



The terms of trade debate and the policy implications for primary product producers

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ABSTRACT

The terms of trade debate initiated by Raul Prebisch and Hans Singer over 60 years ago continues to this day and is unlikely to be resolved soon. However, even if Prebisch and Singer are right and the terms of trade of countries exporting primary products are falling, to suggest that these countries should diversify away from the production of mineral commodities and other primary products, as many have done, may be poor policy advice, encouraging countries to abandon a promising source of wealth with which to foster economic development.

This is because the prices of most goods are correlated with their production costs. If the prices of primary products are falling but a country's production costs are declining more, the profits, producer surplus, and wealth that the country realizes are rising, increasing the benefits it reaps from its primary product production and trade. Alternatively, when prices are rising but a country's costs are rising faster, the benefits it enjoys are falling notwithstanding higher primary product prices.

While it has long been recognized that falling costs can conceivably offset the adverse effects of lower prices and declining terms of trade for primary product producers, much of the available literature either ignores this likely possibility or contends in fact changes in relative product prices do not reflect changes in their production costs.

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Introduction

The classical economists—Thomas Malthus, David Ricardo, and others—believed that the terms of trade of primary products would rise over time as the limited availability of land and other natural resources pushed their marginal production costs and prices up. In the early 1950s, [Prebisch \(1950\)](#) and [Singer \(1950\)](#) challenged this position, first by claiming that the terms of trade of primary products had fallen over time, and second by advancing several reasons for expecting this downward trend to continue.

In particular, they pointed out that the competitiveness of primary product markets means that the benefits of new, cost-reducing technology are passed on to consumers fully and quickly in the form of lower prices. With manufactured products, in contrast, the managers, owners, and employees of the producing

firms are able to retain a good part of the benefits of technological change thanks to their market power. So, less of these benefits are passed on to consumers in the form of lower prices.

In addition, they argued, the long-run demand for primary products is less responsive (or elastic) with respect to income than is the demand for manufactured products. As a result, as income grows over time, the demand for manufactured products and in turn their prices rise more rapidly than is the case for primary products.

The Prebisch and Singer articles ignited a debate that spanned the second half of the 20th century and continues to this day. As [Hadass and Williamson \(2002\)](#) note, the debate encompasses three questions: first, have the terms of trade of primary products in fact declined over the long run? This is the question on which most of the literature focuses. Second, what are the important determinants behind the observed changes in terms of trade? And third, what are the implications for public policy, especially for developing countries that depend on primary commodity exports?

With respect to the implications for public policy, it is fair to say that the work of Prebisch and Singer provided much of the intellectual support for the interventionist policies that many

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developing countries pursued during the 1950s, 1960s, and 1970s. These policies used protectionism and import substitution to promote domestic manufacturing and economic diversification with generally disappointing results. More recently, proponents of the resource curse thesis—which contends that reliance on the production of mineral and other primary products impedes economic growth in developing countries—have suggested that the declining terms of trade of primary products provides part of the explanation for this perverse result.²

While a comprehensive survey of the terms of trade literature is beyond the scope of this short study, the sections that follow examine each of the three questions noted above. The objective is to show that, although the debate continues, whether the long-run trend in the terms of trade of primary products is falling, stationary, or rising has by itself little or no policy significance for countries exporting primary products. Even if their terms of trade are falling, for many countries exporting primary products is still a promising development strategy, one that creates wealth and resources that they can use to promote economic growth.

Trends in the terms of trade

The Prebisch Singer hypothesis has generated a plethora of empirical studies testing whether or not the terms of trade of primary products have fallen. Only a few of the more important studies are noted here, as this is sufficient to demonstrate the diversity of views. More comprehensive surveys can be found in [Spraos \(1980\)](#), [Diakosavvas and Scandizzo \(1991\)](#), [Hadass and Williamson \(2002\)](#), and [Cuddington et al. \(2007\)](#).

[Spraos \(1980\)](#), after reviewing the early literature, focuses on the difficulties and complexities encountered by these works. From his own analysis, he contends the evidence is inconclusive. However, [Sapsford \(1985\)](#), using the same data but a different specification of the relationship between the terms of trade and time, discovers a significant downward trend, and so provides more support for the Prebisch Singer hypothesis.

[Bleaney and Greenaway \(1993\)](#) analyze a new and improved data series for primary product prices from the World Bank ([Grilli and Yang, 1988](#)). They find a significant downward trend in the terms of trade when data before 1925 (when primary product prices were quite high) are considered. But, when the period analyzed starts after 1925, this is not the case. They also note that the prices for food, metals, and other groups of primary products behaved differently, suggesting that support for the Prebisch Singer hypothesis based on primary commodity prices in general may suffer from aggregation problems and thus be misleading. [Cuddington \(1992\)](#) provides further support for this concern. He examines price trends for 24 individual commodities, and finds that the long-run trends for all but three are zero or positive. However, using different estimation techniques on the same data, [León and Soto \(1997\)](#) find 17 of the 24 commodities have negative long-run price trends, a finding that provides much more support for the Prebisch Singer hypothesis.

More recently, [Cuddington et al., 2007](#), using techniques that allow the data to determine the unit root process and possible breaks in trends, conclude that the preponderance of the evidence suggests a single break in the data in 1921 with no drift, positive or negative, either before or after that date. [Harvey et al. \(2010\)](#),

using new time-series techniques and a new data set for 25 commodities covering the 17th to 21st centuries, identify a significant downward long-run trend in prices for 11 of their commodities. [Fernandez \(2012\)](#) finds that the empirical support for the Prebisch Singer hypothesis varies depending on the deflator employed, the time frequency of the data (monthly versus annual), and the choice of currency. For example, she finds more support for the hypothesis when prices are expressed in British pounds rather than U.S. dollars.

While most of the empirical studies assessing trends in terms of trade employ univariate time-series analysis, [Bloch and Sapsford \(1991, 1996, 1997, 2000\)](#) in a series of studies develop and estimate a multiple equation model that distinguishes between the primary commodity and manufacturing sectors. Their results, which can identify the influence of various contributing factors, provide support for a secular decline in the terms of trade of primary products.

One potentially important issue raised by [Svedberg and Tilton \(2006\)](#), which the available literature has yet to address, concerns the influence of quality improvements over time on the prices for primary products and manufactured goods. For some time, macroeconomists have known that the U.S. Consumer Price Index (CPI) and other deflators used to convert nominal prices into real prices tend to overestimate inflation. An important reason for this is their failure to adjust properly for improvements in the quality of products. A cell phone purchased today, for example, may be 10% cheaper as well as smaller and in other ways better than a similar model purchased a year ago. So, holding quality constant, the true decline in price is greater than 10%. The failure to take full account of such quality improvements across all goods and services introduces an upward bias in the CPI and other deflators.³

While the quality of the copper, coffee, and other primary products sold on international markets has improved over time, there are good reasons to suspect that such improvements have been modest compared to the quality improvements enjoyed by manufactured goods. This raises the possibility that some of the trend in the terms of trade of primary products simply reflects the fact that the quality of the goods exchanged for primary products is rising faster than the quality of primary products. When [Svedberg and Tilton \(2006\)](#) calculate the real price of copper using adjusted deflators designed to remove this bias, they find that the long-run trend over the past century is upward, not downward as is the case with the uncorrected deflators.

In summary, some but only some of the available data show that the terms of trade of primary products have fallen over the past century. It is also unclear whether breaks and changes in the long-run trend have occurred, and if so, whether a downward trend has prevailed in the recent past and continues to prevail today. Another important issue is the extent to which trends in the terms of trade of individual primary products or subgroups of primary products are captured by the trend for primary products as a whole. Most countries exporting primary products depend largely on only one or a few such products. Finally, the literature on the terms of trade for primary products has yet to assess the extent to which the observed trend simply reflects greater improvements in quality for manufactured goods.

Determinants of the terms of trade

The terms of trade of primary product producing countries reflect changes over time in the prices of their exports (primary

² The literature, it should be noted, also contains other explanations for the alleged curse of resources, as well as many studies questioning the existence of a negative association between resource dependence and economic development. For a review of this literature, see [Stevens \(2003\)](#) and [Davis and Tilton \(2005\)](#). An unknown reviewer has suggested that readers interested in the resource curse may also wish to consult [Sachs and Warner \(1999\)](#), [Wright \(1990\)](#) and [Wright and Czelusta \(2007\)](#).

³ There are other reasons as well for believing common deflators are biased upward. For more on the sources and estimated magnitude of these biases, see [Boskin et al. \(1998\)](#) and [Schultze \(2003\)](#).

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