Between 1986 and 1998, the price of a barrel of West Texas Intermediate (WTI) oil remained quite stable, fluctuating between $16 and $42 (in constant 2011-U.S. dollars), with the exception of a brief spike in 1990 at the time of the first Gulf War. In December 1998, the barrel of WTI had reached a low point of $17. Almost 10 years later, in July 2008, the same barrel cost $134. By March 2009, the price of oil had plummeted back to $41, before inching its way back to $92 as of September 2012. These large swings have not been limited to oil prices. Other commodities have also experienced similarly wild price fluctuations over the past 10 years.¹
Such large commodity price movements have wide ranging macroeconomic implications in advanced and emerging economies alike. For example, a large body of evidence suggests that, in net oil importers, oil price spikes can trigger slowdowns in activity, result in higher inflation, and weaken fiscal and external positions. The large redistribution of wealth across countries that this entails can also strain the capacity and resilience of domestic financial systems and/or trigger asset price booms and busts.

In short, dealing with volatile commodity prices remains a major policy challenge. To make progress on this topic, the *IMF Economic Review* organized, together with the Central Bank of the Republic of Turkey (CBRT), a conference on “Policy Responses to Commodity Price Movements.” The conference took place in Istanbul on April 6–7, 2012. This special issue of the *IMF Economic Review* and the next one include some of the key papers presented at this conference. As usual, all of these papers went through a rigorous refereeing process, and benefited from extensive feedback from discussants, conference participants, members of the Editorial Board, and members of the conference organization committee.

The first paper in this issue, “Monetary Policy Responses to Oil Price Fluctuations” by Martin Bodenstein, Luca Guerrieri, and Lutz Kilian, provides a quantitative exploration of how the U.S. monetary policy should respond to oil price movements in a rich two-country new open-economy model with nominal and real rigidities. In their model, oil is used as an intermediate good as well as a consumption good. A key result from the paper is that the response of monetary authorities to movements in oil prices should differ depending on the sources of fluctuations in those prices. In other words, an oil price shock is not simply a reduced form “cost-push shock” as it is sometimes assumed in the literature. Instead, the authors make the simple observation that different shocks resulting in the same increase in oil prices (for instance, an increase in domestic demand for oil because of a positive productivity shock, or an increase in foreign demand because of a shock to oil efficiency) can generate different co-movements between factor prices and marginal products and call for a differentiated response from monetary authorities. They demonstrate that this is indeed the case in their calibrated model.

Using a novel decomposition of the marginal cost of production that highlights the role of each factor input for the evolution of inflation, they find that the labor market plays a central role in the adjustments following changes in the price of oil. They report that a monetary policy rule, whose coefficients are chosen to maximize the U.S. welfare, differs significantly from the same rule estimated using historical data. They argue that an optimal policy rule requires the Federal Reserve to put zero weight on the price of oil

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167 from 78 in 1998. One year later, in March 2009, it registered a 35 percent decline and was back to 110. However, in less than two years, the index climbed to a record of 199 in April 2011. The index of food prices fluctuated in a similar fashion over the past 10 years.
and to directly respond to wage inflation without considering the implications for smoothing interest rates.

The second article of the issue, “On Oil Price Shocks: the Role of Storage” by Deren Unalmis, Ibrahim Unalmis, and D. Filiz Unsal, explores the origins of oil price fluctuations and the importance of storage. Unlike the previous paper, it incorporates a competitive oil storage framework into a standard dynamic stochastic general equilibrium model. This allows the authors to explore the contribution to oil price movements arising from precautionary speculative demand. Because of the additional complexity stemming from the modeling of speculative storage, the authors do not consider the international dimensions of their analysis. However, their paper can be seen as a nice complement to the previous paper that modeled rich international linkages without considering the speculative storage angle.

The authors report that the total factor productivity shocks (TFP) are the most important drivers of oil price fluctuations. Importantly, while precautionary demand shocks play a relatively limited role in explaining oil price fluctuations, the authors show that omitting speculative storage leads to an upward bias in the estimate of contribution of oil supply shocks, especially over the recent period. The reason is that, in response to a persistent TFP shock, the price of oil is expected to increase over time, which triggers an increase in speculative storage. Since speculative storage leads to a reduction in the current supply of oil (as in the case of a negative oil supply shock), omitting this dimension results in an overestimate of the contribution of the oil supply shocks. The significant role played by TFP shocks in driving oil prices explains the resilience of macroeconomic environment to the oil price hikes in the 2000s. In addition, they report that the presence of speculative storers mitigates or intensifies the fluctuations in oil prices depending on the source of the shock.

The third paper, “The Changing Relationship between Commodity Prices and Equity Prices in Commodity Exporting Countries” by Barbara Rossi, analyzes the nature of commodity price fluctuations. Rossi focuses on the complex relationship between commodity and equity prices. One argument is that a country’s equity index encodes information about the country’s future cash flows, hence its future commodity prices, just like an exchange rate. Another argument is that equity prices also vary with the discount rate, which is influenced by global monetary conditions. Low interest rates would boost equity values, and also trigger speculative storage through a standard Hotelling mechanism. The first argument implies that the causality runs from the equity value of commodity exporters to future

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2In an earlier paper, Rossi and her co-authors Yu-chin Chen and Kenneth Rogoff (Quarterly Journal of Economics, 2010) showed that exchange rates of small open economies with a large export share of primary commodities have predictive power for future commodity prices. The intuition for their result is that the exchange rates of these economies contain information on the future value of their commodity exports, which is a function of the future price.
commodity prices. In the second argument, the causality runs from interest rates to global equity prices and commodity prices.

By comparing the two arguments, one ought to be able infer the importance of the effects from local cash flow considerations and those associated with global discount effects. Rossi reports that equity prices of commodity exporting countries do indeed contain information useful for forecasting global commodity prices, although perhaps less so than currency prices, especially in short horizons. She also finds that commodity prices are not predicted by equity prices in the case of noncommodity-producing countries, casting doubt on the “financial diversification” or global discount channel, and in favor of the “cash flow” argument.

The next paper, “Macroeconomic Performance During Commodity Price Booms and Busts” by Luis Felipe Céspedes and Andres Velasco, considers policy issues faced by commodity-producing nations. They argue that policy responses to commodity price fluctuations depend on the structural characteristics of a country and its policy framework. They focus on large commodity price shocks, that is, commodity price booms and busts. They start with a simple theoretical model with nominal rigidities and financial frictions. Their model leads to a closed-form solution for the output response to a commodity price shock as a function of the degree of exchange rate flexibility and of financial market depth. The implication of this solution is that the output response is smaller for more flexible exchange rate regimes. In addition, the output response to commodity price shocks is hump-shaped: it goes up as financial development rises from a low level, but it eventually goes down as financial development becomes sufficiently high.

They show that commodity price shocks have a significant impact on output and investment dynamics using a comprehensive data set of commodity booms and busts episodes. Their results confirm the predictions of their model. First, economies with more flexible exchange rate regimes exhibit less pronounced responses of output during these episodes. Second, the impact of price shocks on investment tends to be larger for economies with less developed financial markets. In addition, they report that international reserve accumulation, more stable political systems, and less open capital accounts tend to reduce the real exchange rate appreciation (depreciation) during episodes of commodity price booms (busts).

The Policy Corner piece of this issue is based on the keynote address of the conference delivered by José De Gregorio on “Commodity Prices, Monetary Policy and Inflation.” The paper presents an elegant assessment of the monetary policy challenges posed by commodity price shocks. He argues that monetary policy should target headline inflation, as most central banks already do, in order to smooth out the impact of these shocks on prices. In particular, the paper emphasizes the importance of second-round effects associated with commodity price shocks that require a broader assessment of their impact beyond what is captured by the core inflation.

and highlights two main conclusions. First, food price inflation has stronger effects on the core inflation measures than does oil price inflation. Considering the large share of food in their consumption baskets, this finding has implications for emerging market economies. Second, countries that had lower inflation during the run up of commodity prices prior to the global crisis experienced higher inflation in the subsequent years during which commodity prices increased again. This finding implies that repressed inflation can be a factor explaining the low inflation observed in these countries before the crisis. The paper claims that policymakers should consider the persistent changes in the relative prices of commodities observed in the 2000s and design their policies accordingly. Monetary policy should respond to commodity price shocks, but there is no one-size-fits-all response, so the response should depend on country-specific characteristics.

The evolution of commodity prices over the past four decades clearly shows the critical importance of designing appropriate policy responses to commodity price movements. In the mid-1970s, supply-driven commodity price shocks pushed the global economy into a recession. The lingering effects of that recession were also felt in the early 1980s when major advanced economies implemented contractionary monetary policies to control inflation. In the 2000s, demand from rapidly growing emerging markets changed the dynamics of commodity markets and led to gyrations in prices. The papers presented in this issue enhance our understanding of the dynamics of commodity prices and provide policymakers a lot of material to consider when they formulate their responses to wild movements in commodity markets. Moreover, the papers in this issue clearly illustrate the high quality and policy relevance that have come to characterize the IMF Economic Review.