



SPECIAL FOCUS:

Weak growth in emerging market economies:
What does it imply for commodity markets?

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The World Bank has recently revised downwards its growth forecasts for emerging and developing economies to 4.0 percent in 2016. Amid amply-supplied markets, weak growth prospects for these economies are weighing on commodity prices. This Special Focus addresses the following questions: (i) How are emerging and developing economies performing? (ii) How important are these economies for commodity markets? (iii) What are the implications of the slowdown in major emerging market economies for commodity markets? The results indicate that major emerging markets—particularly China—have been among the largest sources of additional commodity demand during the 2000s. A faster-than-expected slowdown in major emerging economies—especially if combined with financial stress—could reduce commodity prices considerably and set back growth in commodity exporters.

Introduction

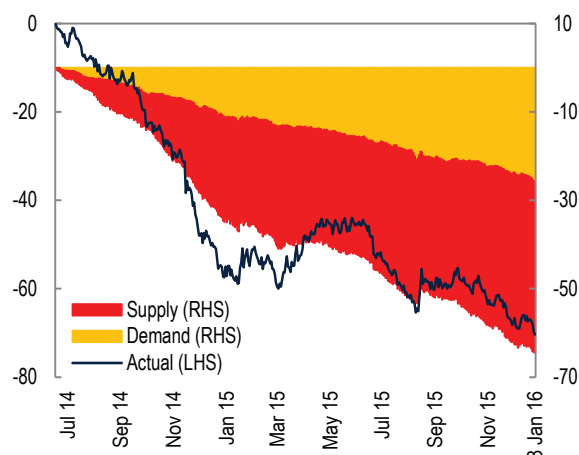
The sharp decline in commodity prices over the past five years has coincided with slowing growth in emerging and developing economies (EMDEs). Commodity prices slid by 40 percent since 2010 while growth in EMDEs slowed from 7.1 percent in 2010 to 3.3 percent in 2015. Although the decline in commodity prices has been mostly due to excess supply, weakening demand from commodity-importing EMDEs has also played a role. For example, recent developments in oil markets have been driven by both supply and demand factors. A decomposition of oil price movements into demand and supply factors (Baffes et al. 2015) suggests that the decline in oil prices since mid-2014 has been predominantly (about 65 percent) driven by supply factors (Figure F1). However, pressures from softening demand have steadily increased as EMDE growth slowed, compounded in the last quarter of 2015 by mild winter temperatures in the northern hemisphere. The weakness in oil prices has mirrored that in other commodity prices, especially

those of other industrial commodities. Following a decade of large investments encouraged by high prices, capacity in most industrial commodities is now ample, while slowing growth in EMDEs has weighed on demand.

How are emerging and developing economies performing?¹

The global economy remained in a fragile state in 2015, as further deceleration in activity across major EMDEs more than offset a modest recovery in advanced economies. As a result, global growth slowed to an estimated 2.4 percent in 2015 from 2.6 percent in 2014 (Table F1). EMDEs grew by 3.3 percent in 2015, the weakest showing since 2010. In about half of EMDEs, growth in 2015 fell short of expectations, with the largest disappointments among energy exporters (Angola, Colombia, Ecuador, Kazakhstan, Nigeria, Russian Federation, República Bolivariana de Venezuela) and countries experiencing conflicts (Ukraine) or heightened policy uncertainty (Brazil).

FIGURE F1 Contributions of supply and demand shocks to the oil price decline



Source: Baffes et al. (2015).

Note: The results are based on a structural vector autoregression model with sign restrictions to identify demand and supply shocks that drive oil prices.

TABLE F1 Real GDP growth forecast¹

	Forecast			Revision ³		
	2015e ²	2016F	2017F	2015e	2016F	2017F
World	2.4	2.9	3.1	-0.4	-0.4	-0.1
High-income	1.6	2.1	2.1	-0.3	-0.2	-0.1
Euro Area	1.5	1.7	1.7	0.0	-0.1	0.1
Japan	0.8	1.3	0.9	-0.3	-0.4	-0.3
United States	2.5	2.7	2.4	-0.2	-0.1	0.0
EMDE⁴	3.3	4.0	4.7	-0.4	-0.6	-0.2
Brazil	-3.7	-2.5	1.4	-2.4	-3.6	-0.6
China	6.9	6.7	6.5	0.2	-0.3	-0.4
India	7.3	7.8	7.9	-0.2	-0.1	-0.1
Indonesia	4.7	5.3	5.5	0.0	-0.2	0.0
Mexico	2.5	2.8	3.0	-0.1	-0.4	-0.5
Russia	-3.8	-0.7	1.3	-1.1	-1.4	-1.2
Turkey	4.2	3.5	3.5	1.2	-0.4	-0.2

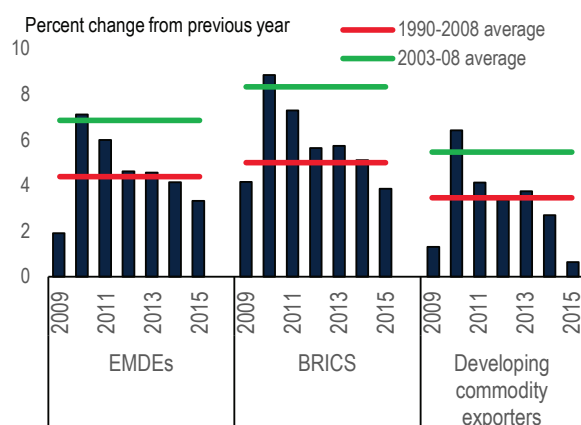
Source: World Bank.

Notes: (1) Aggregate growth rates calculated using 2010 U.S. dollars GDP weights. (2) "e" denotes estimate. (3) Percentage point difference from June 2015 projection. (4) EMDE refers to emerging and developing economies that are not identified as advanced markets in Arteta et al. (2015).

Of the five BRICS economies (Brazil, China, India, Russian Federation, and South Africa), four slowed or even contracted in 2015. China's economy continued to slow, and its rebalancing away from commodity-intensive activities toward services has weighed on global trade and commodity prices. Brazil and Russia, two large commodity exporters, are in deep contractions accompanied by currency depreciation, above-target inflation and deteriorating public finances. In South Africa, chronic power supply bottlenecks are a major factor behind weak growth. In contrast to the other four BRICS, growth in India remained robust, buoyed by strong investor sentiment and the positive effect on real incomes of falling oil prices. (India is the world's fourth largest crude oil consumer after the United States, China, and Japan, and imports most of the oil it consumes).

Both external factors—including weak global trade, financial market volatility, and persistently low commodity prices—and domestic factors have contributed to the slowdown. Adverse external developments have hit commodity-exporting developing economies particularly hard. Growth in several of the largest countries (Brazil, Colombia, Nigeria, Peru, South Africa) weakened considerably in 2015, as the impact of deteriorating terms of trade on exports was compounded by tightening macroeconomic policy and softening investor confidence. Governments responded to falling fiscal revenues from the resource-intensive sectors with spending cuts. Central banks raised interest rates to help moderate pressures on exchange or inflation rates. Investor confidence weakened on deteriorating growth prospects and credit ratings, resulting in declining capital inflows and currency depreciations.

FIGURE F2 GDP growth of emerging and developing economies



Source: World Bank.

Note: The developing country aggregate includes recently graduated high-income countries (Argentina, Chile, Hungary, República Bolivariana de Venezuela, and the Russian Federation).

The recent slowdown in EMDE growth partly reflects an unwinding of cyclically strong, policy-supported, post-crisis growth, especially in East Asia and Pacific and in Latin America and the Caribbean. However, it also has a considerable structural component. On average, among the 24 largest emerging market economies, about one-third of the slowdown between 2010 and 2014 was structural in nature (Didier et al. 2015). The working-age share of the population has peaked in most regions other than Sub-Saharan Africa, while slowing productivity growth, continued policy uncertainty, rising debt and eroding policy buffers capped growth and reduced confidence.

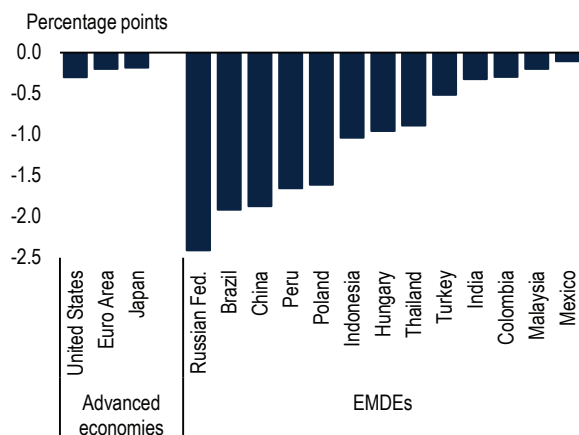
For EMDE growth, 2015 is expected to be a low point. Growth is projected to pick up somewhat in 2016, to 4.0 percent; however, this rate would be 0.6 percentage point lower than previously expected and would be significantly below historical averages (Figure F2).

Downside risks still dominate in this fragile global environment. Many of the factors underpinning the slowdown in recent years—including low commodity prices, weak global trade, and slow productivity growth—are expected to persist. This has already led to a re-evaluation of medium-term growth prospects for the largest emerging market economies (Figure F3). Deteriorating growth prospects are eroding fiscal and monetary policy buffers and leaving many countries more susceptible to external shocks.

How important are emerging economies for commodity markets?²

Despite the growth slowdown since 2010, emerging economies play a significant role in shaping commodity markets, both for production and consumption.

FIGURE F3 Change in 2020 growth forecasts from 2010 to 2015



Source: World Bank.

Note: Percentage point revision between October 2010 and October 2015.

During 2010-14, the four largest emerging markets (Brazil, Russia, India, and China) accounted for 20 percent or more of global gas and oil production and 40 percent or more of global coal and grain production (Figure F4). At the same time, their commodity consumption has grown rapidly, to about 40 percent of global primary energy and food commodity consumption and more than 50 percent of global metal consumption (Figure F5).

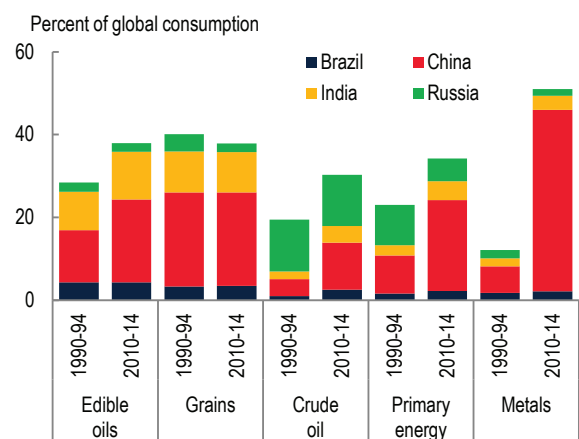
That said, there has been considerable heterogeneity among these countries, including between China and India, which together currently account for almost 40 percent of the global population. China has been world's largest consumer of a number of industrial commodities during the past decade and a half, and accounted for much of the growth of global commodity consumption—virtually all of the increase in met-

als and more than half of the increase in primary energy between 2000 and 2014 (Figures F6 and F7). China also accounts for more than half of global coal consumption, most of it domestically produced.

India's industrial commodity consumption has also increased, but to a lesser extent than China's, partly as a result of its economic growth being more services-based than China's. Although primary energy consumption in India doubled during the past two decades, the country still accounts for only 4.5 percent of global energy consumption. India's metal consumption almost doubled over the period, but from a very small base (from a share of 1.9 percent to 3.4 percent).

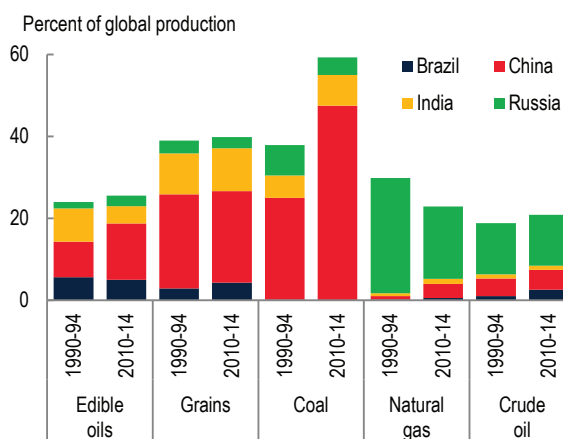
In contrast to industrial commodities, China's consumption of agricultural commodities—especially for grain such as maize, rice, and wheat—grew broadly in

FIGURE F4 Consumption shares of key commodity groups



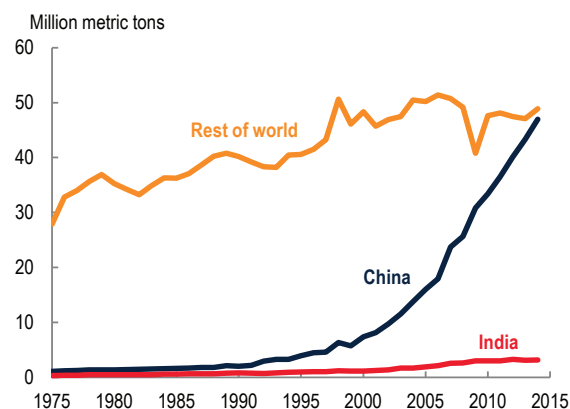
Sources: BP Statistical Review, U.S. Department of Agriculture, World Bureau of Metal Statistics.

FIGURE F5 Production shares of key commodity groups



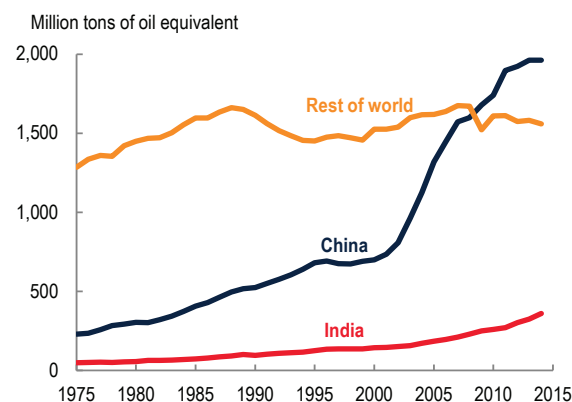
Sources: BP Statistical Review, U.S. Department of Agriculture.

FIGURE F6 Metal consumption of China, India, and rest of the world



Source: World Bureau of Metal Statistics.
 Note: Last observation is 2014. The six metals are included: aluminum, copper, lead, nickel, tin and zinc.

FIGURE F7 Coal consumption of China, India, and rest of the world



Source: BP Statistical Review.
 Note: Last observation is 2014.

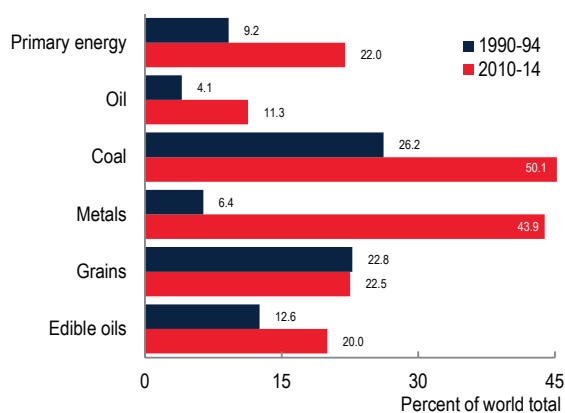
line with global consumption over the past two decades, leaving their share of world consumption virtually unchanged at about 23 percent and 10 percent, respectively (Figures F8). This partly reflects a greater sensitivity of agricultural commodity demand to population growth compared to industrial commodity demand which is more sensitive to income growth (World Bank 2015a). One exception among agricultural commodities is China's share of global edible oils consumption, which rose almost one-and-a-half fold, to one-fifth of the world total in 2014.

Since 2010, growth in metals and primary energy demand from China has slowed steadily. The slowdown was more pronounced in metals whose annual consumption growth declined from 10.3 percent during 1995-2008 to 3.2 percent during 2010-14 (Figure F9). This has partly reflected a gradual economic re-balancing in China, away from commodity-intensive investment and industry towards consumption and services.

What are the implications of the slowdown in major emerging market economies for commodity markets?³

Given their significant demand for commodities, a weakening in growth prospects for commodity importing emerging market economies could have significant repercussions for commodity markets. Although it is still a low-probability scenario, a faster-than-expected slowdown in China combined with a more protracted deceleration in other major emerging markets could materially weaken growth prospects across EMDEs and derail a still-fragile global recovery. Such a scenario would be accompanied by significantly lower global demand for key industrial commodities.

FIGURE F8 China's consumption of key commodities



Sources: BP Statistical Review, World Bank.

Note: Primary energy includes coal and oil. Grains consist of maize, wheat, and rice.

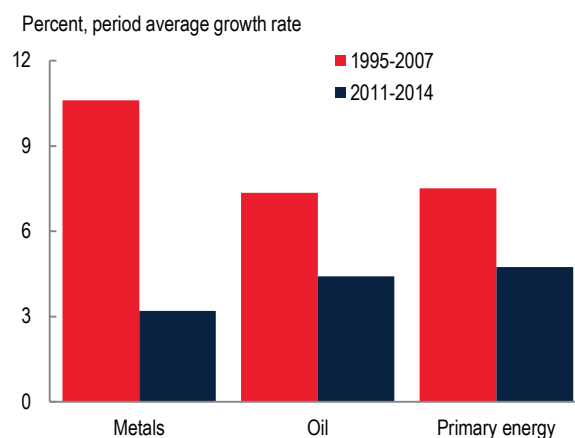
More specifically, a 1 percentage point growth slowdown in the BRICS could result in a 0.8 percentage point decline in growth in other emerging market countries over a span of two years and slow global growth by 0.4 percentage point. Such adverse spillovers would transmit through a two main channels: trade and commodity markets.

China is deeply integrated into supply chains in East Asia and the Pacific, and constitutes a large export market for commodity-exporting countries in Sub-Saharan Africa and Latin America. Commodity-exporting countries, in turn, are important export markets and sources of finance for commodity-importing countries in their respective regions. In particular, Brazil trades significantly with neighboring Latin American countries and Russia generates large remittance flows and export revenues for countries in the Caucasus and Central Asia.

Given its direct impact on the demand for commodities and indirect impact through trading partner growth, a sharper-than-expected slowdown in China could have additional repercussions for commodity markets and, hence, commodity exporters. A 1 percentage point drop in China's growth could result in a decline in average commodity prices of about 6 percentage points after two years (Figure 10).⁴ Although point estimates vary widely across methodologies, the effect would likely be more pronounced for industrial metals prices than for oil prices. For example, while a 1 percentage point decline in China's growth has been estimated to reduce oil prices by 1.1-1.9 percent, it has been estimated to reduce metals prices by 1.3-5.5 percent (Inoue, Kaya and Ohshige 2015; Ahuja and Nabar 2012).

Focusing on the part of the Chinese economy that is among the most intensive in commodity imports, a 1

FIGURE F9 China's consumption growth of industrial commodities



Sources: BP Statistical Review and World Bureau of Metal Statistics.

Note: The declines in the growth rate of oil and primary energy are nearly identical because declines in the growth rate of coal have been compensated by corresponding increases in natural gas.

percentage point decline in Chinese industrial production has been associated with a decline of 1.9 percent in oil prices and 2.3 percent in copper prices (Roache 2012). As a result of global commodity price impacts, a slowdown in major emerging market commodity importers would likely set back growth more in commodity-exporting countries than commodity-importing countries (Figure 11).⁵ Regions with large resource wealth, such as Latin America and Sub-Saharan Africa, may be particularly affected by a slowdown in China (Gauvin and Rebillard 2013, World Bank 2015b and 2015c).

Finally, a synchronous slowdown of BRICS would have more pronounced spillover effects if combined with financial stress. In a scenario where BRICS growth continues to be downgraded (as in recent years) and emerging market bond spreads widen by 100 basis points, growth in other emerging markets could be curtailed by 1.3-1.5 percentage points in 2016. This would further set back global growth and be associated with continued downward pressure on commodity prices.

Endnotes

1. This section is based on the January 2016 edition of *Global Economic Prospects* (World Bank 2016).
2. See World Bank (2015a) for a comprehensive discussion of China's and India's role in global commodity markets.
3. The model is based on a vector autoregression (VAR) framework, with a recursive identification scheme, is estimated for the period 1998Q1-2015Q2. Key variables included in the model are growth in China (spillover source), trade-weighted commodity prices, and growth in the spillover destination country. The model

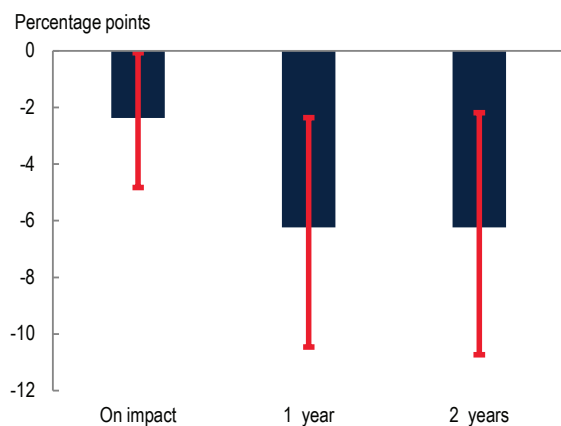
also includes additional variables that serve as controls for global activity and financial conditions. The VAR model is estimated for each spillover destination country one at a time. Technical details of the model and the list of spillover destination countries are provided in Annex 3.2 of World Bank (2016).

4. Cumulated impulse responses of trade-weighted commodity prices of commodity exporters, for different horizons, due to a 1 percentage point decline in China growth. The average quarterly growth rate of commodity prices is about 0.9 percent in the sample. Commodity exporters include Chile, Malaysia, Paraguay, and Peru.
5. Cumulated impulse responses of GDP growth, at the two year horizon, due to a 1 percentage point decline in China's growth. For each group, the figures refer to the cross-sectional average response across all the countries in that group. Commodity exporters include Chile, Malaysia, Paraguay, and Peru. Commodity importers include Bulgaria, Croatia, Hong Kong SAR, China, Hungary, Jordan, Mexico, Poland, Republic of Korea, Romania, Singapore, Thailand, and Turkey.

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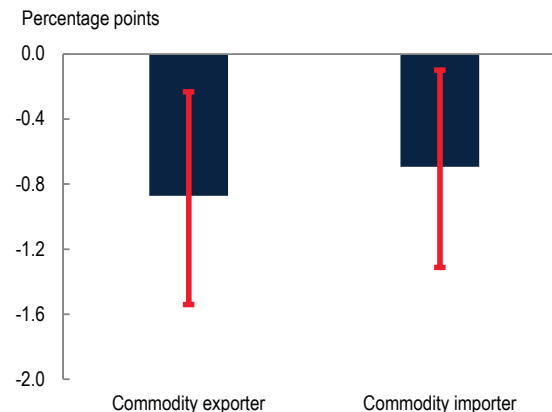
FIGURE F10 Impact of China's growth slowdown on commodity prices



Source: World Bank.

Note: Solid bars denote the median and the error bars denote the 16-84 percent confidence bands.

FIGURE F11 Impact of China's growth slowdown on commodity exporting and importing countries



Source: World Bank.

Note: Solid bars denote the median and the error bars denote the 16-84 percent confidence bands.

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ANNEX Impact of EMDE slowdown on commodity prices: Review of the literature

Author	Data	Methodology	Results
Ahuja and Nabar (2012)	G20, monthly, 2000-11	Factor Augmented Vector autoregression (FAVAR)	A slowdown in Chinese investment would result in a fall in commodity prices, especially metal prices. A 3.5 percentage point decline in China’s investment growth (quarter-on-quarter, seasonally adjusted) is associated with a 2-5 ½ percent decline in aluminum, copper, lead, nickel, and zinc prices after one year but an insignificant impact on oil prices.
IMF (2014)	Advanced and emerging market aggregates, quarterly	VAR with Cholesky identification	Growth declines in emerging markets can adversely affect commodity prices. A 1 percentage point decline in emerging market growth is associated with a more than 6 percent decline in average commodity prices after one year, while a 1 percentage point decline in advanced market growth is associated with an almost 4 percent decline in average commodity prices after one year.
Inoue, Kaya, and Ohshige (2015)	26 advanced and emerging markets, quarterly, 1979-2013	Global VAR (GVAR) with time-varying trade weights	A decline in China’s real GDP has a significant impact on neighboring economies, especially on commodity exporters (e.g. Indonesia). A 1 percentage point decline in China’s growth would reduce the oil price somewhat less than metal prices (by just over 1 percent after one year).
Gauvin and Rebillard (2015)	36 countries, quarterly, 1995-2014	GVAR	A hard landing in China would significantly affect commodity-exporting regions such as Latin America.
Roache (2012)	Global aggregate, monthly, 2000-2011	VAR with Cholesky identification	Shocks to aggregate activity in China have a significant and persistent short-run impact on the price of oil and some base metals. A 1 percentage point increase in China’s industrial production is followed by a 1.9 percent increase in oil prices, 0.4-0.9 percent increase in zinc and aluminum prices, 1-1.7 percent increase in lead, nickel, and tin prices, and 2.3 percent increase in copper prices after one year.
World Bank (2015a)	LAC region, quarterly, 1992-2014	VAR with Cholesky identification	China’s growth effects on metal prices are an important channel for the transmission of a slowdown in China to commodity exporters in Latin America.