

# Introduction and Background

**TREVOR ALLEYNE, BENEDICT CLEMENTS, DAVID COADY,  
STEFANIA FABRIZIO, SANJEEV GUPTA,  
AND CARLO SDRALEVICH**

The recent surge in international energy prices, combined with incomplete pass-through to domestic prices, has prompted calls to phase out energy subsidies.<sup>1</sup> International energy prices have increased sharply over the past three years, with the exception of natural gas (Figure 1.1). Yet many low- and middle-income economies have been reluctant to adjust their domestic energy prices to reflect these increases. The resulting fiscal costs have been substantial and pose even greater fiscal risks for these countries if international prices continue to increase. In advanced economies, pass-through has been higher, but prices remain below the levels needed to fully capture the negative externalities of energy consumption on the environment, public health, and traffic congestion.

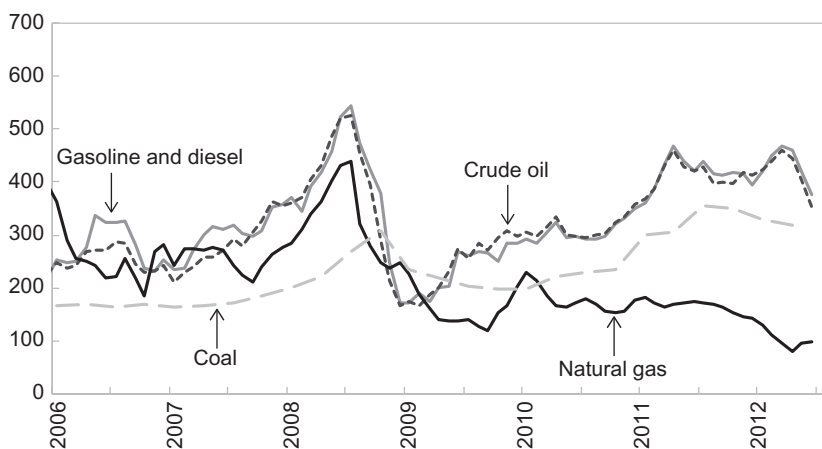
This volume has two principal purposes: first, to review what works best in energy subsidy reform, in light of country experiences globally; and second, to illustrate successes and failures in particular country contexts by summarizing 22 case studies. A novel feature of the volume is that it presents the most comprehensive estimates of energy subsidies available, covering petroleum products, electricity, natural gas, and coal. A central objective of the study underlying this volume was to learn from past subsidy reform experiences, both successful and otherwise, in order to identify key design features that can facilitate reform going forward.

## THE GLOBAL SUBSIDIES LANDSCAPE

Any useful discussion of energy subsidies requires some definition of subsidies, particularly because not all subsidies are recorded as expenditures in government budgets. The full spectrum comprises both consumer and producer subsidies. The first type applies to intermediate consumers (firms) and final consumers (households) and the second type to the producers of fuel products, coal, natural gas, and electrical power. Consumer subsidies include two components: a pretax subsidy, which arises if the price paid by firms and households is below supply

---

<sup>1</sup>The G-20 Pittsburgh Communiqué in September 2009 called for a phaseout of inefficient fossil fuel subsidies in all countries. This commitment was reaffirmed at the 2012 Los Cabos meeting of the G-20.



Sources: IMF, *World Economic Outlook* (WEO); Organisation for Economic Co-operation and Development (OECD); U.S. Energy Information Administration (EIA).

Note: Coal price is the average of quarterly U.S. import prices (EIA) and quarterly OECD import price (IEA/OECD). Natural gas price is the average of the monthly U.S. import and export prices (EIA); these prices are weighted averages for liquefied natural gas and pipeline natural gas. Crude oil price is the average of Brent, Dubai, and West Texas Intermediate monthly prices (WEO/Primary Commodities Price System). Gasoline price is the monthly New York Harbor conventional gasoline spot price (EIA). Diesel price is the monthly Los Angeles ultralow sulfur CARB diesel spot price (EIA). Gasoline and diesel prices are then averaged.

**Figure 1.1** International Prices of Oil, Coal, and Natural Gas, 2006–12 (Indexed January 2000 = 100)

*International energy prices, other than for natural gas, have rebounded since the 2008–9 global crisis.*

and distribution costs; and a tax subsidy (if taxes are below their efficient level, which requires that energy products be subject to consumption taxation plus corrective taxes to capture negative environmental and other externalities as a result of energy use, such as global warming and local pollution). These components are further defined in Chapter 2, which also lays out the methods this study used to measure the costs of on- and off-budget energy subsidies in 176 countries.

The study found that pretax subsidies are concentrated in developing and emerging economies, with oil exporters having the largest subsidies. The subsidies' evolution closely follows the trajectory of international energy prices, having declined with the collapse of international prices after the financial crisis but escalating again since 2009. Globally, these subsidies add up to a very large sum, estimated at US\$492 billion in 2011, which was over 2 percent of total government revenues.

## CONSEQUENCES OF ENERGY SUBSIDIES

Energy subsidies have wide-ranging economic consequences. Subsidy expenditures aggravate fiscal imbalances and crowd out priority public spending and private investment, including in the energy sector. Underpriced energy distorts resource allocation by encouraging excessive energy consumption, artificially promoting capital-intensive industries (thus discouraging employment creation),

reducing incentives for investment in renewable energy, and accelerating the depletion of natural resources. Subsidies lead to higher energy consumption, exerting pressure on the balance of payments of net energy importers, while also promoting smuggling to neighbors where domestic prices are higher.

Because most subsidy benefits are captured by higher-income households, energy subsidies have important distributive consequences that are often not fully understood. Even future generations are affected through the reduced availability of key inputs for growth and the damaging effects of increased energy consumption on greenhouse gas emissions and global warming.

Chapter 3 reviews all of these challenges, emphasizing subsidies' fiscal costs, adverse macroeconomic and environmental impacts, and adverse impact on equity on account of their regressive distribution.

## CHALLENGES AND SUCCESSES OF REFORM

Energy subsidies have generally been difficult to reform. Subsidy reform has been a frequent topic of discussion between IMF staff and member countries—in some cases over decades. The adjustment of prices for subsidized energy has often led to widespread public protests by those who benefit from subsidies and to either a complete or partial reversal of price increases.<sup>2</sup> The absence of public support for subsidy reform partly reflects a lack of confidence in the ability of governments to reallocate the resulting budgetary savings to benefit the broader population, as well as concerns that vulnerable groups will not be protected.

This is particularly challenging in oil-exporting countries, where subsidies are seen as a mechanism to distribute the benefits of natural resource endowments to their populations; in addition, these countries typically lack capacity to administer targeted social programs. Governments are also often concerned about the inflationary effects of higher domestic energy prices and their adverse impact on the international competitiveness of domestic producers. Furthermore, subsidy reform can be complex when it involves efforts to reduce inefficiencies and production costs, as is often the case for the electricity sector.

Chapter 4 draws on lessons from reform experiences in 22 countries, which cover 28 reform episodes, based on case studies undertaken by IMF staff. These are combined with insights from past IMF analyses<sup>3</sup> as well as from analyses carried out by other institutions.<sup>4</sup> The experiences studied include both successful and

---

<sup>2</sup>Examples of reform reversals where price increases had to be quickly reversed—either partially or fully because of public demonstrations—include Bolivia (2010), Cameroon (2008), Nigeria (2012), Venezuela (1989), and Yemen (2005). Nigeria and Yemen are discussed in this volume among the case studies in Chapters 5 and 7.

<sup>3</sup>Including Gupta and others, 2000; Coady and others, 2006; IMF, 2008a; Coady and others, 2010; and Arze del Granado, Coady, and Gillingham, 2012.

<sup>4</sup>Including Global Subsidies Initiative, 2010; United Nations Environment Program and International Energy Agency, 2002; United Nations Environment Program, 2008; World Bank, 2010b; and Vagliasindi, 2013.

unsuccessful reform episodes over the past two decades across a broad range of countries and different energy products. In some cases, governments attempted to reduce the fiscal burden of subsidies by raising energy prices to households and firms or improving the efficiency of state-owned enterprises. Some governments attempted to reduce pretax subsidies, but others sought to restore energy taxation to higher levels.

The study found cases where countries successfully implemented reforms that led to a permanent and sustained reduction of subsidies (success), others where countries reduced subsidies for at least a year but later saw them reemerge or remain an unresolved policy issue (partial success), and still others where reforms failed, with price increases or efforts to improve efficiency being quickly rolled back (unsuccessful). Out of the 28 reform episodes studied, 12 were classified as a success, 11 as a partial success—often because of reversals or incomplete implementation—and five as unsuccessful.

## COUNTRY CASE STUDIES

This volume offers details on the political and economic context and reform efforts in 22 case studies covering petroleum products, electricity, and coal. The selection of countries was designed to ensure coverage of different regions of the world and a mix of reform outcomes. The selection also reflects the availability of data and of previously documented evidence on country-specific reforms. The larger number of studies on fuel subsidies reflects the wider availability of data and past studies of these reforms.

Out of the 22 case studies, 14 address fuel subsidy reform, seven address electricity sector reform, and one addresses coal sector reform. The studies cover seven countries from sub-Saharan Africa (Chapter 5), two countries in emerging and developing Asia (Chapter 6), three countries in the Middle East and North Africa (Chapter 7), four countries in Latin America and the Caribbean (Chapter 8), and three countries in Central and Eastern Europe and the Commonwealth of Independent States (CIS) (Chapter 9). In 14 of the 28 episodes, an IMF-supported program was in place, and in all but two the program contained conditionality on energy subsidy reform.