

## Export dependence

## If China stops, then what?

by Matt Ferchen and Alicia Garcia Herrero

Argentina is a textbook example of the economic and political ravages that result from a commodity boom gone bust. During the “golden era” of open global trade and capital flows in the late 19th and early 20th centuries, Argentina became one of the world’s richest economies, based in large part on its strength as a commodity exporter. But that ended with the severe blows World War I and the Great Depression dealt to Latin American exporters. Argentinian raw materials exports plunged and the country fell into decades of economic and political crisis. Dutch disease, deindustrialization and other maladies associated with the high tide of a commodity boom are often cited as the key threat to commodity exporters. But a much bigger threat is, simply, that the boom ends.

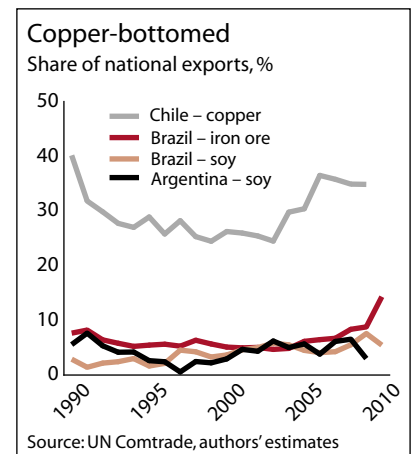
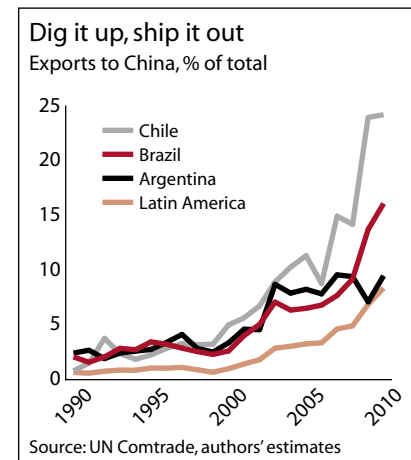
If China’s economy collapsed tomorrow and Latin America’s China-driven commodity boom turned to bust, how hard would Latin American economies be hit? A decisive answer is impossible, because large fluctuations in China’s economy or demand for commodities would have myriad, global impacts. Instead of diving into the quicksand of infinite possibility, we offer a case study of three countries (Brazil, Chile and Argentina) and three commodities (iron ore, copper and soybeans) to gauge just how dependent major Latin American commodity exporters are on Chinese demand.

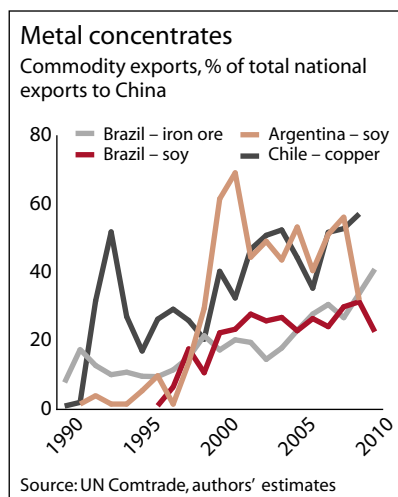
Our findings show that, while Latin American commodity exporters have become far more dependent on China since 2002, total exports remain a relatively small and declining part of these countries’ economies. A corollary of this is that, contrary to conventional wisdom, Chinese demand for Latin American commodities played only a limited role in minimizing the impact of the global financial crisis since 2008. Absent Chinese demand, annual GDP growth in Brazil, Chile and Argentina would have slowed by only about one percentage point per year over the past decade.

## Commodity monster

China’s demand for Latin American resources took off a decade ago as the country’s economic model shifted toward heavy industrial production, the private property market exploded, and wealthier citizens demanded a richer diet. The focus of global commodity markets shifted away from the US, Europe and Japan towards China, which rapidly became the world’s largest consumer of dozens of commodities, including iron ore, copper and soybeans. China became the biggest contributor both to global commodity demand and to global commodity prices.

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Take soybeans. Ten years ago, China's policy of soybean self-sufficiency helped keep its share of global demand to just 6%. But as millions more Chinese citizens demanded unfatty milk with their fatty pork, China abandoned its self-sufficiency policy and turned to world soy markets. Today China gobbles up half of the world's soybeans, and soybean prices have surged more than threefold over the past decade. That is excellent news for Brazilian soybean farmers, who export more than half of their soybeans to China. And the story is similar for both iron ore and copper: more than half the world's iron ore exports are shipped to Chinese steel factories, while nearly 30% of the world's copper is used to wire Chinese homes.

Latin American commodity exporters have been some of the biggest winners from China's epic industrialization and urbanization process over the past decade. Between 2000 and 2010, the share of exports shipped to China leaped from 5% to 24% in Chile, from 3% to 16% in Brazil, and from 3% to 10% in Argentina. China is now Chile and Brazil's biggest export destination and Argentina's second biggest. China is the dominant consumer of all three countries' major commodities – Chilean copper, Brazilian iron ore and soy, Argentinian soy – and trade with China is increasingly concentrated in these commodities.

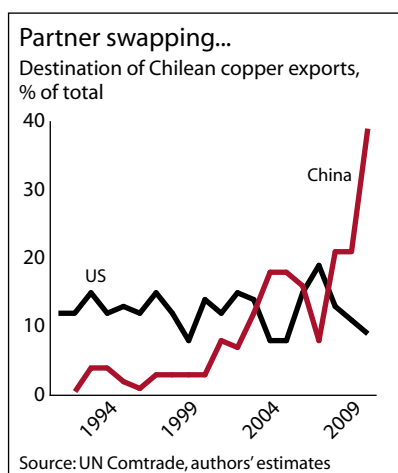
### Don't put all your soybeans in one basket

How vulnerable are Latin American commodity exporters to shifts in Chinese demand? To measure this, we have created a "China export dependency index." The index is a simple average (equal weighting) of three components.

- 1) The average of China's global market share in a particular commodity and 100 less the exporting country's global export market share of that commodity. This provides a measure of China's strength as a buyer or pricing power compared to the exporting country's strength as a seller.
- 2) The share of a country's exports of a particular commodity in total national exports. This accounts for each exporting country's vulnerability to a decline or deceleration in Chinese global demand for its respective commodity.
- 3) The share of a country's exports of a particular commodity to China as a share of its total exports of that commodity. This shows how dependent each exporting country is on China to sell a particular commodity relative to other export markets.

The index is scaled from 0 (no dependence) to 100 (complete dependence). The index is a relative measure of export dependence for each country and its particular commodity, and there is no "danger" threshold as such. Clearly, however, the higher the score, the more vulnerable any exporter will be to any disruption of trade with China.

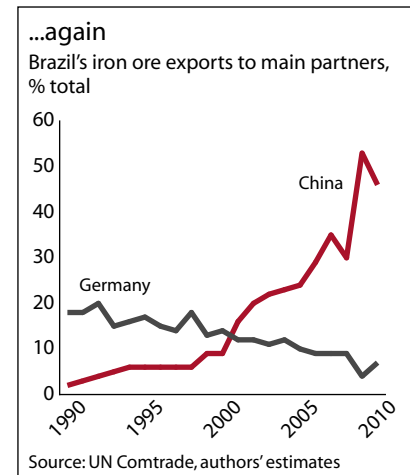
The index indicates that commodity exporters in Brazil, Chile and Argentina are more dependent on Chinese demand than commodity exporters in any other parts of the world, with the exceptions of Australian iron ore



exporters (50) and Nigerian oil exporters (45). Argentina's soy exports are the most dependent on the China market, scoring 49. Brazilian iron ore and soy exports, and Chilean copper exports, all score in the low 40s. By comparison, US soy exports score 36 and Australian coal exports 25.

Argentina's soybean exports are the most dependent on Chinese demand both because China takes an extremely high share of its total soy exports (70%) and because Argentina's soybean market power is extremely weak, as Argentina accounts for just 5% of world supply. Argentina's dependence on Chinese demand was dramatically exposed in 2010 when China cut off all imports of Argentinean soy in a bilateral trade dispute. China's position as the dominant importer enabled it to negotiate a settlement to its advantage. By contrast, Chile's copper exporters are in a stronger position because they have more market muscle, controlling 35% of global exports.

Brazilian iron ore producers saw their dependence on the Chinese market double from an index score of 23 in 2002 to a score of 44 in 2009. This mainly reflected the huge increase in Chinese demand, as China's share of total Brazilian iron ore exports rose from 27% to 53%. Brazil's soybean producers remain highly dependent on China (40), but slightly less so than their Argentinean competitors, thanks to their stronger market position. Moreover, political factors may help to mitigate some of the economic risk of Brazilian exporters' dependency on China. Thanks to close political ties



### Red-hot copper, cool-headed policies

The Chilean economy serves as an example for all resource-abundant countries of how to create effective policies to manage the risks associated with dramatic changes to terms of trade or other external shocks. These policies are not new: they emerged from an institutional process which started in 1975 with the creation of a legal framework aimed at avoiding the pro-cyclical bias of fiscal policy. The main purpose of the framework was to reduce vulnerabilities to external shocks while easing pressures on real exchange rate appreciation. Then, in 1985, Chile created a Copper Stabilization Fund to smooth economic volatility associated with the vagaries of global copper prices. The fund collects income from copper exports when prices are high, which can then be used to bolster the economy when prices fall. And in 2000, new legislation required the maintenance of a structural fiscal surplus.

With the aim of focusing fiscal policy on medium and long-term sustainability, the structural surplus rule established a framework to determine a level of public expenditure consistent with income levels over entire business cycles and in accordance with long-term international copper prices. The policy is counter-cyclical in the sense that the central government saves during booming periods, and is therefore able to spend during

busts without compromising fiscal sustainability. Besides this principal benefit, Chile's structural surplus rule reduces interest rate volatility; improves confidence in sovereign debt, thereby allowing more Chilean issuers to issue debt on international capital markets; reduces real exchange rate volatility, which serves as an incentive for investment in the tradable goods sector; and decreases economic dependence on external savings.

Unfortunately, structural fiscal balance rules like Chile's have not been adopted in other resource-dependent countries. Brazil created a type of commodity insurance fund in 2008, with an initial government contribution valued at 0.5% of GDP. But the fund has received only minimal subsequent contributions. Similarly, the Australian government, under former Prime Minister Kevin Rudd, attempted to increase taxes on commodity exporters' windfall profits (in part due to rapidly rising demand from China). But the effort was met by strong protest from influential commodity exporters and proved a political disaster. Brazil and Australia's experiences highlight the importance of couching counter-cyclical commodity policies in politically neutral terms. Chile's fiscal rules are widely accepted because they apply in both good times and bad, with the long-term objective of economic and political stability.



between Beijing and Brasilia, China has designated its relationship with Brazil as “strategic.” This will likely make Beijing more hesitant to cut off imports of Brazilian iron ore than it was with Argentinean soybeans.

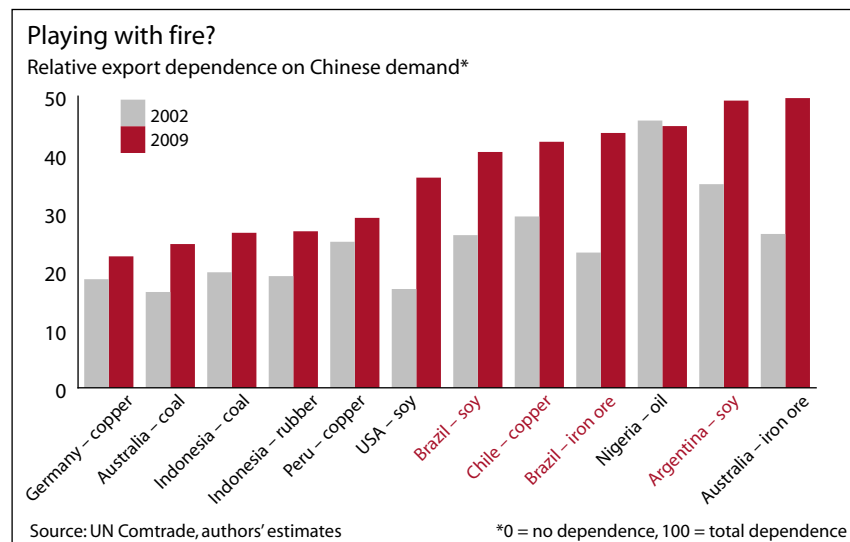
### Not quite in China’s pocket

Our index does not include non-commodity exports or exports to countries other than China. A wider index, however, would probably show that Brazil, Chile and Argentina’s trade dependence on China is less startling than it appears. Many East Asian economies ship a higher percentage of exports to China, and these also tend to be highly concentrated in one sector. Taiwan’s electronics exports are a good example of the role geographic proximity plays in trade concentration and dependence.

That does not change the fact that Latin American commodity exporters are heavily and increasingly dependent on Chinese demand. One question, however, remains: how dependent are Latin American *economies* on Chinese commodity demand? The fact that China imports a lot of soybeans from Brazil, for example, does not necessarily mean that Brazil is economically dependent on those exports.

Latin American commodity exporters are highly dependent on China for trade, but their countries’ economies are far less dependent on China than these high export figures might imply. Exports to China are worth less than 2% of GDP in both Brazil and Argentina. This reflects the fact that trade plays a relatively small role in the Brazilian and Argentinean economies, which have low export-to-GDP ratios. This is true for most major Latin American countries apart from Chile, where exports comprise one-third of GDP. This explains why Chile’s exports to China are worth a much more significant 8% of GDP. But even Chile’s export ratio is still not terribly high compared to some emerging economies in East Asia: Taiwan’s export ratio, for example, rose steadily over the last decade to a full 64% of GDP.

Calculating the impact of commodity exports on economic growth is tricky. One way is simply to take the contribution made by commodity



export revenues, which requires adding the direct value of exports to an estimation of the rise in commodity prices accounted for by the increase in Chinese demand. Based on work done by Professor Rhys Jenkins of the University of East Anglia, who studied China's effect on the prices of commodity exports for a number of Latin American countries, we estimate that Chinese demand directly contributed just 0.34 percentage points to annual GDP growth in Chile, 0.05 points in Brazil and 0.02 points in Argentina between 2002 and 2007. Of course, the indirect contribution from employment, investment and taxes might be higher – but the overall point stands: Latin America is not economically dependent on its commodity exports.

**We can work it out, perhaps**

In fact, export-to-GDP ratios appear to be falling across Latin America, indicating that countries such as Brazil, Chile and Argentina are becoming less economically dependent on commodity exports, even as those exports continue to grow to China. This trend is partially a consequence of the global financial crisis, but also signals the significant role domestic demand has played in the region's recent economic expansion. Net exports – total exports minus total imports – are not a significant driver of GDP growth in Brazil, Chile or Argentina, nor in Latin America as a whole. Moreover, the conventional wisdom that Latin American economies were saved by Chinese demand in the wake of the global financial crisis is simply false.

Nevertheless, the importance of China's perceived role in the Latin American economy means that a major drop in Chinese demand would badly damage economic expectations, especially as so many of the region's largest companies – Brazil's Vale is a good example – rely so heavily on the Chinese market. If the Chinese commodity boom turned to bust, major exporters would be badly exposed, equity markets would tank, and thousands of farmers would struggle to sell their crops. But Latin America would have a good chance of weathering the storm.

With export-to-GDP ratios falling across Latin America, the region is becoming less dependent on commodity exports