Terms of trade
Introduction

One of the most famous and most controversial components of Raúl Prebisch’s thinking was his conviction that there had been a centuries’ long deterioration in the terms of trade of commodities and food vis-à-vis industrialized goods. Since the developing countries specialize in commodities and food, the downtrend in the value of these products would lead to a worsening of their terms of trade.

A worsening of the terms of trade means that if export volumes remain stable, these countries will see a decline in the purchasing power of these exports in relation to the value of goods and services imported from abroad.

These ideas are referred to in the literature as the Prebisch-Singer thesis, since the two analysts -Hans Singer and Raúl Prebisch- came up with very similar ideas at the same time.

This thesis has a fundamentally empirical basis, dating back to the end of the First World War, but especially the 1930s. This trend continued up to the late twentieth century, when relatively speaking commodity prices started to move up.

Prebisch’s interpretation of these trends was based on a series of rational theories. One of them is how income is distributed and how the fruits of technological progress are allocated in countries with different economic and social structures. The prices of exports from the centre and the periphery are based on highly uneven wages, which generate sharp inequalities and low wages in the periphery. Moreover, since the income elasticity of demand for commodities is low, demand for goods of this kind does not keep pace with income. Thus, developing countries are competing more intensely with each other for markets for their commodities, and they handle this by reducing prices; these price reductions are achieved not only by increasing productivity but also by the difficulties associated with appropriating these productivity gains domestically by raising wages and raising State capital. This problem of elasticities is compounded by the impact of technological progress on the replacement of natural goods by artificial and synthetic goods, which was one of the factors in the demand for goods such as textiles, nitrates, natural rubber, etc.

Another component of the Prebisch thesis on the terms of trade has to do with a pressing issue that attracted his attention: the wide fluctuations of the business cycles in the countries of the periphery. The basic idea was that when the world economy is booming, the demand for raw...
materials and food soars, pushing up prices sharply in the short term, whereas in the
downswing, prices for these goods plummet; owing to the social reasons referred to above, no
institutional mechanisms existed for stemming this decline. These fluctuations may mask
underlying trends, but at the end of each cycle, the deterioration is even greater.
The Prebisch-Singer thesis concerning the long-term trend to deterioration of the terms of trade

Prebisch analysed the issue of the deteriorating terms of trade, believing this to be a factor that determined the integration of peripheral countries into the world economy and that would limit their economic development if they opted for a primary-export growth strategy.

One of the most famous and controversial aspects of Prebisch's thinking is his hypothesis of a long-term trend to deterioration of the terms of trade between primary products and foodstuffs, on the one hand, and industrial products on the other hand. As developing countries specialize in producing primary products and foodstuffs, the tendency of the prices for those goods to decline would produce a tendency for the terms of trade to deteriorate.

Deterioration of the terms of trade means that if countries' export volumes remain stable then their capacity to purchase goods and services abroad, or their import capacity, will decline over time.

These ideas are known in the literature as the Prebisch-Singer thesis, as both authors formulated very similar ideas simultaneously.

This thesis finds its initial support in empirical data. As will be seen in figure 1, after the end of the First World War, and particularly in the 1930s, when Prebisch was involved in economic management, the real prices of primary products experienced a considerable fall. As shown in figure 2, despite the lasting recovery in export volumes after their abrupt fall in the early 1930s, import capacity remained seriously diminished because of the deterioration in the terms of trade.

Prebisch interpreted these trends by applying to them a set of theoretical propositions. First, he analysed the distribution of incomes and the fruits of technical progress in countries with different economic and social structures. In countries of the centre, characterized by a relatively homogeneous productive structure and productivity higher than that of countries on the periphery, the State, businesses and workers have sufficient power to appropriate for themselves a large portion of value added.

Thanks to unions and the welfare State, workers in particular are able to obtain much of the product. By contrast, peripheral countries typically have very heterogeneous productive structures, with some high-productivity enclaves that however generate little employment and a very sizable sector of low productivity and underemployment. The weak bargaining power of the State and of workers, who are unskilled and little-organized, combined with a high demographic growth rate, reproduces conditions in which wages remain very low in relative terms.
In this manner, the prices of export goods from the centre and from the periphery reflect very different wage levels.

Recognizing that developed countries have more advanced economic structures that yield greater increases in productivity, however, conventional theory would suggest that the prices of industrial goods should fall more than the prices of peripheral countries' exports. Yet this tendency is not apparent, precisely because different societies also have distinct capacities for appropriating the fruits of technical progress, and this has an impact on the price structure.

These structural characteristics are then combined with other features of different goods. Primary goods have a low income elasticity of demand, in other words, demand for such goods rises proportionately less than income. Consequently, developing countries find themselves in ever stiffer competition for markets, and they therefore resort to cutting prices, which they can do not only because of the increase in productivity but also because of the difficulty in appropriating that increase internally by raising wages and increasing the State share. To this argument about elasticities must be added the effects of technical progress on the substitution of artificial and synthetic goods for natural ones, which has tended to reduce demand for products such as textiles, nitrates and natural rubber.

Another element of Prebisch’s thinking about the terms of trade was his focus on the great amplitude of economic cycles in peripheral countries. The basic idea is that at times of strong growth in the world economy the demand for primary products and foodstuffs rises abruptly and produces a short-term spike in prices, but when economic cycles turn downwards the prices of these goods drop sharply, and because of the social circumstances mentioned earlier there are no institutional mechanisms to break their fall. These fluctuations may mask underlying trends, but at the end of each successive cycle the deterioration is greater.

**The historical context of Prebisch’s analysis and its past and coming changes**

It is important to place Prebisch’s ideas in context. The ECLAC tradition, and structuralism in general, have always stressed the need to consider the historical setting. This helps to delimit problems that arise in specific circumstances and moments that cannot always be addressed exclusively through the application of general laws. However, the context is also important within a given historical moment, as the world economy contains countries that play different roles and have different hierarchies. From this viewpoint, the problems facing some countries may be radically different from those facing others.

Consequently, policy recommendations for dealing with a crisis may vary greatly case-by-case. Context is very relevant for addressing this issue, as Prebisch witnessed these processes from
positions of authority in the academic and professional world. He served as Undersecretary of Finance and then as General Director of the Central Bank of Argentina, where he perceived how unhelpful conventional economic approaches were for understanding reality.

Prebisch's ideas about the terms of trade came to maturity at a very special time, marked by the Great Depression of the 1930s. Between 1932 and 1944 the volume of Latin American exports hovered around 91% of their 1929 level, but the purchasing power of those exports averaged only 67% of the level recorded in that year. These averages conceal some very important swings: in 1932, as can be seen in figure 2, the purchasing power of exports was only 60% of its 1929 level.

Figure 1. REAL PRICES FOR PRIMARY PRODUCTS, 1865-2009 (1980=100)

Source: Ocampo & Parra (2010)
It is clear, then, that the fall in the purchasing power of exports was due primarily to the decline in the terms of trade. As figure 1 shows, that decline was very pronounced between 1929 and 1944.

Nevertheless, this graph also illustrates another aspect of interest, which is the great volatility of the terms of trade since the First World War. Although there was no marked deterioration between the beginning of the twentieth century and 1929, there was indeed great volatility, with peaks at the beginning of the war and a trough after it was over. This fact Prebisch associated with the cycles of the world economy and their specific impact on the periphery of the global system.

The question that arises is this: to what point can the trends observed during this period be considered as constituting a general law, in other words, have they been permanent features of the international capitalist economy from its emergence until today? This question has sparked intense empirical debate about international price movements.

**The effects of the declining terms of trade and their policy repercussions**

The principal conclusions that Prebisch drew from his observation of these trends have to do with the pressing need for developing or "peripheral" countries to transform their pattern of productive specialization and their participation in the international economy. At a time when the more developed countries were consolidating their dominance with the wholesale
industrialization of their productive structures, a process that went hand-in-hand with rapid technological change, the persistence in peripheral countries of a pattern of productive specialization based on the extraction and production of raw materials was seen as guaranteeing their permanent loss of relative standing on the international stage.

Contrary to the precepts of conventional trade theory, exploiting comparative advantages was not leading to true development but rather to a perverse specialization, while archaic social structures remained intact. As the needed changes would not come about spontaneously, given imperfect market signals, the State would have to intervene actively to promote a form of industrialization geared to dynamic re-entry into the international economy, an effort that would require greater integration of Latin American markets.

**The statistical debate over the terms of trade**

Debate over trends in the terms of trade of developing countries, and between primary goods and manufactured goods, has been enormous and multifaceted.

*The data series used and the cost of transport during the first globalization*

One of the disputed aspects is the source of information that Prebisch and Singer used. Given the lack of reliable foreign trade series for Latin American countries, they often relied on the inverse of the foreign trade series for England as an approximation of Latin America's terms of trade. In other words, if the exchange of primary products and foodstuffs for manufactures found its clearest industrial-world counterpart in England, then Latin American reality would be the inverse of that country's. Yet, as Jeffrey Williamson points out, this reasoning overlooks a very important component of international trade: the cost of transport.

Recognizing that what some studies called the first wave of globalization (approximately 1870-1929) was a process profoundly influenced by the transportation revolution, it may be argued that all countries participating in world trade would have benefited from a fall in import prices due to the reduction in the transportation component of the final prices paid by importers. From this viewpoint, then, the inverse of England's terms of trade might not be a very good approximation.

Recent estimates of the terms of trade, such as those presented earlier, suggests that the deterioration of prices for raw materials and foodstuffs has not been a long-term trend, and that, on the contrary, the first wave of globalization produced an improvement in the terms of trade, particularly in the first two decades of the twentieth century. This assertion is equally valid if one considers the performance of the terms of trade of some specific countries. An
unweighted average of the data available for Latin American countries shows that between the first half of the 1870s and 1910 the terms of trade improved by 15%, and over the period 1925-1929 they were higher than they were in 1870. This would indicate that what Prebisch believed to be a long-term trend should instead be seen as a process that began well into the twentieth century.

Another aspect of the debate is whether the evidence points to trends or to sudden shifts that then persist over time. As figure 2 shows, apart from some fluctuations and the upturn noted in the last decade, there has been a marked decline in the terms of trade beginning in 1929. The tendencies demonstrated by Prebisch in the 1930s and 1950s persisted for the rest of his life. Yet Ocampo and Parra (2009) argue that what the evidence really shows is a sharp drop in the terms of trade for primary goods in the wake of the First World War, followed by fluctuations around that lower level until the beginning of the 1970s, when a lasting trend did set in, one that began to reverse itself at the turn of the century (though it is too soon to tell whether its new direction will be stable). It would be more accurate, then, to speak of a sequence of abrupt declines after which recovery does not restore the previous level, rather than a true long-term downward trend.

**Diversity of primary goods**

Another important issue in the debate is whether it makes sense to speak in general terms of the relative prices for primary goods as a whole. Each product is a world unto itself, with its
own ownership structures, production techniques, marketing characteristics, regulatory provisions and specific consumption patterns.

A first differentiation that can be made between primary goods is highly relevant to the present day: the distinction between reproducible goods and non-reproducible goods. A clear indicator of this is the current energy crisis, where the region is facing a sharply upward trend in prices for non-renewable energy and is seeking sustainable energy sources. Moreover, the price formation process itself may be radically different in the case of goods that are geographically highly concentrated and non-reproducible, compared to agricultural production, for example. Although it is true that agriculture depends ultimately on a good that is not reproducible – land – agricultural output in fact has shown a permanent increase in productivity, thereby largely dispelling Malthusian fears about the capacity to feed a growing world population.

On the contrary, despite significant technological progress, the reserves of some minerals are finite and they are becoming increasingly difficult to access. Another possible focus that has proven analytically fruitful and historically relevant is the distinction between tropical and temperate agricultural products. The difference in this case has to do above all with the type of countries that produce each of these goods and the way in which the respective labour markets and price structures are configured.

As the countries that constitute the centre of the world economy have a temperate climate and as they launched their development process by making radical changes in their agrarian structures, resulting in great increases in productivity and in living standards for their rural population, the countries of the periphery that have entered these goods markets have encountered price structures that enable high returns and the capture of considerable rents. On the other hand, in those markets they have been faced over very long periods with the stiff agricultural protectionism of developed countries.

Countries that produce tropical agricultural goods typically have agrarian structures marked by an abundance of unskilled labour. These countries compete among themselves on the basis of these reduced levels of remuneration, and they generally have little market power (except in certain situations such as the first stages of the coffee boom in Brazil).

As figure 3 illustrates, while in very broad terms the three categories of goods described have shown similar trends, the differences from one period to another are significant. During the first globalization, tropical agricultural products and metals exhibited stronger rising trends than did temperate agricultural goods, the relative prices of which began to rise only at the beginning of the twentieth century. The collapse in the terms of trade during the 1930s and 1940s was a phenomenon that affected in particular metals and tropical agriculture, while temperate climate products maintained their levels (admittedly with ups and downs) until the 1950s. The general decline in the terms of trade in the two decades from 1960 to 1980 was
harsher for temperate products. An exception here was the price of oil, which soared in the 1970s.

Lastly, an analysis of the last decade's boom in relative prices shows clearly that metals have staged the strongest recovery, bringing them back to levels similar to those recorded in the first globalization. The situation with agricultural goods seems to be very different: despite their recent improvement, they have only begun to make up for the setbacks suffered since the 1980s.

Figure 3. REAL PRICES OF DIFFERENT PRIMARY GOODS, 1865-2009 (1980=100)

Are primary goods representative of the external trade structure of Latin American countries? Which goods are relevant as counterparts?

Still another issue that deserves consideration has to do with Latin America's external trade. Does it still involve the exchange of raw materials and foodstuffs for manufactured goods? World trade as a whole has been undergoing profound transformations. The classic exchange of primary goods for manufactures gave way during the "golden age of capitalism" between 1950 and 1973 to a great expansion of intra-industry trade. Subsequently, the steady industrialization of the world economy's periphery and the deindustrialization of the central countries have handed the peripheral countries a growing share of industrial exports.

At the same time services were acquiring growing weight, not only in conventional sectors such as hotels and tourism but also in financial, educational, technological and logistics services. This could change the composition of import and export baskets to the point where the prices for
Terms of trade, growth and structural change

Another interesting aspect of the debate over the terms of trade has to do with their relationship to economic growth and structural change. The theory maintains the underlying idea that the deterioration in the terms of trade stifles economic growth through external strangulation. Yet many authors have argued, on the contrary, that an improvement in the terms of trade contains the seeds of a process that blocks development. If development presupposes structural change and industrialization in peripheral countries, then an improvement in the terms of trade for primary goods would induce greater specialization in favour of those goods, thereby inhibiting development in other sectors more attuned to the transformations that economic development demands. From another perspective, there is the argument of the "Dutch disease", which holds that if an economy has a highly competitive sector that experiences an appreciable increase in prices, that will tend to depress the exchange rate and make the domestic economy more expensive vis-à-vis the international community, which in turn will damage the competitiveness of other sectors of the economy and make imported goods cheaper. In these two cases, favourable terms of trade would become dampers on subsequent development. To this may be added the repercussions of that price rise on power relationships within the society in question, boosting the clout of sectors that control natural resources. Latin American experience with industrialization offers arguments that point in this direction. Industrial growth was the result not only of industrial promotion measures but also of the stimulus provided by changes in relative prices that were favourable to manufacturing.

Conclusion

The thesis of the deterioration of the terms of trade to which Prebisch made substantial contributions was one that wielded great influence in Latin America in the twentieth century, both in academic debate and in economic policy formulation, and it became a cornerstone of development strategies.
That debate remains open and is of particular interest today, when the high prices achieved by most primary products have fostered greater dependence on commodity exports in various countries of the region.

Today we can see the limitations of the data and the assumptions with which Prebisch was working in the 1940s and we can and must conduct a more in-depth and nuanced analysis, starting with the understanding that there is no “one” primary product but rather various categories that behave differently; that there is no "one" Latin American country that can be taken as a model, but rather many countries with different experiences; that there is no "one" unequivocal impact on development, but rather various possible effects, depending on the broader context of variables. Que no existe “un” impacto inequívoco sobre el desarrollo, sino diversos efectos posibles, dependiendo de un contexto más amplio de variables.

However, the importance of this problem is still obvious in various respects, because:

- Recent experience shows that the prices of primary products and foodstuffs still exhibit high volatility and pronounced cycles.
- The prices of primary products and foodstuffs still have a powerful impact on income distribution.
- The prices of primary products and foodstuffs continue to exert strong influence on the productive specialization of peripheral countries.
- The international pattern of productive differentiation continues to reproduce itself.
- It is premature to conclude that the tendency to the deterioration of the terms of trade has been permanently reversed.

For all these reasons, the issue will remain on the table and the doctrine of Prebisch and ECLAC will continue to inform the debate.