

ECONOMIC AND INSTITUTIONAL REPERCUSSIONS OF THE DRUG TRADE IN COLOMBIA

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Abstract

INTRODUCTION

The influence of drug trafficking on Colombia's economy and society is undeniable. The export of illegal drugs (ID) brings into Colombia considerable sums of hard currency. In addition, local spending by the owners of this hard currency has secondary and regional effects, which cannot be ignored. This study carries out a careful review of specialized literature dealing with the economic effects of drug trafficking. It shows that the collateral effects of drug trafficking – “Dutch disease”, contraband, land tenure concentration, disincentives to domestic and foreign investment, and changes in key relative prices – far outweigh the positive effects that tend to be emphasized in the mass media.

Certainly, other effects of the illegal drug trade, aside from those purely economic, are entirely negative. Illegal drugs have played a key role in turning Colombia into one of the most violent countries in the world, where corrupt practices abound and the administration of justice works in a precarious fashion. In addition, drug trafficking has strengthened the most violent participants in the armed conflict that Colombia has been suffering for more than forty years. As if this were not enough, the Colombian government has set aside a high percentage of the national budget to fight this plague at all levels, thereby neglecting key responsibilities in the areas of health, education, and infrastructure. Any objective evaluation of this topic must conclude that, aside from a few short-term economic benefits, Colombia is perhaps the main victim of the illegal drug trade.

I. THE SIZE OF THE BUSINESS: FANTASY AND REALITY

The illegal aspect of drug trafficking and the corresponding absence of reliable data has given rise to a great deal of speculation with respect to the amount of production, consumption, and revenue generated by this trade.

Many of the figures used by the various organizations and its officials and by the press have come into the popular domain, creating a distorted image of the true size of the drug trade, and indeed, of its scope and effects on producer and consumer countries. The methodology for calculation and sources of information for these estimates are never specified.

In terms of the magnitude of the global drug trade, numbers in the order of us\$500 billion have been mentioned, and in terms of the United States, a figure of us\$100 billion has been stated.¹ In an article in *The Economist*, a US senator argued that his country imports about 2,500 tons of cocaine annually, a number that he uses to justify American anti-drug policies.

As a producer and exporter of drugs, Colombia is not immune to these exaggerations. Recently, a Colombian magazine mentioned that "Colombian drug dealers have expanded their cocaine exports from some 600 tons a year to 1000 tons."² Due to the size and, especially, due to the growth in these numbers, they point to a failure of policies in the fight against the drug trade.

Faced with a world market of the size mentioned above, it is not surprising that disproportionate numbers are thrown around when referring to the profits of the Colombian drug trade. Steiner (1997) refers to articles in which estimates range from us\$18 billion to us\$25 billion in annual profits from the sales of illegal drugs (IDs) by Colombians. In 1995, profits of us\$25 billion would have represented the equivalent of 31% of Colombia's GNP!

The foregoing partially explains the fact that in various studies on the Colombian economy – both by foreign authors as well as by local ones – it is asserted that drugs constitute the main source of foreign income for the economy, and therefore, it is drug trafficking funds that have made possible a stable economy with acceptable growth levels. It has also been said that Colombia would not have a viable economy, were it not for this activity.

These comments neglect the existence of various studies which show that a gradual and prudent economic policy, led by competent civil servants, not by politicians, is what has allowed Colombia to maintain its characteristic macroeconomic stability. Even worse, they undermine the results of more academic research, according to which the ID trade, even though important, does not at all reach the numbers that are frequently mentioned in the mass media.

Profits from drug trafficking

Drug trafficking includes various stages: production and transformation of the drug; purchase and use of intermediate goods; external marketing, both in terms of wholesale and retail sales. Since the main market is external consumption, it is an activity that is export-oriented. Profits depend on international prices and demand. The illegal aspect serves to increase profits, since the risk incurred at the various stages of the marketing chain translates into a higher aggregate value.

It is not only due to the illegal character of the business, but also to its complexity and to the presence of multiple agents, that estimating the revenues derived from drug trafficking is extremely complex. Despite this fact, various researchers, including Colombians³ and North Americans⁴, have embarked on the difficult task of quantifying the ID trade. These studies – even if they use different

¹ See Thoumi (1999a).

² See La Nota (1999, page 66)

³ In particular, Gómez (1990), Kalmanovitz (1995), Steiner (1997) and Rocha (1999).

⁴ Office of National Drug Control Policy (1997).

assumptions and methodologies – agree on the fantastic character of the production and profit figures that have become known in the popular domain.

Demand studies

Among the studies carried out by US organizations, the one conducted by ABT Associates for the Office of National Drug Control Policy (1997) stands out. This study, which deals with a market analysis of illegal drugs in the US provides estimates on the number of users (occasional and addicts), volume consumed and expenditure⁵. Since the United States is the largest market for cocaine⁶ and Colombia is the main supplier of this drug - most recent reports indicate that Colombia is the main exporter of cocaine toward the US (approximately 70% of total)⁷ – this research is particularly relevant for our present purposes.

In Table 1 the results reported by ABT Associates are set out for the case of cocaine. It can be seen that annual consumption ranges between 289 and 386 tons for the period 1988 to 1995, with a slight declining trend. These figures are light years from the 2,500 tons mentioned by the US Senator and the 1,000 tons referred to by the Colombian magazine.⁸

To be able to estimate Colombian drug dealers' revenues from the American cocaine market, one must first determine their share in the complex distribution network for the drug. Most studies that maintain a certain degree of consistency and rigor on the topic, agree that in the United States the Colombian exporters only control the *wholesale market*. It is argued that Colombian drug dealers not only participate in drug production, but have also managed to remove drug dealers of other nationalities from the transport and distribution of the wholesale drug to the US market. Thus, they have managed to earn some added value on the activity, since, due to the higher risk involved, this means higher profit margins.

The retail or street market is particularly segmented and compartmentalized. It is controlled by small groups or gangs and includes a large number of intermediaries who are not Colombian, certainly not Colombian residents. The added value generated by retail distribution is not a source of income for Colombian drug dealers. Therefore, the wholesale price is the relevant one to calculate Colombian drug dealers' profits. Given the high risk associated with retail sales, this is the area that generates the most profits in terms of ID trafficking.

Table 2 shows US wholesale and retail prices --a simple average of the range calculated by the DEA. It can be seen that the margin at the retail level – calculated as the surplus of the retail price over the wholesale price – is about

⁵ The paper deals with the cocaine market as well as that for marihuana, heroin and other illegal drugs. Based on surveys and interviews with users, it estimates the number of addicts and occasional users and the quantity usually consumed by each group. The prices for street purchase come from information gathered in the street by undercover agents.

⁶ Based on cocaine seizures made in the United States, which are 6 to 11 times higher than those made in Europe, Steiner (1997) estimates that the American market corresponds to approximately 90% of the global market for this drug.

⁷ See Thoumi (1999a).

⁸ Indeed, an official report by the North American authorities (NNICC-DEA, 1997) indicated that in 1996 the entry of cocaine into the US market reached 340 tons.

83%. The long chain of retail or street distributors captures the majority of expenditure made by North American consumers. Wholesale income represents on average only 17% of consumers' expenditure.

Table 3 shows the estimated cost to consumers and the gross income for exporters, obtained by applying the above-mentioned margin to the final cost to the consumer. This is an estimate based solely on the expenditure made by cocaine consumers in the US market. It should be stated that this gross revenue refers to income obtained by exporters before deduction of the costs incurred in producing and transporting the drug, something which will be discussed in detail below.

One can assert that, based on data provided by US organizations, gross revenues for Colombia from drug trafficking cannot be as high as the mass media suggests. Probably the estimates usually reported assume, erroneously, that Colombians control the entire distribution process, so that the relevant prices used to calculate revenue are retail prices in the streets of the United States.

Supply studies

Various studies have been carried out by Colombian researchers on the extent of drug trafficking in Colombia, from the viewpoint of exportable supply. These include the studies by Gómez, Kalmanovitz, Steiner and Rocha. These are academic exercises that attempt to provide a more realistic assessment of the available figures on the drug trade. The latter two use basic data from the American authorities and, therefore, suffer from the limitations inherent to the data itself.

In all of these studies, the methodology is specified and justified. The studies by Rocha and Steiner use very similar methodologies, and thus, can be observed almost without distinguishing between them. Both aim at obtaining an estimation of Colombian drug dealers' gross and net revenues. To this end, they take into account the various stages of the production process for illegal drugs (cocaine, marihuana and heroin), the amount of drugs actually placed in external markets, the relevant prices for local exporters, and various costs incurred.

Of the IDs exported by Colombia, cocaine is the one that involves the most steps in the production process. These include: i) growing and gathering the coca leaf, ii) transforming the leaf into coca paste, then into coca base, and finally into pure cocaine. Rocha and Steiner provide an estimate for potential cocaine production based on the area farmed, the transformation factors in turning coca leaf into cocaine, and imports of coca base from Bolivia and Peru (see Graph 1). It can be seen that production increased until 1991, and then basically stabilized – clearly reflecting the evolution of consumption in the United States.

Similar calculations have been done for heroin. Based on estimates by the North American authorities in terms of the area where poppies are grown and applying transformation factors estimated by the same authorities, one obtains the potential production of latex. This latex is later transformed into opium, the base for morphine and heroin. The case of marihuana is special, in the sense that it does not require any transformation process.

Graph 2 shows marihuana and heroin production. One can observe a decrease in marihuana production, as a result of major eradication campaigns within Colombia, as well as because of advances in production in other countries, especially the United States. In terms of heroin, it should be noted that this is a

relatively new product, and as yet, Colombian exporters' share is not very large⁹. Clearly, the income obtained by Colombia from the export of IDs is dominated by the cocaine market.

To obtain an estimate of the volume exported, one must subtract from estimated production the amount of cocaine destined for internal use and that seized by national and foreign authorities. Internal consumption and seizure figures are based on reports by American and European authorities.

In order to calculate gross revenue for exporters, wholesale prices in Europe and in the United States are used (see Graph 3). Prices are multiplied by the estimated volume of the drug that is actually placed in foreign markets (see Graph 4). To obtain net revenue one must subtract from gross revenue a series of production, transformation and transportation costs. The cost of importing coca base from Bolivia and Peru must also be subtracted, as well as the cost of imported chemicals.

Net revenue from the export of IDs is reported in Graph 5. Rocha estimated net revenue from drug trafficking in the order of us\$2,229 million annually on average between 1982 and 1998. Steiner estimated revenue in the range of us\$1,500 - \$2,500 million annually between 1980 and 1995.

As a percentage of Colombian GDP, net revenue reached a maximum of 6% in 1990. For 1998, this percentage had declined to 2.3% (see Graph 7). When compared to legally registered exports, in 1998 net revenue reached 20.3% (Graph 8). For the Colombian economy, this figures are quite important, even more so when compared to profits generated by legal activities. For example, between 1996 and 1998 annual profits of the four major Colombian business groups were in the order of us\$1,600 million, while during this same period it is estimated that drug trafficking annually generated about us\$2,300 million.

Revenue from the drug trade is almost twice as large as the income received by coffee producers (Graph 6). In per capita terms these differences are even more impressive. Coffee is the main agricultural product and Colombia's second ranking export. It is produced by a large number of farmers – representing about 300,000 farms – and generates direct employment for about 1 million persons. By contrast, the drug trade is dominated by a few people and generates very little employment. The revenue from the export of IDs, even if not as huge as portrayed by the mass media, is important and extremely concentrated.

As can be inferred from the above estimates, the revenue generated by the drug trade does not come near the numbers often mentioned in the political debate, and recorded by the non-specialized press. From the viewpoint of both the American study – based on demand – as well as from the viewpoint of local analysts, the popular numbers are no more than mere myths – fantastical numbers that are disconnected from reality.

The effect of IDs on the Colombian economy depends not only on the size of net revenue, but also on the ability of drug traffickers to repatriate funds. To use an extreme analogy, if none of these resources ever returned to the country, the

⁹ In the case of heroin and marihuana, it is assumed that Colombians only participate in production and transport up to the point of shipping from Colombia. Therefore, they do not participate in the wholesale market and do not absorb the cost of seizures.

Colombian economy would hardly be affected by the drug trade. The amount of money effectively repatriated depends on a series of factors, including the decision by ID exporters on the amount to be repatriated and the relative ease or difficulty the country offers for repatriation or “money laundering”.

Analysts and Colombian authorities have been ambivalent in their opinions on the real size of repatriated funds. Although some accept that drug trafficking generates large profits, they assert that “[...] only a small proportion of these sums [net revenue from drug trafficking] enters Colombia in the form of hard currency.” Furthermore, “[...] a good proportion of this revenue remains abroad [...]” (Urrutia, 1990; pg.117). On more than one occasion, the authorities have suggested that the currency entering the country as a product of the illegal drug trade does not represent a significant amount, and therefore, the effect on the Colombian economy has been inconsequential.

Since it is an illegal activity, the entry of currency obtained from drug trafficking has no legal basis and thus, must be done “under the table”. The impact on the Colombian economy depends on the ability of drug traffickers to repatriate profits generated in the external market, as well as the mechanisms used to do so. There are various mechanisms to channel funds, and thus, various possible destinations for these monies.

In the *short term*, it is clear that revenues from drug trafficking, as those from any exportable good, may result in a temporary increase in domestic spending, generating an expansion of aggregate demand. On the other hand, the *long term* dynamic effects on economic growth are very much affected by the distorting effects that the drug trade creates in terms of key relative prices. Due to these distortions, the evolution of legal economic activities can be seriously affected. Therefore, despite a temporary positive impact, it is very likely, as will be discussed below, that these illegal funds cause essentially negative consequences to the domestic economy. This is aside from the disastrous institutional effects and the blow to public order, which will be analyzed in detail shortly.

If drug dealers decide to repatriate their profits,¹⁰ essentially this can be carried out in two ways: i) cash or ii) contraband goods. If the repatriation is done by bringing in currency, ID exporters may decide to introduce this cash into the legal exchange market or through the “parallel market”.¹¹ The evidence, set out below, points to drug trafficking funds coming in both through the legal foreign exchange market as well as through the “parallel” market. This indicates that although controls on money laundering operate, they are not completely effective.

Private transfers

The levels of private transfers in Colombia are so high that one can suspect that at least a portion of them is generated through illegal activities. These transfers are

¹⁰ It is not our purpose to speculate on the motives which determine the size of profits to repatriate.

¹¹ While Colombia was operating within a framework of strict exchange controls until 1991, the “parallel” (or “black”) market was illegal. As of 1991, this latter market is legal, although not so all the sources of currency that feed into it. Until 1991, no economic agent other than the Banco de la República – unless they had express authorization from the authorities – could carry out foreign currency transactions. These controls became an incentive for the creation of a “black” market. Of course, illegal activities also found an opening for their transactions.

movements of capital without any counterbalancing activity. The majority relates to monies transferred by Colombians residing abroad to Colombians resident in the country. The entry of illegal currency into the official market using transfers is possible thanks to the fact that many of these operations involve small amounts, and those effecting the transfers are not truthful about the origin of the resources when asked to provide this information to the relevant financial authority (the Banco de la República --Colombia's Central Bank-- until 1991, and foreign exchange market intermediaries from then on).

As can be seen in Graph 9, transfers have not only reached high proportions, but also, in addition, show extreme changes, particularly during the 1975-1980 and 1991-1993 periods. Neither the size nor the changes can be easily explained by the number of Colombian immigrants or by economic growth of the countries receiving the majority of Colombian immigrants (Venezuela and the US).

From these observations one can imagine that this indicates the existence of an "surplus" of transfers, a surplus that does not correspond to the number of Colombians abroad and their relative income capacity. Steiner (1997) calculated an amount for these "surplus" transfers and came up with an unexplained amount in the order of us\$260 million annually between 1985 and 1994. This surplus relates positively to drug trafficking activities; as cocaine exports grew, so did "surplus" transfers.¹² Transfers from the export of IDs have affected international reserves, monetary policy, and, more importantly, exchange policy. As can be seen in Graph 10, at the beginning of the 90s, when a considerable increase in transfers was observed, the real exchange rate appreciated.¹³

It is clear that the ability to bring in illegal funds by legal means is, to a great extent, determined by the controls exercised over the money laundering process. Absence of controls or laxity in their application will mean a greater amount of currency originating from drug trafficking moving toward legal channels. The estimates by Rocha and Steiner show a declining trend in transfers after 1991. Today, it is estimated that approximately 30% of revenues from ID exports are brought into Colombia using this mechanism.¹⁴ As can be seen in Graph 11, until 1991 net revenues from drug dealers exhibited a behavior similar to that of transfers. After that year, the gap between the two constantly widens.

As we will see below, the existence of effective controls over money laundering in the foreign exchange markets does not mean the disappearance of the repatriation of income generated through ID exports. It simply implies that drug dealers are forced into using other channels to repatriate their funds.

¹² This is backed by econometric tests in Steiner (1997).

¹³ Of course, in addition to the income from private transfers, one must also include the effect of the oil bonanza and large amounts of foreign capital entering as a consequence of the partial opening of the capital account.

¹⁴ The existence of strict rules and regulations on money laundering has been recognized by the North American authorities. In a recent report by the State Department, it is stated that "Colombia has the required regulatory and legislative infrastructure to attack money laundering". It further states that "of particular importance to this effort is the creation of a central financial intelligence unit that can receive, analyze and act on reports of suspicious financial transactions, those of high amounts and other types of financial information". See INCSR, March, 1999.

The exchange rate premium

The second piece of evidence suggesting that parallel markets are being used as a channel to introduce illegal monies is the behavior of the black market exchange rate as compared to the official rate. In general, in economies where there are strict exchange controls, the black market rate will be more depreciated than the official rate, due to the fact that controls are usually in place to protect the balance of payments in the context of serious macroeconomic imbalances. Therefore, a differential in exchange rates will appear --commonly known as the *exchange rate premium*. Normally this is a positive value, insofar as the black market rate will be higher (i.e. more depreciated) than the official rate. The Colombian case is particularly interesting, since during long periods of time the black market exchange rate has been *lower* than the official rate, which means a negative premium. This appears to suggest the presence in the black market of a large supply of foreign currency. It is reasonable to assume that this supply is related to the revenues generated by ID exports (see Graph 12).

Evidently, there are important "intersections" between the black market and the official market. Just to mention one, when the black market rate is lower than the official rate, incentives are created so that some exchange payments (for example, payment for imports) are done through the black market, using the most favorable exchange rate. The movement of imports from the official market toward the black market tends to appreciate the official rate and to depreciate the black market rate. Due to the existence of these "intersections", the exchange premium will not usually stray very far from zero¹⁵.

To summarize, it can be asserted that Colombia has maintained controls over the entry of illegal money through legal channels. Nevertheless, these controls have not managed to avoid the repatriation of capital, nor the distortions that this capital creates in the exchange market.

If drug trafficking monies were channeled mostly through the official market, the official exchange rate would significantly appreciate, generating an important increase in imports. Insofar as controls over money laundering are effective, drug trafficking funds will be mainly channeled through the black market. In this latter case, the exchange rate in that market will also appreciate and imports through that market will significantly increase --except that here they will take the form of contraband.

II- SECTORAL AND RESOURCE ALLOCATION EFFECTS

Although revenue from ID exports does not reach the levels that are usually referred to in the mass media, at certain points in time there have been significant effects on macroeconomic variables, especially on the real exchange rate. Although it is not easy to determine with precision this degree of influence, to be sure an important determinant of recent real exchange rate appreciation has been

¹⁵ At the beginning of this decade, the authorities set a tax on cash currency transactions. This tax explains, in part, the existence of a negative exchange premium during this decade.

the repatriation of revenue from ID exports. However, the major impact of ID exports are felt at the sector and regional levels.

Contraband

Currently, contraband – i.e., illegally imported merchandise – seems to constitute the most common method of money laundering. Merchandise can be illegally imported using two mechanisms: “technical contraband” and “open contraband”. The first case refers to merchandise that has been brought in legally, but using adulterated documents. In this way, part of the applicable tariffs and taxes are avoided. The second way, or “open contraband”, consists of imports that evade all legal requirements and therefore, are not nationalized using the customs system.

The perception in Colombia is that contraband reaches very high levels. Public opinion polls indicate that people estimate that contraband represents about half of legal imports. The Fedesarrollo-Fenalco Monthly Business Survey shows that businessmen have traditionally considered contraband to be one of their most serious problems. Graph 13 shows that, despite the fact that in recent years (1997-1999) there has been a decline in the perception of contraband as the major problem, the percentage of answers that indicate it is a problem continues to be quite high (28.6% on average for the entire period).¹⁶

“Open contraband” has a long history in Colombia, going back to colonial times. For many years it has existed, financed by legal resources and reinforced by exchange controls and quantitative restrictions on imports. With the appearance of illegal drugs, traffickers found a system in place with a complete network of internal marketing, ideally suited for money laundering.

Due to greater control being exercised over money laundering activities in the foreign exchange market, “open” contraband has become an even more attractive means to launder money. There are two ways in which the mechanism operates. The first is to bring the relevant monies into the black market, and using these resources to finance the purchase of merchandise abroad. In the second, contraband dealers acquire the foreign currency in the external markets and deliver pesos to drug dealers in the national market. In this way, currency generated by drug deals does not need to enter into Colombia. It does so in the form of contraband goods.¹⁷

Although it is difficult to quantify the volume and value of contraband trade, various studies have been undertaken in order to estimate an approximate size of this business. These include Steiner (1997), Rocha (1999) and CID-Universidad Nacional (1998).

¹⁶ Specifically, the balance of answers between those who consider contraband a problem and those who do not, has been, on average, 28.6%.

¹⁷ A report from the *Washington Post* based on statements from North American authorities and reprinted by the daily newspaper, *El Espectador*, describes how this market operates. “The money accumulated by drug dealers in the United States is converted to pesos by exchange brokers with a 25 to 33 percent discount. These brokers work for about 20 “superbrokers” in the main cities in the US, and they are responsible for depositing the equivalent amount in pesos into the accounts of drug dealers in Colombia. The peso brokers then acquire American merchandise with the dollars at wholesale prices and send it to free ports in Panama and Aruba, from where it is finally sent as contraband to Colombia. Another alternative is to send shipments of dollars to Aruba and Panama, in order to acquire merchandise.” *El Espectador*, August, 1998.

Steiner's work is not a systematic analysis of the scourge of contraband. Rather, it studies in a fair degree of detail some of the products typically associated with contraband, as well as Colombian imports from some countries normally associated with the re-exporting of merchandise.

It first looks at the case of cigarettes. When figures for domestic consumption – estimated using household income and expenditure surveys– are compared with domestic production and with duly registered imports, there is an enormous remainder, which must have been covered by contraband. Moreover, it appears noteworthy that between 1991 and 1995 imports of cigarettes by Aruba represented on average 15.1% of that country's GDP. During the same period, in the Dutch Antilles these imports represented 4.9% of GDP. These high levels lead one to suspect that the products are being re-exported to, among other destinations, Colombia. Based on Steiner's estimates, contraband trade in cigarettes toward Colombia during the first half of this decade may have reached annual amounts of nearly us\$400 million.

Steiner's second case study looks at trade between Colombia and the Colon Duty Free Zone in Panama. When information on exports to Colombia registered in Panama is contrasted with imports from Panama registered in Colombia, it is estimated that the annual contraband from this duty free zone may reach us\$1,300 million. This confirms conventional wisdom, in the sense that it has been thought that most of the contraband coming into Colombia originates from this zone.

In another study, Rocha contrasts Colombian import records with the averages for eight Latin American countries. Using econometric techniques and taking into account the sizes of the economies, he finds that Colombian legal imports show a large difference compared to those of the other countries. This difference is attributed to contraband. The value of the difference as estimated by Rocha is shown in Graph 14. One can observe a marked increase in contraband starting in 1991, during which time – as a consequence of the liberalization of imports and the reduction in import tariffs – one would have expected to see, instead, a reduction.

These contraband figures lead to the conclusion that this method is being increasingly used as a means of channeling monies generated by IDs. While between 1980 and 1990 the annual average was us\$488 million, for the period 1991 – 1995 it was us\$998 million. Between 1996 and 1998, it reached us\$1,402 million USD (Rocha 1999; Table 26). In 1998 contraband represented around 10.7% of total registered imports and nearly 1.6% of GDP.

A study by Universidad Nacional de Colombia (CID, 1997) dealt with sales in retail shopping centers, distributors of contraband goods – commonly known as "Sanandresitos", after Colombia's most important duty free port in the Caribbean. For 1996 it calculated total sales of contraband goods in the order of us\$1,242 million, or 1.5% of GDP. The methodology for this study was based on an estimate of the number and size of the typical store and the types of articles offered. In addition, interviews were carried out in two large shopping centers to estimate the value of sales per square meter. Using this relationship, the total value of sales

was estimated, classified by article. The study shows a large increase in contraband, starting in 1990¹⁸.

In these three studies, using distinctly different methodological approaches, one can see how contraband has reached relatively important levels as compared to total imports. All studies show a definite rise in this practice. The sectors most affected are the industrial and business sectors. In particular, those that either produce or distribute household appliances, clothing, textiles, footwear, liquor and cigarettes, are the ones which have suffered the most from contraband. Taking as a reference the gross value of sectoral industrial production registered in DANE's Annual Manufacturing Survey, the Universidad Nacional study implies that the sectors most affected were the appliance industry, where the relation of sales of contraband goods to gross production was 341%, the footwear industry (with a relation of 46.5%), the clothing industry (with 11.6%), the liquor and tobacco industry (with 5.5%), and the textile industry (with 1.2%).¹⁹

The incidence of contraband goods in labor-intensive, non-specialized sectors --where one would assume Colombia enjoys a comparative advantage (clothing, footwear, and textile industries)-- is high. Thus, the negative impact on employment of unskilled workers is also very high.

The tax effects of contraband are obvious. Goods entering as contraband do not pay any entry duties, nor do they pay any type of domestic tax (i.e. VAT), which only serves to further aggravate the fiscal situation. An estimate of uncollected taxes due to contraband gives us a figure of us\$112 million for 1996 (about 10% of total revenues from tariffs).²⁰ If one considers the potential VAT, the figure would reach 7% of all VAT collections. This loss of tax resources has repercussions in terms of reduced public spending, mainly in the areas of health and education.

Given the increase in contraband in the past decade, an important fight has been undertaken by DIAN, Colombia's Customs and Tax Department. Unfortunately, consumer attitudes, the retail distributors' lobbying powers, and the behavior of some multinational corporations – who do not appear to impose controls on the destination of their exports and suffer, as an American official has put it, from “willful blindness”²¹ — has limited the scope of this campaign.

Dutch disease

Faced with a surplus of currency created at various points by the repatriation of illegal capital, the Colombian economy has faced a real appreciation of the exchange rate. This has given rise to a phenomenon known as the *Dutch Disease*. This refers to “a setback in those sectors that produce export goods and import

¹⁸ The sales of contraband goods has increased from us\$366 million in 1990 to us\$1,242 million in 1996. Obviously, these sales do not correspond to the value of contraband. For this, one must subtract internal wholesale and retail marketing margins.

¹⁹ Since gross production is valued at producer prices, the figures cannot be fully compared. Still, they indicate an order of magnitude for the incidence of contraband.

²⁰ This exercise only attempts to provide an order of magnitude. It was based on sales of contraband through SanAndresitos, calculated in the CID study. The f.o.b. value for imports is estimated to be the equivalent of 60% of sales. Over this value, a tariff rate of 15% and a VAT rate of 15% (over trade margins) was applied.

²¹ See *El Espectador* (1998). Some time ago, a multinational corporation which produces cigarettes carried out major investments in advertising campaigns for its product in Colombia. Its consumption was evident, despite the fact the legal imports of this product were practically nil.

substitutes” (Steiner, 1993). The appreciation of the exchange rate has favored the expansion of non-tradable sectors (particularly construction and services), at the expense of tradable ones (industry and agriculture).

Export sectors and those that compete with imports have been severely affected by a huge supply of foreign currency, stemming from an important oil bonanza, inflows of foreign capital and the repatriation of drug trafficking funds. The appreciation of the real exchange rate has meant a loss in competitiveness for the exporting sectors. As a consequence, exports have suffered a great setback. At the same time, both in the agricultural as well as industrial sectors, imports have affected domestic production. Not surprisingly, this behavior of exports and imports has translated into a serious deterioration in the non-oil trade balance.

Construction sector

Despite the fact that conventional wisdom constantly refers to the tendency of drug dealers to invest in real estate, their share in the investment process is almost impossible to establish with any degree of certainty. It is said in many instances that construction projects funded with drug money are set up without construction licenses, making these calculations even more difficult. Nonetheless, it would be naive to deny the presence of money from the underground economy in the construction sector.

At the beginning of the nineties, Colombia witnessed a housing construction boom and an increase in the cost of urban lots and buildings. During this period, gross capital investment in housing greatly expanded, at an annual average rate of 13.4% between 1991 and 1994. After 1991 housing prices increased in an accelerated fashion. According to an index developed by Carrasquilla (1999), between the second quarter of 1991 and the same quarter of 1994, housing prices increased at an average annual rate of 29.5%, while the inflation rate reached a 24.2% annual average. The expansion in the price of assets is shown by rental costs. As shown in Graph 15, according to the Consumer Price Index published by DANE, rentals increased rapidly between 1992 and 1994.

Faced with this growth in asset prices, a huge increase in construction activities followed. As pointed out by Carrasquilla, once prices grew exponentially, a large expansion in construction activities was observed. This expansion was fed by the financial sector, which substantially increased its exposure in this activity and relaxed its guarantee requirements. It was likely that drug trafficking money was present in the creation of this bubble, pushing up prices of high-priced houses and apartments. Estimates by Jaramillo and Parias (1995) show that the prices in the most exclusive neighborhoods of Bogota increased in real terms by an annual average rate of 10% during 1990- 994. This situation influenced the direction of investment and credit toward this type of housing, to the detriment of other economic activities, including the construction of lower rental housing for the poor.

As Banco de la República has pointed out (1999), “the growth in the price of assets was not sustainable”, which led to a deterioration of the debt carried by the financial system, once a downward correction in the value of guarantees occurred. The drug trade’s influence in the creation of this bubble was clearly felt in those regions where it had the largest presence, especially in the city of Cali. Cali observed a very intense process of increasing value of assets, and a later

recession, with equally dramatic features, following the dismantling of the Cali cartel. As can be seen in Graph 16, the price index for residential rentals far surpassed the rate of inflation, particularly in Cali, during 1992-1995.

Agricultural activities

Apparently, drug dealers have directed a great deal of their resources to the purchase of rural agricultural land. It is not an easy task to provide an estimate of the volume of land acquired by the drug trade. Sarmiento and Moreno (1989) estimate that between 8 and 23% of revenues repatriated by ID exporters has been used in the purchase of land.

Some research mentions that land purchases by drug dealers nears one million hectares, which is equivalent to 2.8% of the national territory and to 5% of the potentially exploitable land. Other less conservative estimates mention figures close to three million hectares. Even though these land purchases are spread over a large number of municipalities (399), they are concentrated in certain departments (a political division equivalent to a state) - Cauca, Antioquia, Meta and the Caribbean Coast region. For 1995, Rocha estimated land purchases by drug dealers in the range of 2.2-4.5 million hectares.

The tendency of drug dealers to invest in real estate is due not only to their search for productive assets, but also by a desire to reduce risk (as these assets are more difficult to be detected by the authorities). Drug dealers tend toward investment in ranches devoted to raising cattle and horses. Thus, the end result is a number of huge, low-productivity, ranches, and an agrarian counter-reform. If one takes into account the violent elements that these land transfers bring with them, the impact on overall agricultural productivity is, in all likelihood, negative. Drug dealers set up private security systems based on the use of violence, thus affecting the prevailing social relationships in the countryside. Given the increasing violence, many producers prefer to sell their lands or establish inefficient systems to manage them. Investment in this sector has been seriously affected by elements of uncertainty and risk engendered by the drug trade (Echandia, 1995).

The effects of the drug trade on agricultural activities can also be seen when one looks at the alternative cost of the land used in the cultivation and production of drugs. Although, in general, they are low productivity areas located in marginal regions, there is no doubt that these lands and the entire infrastructure thereon represent a cost to the production of various legal products. For 1998 it was estimated that land devoted to growing illegal drugs reached more than 100.000 hectares. When the Colombian government becomes aware that illegal crops are grown in a certain area, with the help of the American government it carries out air sprayings, deteriorating the quality of the soil and making it more difficult to produce legal crops.

Labor force

Due to their relatively high profitability, growing, transforming and marketing ID's, fosters a reallocation of resources –mainly labor and land – toward these activities. Peasants find it more attractive to grow illegal plants, since the prices paid for these products are much higher than those of traditional products. As a result, large migrations have occurred toward these areas.

It is estimated that the workforce involved in drug trafficking activities is nearly 3% of the total economically active population (or about 300.000 workers). Rocha estimates that the number of persons involved in the production of illegal drugs is equivalent to 6.7% of the agricultural workforce. By way of comparison, coffee employs 12% of agricultural workers. From a regional perspective, in the main growing centers (Guaviare, Putumayo and Caquetá), this percentage might reach numbers close to 50%. One can well assert that – directly or indirectly – most of the workforce in these regions is involved in the drug trade.

It would seem that drug trafficking is a major generator of employment and has contributed to increased wages for the workforce in these areas. However, while it is true that many peasants have found in the drug trade a way to improve their income, this has been possible thanks to the establishment of a perverse system of incentives that generates a process of reallocation of resources based on violence, and creates violent attitudes and behaviors as a means of attaining certain economic remuneration. The peasant workforce employed in the drug trade no longer participates in legal activities, which would otherwise be contributing to building a competitive and modern agricultural sector.

Direct foreign investment

To the costs already mentioned, one must add some others. Violence can lead to a reduction in the management efficiency of companies and to higher degrees of uncertainty and risk, the result of which is a negative incentive to investment, especially foreign investment. In a study on the factors that determine foreign investment in Colombia (Steiner and Giedion, 1996), the security situation stood out as the factor most affecting investment decisions. In a survey undertaken with 455 businesses partially or fully owned by foreigners, 33.3% of those interviewed signaled the improvement of the public order situation as one of the three most important “reasons which would lead foreign investors to increase their investment in Colombia.”

One should not forget that levels of direct foreign investment in Colombia are small when compared with other developing countries. Investment is mostly concentrated in oil and mining exploration and exploitation (see Graph 17). In February, 1998, British Petroleum, the main multinational company participating in oil exploration in Colombia, announced that “the fundamental reason for it to return the area involved in the Piedemonte Occidental contract is the lack of security in that region, which has impeded full development of the exploration phase” (*El Espectador*, February, 1998). It is clear that as levels of violence increase in these zones, the meager direct foreign investment will tend to diminish.

III. THE INSTITUTIONAL PROBLEM: VIOLENCE AND ITS ASSOCIATED COSTS

Among the many effects of the drug on Colombian society, the most costly, bloody and detrimental has been the violence associated with it. As Rubio (1996) has noted, the drug trade is one of the best examples of an organization where success is based on the permanent, systematic and cumulative use of violence.

Violence used by drug traffickers brings along with it a series of costs to the domestic economy that add to the negative effects due to the entry of illegal monies. These costs include intangible ones --for example, effects on institutions, attitudes and on the behavior of individuals-- as well as tangible costs --including the loss of physical and human capital and the inefficient use of public recourses.

It is clear that not all of these costs can be attributed to drug trafficking. As Thoumi points out (1996b), when links exist between the drug trade and various elements, including criminals, guerrilla groups, paramilitary groups, and a weak state[...], it becomes difficult to determine the true consequences of each one of these elements.

Intangible costs: violence, corruption and the weakening of the justice system

According to data supplied by Colombia's Forensic Medicine Institute, up to 1991 the homicide rate (per 100,000 inhabitants) tended to increase due, in great measure, to the violence spread by the drug trade (see Graph 18). After 1992, a slightly decreasing trend can be observed²². In 1997 the main causes for these homicides in 1997 were: 31% due to "settling of accounts and revenge", crimes which to some extent can be attributed to organized crime, and 10% due to the armed political conflict.

Colombia has managed to become one of the most violent countries in the world. Graph 19 sets out the homicide rates per 100,000 inhabitants for some Latin American countries, as calculated by the Pan-American Health Organization. A marked difference can be observed between Colombia and the other countries. Even nations with civil unrest, like El Salvador and Nicaragua, do not reach Colombia's homicide rate.

Violence in Colombia is not only reflected in a high homicide rate. Kidnapping, one of the worst violations of Human Rights and International Humanitarian Law, occurs in Colombia in an indiscriminate manner, without regard for age or social background. Between January and August of 1999, 2040 persons were kidnapped, including Colombian nationals and foreigners.

According to Rubio, the drug trade has contributed to the propagation of violence in three ways: that inherent to the business, that which results from the weakening of the security and justice apparatus, and that which derives from governmental and para-governmental activities trying to fight the violence. To these three ways, one should also add violence by insurgents.

Due to its illegal nature, the drug trade must use private justice and security systems in order to resolve its internal conflicts and impose its property rights. With the drug trade, private armies have been created, directed towards protecting the drug dealers and their illegal operations, as well as securing the control and expansion of their activities. The settling of accounts and, in general, the violent resolution of conflicts, has become the generalized practice used by these groups and has given rise to the phenomenon of "killers for hire", which could soon be adopted by other groups in society not involved in the drug trade to solve other types of conflicts.

²² Nonetheless, at the end of 1999 there appears to be a resurgence a drug terrorism.

The economic power of the drug trade and its tendency to submit the justice system and the state to its own needs, has led to crime and the intimidation of all who oppose it, while creating a mood of terror and anguish in society at large. The result has been the murder of judges and policemen, journalists and civilians, in acts of so-called “narco-terrorism” or drug terrorism. Between 1988 and 1995, the number of assassinations attributed to paramilitary groups, private justice groups and organizations serving the drug trade rose to 16,694. During the same period, 4,280 persons were killed in collective massacres (Trujillo and Badel, 1998).²³

The role of the drug trade in promoting violence can be seen even more clearly when one studies violent deaths by geographic areas. As Trujillo and Badel (1998) point out, departments in whose main cities drug dealers are concentrated and recently “colonized” departments --where most illegal crops are grown-- are the most violent.

Given their desire to invest in areas with peasant economies and with the presence of guerrilla forces, drug traffickers foster the creation of so-called “self-defense” armies, which eventually become one of the most violence generating agents. The confrontation between “self-defense” armies and subversive movements has brought about the displacement of thousands of peasants from rural areas to urban centers (see Graph 20). Until 1998, the Ombudsman’s Office registered 1.5 million displaced people arriving from 220 municipalities around the country. This is an indigent population with little or no education. Given that their employment opportunities in urban centers are very limited, these displaced persons end up increasing the ranks of the unemployed.

One cannot avoid mentioning the disastrous effects that this war has had on the weakest members of the population: children. Counting those murdered, mutilated, kidnapped, displaced, and recruited by armed groups, one million minors have been victims of this war (*Cambio* magazine, July 19-26, 1999)²⁴. One must also consider the perverse effects that the drug trade has had on young peoples’ values, inculcating violence and the creation of a whole generation of youngsters for whom quick, easy money is their credo.

Drug trafficking has managed to change society’s system of rewards and compensations. Some have argued that historically Colombia has been characterized by certain institutional factors that promote violence, the capture of rents and greedy behavior (Rubio, 1996). Even if the rise and flourishing of drug trafficking might be partially explained by these factors, it is also true that those institutional problems have been strengthened by the drug trade itself.

The Colombian Mafia has managed to introduce “illegal and violent procedures, as a competitive element in legal markets and has acquired enough power to replace the State either functionally or geographically and set up its own legal regime” (Rubio, pg. 29). This reward system has corrosive effects on political

²³ Similarly, a series of kidnappings of public personalities occurred, which was attributed to drug dealers as a means of putting pressure on the government, mainly in 1991, the year in which the new Colombian Constitution was drafted. These kidnappings intended to force the inclusion of a law prohibiting the extradition of Colombian nationals.

²⁴ If one only looks at 1998, it is estimated that 131 children were kidnapped, 700 thousand displaced, 2000 murdered, 6000 recruited for paramilitary and guerrilla groups, and 44 mutilated. (*Cambio*, 1999).

institutions and security forces, since it fosters corruption among them.²⁵ Currently, Colombians perceive that a high degree of corruption prevails in their country. A recent report by International Transparency situates Colombia as the sixth most corrupt country in Latin America and the twenty-sixth globally, out of a group of 99 countries. A study by Johnson and Sheehey provides information on levels of corruption among 19 countries worldwide. As can be seen in Graph 21, Colombia appears as one of the most corrupt²⁶.

In addition to corruption, one must also examine the low level of administration of justice, or impunity.²⁷ To be sure, this critical situation is both a potential cause and a likely consequence of the drug trade. Johnson and Sheehey report on an evaluation of the justice systems in the same 16 countries. Once again, Colombia comes out in the lowest ranks (Graph 22).

Tangible costs

Alongside the development of illegal drug crops in areas where guerrilla groups have set up their camps, and where there is a clear lack of presence of the State, a type of alliance has developed between drug traffickers and guerrilla groups. Using this alliance and charging “taxes”, the subversive movements have managed to strengthen themselves both economically and militarily, escalating the armed conflict to the levels of a true civil war.

It is noteworthy that despite the fall of the Soviet Bloc and the successive loss of support for subversive communist groups throughout the world, in Colombia these groups not only continue, but have actually strengthened their combat capacity. This capacity derives from having enough money to purchase arms and maintain their troops.

The funding for guerrilla groups comes from a variety of illegal activities. Among these, one can count kidnapping and extortion in general, and participation in the drug trade, mainly in terms of having an active presence in the crop growing regions. It is estimated that in 1991-1996, guerrilla's received annual revenues from drug trafficking in the order of us\$315 million, which represents 45% of the total revenues financing the movement. This amount is equal to 3.5% of Colombia's military expenditure (Trujillo and Badel, 1998).

Violence implies a very high cost for society. Trujillo and Badel have estimated the net costs of urban violence and of the armed conflict (see Table 4). The net costs exclude cases where money is redistributed, for example through kidnapping and theft.

²⁵ Since 1923, the director of the Mission responsible for the reform of the financial and tax system in Colombia referred to the degree of corruption in the country. Kemmerer's perception of ethical behavior was reported as: “Barranquilla – Corrupt [...] Bogotá – perhaps half and half. [...] The judges in Barranquilla are all a bunch of thieves.” (Kemmerer, 1923).

²⁶ According to a 1991 report by International Transparency, Colombia managed to reduce the extent of the perception of corruption, landing in position number 28. In 1998, it occupied the seventh position. It is important to note, however, that in 1999 the “pool” of countries in the survey was increased.

²⁷ Kemmerer also refers to this point: “The obstacles to doing business do not derive directly from the law but rather from the administration of justice [...]. The passage of countless laws does not in any way serve to solve the problem. Although sanctions are not as strict as in the United States, they would be strong enough, if only they were applied.”

The loss of lives represents the loss of potential human capital. The cost of terrorism is mainly attributed to the various guerrilla organizations. The expenditure for private security is an estimate of the extra costs incurred for guards and private security, not only due to the danger of theft, but also due to the fear of kidnapping or assassination. The excess military expenditure is calculated using comparisons with other Latin American countries. This excess does not include the expenditure on police forces, which is the entity responsible for fighting drug trafficking both in the illegal drug growing areas as well as in the urban centers (see Graph 23).²⁸

Governmental action in the fight against the drug trade and subversion has meant assigning huge volumes of resources to strengthen the military and police forces. Graph 24 clearly illustrates the weight given to defense spending in the central government's operational expenditures.

The additional defense expenditure is seen even more clearly when one compares the Colombian military expenditure, as a percentage of GDP, with the average expenditure in Latin America (see Graph 25).

Colombia's military expenditures to attempt to counter the problems of violence, drug trafficking, guerrilla and paramilitary groups, are indeed exceptional. This assignment of resources is a detriment to public spending on social welfare. It is an investment that does not produce any economic benefit. The corresponding cost is a reduction in investment in education and health, both of which would produce a high return in terms of social and economic welfare. Rubio (1995) estimates that this war annually costs Colombia 6% of its GDP.

IV. CONCLUSION

In some circles there is the perception that because of its involvement in the illegal drug trade, Colombia receives an enormous amount of hard currency, which over the past two decades has been largely responsible for the fact that the Colombian economy has enjoyed one of the best economic performances in the entire region. It has even been suggested that the Colombian economy depends so heavily on the resources generated by the drug trade, that without illegal drugs, the Colombian economy would not be viable. Based on these precepts, some believe that Colombia is not a reliable partner in the international fight against the illegal drug trade.

This document has attempted to set out, in what we believe to be an objective fashion, the true size of revenues received by Colombia for the participation of some of its residents in the illegal drug trade. Based on estimates from primary sources gathered by North American authorities, it has been shown that the majority of the income from the drug trade is appropriated by residents from the main consumer countries. Thus, the net entry of funds for Colombian residents is much lower than the amounts often mentioned by the media. In any event, they are not insignificant amounts. In the recent past, illegal drug exports

²⁸ A large expansion in these expenditures can be observed after 1990. This was the year in which drug traffickers killed more than 150 policemen and one year after the main terrorist attacks were carried out by the drug cartels, including the bombing of an Avianca commercial airliner, of the National Police Headquarters and of the daily newspapers *El Espectador* and *Vanguardia Liberal*.

may have represented between 2 and 3% of GDP. This number is higher than the proceeds from coffee exports.

Even if the *direct effect* of revenue from drug trafficking is apparently advantageous for the Colombian economy – by improving the balance of payments and affecting aggregate demand in a positive fashion – in this study it has been shown that there exist a whole range of *secondary* effects that, without a doubt, make the net effect of the drug trade on the Colombian economy extremely negative. The negative indirect economic effects of the drug trade are manifold. First, drug trafficking monies have produced an important appreciation of the real exchange rate, which has slowed the development of (legal) exports and has facilitated a disproportionate increase in imports. Secondly, as money-laundering controls have increased in the financial system, contraband has become the main mechanism used to enter drug trafficking monies into Colombia. Contraband goods compete unfairly with domestic products, generate serious tax problems, and foster the acceptance of corruption in society. Finally, drug trafficking monies are often invested in activities that are safe for the drug dealers, but are characterized by very low economic productivity. Two such activities are the construction of luxury housing and extensive cattle ranching.

If the net economic effect from illegal drug exports is negative, the collateral effects are even more so. The drug trade has politically destabilized Colombia, produced an unimaginable institutional deterioration, fostered a culture of corruption and violence, and provided resources to the participants in the armed conflict that currently has the country on the verge of a civil war. In order to stop this plague, society has not only sacrificed many of its best men and women, but the State has also had to allocate an important portion of its limited resources to contain the assault conducted by the outlaws who in one way or another are part of the illegal drug trade.

Despite the fact that quantifying the various costs and benefits from the illegal drug trade is very complex, the evidence submitted in this paper clearly shows that although drug trafficking is highly profitable for the few who participate in it, the end result is that it is extremely detrimental for Colombia as a whole.

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TABLE 1**COCAINE CONSUMPTION IN THE UNITED STATES**

	1988	1989	1990	1991	1992	1993	1994	1995
Users (million)								
Addict	3.6	3.4	3.2	3.0	3.1	3.3	3.2	3.3
Occasional	6.0	5.3	4.6	4.5	3.5	3.3	2.9	3.0
Expenditure (US billion)	51.8	49.7	47.4	41.3	38.1	37.1	35.4	37.1
Consumption (ton)	383	386	296	309	289	289	296	304

Source: INSCR (1997)

TABLE 2**COCAINE MARKET IN THE UNITED STATES**

	Retail Price (US\$000/Kg)	Wholesale Price * (US\$000/Kg)	Wholesale Distribution Margin ** (%)
1988	148	23	16
1989	143	23	16
1990	176	26	15
1991	151	26	17
1992	147	27	18
1993	144	26	18
1994	132	26	20
1995	135	23	17
1996	135	23	17
1997	135	26	19

Notes: * Simple average of minimum and maximum wholesale prices.

** Wholesale/retail price ratio.

Source: For the period 1988-1995, INSCR (1997). For 1996-1997, Illegal Drug Price/Purity Report, DEA.

TABLE 3**COCAINE: CONSUMER EXPENDITURE AND PRODUCER GROSS REVENUE**

	Consumer Expenditure	Gross Revenue for the Exporter *
	(US billions)	
1988	51,8	8,05
1989	49,7	7,99
1990	47,4	7,00
1991	41,3	7,11
1992	38,1	7,00
1993	37,1	6,70
1994	35,4	6,97
1995	37,1	6,32

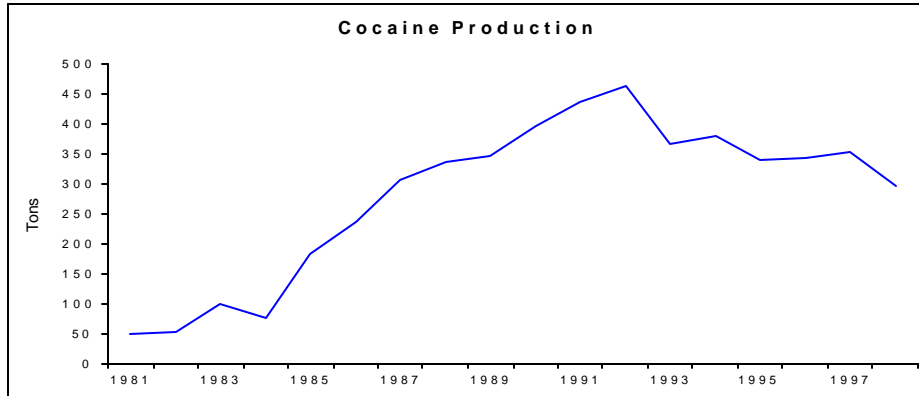
Note: * Wholesale the distribution margin times consumer expenditure.
Source: INSCR (1997).

TABLE 4**NET COST OF URBAN VIOLENCE AND OF THE ARMED CONFLICT**

	1991	1992	1993	1994	1995	1996
Loss of Life	931	935,1	926,4	879,2	834,8	873,1
Health expenditure	21,6	21,8	19	19,4	19,8	29,7
Private security expend	326,9	382,4	444,4	513,5	590,4	676,1
Excess military expend	662	500,9	659,8	279,3	662,1	976,2
Terrorism	91,6	78,3	33	30,6	28,7	58,9
TOTAL	2033,1	1918,6	2082,5	1722	2135,8	2613,9
% PIB	3,38	3,06	3,16	2,47	2,9	3,48

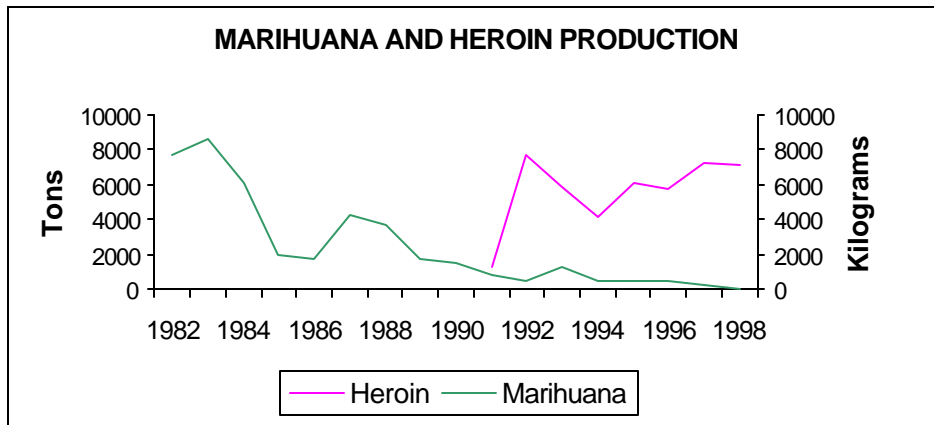
Source: Trujillo and Badel (1998)

GRAPH 1



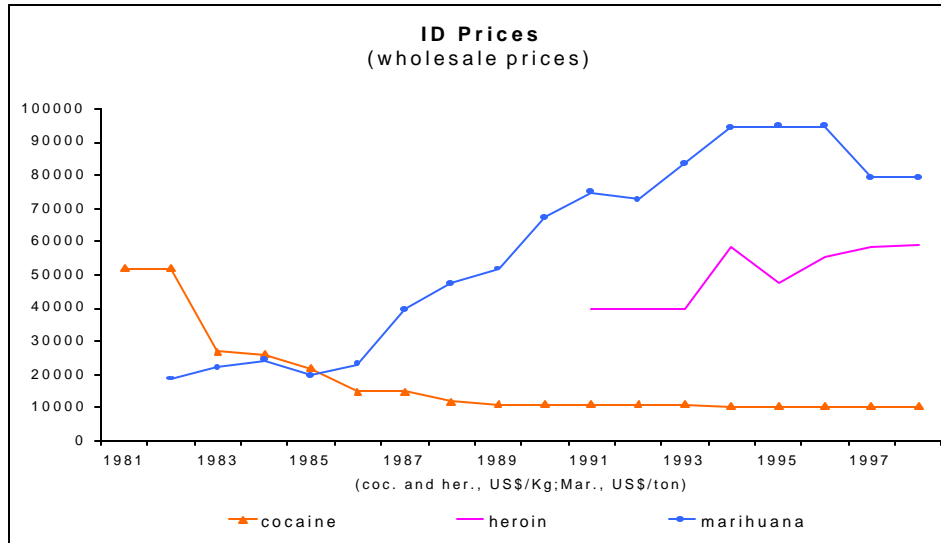
Source: Rocha (1999)

GRAPH 2



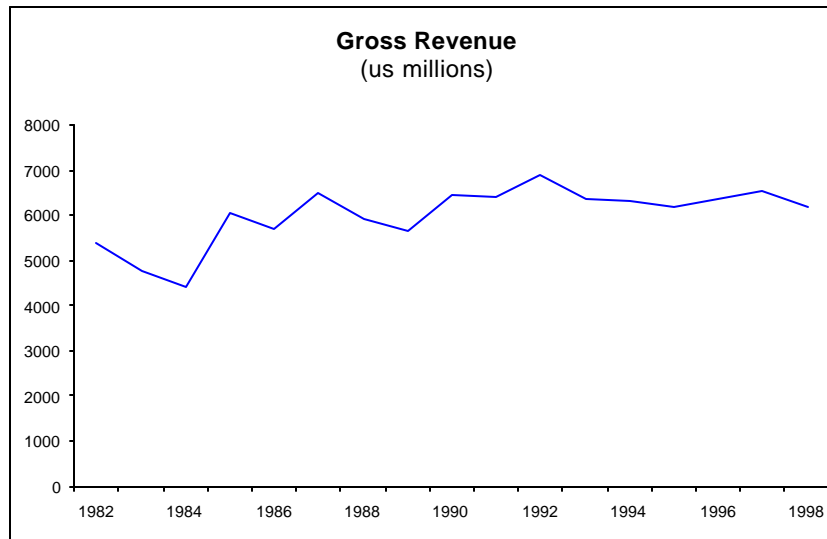
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GRAPH 3



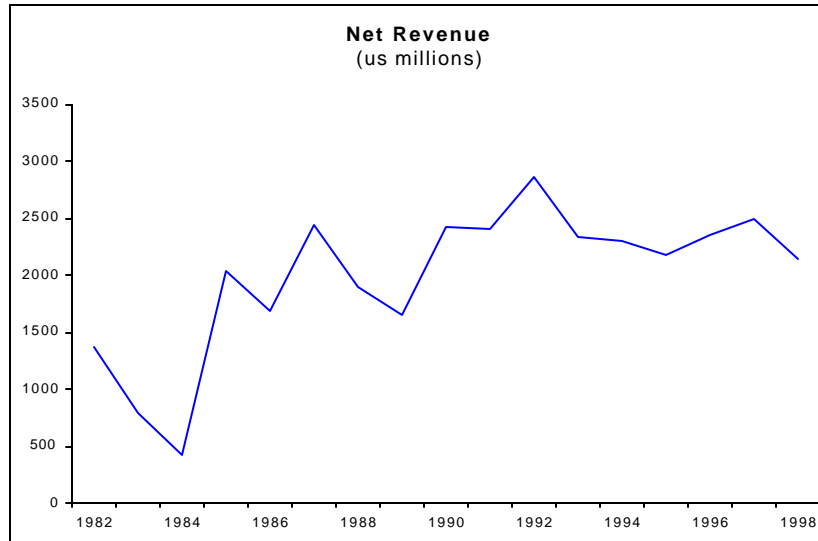
Source: Rocha (1999)

GRAPH 4



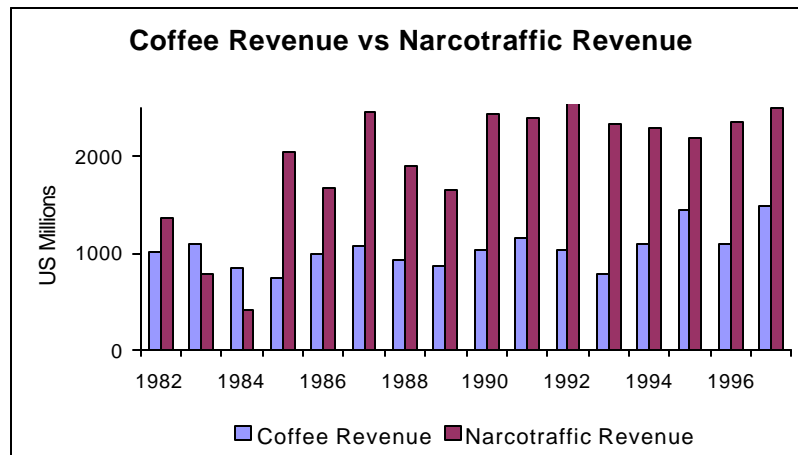
Source: Rocha (1999)

GRAPH 5



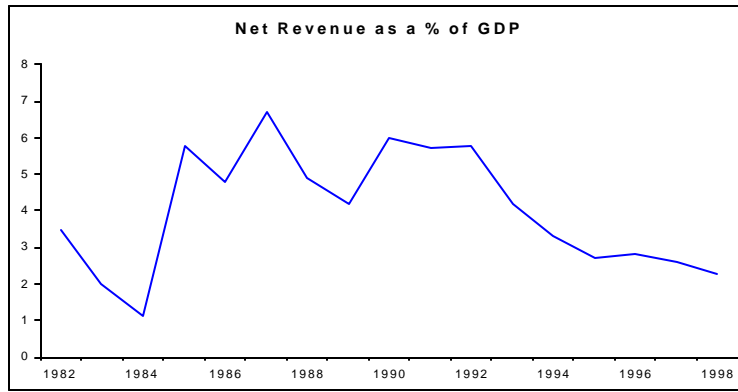
Source: Rocha (1999)

GRAPH 6



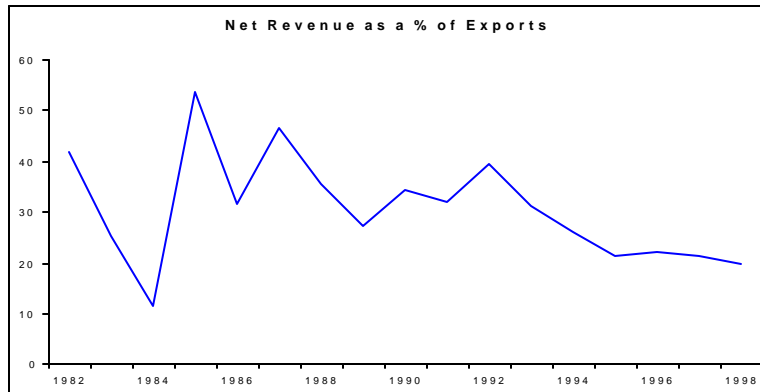
Source: Rocha (1999) and Federación Nacional de Cafeteros de Colombia.

GRAPH 7



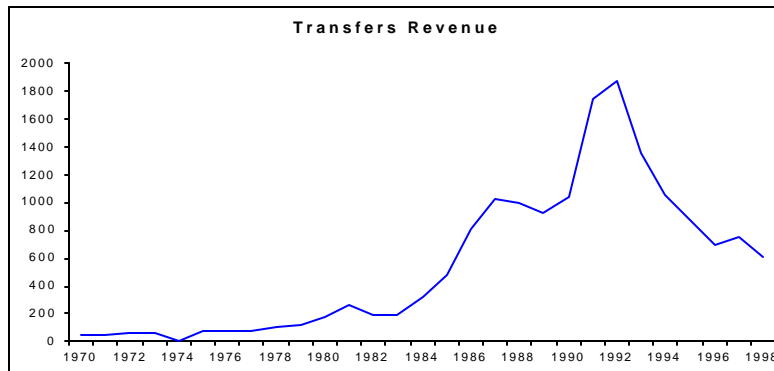
Source: Rocha (1999)

GRAPH 8



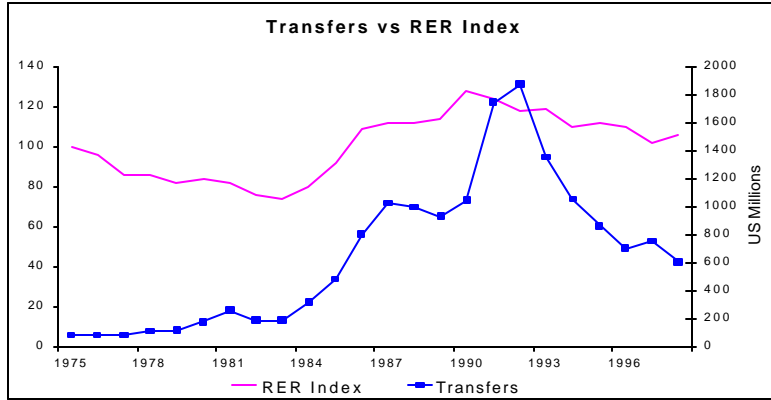
Source: Rocha (1999) and authors calculations

GRAPH 9



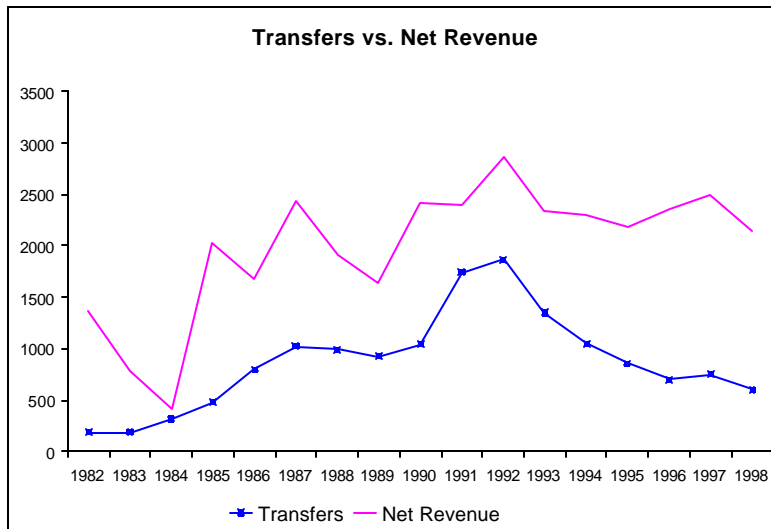
Source: Banco de la República

GRAPH 10



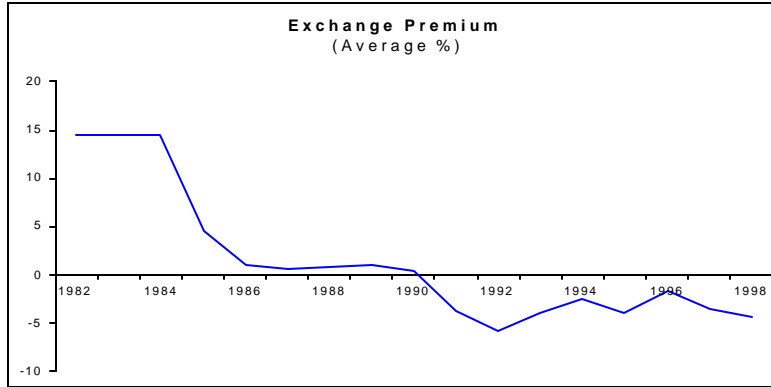
Source: Banco de la República

GRAPH 11



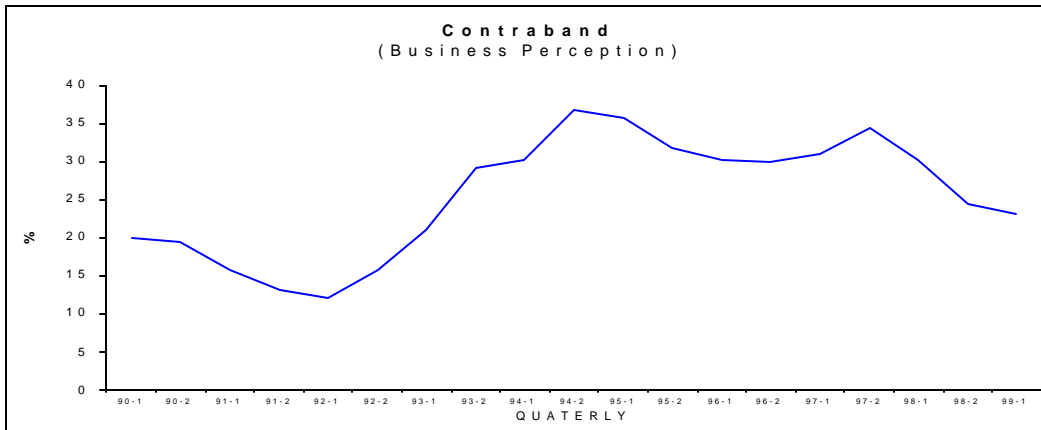
Source: Rocha (1999) and Banco de la República

GRAPH 12



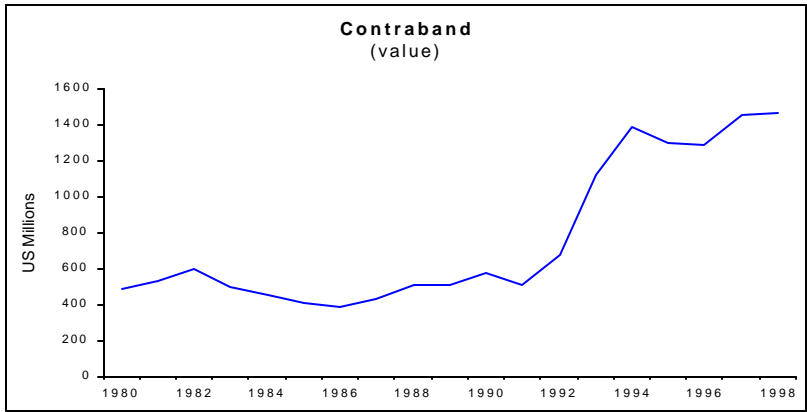
Source: Rocha (1999)

GRAPH 13



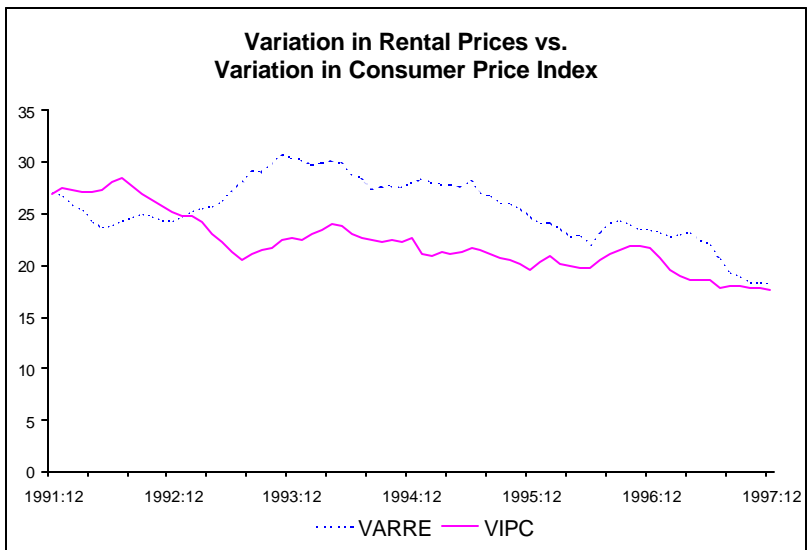
Source: FEDESARROLLO Business Survey

GRAPH 14



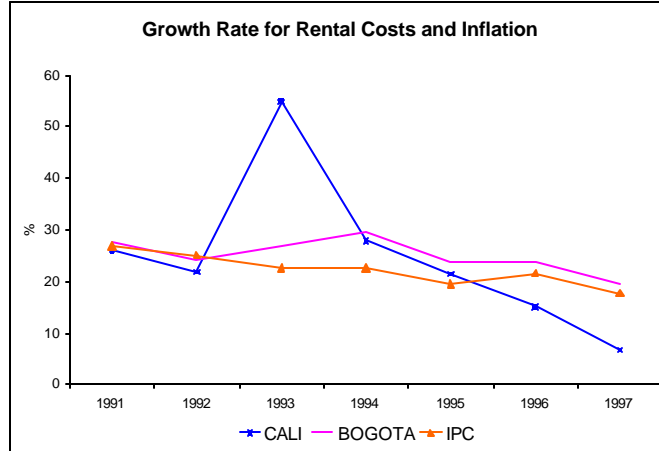
Source: Rocha (1999)

GRAPH 15



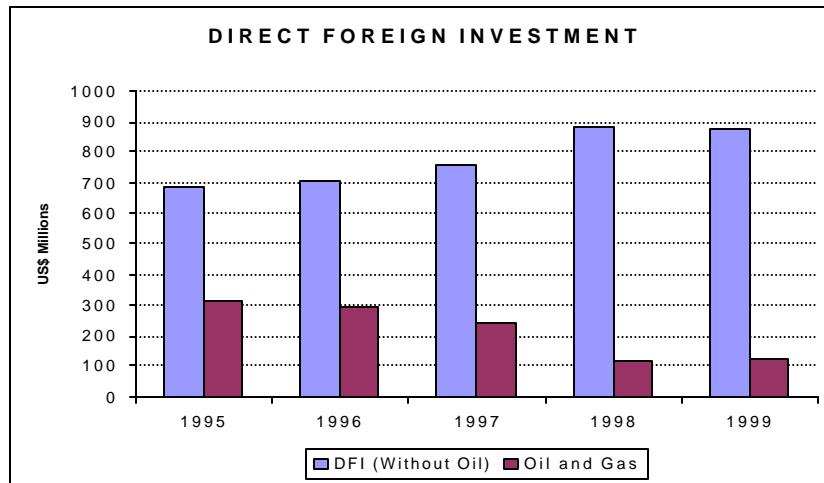
Source: DANE

GRAPH 16



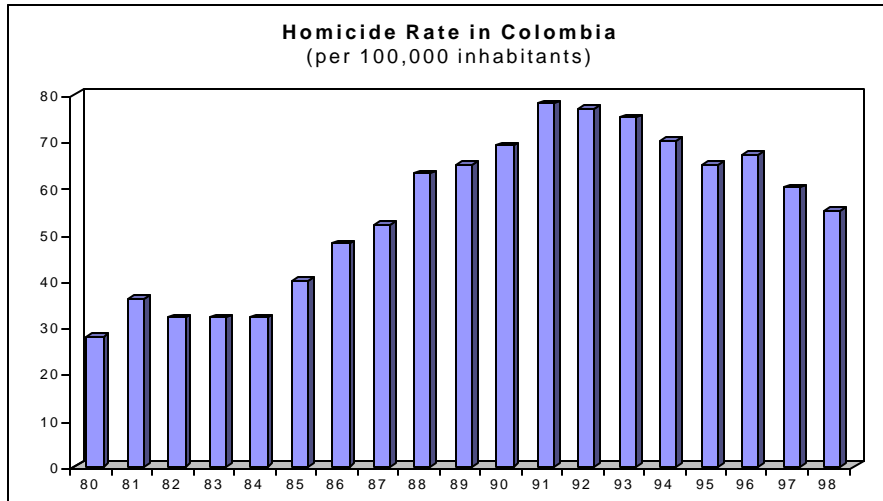
Source: DANE

GRAPH 17



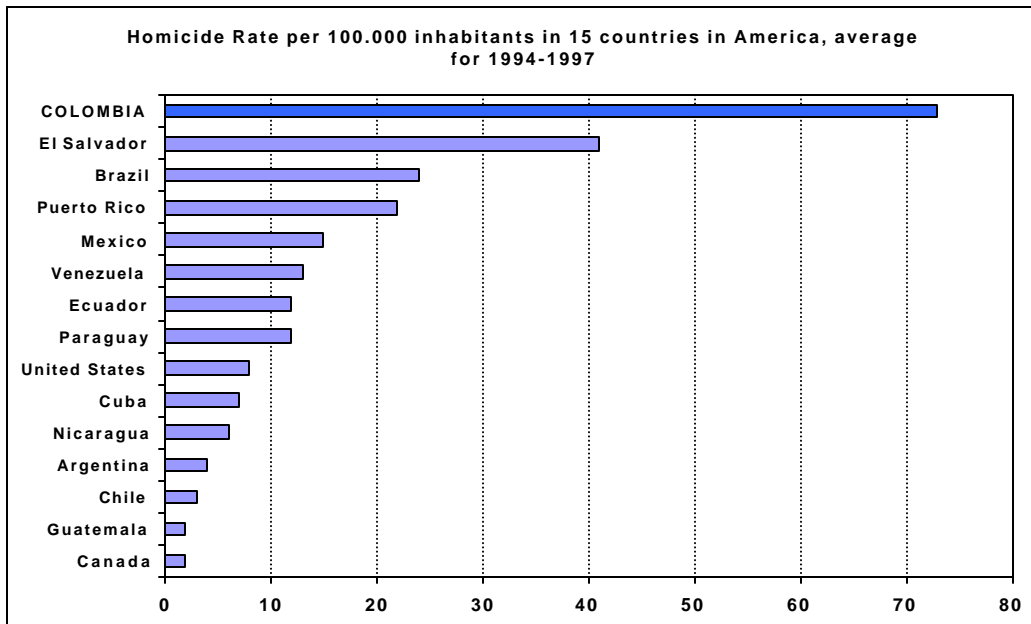
Source: Banco de la República and ECOPETROL

GRAPH 18



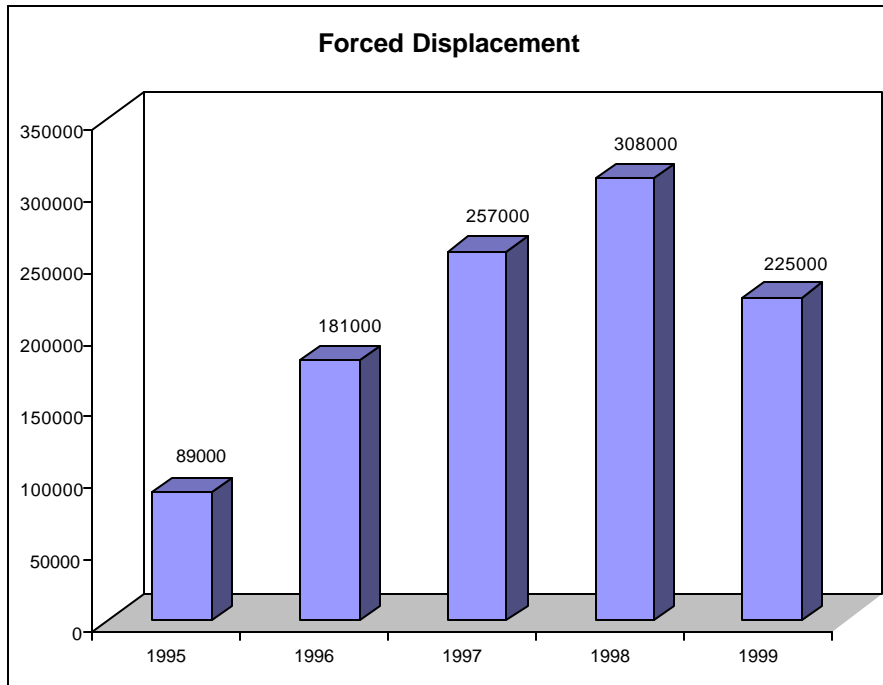
Source: Legal Medicine Institute. For 1998, National Police Force

GRAPH 19



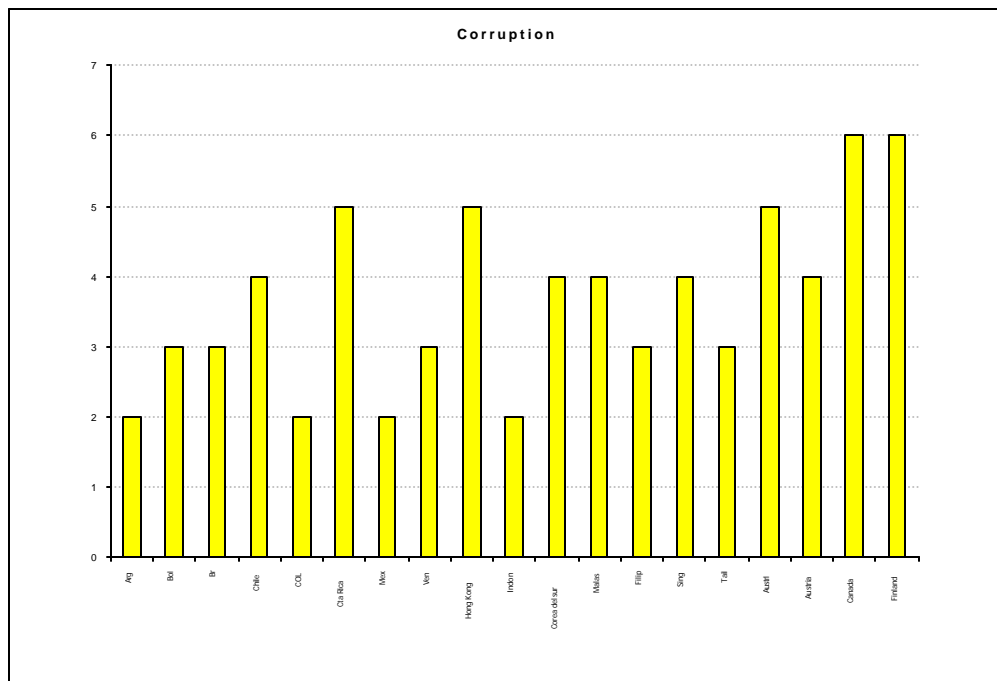
Source: Panamerican Health Organization, 1998

GRAPH 20



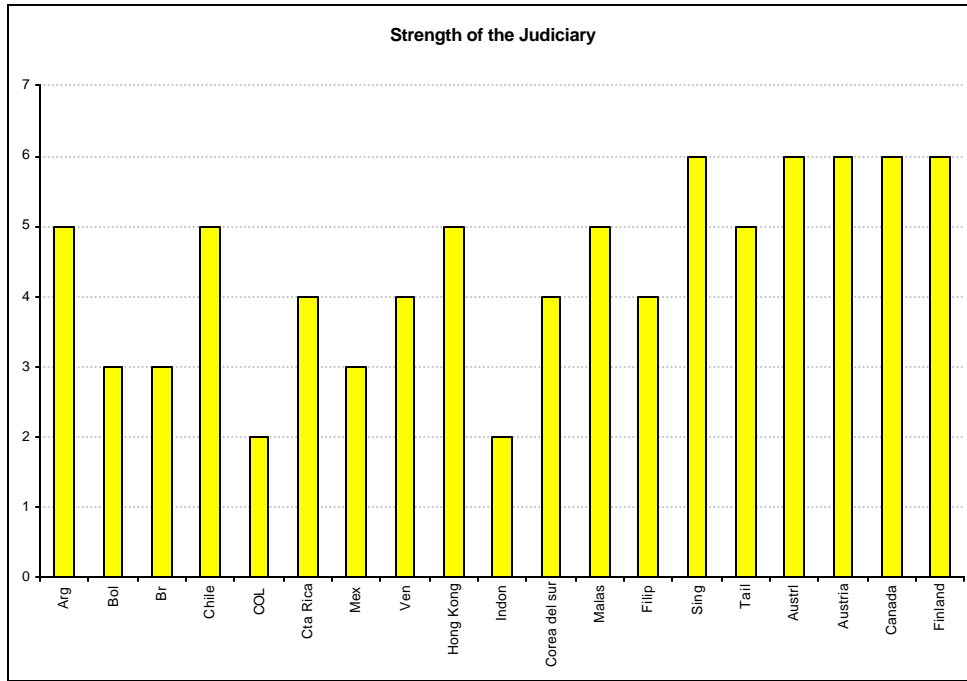
Source: Defensoria del Pueblo (Colombia)

GRAPH 21



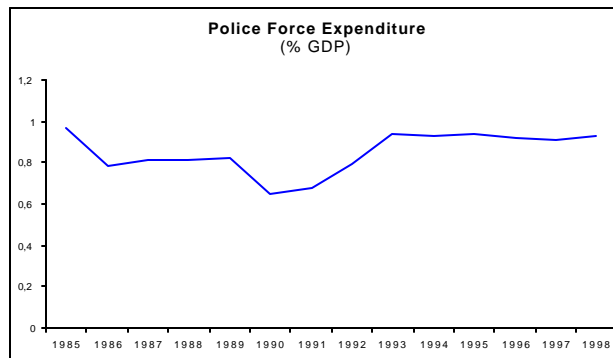
Source: Johnson and Sheehey

GRAPH 22



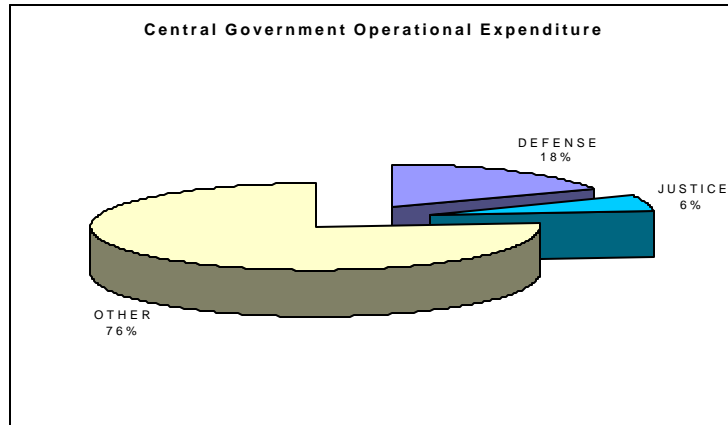
Source: Johnson and Sheehey

GRAPH 23



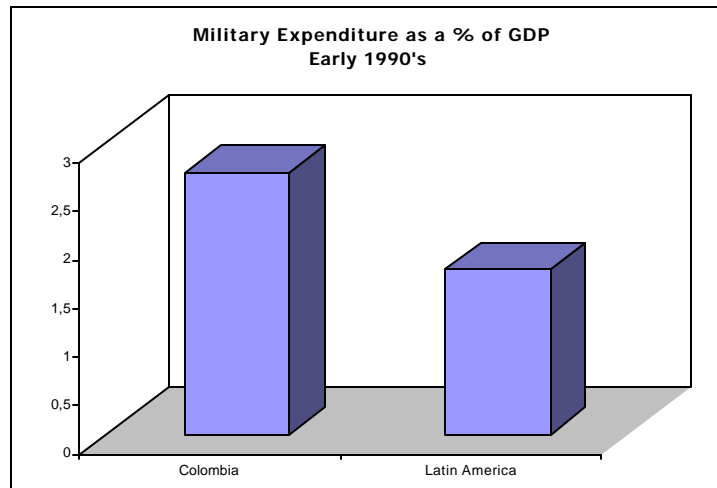
Source: Clavijo (1998)

GRAPH 24



Source: Finance Ministry

GRAPH 25



Source: Clavijo (1998)