March 2006

COLOMBIAN FOREIGN TRADE IN THE TWENTIETH CENTURY

Leonardo Villar
Pilar Esguerra*

* Leonardo Villar is Member of the Board of Directors and Pilar Esguerra is Researcher at the Department of Economic Research of the Banco de la República. Opinions expressed herein are strictly personal. We want to thank Luis Fernando Melo for his advise on econometric issues.

TABLE OF CONTENTS

I. INTRODUCTION

Like in most countries in Latin-America, Colombian economic development during the twentieth century was closely related to what happened with its foreign trade. The large cycles in the terms of trade and in the volume of exports that were observed in the country coincided with the cycles in economic activity and with the most important turning points in the structure of domestic production.

The degree of openness of the Colombian economy was low since the beginning of the XXth century and remained so in spite of an astonishing reduction in transport and communications costs along the century and a trend towards trade liberalization that took place since the 1960's.

Our hypothesis in this chapter of the book is that the high levels of protection experienced by the Colombian economy during most of the XXth century were not exogenous political decisions of the economic authorities. To a large extent, they were endogenous responses to certain situations like the great fiscal restrictions at the beginning of the period or the structural scarcity of foreign exchange from the thirties onwards. The periods of trade liberalization that were observed in the late twenties and from the sixties onwards, were made possible by the increase in export revenues and the unusually greater access to international financing in those periods. As it was argued by Ocampo (1990), the political economy played a rather secondary role in this process since all changes in economic policies were a lagged response of the changes in the external economic conditions.

This chapter is organized in seven sections, this introduction being the first one. The second section presents the main hypotheses. The third one broadly describes the behavior of the main indicators on the degree of openness, export and import growth and terms of trade of the Colombian economy during the twentieth century. The fourth section contains a summarized description of the evolution of trade policy during the century and the fifth attempts to compute a quantitative trade policy indicator. The sixth one deals with the trends and cycles of the real exchange rate and includes some econometric estimates about their determinants. Finally, the seventh and last section concludes.

II. MAIN HYPOTHESES

A. TRADE POLICY ENDOGENEITY

A wide range of work of Anglo-Saxon literature on the Latin American economic history describes the last part of the ninetieth century and the first three decades of the twentieth century as a very liberal period, with open trade policies and export-oriented economies. According to this view, the crisis of the 1930's would have

induced protectionist policies which later on were reinforced with the effects of World War II and, more importantly, with the interventionist approach to economic policy that arose from the recommendations of Raul Prebisch and ECLAC (The United Nations Economic Commission for Latin America and the Caribbean) between the fifties and sixties.

This view contrasts with previous work of Latin American historiography and has also been questioned more recently by North-American authors (see Coatsworth and Williamson (2002), Clemens and Williamson (2002) and Haber (2003), among others). These authors show that during the *belle époque* (1870-1930) Latin America had the highest tariff rates of any region in the world and that its policy could not be fairly characterized as free trade. More generally, Paul Bairoch (1989) has suggested that not even in the developed world it was true that this particular period can be characterized as free trade[1]. This has to be added up to the natural protection from imports provided by the high transport costs that prevailed in the region at that time (Bertóla and Williamson, 2003).

Many historians have described the Colombian economic history of the beginning of the twentieth century as complying with the first view about Latin America that we described above. For instance, GRECO (2002) argues that economic growth during the first three decades of the century was particularly large due to the fact that the country was benefiting from freer trade policies than the ones that came later on. Also, it is frequently argued that the lack of development of exports after the 30´s was essentially the result of the anti-export bias created by protectionist policies. Inefficiencies, low competitiveness and overvaluation of the domestic currency associated with protectionism would be liable for the difficulties faced by export development between the 30´s and the 80´s.

The interpretation described in the previous paragraph, however, is radically different from that of the majority of the studies about protectionism in the Colombian economic history. It also differs from our own interpretation, which is more in line with those classical studies. As has been stressed by Ocampo, the levels of per capita trade by the end of the nineteenth century and the first two decades of the twentieth century were among the lowest in Latin America. Specifically, in 1893-95 and in 1915 they were even lower than those prevailing in countries like Haiti and Honduras (see Ocampo, 1984 and Ocampo and Montenegro, 1986). Moreover, the tariff levels in Colombia, together with those of Brazil, were the highest in a region that, as it was mentioned before, had the highest tariffs of the world between 1870 and 1930. Colombian and Brazilian tariffs were ten times those of China or India (Coatsworth and Williamson, 2002).

[1] Even in the 1870s when the free trade movement reached its highest peak, tariffs for manufactured goods exceeded 10 to 15 percent in continental Europe and were above 45 percent in the US, where the north protectionist movement had just won the Civil War over the free trade advocates of the south.

We also argue in this chapter that protectionist policies during most of the twentieth century in Colombia were, to a large extent, a result of the lack of development of a diversified export base. Of course, the inefficiencies associated with protectionism, as well as an overvalued exchange rate –compared to the one that would have prevailed in the absence of protectionism- discouraged export development for sure. However, we stress the inverse causality: the need for protectionism was a consequence of the absence of export opportunities in an environment of low or null access to international financing.

Our interpretation helps us to explain two stylized facts of the Colombian economic history that were first noticed by Ocampo (1990) but that only recently have received attention by other specialists. Both of them are related with the behavior of the real exchange rate:

i. First, the particular relationship between the cycles in the real exchange rate and the degree of protectionism. Those periods in which protectionism was temporarily relaxed -and the Colombian economic policy moved towards freer foreign trade-, typically coincided with real appreciation of the domestic currency. In Ocampo´s words the use of tariffs and non-tariff barriers (NBA) "was a complement rather than a substitute of exchange rate policy" (Ocampo, 1990, p 254). At first sight, this result seems contradictory with economic theory. The explanation for this apparent contradiction has to do with the endogeneity of economic policy with respect to the availability of foreign exchange. When the economy faced a foreign exchange boom, as a consequence of exogenous shocks, the relaxation of foreign exchange restrictions allowed for more liberal trade policies and created, at the same time, pressures towards the appreciation of the real exchange rate.

   This happened, for instance, during the 1920´s. This was a period when several positive external shocks coincided: increasing revenues from coffee exports, high terms of trade, large availability of foreign financing as a result of very liquid international capital markets and the USA payment of the indemnity for the separation of Panama. As a result of this, trade policy was relaxed and a real appreciation of the domestic currency occurred[2]. Protectionism was relaxed again in the first half of the 1950´s and in the second half of the 1970´s. In both those periods, Colombia was benefiting from the two largest coffee-price booms of the century. A similar argument can be used to explain what happened in recent episodes of large inflows of

[2] As it will be shown later, in this period the main instrument of protection were import tariffs, which also had the characteristic of being specific duties. This implied that in those periods in which the prices of imports increased, the tariff revenue fell as a share of import value and so the level of protection. In this period this process of deterioration occurred, but since there was also a great inflow of other revenues, it was not necessary to carry out new tariff reforms to compensate for the implicit fall in tariff rates.

foreign capital, like the one observed in 1979-81 and in 1991-97. As we will see, these were all periods of real appreciation of the domestic currency followed by crises in which the real exchange rate jumped to more depreciated levels than the ones prevailing at the beginning of the cycle.

ii. Second, the real exchange rate presented a long run trend towards depreciation of the domestic currency during the whole century, once this trend is isolated from the cycles described in the previous paragraphs. This trend can neither be explained by productivity differentials with our trading partners nor by a clear downward trend in the terms of trade. Rather, a more likely explanation is the diminishing transport costs –especially in the first half of the century- matched by a trend towards trade liberalization from the sixties onwards. As economic theory would suggest, protectionism reduces the demand for foreign exchange, and creates pressures towards the appreciation of the equilibrium real exchange rate. Consistently, freer and more active trade requires a more depreciated real exchange rate.

B. **TRADE RESTRICTIONS *VIS-À-VIS* EXCHANGE RATE ADJUSTMENT**

The natural question at this point is why did not the exchange rate play the role of adjusting the market for foreign exchange instead of leaving that role to a protectionist trade policy? From the point of view of any economist, the scarcity of foreign exchange is just a reflection of an overvalued domestic currency and the market for foreign exchange could be cleared through a depreciation of the real exchange rate. With lower tariffs and less import restrictions, the relative scarcity of foreign exchange would have induced a more depreciated real exchange rate, stimulating exports and increasing the degree of openness of the economy.

The problem with this view, that we will from now onwards call the *economist view*, is that it does not take into account three structural problems that were present along most of the twentieth century in Colombia:

1. Low price-elasticities of trade flows. Given the composition of Colombian exports and imports, their short- and medium-run elasticity to the real exchange rate was almost non-existent during most of the century. On one hand, minerals (like oil, gold, emeralds and platinum) and tropical agricultural products (like coffee and bananas) exhibited a low response to changes in the real exchange rate. The so-called non-traditional exports, which tend to have higher price-elasticities, only reached some importance in the last quarter of the century and, even then, their share in total exports was lower than 40 percent. On the other hand, the price elasticity of imports

was very low during most of the century, due to the fact that imported goods were complementary, rather than substitutes, of domestic production.

2. Low degree of trade openness. The capability of an exchange rate depreciation to adjust a given trade imbalance, measured as a share of GDP, is lower in a more closed economy. As mentioned before, Colombia was indeed quite closed. Total trade (imports plus exports) represented only around 20 percent of GDP during most of the twentieth century, due to a large extent to geographical barriers that made communications and transport between the domestic markets and the rest of the world extremely costly. This characteristic reinforced the effect of the low price-elasticities of foreign trade and implied that the economy would have required an extremely large real exchange rate depreciation to adjust to the structural scarcity of foreign exchange. Such depreciation would have been very costly in an economy which had to rely heavily on imported goods, as far as it had almost no domestic production of capital goods and other inputs.

3. Non-existing external financing. Under these circumstances, any attempt to relax import restrictions and to rely on the exchange rate for the adjustment would have required foreign financing in order to avoid prohibitive costs. However, exception made of the 1920´s, access to foreign financing was almost non-existent during most of the twentieth century, at least until the 1970´s.

The *economist view* sees overvaluation of the real exchange rate as the result of the decision of imposing high tariffs and import restrictions. Under this view, import policy was the exogenous variable that explained the low degree of trade openness of the Colombian economy. In contrast, our view takes into account the fact that import policy was endogenous to the scarcity of foreign exchange and that it was extremely costly to leave the burden of the adjustment to the exchange rate.[3] This alternative view helps to explain one of the stylized facts of the Colombian economy that we mentioned above: that the real exchange real typically depreciated in the periods in which trade liberalization was taking place. This coincidence, which cannot be explained under the *economist view*, reflects the fact that both the real appreciation of the currency and the process of trade liberalization were endogenous to positive external shocks in foreign exchange revenues.

[3] Coatsworth and Williamson (2002) develop the argument about the endogeneity of import policy for Latin America between 1870 and 1930. In their case, however, the endogeneity is related with the need for fiscal revenues, rather than with the availability of foreign exchange.

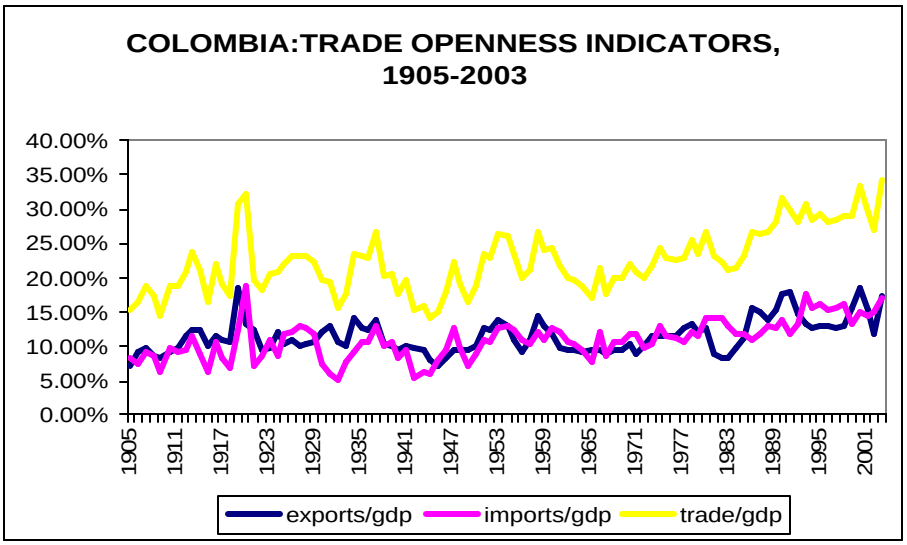
III. COLOMBIAN EXTERNAL SECTOR INDICATORS, 1905-2003

From the point of view of availability of statistics, the twentieth century starts in Colombia around 1905. Information about the previous years is almost non-existent due to the economic and political chaos produced by the civil war that took place between 1899 and 1902 (*the War of the Thousand Days*), and by the secession of Panama in 1903.

A. DEGREE OF TRADE OPENNESS

Graph 1 presents the evolution of the three most commonly used indicators of trade openness, between 1905 and 2003: exports/GDP, imports/GDP and exports+imports/GDP. Those indicators remained fairly stable at very low levels during the whole century. They increased only marginally by the end of the century, despite the fact that, *ceteris paribus*, they should have increased significantly as a consequence of the dramatic reduction in transport and communications costs that took place in this period.

Graph 1

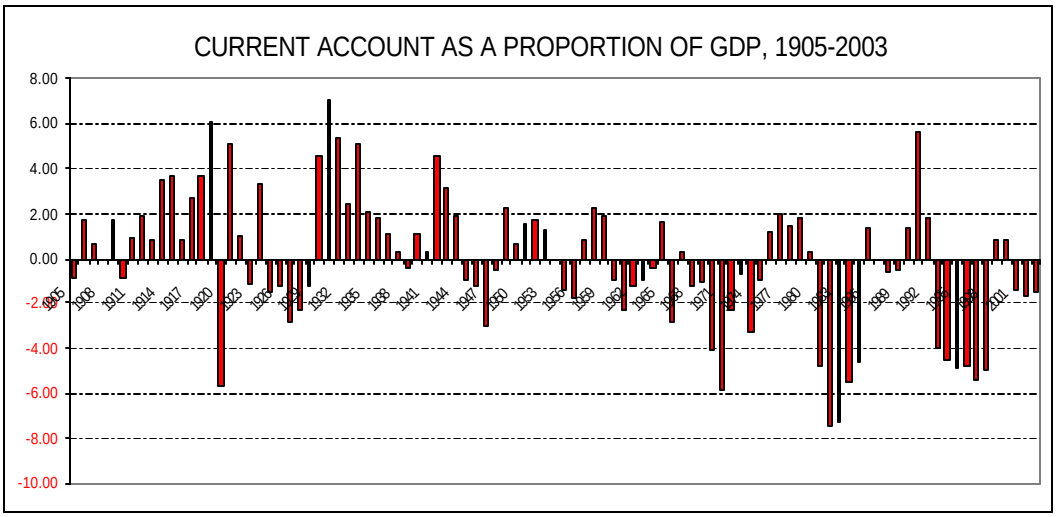


Sources: GRECO (2002), Annex Chapter 10 and calculations by the authors. These calculations include only trade in goods.

An interesting feature of the figures presented in Graph 1 is that the rate exports/GDP moves very closely to that of imports/GDP. This reflects the fact that Colombia did not have access to international financing during most of the twentieth century and had to manage its imports in such a way that no big trade

deficits were allowed. As shown in Graph 2, there are only three periods in which our estimate of current account deficit was greater than 4 percent of GDP: 1922, 1982-87 and 1992-1998.[4] During the rest of the century, imports were in practice restricted by the availability of foreign exchange associated with revenues from exports. This explains why the three indicators of trade openness have very similar paths in Graph 1.

Graph 2



Sources: Banco de la República and GRECO. This variable was estimated as the sum of trade balance and interest payments as a proportion of GDP

Compared to other major Latin American economies such as Brazil and Argentina, the evolution of trade openness in Colombia was quite different. As authors like Haber (2003) have pointed out, the story of Argentina and Brazil is the story that is usually told of the region as a whole: Latin America used to be a very open region and gradually closed its frontiers as it adopted more protectionist policies, first as a consequence of the world crisis, and then, as a more explicit policy recommended by the ECLAC.[5] As shown in Graph 3a, these two countries had a much higher exports/GDP index than Colombia at the beginning of the century, but it decreased after the 1930´s and since the 1960's was well below the Colombian index.

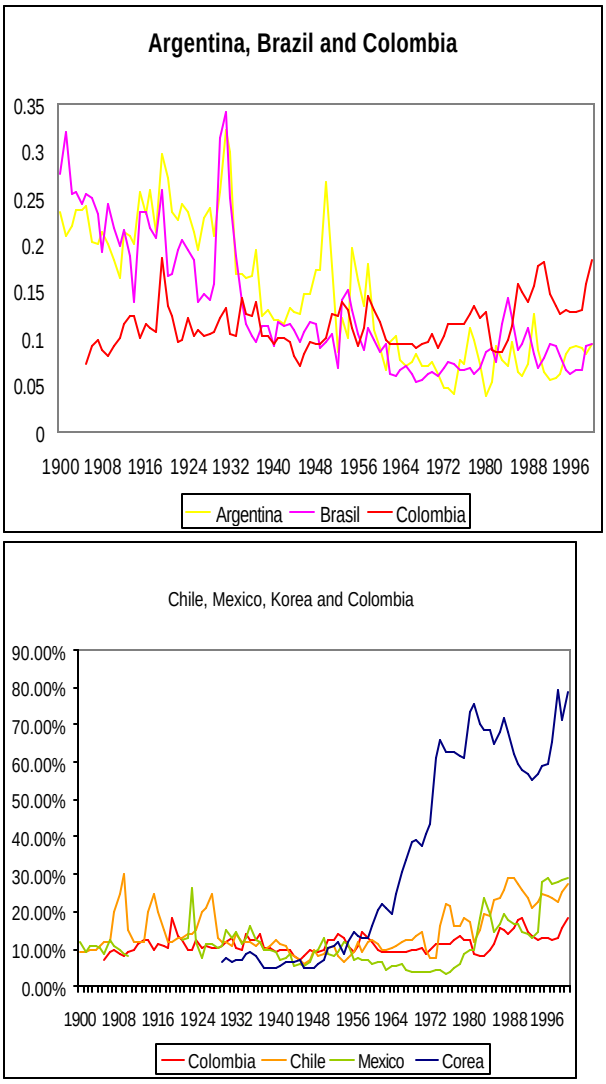
Colombia is certainly a different case: neither it was an open economy at the beginning of the century nor it became more closed from the thirties onwards. On the contrary, from being a closed economy at the beginning of the century, it very gradually increased its degree of trade openness until the late twenties, in a process that was mainly led by the growth of coffee exports. This process was interrupted

[4] We do not have consistent series of the current account of the balance of payments for the whole century. In Graph 2 we use the sum of the trade deficit and interest payments as a proxy.
[5] On the Argentinian case, see also Berlinski (2003).

during the world crisis and, later on, during the WWII, but continued during the late forties and early fifties, when the import substitution policies were at their peak in other Latin American countries. The process of opening was reversed once more between the mid-1950´s and the late 1960's but it was retaken during the last three decades of the century. In fact, the indicator of trade openness exhibits a positive trend since the beginning of the seventies, which is only temporarily interrupted between 1982 and 1985, coinciding with the Latin-American debt crisis.

As it can be seen in Graph 3b, the evolution of exports/GDP in Colombia, at least in the first part of the century, resembles more what happened in Mexico, or even in Chile. Like these two nations, Colombia can be considered a closed economy at the beginning of the century. From the seventies onwards, these three countries experienced a positive trend in their exports/GDP indicator. Such positive trend, however, was milder in the Colombian than in the Mexican and Chilean cases. In all three cases, moreover, it was much milder than the one experienced by a a country like Korea, which until the 1950's had a similar level of exports/GDP.

GRAPH 3
EXPORTS/GDP IN SEVERAL LATIN AMERICAN COUNTRIES AND KOREA, 1900-2000



Sources: Calculations based on information from Oxford Latina America data Base – OXLAD.

The cycles in the trade openness indicators observed for Colombia along the twentieth century do not necessarily respond to trade policy decisions. Although there is a coincidence between the behavior of those indicators and import policies in some periods, this is not always the case. The trade openness cycles were more related to the evolution of the terms of trade, the performance of coffee and mining exports and the availability of foreign financing than to trade policy decisions. These decisions were endogenous to foreign exchange availability and in general terms had a lower impact on trade openness indicators than the

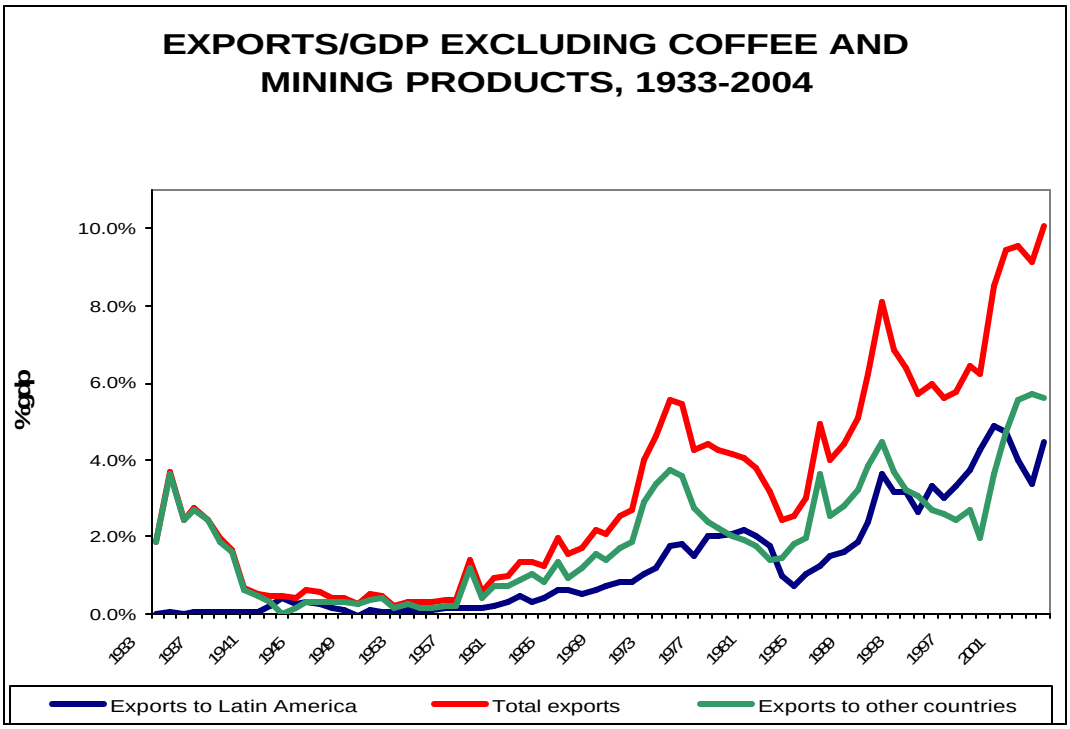
variables just mentioned. In this context, it is worth noticing that the acute liberalization of trade policy that took place at the beginning of the 1990´s (the "apertura") was not reflected in the indicators of trade openness in Graph 1. Those indicators experienced a large upward jump during the second half of the 1980's and once again after 1999, but those jumps were mainly explained by the increase in oil and coal exports that took place in those periods.[6]

When we look at the Colombian figures of exports without coffee, oil and mining products as a share of GDP (mainly coal, nickel and gold) (Graph 4), their level in the year 2000 only represents 8.6 percent of GDP and in 2004 10.1 percent. This level is much higher than the one that prevailed during the 1950´s, which was below 1 percent of GDP. The positive trend experienced during the second half of the century was mainly explained by the behavior to other Latin-American countries. They went up from being negligible until the 1950´s to almost 5 percent of GDP at the end of the century. Exports to the rest of the world, when we exclude coffee and mineral products, also experienced a positive trend as a share of GDP during the second half of the century. Their level in year 2000, however, was around what it had been in the 1930's (3.6 percent) . More recently, in the first five years of the present century, exports/GDP has increased rapidly and it represented 5.6 percent of GDP in 2004.

Summing up, at least from the point of view of the indicators shown here, the story told by some authors about Latin America, of being an open region at the beginning of the century and after the 1930´s closing its frontiers, does not seem to be the case of Colombia. Trade openness indicators show that during the twentieth century Colombia was (and still is) a closed economy. From the seventies onwards the degree of openness has increased somewhat, but the increase has been small when compared to other countries in the region like Chile or Mexico and marks a sharp contrast with that of countries outside the region, like Korea.

[6] The indicator of total trade (exports+imports) as a share of GDP went up from 21.4% in 1984 to 31.5% in 1990 but did not show any positive trend during the 1990's. Later on, it went up from 30% in 1999 to 33% in 2000 and 38.1% in 2004.

Graph 4



Sources: Calculations based on Trade Statistics yearbooks and DANE

B. REAL EXPORTS/GDP INDICATOR

When computed in real terms, the total exports/GDP index at the end of the twentieth century was lower than it was in the 1930´s (see Graph 5). Measured at constant 1970 prices, the volume of exports, relative to total domestic production, was lower than 10 percent at the beginning of the century. It then rose very rapidly until the 1930´s, when it reached its historical peak, with levels above 20 percent. During the following fifty years, it went gradually down, so that at the beginning of the 1980´s it was again below 10 percent. Only after 1985 it started to recover, but at the end of the twentieth century it was still below 15 percent. From this point of view, the Colombian economy has not experienced a real trade opening.

The behavior of the exports/GDP indexes, when measured at current prices and at constant prices, is outstandingly different. The reasons are twofold:

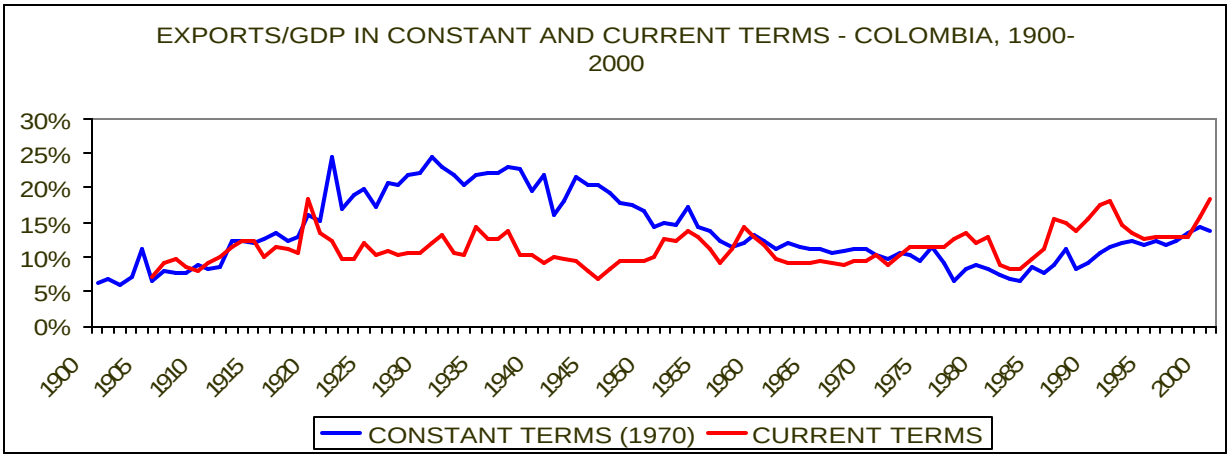
i) The real exchange rate experienced a long-run depreciation. Such trend -that we will explore in detail in section V- meant that the relative price of the tradable sectors –and therefore of exports and imports- increased. As a consequence, the traditional indicators of trade openness, which are

measured at current prices, show an upward trend that does not reflect more real trade activity but it is rather an accounting result.

ii) When measured at current prices, the exports/GDP index is also influenced by the behavior of the terms of trade. Higher (lower) terms of trade mean higher (lower) exports/GDP index at current prices. The terms of trade for Colombia had marked cycles, closely related to the behavior of coffee prices. Those cycles affected the evolution of the exports/GDP indicator when measured at current prices but not when measured at constant prices.

In summary, the behavior of the traditional trade openness indexes –in particular that of exports/GDP at current prices- is affected by the accounting effects of the terms of trade and of the real exchange rate. The index of exports/GDP in real terms allows us to isolate those effects. It reinforces the idea that the Colombian economy did not increase its degree of openness significantly during the twentieth century, despite the immense reduction in transport and communications costs that took place during that period.

Graph 5



Source: Calculations based on OXLAD

C. EXPORT COMPOSITION.

During most of the twentieth century, Colombian exports were dominated by coffee. As many studies have pointed out, coffee was not only the main export crop, but also the main source of economic development since the final decades of the ninetieth century. Palacios and Safford (2002) identify three main periods in the behavior of coffee exports after 1910. The first one, from that year until 1940, is characterized by a particularly sharp rise in the export quantum, which grew at an average annual rate of 7.4 percent. This behavior, together with high coffee prices, led coffee exports to represent more than 70 percent of the total value of the Colombian exports in the mid 1920's (Graph 7). In the 1930´s, the decline in coffee prices reduced that share but remained well above 50 percent. The second

period goes from the 1940 to the mid-1970´s and is described by Palacios and Safford as one of relative stagnation. The annual rate of growth of the export quantum was only 1.6 percent. However, the share of the crop in total exports value remained above 50 percent. Finally, the period that followed the coffee-price boom of the late 1970´s was characterized by a process of technological improvement in coffee plantations, but with a reduction in prices, which was particularly drastic after the end of the International Coffee Agreement in 1989. The share of coffee in the value of total exports decreased from more than 50 percent in the 1970´s to less than 10 percent in the late 1990´s.

As shown in Table 1, mining products were also important during most of the twentieth century. Gold was the main Colombian export during the Colonial period and the ninetieth century. Its importance decreased with the growth of coffee exports but, together with platinum, it still represented nearly 20 percent of total exports during the initial two decades of the century. In the late twenties, oil began to be exported and the share of mining products in total exports grew to almost 25 percent between 1935 and 1945. That share declined steadily afterwards until it became almost zero in the late seventies. However, since 1985, coal and oil became again very important export products. By the end of the century, they were by far the two most important export items and, together, represented nearly 40 percent of Colombian exports.

Besides coffee, several other agricultural commodities had some importance. Bananas, beef, sugar and tobacco were traditional export products since the beginning of the century, while cut flowers explained to a large extent the dynamism of this group after the 1970's.[7]

As in most Latin-American economies, primary products represented an overwhelming share of total exports in Colombia during most of the twentieth century, although it is interesting to notice that a particular type of handicraft, *straw hats or Panama hats*, had some relevance until the 1920´s. Manufactures became important only after the 1970´s. Since then, they have represented nearly 40 percent of total exports. Their growth was mainly associated with the process of integration with other Latin-American economies, particularly with Venezuela and Ecuador.

[7] Bananas and beef were relatively important export goods produced in the Caribbean coast during the first decades of the century. Meisel (1999) argues that the development failure of that area of the country in the following decades was the result of a sort of "Dutch desease" induced by coffee exports. Coffee exports implied that the exchange rate was less depreciated than would otherwise have been. Under this argument, however, it is difficult to explain the long run trend towards a depreciation of the Colombian peso observed along the twentieth century, to which we will refer later.

Table 1
COMPOSITION OF COLOMBIAN EXPORTS %, 1910-2004

Years	Coffee	Other agricultural	Mining	Others
1910-14	45.10	18.80	28.40	7.70
1915-19	50.50	21.40	23.20	4.90
1920-24	68.50	7.00	13.90	10.60
1925-29	69.60	9.40	20.90	0.10
1930-34	58.60	8.60	22.37	0.50
1935-39	52.00	7.80	24.82	3.10
1940-44	64.00	2.90	24.51	4.10
1945-49	73.00	3.90	17.52	3.70
1950-54	78.86	2.00	15.83	3.13
1955-59	75.98	3.64	11.00	4.50
1960-64	68.79	2.68	12.00	10.77
1965-69	61.16	3.92	13.19	21.72
1970-74	53.21	1.92	4.62	40.25
1975-79	57.17	8.22	0.29	34.31
1980-84	48.87	13.50	9.07	28.55
1985-89	37.42	11.45	26.38	24.76
1990-94	18.60	14.62	30.44	36.34
1995-99	16.09	11.86	33.77	38.29
2000-2004	6.44	10.34	40.38	42.84

Source: Statistical Yearbooks, Statistical International Trade Yearbooks, several numbers.

D. TERMS OF TRADE

Two different issues have been traditionally discussed around the historical behavior of the international terms of trade (ITT) in Latin America. The first one is related with the instability of commodity prices in the international markets. Such instability is reflected in very volatile terms of trade in the Latin-American countries, in which commodities represent a very large share of total exports. The second one has to do with long-run trends. According to the traditional Prebisch-Singer hypothesis, there would be a secular deterioration in the ITT, mainly associated with a relatively low elasticity of demand of the type of products exported by this region (Prebisch, 1950; Singer, 1950).

The debate on these issues has always been obscured by the poor availability of good export- and import- price indexes. As explained in Bulmer-Thomas (2003, pp.78-81), the difficulties are particularly complex with import prices, as far as imports are much more diversified than exports. A common practice has been to use an export-price index or a wholesale-price index of a major exporter of manufactured goods (Great Britain or the USA) as a proxy for Latin American import prices. This procedure has two main objections: first, that the changing pattern of Latin American imports is not reflected in those indexes of the industrial

economies. Second, and even more important, that those indexes do not reflect the deep fall in transport costs that has taken place since the ninetieth century, which has implied a drastic reduction in the margin between prices at the port of embarkation (FOB prices) and prices at the port of entry (CIF prices).

There are few studies on the long-term behavior of the ITT of Colombia along the twentieth century. The most complete one is included in the recent work of the Study Group of Economic Growth of the Banco de la República (GRECO, 2002). It has two different estimations of this variable from 1905 to 2000, shown in Graph 6 as GRECO1 and GRECO2. Both of them use the US wholesale price index in the denominator -as a proxy of Colombian import prices- until 1956. For that period, therefore, they are subject to the Bulmer-Thomas criticism mentioned above.

For the more recent period GRECO1 uses the same US wholesale price index, while GRECO2 uses an index obtained from the Colombian-peso wholesale-price index for imports, which is transformed into a dollar price index with the average exchange rate. This procedure, which is also used in the International Financial Statistics of the IMF, introduces a new very important problem. The Colombian-peso wholesale-price index for imports is affected by tariffs and non-tariff barriers (NTB). Then, a less protectionist import policy will imply –*ceteris paribus*- that the figures of import prices will decrease and those of the terms of trade will increase. Those changes in the figures, therefore, will neither be reflecting real changes in foreign prices nor in the "true" international terms of trade.

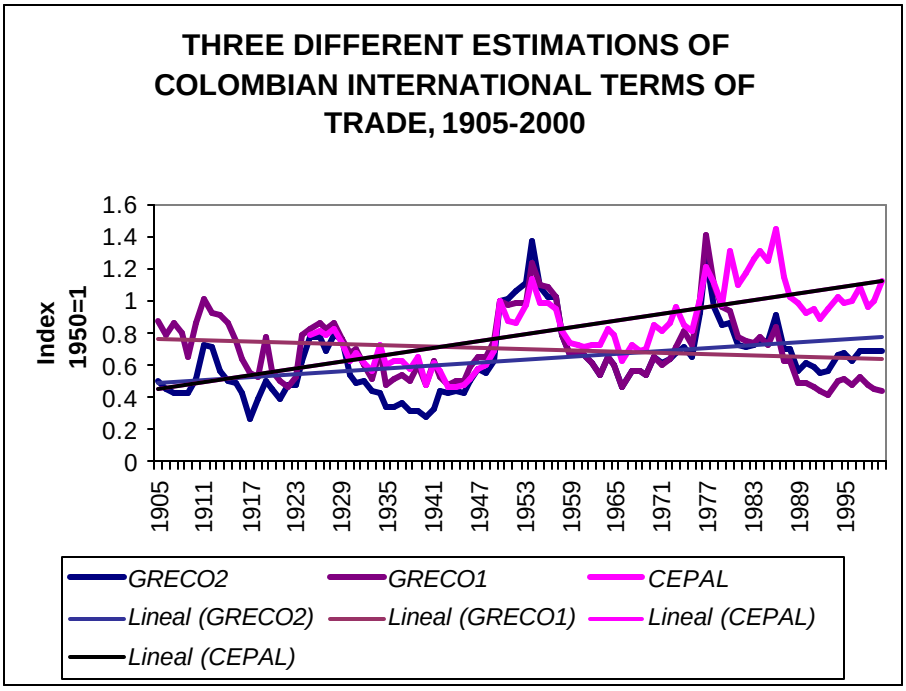
The two GRECO estimates of the international terms of trade (ITT) also differ in the treatment of export prices. Both of them use the wholesale export-price index from 1956 onwards. For the period that goes until 1956, GRECO1 uses an estimation of implicit export prices computed with the statistics of export values and quantities of the main export items. GRECO2, instead, uses only the price of coffee as a proxy for total export prices.

Apart from these two GRECO indices, Graph 6 shows another indicator constructed with information from ECLAC for the period starting in 1925. Between that year and 1953 the indicator was calculated using the implicit prices of exports and imports that are part of the National Accounting System developed by ECLAC for Colombia. For the subsequent period, it was computed with implicit dollar prices of a basket of the main export and import items. This indicator is not subject to the Bulmer-Thomas criticism, neither to the one of possible trade policy biases. However, apart from the fact that is only available

since 1925, the composition of the import and export basket that is used for the calculations may be subject to criticism.[8]

Independently of the problems of the indicators shown in Graph 6, all of them show great cycles of the Colombian ITT during the century. These cycles are clearly correlated to the evolution of export prices, and particularly, coffee. There are four clear distinct periods in which the ITT are above their average trend levels: the first half of the 1910s, the late 1920s, most of the 1950s and the second half of the 1970s. All these periods were characterized by coffee price booms. This shows that the great volatility of Colombian ITT can be entirely attributed to the behavior of the price of its main export product.

Graph 7



Source: Greco (2002). Annex to Chapter 10

The evidence of the long-run trends of ITT is much less conclusive. GRECO2 and ECLAC indicators both show a positive trend between 1905 and 2000, which contradicts the Prebisch-Singer hypothesis. However, as we argued above, both indicators have problems. The first one may be biased towards a positive trend given that it includes the effect of the long-run reduction in import protectionism that took place along the century (as we will show in section IV). The second one

[8] There is another index recently constructed by Londoño (2006) using implicit prices of the whole universe of Colombian exports and imports. Although is not available before 1980, it happens to behave in a very similar way than the CEPAL estimation. This index does not have the problems associated with the trade basket composition because it is based in the whole universe of products, but can be criticized because it is very sensitive to the degree of aggregation of the data

might be subject to some type of aggregation bias, as long as it is based on a specific basket of export and import products. GRECO 1, which does not have these biases, presents a slightly negative trend along the century. However, it may be subject to the Bulmer-Thomas criticism as far as it may underestimate the reduction in import prices that took place as a consequence of the reduction in transport costs.

We may say, therefore, that with the available information there is no conclusive evidence of a secular deterioration in the terms of trade. When arriving to this conclusion, we must be very cautious. The relative absence of any trend suggested by the available data may be hiding two opposite forces: the first one reflecting the Prebisch-ECLAC hypothesis, towards a deterioration of the ITT. The other one explaining a positive trend, based on the type of supply-side considerations proposed by Bulmer-Thomas for the behavior of the Latin American ITT during the ninetieth century. As far as productivity growth is usually faster in manufactures than in primary products and primary products have a higher share in exports than in imports, one should expect a trend increase in the international terms of trade.[9]

IV. TRADE POLICY DURING THE TWENTIETH CENTURY

During the twentieth century, the main trade policy instruments used in Colombia included tariffs, non-tariff barriers on imports, foreign exchange controls and a wide variety of export promotion mechanisms like direct subsidies and credit. Tariffs were the only instrument until 1931, when foreign exchange controls were established. Explicit quantitative controls on imports -which included "prior-license" and a "forbidden- imports" lists- were introduced in 1957. In addition, several export-promotion instruments were used since the late fifties. The evolution of these instruments along the century can be described by distinguishing seven different periods:

A. 1904-1928: HIGH TARIFFS BUT DECLINING PROTECTION.

In 1904, the Reyes administration increased import tariffs, which had been the main source of fiscal revenues since the colonial period. The levels established in 1886 were increased by 70 percent in order to get resources for rebuilding the

[9] Many authors have written about this debate in developing countries. Bhagwati (2004) argues against the Prebisch-ECLAC hypothesis, while Bertola and Williamson (2003) show that the ITT were favorable to Latin American economies during the ninetieth century but that they deteriorated during the first half of the twentieth century, as proposed by Prebisch. The recent paper by Ocampo and Parra (2003) shows that the secular deterioration in fact occurred for an important number of commodities at global level during the XXth century. This conclusion, however, cannot be extended to the Colombian case, given that these authors do not find empirical evidence of the deterioration of the price of coffee.

infrastructure and the productive capacity harmed during the war (Junguito and Rincón, 2004).

During this period, tariffs for the majority of goods were in the form of specific duties (e.g, dollars per volume of imports). This implied that tariff revenues, as a share if imports, eroded rapidly as a consequence of any increase in the international prices or of any devaluation of the exchange rate (Martínez, 1986, Ocampo, 1990). As a consequence, tariffs for specific goods had to be reformed several times during the first two decades of the century in order to avoid a decline in revenues. The fiscal objective of those reforms was more important than protectionism. In fact, as it was argued by Ocampo (1984) the debate between protectionism and free trade was a secondary political issue in Colombia during these years.

At the beginning of the 1920s, the relative abundance of external financing and the payment of the indemnity for the loss of Panamá by the US government created a much easier fiscal environment. This allowed for a reduction in tariff revenues as a proportion of imports -and hence for a reduction in tariff protection- compared to their levels in previous decades.

B. 1928-34: WORLD CRISIS AND EXCHANGE CONTROLS.

The World Crisis that began in 1929 restricted the Colombian access to international financial markets and produced a dramatic fall in the international terms of trade. Export prices fell by more than import prices. As a consequence of these events, international reserves declined and Colombia was obliged to suspend the gold standard, increase its tariff revenues and put in place an exchange control regime in 1931. The exchange control regime had to be very strict until 1934[10].

C. 1934-55. WORLD WAR II AND MORE FLEXIBLE EXCHANGE CONTROLS

Since 1934, the exchange controls were relaxed, especially with regards to imports of raw materials and capital goods, which were required for a domestic industry that was growing at a healthy rate (Ocampo y Montenegro, 1986; Echavarría, 1999). Between the first half of the 1940's, there was a drastic fall in foreign exchange transactions as a consequence of WWII, which facilitated a significant accumulation of international reserves. After the war, the process of liberalization of exchange controls continued, although they were made more complex since 1948, when the authorities decided to introduce a dual exchange rate system in order to promote exports different than coffee (Currie, 1951). In 1953 and 1954

[10] See the Ministry of Finance, Esteban Jaramillo, Memoirs (Jaramillo, 1990).

there was an important increase in the price of coffee and the relaxation of foreign exchange controls was extended to facilitate imports of consumption goods.

D. 1956-67. VERY ACUTE RESTRICTIONS

The effects of the coffee boom ended by 1956 and Colombia started to face foreign exchange problems once again. Foreign exchange controls became stricter and a formal system of quantitative import controls, including prior-licence an forbidden-import lists was introduced. In addition, the authorities started to use new instruments with the purpose of reducing the demand for foreign exchange. They included the exchange rate certificates, the prior deposits on import payments and some special systems of barter trade with specific countries (Diaz-Alejandro, 1976)

In some specific years of this period, foreign exchange scarcity was mitigated with foreign aid -like that of the US Alliance for Progress or of the first credit from the IMF-. In those years, import policy was temporarily relaxed, mainly through an increase in the rate of approval of imports subject to the "prior-licence" mechanism, rather than by transferring the items to the "free imports" list[11].In all these episodes, the liberalization was short-lived and followed by periods of acute restrictions.

Export promotion policies also received particular attention during these years of foreign exchange restrictions. The so-called "Plan Vallejo" –a sort-of draw-back system in tariff exemption for imports of raw material used in non-traditional exports- was introduced in 1959 and began to be used intensively in 1962. Moreover, in 1961 the Government introduced direct subsidies to non-traditional exports through the *Certificados de Abono Tributario* (CAT), which later became the *Certificados de Reembolso Tributario* (CERT). In addition, during most part of this period, a multiple exchange rate system was in place. The lowest rate was applied to coffee exports and essential imports and the highest one to non-traditional exports. In 1967 the Export Promotion Fund (PROEXPO), administered by the central bank, was created in order to provide credit subsidies to different export sectors. During the nineties this Fund was transformed into the government owned Foreign Trade Bank (BANCOLDEX) which still exists.

In the second part of 1966, exchange and import controls were made especially stiff in the context of confrontation between the recently elected Government of Carlos Lleras Restrepo and the IMF, which led to the cancellation of credit disbursement from tha institution. Some months later, in 1967, the same administration issued the Decree 444, most commonly known as the Foreign

[11] This is the reason why several authors have argued that the value of imports under the "free list" was not a good indicator of the degree of free trade. See Villar (1985) and Martínez (1986).

Exchange Statute, based on which the exchange control system functioned until 1991. From 1967 onwards, Colombia initiated a crawling peg system that was also in place until 1991.

E. 1968-81. NEW TRADE LIBERALIZATION

The main merit of the crawling –peg system and the new Foreign Exchange Statute was that introduced stability after the chaotic environment in which events had evolved in previous years. The Colombian external sector stabilized and the sixties ended in relative calmness. Moreover, during the first years of the seventies, non-traditional exports benefited from the real depreciation of the peso against the dollar and other hard currencies. Also, the oil-price boom of that period benefited Colombian non-traditional exports through its effect on Venezuela, which increased import demand for Colombian goods.

The new external conditions led to a new period of trade liberalization which was partly motivated by the need to eliminate inflationary pressures brought by the external situation. In 1971 a new legislation was issued transferring from the Congress to the Government the faculty to modify the tariff schedule, which began to be used in the tariff reform of 1973.

In spite of the large coffee-price boom that started in 1976, the process of trade liberalization continued gradually until the end of the López Michelsen administration. Afterwards, it was accelerated during the Turbay Ayala Administration in an environment of an expansive fiscal policy financed with external resources. As a result, the first years of the eighties, when the coffee-price boom had already ended, coincided with an increasing current account deficit and a process of acute appreciation of the real exchange rate that was produced mainly through a higher rate of inflation, in spite of the continued nominal exchange rate devaluation under the crawling-peg regime.

F. 1982-85. THE LATIN AMERICAN DEBT CRISIS

At the beginning of the 1980's, international interest rates increased substantially and the world economy started to show signs of recession. By that moment, Colombia had accumulated an important stock of external debt, although it was much smaller than in other Latin-American economies. In this context, the Debt crisis started in 1982. The rate of daily devaluations had to be accelerated within the crawling peg system and the exchange rate devalued in real terms. At the same time, import controls were made stiffer and the tariff schedule was increased across the board. Compared to other countries in the region, Colombia performed well during this period. GDP grew, although at lower rates than in previous

decades, and Colombia was able to pay its obligations on time without having to restructure its debt.

G. 1986-2004. THE OPENING OF THE ECONOMY

Around the mid-eighties, the investments that had been made during the first half of the decade in the oil and coal sectors started to produce and the country was able to increase its export revenues. This process was reinforced by a new –although short lived- coffee-price boom. Furthermore, the effects of the acceleration of the rate of devaluation that had taken place within the crawling-peg system started to be felt on the behavior of non-traditional exports. In addition, in 1985 the tariff schedule was increased by 16 percent, allowing for a process of substitution of quantitative import controls for more market friendly instruments which lasted until the beginning of the nineties.

In 1989, when the Barco Vargas administration was coming to an end, the decision was taken of opening the economy in a more decisive –although gradual- way. A timetable was adopted in which non-tariff barriers were to be rapidly eliminated. Only a few import quotas were to be maintained for consumption goods which traditionally had faced strong restrictions. These quotas, moreover, were to be allocated in a more transparent way by using auction systems. Additionally, tariffs were planned to be reduced gradually in a four year span. This timetable, however, was accelerated when the Gaviria Trujillo government was elected, even before taking office, in august 1990. By the end of that year all quantitative restrictions had already been eliminated and tariffs had been reduced to an average of 11 percent (Ocampo and Villar, 1992).

This way, Colombia abandoned its gradual approach to the trade opening. At the same time, it adopted a series of measures aimed at opening the capital account in a moment in which the capital inflows to Latin America reached an all time high[12]. As a result, the opening of the economy again coincided, as it had already happened between 1978 and 1982, with a notorious process of exchange rate real appreciation and a deterioration of the current account. This implied an increase in imports and a fall in exports as a proportion of GDP. As it was already noticed in Section III, the opening of the economy in the nineties did not imply an increase in the indicators of the degree of openness of the Colombian economy above the levels that had already been reached during the eighties. This indicator only increased after 1999, mainly as a consequence of the increase in oil exports.

In any case, the combination of real appreciation and current account deficit increased the vulnerability of the Colombian economy, thus creating the

[12] See Villar and Rincón (2003) and Ffrench-Davis and Villar (2005)

conditions for the crisis that followed when the external financial conditions changed abruptly at the end of the nineties. However, during the crisis, the process of adjustment did not rely, as it had in previous similar episodes, on the imposition of new tariff and non-tariff barriers. The weight of the adjustment was concentrated in the depreciation of the exchange rate and the strongest recession of Colombian recent economic history. Colombian GDP, that had showed positive growth rates for almost 70 years, fell by more than 4 percent in 1999 and showed very low rates of growth during the following three years.

V. OBTAINING A TRADE POLICY INDICATOR

As it was described in Section IV, during the twentieth century non-tariff barriers (NTBs) were used at least as intensively as tariffs in order to regulate the behavior of Colombian imports. To have an overall picture of trade policy during the period, in this section we propose a methodology to obtain quantitative indicators of the evolution of those policies. First, we describe two different indicators that can be used to evaluate tariff protection with the few data that we have available for the whole century. In the second part, we propose a methodology to obtain an indicator of NTBs so that it can be added up to tariff protection to estimate an overall measure of total protection.

A. TARIFF PROTECTION

The most common indicator used in the literature for tariff protection is tariff revenue (T) as a proportion of imports (M). This indicator, that we will call $t = T/M$, is in practice a weighted average of the tariff schedule. Although it is available for the whole period, it can be misleading with respect to what happened with tariff policy during the century. The reason is that consumption goods were more heavily taxed than intermediate and capital goods and the share of consumption goods in total imports substantially declined over the century. Hence, the weighted average of the tariff schedule (t) is biased and does not necessarily reflect what really happened with the different types of tariffs.

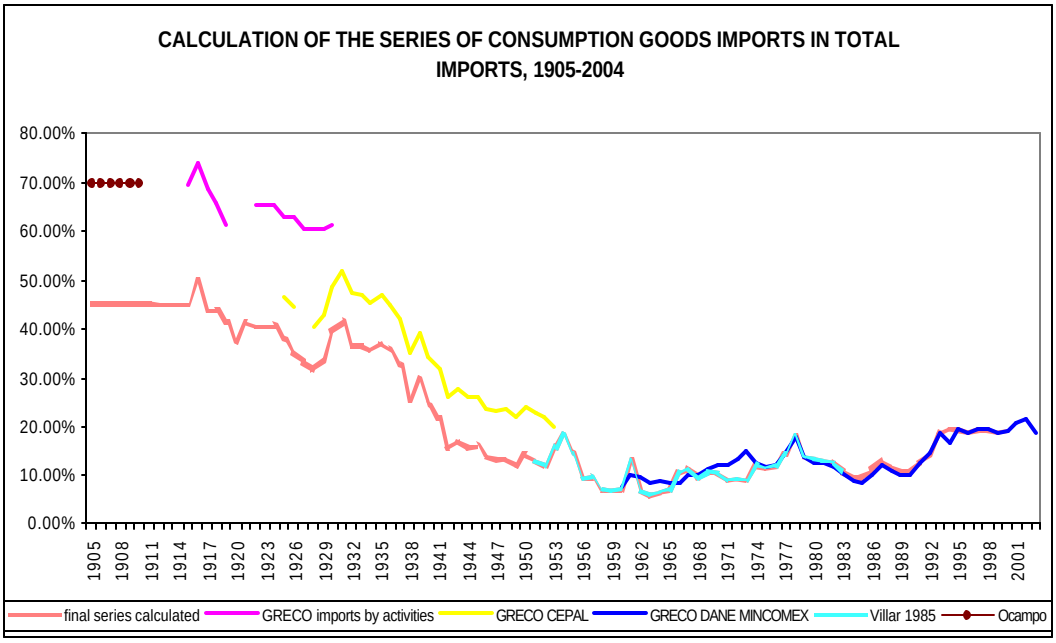
Unfortunately, the available information does not allow us to compute a non-weighted arithmetic average of tariffs for each type of imports. Neither is possible to compute effective-protection rates, as we would like. However, we can use the available information on the share of consumption goods in total imports and on the weighted average of the tariff schedule in order to get a proxy for the non-weighted arithmetic average, which we will denote as:

$$t_A = (t_C + t_R)/2 \qquad (1)$$

This index t_A is clearly better than the weighted average t as an index of the evolution of trade policy decisions.

Graph 7 presents the evolution of the share of consumption goods in total imports during the century. Based on information of diverse sources, we built our own consistent series, that we call $SHARE_C = M_C/M$, where M_C and M represent imports of consumption goods and total imports, respectively. $SHARE_C$ changed substantially during the century: consumption goods passed from representing almost 46 percent of all value imported before the WWI to around 10 percent in the late 1950´s and rose again to nearly 20% at the end of the century. As far as tariffs on consumption goods (t_C) were higher than those on the rest of imports (t_R), these large changes in the share of imports affects the behavior of the weighted-average indicator (t).

Graph 7



Sources: Calculations based on Ocampo (1984): 1905-10; Greco (2002): 1915-30,1925-50; Villar (1985): 1950-81, Dane 1982-2004

The commonly used weighted-average tariffs (t) can be expressed as:

$$t = SHARE_C \,.\, t_C + (1 - SHARE_C) \,.\, t_R \qquad (2)$$

Based on the available information for different points in time, we assume that the tariff rate on consumption goods (t_C) is n times as high as the tariff rate on the rest of imports (t_R). This is:

$$t_C = n.t_R \qquad \text{where } n > 1 \qquad (3)$$

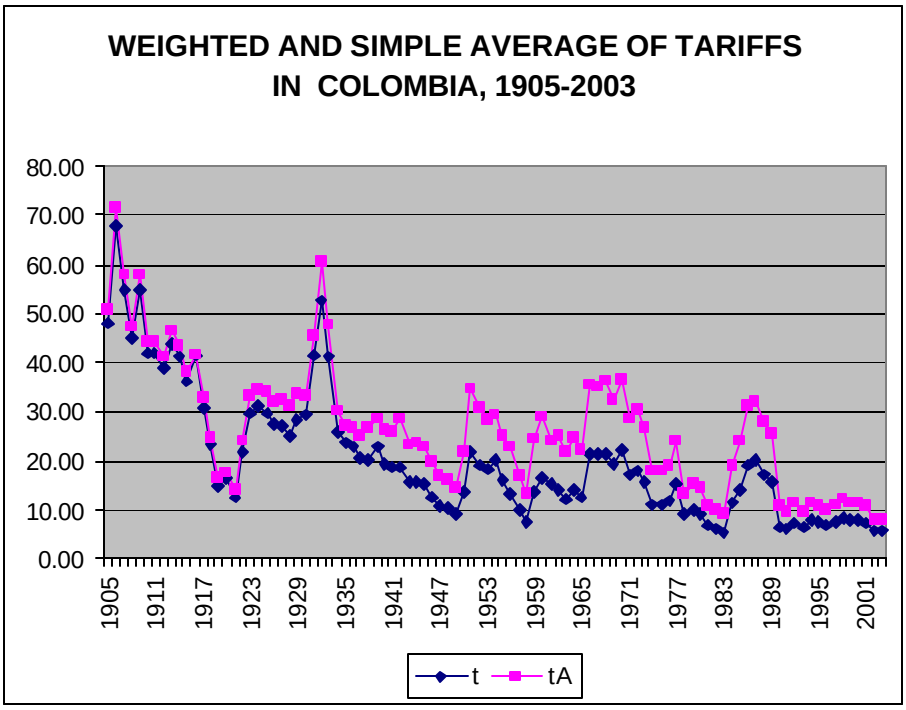
Using equations (1), (2) and (3), we can write t_A as a function of t and of $SHARE_C$:

$$t_A = \frac{(n+1).t}{2.[\ (n-1).SHARE_c + 1\ ]} \qquad (4)$$

Graph 8 presents the evolution of the weighted-average tariff (t), together with our proxy for the arithmetic average (t_A) computed under the assumption that tariffs for consumption goods are three times those for inputs and capital goods ($n = 3$)[13]. As it can be seen, both indicators show a downward trend during the first two decades of the century and a rapid increase at the beginning of the 1930's. Since then, however, the long-term policy liberalization that is suggested by the traditional indicator (t) between the second half of the thirties and the 1980's is not evident in our indicator (t_A). The level of tariff protection at the end of the sixties and during the second half of the eighties was even higher than the one prevailing in the late thirties.

[13] Even though the number n=3 seems rather arbitrary, it is based in empirical evidence of several moments in the period studied. For example in the 1903 tariff schedule, final goods like cotton textiles and food had ad-valorem tariffs equivalent to 120 percent while intermediate goods such as rice and butter had equivalent tariffs of 30 percent (Ocampo and Montenero, 1986, p.280). In Martínez (1986) it can also be seen that after the tariff reform of 1950, consumption goods had ad-valorem tariffs 2.5 times greater than other goods (p 81) and that this difference was increased in the tariff reform of 1959 to 3.5 times (p.86). During the sixties (1964) this difference fell to 2,8 times (p.98) and in 198 it was around 2 times (p.98). On average, during the century, the difference was approximately 3 times.

Graph 8



Source: Original data set from Junguito and Rincón (2004) and authors´ calculations based on eq 5A

B. NON-TARIFF BARRIERS (NTB)

The story about import policy in the twentieth century is incomplete if we do not include the evolution of non-tariff barriers (*NTB*s). This subsection develops a methodology to measure the protection provided by the foreign exchange and import controls. This NTBs protection is derived econometrically parting from the hypothesis that the composition of imports depends on variables such as economic activity (*GDP*), the real exchange rate (*RER*) and the trade policy represented by the evolution of both tariffs and NTBs ($TRADEPOL = t_A + NTB$).

$$SHARE_{C/MI} = f\,(GDP, RER, TRADEPOL) \qquad (5)$$

where,

$SHARE_{C/MI}$ = Composition of imports represented by the weight of consumer goods on total imports excluding capital goods and oil.

We estimated a regression in which the dependent variable was $SHARE_{C/MI}$ and the independent variables were *GDP*, the tariff protection (t_A), *RER* and a qualitative

dummy variable (*DUMMY*) constructed on the basis of historical evidence about the way in which quantitative restrictions evolved during the century.

Algebraically,

$$SHARE_{C/MIt} = ß_0 + ß_1 .ln(GDP_t) + ß_2.ln(RER_t) + ß_3.t_{At} + ß_4.DUMMY_t + u_t \qquad (8)$$

in which *ln* preceding a variable stands for its natural logarithm and u_t is the error term of the regression. The purpose of estimating this equation is to obtain a quantitative proxy for the non-tariff barriers, which will be given by:

$$NTB_t = (ß_4.DUMMY_t + u_t).(MI_t/M_t) \qquad (9)$$

Where the term *MI/M* is included in order to express NTB_t as a share of total imports (M_t) and not of the variable that is used as denominator of the independent variable of the regression (e.g., total imports excluding capital goods and oil).

The estimation of equation (8) must be performed in differences because there is evidence of $SHARE_{C/MIt}$ being non-stationary and integrated of degree one, I(1). From the results obtained, we reconstruct the error term by accumulating it. The econometric results obtained for the first differences of equation (8) are summarized in the Table 2.

Table 2
DETERMINANTS OF THE SHARE OF CONSUMPTION GOODS IN IMPORTS DIFFERENT FORM OIL AND CAPITAL GOODS

Dependent Variable: $dSHARE_{C/MIDt}$

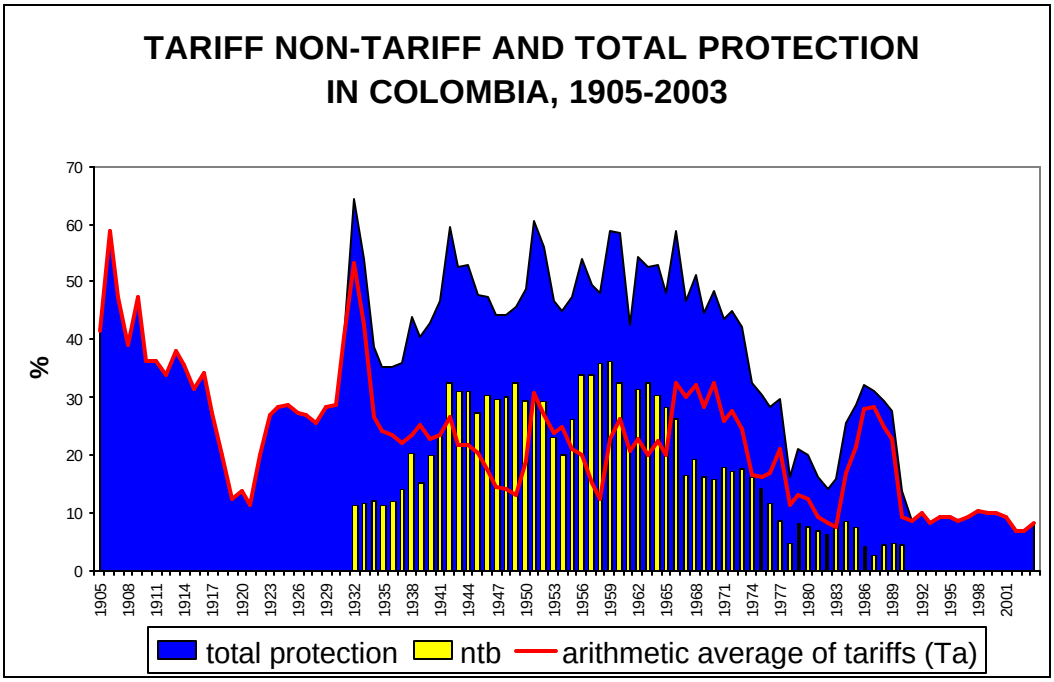
Simple (adjusted): 1906 2003
Included observations: 98 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.350	0.408	-0.858	0.393
$dln(RER_t)$	-6.458	3.813	-1.693	0.093
dt_{At}	-0.119	0.072	-1.647	0.102
$dDUMMY_t$	-1.403	0.783	-1.791	0.076
R-squared	0.085	Mean dependent var		-0.407
Adjusted R-squared	0.055	S.D. dependent var		4.109
S.E. of regresión	3.992	Akaike info criterion		5.646
Sum squared resid	1498.36	Schwarz criterion		5.752
Log likelihood	-272.686	F-statistic		2.915
Durbin-Watson stat	2.358	Prob(F-statistic)		0.038

Source: Calculations by the authors

Our estimate of NTB_t for the period 1931-1991 obtained in this way is presented in Graph 9, together with the total trade policy indicator ($TRADEPOL_t$), which is just the sum of NTB_t and our index of tariff protecton t_{At}. According to these estimations, *NTB*s played a very important role in Colombian trade policy in many periods of the century. They were very important during the forties, the late fifties and the sixties, when they represented the major component of total protection. It is clear from Graph 9 that the observation of the sole variable t_{At} can be misleading about the evolution of the overall trade policy in Colombia during the twentieth century.

Graph 9

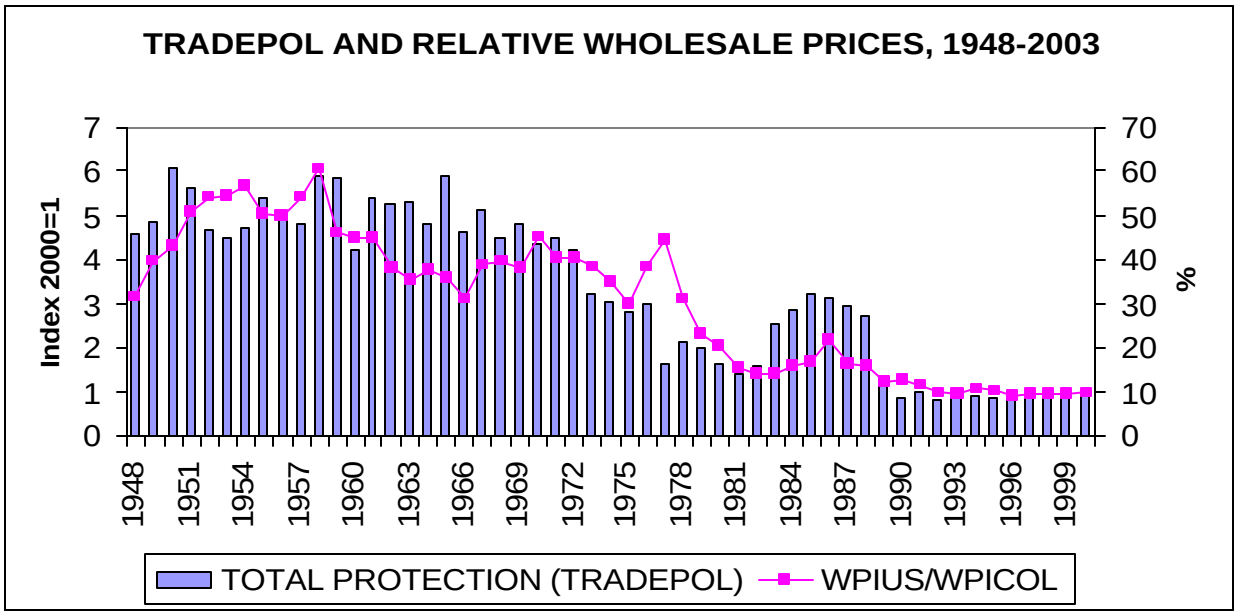


Source: Authors´ estimations

We can compare our estimate of the total trade policy indicator ($TRADEPOL_t$) with other measures of total protection. In the literature, a commonly used measure is the evolution of domestic and external relative wholesale prices. Unfortunately, the relevant price indices for this measure are available in Colombia only for the second half of the century. For that period, Graph 10 illustrates the positive correlation between such measure and our trade policy indicator ($TRADEPOL_t$). The wholesale price index of Colombia, relative to that in the USA, tends to be higher when we have a more restrictive import policy as measured by $TRADEPOL_t$. Also, the important reductions in $TRADEPOL_t$

observed in the late 1970´s and, more recently, in the 1990´s, have been accompanied by lower domestic wholesale prices, relative to external prices.

Graph 10



Sources: Authors´estimations and IFS

VI. THE REAL EXCHANGE RATE: EVOLUTION AND ITS DETERMINANTS

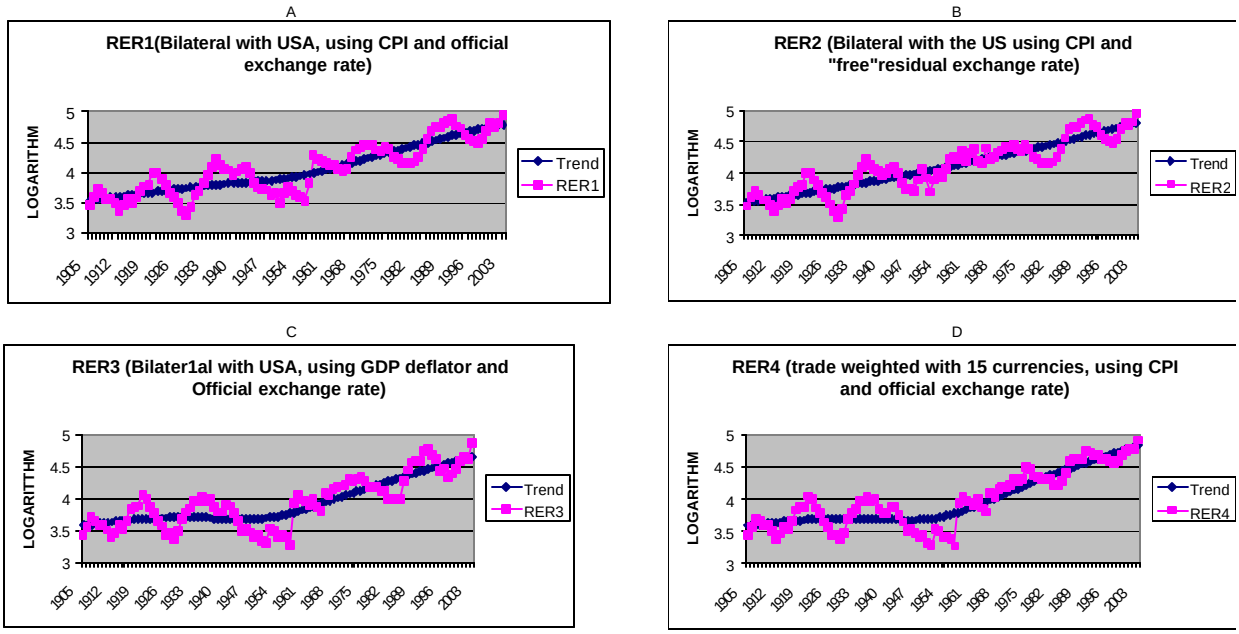
A. STYLIZED FACTS

In Graph 11 we can see four different measures of the Colombian peso real exchange rate (*RER*). The first and the second measures, *RER1* and *RER2*, are computed with the domestic and the external CPI as deflators. The difference between these two indicators refers only to the period in which Colombia had dual exchange rates. *RER1* takes into account the official exchange rate, which was in general applied to essential imports and to coffee exports. *RER2* is closer to a free market exchange rate, as it takes into account the rate that was applied to non traditional exports. The third measure, *RER3*, is similar to *RER1* but uses the GDP deflator instead of the CPI. Finally, *RER4* was computed using a basket of currencies of the countries with which Colombia trades using moving weights, with the official exchange rate and the CPI as deflator.

All different measures of the RER in Graph 11 experienced an upward trend during the twentieth century. To see this more clearly, we have decomposed the

series into their long-run trend and their short-run cycle components, using the Hodrik-Prescott methodology.[14] The upward trend seems more pronounced in the last fifty years when *RER1*, *RER3* or *RER4* are used. With regards to *RER2* – which best reflects market forces as far as it is built with the free exchange rate in the period of multiple rates- the upward slope is equally pronounced during the first half of the century.

Graph 11
COLOMBIAN REAL EXCHANGE RATE (RER): TRENDS AND CYCLES UNDER DIFFERENT MEASURES, 1905-2005



Sources: Greco (2002), Banco de la República and authors calculations.

Graph 11 also shows that the cyclical movements of the indicators of *RER* were very pronounced. Even more remarkable, those periods in which protectionism was temporarily relaxed -and the Colombian economic policy moved towards freer foreign trade-, typically coincided with a real appreciation of the domestic currency. At first sight, this result may seem contradictory with economic theory, which would suggest that a freer import market should increase the demand for foreign exchange, hence inducing a real depreciation of the peso.

The explanation for this apparent contradiction has to do with our hypothesis about the endogeneity of trade policy with respect to the availability of foreign exchange. When the economy faced an increase in foreign exchange inflows as a consequence of exogenous shocks, the relaxation of foreign exchange restrictions

[14] We use a lambda factor of 10.000 to derive the very long-run trend. The most commonly used lambda factor for annual series is 400, when its purpose is to capture medium-run cycles.

allowed for more liberal trade policies and created, at the same time, pressures towards the appreciation of the real exchange rate.

This happened, for instance, during the 1920´s. As it was described in section III, this was a period of increasing revenues from coffee exports, high terms of trade, and large availability of foreign financing as a result of very liquid international capital markets and of the USA payment of the indemnity for the separation of Panama. In that period, there was a reduction in average tariff rates (computed as tariff revenue as a share of import value) while the RER appreciated.

Something similar happened again in the first half of the 1950´s and in the second half of the 1970´s. In both those periods, Colombia was benefiting from the two largest coffee- price booms of the century. A similar argument can be used for the episodes of large inflows of foreign capital that were observed between 1979-81 and, more recently, between 1991-97. As shown in Graph 11, these were all periods of import policy relaxation and real appreciation of the domestic currency, facilitated by the abundance of foreign exchange. Interestingly enough, all these periods were followed by crises in which the real exchange rate jumped to more depreciated levels than the ones prevailing at the beginning of the cycle.

B. DETERMINANTS OF THE REAL EXCHANGE RATE CYCLES

For the econometric exercises that are presented below, we use *RER2* as our measure for the real exchange rate. As mentioned above, this indicator has the advantage of being a closer approximation to a free market exchange rate in a period in which Colombia had very strict exchange controls.

The literature on the determinants of the real exchange rate behavior suggests that the main variables that should be considered are the relative productivity in the country *vis-a-vis* the rest of the world (*RELPROD*)[15], the terms of trade (*ITT*), government spending as a proportion of GDP (*GOV*), the availability of international financing (*INTFIN*) and the trade policy (*TRADEPOL*).[16] An increase in any of these variables should lead, *ceteris paribus*, to an appreciation of the peso, e.g., to a fall in the real exchange rate.

Stated in algebraic terms,

[15] We use as a proxy of the relative productivity the relation between labor productivity (Real GDP/Working Age Population) in Colombia and the same variable in the USA. The so-called Balassa-Samuelson effect assumes that productivity in the tradable sectors behaves similarly in different countries, while the differences in productivity growth are very pronounced in the non-tradables. The relative price of tradables will then fall faster –and the domestic currency will appreciate in real terms- in countries with more rapid productivity growth.

[16] For empirical work on the determinants of the real exchange rate in developing countries, see for example Taylor (2002), Choudri and Kahn (2004) and Wood (1991). For the Colombian case, see Echavarría, Vásquez and Villamizar (2005).

$$RER2 = f\,(RELPROD,\ ITT,\ GOV,\ INTFIN,\ TRADEPOL) \qquad (10)$$

where the signs of the coefficients of all these variables are expected to be negative.

The stationarity tests for these variables produce ambiguous results. We found that *RER2* can be considered I(0) around a trend if this trend is deterministic. However, some tests suggest that it can also be I(1). Something similar happens with the other variables in the model.[17] Since we have mixed results, we should work with both hypotheses in our econometric analysis. Under the hypothesis that *RER2* is I(0), we can work with an equation in semi-logarithmic form, including a trend among the explanatory variables. Alternatively, under the hypothesis of *RER2* being I(1), the estimation can be performed by including the first differences of each variable in the regression equation. Under this alternative, however, the possibility of the existence of a trend cannot be evaluated.

On table 3 we can see the econometric results obtained from the estimation of equation (10) in levels and in first differences, respectively. The results were in general satisfactory. The effects of the terms of trade (*ITT*), international financing (*INTFIN*) and trade policy (*TRADEPOL*) were found to be statistically significant, at least with 90 percent significance and with the right negative signs. In contrast, we did not find significant effects of neither the relative productivity (*RELPROD*) nor of the government spending variables (*GOV*).

[17] All unit root tests are presented in an Annex to this paper.

Table 3.
DETERMINANTS OF THE LEVEL OF RER

A. Regression in levels with trend

Dependent Variable: RER2
Method: Least Squares
Date: 06/15/05 Time: 13:12
Sample (adjusted): 1906 2003
Included observations: 98 after adjustments
Convergence achieved after 8 iterations
Backcast: 1905

Variable	Coefficient	t-Statistic	
a2	3.481	34.4	**
TREND	0.013	8.9	**
LIIT	-0.174	-3.0	**
INTFIN	-0.011	-1.8	*
TRADEPOL	-0.002	-1.4	*
AR(1)	0.633	6.7	**
MA(1)	0.529	5.1	**
R-squared	0.953		
Durbin-Watson stat	2.052		

*:SIGNIFICANT AT 90 PERCENT
**: SIGNIFICANT AT 99 PERCENT

B. Regression in first differences

Dependent Variable: D(RER2)
Method: Least Squares
Sample (adjusted): 1909 2003
Included observations: 95 after adjustments
Convergence achieved after 8 iterations
Backcast: 1908

Variable	Coefficient	t-Statistic	
a3	0.012	0.7	
D(ITT)	-0.146	-2.4	**
D(INTFIN)	-0.010	-1.6	*
D(TRADEPOL)	-0.003	-1.9	**
AR(3)	0.236	2.2	**
MA(1)	0.340	3.3	**
R-squared	0.196		
Durbin-Watson stat	2.064		

*:SIGNIFICANT AT 90 PERCENT
**: SIGNIFICANT AT 99 PERCENT

C. **TRENDS OF THE RER AND TRADE POLICY**

A clear econometric result in all the regressions in levels and in the tests for stationarity is that the real exchange rate exhibited a significant upward trend (towards depreciation of the domestic currency) along the twentieth century. This trend had already been noticed by Ocampo (1990) who explains it as the result of an "active exchange rate policy, linked to the need to generate appropriate conditions for export diversification in an economy in which there were strong comparative advantages in a specific commodity, coffee" (p. 253). What we try to do in this section is to explore alternative explanations for such trend. For that purpose, we treat the exchange rate as an endogenous variable, with a behavior that cannot be explained in the long run by monetary or exchange rate policy decisions.

The first candidate to explain a long-run trend towards a real depreciation of the currency is relative productivity. Even if it does not explain the cycles of *RER2* in the regressions shown in the previous sub-section, a long-run deterioration of relative productivity could theoretically be the cause of the trend towards real depreciation. However, our data do not seem to support this hypothesis. As Graph 12 shows, relative productivity of the Colombian economy did not exhibit downward trend with respect to that of the USA along the twentieth century. On the contrary, relative productivity of the Colombian economy increased substantially during the initial thirty years of the century and later on stabilized at a level that was higher than that of the beginning of the century. Only in the 1990´s is there a clear deterioration of relative productivity. Paradoxically, however, that is precisely a period of real appreciation of the Colombian peso. In summary, then, relative productivity does not seem to be a good explanation for the trend towards real depreciation of the Colombian peso along the century.

Theoretically, the government spending could also be an explanation for a trend in the *RER*. According to Graph 13, however, what we observe along the twentieth century is that the share of government spending in GDP (GOV) exhibited an upward trend along the century. If anything, this could have explained a RER trend towards an appreciation but not the opposite trend that was observed in practice.

A third candidate to explain the long-run trend towards a real depreciation of the peso is the behavior of the terms of trade variable (*ITT*). A long-run deterioration of those terms of trade could have been the explanation. However, as we saw in section III, available data do not suggest any clear long run trend of the Colombian ITT(see Graph 6 above). Hence, the terms of trade are useful to explain the cycles of RER around its long run trend, but not as useful to explain the long run trend of RER.

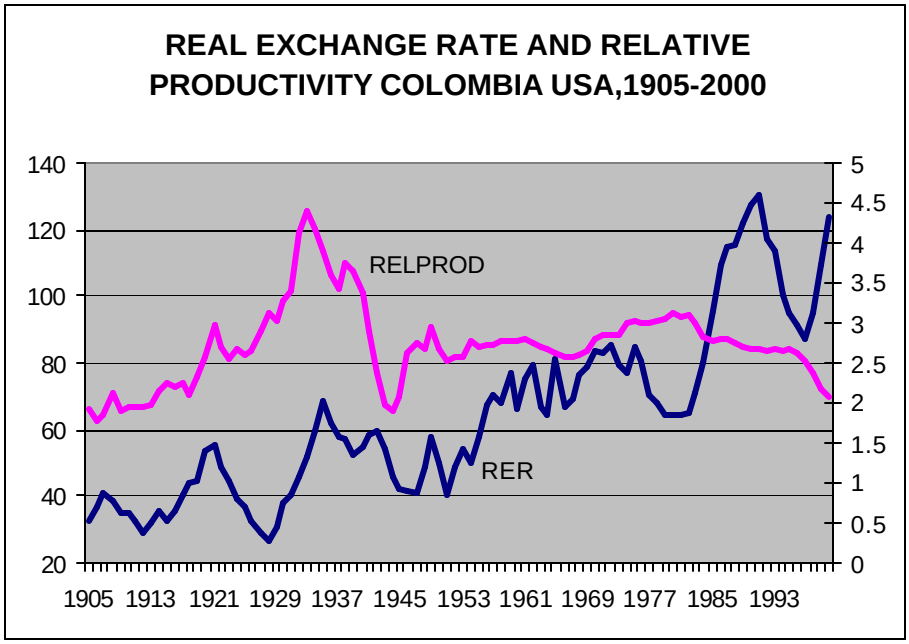
An alternative hypothesis that seems to match better with the available statistical evidence is that the long run trend of the RER was the product of two different processes that took place during the twentieth century:

The first of these processes was the dramatic fall in transport and communications costs, which was particularly marked during the first half of the century. During that period, the railroad started to substitute for the mule (McGreevey, 1988) and was later substituted by a road system which was much more efficient, given the complex nature of the Colombian topography.

The second process was the trade liberalization that took place from the 1960's onwards. Together with the reduction in transport and communication costs, it implied a reduction in import costs that -as economic theory would suggest- reduced the demand for foreign exchange, hence creating pressures towards the appreciation of the equilibrium real exchange rate.

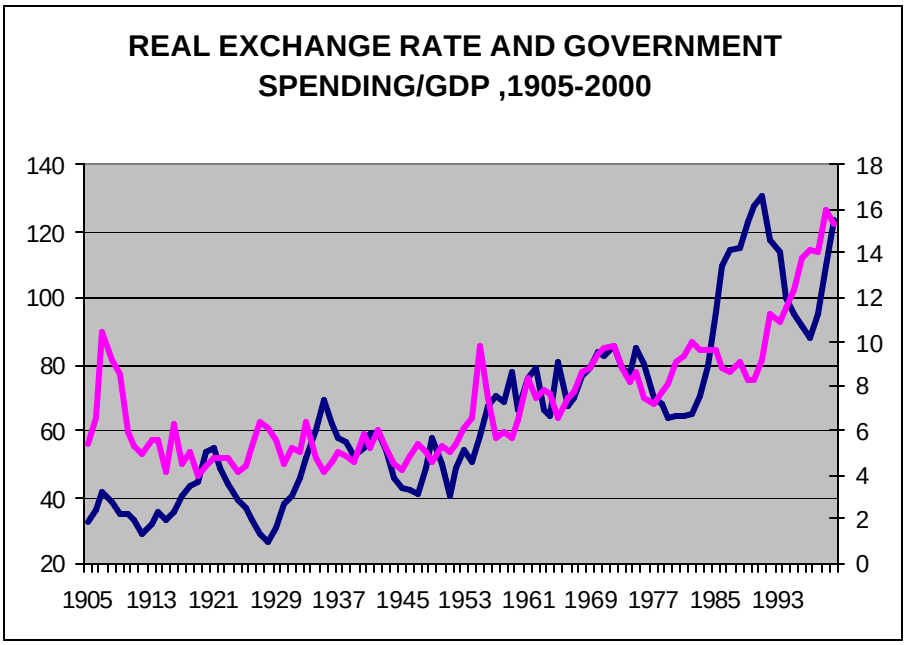
In other words, freer and more active trade -induced by both trade policy and by the reduction in transport and communications costs- required a more depreciated real exchange rate. These were the forces behind the long-run trend towards a depreciation of the peso. Paradoxically, the process occurred in such a way that, during the cycles, as we saw above, the liberalization of imports usually coincided with processes of real appreciation –and not of real depreciation- of the peso.

Graph 12



Source: US: GRECO and US Bureau of Census

Graph 13



Source: : GRECO. Public Spending from Rincón and Junguito (2004)

VII. FINAL REMARKS

From the story we have told, it is clear that Colombia was quite a closed economy during the whole twentieth century. Furthermore, it continues to be so, despite the evident relaxation of foreign trade policy that has gradually taken place during the past four decades. According to the argument we have presented, the ability to reduce import tariffs and to dismantle non-tariff barriers has been closely related with the possibility of financing increased imports, either with more exports, with better terms of trade or with foreign financial resources.

A very puzzling question that arises at this point is why did not the exchange rate played the role of adjusting the scarcity of foreign exchange since the beginning of the century, instead of leaving that role to protectionist import policies and quantitative controls on the foreign exchange market. Our argument is that import restrictions were not exogenous decisions of the authorities but an institutional result that arose from the impossibility of attaining a "good" equilibrium in the foreign exchange market simply through a real depreciation of the Colombian peso.

During most of the century, the low degree of price-elasticity of exports and imports, together with the low degree of openness produced by high transport and communication costs and the lack of access to foreign financing made it impossible to liberalize imports. Even if such liberalization, *ceteris paribus*, would

have led to a more depreciated real exchange rate and to higher incentives to export in the long run, its short-run effects would have implied a trade deficit which was not possible to finance under the prevailing conditions.

Under this hypothesis, protectionism was not simply a policy prescription adopted by the government under the recommendation of ECLAC, as many recent analyses suggest. As it was already suggested by José Antonio Ocampo, protectionism did not arise as a consequence of abstract economic theories, some of which (like Cepalism and Keynesianism) were unknown at the time in which many of the policies that were later attributed to them were adopted (Ocampo 1987, Ocampo, 2004).

The interpretation we provide in this paper helps to explain a paradoxical stylized fact that characterized the Colombian economy in the twentieth century. The periods of exchange rate appreciation typically coincided with periods of trade policy liberalization. This result, which at first sight seems contradictory with the sign of the effect that trade policy has on the exchange rate, is explained by the endogeneity of economic policy. Only when the availability of foreign financing or a boom in the terms of trade were creating pressures towards an appreciation of the real exchange rate was it also possible for the authorities to undertake a more relaxed import policy.

REFERENCES

Bairoch, Paul (1989), "The Paradoxes of Economic History", *European Economic Review*, 33, pp. 225-249, North Holland.

Berlinsky, Julio (2003), "International Trade and Commercial Policy" in Gerardo Della Paolera and Alan Taylor, *A New Economic History of Argentina*, Cambridge University Press.

Bertola, L. and J. Williamson (2003) "Globalization in Latin America Before 1940", *NBER Working Paper*, No. 9687.

Bhagwati, Jagdish (2004), *In Defense of Globalization*, Oxford University Press.

Bulmer-Thomas, Victor (2003), *The Economic History of Latin America since Independence*, Cambridge Latin American Studies, Cambridge University Press.

Choudhri, E. and M. Kahn (2004) "Real Exchange Rates in Developing Countries. A Balassa-Samuelson Effect Present?", *IMF Working Paper*, WP/04/188, October.

Clemens M. and J. Williamson (2002), "Close Jaguar, Open Dragon: Comparing Tariffs in Latin America and Asia Before World War II", *NBER Working Paper*, No. 9401, December.

Coatsworth, J., and J. Williamson (2002), "The Roots of Latin America Protectionism: Looking Before the Great Depression", *NBER Working Paper*, No. 8999, June.

Currie, Lauchlin (1951), *Report of the World Bank* Misión, republished in Spanish as *Reorganización de la Rama Ejecutiva del Gobierno Colombiano*, FONADE, Bogotá.

Diaz-Alejandro Carlos (1976), *Colombia: Foreign Exchange Regimes and Economic Development*, NBER and Columbia University Press.

Echavarría, Juan José (1999), *Crisis e Industrialización: Las Lecciones de los Treintas*, Tercer Mundo Editores, Banco de la República y Fedesarrollo, Bogotá.

Echavarría, Juan José, Diego Vásquez y Mauricio Villamizar (2005), "La tasa de Cambio Real en Colombia: ¿Muy lejos del equilibrio?", *Borradores de Economía*, No. 337, Banco de la República, Bogotá.

Ffrench-Davis, Ricardo and Leonardo Villar (2005), "Real Macroeconomic Stability and the Capital Account in Chile and Colombia", in Ricardo Ffrench Davis (ed.), *Seeking Growth under Financial Volatility*, Palgrave Macmillan (forthcoming). En español: *Crecimiento Esquivo*, MAYOL Ediciones S.A., Bogotá.

GRECO - Grupo de Estudios del Crecimiento Económico (2002), *El Crecimiento Económico Colombiano en el Siglo XX*, Banco de la República - Fondo de Cultura Económica, Bogotá.

Haber, Stephen (2003), "It wasn´t All Prebisch´s Fault: The Political Economy of Latin American Industrialization", *Mimeo*, Stanford University, September.

Jaramillo, Esteban (1990), *Memorias de Hacienda 1919, 1921, 1927, 1928, 1932, 1933 y 1934*, Banco de la República, Historia y Teoría Económica, Colección Bibliográfica.

Junguito, Roberto y Hernán Rincón (2004), "La Política Fiscal en el Siglo XX en Colombia", *Borradores de Economía*, Banco de la República, No. 318. Por publica en el libro *Historia de Colombia en el siglo XX*.

Londoño (2006) **"** Índices de valor unitario, de quantum y de la relación de intercambio en Colombia 1980-2004", about to be published in *Borradores de Economía*, Banco de la República, Bogotá

Martínez, Astrid (1986), *La Estructura Arancelaria y las Estrategias de Industrialización en Colombia, 1950-1982*, Centro de Investigaciones para el Desarrollo, Universidad Nacional, Bogotá.

Mc. Greevey, William Paul (1988), *Historia Económica de Colombia, 1845-1930*, Tercer Mundo Editores, cuarta edición, Bogotá.

Meisel, Adolfo (1999), "¿Por qué perdió la Costa Caribe el Siglo XX?", en Haroldo Calvo y Adolfo Meisel (editores), *El Rezago de la Costa Caribe Colombiana*, Banco de la República-Fundesarrollo-Universidad del Norte-Universidad Jorge Tadeo Lozano-Seccional del Caribe, Bogotá, 1999.

Ocampo, José Antonio (1984), *Colombia y la Economía Mundial, 1830-1910*, Fedesarrollo y S. XXI editores.

Ocampo, José Antonio (1987) "Crisis Mundial y Cambio Estructural, 1929-45", en Ocampo (ed.), *Historia Económica de Colombia* , Fedesarrollo y Siglo XXI Editores.

Ocampo, José Antonio (1990), "La Transición de una Economía Primario-Exportadora al Desarrollo Industrial en Colombia", en Mágnum Blomstrom y Patricio Meller (eds.), *Trayectorias Divergentes: Comparación de un Siglo de Desarrollo Económico Latinoamericano y Escandinavo* , CIEPLAN-HACHETTE, Santiago de Chile, 1990.

Ocampo, José Antonio (2004), "La América Latina y la Economía Mundial en el Largo Siglo XX", *El Trimestre Económico* , Vol. LXXI (4), num. 284, diciembre, pp. 725-786.

Ocampo, José Antonio y Santiago Montenegro (1986), *Crisis Mundial, Protección e Industrialización* , Ensayos de Historia Económica Colombiana. CEREC, Bogotá.

Ocampo, José Antonio y María Angela Parra (2003) "Los Términos de Intercambio del los Productos Básicos en el Siglo XX", *Revista de la CEPAL* , 79, Abril. pp 7-35

Ocampo, J.A. y L. Villar (1992), "Trayectoria y Vicisitudes de la Apertura Económica Colombiana", *Pensamiento Iberoamericano*, No. 21, pp 165-186.

Palacios, Marco and Frank Safford (2002), *Colombia: País Fragmentado, Sociedad Dividida*, Editorial Norma, Bogotá.

Prebisch, Raúl (1949), *Estudio Económico de América Latina*, E/CN.12/164/Rev1, , Naciones Unidas, Nueva York.

Ramírez, María Teresa (2005). "La infraestructura de transporte en Colombia en el siglo XX y su efecto sobre la economía", *mimeo* para el libro *Historia de Colombia en el siglo XX*, por publicar.

Singer, Hans (1950), "US foreign investment in underdeveloped areas, the distribution of gains between investing and borrowing countries", *American Economic Review: Papers and Proceedings*, No. 40, Nashville, Tennessee, American Economic Association.

Taylor, Alan A. (2002), "A Century of Purchasing-Power Parity", *Review of Economics and Statistics,* 84, February.

Villar Gómez, Leonardo (1985), "Determinantes de las Importaciones en Colombia: Un Análisis Empírico", *Ensayos de Política Económica*, Banco de la República, No. 8, Diciembre.

Villar Gómez, Leonardo (2000), "¿La economía colombiana se abrió o se cerró en la década de los noventa? Una nota sobre indicadores de apertura económica", *Revista del Banco de la República* , No. 867, p. 26-31, enero.

Villar Gómez, Leonardo and Hernán Rincón (2003), "Capital Flows and Foreign Exchange Regimes in the Colombian Economy", in Albert Berry and Gustavo Indart (eds.), *Critical Issues in Financial Reform*, Transaction Publishers, New Brunswick (USA) and London (UK).

Wiesner, Eduardo (1978), "Devaluación y Mecanismos de Ajuste en Colombia", *Banca y Finanzas*, No. 179, Asociación Bancaria de Colombia, Bogotá, Marzo.

Wood, Adrian (1991), "Global Trends in Real Exchange Rates, 1960-84", *World Development*, Vol. 19, No. 4.

ANNEX

	UNIT ROOT TESTS											
	Phillips-Perron (with intercept)			Augmented Dickey Fuller			Dickey Fuller with trend and intercept			KPSS		
Variables	t statistic	p value	significance	t Statistic	p value	Signficance	t statistic	pvalue	signficance	t statistic	critical valu	significance
RER1	-1.35	0.60	***	-1.28	0.54	***	-5.28	0.002		1.16	0.73 (1%)	***
RER2	-1.39	0.58	***	-1.47	0.54	***	-3.81	0.02		1.07	0.73 (1%)	***
TRADEPOL	-1.86	0.35	***	-1.98	0.29	***				0.40	0.34 (10%)	**
PRODREL	-2.15	0.22	***	-3.37	0.02					0.30	0.34 (10%)	
GOV	-1.17	0.68	***	-1.59	0.07	**				1.01	0.74 (1%)	***
EXTFIN	-5.33	0.00		-5.29	0.00					0.49	0.46 (5%)	**
LITT	-2.86	0.05	**	-2.74	0.07	**				0.13	0.34 (10%)	
LGDP	-2.30	-2.87	***	-1.98	0.08	**				1.08	0.73 (1%)	***
Ta	-2.87	0.05	**	-3.80	0.04					0.87	0.73 (1%)	***

Source: Author´s estimations. ** Significant at 95%***: Signficant at 99%