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A new era for commodities

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Cheap resources underpinned economic growth for much of the 20th century. The 21st will be different.

Has the global economy entered an era of persistently high, volatile commodity prices? Our research shows that during the past eight years alone, they have undone the decline of the previous century, rising to levels not seen since the early 1900s (exhibit). In addition, volatility is now greater than at any time since the oil-shocked 1970s because commodity prices increasingly move in lock-step. Our analysis suggests that they will remain high and volatile for at least the next 20 years if current trends hold—barring a major macroeconomic shock—as global resource markets oscillate in response to surging global demand and inelastic supplies.

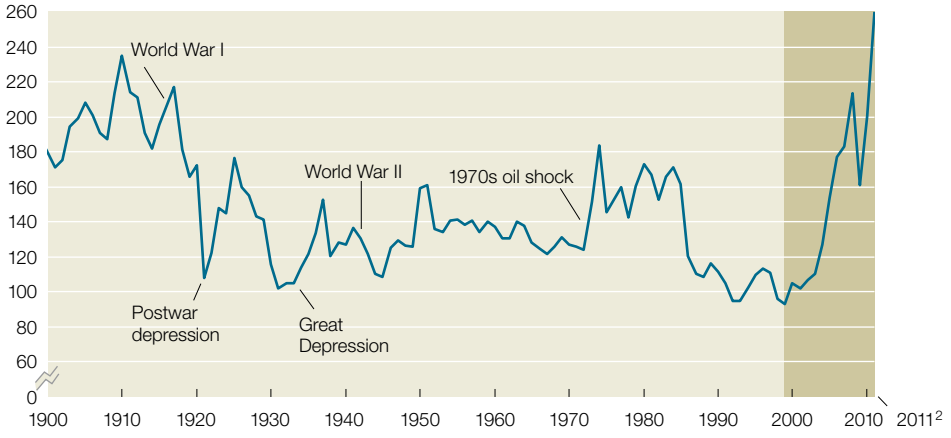
Demand for energy, food, metals, and water should rise inexorably as three billion new middle-class consumers emerge in the next two decades.[1] The global car fleet, for example, is expected almost to double, to 1.7 billion, by 2030. In India, we expect calorie intake per person to rise by 20 percent during that period, while per capita meat consumption in China could increase by 60 percent, to 80 kilograms (176 pounds) a year. Demand for urban infrastructure also will soar. China, for example, could annually add floor space totaling 2.5 times the entire residential and commercial square footage of the city of Chicago, while India could add floor space equal to another Chicago every year.

Such dramatic growth in demand for commodities actually isn't unusual. Similar factors were at play throughout the 20th century as the planet's population tripled and demand for various resources jumped anywhere from 600 to 2,000 percent. Had supply remained constant, commodity prices would have soared. Yet dramatic improvements in exploration, extraction, and cultivation techniques kept supply ahead of ever-increasing global needs, cutting the real price of an equally weighted index of key commodities by almost half. This ability to access progressively cheaper resources underpinned a 20-fold expansion of the world economy.

There are three differences today. First, we are now aware of the

In little more than a decade, commodity prices have soared from historic lows to new highs.

McKinsey Global Institute commodity price index (average of 1999–2001 = 100)[1]



[1] Based on arithmetic average of 4 commodity indexes: food, agricultural raw materials, metals, and energy. Each index was weighted by total world export volumes from 1999 to 2001 at indexed prices (in real terms) over same time period. Energy index excludes gas prices prior to 1922, for which data are unavailable.
[2] Based on average of first 4 months of 2011.

Source: FAOSTAT (Food and Agriculture Organization of the United Nations); Grilli and Yang commodity price index, 1988; International Monetary Fund (IMF) primary commodity prices; Organisation for Economic Co-operation and Development; Stephan Pfaffenzeller et al., "A short note on updating the Grilli and Yang commodity price index," *World Bank Economic Review*, 2007, Volume 21, Number 1, pp. 151–63; World Bank commodity price data; UN Comtrade; McKinsey Global Institute analysis

potential climatic impact of carbon emissions associated with surging resource use. Without major changes, global carbon emissions will remain significantly above the level required to keep increases in the global temperature below 2 degrees Celsius—the threshold identified as potentially catastrophic.[2]

Second, it's becoming increasingly difficult to expand the supply of commodities, especially in the short run. While there may not be absolute resource shortages—the perceived risk of one has historically spurred efficiency-enhancing innovations—we are at a point where supply is increasingly inelastic. Long-term marginal costs are increasing for many resources as depletion rates accelerate and new investments are made in more complex, less productive locations.

Third, the linkages among resources are becoming increasingly important. Consider, for example, the potential ripple effects of water shortfalls at a time when roughly 70 percent of all water is consumed by agriculture and 12 percent by energy production. In

Uganda, water shortages have led to escalating energy prices, which led to the use of more wood fuels, which led to deforestation and soil degradation that threatened the food supply.

Higher commodity prices are one way of bringing supply and demand nearer to balance—but not a desirable means for most policy makers and business leaders, since lofty prices can drag down profits and growth (for more, see sidebar "Anticipating economic headwinds" in the article "Another oil shock?" on mckinseyquarterly.com). Another approach is to squeeze greater "productivity" from natural resources by, for example, improving mining recovery rates, making households more energy efficient, and capturing and reusing wastewater.

Our research—summarized in a forthcoming McKinsey Global Institute report on the world's natural-resource needs in the 21st century—suggests that better resource productivity could single-handedly meet more than 20 percent of forecast 2030 demand for energy, steel, water, and land. In addition, higher long-term resource prices might create the necessary incentive for breakthroughs, especially around energy-related technologies that could reduce carbon emissions (for more on this topic, see "Another oil shock?" on mckinseyquarterly.com). More will need to be done, of course, and we're not suggesting that it's easy; major policy, behavioral, and institutional barriers must be addressed. Yet as we enter a new era for commodities, there's little choice but to act.

[1] See David Court and Laxman Narasimhan, "Capturing the world's emerging middle class," mckinseyquarterly.com, July 2010.

[2] *The Stern Review on the Economics of Climate Change*, released in 2006, and the International Panel on Climate Change (IPCC) claim that an increase in temperatures of more than 2 degrees Celsius (3.6 degrees Fahrenheit) above those of preindustrial times could cut GDP by up to 20 percent, force more than a billion people to migrate, make many species extinct, threaten major cities as a result of rising seas, and decrease agricultural yields, putting pressure on food (and fuel) supplies. Major changes in energy production and usage could lower carbon emissions to keep temperatures below that threshold.

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