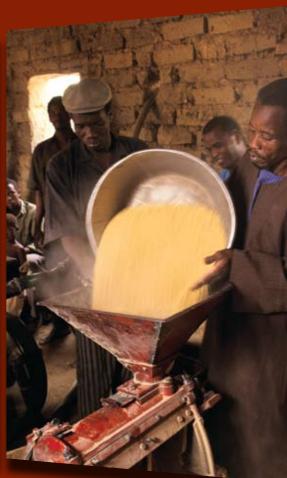
Commodities at the Crossroads







Key findings from Global Economic Prospects 2009

Trends | Data | Policy Advice

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Photos

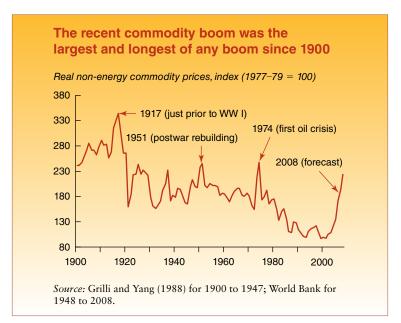
Cover: Ray Witlin (worker in factory), Dreamstime.com (offshore oil rig), Curt Carnemark (man pouring grain). Anvar Ilyasov (a woman with her children on their field during grain harvest), Dreamstime.com (corn field), Nicholas Van Praag (woman buying bread), Josef Hadar (man working in field), Dreamstime.com (emerging seeds), Dreamstime.com (Split image of oil barrels and cars), adapted from Dreamstime.com (car on tree), Dreamstime.com (oil refinery), Dreamstime.com (helping hand), Curt Carnemark (huts).



Commodity Prices: The End of a Historic Boom

From 2003 to early 2008, the world witnessed the most marked commodity price boom of the past century. The price of oil, metals, food grains, and other commodities rose sharply, and over a sustained period. Like earlier commodity booms, this one was associated with strong global growth, but was exceptional in its duration and in the range of commodities affected. By mid 2008, energy prices were 320 percent higher in dollar terms than in January 2003, metals and minerals were 296 percent higher and internationally traded food prices 138 percent higher—mainly due to higher grain prices.

Typically, commodity booms end as global economic growth slows. This one lasted as long as it did mainly because developing countries continued to grow rapidly even in the face of fast rising commodity prices. But the long boom has finally come to an end, with prices falling in response to slower growth, increased supplies, and revised expectations. As of late November 2008, the dollar price of crude oil had fallen more than 60 percent, but was still 76 percent higher than in early 2003. Food prices were also much lower in November 2008, but still much higher than in January 2003.





The supply of oil and metals did not keep up with stronger demand, resulting in a price boom. In grain markets, demand was relatively stable but diversion of some grains toward biofuel production had a ripple effect, contributing to price rises for other crops.

Although World Bank economists expect that food prices will fall a further 20 percent in 2009, these prices are likely to remain much higher over the next 20 years than during the 1990s—partly because of higher energy prices and the influence of biofuel demand for food crops.

Oil and metals

During the recent period of sustained growth, demand increased for oil and metals. However, it was a lack of supply capacity in the two sectors rather than rising demand, that caused prices to go up. Global demand for oil fell sharply following the 1980s oil shock, and in the 1990s demand among former Soviet bloc countries for oil, metals and minerals also fell by almost 50 percent as these countries began to allocate resources according to market signals. This idle capacity helped depress commodity prices in the 1990s and meant that firms did not invest in new capacity. Demand was rising relatively quickly outside the former Soviet bloc, but supply capacity grew much less rapidly because about a third of the increased demand was met by reviving idle capacity. When idle capacity was finally absorbed in the first half of the early 2000s, supply could not keep up, and prices surged.

Metals demand was also boosted by a dramatic rise in the amount of metal used per unit of GDP that began in the mid 1990s, reversing a 30-year period of declining metal intensities. The main reason for this reversal was the recent investment, manufacturing, and export booms in China. An expected easing of demand for metals over the next 20 years depends on the stabilization and subsequent decline of metal intensities in China, as the high investment rate declines and expansion of manufacturing capacity slows.

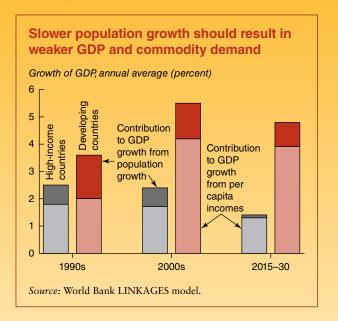
The future balance between extracted commodity supply and demand looks healthy if policies continue to support conservation and efficiency measures. Efficiency gains in car technology will be a critical determinant of future demand for oil. Over the next 20 years, supplies of extracted commodities are likely to remain ample, but if fossil fuel resources become scarce, many alternatives exist. Moreover, rising oil prices in response to slower supply will make alternative sources of energy more competitive and encourage greater conservation and technological change.

Grain markets

The story in agricultural markets is quite different. Demand for food has been relatively stable, but demand for grains as inputs into biofuel production has increased sharply. Between 2003 and 2007, two-thirds of the global increase in maize production went to biofuels. The effect spread from maize markets to wheat and soybean markets as farmers diverted their fields away from these crops to maize production. Higher oil and fertilizer prices also made it costlier to produce food in some countries. A final complication was a series of poor wheat crops in Australia.

Food demand is likely to grow less quickly in the future because of slower population growth. However, crop demand could expand quickly due to biofuels. Assuming no change in the economics of ethanol production, the International Energy Agency (IEA) suggests that biofuel demand for grain could increase by 7.8 percent a year over the next 20 years. While this would make future food supply more expensive, it

Commodity Prices Falling with Slower Growth



All commodity prices were falling as of November 2008, with slower GDP growth and increased supplies. World Bank economists project that GDP growth in developing countries will slow to 4.5 percent in 2009. Real food prices are expected to fall by 26 percent between 2008 and 2010, oil prices by 25 percent, and metals prices by 32 percent. Speculation that the global economy is moving into a new era of relative shortage and ever-rising commodity prices is unlikely to be borne out. Over the next 20 years, slower population growth and weaker (though still strong) income growth are expected to ease global growth and future demand for commodities. The extent to which demand slows and supply meets demand will depend on policies, technological change, and other factors like climate change.

is unlikely to generate long-term food shortages. Global agricultural productivity growth has outpaced food demand for decades. Even if a much larger share of production goes to biofuels, increased investment and utilization of unused cropland should ensure adequate food supply. However, countries with rapid population growth may become increasingly reliant on imported food unless productivity is improved.

High Commodity Prices: Impact on Poor People

igh commodity prices pose challenges for poor people, especially in consuming countries. Sharp price rises for heavily traded commodities like oil can pose balance of payments problems and make net importers more vulnerable. But high food prices cause balance of payments issues only in a handful of countries, because most food commodities are consumed in the country where they are produced. The larger issue is the costs that higher commodity prices, especially food prices, impose on the very poor. Both food and fuel prices have boosted inflation and cut sharply into real incomes in developing countries, pushing more people into poverty, and worsening the situation of those already poor.

Key impacts seen

- Globally, the cost of higher food and fuel to consumers in developing countries was equal to about \$680 billion in 2008 (\$400 billion related to oil and \$240 billion to food).
- High oil prices increased current account deficits in a number of countries by as much as 5 percent of their GDP.
- Higher food prices drove up poverty because poor



Food and fuel prices have boosted inflation in developing countries. In general, higher food prices have had a more severe effect on poverty, because poor households tend to spend more than half their incomes on food and only a tenth on fuel.

- households tend to spend more than 50 percent of their incomes on food, and only about 10 percent on fuel, on average. Fuel is also relatively easy to replace by biomass.
- Internationally traded and dollar-denominated food prices increased by 54 percent between Jan. 2005 and Dec. 2007. However, the real-local currency price of food rose by much

Food price hikes and shares in consumption vary by region											
Region	Price shock (Jan. 2005– Dec. 2007)	Food share among the poor	Region	Price shock (Jan. 2005– Dec. 2007)	Food share among the poor						
	(Per	cent)		(Percent)							
Rural population			Urban Population								
East Asia and Pacific	12.4	71.5	East Asia and Pacific	13.8	67.5						
Europe and Central Asia	-0.2	63.4	Europe and Central Asia	-0.5	57.8						
Latin America and the Caribbean	6.9	51.2	Latin America and the Caribbean	1.6	44.1						
Middle East and North Africa	25.9	64.5	Middle East and North Africa	12.5	57.1						
South Asia	5.0	65.3	South Asia	4.8	64.4						
Sub-Saharan Africa	9.6	68.0	Sub-Saharan Africa	4.9	53.0						
Developing world	6.7	66.1	Developing world	4.1	60.4						
Source: World Bank.											

Note: Price shocks differ between the rural and urban populations because of differing degrees of urbanization among countries included in the aggregates.

less in most developing countries because: people eat a wider range of food products and the prices of many of these rose by less; many countries took steps to prevent the pass-through of high prices; and the dollar was depreciating. Real food prices did not rise uniformly everywhere: prices in Africa rose by an average of 8.3 percent compared with 19.8 percent in the Middle East, which relies more heavily on imported foods like wheat.

- The rise in food prices is estimated to have pushed between 130-155 million more people into extreme poverty.
- The share of extremely poor people rose by 1 or more percent between 2005 and early 2007 in East Asia, the Middle East, and South Asia. The impact was less in Africa because food prices rose less there and more of the poor in the region live in rural areas.
- In general, the urban poor were affected more strongly than the rural poor, because they benefit only indirectly from farmers' higher revenues and associated long-term gains to the agricultural sector.

For very poor people, reducing consumption from already low levels even for a short period has severe long-term consequences. Higher food prices during 2008 alone may have increased the number of children suffering permanent cognitive and physical injury due to malnutrition by 44 percent.

What is very evident from these impacts is that countries must react to higher food prices by targeting assistance to people who are poorest and most at risk. While all people suffer from higher food prices, governments and international aid agencies cannot afford to offset all of the increased costs, which amount to as much as 26 percent of GNI (equal to total government expenditures) in some countries.

Instead, efforts need to be focused on very poor people, who are most at risk. The cost of offsetting high food prices for these people alone is a more manageable \$34 billion worldwide or \$2.4 billion if only the poor in the poorest countries are considered.

Higher food prices have increased both the incidence and severity of povert	y worldwide
January 2005–December 2007	

	Initial levels: Change in:			Initial levels:		Change in:			
Region	Poverty headcount	Income gap ratio	Poverty headcount	Income gap ratio	Region	Poverty headcount	Income gap ratio	Poverty headcount	Income gap ratio
	(percent)		(percentage points)			(percent)		(percentage points)	
Urban population					Rural population				
East Asia and Pacific	13.2	20.3	6.3	2.7	East Asia and Pacific	31.9	23.2	4.9	0.7
Europe and Central Asia	2.5	8.7	0.0	0.2	Europe and Central Asia	8.2	6.6	0.0	0.0
Latin America and the Caribbean	3.7	37.6	0.1	-0.7	Latin America and the Caribbean	18.6	43.9	0.1	0.1
Middle East and North Africa	2.7	17.8	2.4	5.7	Middle East and North Africa	15.4	22.9	0.7	0.9
South Asia	32.3	25.0	2.0	0.5	South Asia	43.3	24.0	0.8	0.3
Sub-Saharan Africa	34.1	38.1	1.7	0.3	Sub-Saharan Africa	54.9	41.5	0.3	0.0
Developing world	15.3	27.1	2.9	0.5	Developing world	37.1	28.2	2.1	0.1

Source: World Bank, using the Global Income Distribution Dynamics model.

Note: The per capita poverty line equals 1.25 international 2005 dollars a day. The ratio of food in total consumption among the poor is computed as described in De Hoyos and Lessem (2008). East Asia excludes China, and the Middle East comprises Jordan, Morocco, and the Republic of Yemen. The income gap ratio expresses, as a percent of the poverty line, how much the income of the average poor person is lower than the poverty line.

Food for Thought: Ensuring Future Supply

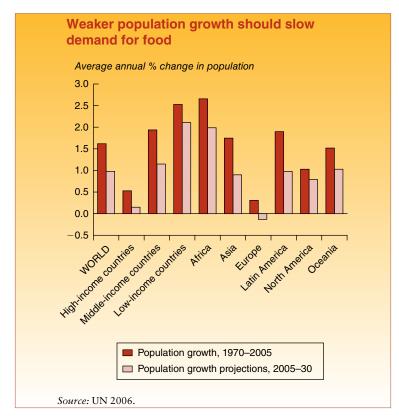
eaker population and GDP growth expected over the next few decades should dampen global demand for food in the same period. The world's population, which grew at a yearly average of 1.6 percent between 1970 and 2005, is expected to grow by only 1 percent a year on average over the next 25 years. If agricultural productivity continues rising at about 2 percent a year, global food shortages are unlikely. However, the future balance between demand and supply will be sensitive to policies; climate change; demand for biofuels; and the extent of investments in infrastructure and research.

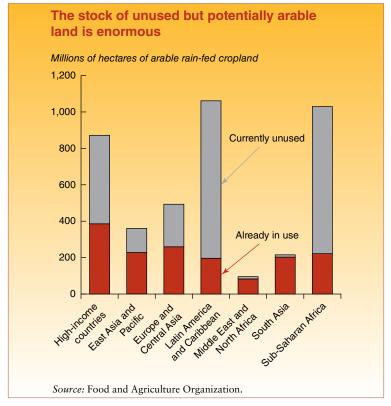
Manageable food demand

Higher incomes in developing countries imply that per capita food consumption will likely go up in many developing countries, but the impact on overall food demand is expected



Demand for food should grow less rapidly over the next 25 years with weaker growth in population and GDP. More cultivated land and better yields are likely to result in strong growth in agricultural production and lower prices. Supply growth will depend on public policy and investment in technology and infrastructure, and is open to risks posed by climate change and demand for biofuels.





to be small. A 10 percent increase in per capita income will increase grain demand by 6 percent in poor countries but only 2 percent in middle-income countries. The FAO estimates that global demand for primary food commodities will increase by about 1.5 percent a year between 2008 and 2030. Demand for cereals, edible oils and meats will grow by 1.2, 2.3 and 1.7 percent, respectively—slower than between 1990 and 2006. Much of the new food demand between 2008 and 2030 will likely be generated by developing countries.

The effect of biofuels on food prices

Demand for maize in biofuel production was one of the largest factors contributing to the increase in food crop prices over recent years. Greater demand for biofuels was prompted by generous subsidization and mandates for biofuels in the U.S. and Europe and import restrictions placed on ethanol produced from sugar. Biofuel production in Brazil, the U.S., and the E.U. (which account for over 90 percent of world production) has risen by 18 percent a year since 2000. At oil prices above \$50 a barrel, production of biofuels from food crops—even without subsidies—remains profitable. Thus the price of maize has become much more sensitive to the price of oil (and more volatile).

Other grain prices have also become sensitive to oil prices because as land-use shifts toward meeting biofuel demand, wheat and soybean production declines, forcing their prices up as well. The future impact of the oil market on food crop demand and prices is uncertain. New technologies might make ethanol production cheaper, lowering the \$50 threshold. But technologies for fuel sources such as cellulose, and for alternative energy sources could reduce biofuel-related demand for food crops, and so also food prices.

Rising agricultural productivity, farmed land

Over the past 50 years, agricultural output has risen steadily, with the largest gains seen in Asia and North America. Increased crop yields have been the major underlying cause. Many countries have expanded irrigation and fertilizer use,

GM crops—the next green revolution?



The most important recent breakthrough in agricultural technology has been genetically modified (GM) crops that need fewer pesticides. In 2006, farmers in 22 countries planted GM seeds on 100 million hectares, which is about 8 percent of the global crop area.

while using improved seed varieties. In 2000, high-yield grain varieties were used on 90 percent of farmed land in South and East Asia; improved grain varieties are spreading in Africa too. Although much of the best agricultural land is already in use, farmland can still be extended without cutting down forests, especially in Africa, Brazil, Ukraine and the Russian Federation. The world's agricultural supply potential is far from exhausted.

Technology likely to drive improved crop yields

Considerable potential exists for expansion of irrigation, more intensive fertilization and use of improved seeds in many countries, especially in Sub-Saharan Africa and Eastern Europe and Central Asia. If these regions were more productive, global cereal yield could rise by as much as 9.4 percent, enough to meet several years' worth of increasing demand.

Policies should encourage research and development, as well as direct agricultural extension services towards smallholders. Recent advances in biotechnology could also offer poor countries improved yields through new plant varieties that are more resistant to the impacts of climate change. Good regulatory systems should be established to evaluate the risks and benefits.

Energy: Balancing Demand and Supply

If there was no improvement at all in energy efficiency, demand would rise by more than 120 percent by 2030, with developing countries accounting for most of that increase. However, energy efficiency has improved a great deal over the past 50 years—take, for example, vastly improved jet travel or automobile fuel efficiency—so there is cause for hope that this trend will continue.

In fact, technological change between 1970 and 2004 lowered energy demand by 50 percent from what it would have been otherwise. And fuel efficiency may double over the next few decades with promising new technologies.

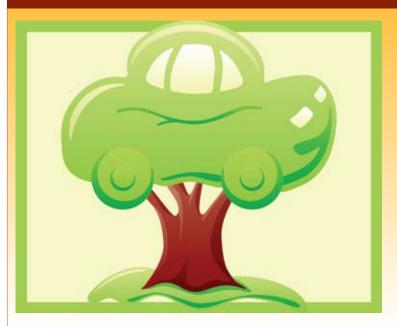
If energy efficiency improves at about the same rate as it has done in the past, total demand for energy is likely to rise by about 55 percent by 2030, with 80 percent of the increase being generated by developing countries. That said, the rate of growth of energy demand is expected to ease with time, due to weaker population expansion and improved technologies,



Demand for energy depends critically on the pace at which energy efficiency continues to improve, especially in the transport sector. Over the next 20 years, the supply of extracted commodities—both oil and metals—is likely to remain ample.

possibly decreasing from an average of 1.8 percent in the past 15 years to about 1.3 percent between 2015 and 2030. Slowing global growth and an anticipated decline in China's

Alternative Fuels for Cars



Future efficiency gains in car technology will be critical in determining future demand for oil. Much of the increased demand for oil over the next 20 years is likely to be for private cars and trucks, mostly generated in developing countries.

Hydrogen and electricity are emerging fuels for the transport sector, and flex-fuel cars as well as cars fully powered by ethanol are already commercially successful in Brazil and their use is expanding in the U.S. and Europe. Hybrid cars can increase fuel efficiency for city driving by 100 percent, while plug-in hybrids can reduce gas dependence even more. Hydrogen-fuel-cell and all-electric cars could eliminate that dependence completely, but to be competitive, battery technology needs to improve, as does the production and conversion of hydrogen into electricity.

use of metals per unit of GDP should also see the growth in demand for metals slow over the next 25 years.

On the supply side, there is little likelihood of running out of oil, metals or minerals any time in the foreseeable future, though these resources are ultimately exhaustible. In part, this is because new reserves continue to be found at about the same pace as old ones are consumed. Moreover, should supplies become scarce, market forces will reallocate demand to prevent resource exhaustion. Long before the world runs out of these products, prices will increase to the point where demand declines, and investment, production and consumption of alternatives (including renewable energy sources) takes up the slack.

Since the 1970s when worries of exhausting natural resources first surfaced, technological change has kept the cost of extraction in check, even as the quality of mines and wells has declined, allowing supply to keep pace with demand. For example, improved technology allowed offshore fields to be drilled profitably, with the result that nearly all of the increase in global oil production since 1978 has come from these fields—despite their higher exploitation costs. Improvements in the way the final product is extracted from ore beds or wells have also helped maintain surprisingly stable ratios of reserves to output. Reserves of most extractive commodities have increased over time despite rising production.

How the actual balancing of demand and supply in oil and metals finally plays out depends largely on policy choices and on further technological progress.

Policy choices

Simulations show that a more aggressive position on carbon emissions could moderate energy demand and fossil-fuel use further. For example, a \$21 tax per ton of carbon dioxide could be expected to reduce demand for energy by 33 percent. Demand for coal would decline under such a scenario, giving way to more demand for natural gas and other low-carbon energies. Rising concerns about the environmental

State-owned firms and output efficiency



The rising share of oil reserves and global production controlled by state-owned firms is prompting concern about future supply. Concerns include:

- cartel-like behavior
- the efficiency and responsiveness of state-owned firms to economic incentives
- the denial of access to multinational firms, which have historically been more efficient.

Performance of state-owned firms has been varied across the world. In Venezuela, oil production has declined 19 percent since 2000, while it is stagnant and now declining in Mexico. However, Brazil's state-owned Petrobas has increased production by 45 percent. The firm has been encouraged to reinvest profits and hire foreign experts as needed.

To make state-owned firms more productive, policymakers should not burden these firms with high tax rates or policy mandates that limit the extent of their investment in new technologies and infrastructure.

consequences of economic activity, including those associated with climate change, may alter the regulatory environment in important ways. For example, policies could restrict the use of hydrocarbons, and of extraction and production techniques in other primary sectors. Policy needs to also support the creation and spread of new technologies such as durable and efficient solar cells in developing countries.

Coping with High Prices: What Works for Consumers

In recent months, governments have reacted to the food and fuel prices crisis by increased government funding of existing social safety net programs such as subsidies, conditional transfer programs, and food distribution schemes. Others have responded by trying to keep prices low via tax reductions or export bans. These measures have proved relatively expensive, increasing government spending by as much as 2 to 4 percent of GDP. Often, poor targeting has meant that much of the spending does not benefit those most in need. Interference with market prices has also likely worsened the extent and duration of price rises by reducing producers' incentives to increase output and consumer's incentives to conserve. For example, India's ban on rice exports in late 2007 led to a notable increase in international rice prices.

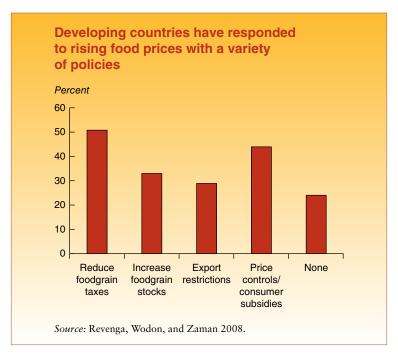
Targeted assistance for poor people

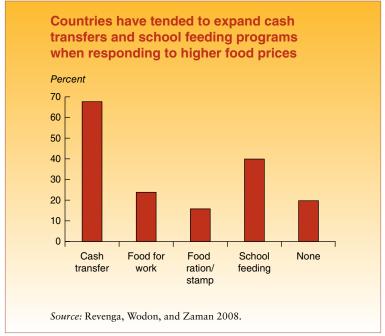
Going forward, policymakers need to target their support to the poorest people. Of the various options available, targeted cash transfers tend to succeed best because they require less



Governments need to address the immediate needs of the poorest people, while minimizing the impact on already strained public budgets. In the medium term, they need to put in place policies to protect the poor and support agriculture. Subsidies and price floors are expensive and poorly targeted anti-poverty measures; any interventions should target the most vulnerable people.

administrative capacity and minimize diversion of resources to less needy groups. However, these programs run the risk of excluding those who cannot meet the conditions. In-kind





programs such as school feeding or distribution of fortified weaning food for toddlers can be more effective in fiscally constrained countries.

Subsidies, even targeted ones, tend to be much less efficient, with as little as one-fifth of the money spent actually benefiting poor people, and public works programs rarely cover enough ground. The policies adopted must be presented as temporary to avoid creating an unnecessary and unsustainable fiscal burden.

High food prices can help reduce poverty among farmers and farm workers in the long term, as they bring additional income to areas where 75 percent of the world's poor live. For these potential gains to be realized, governments will need to invest in infrastructure, including roads and marketing institutions that get farm products to markets and inputs to farmers.

International responses

Steps taken by the international community so far have focused on reallocating existing funds toward those most in need and strengthening the finances and capacity of emergency food aid agencies such as the World Food Programme. Further steps that could be considered include providing the WFP with a more stable source of financing and giving it a line of credit so that it can move quickly when food prices are unusually high.

The international community could also better coordinate the management of grain reserves so that they can be brought to the aid of those in need more easily.

Trade reform also needs to be part of the solution. Steps are needed to control export bans by countries as a mechanism to reduce domestic prices. While a successful conclusion to the Doha round of trade reform negotiations might raise prices temporarily in the short term, it would likely benefit developing countries by making their agricultural sectors more competitive and reducing their reliance on imported food.

Conditional cash transfers—getting money to the poor



Targeted cash transfers that help provide poor households with the resources needed to survive are the cornerstone of social safety nets in most countries that have such programs. These programs are flexible and can be adapted to different circumstances. Countries of varying income levels from Mexico to Zambia have used these programs effectively.

- Even poor countries can afford to allocate resources for social safety nets. Costs range from 0.4 percent of GDP in Chile for a well-targeted program to more than 1 percent of GDP in Ethiopia for lifting VAT on food grains, raising the wage for the cash for work program and distributing wheat to the urban poor at lower prices.
- The design and implementation of these programs has a large impact on how effective they are. While no program is a guaranteed success, few are guaranteed failures.
- Conditional cash transfers such as Mexico's Opotunidades and Brazil's Bolsa Familia have proven to be effective ways to direct assistance to poor people. However, because they may exclude the neediest when services are scarce, and because they are not easy to set up, they can be part of an immediate crisis response only if they already exist.
- The increase in the size and scope of a targeted safety net does not need to be permanent.

Managing Booms: What Works for Producers

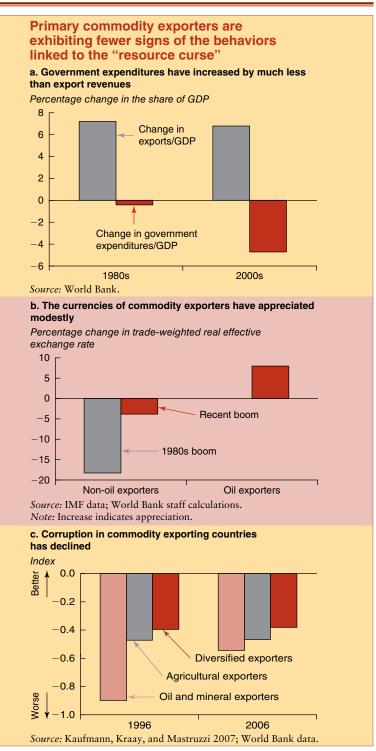
istorically, extractive economies have tended to perform less well than more diverse economies, reflecting an underperformance of their non-resource sectors. However, resource dependence need not result in slow growth. In order to generate strong growth in resource-dependent economies, governments need to:

- Avoid increasing government spending during booms and then decrease it during busts
- Prevent excessive currency appreciation (caused by strong revenue inflows) that hurts the competitiveness of other non-resource sectors of the economy
- Create a regulatory and politico-legal environment that discourages rent-seeking behavior, corruption, and political violence.

In fact, commodity-dependent countries have been managing their recent revenue windfall better than they have in the past. Encouragingly, many have reined in their fiscal spending during the boom, and corruption has improved among commodity exporters, relative to diversified exporters.

Exceptions include newly independent commodity exporters and states with new-found resource wealth. Here, government spending has kept pace with or even exceeded export revenues, and currencies have appreciated more strongly than those of more experienced economies. In addition, oil exporters with low reserves are not saving much more than those with high reserves. This affects the future competitiveness of their non-oil sectors, because they will have to fall back on these sectors for future growth.

Spending from resource revenues in the private sector remains high, especially for non-oil exporters (such as agricultural producers). Much of this spending is directed toward investment, which should contribute to future production potential. However, in many African countries, investment has been financed by heavy bank borrowing, which may cause problems now that access to credit has tightened.



Global Economic Prospects 2009: Commodities at the Crossroads

This World Bank report includes chapters on:

- Prospects for the Global Economy
- The Commodity Boom: Longer-Term Prospects
- Dealing with Changing Commodity Prices
- Regional Economic Prospects

The report can be purchased online or downloaded free of cost at:

http://www.worldbank.org/gep2009

A summary of short-term prospects for the global economy is available at:

http://www.worldbank.org/globaloutlook

"While developing countries entered this tumultuous period with much improved fundamentals, this crisis is expected to test severely both them and the international financial system. In the longer run, even after developing country growth recovers, commodity supply should keep pace with demand, but policy will need to foster conservation efforts and technological progress. In particular, if poor countries are to maintain domestic food self-sufficiency, governments will need to strengthen investment in rural infrastructure, agricultural research, and technological outreach."

—Justin Yifu Lin Senior Vice President and Chief Economist The World Bank

