A fresh look at some long-held beliefs about primary commodities

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Developing economies that have become as productive as they can in the primary commodities they produce most efficiently have experienced strong GDP growth and gone on to become diversified economies. Others have not pursued this path to development because they have been affected by negative beliefs about the fate of primary commodity productivity and exports. This paper questions four such long-standing beliefs and finds them wanting.

The World Bank recently published its fourth Global Economic Prospects and the Developing Countries (World Bank, 1994). The focus of the report, like the first issue in the series, is on primary commodities. In particular, the report takes a close look at four widely-accepted propositions to do with primary commodities and developing economies. The report argues that these four propositions are false, or at least open to significant doubt.

1. Does commodity dependence mean slow growth?

As a group, developing economies which may be defined as primary commodity exporters have grown more slowly than other developing economy groups (fuel exporters, manufactures exporters, services exporters, or diversified exporters) in each decade of the 1960–90 period. But there are enough examples to the contrary to suggest that individual primary commodity exporters can maintain high growth rates, even during a period as adverse for primary commodity producers as the 1980s.

One example is Chile, which expanded its exports of fruit dramatically during the...
From 1974 to 1990, exports of fresh fruit from Chile grew at an astonishing average annual rate of 25 per cent. Today, Chile is the largest fresh deciduous fruit exporter in the world, accounting for more than one-half of off-season fruit exports to the northern hemisphere. Another example is Botswana, which had the highest average GDP growth rate in the world in the 1970–90 period, with its main exports being uncut diamonds (80 per cent of total exports).

Another country with a fine record in exporting primary commodities is Malaysia. Malaysia’s palm oil and cocoa production grew incredibly rapidly in the 1970s and 1980s. But Malaysia’s share of primary exports in its total exports is now less than 28 per cent and Malaysia has become a diversified exporter (shares of non-fuel primary, fuel, manufactures and services exports are all less than 50 per cent). Others to follow the same path as Malaysia from primary commodity dependence are Thailand and Indonesia. All experienced periods of very rapid growth in commodity exports and in their GDP.

The policies followed by all of these countries were much the same: basically, maintaining a stable macroeconomic environment using prudent fiscal policies, keeping the exchange rate in line with market forces, and ensuring a hospitable environment for foreign investment. Microeconomic policies were also important. In the period before Chile developed its fruit industry it had maintained agricultural price controls which reduced returns to agricultural investment, and it had imposed high and varying tariffs which discouraged export activities through raising prices of inputs. Further, a cargo reservation scheme to protect Chile’s cargo fleet reduced the effectiveness of Chilean fruit exporters in world markets.

While it appears that countries mainly producing primaries can grow very fast, it is also true that over time their dependence on primaries declines. On the other hand, there are no examples of countries which have grown slowly and substantially lowered the share of primaries in their export basket. It appears too that the more rapid the growth of the commodities sector, the more rapid the diversification. This result seems to support two of the four propositions listed in the introduction: that productivity growth in agriculture is slower than in manufacturing and that not all developing economies can follow successfully the path of increasing exports of primary commodities—what is known as the ‘fallacy of composition’ or the ‘adding up problem’. However, it is shown in the Bank’s report that these propositions also cannot be sustained.

**Does agricultural productivity grow more slowly than manufacturing productivity?**

Contrary to widespread opinion, technical progress—or more specifically, total factor productivity (TFP) growth—appears to be just as rapid in agriculture as in manufacturing. Studies by Jorgenson, Gollop and Fraumeni (1987) for the United States and Lewis, Martin and Savage (1988) for Australia had found that in these two industrial countries productivity growth has been more rapid in agriculture than in manufacturing. Now, recent work by Martin and Warr has found no statistical difference in estimates of TFP growth for agriculture and manufacturing for Thailand (1992), and in Indonesia they found a bias in favour of agriculture (1993). Even more recent work (Martin and Mitra, 1993) found average TFP growth of 1.46 per cent per annum in agriculture and 1.51 per cent in manufacturing in 14 OECD economies and three developing countries. In the three developing countries, average TFP growth was in fact higher in agriculture (2.5 per cent per annum) than in manufacturing (1.9 per cent per annum).

The declining share of primary production in growing economies is fully
consistent with the finding that productivity growth in the primary sector is at least as high as in manufacturing. The primary sector may have a high TFP growth rate and a relatively low output growth rate so long as capital and labour are reallocated to other sectors rapidly enough. Agriculture becomes more capital intensive and less labour intensive as agricultural labour moves into manufacturing or services.

Thus, the relatively rapid pace of technical progress in commodities explains several seeming puzzles. First, it explains why some commodity exporters have been able to experience a period of rapid growth based on commodity production and exports. Second, it explains why the importance of commodities has declined as these economies have grown. And third, it explains why real wage growth has typically been slow during an extended period of industrial growth—with the manufacturing sector able to draw labour resources from the primary sector.

By contrast with the success stories of developing economies in Asia and Latin America, in Africa, for example, many primary producing economies have grown very slowly and have not been able to diversify their production and exports. The policies which they followed in the 1960s, 1970s and 1980s took the form of overvalued exchange rates, high barriers against imports, taxes on primary exports, and state controls over many production and marketing activities. These policies were what many development economists of the early post-war period believed would encourage industrialisation and growth and make developing economies less dependent on primary products. In fact, they have not. They have had the opposite effect. For many African countries their dependence on primaries, such as coffee, cocoa, and cotton, has increased even as their shares of world markets of these commodities have fallen.

It seems, therefore, that these poorer performers have to change their policies and encourage primary production and exports in order to enjoy economic growth. However, this leads some to the concern that if many countries follow this path, commodity prices will fall and all primary producers will be worse off: the so-called adding up problem.

**The adding up problem**

It is argued that because the estimated price response of commodities such as cocoa, coffee or tea to changes in supply is so inelastic (for example, price elasticity estimates for world demand for cocoa over a one to three year period are in the range – 0.2 to –0.4), the possibility exists that an expansion in world exports could lower their price to such an extent that the net revenues of the exporters would decline. The World Bank has been criticised for fostering such a situation by lending for cocoa and coffee projects in several countries, and in response it has sharply reduced lending for these projects since 1982. Also, the International Monetary Fund and the World Bank’s programs encouraging economic reforms—through devaluing over-valued exchange rates and reducing export taxes—have been seen by some critics as promoting the expansion of perennial crop production and driving down world prices and export revenues for these commodities, especially cocoa and coffee. Some advisers have urged producers of these commodities to form producer cartels to control supplies, or to apply export taxes, unilaterally or jointly, to reduce supplies on world markets and thus raise prices.

There are several experiences to draw on to evaluate whether following such policies is sensible. First, there is Bangladesh’s experience with applying an export tax to jute. Second, there is Côte d’Ivoire’s recent experience in withholding its cocoa crop from market for a seven-month period. Next, there is the experience of the International Tin Agreement, signed by a small group of producers and consumers, following a policy of
production controls over a sustained period.

Bangladesh was the main producer of jute and seemed to have considerable monopoly power. However jute has long since been replaced in most uses by synthetics. Cote d’Ivoire’s actions did not raise cocoa prices. In fact, prices fell. At the same time the major cocoa processors established long-term marketing arrangements with new cocoa-producing countries such as Indonesia and Malaysia.

While tin prices were increased in real terms for quite a long period by the tin cartel, tin consumption fell sharply. In part, perhaps large part, this fall was due to the introduction of aluminium into the can market, but the high tin prices were also a factor as tin demand has grown substantially since the collapse of the International Tin Agreement—and tin prices—since 1985. At the same time as the tin cartel was restricting production and exports, tin production by new producers outside the cartel increased substantially.

All of this just goes to make the point that the estimates of the price elasticity of global import demand facing a country or a group of countries are substantially underestimated in econometric studies. The elasticity of import demand facing a country or group of countries has to take into account both substitution by other commodities, and the production response by other supplying countries. In the long run these factors may be quite responsive to changing prices.

Do the net barter terms of trade decline over time?

There has been a long-standing debate over whether the net barter terms of trade of primary commodities is declining over the long run. The net barter terms of trade of primary commodities is usually measured as the price index of primaries relative to that of prices of manufactures exports from industrial countries. Over the years many studies have estimated somewhere in the region of a 0.5 per cent per annum decline in this relative index. Several important pieces of policy advice have been based on this finding. It was the main motivation for urging developing economies to adopt import substitution policies. Also, there have been suggestions for developing economies to form cartels to restrict production and exports and thereby raise prices of primary commodities. Moreover, there have been claims that this long-term decline is due to exploitation of developing economies by the industrial economies or by monopolistic multinational firms. Consequently, they have been urged to control the marketing of their raw materials or to set up processing activities.

In studying this long-term trend, all the attention to date has been paid to the nominator—the price of primaries. Little attention has been paid to the denominator, and in particular, to the possibility that the prices (or export unit values) of manufactures do not measure what they are supposed to measure. A study carried out by Robert Lipsey (1994) for the World Bank’s Global Economic Prospects report looked closely at manufactures export unit values. He found that the long-term trend of the manufactures unit value index could have been overestimated by 0.5 per cent per annum over the period 1900–92 because of not accounting for quality improvements in manufactures. Second, he found that the prices of manufactures exported to developing economies have risen less rapidly than the prices of all manufactures exports from industrial economies. Adjusting for this could reduce the manufactures price index by another 0.1 per cent per annum over the long term. Third, he found the composition of manufactures exports to developing economies has shifted toward higher quality items within product categories and adjusting for this accounts for another 0.4 per cent per annum reduction in the index. Altogether, these adjustments mean that the net barter commodity terms of trade...
increases over the long term by about 0.5 per cent per annum instead of falling at about this rate. It should be noted that similar quality adjustments are not necessary for primaries as they are mostly of homogeneous quality over time. Lipsey’s finding is a highly significant one for students of the economics of development, as much of the development policy of the past has taken as its starting point the idea of declining barter terms of trade for primaries.

Conclusion
The main message from this year’s Global Economic Prospects report by the World Bank is that primary commodity-dependent developing economies should not hold back from becoming as productive as they can in the commodities which they produce most efficiently. Those developing economies which have followed this path have seen their commodity exports and GDP grow rapidly and they have gone on to become strongly diversified economies. Those countries which have shied away from following such a policy and have attempted to develop by adopting an import substitution strategy have been much less successful. There is no support for import substitution policies in the performance of agricultural productivity growth, in the long-run trend in the commodity terms of trade, or in the long-term price elasticity of demand for primary commodities.

References


