures. Firm

commitment to phasing out these measures is, however, essential to avoid replacing the distortions deriving from subsidies with other types of distortion.

- In Iran, 20 percent of the revenue from the end-2010 price increases was to be set aside to provide support for enterprise restructuring and for efforts to reduce energy intensity. The authorities conducted a review 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.²² However, assistance to enterprises remained very limited during the implementation of the reform.
- Many industries in Yemen are highly dependent on subsidized energy products. Energy intensity, both direct and indirect as measured through the input-output matrix, is highest in electricity production, oil refining, light manufacturing, and water.

The first-best approach to helping firms absorb the impact of higher input prices consists in improving the economy's competitiveness by improving the business climate and promoting corporate restructuring, helping the economy adapt to higher energy prices (including measures to support energy efficiency and public transportation), and training workers who exit industrial sectors that are no longer competitive.

To encourage enterprises—especially if state-owned—to adapt to the new, tougher environment, it is crucial that the government take a firm stance to squash expectations of bailouts, which could end up costing more than the gains from the subsidy reform. The removal of subsidies will help industries pursue strategies to minimize energy costs, making it more efficient, and strengthen incentives for research and development in energy-saving and alternative technologies.²³

In addition, the removal of subsidies should eliminate price distortions and result in a better allocation of resources toward investment that would be more profitable in the absence of subsidies.

Elimination of the artificial competitive advantage deriving from subsidies would also improve the weak corporate governance of state-owned hydrocarbon

²² Clements and others (2013).

²³ Fattouh and El-Katiri (2012).

enterprises. To facilitate restructuring, the government may also want to phase in gradually—following a credible, preannounced path—the removal of subsidies, so that firms have time to restructure and prepare for the input cost shock.

Managing the Political Economy of Subsidy Reform

Political economy factors often derail subsidy reforms, even if their design is sound from an economic and equity perspective. Resistance to change from society and the political system can block a reform, independently of its rationale, benefits, and urgency. A number of factors make subsidy reforms particularly vulnerable to such pushback:

Political mobilization bias: The beneficiaries of subsidy reform, generally the poorer households, are often less organized and politically enfranchised than those who would be worse off, such as the middle class (typically, car owners, in the case of fuel subsidies) and vested corporate interests (for example, the transport sector or energy-intensive domestic producers).

Lags in the timing of costs and benefits: The impact of eliminating price subsidies is, in most cases, felt immediately. But effective subsidy reform takes time to implement, and its benefits often become visible only with a lag. For example, savings from subsidy reform that are used to increase investment in health or education will take years to produce measurable improvements. This lag time increases the likelihood of an early buildup of opposition to reform. Also, reform will be resisted when there is little confidence in the government's capacity to put the savings from subsidy reform to good use. The lag time between subsidy removal and benefits is particularly harmful when there is little trust between citizens and the state, as is often the case in the MENA region—which makes subsidies so attractive in the citizens' eyes; they are a clear and easy-to-implement benefit from the state.

Weak administrative capacity of governments: Subsidy reform requires relatively strong administrative capacity—not so much for the removal of price subsidies, which is relatively easy, but more for the design and implementation of some supporting measures, such as the introduction of well-targeted social safety nets and other compensating measures, or the launch of an effective communication campaign.

Long duration of the reform effort: While gradualism can help reduce adjustment costs and thereby lessen resistance to reform, price subsidy reforms that involve several steps and spread over several years are more exposed to resistance from vested interests, who may use the time to coordinate and solidify into a blocking coalition that can effectively veto the reform. Moreover, lengthy reforms are vulnerable to cyclical developments (such as an economic downturn or approaching elections) or unexpected

shocks (such as sharp commodity price increases or natural disasters) that may create resistance to implementing the reforms as originally planned.

Designing Political Economy-Robust Reforms

Policymakers should anticipate the role of political economy factors and take possible obstacles into account when designing subsidy reforms. A number of measures can be taken to make price subsidy reforms more robust:²⁴

Build an objective case for reform: Public perceptions are influenced by the weight of compelling evidence and arguments that demonstrate the benefits of reform and shape a positive narrative in favor of it. Producing such evidence may require strengthening the measurement systems of the social and poverty impact of price subsidies, preferably before the launch of the reform. Poverty surveys and independent studies from a variety of sources, including international organizations, can show the drawbacks of price subsidies and the benefits of reform.

Increase transparency and the implementation capacity of the state: Governments can greatly strengthen the case for reform by increasing the transparency of how public resources are used in relation to the composition of subsidized prices (which is relatively easy to do for fuel products, by breaking down the composition of subsidized prices). Where there is mistrust in a government's ability to use subsidy savings appropriately, earmarking can be used to ensure that resources are allocated to desirable uses.

Earmarking of resources should, however, be used sparingly because it introduces rigidity into the budget that is not desirable from the perspective of public financial management. The credibility of reform can also be strengthened by tasking new or restructured institutions with the implementation of the various components of the reform (e.g., independent agencies to set prices based on objective assessment, and social agencies to plan and administer the social safety nets). Partly because of the natural dynamics of bureaucracies, an appropriate institutional framework can support and defend the reform, making it irreversible even in the face of strong resistance.

Create public concern through a communication campaign that starts well in advance of the reform: Leveraging improvements in transparency on subsidy systems, communications should focus on the costs of subsidies, stress the benefits of alternative policies, and offer comparisons with peer countries.

²⁴ For more details on political economy, see Graham and others (1999), Graham (2002), Grindle and Thomas (1989), Commander (2012), and World Bank (2008).

Create coalitions of stakeholders who would benefit from reforms to balance the resistance of vested interests: For example, authorities can disclose target groups and beneficiaries of social programs that will be scaled up (such as cash transfers) and mobilize them so they can have a voice. Similarly, the authorities can take measures to ease the resistance of middle class households, for whom price subsidies are often the only tangible benefit received from the government. Gradualism in the adjustment, as well as credible commitments to reinvest savings in improving the quality of public services, especially education and health, may help achieve this objective.

Leverage the regional dimension of subsidy reform: Coordinating reforms across neighboring countries can help contain cross-border arbitrage and smuggling, especially on fuels, due to cross-border price differentials. This, in turn, can help contain corruption and the entrenchment of vested interests. In addition, regional coordination could help countries learn from others about the reform process, particularly when they share similar economic structures.

Embed subsidy reform in a wider policy reform plan: Public support can be easier to create if subsidy reform is part of a wider reform plan that enjoys broad popularity. For example, if there is a broad societal consensus and pressure for education or health reform, subsidy reform can explicitly be linked to funding of health reform. This may reduce resistance as the failure to reduce subsidies would derail other highly desired policies.

Main Lessons and Takeaways

In this paper, we have reviewed subsidy reform in many countries in the world with particular attention to the reforms recently undertaken in the Middle East and North Africa (MENA) region that can be helpful in designing and implementing subsidy reform. Among the key elements of success, the most relevant lessons for MENA countries are:

- A subsidy reform strategy needs to be well prepared, executed, and followed through. Such a strategy is likely to require time and effort, and policymakers should not underestimate the resources and political capital needed;
- Strong government ownership and commitment to reform, consensus building, and communication are crucial to make the population aware of the costs of subsidies and to show the benefits of reform, thus overcoming resistance, particularly from those who would lose out—at least in the short term—and mobilizing the support of those who would gain; and
- Establishment of social protection mechanisms prior to subsidy reform efforts is crucial to building support for reform and protecting the vulnerable. Subsidy removal should be gradual and accompanied by the introduction or the scaling-up of well-targeted social safety nets, preferably in the form of targeted cash transfers or vouchers, to compensate those who are most affected by higher prices.

The Way Forward

The recent progress made by several MENA countries in addressing energy subsidies is encouraging; however, as discussed in Chapter 4, these reforms are far from complete. In particular, price increases have been often implemented

on an ad hoc basis and have not been large enough to bring domestic prices in line with international levels. Also, in some countries, social safety nets have not been sufficiently strengthened. Finally, reform so far has been confined mostly to oil-importing countries—where fiscal and, in some cases, external pressures have been the most important and most urgent motivation for reform. Much remains to be done to tackle subsidies in the region.

First, governments in countries that have started reform should build on progress already achieved, by:

- Completing the scaling-up of well-targeted social safety nets to better protect the vulnerable;
- Setting a clear timeline for gradually raising domestic prices to international levels, to ensure predictability for both consumers and producers and to facilitate adjustment; and
- Specifically for energy subsidy reform, introducing, or implementing more rigorously, automatic price-setting mechanisms—possibly coupled with smoothing features, and tackling subsidies in the energy sector that result in losses to state-owned electricity companies and recurrent transfers to the sector. Electricity tariff increases should also be combined with restructuring of the sector to ensure greater access and better quality.

Second, governments in countries that have not yet started comprehensive energy subsidy reform should take a hard look at the advantages of containing these subsidies. This paper shows that reform would be beneficial in oil-importing and oil-exporting countries: reducing fiscal vulnerabilities, removing distortions that discourage labor-intensive industries and stifle employment creation, and containing domestic overconsumption—which would help to reduce current account pressures in oil-importing countries and increase exportable resources in oil-exporting countries, thereby adding to wealth accumulation. Overconsumption is also a key driver of environmental damage, and reducing it would contribute to better health outcomes. Hopefully, many countries will be encouraged by the experience of the seven countries described here, which shows that progress in energy subsidy reform can be achieved even if not all the elements for success are present.

In fact, the economic homogeneity of some subregions in MENA (e.g., Mashreq, Gulf Cooperation Council) increases the potential for regional coordination in preparing or considering subsidy reform, particularly for fuel products.

Even if policymakers feel that the moment is not yet right for comprehensive subsidy reform—whether of energy or food subsidies—there are measures that can be taken to prepare the ground for future action. In particular,

governments can improve transparency on subsidy costs and beneficiaries, and gather data and information on household consumption and poverty that will help establish or improve social safety nets. Past reform cases have shown that the preparation, consensus building, and implementation of well-designed subsidy reforms take several years. Thus, governments should start acting now to give themselves the chance of building a long-lasting and durable reform later.

Finally, for all countries, managing the social impact of reform is key, but particularly so for the countries undergoing political transition. In this context, policymakers and international stakeholders must move carefully and choose the reform mix that balances fiscal and efficiency returns against social opposition to price increases. This may mean, for example, postponing socially sensitive food subsidy reform in favor of fuel price increases that have less impact on the poor. Good timing in the scaling-up of existing social safety nets or introducing well-targeted mitigating measures is therefore crucial.

References

- Adams, Richard H. Jr., 2002, “Self-Targeted Subsidies: The Political and Distributional Impact of the Egyptian Food Subsidy System,” *Economic Development and Cultural Change*, Vol. 49, No. 1, pp. 115–136.
- Alderman, Harold, 2002, “Subsidies as a Social Safety Net: Effectiveness and Challenges,” Social Protection Discussion Paper No. 0224 (Washington: World Bank).
- Alderman, Harold, and Kathy Lindert, 1998, “The Potential and Limitations of Self-Targeted Food Subsidies,” *World Bank Research Observer*, Vol. 13, No. 2, pp. 213–29.
- Arze del Granado, Javier, David Coady, and Robert Gillingham, 2010, “The Unequal Benefits of Fuel Subsidies: A Review of Evidence for Developing Countries,” IMF Working Paper No. 10/202 (Washington: International Monetary Fund).
- Baffes, John, Donald Mitchell, Elliot (Mick) Riordan, Shane Streifel, Hans Timmer, and William Shaw, 2009, *Global Economic Prospects: Commodities at the Crossroads 2009* (Washington: World Bank).
- Bauer, Andreas, 2011, “Moving from Subsidizing Products to Protecting People: Strengthening Social Protection in MENAP,” *World Economic and Financial Surveys: Regional Economic Outlook*, pp. 44–49 (Washington: International Monetary Fund).
- Beaton, Christopher, Ivetta Gerasimchuk, Tara Laan, Kerry Lang, Damon Vis-Dunbar, and Peter Wooders, 2013, *A Guidebook to Fossil-Fuel Subsidy Reform for Policy-Makers in Southeast Asia* (Manitoba: International Institute for Sustainable Development).
- Bloomberg, 2011, “Qatar Raises Gasoline, Diesel Prices, The Peninsula Says,” by Robert Tuttle, January 23. Available via the Internet: <http://www.bloomberg.com/news/2011-01-23/qatar-raises-gasoline-diesel-prices-the-peninsula-says.html>.
- Clements, Benedict, David Coady, Stefania Fabrizio, Sanjeev Gupta, Trevor Alleyne, and Carlo Sdravovich, 2013, *Energy Subsidy Reform: Lessons and Implications* (Washington: International Monetary Fund).
- Coady, David, Javier Arze del Granado, Luc Eyraud, Hui Jin, Vimal Thakoor, Anita Tuladhar, and Lilla Nemeth, 2012, “Automatic Fuel Pricing Mechanisms with Price Smoothing: Design, Implementation, and Fiscal Implications,” TNM/12/03 (Washington: International Monetary Fund).
- Coady, David, Margaret Grosh, and John Hoddinott, 2004, “Targeting of Transfers in Developing Countries: Review of Lessons and

- Experiences,” World Bank Regional and Sectoral Studies (Washington: World Bank).
- Coady, David, Robert Gillingham, Rolando Ossowsky, John Piotrowski, Shamsuddin Tareq, and Justin Tyson, 2010, “Petroleum Product Subsidies: Costly, Inequitable and Rising,” IMF Staff Position Note No. 10/05 (Washington: International Monetary Fund).
- Commander, Simon, 2012, “A Guide to the Political Economy of Reforming Energy Subsidies,” Policy Paper No. 52 (Bonn: Institute for the Study of Labor, IZA).
- De Gregorio, Jose, 2012, “Commodity Prices, Monetary Policy, and Inflation,” *IMF Economic Review*, Vol. 60, No. 4, pp. 600–633.
- De Olivera, Adilson, and Tara Laan, 2010, *Lessons Learned from Brazil’s Experience with Fossil-Fuel Subsidies and their Reform* (Geneva: Institute for Sustainable Development, June).
- Espinoza, Raphael, and Abdelhak Senhadji, 2011, “How Strong are Fiscal Multipliers in the GCC? An Empirical Investigation,” IMF Working Paper No. 11/61 (Washington: International Monetary Fund).
- Espinoza, Raphael, Ghada Fayad, and Ananthakrishnan Prasad, 2013, *The Macroeconomics of the Arab States of the Gulf* (Oxford: Oxford University Press and International Monetary Fund).
- Fattouh, Bassam, and Laura El-Katiri, 2012, “Energy Subsidies in the Arab World,” Arab Human Development Report Research Paper Series (London: United Nations Development Programme).
- Gelbach, Jonah B., and Lant Pritchett, 2002, “Is More for the Poor Less for the Poor? The Politics of Means-Tested Targeting,” *Topics in Economic Analysis and Policy*, Vol. 2, No. 1, pp. 1–26.
- Graham, Carol, 2002, “Public Attitudes Matter: A Conceptual Frame for Accounting for Political Economy in Safety Nets and Social Assistance Policies,” Social Protection Discussion Paper No. 233 (Washington: World Bank).
- Graham, Carol, Merilee Grindle, Eduardo Lora, and Jessica Seddon Wallack, 1999, *Improving the Odds: Political Strategies for Institutional Reform in Latin America* (Washington: Inter-American Development Bank).
- Grindle, Merilee S., and John W. Thomas, 1989, “Policy Makers, Policy Choices, and Policy Outcomes: The Political Economy of Reform in Developing Countries,” *Policy Sciences*, Vol. 22, No. 3–4, pp. 213–248.
- Grosh, Margaret, Carlo del Ninno, Emil Tesliuc, and Azedine Ouerghi, 2008, *For Protection and Promotion: The Design and Implementation of Effective Safety Nets* (Washington: World Bank).
- Guillaume, Dominique, Roman Zyttek, and Mohammad Reza Farzin, 2011, “Iran—The Chronicles of the Subsidy Reform,” IMF Working Paper No. 11/167 (Washington: International Monetary Fund).

- Gupta, Sanjeev, 2000, *Manual on Best Practices in Price-Subsidy Reform* (Washington: International Monetary Fund).
- HelpAge International, 2012, “Electronic Payment for Cash Transfer Programmes.” Available via the Internet: www.pension-watch.net.
- International Institute for Sustainable Development, 2012, “Reforming Fossil-Fuel Subsidies to Reduce Waste and Limit CO₂ Emissions while Protecting the Poor,” APEC Project No. EWG11/2010 (Singapore: Asia Pacific Economic Cooperation).
- International Labor Organization, Social Security Inquiry Database. Available via the Internet: http://www.ilo.org/dyn/ilossi/ssimain.home?p_lang=en.
- International Monetary Fund, 2011, *Regional Economic Outlook: Middle East and Central Asia* (Washington, April).
- , 2012, Costly Mideast Subsidies Need Better Targeting, *IMF Survey*, May 14. Available via the Internet: <https://www.imf.org/external/pubs/ft/survey/so/2012/car051412b.htm>.
- , 2013, *Regional Economic Outlook: Middle East and Central Asia* (Washington, November).
- , 2014, “Algeria: 2013 Article IV Consultation,” IMF Country Report No. 14/32 (Washington: International Monetary Fund). Available via the Internet: <http://www.imf.org/external/pubs/cat/longres.aspx?sk=41304.0>.
- Komivies, Kristin, Jon Halpern, Vivien Foster, Quentin Wodon, and Roohi Abdullah, 2007, “Utility Subsidies as Social Transfers: An Empirical Evaluation of Targeting Performance,” *Development Policy Review*, Vol. 25, No. 6, pp. 659–79.
- Komives, Kristen, Vivien Foster, Jonathan Halpern, and Quentin Wodon, 2005, “Water, Electricity and the Poor: Who Benefits from Utilities Subsidies?” *Directions in Development Series* (Washington: World Bank).
- Koplow, Doug, 2009, “Measuring Energy Subsidies Using the Price-Gap Approach: What Does It Leave Out?” IISD Trade, Investment and Climate Change Series (Winnipeg: International Institute for Sustainable Development). Available via the Internet: <http://www.iisd.org/publications/pub.aspx?pno=1165>.
- Krane, Jim, 2013, *Subsidy Reform in the Gulf Monarchies*, presentation (Cambridge: University of Cambridge, May).
- Lahn, Glada, Paul Stevens, and Felix Preston, 2013, “Saving Oil and Gas in the Gulf,” Chatham House Report (London: The Royal Institute of International Affairs, Chatham House, August).
- Lang, Kerry, Peter Wooders, and Kati Kulovesi, 2010, “Increasing the Momentum of Fossil-Fuel Subsidy Reform: A Roadmap for International Cooperation,” IISD Trade, Investment and Climate Change Series (Winnipeg: International Institute for Sustainable Development, June).

- Manzoor, Davood, Asghar Shahmoradi, and Iman Haqiqi, 2012, “An Analysis of Energy Price Reform: a CGE Approach,” *OPEC Energy Review*, Vol. 36, Issue 1, pp. 35–54.
- McGinley, Shane, 2010, “Dubai Water and Electricity Costs to Rise Around 15% in 2011,” *Arabian Business*. Available via the Internet: <http://www.arabianbusiness.com/dubai-water-electricity-costs-rise-around-15-in-2011-366557.html>.
- Organization for Economic Cooperation and Development, 2009, *The Political Economy of Reform: Lessons from Pensions, Product Markets, and Labour Markets in Ten OECD Countries*, by William Tompson in collaboration with Robert Price (Paris: Organization for Economic Cooperation and Development).
- Plante, Michael, 2014, “The Long-Run Macroeconomic Impacts of Fuel Subsidies,” *Journal of Development Economics*, No. 107, pp. 129–143.
- Reuters, 2013, “Morocco Fuel Subsidy Cuts May Trim Growth in 2013, 2014,” September 17. Available via the Internet: <http://news.yahoo.com/morocco-fuel-subsidy-cuts-may-trim-growth-2013-135538439--business.html>.
- Ruta, Giovanni, 2005, “Deep Wells and Shallow Savings: The Economic Aspect of Groundwater Depletion in MENA Countries,” Background paper to “Making the Most of Scarcity: Accountability for Better Water Management Results in the Middle East and North Africa,” *MENA Development Report* (Washington: World Bank).
- Salehi-Isfahani, Djavad, Bryce Wilson Stucki, and Joshua Deutschmann, 2013, “The Impact of Iran’s Subsidy Reform on Households: Evidence from Survey Data,” September. Available via the Internet: http://filebox.vt.edu/users/salehi/Iransubsidy_v3.pdf.
- Silva, Joana, Victoria Levin, and Matteo Morgandi, 2012, “Inclusion and Resilience: The Way Forward for Social Safety Nets in the Middle East and North Africa,” *MENA Development Report* (Washington: World Bank).
- Spilimbergo, Antonio, Steve Symansky, and Martin Schindler 2009, “Fiscal Multipliers,” IMF Staff Position Note No. 09/11 (Washington: International Monetary Fund).
- Swedish International Development Cooperation Agency, 2010, “Environmental and Climate Change Policy Brief–MENA.” Environmental and Climate Change Analysis by Gunilla Ölund Wingqvist and Olof Drakenberg at the request of Sida (Att: Hazme Akyol) (Gothenburg: Environmental Economics Unit (EEU), University of Gothenburg).
- UN Environment Programme, 2003, *Energy Subsidies: Lessons Learned in Assessing their Impact and Designing Policy Reforms* (Washington: United Nations Foundation).

- U.S. Department of Energy, 2012, Advanced Manufacturing Office. Available via the Internet: <http://www1.eere.energy.gov/manufacturing/resources/industries.html>
- Vagliasindi, Maria, 2013, *Implementing Energy Subsidy Reforms: Evidence from Developing Countries* (Washington: World Bank).
- World Bank, 2005, *Egypt—Toward a More Effective Social Policy: Subsidies and Social Safety Net* (Washington: World Bank).
- , 2007a, “Arab Republic of Egypt Poverty Assessment Update,” World Bank Other Operational Studies No. 7642 (Washington: World Bank). Available via the Internet: <http://ideas.repec.org/p/wbk/wboper/7642.html>.
- , 2007b, “Making the Most of Scarcity: Accountability for Better Water Management in the Middle East and North Africa,” *MENA Development Report* (Washington: World Bank).
- , 2008, *The Political Economy of Policy Reform: Issues and Implications of Policy Dialogue and Development Operations* (Washington: World Bank).
- , 2010a, “Arab Republic of Egypt—Poverty in Egypt 2008–2009: Withstanding the Global Economic Crisis” World Bank Report No. 60249-EG (Washington: World Bank). Available via the Internet: <http://documents.worldbank.org/curated/en/2011/06/16281280/arab-republic-egypt-poverty-egypt-2008-09-withstanding-global-economic-crisis>.
- , 2010b, *Egypt’s Food Subsidies: Benefit Incidence and Leakages* (Washington: World Bank). Available via the Internet: <http://documents.worldbank.org/curated/en/2010/09/12892951/egypt-arab-republic-food-subsidies-benefit-incidence-leakages>.
- , 2010c, Subsidies in the Energy Sector: An Overview—Background Paper for the World Bank Group Energy Sector Strategy (Washington: World Bank, July).
- World Bank/UN Development Program Energy Sector Management Assistance Program, 2005, *Household Energy Supply and Use in Yemen*, Volumes I and II (Washington: World Bank).

This page intentionally left blank

Annex 1. Synopsis of Subsidy Reform Case Studies¹

A. Fuel Subsidy Reforms					
Episode	Reform Triggers	Time and Scope of the Reform	Communication and Mitigating Measures	Role of IMF and Other Partners	Outcomes
Bolivia 2010	The increase of fuel prices was considered necessary to curb smuggling, promote investment in the oil industry, and strengthen the finances of the central government.	The price increase was announced by the vice-president on December 26, 2010, while President Morales was out of the country. Prices were increased immediately for regular gasoline by 73 percent, for super gasoline by 57 percent, and for diesel by 83 percent.	The authorities explained the rationale for the increase in prices, but only after they were adopted. After the increase in prices, compensatory measures were announced (increases in the minimum wage and wages for state employees) in an attempt to tame the adverse popular reaction.	The reform was designed by the authorities. IMF technical assistance had been provided on distributional effects of subsidies on hydrocarbon products (in 2005 and 2009).	The price increases were cancelled five days after their announcement, following a countrywide strike and violent protests. The wage increases were also cancelled.
Brazil 1990s–2001	The subsidy reform was part of a broader effort to liberalize the energy market with the objective of introducing competition and improving efficiency. The removal of subsidies would also increase budget revenues and promote conservation.	The adjustment of prices was gradual, beginning in 1991 with petroleum products used by few consumers (asphalt, lubricants) and moving progressively to widely used products (gasoline, diesel, fuel oil, LPG). In general, the first products to lose subsidies were those used by politically weak interest groups, while the more politically difficult subsidies (liquid fuels for transport and manufacturing) were removed later.	The government followed a gradual approach for subsidy reform. To build public support, the authorities argued that privatization and liberalization in the energy sector would lower fuel prices and improve energy services. Fuel subsidies to thermal power plants in Amazonia were kept for 10 years until 2012. In 2001, the government introduced a new tax on the importation and marketing of petroleum products used to fund targeted subsidies, environmental protection projects, and construction of roads. The government introduced targeted programs (the gas voucher in 2002 and <i>Bolsa Escola</i> in 2001), which in 2003, were integrated into the <i>Bolsa Familia</i> cash transfer program.	The subsidy reform was a government-led initiative but there was also an IMF-supported program with conditionality on energy subsidy reform during the reform episode.	Although officially oil prices are determined by Petrobras, a state-owned oil company, in practice the government has used them as a tool to control inflation. The government reduced taxes on gasoline and diesel in 2004 and removed the taxes on LPG and fuel oil to keep petroleum prices constant for final consumers.

Note: ECF = Extended Credit Facility; EFF = Extended Fund Facility; LPG = liquid petroleum gas; PRGF = Poverty Reduction and Growth Facility; SBA = Stand-By Arrangement; TOR = Tema Oil Refinery; VAT = value-added tax.

¹ Subsidy figures in this annex refer to budgeted numbers and therefore differ from the pretax energy subsidy figures presented in the chapters.

(continued)

Annex 1. (continued)

A. Fuel Subsidy Reforms					
Episode	Reform Triggers	Time and Scope of the Reform	Communication and Mitigating Measures	Role of IMF and Other Partners	Outcomes
Ghana 2001	Delays in adjusting petroleum prices during 2000 led to large accumulated losses for the state-owned public energy company, TOR, which reached 7 percent of GDP.	In 2001, a 91 percent adjustment of petroleum pump prices was driven in part by the desire to restore TOR's financial health.	No particular public communication strategy was implemented. The minimum wage was increased by about 18 percent in real terms in April 2001.	Ghana had an ECF arrangement during 1999–2002 but the program did not have fuel price–related conditionality.	The reform was soon abandoned, however, in the face of rising world prices and a depreciating currency. TOR's losses were largely absorbed by the state-owned Ghana Commercial Bank, whose solvency was threatened.
Ghana 2003	In early 2003, the financial position of both TOR and Ghana Commercial Bank became unsustainable.	The government renewed its commitment to cost-recovery pricing with a 90 percent increase in pump prices.	No particular public communication strategy was implemented. No specific mitigating measures were introduced in the context of the fuel subsidies reform.	Ghana had an ECF arrangement during 2003–06. The program included the implementation of the pricing mechanism as a structural performance criterion.	Facing widespread opposition to the price increase, the government partially reversed the price increase in the run-up to the 2004 elections, and it abandoned cost-recovery adjustments until 2005.
Ghana 2005	In 2004, the subsidies to TOR reached 2.2 percent of GDP, and the company continued to borrow from Ghana Commercial Bank to finance its operations.	In February 2005, the government increased petroleum prices by 50 percent on average, including gasoline and kerosene. In parallel, it introduced a price-adjustment mechanism, which is reviewed twice	The deregulation of petroleum product pricing in 2005 was accompanied by strategic measures meant to ensure broad popular support for the reform. The strategy was supported by research, communication, and programs to mitigate the impact on the most vulnerable groups.	Ghana had a PRGF arrangement during 2003–06. The program included the implementation of the pricing mechanism as a structural performance criterion. The IMF provided technical	In the wake of the 2007–08 global fuel and food crisis and the run-up to the 2008 elections, the automatic price adjustment was temporarily suspended. Prices

		a month, and established an independent authority, the National Petroleum Authority, to administer it.	The government introduced a number of programs aimed at mitigating the effect on the most vulnerable, including the elimination of fees for state-run primary and secondary schools, an increase in public-transport buses, a price ceiling on public-transport fares, more funding for health care in poor areas, an increase in the minimum wage, and investment in electrification in rural areas.	assistance to help assess the impact of fuel price adjustments on poor and vulnerable households.	were adjusted twice in 2011, by 30 percent in January and 15 percent in December. Prices were not adjusted in 2012, with the exception of a small downward adjustment early in the year. A 20 percent increase in February 2013 and subsequent gradual adjustments on the basis of a biweekly assessment have kept prices broadly in line with cost-recovery levels.
Indonesia 1998	The 1998 reform was triggered by the Asian financial crisis.	Instead of the gradual phase-out strategy that was originally envisioned, the government announced increases in the prices of kerosene by 25 percent, of diesel fuel by 60 percent, and of gasoline by 71 percent in 1998.	There was little reform-related communication initially. The government stepped up communication efforts in the course of the reform, but did not articulate a comprehensive communication strategy. The reform was accompanied by programs to protect the poor. Subsidies were created for rice,	Indonesia had IMF programs in 1997–98 (SBA), 1998–2000, and 2000–03 (both EFF). There was conditionality on energy subsidy reform in the program.	A number of price increases were implemented between 2000 and 2003 with mixed success, and were then rolled back.

(continued)

Annex 1. (continued)

A. Fuel Subsidy Reforms					
Episode	Reform Triggers	Time and Scope of the Reform	Communication and Mitigating Measures	Role of IMF and Other Partners	Outcomes
Indonesia 2005	Fiscal pressure and a negative current account balance were the main causes of the 2005 reform as Indonesia became a net oil importer in 2004.	The government undertook two large fuel price increases in 2005. As a result, the price of diesel fuel doubled and that of kerosene nearly tripled. In 2008, with international fuel prices at their peak, petroleum product subsidies reached 2.8 percent of GDP. Fuel prices were raised by 29 percent, on average, and were later reduced as international prices started to fall, though remaining above their preincrease levels. The government also ceased paying subsidies to larger industrial electricity consumers.	spending was increased on health, education, and social welfare, and support for small business was increased by providing low-interest loans. However, many of the announced compensation programs did not materialize for the reform between 2002 and 2003. There had been considerable discussion among domestic stakeholders of subsidy reform during the tenure of the previous government, plus a commitment to eliminate fossil fuel subsidies as a G-20 member. The need for reform was explained and communicated. Mitigating measures were introduced, including unconditional monthly cash transfer payments targeted at poor households, health insurance for the poor, school operational assistance, and expanded rural infrastructure support. Indonesia also initiated a program to phase out the use of kerosene in favor of LPG in 2007.	Technical assistance from other development partners supported the poverty survey needed to prepare the cash transfer program.	Protests again took place in opposition to the reform, but with less intensity than in 1998 and 2003. In 2011, fuel subsidies were around 2.2 percent of GDP.

Iran 2010	The reform was motivated by the authorities' broader structural reform agenda to foster growth and job creation.	Despite an initial sharp increase, 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 prices of all major petroleum products and natural gas, as well as electricity, water, and bread, were substantially increased.	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. About 80 percent of the revenue from price increases was to be redistributed to households as bimonthly cash transfers. The remaining balance of the revenue from price increases was to provide support for enterprise restructuring, with a view to reducing their energy intensity. Multitier tariffs on electricity, natural gas, and water were used to moderate the impact of the price increases on small users, mostly the poor.	The IMF provided advice on macroeconomic policies and certain reform design aspects in the context of staff visits.	Despite a good start at the end of 2010, the implementation of the second phase of the reform program was postponed in late 2012 due to concerns over its financing and the deteriorating macroeconomic situation.
Jordan 2005	Jordan had been subsidizing petroleum products for many years, but the fuel bill in the budget rose sharply to 5.9 percent of GDP in 2005 following the loss in 2003 of low-cost oil supplies from Iraq.	In 2005, the government implemented a series of price increases by up to 68 percent to limit the budgetary impact.	The authorities announced a plan to eliminate fuel subsidies by 2007, to be followed by the introduction of an automatic formula-based fuel price adjustment mechanism. During the reform, the minimum wage was increased and cash transfers were given to low-income households. The government also increased funding to the National Aid Fund, which provides cash transfers to the poor.	The IMF provided technical assistance on the distributional effects of eliminating petroleum subsidies in 2005 and 2011. The National Aid Fund was also supported by the World Bank.	By 2008, fuel prices were tracking international prices via a monthly automatic pricing regime with full pass-through of international prices to domestic fuel prices. Following rising international oil prices, regional unrest, and social pressures, pass-through under the fuel pricing mechanism ceased in January 2011.

(continued)

Annex 1. (continued)

A. Fuel Subsidy Reforms					
Episode	Reform Triggers	Time and Scope of the Reform	Communication and Mitigating Measures	Role of IMF and Other Partners	Outcomes
					In November 2012, fuel subsidies were eliminated and in January 2013, the monthly fuel price adjustment mechanism was resumed.
Mauritania 2008	The reform was motivated by a fiscal expansion after the oil discovery in 2005 and spikes in international fuel and food prices.	In late June 2008, the government increased the prices of petroleum products by 17.5–20 percent.	No particular public communication strategy was implemented. No specific mitigating measures were introduced in the context of this fuel subsidy reform episode.	Mauritania had a PRGF arrangement during 2006–09. The program did not have fuel price–related conditionality.	The one-off price adjustment triggered protests, which contributed to a climate of political instability that culminated in a military coup in August 2008. The increase was reversed in November 2008.
Mauritania 2011	The reform was motivated by the large increases in international fuel and food prices in 2011, which led to further fiscal pressures.	The government introduced in May 2012 a new diesel price formula, following a simplified cost structure. 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.	No particular public communication strategy was implemented. In 2011, the Mauritanian authorities introduced emergency relief measures to mitigate the impact on the poor of higher international fuel prices and a drought.	Mauritania had an ECF arrangement with the IMF from March 15, 2010–June 25, 2013. Technical assistance was provided to conduct poverty and social impact analysis.	By and large, international prices were followed domestically, and the government has consistently been able to maintain prices at international levels.

Nigeria 2012	The rationale for subsidy removal was that (1) fixed prices led to a huge, unsustainable subsidy burden, (2) fuel subsidies mostly benefitted the rich, (3) weak subsidy administration led to leakages, (4) subsidy costs diverted resources away from investment in critical infrastructure, (5) subsidies discouraged competition and stifled private investment in downstream petroleum, and (6) the huge price disparity encouraged smuggling to neighboring countries.	On January 1, 2012, the price of gasoline was raised to a cost recovery level—a 117 percent increase. The price of kerosene, a cooking fuel used mainly by poorer households, was not changed.	The main plank in the government's campaign for the subsidy removal was the Subsidy Reinvestment and Empowerment Program. It summarized the government's case for subsidy removal, spelled out how much the federal government and states and local governments stood to gain from the subsidy removal, and announced how the federal government would spend the money saved. The Subsidy Reinvestment and Empowerment program outlined a variety of social safety net programs to mitigate the impact of the subsidy removal on the poor segment of the population. These included urban mass transit, maternal and child health services, public works, and vocational training.	Nigeria did not have an IMF arrangement at the time of the reform. Fuel subsidy reduction was discussed in the context of the 2011 Article IV Consultations.	The price increase came as a surprise and set off widespread protests across the country. On January 15, the price increase was partly reversed but it would still represent a 40 percent increase over its end-2011 level.
Poland 1996	Poland sought to harmonize its VAT regime to the European Union ahead of its accession. This required bringing the reduced VAT rate of 7 percent	The reform was started in 1996 and involved increasing the VAT rate on energy products in three stages.	No particular public communication strategy was implemented. The National Housing Fund provided credit at low interest rates to finance the modernization of heating sources.	Poland had an SBA with the IMF at the time of the reform. While the SBA was formally expiring in March 1996, it was fully repaid in 1995 and the program did	The VAT rate on energy products was increased to 12 percent in 1996, to 17 percent in 1997, and to 22 percent in 1998. The rate was maintained thereafter.

(continued)

Annex 1. (continued)

A. Fuel Subsidy Reforms					
Episode	Reform Triggers	Time and Scope of the Reform	Communication and Mitigating Measures	Role of IMF and Other Partners	Outcomes
	on energy products, introduced at the time of the VAT launch in 1993, to the basic rate of 22 percent. In addition, the reduced VAT rate on energy products implied foregone fiscal revenues.			not have conditionality on energy prices.	
Senegal 1998	The government had introduced LPG subsidies in 1987 to provide incentives to consumers to substitute the use of charcoal with LPG and thus reduce deforestation. But by the mid-1990s, the budgetary costs of the LPG subsidy had increased significantly, reaching 0.5 percent of GDP in 1997.	A gradual reform of LPG subsidies was begun in 1998. The reform aimed at phasing out LPG subsidies by 2002 through annual price increases of 20 percent.	No particular public communication strategy was implemented. No specific mitigating measures were introduced in the context of the LPG subsidy reform.	Senegal had a PRGF arrangement with the IMF from 1998–2002. The program did not include fuel price–related conditionality.	The reform broadly achieved its objectives. LPG prices were gradually increased by 20 percent annually during 1998–2001. However, plans to completely phase out subsidies were put on hold in 2002, and the last planned 20 percent price increase was not implemented. Overall, the LPG subsidy reform removed about 80 percent of the subsidies.

Syria 2008	Subsidy reform was part of a broader push for gradual but wide-ranging economic reforms. These reforms were motivated by the decline in oil production, high world energy prices, and the transition from a centrally controlled to a social market economy.	Diesel prices were increased to a level that eliminated about 55 percent of the gap between domestic and international prices in 2008. Historically, diesel accounted for about two-thirds of total energy subsidies. The reform produced savings of about 7 percent of GDP in implicit subsidies in 2008, with compensatory measures amounting to about 4.5 percent of GDP.	The authorities publicly committed to fuel subsidy reform prior to the recent uprising. They announced plans to dismantle Syria's remaining energy subsidies and allow prices to gradually rise to market levels in the context of the 11th five-year plan (2011–15). Public wages were increased by 25 percent in 2008. The authorities also issued diesel coupons, allowing the purchase of 1,000 liters per household at a subsidized price of SP 9 per liter in 2008. These coupons were replaced in 2009 by targeted cash transfers of SP 10,000.	The IMF provided advice on reforming petroleum price subsidies in a Selected Issues Paper in the context of the 2006 Article IV Consultation. The World Bank provided technical assistance on fuel subsidies in 2007 and an update in 2008. However, the authorities only partially adopted these recommendations.	Due to political turmoil and civil unrest, reforms were halted or partially reversed in early 2011; however, according to press reports, after international sanctions were imposed in the spring of 2011 and government revenues faltered, the government dismantled the country's social safety net and raised fuel (and food) prices to cut back on subsidies.
Yemen 1995	After the end of the civil war, the government launched a financial adjustment and structural reform program in early 1995 in the context of an IMF-supported SBA. Yemen's main goal in subsidy reform has been to improve	In 1995–96, the government implemented more price increases, which affected four products; gasoline increased by 80 percent, diesel by 100 percent, kerosene by 189 percent; and LPG increased in two steps (first by 123 percent and then by 85 percent). However, prices in dollar terms remained well below	No specific communication strategy was implemented. The Social Welfare Fund was established in 1996 and started providing conditional cash transfers to the poor. Other mitigating measures included conversion to less expensive fuels. For example, the government promoted the conversion from kerosene to LPG for residential use starting in the early 2000s.	An SBA arrangement with the IMF was in place and envisaged a ceiling on subsidy spending. The Social Welfare Fund was partly financed with donor resources.	Throughout the 1994–2004 period, the depreciation of the currency wiped out all the gains from domestic price increases. Spending on fuel subsidies remained around 5 percent of GDP in 2000 compared to 6.1 percent in 1995, reflecting higher global oil prices.

(continued)

Annex 1. (continued)

A. Fuel Subsidy Reforms					
Episode	Reform Triggers	Time and Scope of the Reform	Communication and Mitigating Measures	Role of IMF and Other Partners	Outcomes
	its fiscal position, while paying due attention to social considerations.	their 1994 levels. During 2000–04, the government increased the price of diesel again by 30 percent in two consecutive years. Still, in dollar terms it remained below its level of a decade earlier.			
Yemen 2005	Fiscal pressures from subsidies became unsustainable, with spending on fuel subsidies reaching 8.7 percent of GDP in 2005.	This reform aimed at gradually adjusting domestic prices over the medium term. In July 2005, domestic prices increased by 130 percent on average. This led to violent protests, and the government had to partially reverse it. However, 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.	The government acknowledged the need for reform in its third development plan for poverty reduction (2005–10) but did not undertake a public information campaign. The Social Welfare Fund continued to be used to provide cash transfers to the poor, but in the 2005 subsidy reform episode, it took three years to approve a social protection law allowing for more streamlined application for benefits and increase monthly transfers.	This reform was based on a World Bank study and IMF policy advice.	The initial relative success of the fuel price adjustments was cancelled by the spike in commodity prices in later years. Thus, the subsidy bill remained high, at almost 9 percent of GDP in 2005.
Yemen 2010	The objective of this reform episode was to reduce fiscal pressures, following the record-high fiscal deficit of 10 percent of GDP in 2009.	In 2010, the prices of gasoline, diesel, and kerosene were gradually increased by about 30 percent on average, and the price of LPG was	The public information campaign component of the strategy was not adopted. Instead, the government implemented small, surprise increases.	This was a part of the reforms supported by an IMF ECF arrangement. The	Subsidies declined from 8.2 percent of GDP in 2010 to 7.4 percent in 2011.

doubled over a period of nine months. 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. In 2011/12, because of fiscal pressures, the government increased the price of gasoline by 66 percent and doubled the prices of diesel and kerosene.

The 2010 reform was almost simultaneously mitigated by a 50 percent expansion of the coverage of the cash transfer scheme. Coverage of the Social Welfare Fund was expanded to 500,000 additional families. Other mitigating measures included conversion to less expensive fuels. In 2010, the diesel-fueled electricity plants were converted to natural gas.

reform strategy was based on technical assistance from the World Bank, which drew lessons from the experience of the previous reforms.

B. Food Subsidy Reforms					
Episode	Reform Triggers	Time and Scope of the Reform	Communication and Mitigating Measures	Role of IMF and Other Partners	Outcomes
Iran 2010	By 2008, the domestic prices of wheat flour were out of line with international prices (the price was less than 1 cent per kg in Iran).	In 2010, Iran moved the wheat flour price closer to international levels, which required an increase from less than 1 cent per kg to 28 cents, as part of a comprehensive package of energy and food subsidy reform.	The government launched a comprehensive consensus-building process involving all key stakeholders (government, parliament, academia, business, etc.). The president, parliament, and government interacted extensively with the public for nearly 18 months from the start of the reform.	The IMF provided advice on macroeconomic policies and certain reform design aspects, during staff visits.	Domestic prices are moving toward international prices. Flour consumption declined by 10 percent from 2009 to 2011, and smuggling to neighboring countries stopped.

(continued)

Annex 1. (continued)

B. Food Subsidy Reforms					
Episode	Reform Triggers	Time and Scope of the Reform	Communication and Mitigating Measures	Role of IMF and Other Partners	Outcomes
			Generalized cash transfers were put in place in the context of the reform of fuel and food prices. These transfers were eventually received by 95 percent of the population.		
Jordan 1990–96	Fiscal pressures had become unsustainable, with spending on food subsidies (wheat, rice, milk, sugar, and barley) reaching 3 percent of GDP by 1990.	In the first phase in 1990, rationing of sugar, rice, and powdered milk was introduced. In the second phase, subsidies were gradually reduced through a number of upward adjustments in administered prices and eliminated by 1997.	In the first phase of the reform (1990), not much outreach with the public took place. In a second phase (1996), parliament approved a budget that put a cap on food subsidy costs. The government compensated the poor with cash transfers through the National Aid Fund established in 1993.	The IMF provided advice in the context of SBA (1990) and EFF (1996) arrangements, which included conditionality on subsidy reform.	By 1997, Jordan had implemented all aspects of the wide-ranging subsidy reform program resulting in net gains of 3 percent of GDP. However, food subsidies were reintroduced in 2005 to mitigate the impact of fuel subsidy reforms implemented over the same period.
Mexico 1990–1999	In the mid-1980s, Mexico embarked on a broad set of market-oriented reforms. These included replacing guaranteed prices for certain crops (corn, beans, rice, wheat, barley, sorghum, soybean, cotton seed, sunflower, copra, and sesame) and establishing a more targeted food subsidy	Mexico controlled the price of a number of basic food products, while subsidizing some of the fundamental inputs used in their production. The most important of these general food subsidies was the one for tortillas (the focus of this analysis), which entailed subsidizing maize prices to mills while controlling the retail price for the processed	The authorities showed strong commitment by taking ownership of policy measures outlined in a World Bank program. However, no information is available on whether there was a specific public communication campaign. In parallel with the reduction of general food	This reform was undertaken in the context of two World Bank agricultural adjustment loans (1988–90 and 1991–93).	After a sharp increase in tortilla prices following the lifting of price controls, the Commerce Ministry and tortilla producers reached an agreement at the beginning of 1999 to discourage price gouging by setting a ceiling for

	program. Guaranteed prices were eliminated for all crops (except corn and beans) in 1990.	goods (tortillas, maize flour, and dough). There were also targeted subsidies, usually through special stores (Conasupo) and ration cards (e.g., for milk). Subsidies on tortillas were eliminated and price controls were lifted on January 1, 1999.	subsidies, the government introduced targeted ones. In 1990, vouchers were distributed to urban consumers who used them to buy tortillas at below-market prices (<i>tortibonos</i>). This program was replaced in 1991 by a targeted subsidy on tortillas. The targeted subsidy was later phased out and integrated into the conditional cash transfer program <i>Progres.a</i> .		the next three months. Moreover, after a rapid spike in tortilla prices in late 2006 and early 2007, the government established a voluntary “price pact,” where retailers agreed to cap tortilla and corn flour prices, and the pact has been renewed at least twice.
Morocco 1999	The cost of food subsidies had become too high, representing 1.6 percent of GDP in 1999.	In 1999, the government implemented a food subsidy reform that eliminated sugar subsidies for processing industries (mainly food and beverage industries) and started liberalizing cooking oil prices. At the same time, import tariffs on these products were significantly reduced.	No particular public communication strategy was implemented. The government set up a social development agency in 1999 and introduced a targeted compensatory scheme for poor households. It also provided assistance to small farmers affected by the removal of customs protections.	The World Bank provided technical assistance in assessing the effects of the subsidy reform and helped with its design.	The budget cost of food subsidies was brought down from 1.8 percent of GDP in the early 1990s to 0.8 percent in early 2000.
Tunisia 1983	The budgetary costs of the generalized food subsidy program had become too high, at about 3 percent of GDP in 1983, and there were significant leakages of benefits to the nonpoor.	At end-December 1983, the government doubled prices of cereals and cereal products, including bread, semolina, pasta, and couscous.	The price hikes were announced to the public only 24 hours in advance. Consumers were taken by surprise. Minimum wages were increased by 1.5 dinars (US\$2.20) per month per person.	There was no involvement.	The food subsidy reform was abandoned after only a month in January 1984, following widespread riots and protests.

(continued)

Annex 1. (concluded)

B. Food Subsidy Reforms					
Episode	Reform Triggers	Time and Scope of the Reform	Communication and Mitigating Measures	Role of IMF and Other Partners	Outcomes
Tunisia 1991	The budgetary cost of the generalized food subsidies program had increased since the 1980s, reaching about 4 percent of GDP in 1990. In addition, several studies had pointed out that the distributional incidence of the food subsidies system was regressive.	During 1991–93, the Tunisian government implemented a gradual reform of the food subsidy system, moving from a generalized to a self-targeted system. Subsidies were shifted to products consumed mostly by the poor (according to the 1990 Household Expenditure Survey), such as lower-quality bread, generic edible oil, and powdered milk. Subsidies on food products mostly consumed by the rich were eliminated.	The government built a general consensus in favor of the reform through an awareness campaign and well-timed announcements of food price adjustments. In addition, the press provided wide coverage on the weight of food subsidies system on the budget expenditures. Construction workers' salaries and the minimum wage were increased. In addition, social safety nets were strengthened: (1) cash transfers provided to needy families were increased and a larger number of families was covered, and (2) school feeding programs were expanded.	The food subsidy reform was undertaken in the context of an EFF arrangement. However, the program did not include food price conditionality. The World Bank provided technical support for the design and implementation of the reform.	As a result of the reforms, the targeting of the food subsidy program improved and fiscal costs declined.
Yemen 1996	After the end of the civil war in late 1994, the government launched a financial adjustment and structural reform program in early 1995 in the context of an IMF-supported SBA program.	In January 1996, the base prices for wheat and wheat flour were increased by 150 percent. The authorities had a medium-term strategy for phasing out food subsidies over a five-year period.	No specific communication strategy toward the public was implemented. The Social Welfare Fund was established in 1996 and started providing cash transfers to the poor, partly with donor-financed resources.	An SBA arrangement with the IMF was in place, with an imposed ceiling on subsidy spending. The IMF also provided technical assistance focusing on the wheat subsidy incidence in 1996.	Gradual price adjustments took place since January 1996. As of May 1999, there were no remaining subsidies on wheat or flour.

Annex 2. Subsidies in Selected Middle East and North Africa Countries^{1,2,3}

Egypt

Initial conditions: The political transition that started in January 2011 has been difficult and generated high expectations and challenges. The turmoil and political uncertainty associated with the regime change led to a sudden drop in economic activity and exacerbated preexisting vulnerabilities, particularly in the fiscal sector and the balance of payments. The overall budget deficit for 2012/13 reached 13.7 percent of GDP, compared to an original budget target of 8.7 percent of GDP, while the general government's debt-to-GDP ratio increased to over 80 percent (Figure A2.1). The weak fiscal performance is explained mainly by dwindling tax revenues and lower-than-projected transfers from the public oil company EGPC, as well as higher spending on wages, interest, and subsidies. Egypt is facing an energy crisis as evidenced by recurrent energy outages and declining energy production.

Background: Untargeted price subsidies for basic food commodities and energy products are an important component of social protection in Egypt. Egypt's system of generalized price subsidies is among the most extensive and generous in the world, with explicit budgetary costs representing 8.7 percent of GDP and 26 percent of total public spending in 2012/13. This cost reflects their generalized provision as well as high international commodity prices.

- Energy subsidies account for about three-quarters of the total subsidy bill in the budget (6.8 percent of GDP). The true cost of energy subsidies is estimated to be about 50 percent higher, because petroleum products delivered to the public oil company EGPC as part of its production sharing contracts are valued at zero cost.
- Food subsidies amount to 2 percent of GDP and include a generalized subsidy on baladi bread and rationed quantities of subsidized rice, edible oil, sugar, and tea, potentially available to the almost 80 percent of the population that holds ration cards.

Subsidies are poorly targeted. For example, according to the 2008–09 survey, the poorest 40 percent of the population receive only 3 percent of the

¹ Most of the analysis in this annex reflects information as of end-February 2014.

² Subsidy figures in this annex refer to budgeted numbers and therefore differ from the pretax energy subsidy figures presented in the chapters.

³ Information for this annex draws from several staff reports for Article IV Consultations.

direct gasoline subsidy, 7 percent of natural gas subsidies, and 10 percent of diesel subsidies. Food subsidies are somewhat better targeted than energy subsidies, but the majority of the subsidies still benefit the nonpoor. Nearly 50 percent of the subsidy on baladi bread goes to the top 40 percent of the income distribution. Nearly 68 percent of households hold ration cards, and 80 percent of households consume subsidized bread. Leakages in food subsidies are large: two-thirds of the households in the richest quintile hold a ration card.

Recent reforms: The Egyptian government has recently taken the first steps toward gradually reducing energy subsidies and replacing them with better-targeted social assistance programs. In 2012–13, prices for 95 octane gasoline increased by 112 percent for high-end vehicles, fuel oil for non–energy-intensive industries by 33 percent, and for energy-intensive industries by 50 percent. In January 2013, electricity prices for households increased by 16 percent on average, while natural gas and fuel oil prices for electricity generation were raised by one-third.

Reform plans: Restoring medium-term fiscal sustainability requires the gradual phasing-out of generalized price subsidies and the strengthening of social safety nets to protect the poor. The implementation of subsidy reform has yet to gain steam in an unsettled political and social situation. The government has announced its intention to reduce subsidies over the medium term. Discussions have revolved around the following main components:

- Liquid petroleum gas (LPG): A new distribution system to provide access to subsidized LPG cylinders for eligible households holding ration cards. Consumption beyond these allocations and for commercial use would be charged at the cost recovery price.
- Gasoline/diesel: Car owners would be issued smart cards to help reduce smuggling.
- Fuel oil: A gradual increase of prices for energy-intensive industries toward the cost recovery level.
- Electricity: Gradual adjustment of electricity tariffs toward the cost recovery level, with the magnitude rising with the volume of consumption. The first tariff block—for consumption up to 50 kWh per month—would be excluded from price increases.

Mitigating measures: The envisaged rationing system will provide protection to low-income consumers, but poor households may still be negatively affected by the indirect cost of the fuel subsidy reform through higher prices of other goods and services that they consume.

To compensate for this, the government intends to use some of the savings obtained from structural revenue-generating and expenditure-reducing measures, including the fuel subsidy reform, to further expand priority social programs. At the same time, the authorities are considering the introduction of a targeted cash transfer system that would compensate vulnerable households for the increases in energy prices, as part of consolidating and scaling up fragmented social safety nets. Operational steps identified so far (with the assistance of the World Bank) and planned in the short term include finalizing a database on vulnerable households and setting up a committee to oversee the preparation and introduction of the cash transfer programs.

Impact on the productive sector: The electricity tariff adjustment would increase production costs of sectors for which electricity is an important input. These are mainly the basic metals industry, paper, accommodation, and food services. The increase in the prices of fuel oil and natural gas for the cement and brick industries would increase the production costs, given their significant share in the cost structure.

Communication and strength of government ownership and commitment to the reform: There has been significant debate on subsidy reform and coverage of it in the press over the past few years. The IMF and the World Bank have provided substantial technical assistance on subsidy reform.

Challenges: Given the difficult political and social context, implementation of further subsidy reform could be challenging because it is difficult to achieve the needed broad political and social consensus. The magnitude of energy subsidies in Egypt and the social importance of food subsidies for the poor may suggest that subsidy reform can potentially have a wide-ranging impact on the population and businesses. Given their current low levels, energy prices may have to increase significantly over the next few years to reach cost recovery levels, entailing significant adjustments for households and businesses. Hence, the importance of designing well-targeted social safety nets: these would help mitigate the effects of the subsidy reform on the vulnerable segments of the population.

Figure A2.1. Egypt: Key Macroeconomic Indicators



Source: IMF, World Economic Outlook database.

Jordan

Initial conditions: Energy subsidies make Jordan highly vulnerable to external shocks. Energy imports increased from 9 percent of GDP in 2003 to 19 percent of GDP in 2011, to a large extent reflecting higher fuel imports for electricity generation (Figure A2.2). The current account deficit deteriorated substantially in 2012 to 18 percent of GDP. Natural gas inflows from Egypt were severely reduced for most of 2012, resulting in expensive fuel imports and the request for an IMF program.

Background: Beginning in 2005, Jordan implemented a gradual phasing-out of fuel price subsidies. By February 2008 all domestic fuel prices (excepting LPG) followed international prices, as Jordan had adopted an automatic fuel pricing mechanism, which instituted full pass-through. Pass-through under the mechanism ceased in January 2011. During August–October 2012, higher oil prices led to a substantial increase in the fuel subsidy.

Fuel subsidies disproportionately benefited the rich, according to a 2008 household survey. Overall, energy subsidies received by the richest one-fifth (quintile) of households were about 20 percentage points higher than those received by the poorest one-fifth of households. The leakage of subsidy benefits to rich households is most pronounced in the cases of gasoline and diesel; the richest one-fifth of households receives nearly 6½ (12) times more in gasoline (diesel) subsidies than the poorest one-fifth. This leakage of subsidy benefits made fuel price subsidies a particularly inefficient social protection tool. For example, every dinar transferred to the bottom two income quintiles through gasoline subsidies cost the budget five times as much.

Food subsidies represented 1.1 percent of GDP in 2011 and 0.9 percent of GDP in 2012.

Electricity prices remain regulated. Prior to 2011, prices were set at a level that ensured cost recovery for electricity. The disruption in gas inflows from Egypt, combined with an increase in commodity prices, resulted in a substantial increase in the costs of electricity production. With electricity tariffs lagging behind, electricity is now heavily subsidized. The cost of the subsidy is borne by the national electricity company (NEPCO) and was 5.2 percent of GDP in 2012.

Recent reforms: The authorities removed the general fuel subsidy on November 14, 2012. Retail prices were increased for 90 octane gasoline (14 percent), LPG (54 percent), and diesel and kerosene (33 percent). This brought all fuel products back to cost recovery, with the exception of LPG, which retains a small subsidy. The authorities also resumed on January 1, 2013, the monthly price adjustment mechanism that had been suspended in

early 2011. Savings from the elimination of the subsidy depend on the oil price. Based on an average oil price of \$100 per barrel, the elimination of the subsidy yields gross savings of about 2½ percent of GDP. Savings on a net basis should take into account the spending on compensatory cash transfers and transfers to NEPCO to compensate for the end of subsidization of fuel inputs. In June 2012, electricity tariffs increased for selected sectors (banks, telecommunications, hotels, mining) and large domestic corporations and households. In August 2013 and January 2014, electricity tariffs increased by 7.5–15 percent for selected nonhousehold consumers (and, in January, rich households).

Reform plans: Future subsidy reform in the context of the Stand-By Arrangement (SBA) will focus on bringing NEPCO back to cost recovery by 2017. This will require a combination of gradual tariff increases and development of new energy sources, particularly liquefied natural gas. The increase in tariffs will be differentiated by consumption brackets, and is expected to affect mostly high-end users, with the poorer households partially or totally shielded from any increases. Most nonhousehold consumers will be expected to pay rates at or above cost recovery.

Mitigating measures: The government introduced cash transfers to mitigate the social impact of subsidy reform. A cash transfer (estimated at 0.8 percent of GDP in 2013) compensates 630,000 (70 percent of the population) families with an annual income below JD 10,000 (\$14,100) if the oil price is above \$100 per barrel. The transfer amounts to about \$100 per person per year and is capped at a maximum of six family members. The transfer is paid in three installments, the first of which was disbursed in the last few weeks of 2012 in parallel with the increase in fuel prices. The cash transfer is very generous and is estimated by the World Bank to overcompensate for the increase in fuel prices. The government is studying how to limit access through proxy means testing (e.g., through a combination of declared income and personal wealth).

Communication and strength of government ownership and commitment to the reform: There was an IMF technical assistance on subsidy reform in 2011, and a three-year SBA was signed on August 3, 2012. The government launched an extensive communication campaign before raising fuel prices. This contrasts with the lack of any outreach during the first attempt to raise prices at the pump in September 2012.

Impact on the productive sector: By removing distortions in electricity pricing, the reform will have an impact on the productive sector, even though this will be limited for manufacturing companies that have already been affected by the June 2012 increase. The impact is estimated to have been stronger for energy-intensive sectors, such as the phosphate industry, but

relatively limited for the less energy-intensive light industry, which makes up for the bulk of Jordan's nonprimary exports. However, these effects must be seen in the perspective of better provision of electricity in Jordan compared to neighboring countries, where the unreliability of the electricity network forces operators to rely on expensive private generators. Furthermore, the electricity subsidy was effectively in place for a limited period after 2010 and had a relatively contained effect in promoting energy-intensive industries compared to the effects in countries with more established subsidy systems.

To reduce Jordan's dependence on energy imports, other energy sources are being developed (with varying but significantly lower than present generation costs). The construction of solar and wind farms has been fast-tracked, with two major projects expected to start generation by 2016. Jordan is also exploring the potential for shale oil exploitation, which could provide a cheap source of energy; a facility based on this technology, though, would not become operational before 2017.

Jordan also seeks to increase energy efficiency, reducing distribution losses and contingency measures. The strategy includes a number of actions—either already implemented or close to adoption—to reduce Jordan's energy intensity. These include the introduction of low-voltage bulbs, energy efficiency ratings for buildings and appliances, and new building regulations requiring a share of energy use to be self-generated. The electricity regulator will revise the operational framework for distribution companies in order to provide incentives to reduce distribution losses and invest in the low-voltage network. Demand management measures (such as rolling blackouts and selective interruption of service for commercial activities at night) are also considered in the event the planned measures prove insufficient to keep NEPCO losses within IMF program targets.

Macroeconomic impact of the reform: During the year, higher food and energy prices and public sector wage increases weighed on inflation. Following the liberalization of fuel prices in mid-November 2012, inflation picked up to 6.5 percent at year-end but abated to 3.3 percent by end-2013. Electricity tariffs were not found to have a sizeable impact on inflation.

Challenges: Achieving cost recovery in the energy sector in a socially acceptable way requires a broad buy-in from key stakeholders, which could be affected by the ongoing political reforms.

Figure A2.2. Jordan: Key Macroeconomic Indicators



Source: IMF, World Economic Outlook database.

Mauritania

Initial conditions: Fiscal pressures were the main driver of the energy subsidy reform starting in 2008 (Figure A2.3). Spending increased unsustainably after the discovery of oil reserves in 2005—which later proved very minor—and spikes in international fuel and food prices in 2008 and 2011.

Background: An attempt at energy subsidy reform took place in 2008, but the increase in fuel prices was ultimately unsuccessful partly because of the lack of mitigating measures and a communication campaign. As a result, the reform contributed to a climate of political instability that culminated in a military coup in August 2008.

Before 2011, the timing and magnitude of changes in the prices of petroleum products were discretionary and ad hoc. Prices of petroleum products were controlled by the government and set according to a price structure and formula that was, in principle, to be adjusted monthly, whenever changes in international prices or the exchange rate exceeded ± 5 percent. In practice, the authorities were reluctant to increase retail prices when international prices were high (e.g., in 2008), thus causing large losses for distribution companies; they were similarly reluctant to allow for domestic price declines when international prices collapsed in 2009, to let petroleum companies make up for past losses.

The fiscal cost of the food subsidies under the EMEL (the government's emergency response plan) was about 1.1 percent of GDP in 2012.

High international energy prices also boosted subsidies to the electricity sector in order to cover losses incurred by SOMELEC, the public electricity company that produces almost all the electricity in Mauritania, mostly using thermal plants. Despite higher fuel prices, the government did not adjust residential and commercial tariffs, which are among the lowest in the region and estimated at more than 30 percent below cost recovery prices.

The increases in subsidies (diesel, LPG, electricity) that accompanied the rise in international fuel prices benefitted rich households at the expense of the neediest. According to a 2008 household survey, almost 80 percent of all energy subsidies were captured by the richest 40 percent of households, thus widening income inequality.

Recent reforms: Following the stabilization of the political situation after the coup, subsidy reform, along with wage bill containment, became the cornerstone of the government's fiscal adjustment strategy, which was supported by the program under the 2010 Extended Credit Facility (ECF). The adjustment strategy was designed to free resources while still allowing for much-needed higher social and infrastructure spending. In May 2012, the government

introduced a new diesel price formula, agreed with 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 the 2008 episode, the introduction of mitigating measures was an explicit component of the energy subsidy reform strategy. The new fuel price structure brought domestic fuel prices in line with international prices in 2012.

In the context of the ECF, the government also moved to address 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 up a plan for the settlement of arrears accumulated through end-2010. Furthermore, the low 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.

Reform plans: Future reform efforts will focus on ensuring that the diesel 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. This smoothing approach should avoid excessive domestic retail price volatility, which could undermine political support for the formula. In the electricity sector, the authorities intend to raise tariffs—particularly for large consumers. Based on the outcome of an electricity tariff study, conducted by an international firm and completed in 2013, tariffs should increase on average by 30 percent to recover costs. In addition, the authorities have called on a consulting firm to establish a performance contract between SOMELEC and the government.

Mitigating measures: Mauritania has relied on emergency food subsidies to help the most vulnerable cope with the 2011–12 drought and rising food prices; however, these subsidies were generally ill-targeted and costly. To strengthen social safety nets, the authorities are transforming the emergency food program into a permanent well-targeted program aimed at reducing the number of households at risk of food insecurity.

- **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 had led to a food emergency. The new package, which at about UM 40 billion (3.4 percent of GDP) was the largest in terms of GDP among the region's oil importers, comprised

mostly reversible measures. A centerpiece of the package was the expansion of the existing scheme of subsidized food shops; the number of these was increased from 1,000 to 1,223, mostly in rural areas.

- **Cash transfers.** With the assistance of the World Food Program, in the course of 2012 the government quickly put in place a cash transfer program that targeted 10,000 vulnerable households in Nouakchott. Each household receives UM 15,000 monthly, or \$51 (equivalent to half of the legal minimum wage) via a bank transfer, thus also allowing beneficiaries to gain access to financial services. The authorities are now developing a nationwide cash transfer program with the World Bank, to be deployed after the results of the 2014 household survey.
- **Broader social protection.** A broader social protection strategy, developed with the UN Children's Fund, was adopted by the Council of Ministers in early June 2013. It will 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 to 2030, and an associated national investment program.

Communication and strength of government ownership and

commitment to the reform: Technical assistance on subsidy reform from the IMF in 2011 fed into the policy dialogue. There was an ECF from March 15, 2010, to June 30, 2013. There was no real public communication strategy.

Impact on the productive sector: The authorities plan to restructure the national electricity and gas companies to improve their management and efficiency, helping limit fiscal risks. A comprehensive strategy to diversify energy generation away from fuel will result in improved electricity supply from 2014 onwards.

Macroeconomic impact of the reform: Inflation fell to 3.4 percent in December 2012, significantly lower than projected, as the regular increases in retail fuel prices were more than offset by the decline in food prices (food makes up 49 percent of the consumption basket).

Challenges: It may be difficult to increase electricity tariffs before the upcoming presidential elections planned for June 2014, which will take place in a difficult political environment.

Figure A2.3. Mauritania: Key Macroeconomic Indicators



Source: IMF, World Economic Outlook database.

Morocco

Initial conditions: The subsidy bill has been a drain on the budget, reaching 6 percent of GDP in 2011 and 6.5 percent in 2012, with fuel subsidies representing the bulk of the subsidy expenditure. As part of their efforts to contain the subsidy bill, the Moroccan authorities increased the administered price of some fuel products in June 2012. However, increases in the wage and subsidy bills (the former reflecting wage increases decided in 2011 as part of a broad social dialogue, and the latter due to higher international commodity prices) led to a widening of the fiscal deficit to 7.4 percent of GDP in 2012, compared to 6.7 percent in 2011 (Figure A2.4). The current account deficit widened from 8.1 percent of GDP in 2011 to 9.7 percent of GDP in 2012, mainly as a result of higher fuel and food imports (the latter because of the drought) and lower tourism receipts and remittances from Europe.

Background: Fuel subsidies are not a cost-effective tool for improving the welfare of the poorest in Morocco.⁴ Studies based on household data published by *Haut-Commissariat au Plan* indicate that about 43 percent of total food and fuel subsidies go to the top quintile of the population. By contrast, the poorest quintile receives only 9 percent of all subsidies. The impact on the poverty rate is estimated at zero if subsidies on super or diesel were to be removed, but is nonnegligible if butane subsidies were to be abolished; butane is disproportionately used by the poor.

Recent reforms: On June 2, 2012, the prices of diesel, gasoline, and fuel oil were increased from 7.15 dirham/liter to 8.15 dirham/liter, 10.18 dirham/liter to 12.18 dirham/liter, 3,678 dirham/ton to 4,666.04 dirham/liter, respectively. In July 2013, the authorities adopted a mechanism to index the domestic prices of fuel, gasoline, and diesel to world prices. This action was combined with a hedging operation for diesel to cap the price increases that might be needed in the first year of implementation. The indexation rule, based on a rolling moving average of the last two months, provides for the automatic adjustment of domestic prices when the difference between implied world prices and actual domestic prices exceeds 2.5 percent. Subsidies on diesel, gasoline, and fuel represented over half of total subsidies in 2012. Additionally, the quota of subsidized wheat was reduced by 6 percent. On September 15, 2013, implementation of a partial indexation mechanism for certain petroleum products was begun. As a result, diesel prices increased by 8.5 percent, gasoline by 4.8 percent, and fuel by 14.2 percent. Starting in January 2014, subsidies on gasoline and industrial fuel were eliminated; their prices are reviewed twice a month. In February 2014, the per-unit subsidy of diesel was reduced, with additional quarterly reductions announced for the remainder of 2014. The 2014 budget also includes a reduction by 0.2 percent of GDP of food subsidies.

⁴ The generalized subsidy system—"compensation" system—currently comprises flour, sugar, and petroleum products, including fuel, butane gas, and diesel.

Reform plans: In accordance with the objective of reducing untargeted subsidies to 3 percent of GDP by 2016, the 2014 budget seeks to reduce this budgetary envelope to 3.7 percent of GDP, through the full-year impact of the price indexation system and the new measures introduced at the beginning of the year.

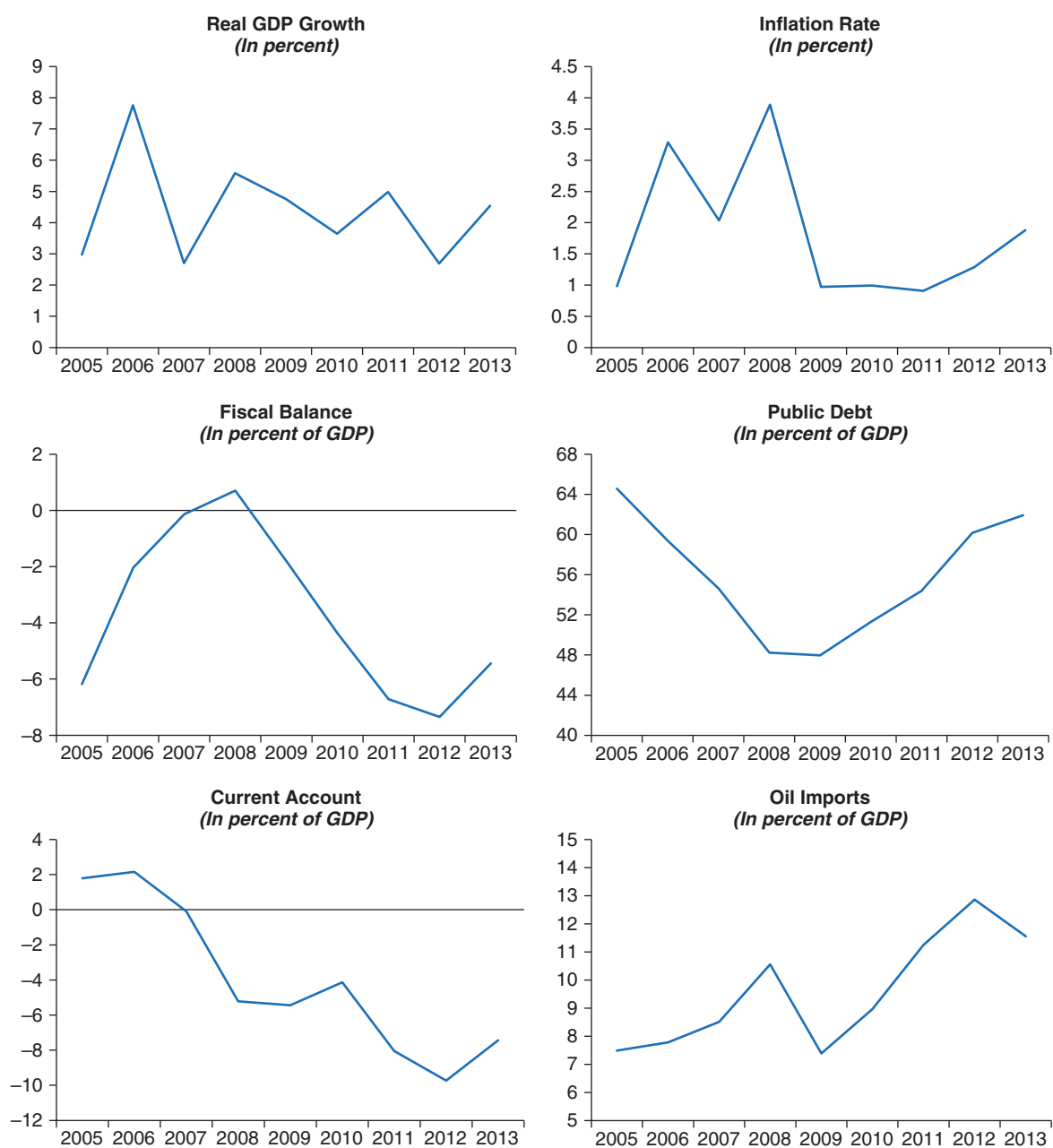
Mitigating measures: The government is gradually strengthening the social safety net and its targeting to vulnerable groups. Along with the continuous improvement of actions taken in the context of the National Initiative for Human Development to reduce poverty and social exclusion, the coverage of the TAYSSIR education program and of the RAMED health insurance program has been expanded under the 2014 finance law, while the resources of the social cohesion fund were increased, in particular to finance a program of assistance for widows in precarious situations and for the disabled. Also, measures were taken in support of public transport, to ease the impact of fuel price hikes.

The National Initiative for Human Development is the first public program that attempts to comprehensively target vulnerable groups. The initiative was established in 2005 under the Ministry of the Interior. It currently adopts a dual geographic and social targeting approach against poverty in rural communities and specific urban areas. In the first phase (2005–10), 22,000 projects were initiated to benefit a total of 5 million citizens (approximately 15 percent of the population) in several areas (infrastructure, vocational training, improvement of living conditions, etc.).

Two pilot programs, RAMED and TAYSSIR, provide financial support to the poor in the areas of education and health. TAYSSIR is designed to prevent school dropout in five targeted geographical areas: l'Oriental, Marrakech-Tensift-Al Haouz, Meknes-Tafilalet, Souss-Massa-Draa, and Tadla-Azilal. Scholarships are paid to students, subject to compliance conditions (school absences fewer than four times per month). The number of student beneficiaries increased from 88,000 in 2009 to 450,000 in 2011. RAMED was introduced in 2008 as a pilot in the Tadla-Azilal region. Those eligible receive full or partial benefits for medical services related to hospitalization, surgery, and childbirth. The program is expected to be generalized to 8.5 million people in the country, including 4 million poor inhabitants and another 4.5 million who are vulnerable, in addition to 160,000 prisoners, homeless persons, and orphans.

Communication and strength of government ownership and commitment to the reform: A Precautionary Liquidity Line was agreed for August 3, 2012, to August 2, 2014. There has been large information campaign, discussions with parties and parliament, as well as extensive coverage in the press. The World Bank supported a technical assistance on subsidy reform in 2008.

Figure A2.4. Morocco: Key Macroeconomic Indicators



Source: IMF, World Economic Outlook database.

Impact on the productive sector: Development of access to alternative energy sources by investing in and developing renewable energy sources, notably solar energy.

Macroeconomic impact of the reform: Though inflation remains low, it has been increasing since the end of 2012, reaching 2.8 percent at end-May 2013, induced in part by the increase in the price of subsidized fuel products in June 2012. Monetary policy will aim to remain vigilant against potential second-round effects on inflation in domestic energy price increases related to the subsidy reform. The current account improved in 2013, in part because imports of energy products fell as a result of both volume and price effects, driven by weaker nonprimary growth and higher domestic alternative energy production in early 2013, as well as by lower international prices.

Challenges: In the context of continued regional tensions and domestic social pressures, forging consensus on difficult reforms has proven challenging.

Sudan

Initial conditions: Sudan felt the full impact of the July 2011 secession of South Sudan, as the country lost three-quarters of its oil output, almost 60 percent of its fiscal revenues, and about two-thirds of its current account payment capacity (Figure A2.5). In the face of such a major shock, the authorities put together a medium-term emergency strategy.

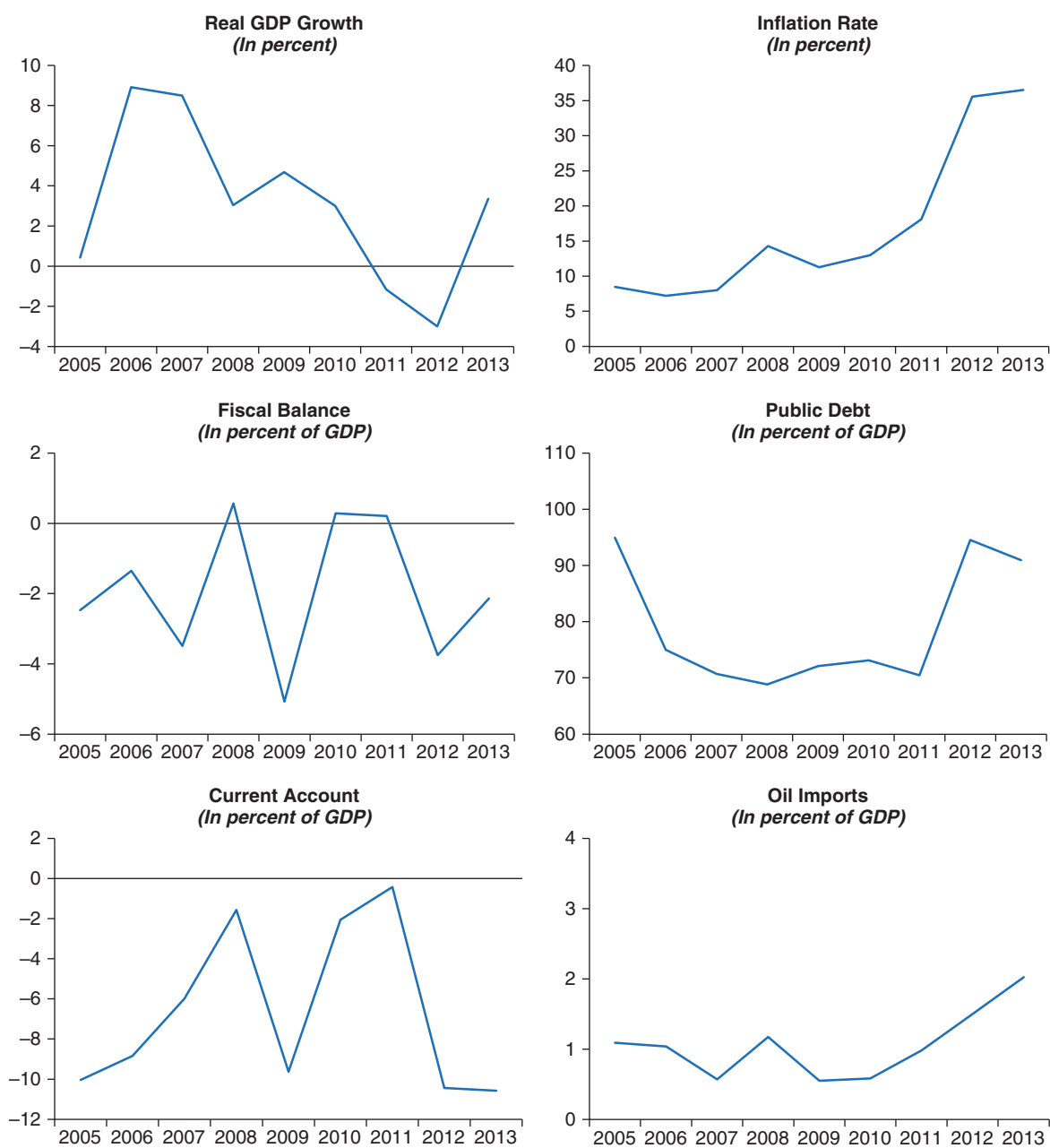
Background: Subsidies cover mostly petroleum products and, to a limited extent, food items and electricity. Petroleum product subsidies have weighed heavily on the budget in the recent past. The lack of an automatic fuel price mechanism, in the context of increasing and volatile international oil prices, has caused fuel subsidies to increase steeply since 2003, when the rally in oil prices began. Petroleum product subsidies accounted for about three-quarters of tax revenues in 2011 and have been on the rise as a consequence of the secession of South Sudan and the related loss of oil production. Fuel subsidies in Sudan disproportionately benefit the rich: the poorest 20 percent of the population receive about 3 percent of the subsidy, whereas the richest 20 percent receive more than 50 percent.

Recent reforms: To address these imbalances, the authorities introduced a package of measures in June 2012 that included, among other things, an increase in prices at the pump of gasoline, diesel, and LPG of 47 percent, 23 percent, and 15 percent, respectively, as well as the full liberalization of jet fuel. Those price adjustments are estimated to have reduced fuel subsidies by about 25 percent. At end-2012, overall subsidies were estimated at 2.8 percent of GDP, with the following breakdown: (1) fuel subsidies equivalent to 2.1 percent of GDP, (2) food subsidies representing 0.4 percent of GDP, and (3) electricity subsidy equivalent to 0.3 percent of GDP. Despite the June 2012 increase in fuel prices, subsidies remain high. This is mainly a result of the 66 percent devaluation of the exchange rate, which makes the cost of crude oil in local currency more expensive. In June 2012, the authorities also liberalized the price of sugar.

On September 22, 2013, the Sudanese authorities introduced a set of corrective measures, including an increase in domestic petroleum prices at the pump, as follows: diesel: 74.7 percent; gasoline: 68 percent; LPG: 66.7 percent. This represents a weighted increase of 68 percent.

Reform plans: In the context of the government's strategy, the authorities started implementing a revised subsidy policy based on a gradual approach that would lead to the elimination of those subsidies by 2017, to coincide with the expiration of the oil flows triggered by the transitional financial arrangements signed between Sudan and South Sudan. At the same time, the authorities plan to strengthen the social safety net through higher social spending and a more coherent and better-targeted social safety net.

Figure A2.5. Sudan: Key Macroeconomic Indicators



Source: IMF, World Economic Outlook database.

Mitigating measures: A salary adjustment by an average of about SDG 100 (or \$17.5) for all civil servants, (2) a monthly grant allocation of SDG 150 for about 500,000 urban poor families, (3) a reduction in the premium for health insurance for about 500,000 poor families, and (4) an exemption of school and transportation fees for disabled people. However, the wage increase in the civil service could be inflationary, because of its contagion effects on the rest of the economy.

Communication and strength of government ownership and commitment to the reform: The authorities approved in late June 2012 a comprehensive reform program to address the deterioration of the country's economic and financial situation. The program—which builds on the authorities' Three-Year Emergency Program—includes an exchange rate devaluation of about 66 percent, an increase in key taxes, a sharp reduction in fuel subsidies, cuts in nonpriority spending, and a strengthening of the social safety nets.⁵ IMF staff supported the authorities in the implementation of this subsidy strategy, through policy advice as well as provision of technical assistance in reviewing the structure of the fuel subsidies and recommending steps to better target price increases, and in the implementation of social safety nets. Further technical assistance is planned to ensure that the implementation of the upcoming phases of the reformed subsidy policy reflect the range of social, political, economic, and institutional constraints faced by the government.

Challenges: Sudan's high and rising inflation and unstable political conditions have long hampered a swift implementation of the necessary subsidy reform.

⁵ In mid-2011, the authorities adopted a Three-Year Emergency Program for 2012–14, which outlines a comprehensive strategy to address the economic and social challenges posed by the secession. Its objectives are to maintain fiscal and external sustainability, boost inclusive growth, and gradually reduce unemployment.

Tunisia

Initial conditions: After the sharp economic decline following the revolution, the Tunisian economy embarked on a moderate recovery in 2012 while facing a challenging international economic environment and persistent domestic and social tensions. The deteriorating current account deficit—caused partly by falling demand from Europe—has been financed by sustained donor financing, strengthened foreign direct investment, and market access, which helped increase reserves (though to a level still below 2010) (Figure A2.6). Fiscal space has been reduced to meet pressing social and investment needs, though public debt remains at sustainable levels.

Background: Price subsidies on basic food, oil products, electricity, and transport approximate 5 percent of GDP. The cost of energy subsidies tripled from an average of 0.9 percent of GDP before 2010 to 2.8 percent in 2012, mainly reflecting the incomplete pass-through of international oil prices to domestic retail prices. LPG and heavy fuel have had the highest subsidy levels, while gasoline and diesel have had the lowest.

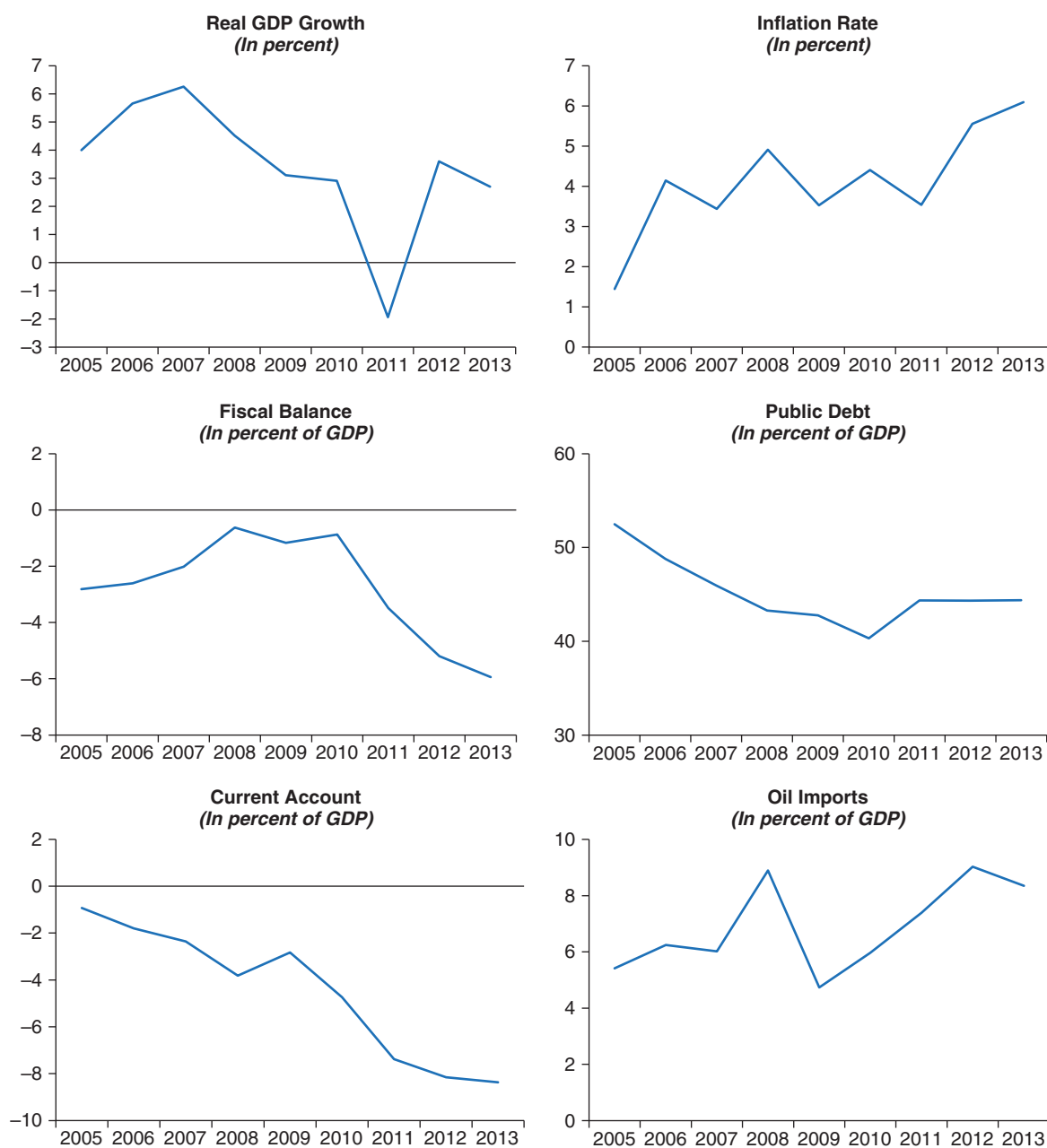
The benefits of energy subsidies accrue mostly to high-income households. The highest-income households benefit almost 40 times more from energy subsidies than do the lowest-income ones. This leakage of subsidies to the nonpoor makes the existing system not only costly but also inequitable and inefficient as a social protection tool.

Recent reforms: The government's fiscal consolidation strategy relies largely on subsidy reduction and containment of the wage bill. As a result, in March 2013, the authorities increased the prices of gasoline and diesel products, and electricity tariffs, by an average of 7–8 percent. This measure complements the 7 percent increase effected on the same products in September 2012. Energy subsidies to cement companies were reduced by half as of January 1, 2014, by increasing the electricity tariff by 47 percent and natural gas prices by 35 percent, with a view to eliminating them by June 2014; and tariffs and natural gas prices for medium- and low-voltage consumers were increased in a two-step process, comprising a 10 percent rate hike as of January 1, 2014, and a further 10 percent price increase in May 2014. The government introduced a new automatic price formula for gasoline in January 2014 to allow for convergence to international prices over time, but without a smoothing mechanism.

Reform plans: The authorities are committed to increasing fuel prices by a further 6 percent on average in July 2014.

Mitigating measures: The government introduced new social programs in parallel with the implementation of the energy subsidy reform, namely a new lifeline electricity tariff to protect households consuming less than 100 kwh per month, a new social housing program for needy families, and an increased

Figure A2.6. Tunisia: Key Macroeconomic Indicators



Source: IMF, World Economic Outlook database.

income tax deduction for the poorest households. The government plans to launch a targeted household strategy by July 2014, which expands the number of beneficiary families in the existing cash transfer system for the poor (PNAFN) from 220,000 to 250,000, broadens the definition of vulnerable households, and increases school allowances for children and university students. Furthermore, the effectiveness of the PNAFN will be improved through the creation of a unified registry and a better targeting system, currently under preparation.

Communication and strength of government ownership and commitment to the reform: Tunisia signed an SBA for June 07, 2013–June 06, 2015. The authorities—with World Bank and IMF technical assistance—have analyzed the welfare and social impact of reforms for each energy product and the design of the new automatic fuel price formula for gasoline, and are finalizing a targeted household strategy to accompany the subsidy reform. Additional programs—as well as a new communication campaign to explain the subsidy reform—will be carried out prior to any new price increases.

Impact on the productive sector: An in-depth study of the impact of an increase in subsidized energy prices on vulnerable households and different productive sectors—conducted with the technical assistance of the World Bank—was just finalized. The study will help in building a new targeted cash compensation scheme that will accompany the development of a unified registry of vulnerable households.

Macroeconomic impact of the reform: The increase in headline inflation from 5.1 percent in January 2012 to 6.4 percent in April 2013 is mainly explained by higher food and energy prices. However, inflation has remained contained since, with core inflation stable at about 5 percent even after increases in electricity prices. For energy, all of the increase reflects recent rises in administered prices of petroleum products and energy tariffs, while food price rises reflect increases in non-administered prices.

Challenges: A prolonged period of political uncertainty, a worsening of the security situation, and a deterioration of the international economic environment could all delay the economic recovery, stop progress in the reform agenda, and affect confidence.

Yemen

Initial conditions: The budget deficit widened to 6.4 percent of GDP in 2012 because of higher spending, including spending on wages and subsidies (Figure A2.7). Although the subsidy bill is at less than its peak of 14 percent of GDP in 2008, it remains high at more than 9 percent of GDP in 2012. This amount constitutes two-thirds of hydrocarbon revenue and exceeds the total of infrastructure and social expenditures.

Background: Since the 1990s, Yemen has undertaken several reforms to reduce fuel subsidies, with the main goal to improve the fiscal position while paying due attention to social considerations. However, the fuel price increases had to be reversed, at least partially, during all episodes. Even the gains made during the most successful episode, the reform attempt in 2005 with the advice of the World Bank and IMF, were erased by the spike in commodity prices in following years. The authorities have since 2013 taken steps to unify the price of diesel for most users, including particularly the electricity sector. The electricity sector had been paying about half of the prevailing domestic price.

Electricity production also benefits from high subsidies. The state-owned Public Electricity Company purchases mazot, diesel, and natural gas at highly subsidized prices compared to domestic and international prices. Electricity tariffs are kept very low, on average 50 percent below cost recovery, creating losses for Public Electricity Company, even with subsidized fuel; these losses are covered by transfers from the government.

Well-off Yemeni households benefit disproportionately from fuel price subsidies, both directly (because they consume more energy than 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 go to households in the bottom 40 percent (based on updates of the 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.

Fuel subsidies exacerbate Yemen's critical environmental problems by artificially reducing the cost of pumping scarce underground water.

Recent reforms: In 2010, as a part of the reforms supported by an IMF ECF arrangement, and with technical assistance from the World Bank, 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. 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.

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.⁶ Allowing prices to increase addressed the fuel scarcity that derived from acts of sabotage on the major pipeline to domestic refineries; it also addressed the government's capacity to import only limited quantities of refined fuel products, which had given rise to a black market and severe gasoline rationing. In 2013, diesel prices were unified across users, including the electricity sector.

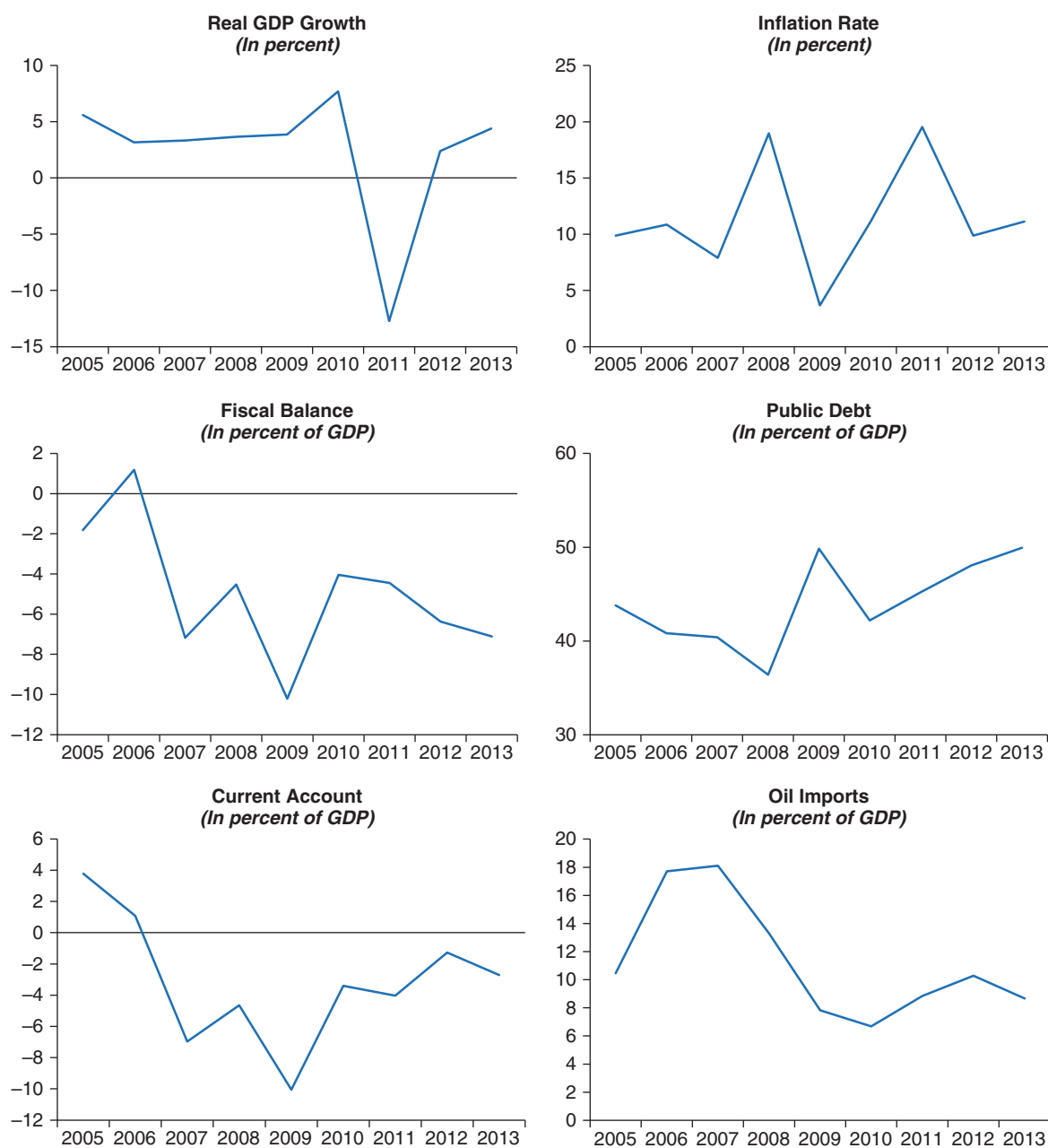
Reform plans: The authorities recognize the need for subsidy reform, but are not ready to implement stronger measures at this stage, even gradually. Price adjustment is currently not included in the government's reform plan.

Mitigating measures: 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 to provide conditional cash transfers to households as a poverty alleviation program. The coverage of the fund was expanded gradually, and transfers were increased in steps. The transfers were partly meant to mitigate the impact of fuel subsidy reforms, but their timeliness 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 increased monthly transfers. On the other hand, the 2010 reform was almost simultaneously mitigated by a 50 percent expansion of the coverage of the cash transfer scheme. The coverage of the Social Welfare Fund was expanded by 500,000 families after 2011, with the assistance of the World Bank. In addition, the government is considering a further increase in the Social Welfare Fund coverage or in the size of existing transfers.
- Public works. The Public Works Project, a program focusing primarily on poverty prevention, provides short-term employment and support for small-scale contractors through a labor-intensive public works program.

⁶The 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.

Figure A2.7. Yemen: Key Macroeconomic Indicators



Source: IMF, World Economic Outlook database.

- Community and enterprise development. The Social Fund for Development promotes community and small and microenterprise development, and provides short-term employment for both the temporarily and chronically poor.
- Fuel conversion. As an additional mitigating measure, the government promoted the conversion to less expensive fuels, particularly 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.

Communication and strength of government ownership and commitment to the reform: During the 2010 reform, the public information campaign component of the strategy was not adopted. Instead, the government implemented small, surprise increases. An IMF technical assistance mission in 2012 looked closely at the impact of energy subsidies and different scenarios for reform that would ensure social protection to mitigate the impact of price adjustments.

Impact on the productive sector: Many industries in Yemen are highly dependent on subsidized energy products. Energy intensity, both direct and indirect as measured through the input-output matrix, is highest in electricity production, oil refining, light manufacturing, and water.

Macroeconomic impact of the reform: Inflation (eop) reached nearly 23 percent in 2011 from 12.5 percent in 2010, mainly reflecting supply constraints arising from shortages of fuel and essential goods.

Challenges: Risks include political and security developments:

- Possible popular unrest in a highly unstable political situation;
- Strong macroeconomic impact given the large adjustments still needed;
- Need to differentiate increases of fuel products to alleviate immediate impact on the poor;
- Implement mitigating measures to soften the impact on those productive sectors that are dependent on low energy prices.

**Subsidy Reform in the Middle East and North Africa
Recent Progress and Challenges Ahead**

