

**TAX REFORM, STABILISATION  
AND STRUCTURAL ADJUSTMENT IN COLOMBIA**

**The role of conventional and unconventional tax reform**

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**Santafé de Bogotá, August 1993**

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## **FISCAL REFORM, STABILIZATION AND STRUCTURAL ADJUSTMENT IN COLOMBIA**

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July 1993**

### **I. SUMMARY**

This paper examines three related issues: (1) the dynamics of fiscal and external current account disequilibrium and adjustment in Colombia during the eighties; (2) the strong dependence of colombian public finances on commodity exports cycles and volume changes; and (3) the role of conventional and unconventional tax reform in the stabilization and structural adjustment process in the eighties and early nineties.

As most latinamerican countries, Colombia suffered a strong deterioration of the fiscal and external current account balances in the early eighties. However, in contrast with most latinamerican experiencies, neither these macroeconomic disequilibriums, nor the ensuing stabilization process, were accompanied by strong variations in inflation, growth or investment rates. Colombia grew faster than any other latinamerican country during the decade -3.5% annually-, investment rates increased continuously -from 16% to 19% GDP-and inflation was moderate and stable -around 20%-25%-. Section II analyzes the reasons behind this apparently costless adjustment process.

We argue that main causes were the following: (1) both the initial disequilibrium and the ensuing macroeconomic adjustment were due, to a large extent, to an underlying process of structural change: high public investments in energy projects in the first half of the decade, which produced high foreign exchange and fiscal revenues during the second half; (2) as a result, the public sector turned into a net exporter of goods and services, so real devaluation in the mid-eighties contributed strongly not only to external but also to fiscal

Conventional tax reform (implying higher revenues from taxes on non-commodity domestic activity) was a crucial element of stabilization policies in 1974. However, as mentioned, it played a minor role during the stabilization process in the eighties. Tax Reforms after 1980 were determined by efficiency objectives, and not by revenue goals. They were more related to structural reforms than to stabilization efforts. Stabilization did not require a huge non-commodity tax effort, and, in so far as new tax revenues were needed, it was easier -politically and administratively speaking- to obtain them rapidly from taxes on trade.

Afterwards, with the trade liberalization reforms of the early nineties, such taxes were substituted by higher taxation on domestic activity. As a result, in the long run (1) there has been a shift away from trade to domestic taxes (mainly VAT); (2) income tax rates and capital income taxation have been reduced, though direct taxes revenues have increased; (3) provincial and municipal finances have been strengthened; and (4) more important and better designed intergovernmental transfer systems have been designed. These issues are examined in Section IV.

## **II. PAINLESS FISCAL AND EXTERNAL ADJUSTMENT.**

### **A. The Facts**

As most latinamerican economies, Colombia underwent a period of growing macroeconomic disequilibriums during the first years of the decade of the eighties, to some extent as a consequence of external shocks (deterioration of terms of trade and rises in interest rates), and was forced to adjust after the suspension of voluntary financial flows caused by the Mexican crisis of October 1982. However, neither the initial macro disequilibriums, nor the ensuing adjustment process, led to significantly higher inflation or lower growth, savings and investment rates, in contrast with what happened to most other countries in the region.

Magnitudes involved in the fiscal disequilibriums and adjustment processes were substantial (Tables 1 and 3). Consolidated finances of the Non-Financial Public Sector (NFPS) went from a surplus in 1978/79 (0.8%/ 0.3% of GDP) to a deficit of 7.4% of GDP in 1983 (8.5% including the quasifiscal deficit). By 1986, however, public finances were back to equilibrium. In the following years, consolidated deficits oscillated between 2.5% GDP (1988) to 0.6% GDP (1991) and a small surplus in 1992. The primary deficit was as high as 5.2% of GDP in 1983 and there have been primary surpluses since 1986, higher than 3% GDP in the last three years. The adjustment of national public finances was even more significant, as the deficit of regional and local public finances grew from 1.1% GDP in 1980 to 4.4% GDP in 1991 (excluding transfers from the national Government <sup>1</sup>). See Section IV.C..

External accounts underwent a similar process of significant initial disequilibrium and posterior adjustment. The balance of payments in current account went from a surplus in 1978/79 (1.1% /1.6% of GDP) to a deficit of 7.8% of GDP in 1983. By 1986 equilibrium was restored and there were surpluses higher than 3% GDP in 1991 and 1992. The currency was depreciated by more than 50% in real terms from 1984 to 1990.

Such apparently large macroeconomic disequilibriums and ensuing adjustments had surprisingly little effect on overall macroeconomic performance. Inflation rates were kept around 25% to 30% annually, with the exception of 1983 to 1984, when they were reduced below 20%, in spite of rapidly growing fiscal deficits. The sharp real devaluation of 1985 and 1986 was not accompanied by a significant increase in inflation rates, as was the case in many other Latin American countries attempts to depreciate the currency.

Domestic savings fell from 19.6% of GDP in 1979/80 to 14.8% in 1983 (most of the reduction took place in public savings). However, the reduction in domestic savings was matched by increased external savings (from -1.6% of GDP in 1979 to 5.3% in 1982/1983 <sup>2</sup>), so fixed

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<sup>1</sup> These transfers grew from 1.6% GDP in 1980 to 3% GDP in 1991.

<sup>2</sup> This was partially the result of declining international reserves.

gross investment increased from 15.5% of GDP in 1979 to 17.2% of GDP in 1983<sup>3</sup>. External savings were reduced sharply from 1985 onwards, but domestic savings rates increased again to more than 20% of GDP since 1986, so fixed gross investment rates continued to increase up to 19% GDP from 1988 onwards.

As a consequence, GDP growth in the eighties was not reduced as much as in other Latin American countries where savings and investment rates collapsed. Average growth was 3.5% annually, the highest in the whole region during the decade and Colombia was the only Latin American country where poverty levels decreased during the eighties<sup>4</sup>. Even more, growth slowed down during the disequilibrium period (to an average of 2.2% during 1980 to 1983, with a low 0.9% in 1982) but recovered promptly in the adjustment period (to an average of 4.5% during 1984-90). Still, such rates were lower than the average of the seventies (5.5% per year).

The rest of this section is devoted to examine why such seemingly large fiscal and external disequilibriums and ensuing adjustments did have such a light influence on other macroeconomic variables. To do so, we examine first to what extent the behaviour of public finances was determined by autonomous fiscal policy changes or by the effects of exogenous and endogenous macroeconomic changes.

## **B. Determinants of public finances behaviour.**

The close relation between external and internal cycles is apparent from Table 1 and graphs 1 and 2. Both growth and inflation rates increased during export booms (1976/1979; 1985/1986) and were reduced in the downturn of commodity prices (1979/1983). Variations in the fiscal deficit or surplus followed closely those on the Balance of Payments current account.

This behaviour of public finances was due largely to their dependence on revenues derived from commodity exports (coffee and oil) and to the development of large oil and coal export projects during

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<sup>3</sup> Inventory accumulation remained at about 2.7% of GDP in 1979 and 1983.

<sup>4</sup> See ECLA studies.

the first half of the eighties. Measures taken to restore current account equilibrium contributed also to fiscal improvement; and viceversa. Such traits help to explain the efficiency of the adjustment process in the second half of the eighties, as discussed below.

Tables 4 and 5 show the results of two slightly different decomposition exercises of the determinants of public finances during the disequilibrium phase of 1979 to 1983, the adjustment period from 1983 to 1986, and the years after 1986. In Table 4, we separate changes in revenues derived from coffee and oil, as well as interest payments, from other more autonomous revenues and expenditures. Table 5<sup>5</sup> decomposes the fiscal effects of variations in external variables (commodity export prices, coffee export volumes, international interest rates) and of changes in the real exchange rate, the internal interest rate and other internal macroeconomic variables (including changes in oil import or export volumes<sup>6</sup>) from those due to "purely" autonomous policy changes.

From these tables it is apparent that the main factors explaining observed variations in public finances were:

(1) The cycles of coffee prices.

The downturn in coffee prices at the beginning of the eighties reduced fiscal revenues by 1.3% of GDP. The boom in 1986 increased them, transitorily, by 3.5% of GDP, contributing in a significant way to the restoration of fiscal equilibrium in that year. See table 4.

It must also be noted that the accumulation of international reserves during the the coffee boom of 1977/1979 permitted to postpone balance of payments adjustment up to 1985, when large energy export projects were completed.

(2) The oil (and coal) export investments.

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<sup>5</sup> Table 5 rearranges results obtained in Cepal (1990).

<sup>6</sup> Oil export volumes and coffee export volumes are treated in a different way, as the first are the result of deliberate investment and production decisions, while the second were, at least until 1988, the result of market behaviour and quota allocations of the International Coffee Agreement.

The growth of oil (and coal) exports from 1986 onwards contributed significantly to fiscal and external adjustment. Fiscal revenues from oil increased by 3.3% of GDP from 1983 to 1989 (3.7% of GDP from 1980 to 1989 -see table 6-), so they contribute today near to 28% of consolidated public sector revenues <sup>7</sup>. Oil and coal exports represent now (1991) near 27% of total export revenues.

The development of such oil and coal export projects, during the first half of the decade, explains partially the large increase in public investment <sup>8</sup> that was the main cause of the growing fiscal deficit up to 1983 (tables 4 and 5). Public investment in the energy-mining sector increased from 2.3% to 4.6% of GDP between 1980 and 1985. It fell abruptly in 1986 (to 1.9% of GDP by 1991), when those projects were completed, thus facilitating the reduction of the fiscal deficit. The evolution of such investments also had significant effects on the Balance of Payments current account, due to their high import intensity.

Thus, the observed cycle during the eighties reflect, to a non negligible extent, the development and proceeds of high yield investments in foreign-exchange and fiscal revenues producing projects. To this extent, this was more a process of structural change, than a typical cycle of macroeconomic disequilibrium and adjustment.

### (3) The fiscal effects of real currency devaluation.

The development of these exports had another important implication for the adjustment processs. Due to them, the public sector became a net exporter of goods and services since 1985 (Table 7 and graph 3). Thus, the drastic real devaluations that took place during

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<sup>7</sup> Estimates of Table 6 include all royalty payments (including those paid to regional and municipal governments), income taxes paid by Ecopetrol and its private associates, Ecopetrol's after taxes operating surplus and gasoline taxes. Due to price controls, overall revenues from internal sales are divided between gasoline taxes and gross income to Ecopetrol in a rather arbitrary way.

<sup>8</sup> It was also due to a deliberately countercyclical fiscal policy, facing the depressive external cycle. The reduction of coffee growers incomes, due to falling coffee prices and export volumes, had an important depressive effect on aggregate demand.



1985 and 1986 to help restore external equilibrium, had as well a significant positive effect on the fiscal balance. This was the more so, given the high yield of tax revenues based on imports (both tariffs, special taxes and VAT) by 1986.

(4) The increase in import taxes

As a matter of fact, increases in import taxes was the most important "autonomous" fiscal policy measure of the initial adjustment period (1983/1986). See tables 4 and 5. Such increases also helped the restoration of Balance of Payments current account equilibrium and increased, in the short run, effective demand on domestic production.

(5) Non-energy expenditures were not reduced, and taxes on domestic activity were not increased initially.

As a consequence of these facts, fiscal adjustment in Colombia, in sharp contrast to other Latinamerican experiences in the eighties, did not have to rely on drastic cuts in infrastructure investment or social current expenditures. Non-energy public investment increased from 3.7% to 5.4% of GDP from 1984 to 1989, and Central Administration current expenditures from 6.9% to 7.3% of GDP. Neither was it based, initially, on drastic increases in taxes on domestic activity. Evenmore, income tax rates and, specially, taxation of capital incomes were significantly reduced in 1986. After 1990, due to tariff reductions associated with a processs of trade liberalization, VAT and income taxes rates were increased. In other words, conventional tax reform had little to do with the stabilization process and was more related to efficiency objectives and structural reforms (Section IV).

**C. Synthesis. Reasons behind the painless adjustment.**

Fiscal adjustment in the second half of the eighties was basically due to revenues derived from increasing oil exports, the natural reduction of energy investments after the large oil and coal export projects were completed, the positive fiscal effects of real devaluation, increases in import taxes and tariffs and, intially, to the

coffee boom of 1986. The disequilibriums at the beginning of the eighties were, in turn, largely the result of the coffee cycle and increased investments, both to develop oil and coal exports as well as part of a deliberate countercyclical policy. Thus infrastructure non-energy public investments and social current expenditures increased during the decade and taxes on domestic activity were not increased, at least during the first phases of the adjustment process. These facts help to explain why neither savings, nor investment or growth rates were significantly reduced in the eighties and why poverty did not increase during that decade <sup>9</sup>.

Efficiency of adjustment was also due to the fact that exogenous variables contributed simultaneously to fiscal and current account adjustment (the coffee boom of 1986 and the development of oil and coal exports) and measures taken to restore current account equilibrium contributed also to fiscal improvement (real exchange devaluation) and viceversa (increases in import taxes).

A final reason lies in the very efficient adjustment of the real exchange rate. A substantial real devaluation took place in 1985 and 1986. Neither did it have important inflationary effects, nor did it reduce real wages significantly. The latter had increased in the previous years due to the reduction in inflation rates. Thus, initial recessive effects were largely avoided and the rapid response of nontraditional exports contributed to the acceleration of growth, which was caused, in the first place, by the coffee boom of 1986.

The efficiency of real exchange rate adjustment shows a sharp contrast with other Latinamerican experiences. In countries such as Argentina and Mexico real devaluations were accompanied by sharp surges in the inflation rate, drastic reductions in real wages and strong initial recessive effects. Several factors explain such differential behaviour: in Colombia indexation was less generalized, wage and price contracts had longer durations, non tradeables were a higher proportion of wage goods and real devaluation had positive net effects on public

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<sup>9</sup> This was also due to the very unusual behaviour of real wages. Real wages increased significantly from 1980 to 1983, due to the reduction of inflation rates, and they suffered afterwards just a slight reduction (from 1985 onwards), in spite of the strong currency depreciation. See Cepal (1990).

finances <sup>10</sup>. Also, real devaluation was the result of an unexpected acceleration in the crawling peg instituted since 1967, and not of a massive nominal devaluation, and it was accompanied by fiscal and monetary restraint.

### **III. EXTERNAL CYCLES AND PUBLIC FINANCE STABILIZATION. THE ROLE OF UNCONVENTIONAL TAX REFORM.**

#### **A. Commodity export prices and public finances instability.**

As already mentioned, global fiscal revenues have been highly dependent on commodity exports: initially from coffee and, since 1986, increasingly from oil. Oil related revenues account today for nearly 28% of consolidated public revenues. This is by no means an exclusive trait of Colombian public finances: just in Latinamerica, Venezuela, Ecuador and Bolivia's fiscal revenues are much more dependent on oil revenues; Chilean public finances are similarly dependent on fiscal revenues from copper exports and oil related revenues are also a high proportion of Mexican and Peruvian tax revenues.

In such circumstances, conventional measures of fiscal equilibrium, with no relation to the evolution of commodity price cycles, are misleading and conventional deficit "goals" are clearly inappropriate. Following them blindly may just exacerbate internal instability generated by external cycles.

#### ***Theoretical considerations.***

To clarify this point, let's suppose such an economy in an initial macroeconomic equilibrium in the presence of expected average commodity prices and superimpose a temporary commodity price boom. Initial equilibrium values of non-commodity national income (Y), commodity prices (P), real exchange rate (E), imports (M), non-

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<sup>10</sup> See Perry, G. and A.M. Herrera, IDB, 1993. Chile also achieved an efficient adjustment of the real exchange rate (from 1983 to 1988) and shares some of this characteristics with Colombia.

commodity (X) and commodity (Xc) exports, government expenditures (G), taxes (T), private investment (Ip) and private savings (Sp), are denoted by \* and related by the national income identity equation:

$$(1) \quad M(Y^*, E^*) - X(E^*) - X_c(P^*) = (G^* - T^*(Y^*)) - (I_p^* - S_p(Y^*))$$

Let us further assume that the increase in export revenues due to the temporary price boom (X') translates into an equivalent increase on government revenues (oil is only produced by a state agency) and that it is wholly saved in such a way that G does not increase and E does not change (we assume, for the moment, that the Central Bank is able to control the real exchange rate). We also assume away wealth effects affecting either private investment or consumption. In such a situation neither Y, nor M or X change. The only effect of the price boom would be to reduce the initial current account and fiscal deficits (or increase the respective surpluses) by X':

$$(1') \quad M(Y^*, E^*) - X(E^*) - X_c(P^*) - X' = (G^* - T^*(Y^*) - X') - (I_p^* - S_p(Y^*))$$

In other words, there would be an improvement in the external and fiscal accounts, but the underlying macroeconomic equilibrium would remain untouched. A symmetrical situation would be obtained if we assume a fall of X' in the value of commodity exports and G and E remain at the same level. The economy remains in the initial equilibrium, notwithstanding the fact that external and fiscal accounts improve, in the first case, or deteriorate in the second case.

Policy responses may, however, be different. Government expenditures may increase (decrease) in response to such temporary increases (decreases) in fiscal revenues. The real exchange rate may be allowed to appreciate (depreciate) in response to such temporary increases (decreases) in foreign exchange earnings.

Thus, through inappropriate policy responses, the cycle in international commodity prices would translate into:

(1) A cyclical pattern of public expenditures and, consequently, of the level of economic activity and inflation. This, in turn, would induce private investment cycles, reduce the efficiency of investment decisions and their profitability and, thus, ultimately decrease investment and growth rates.

Such cycles would have additional net costs, as costs associated with drastic reductions of public expenditures when commodity prices fell (cost overruns in delayed or suspended investment projects and social programs, firings of public employees, reductions in public real wages, etc) will probably exceed the benefits associated with additional expenditures in boom periods (marginal or ill-studied projects, excessive increases of public employment and remunerations, etc.).

(2) A cyclical pattern of the real exchange rate, which would introduce considerable uncertainty for private investment in tradable goods, reduce its efficiency and profitability and, ultimately, reduce investment rates. Further, this pattern may induce effects of the "Dutch Disease" type during booms: overinvestment in the commodity and a deterioration of manufacturing industry and other activities that produce tradable goods and services, caused by increases in the relative prices of non tradable goods and appreciation of the local currency. To the extent that there are positive externalities associated with exports, and with tradable goods and services in general, this effect will further reduce long term growth. The weakening of the tradable goods sector during booms may also lead to severe exchange crisis when commodity prices fell.

Thus, higher instability and uncertainty caused by these variations would have effects on long run growth rates due to their effect on investment rates and efficiency, as well as to "Dutch disease" effects. As a consequence, they may affect citizens welfare both by reducing long-run average consumption and by inducing variations in consumption over time.

Things are, naturally, less simple than assumed. Normally not all the commodity net revenues will be appropriated by Government and

there are wealth effects: thus, private investment and consumption will increase during booms even if government expenditures and the real exchange rate remain unchanged. In some cases, as in coffee in Colombia, the problem is to moderate fluctuations in producer incomes, to avoid -or moderate- their investment and consumption cycles.

Evenmore, the pattern of variations in commodity prices is highly uncertain (if it were not, one could venture that private agents would take appropriate stabilizing actions, no matter what government's would do). Thus, the appropriate policy response would not be "perfect" stabilization. Not all the extra "boom" revenues should be saved, neither should the exchange rate remain unchanged. Besides, Central Bank interventions may affect, but not determine, the real exchange rate.

However, the above stylized discussion show that Governments should attempt to moderate the internal effects of cycles in commodity prices, both through saving at least part of excess fiscal revenues (or excess producer incomes) and foreign exchange earnings during booms, in order to avoid large swings in public expenditure and the real exchange rate.

***Stabilization in practice: the need for Stabilization Funds.***

Pressures to overspend and to over-appreciate during booms may be effectively resisted only if appropriate institutional mechanisms, such as Stabilization Funds, are created and compulsory saving rules are established. The Colombian experience with the management of coffee booms is worth reviewing.

Government and the Coffee Growers Federation (Fedecafe) set the intervention price paid by the National Coffee Fund to buy part of the crop (private exporters would have to pay at least this price). The Fund receives income from the so called coffee retention (a variable percentage of coffee exports, that is paid in cash or in kind) and the ad-valorem tax on exports. Additionally, it may generate profits or losses in its direct coffee exports.

Government agrees with Fedecafe on uses of Fund surpluses: sterilization, financing of public investment, expenditures of Coffee Committees -in physical or social infrastructure in coffee zones -or other real or financial investments.

The handling of these instruments varied significantly in different booms.

During the boom of 1976/79 a sizeable part of the increase in international prices was transferred to producers. Even though the rest of economic policy was handled in a countercyclical fashion, Dutch Disease effects could not be avoided. There was excessive investment in coffee (which made very difficult macroeconomic management when prices fell afterwards), crowding out of public and private investment in other sectors (especially in manufacturing), an exchange rate appreciation and reductions of taxes on domestic activity. All this resulted in greater vulnerability of the external sector and of public finances during the phase of lower coffee prices <sup>11</sup>.

The "mini-boom" of 1986 was handled in a different way. Increased revenues were transferred to a minimum extent to producers and the surplus of the National Coffee Fund was used to increase its liquidity (so it could finance without difficulties the purchasing of crops during the years of falling prices after 1987, until the collapse of the International Coffee Agreement reduced prices below the historical minimum). The surplus was partly sterilized in the Central Bank and used for external public debt reduction, without creating pressures on internal interest rates. Investment in coffee increased moderately and the real devaluation and fiscal adjustment processes initiated in 1985 were not interrupted. There was no crowding out of other investment, public or private. Weakening of tradable sectors and of public finances was avoided, in contrast with what happened during the previous boom.

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<sup>11</sup> For a detailed discussion of this experience, see, among others Perry, G., R. Junguito and Nohora de Junguito (1981); Ocampo, J.A. and E. Reveiz (1979).

In recent years Colombian public finances have become more dependent on oil incomes (nearly 4% of GDP in 1989) than on coffee. This tendency will continue due to additional recent oil findings. In 1991 a decree was issued to force income received by Ecopetrol in excess of a specific price to be used only for investment and debt service of state owned energy enterprises. Such an arrangement, though, is far from a proper Stabilizing Fund. Public expenditures may be increased during the booms by releasing funds previously used to finance such energy expenditures, through Fund financing. Also, there are no rules for the amounts that may be drawn from the Fund to finance public expenditure during phases of low oil prices.

The experience of other oil-exporting countries during the oil boom of the seventies show that, when there are no pre-established mechanisms to force savings of temporary surpluses, Governments would hardly succeed in avoiding pressures, or temptations, of using part or all of the temporary surplus and even more, given their greater access to foreign credit. Even when these mechanisms are available, but rules have a discretionary character, it is difficult to save all or most of the temporary surplus, as happened in Colombia during the coffee boom of 1976/80.

Similarly, during periods of price reductions, if there are no savings from previous booms or wide access to external borrowings (which is generally reduced in such periods), it is not possible to maintain public expenditure.

Things become worse if rigid rules are followed regarding quantitative targets of fiscal deficits, without considering these short run or cyclical components derived from cycles of commodity prices. In such a case, the evolution of public finances amplifies the consequences of external shocks on aggregate demand and, thus, on inflation, real exchange and growth rates.

#### **B. Managing quantity export booms.**



Colombia has recently found substantial oil reserves, which will double current reserve levels and triple current oil exports during the years of maximum production of the new fields. The present value of net additional funds provided by these discoveries amount to near 29% of current GDP. Even the additional investment needed for developing the new fields and their transport system will have a non-negligible effect on growth rates and inflationary pressures (Scenario A in Table 8).

A recent study by Fedesarrollo <sup>12</sup> showed that short run macroeconomic performance will depend critically on exchange rate and fiscal policy responses to the boom. In particular, a strong appreciation of the currency would depress short run growth rates below those that would have prevailed without the discoveries. If, on the other hand, the real exchange rate does not change, and public expenditures increase substantially, inflation rates will be above current decreasing trends.

A proper coordination of exchange rate and fiscal policy faces an institutional problem, which renders itself to be analyzed within the framework of game theory. The Central Bank, since 1991, is autonomously in charge of both monetary and exchange rate policies and its constitutional goal is price stability. Thus, it will be tempted to fix the nominal exchange rate in order to achieve a rapid reduction in inflation rates, while asking the Government to compensate for the negative effects of real appreciation on public finances, through a severe restriction in public expenditures. In such an scenario, inflation rates would be indeed reduced rapidly, but short run growth rates would be lower than without the oil discoveries (Scenario B). Thus, both because the poor growth performance and the strong restriction in public investment, this option would not be acceptable for the Government.

The Government, on the other hand, would prefer to use part of the additional revenues to increase badly needed public investment and current social expenditures, while asking the Central Bank to avoid currency appreciation in order to maintain reasonable growth and

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<sup>12</sup> Lora, E., Perry, G. and Barrera, F., (1993).

employment levels. This Scenario results in high growth rates, but inflation rates would also be higher than without the development of the oil discoveries (Scenario C). Thus, this option would not be acceptable for the Central Bank.

If there is no coordination, the Central Bank will fix the nominal exchange rate as in Scenario B and the Government will increase public expenditures as in Scenario C. The results of these non-cooperative Scenario (D) would be worrisome indeed: growth rates below historical trends and rapidly growing fiscal and Balance of Payments deficits, which will not be sustainable unless new major oil findings come to the rescue (at best, a highly uncertain event).

A Cooperative Scenario (E), in contrast, would achieve higher growth rates, lower inflation rates and lower (and very moderate) fiscal and current account deficits, in comparison with the base case (trends without the recent oil discoveries). It could be, then, a compromise solution in which both authorities would "win" , as compared to a case in which the oil discoveries would remain undeveloped.

Three difficulties stand in the way of such a cooperative solution. First, it is not a stable solution. In particular, at least one of the authorities (the Central Bank) may win, with respect to its anti-inflationary objectives, if it opts out, even if by doing so the Government may also opt out. Second, the Government may not be able to resist the political pressures for higher spending levels. Third, the cooperative scenario may not be credible -specially, given the previous considerations-, so private economic agents may entail higher appreciation and inflationary expectations, destabilizing speculative private capital flows may develop and higher exchange rate appreciation may become unavoidable.

Thus, an external rule has to be imposed on both authorities in order to reduce the possibilities of default and give credibility to the Cooperative Scenario. Such an external rule may take the form of a Stabilization Fund, created by Law. The Fund would receive a predetermined percentage of additional revenues and would have to

invest its resources abroad, until oil production from recent discoveries begin to decline. The Fund could not be used as collateral for borrowing abroad and it would not be part of international reserves administered by the Central Bank. Thus, it could not be used for excessive increases of public expenditure, nor to finance a drastic currency appreciation.

#### **IV. THE ROLE OF CONVENTIONAL TAX REFORM IN STABILIZATION AND STRUCTURAL ADJUSTMENT PROCESSES**

##### **A. Tax Reform Episodes.**

##### ***1974: stabilization and structural considerations.***

For the last two decades the tax structure has undergone an almost continuous process of reforms, starting in 1974, when all national taxes were restructured. This reform was introduced as part of a Stabilization Plan: the annual inflation rate had increased from less than 10% in 1970 to near 30%, partly as a consequence of an increasing fiscal deficit. It was also intended to simplify the tax structure, and make it more neutral and progressive. It reduced or eliminated a great number of minor taxes and concentrated revenues in the income tax and the VAT.

Main changes in the income tax were the following:

(1) Simplification and reduction of the rate structure of the business tax. From 4 different taxes, 4 different regimes and progressive rates (that could amount, together, up to 72%) to single a tax, two regimes and fixed rates: 40% for corporation and 20% for limited liability companies (partners of limited liability companies paid tax on total profits and stock owners only on distributed dividends);

(2) Increased progressivity on rate structure (till 56%) and tax exemptions in the income and wealth tax for individuals.

(3) Suppression of most capital income exemptions, including those on capital gains. These were taxed with the general rate for business and with a reduced rate, but progressive with total income, for individuals.

(4) Establishment of a general regime of minimal presumed income, based on net wealth (8% of net wealth).

(5) Introduction of inflation adjustments in the rate structure and on assets costs to determine capital gains.

The sales tax on manufactured goods allowed for the deduction of taxes on some inputs, since its creation (1965). It was turned into a VAT at the manufacturing and import level in 1974: primary sectors and domestic trade were still excluded. The VAT is of the credit-type, with rebates for exports. It was an income type VAT, as it did not allow deduction of taxes paid on capital goods. Average rate was raised to 15% (from 6%) and rate dispersion was increased: 0% for food, drugs, etc.; 6% for other wage-goods and 35% for luxury goods (cars, jewelry, etc.). A wide list of taxed services was also included.

In 1977 and 1979 exemption regimes were extended and the minimum presumed income regime was weakened, in the face of a rise in revenues due to the coffee boom.

### ***1983: efficiency and decentralization considerations.***

The next episode of tax reform took place in 1983, under conditions of increasing fiscal disequilibrium. Exemptions were again reduced, the minimum presumed income regime was strengthened, partial adjustments due to inflation were applied on interest proceeds received by individuals, withholding and advanced payments were extended and rate structures were simplified. VAT was extended to retail trade, its rate was unified in 10% (a few goods remained in 35%) and the list of taxed services was extended.

Departments and Municipalities gained autonomy in the setting of rates and exemptions on the taxes they were in charge of. The bases of these taxes were modernized and inflation adjustments were introduced for the base of the property tax. These measures were part of a package of reforms which pointed towards fiscal decentralization.

The reform did not succeed in increasing national revenues, but the secular declining trend of Departamental and Municipal revenues came to a halt, and even gained participation in overall fiscal revenues thereafter.

***1986:     adequating the tax structure to international  
capital           mobility.***

The third important episod of tax reform took place in 1986. The main objective of this reform was to adequate the income tax structure to the U. S. tax reform of the same year, reducing rates and, specifically taxation of capital income. The business tax regime was unified into a rate of 30% and dividends and profits of limited liability companies were taxed no more under the individual income tax; the Government was authorized to reduce the rate of the remittance tax (it was gradually reduced from 30% to 12%) and capital gains on stock sales were exempted. The maximum marginal rate for individuals was also reduced from 49% to 30%.

As a compensation for lost revenues the growing surplus of the Oil State firm (derived from new exports, as a consequence of discoveries made in 1983), were transferred to the budget as income tax and non-tax revenues. Additionally, some exemptions were eliminated, the withholding system was extended to almost all transactions, and a generous amnesty was granted to induce capital declaration of hidden assetts and capital repatriation.

Finally, Congress authorized the Government to introduce full inflation adjustments in the balance sheets of businesses, with the aim of eliminating previous tax incentives in favor of indebttness and against equity, and to reduce the tax on personal net wealth. A system

of inflation adjustments similar to the Chilean was adopted in 1988, to be applied from 1992 onward, and the tax on personal net wealth was eliminated since that year, with the aim of further stimulating capital repatriation.

***1990/1992: substituting trade taxes for domestic taxes.***

In 1990 an aggressive process of import liberalization was initiated. All non-tariff restrictions were immediately eliminated and, the sum of the general surtax on imports and the average nominal tariff was reduced from 44% to 11.4% in two years time. In addition, trade with Venezuela and Ecuador was totally untaxed. The VAT rate was raised from 10% to 12% in 1991, and to 14% from 1993 onwards, and its base was extended by the inclusion of new services, in order to compensate for loss collections on trade taxes and to obtain additional resources needed for internal security and to finance additional expenses due to the Constitutional reform of 1991.

With the same purpose a temporary surtax on income was established (and raised to 25% from 1992 onwards) and specific taxes were established on coal and oil production. These were called "war taxes". The 1992 reform also introduced investment and research and development incentives. In the same vein, it allowed deduction (from the income tax) of VAT paid in the purchase of capital goods.

**B. Evolution of the tax structure**

Colombia has been characterized by a relatively low and stable tax burden, between 13% and 14% of GDP, with a slight tendency to increase in recent years. (Table 9)

Approximately two thirds of tax revenues belong to the Central Administration (between 8% and 10% of GDP) and 16% additionally to national decentralized agencies. Departaments gather about 11% of total tax revenues and Municipalities around 7%.

The share of direct taxes has been variable and high, as compared to latinamerican standards. From a peak of 5% of GDP by the end of the

fifties, it went to a low 3.5% of GDP in 1974 (Table 10 A). The 1975 tax reform raised it to 4.5% of GDP, it declined once more to 2.6% in 1981 and 1982, to rise again to 5% in 1991 (a higher figure is expected in 1992 and 1993, due to the 1992 tax reform). Direct taxes represented 48.4% of total national tax revenues in 1991 (Table 10 B)

The sales tax, established in 1965, turned into VAT at a manufacturer's level in 1974 and extended to retail trade in 1983, has been continuously growing in importance: from 0.8% of GDP in 1970 to 3.1% in 1991 (and from 9% to 30% of total national tax revenues).

The tax on gasoline has been low as compared to international standards. It declined from 0.6% to 0.4% of GDP from the early 70's to the middle of that decade, it then increased to 0.9% of GDP in 1981 and has remained around 0.7% of GDP since 1986. These variations have followed the changes on real domestic prices, which fell at the beginning of the 1970's, with the speeding up of the inflationary process, and since then have followed the changes of international prices, though remaining at inferior levels.

Other internal taxes (stamp duties, official stamped paper, etc) have declined continuously (from 0.6% to 0.15% of GDP in 1971 to 0.15% in 1990)

Import tariffs, were reduced from 1.9% of GDP (in 1970) to 1.1% in 1984. They were then raised up to 2.3% of GDP in 1987 (representing around 23% of National tax revenues in that year), as part of the fiscal adjustment effort of the mid eighties. From then on import tariffs have been lowered as a consequence of the process of trade liberalization. In 1991 they amounted 1.4% of GDP (13.3% of national tax revenues) and it is expected that this figure will be reduced to about 1% of GDP in 1993.

Finally, taxes on coffee exports declined from a top level of 0.9% of GDP in 1977 (years of coffee boom) to 0.04% of GDP in 1991, as a consequence both of declining international prices and rate reductions. This tax was eliminated in 1992.

As in other countries that have liberalized their economies, there has been a recent tendency to substitute taxes on foreign trade for taxes on domestic activity. The share of the former has declined from 30-35% of national tax revenues, at the beginning of the 70's, to 16% in 1991. This trend appears less striking when VAT on imports is registered as a tax on trade (from 30-37%, at the beginning of the 70's, and between 1985 and 1988, to 23% in 1991).

### **C. The drive towards decentralization.**

Fiscal adjustment in the second half of the past decade took place in the public sector at the national level, whereas the deficit originated at the Department and Municipal levels (excluding transfers) grew continually during the decade (by 3.2% of GDP), as a consequence of a deliberate policy of decentralizing public expenditure. Indeed, total expenditure was reduced at the national level during the decade, while there was an increase in Departmental expenses (from 3.7% to 4.5% of GDP) and, particularly, in the Municipalities (from 2.5% to 5.4% of GDP). Specially dramatic was the change in composition of public investment: while capital expenditures of Municipalities increased from 1.2% to 3.1% of GDP and those of Departments from 0.7% to 1.1% of GDP, capital expenditures at the national level were reduced from 4.6% to 3% of GDP. (Table 11).

Fiscal adjustment at the national level came basically from public enterprises (whose accounts went from a deficit of 1.8% in 1980 and 3.1% in 1983 to a surplus of to 2% GDP at the end of the decade - excluding transfers-), rather than from the Central Administration (whose accounts registered a similar surplus at the end and beginning of the decade -excluding transfers-, even though it suffered a deterioration until 1984) .

The reduction of investment at the national level took place mainly in public enterprises (from 3.8% to 1.4% of GDP between 1985 and 1990) and, secondly, in decentralized agencies. Similarly, during the period of expenditure increase (in the first half of the decade), the large increase in investments took place in public enterprises (from 2.1% to 3.8% of GDP). These drastic changes in public enterprises accounts



were due, largely, to the development and maturing of the export energy projects, mentioned above. There was also a significant increase in tariffs of public services during the decade.

The continuous deficit increase in Departments and Municipalities was covered with growing transfers from the national budget. "Automatic" transfers to territorial entities increased from 14.4% of current revenues of the National Central Administration in 1980 to 20.9% in 1986 and to 23.4% in 1990. Those of a discretionary character came to represent 7.5% of current revenues in 1991 <sup>13</sup>. Nevertheless, this increase was compensated to a large extent by the reduction of transfers to decentralized entities and public enterprises at the national level. Thus, net transfers of the national central administration to the rest of the public sector increased slightly from 7.1% of GDP in 1980 to 8% in 1982 and were reduced then to 6.4% in 1990.

The task of national fiscal authorities was thus limited, to a great extent, to establish appropriate mechanisms for the transfer of resources from public enterprises to the national government (by means of legal changes that allowed for royalty, income tax and commercial profits transfers) and to reduced transfers to decentralized agencies, in order to finance the increasing transfers to Departments and Municipalities as well as the deficit originating in the Central Administration. Thus, new oil revenues helped both financing the decentralization effort and the fiscal adjustment.

The constitutional reform of 1991 ordered a further decentralization of expenditure and, consequently, a further increase of transfers of national resources, specially in favor of Municipalities. As a consequence, total transfers to territorial entities will increase from 32.7% of current revenues of the Central Government in 1992 (including 7.5% of the discretionary transfers to education and health services), to about 36.6% in 1993 and 47% in the year 2002 <sup>14</sup>.

Several questions remain open:

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<sup>13</sup> See Perry, G. and J. A. Rodriguez (1991).

<sup>14</sup> Op. cit.

(1) Will it be possible, as ordered by the new Constitution, to make even transfers of expenditure responsibilities and resources to territorial entities?. Past experience, in particular with transfers of resources and responsibilities ordered by Law 12 of 1986 shows the huge difficulty entailed in achieving this goal.

(2) If the continuation of the decentralization process requires additional revenues, to what extent will they come from increasing fiscal revenues derived from the new oil findings, as occurred in the past, or from a greater fiscal effort of the Central Administration or of Departments and Municipalities?.

The new Constitution gives greater tax autonomy to territorial entities and contemplates that transfer distribution should be based on criteria that include their fiscal effort and their administrative efficiency (apart from the target population of the services rendered and unsatisfied basic needs). Previous experience suggest that some additional tax effort may be expected from municipalities, but not from Departments.

Municipal tax revenues increased rapidly since the tax reform of 1983 gave greater tax autonomy to these entities (with respect to rates, within bounds, and exemptions), while they had declined before for decades (Table 12A). However most of the increase took place in the so called "Industry and Commerce" tax (Table 12B), which has evolved towards an inefficient cascade sales tax. Departmental revenues did not increase with respect to GDP after the 1983 tax reform, though their secular decline came to a halt. The inelasticity of most Departmental taxes (tobacco, liquor, beer) makes a future rising trend very improbable.

The precise effect of these Constitutional norms will depend on their legal and administrative development. This will be an outstanding area of fiscal reform and debate during the next years.

## **V. A FEW CONCLUSIONS.**

### **TAX REFORM AND STRUCTURAL REFORM.**

Two main conclusions are derived from this study.

First, from the analysis in Sections II and IV, it is clear that conventional tax reforms (reform of permanent and structural features of the tax system), in the eighties and early nineties, had little to do with stabilization programs and were more related to the overall structural reform process.

As a general trend, something similar happened in other latinamerican countries <sup>15</sup>. The initial fiscal policy reaction to the fiscal crisis of the first half of the eighties was based in most countries in sharp cuts of public expenditure and temporal increases in trade taxes and minor taxes (on fuels, on financial transactions, etc.). The most basic domestic taxes (income taxes and VAT) played a small role in early stabilization efforts.

Colombia was an exception with regard to drastic expenditure cuts: it did not have to reduce non-energy investments or social expenditures, which help to explain the exceptionally mild effects of macroeconomic adjustment on investment and growth rates. As far as it needed an autonomous fiscal adjustment, it relied initially on sharp increases in import taxes. Short run adjustment was largely facilitated by the peculiar characteristics of the fiscal disequilibrium/adjustment process of the eighties in Colombia: a process more related to the fiscal effects of external cycles and public investment in energy export projects, than to structural deficiencies and corrections in the conventional tax system.

However, most latinamerican countries undertook substantial structural reform efforts on the basic domestic taxes from the mid eighties onwards and such efforts were related to the general structural reform process: trade and financial liberalization, internal market deregulations and fiscal decentralization <sup>16</sup>. This was certainly the case in Colombia.

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<sup>15</sup> See Perry, G. and A.M. Herrera, (1993).

<sup>16</sup> Ibid.

Structural reform in the broad domestic taxes was a consequence of the overall structural reform process due to several reasons:

(1) There has been a growing consensus in the fact that permanent and credible fiscal equilibrium is absolutely crucial in the more open economies of the early nineties. A significant fiscal disequilibrium in an open economy has immediate consequences on both the current account (a rapid increase in imports) and the capital account of the balance of payments (an increase in external indebtedness even if the fiscal deficit is financed domestically, as in this case there will be an increase in private capital inflows as a response to growing internal interest rates). In a closed economy the consequences on the current account could be moderated by strengthening of import controls and those on the capital account by restrictions on capital flows, at least in the short run.

(2) Drastic expenditure cuts or increases in trade and minor taxes can not be permanent, neither credible. Trade competitiveness require increased infrastructure and human capital expenditures. Taxes on trade or financial transactions run against trade and financial liberalization. Excessive energy taxes put a burden on international competitiveness. Minor inefficient taxes have the same effect. Thus, permanent and credible fiscal equilibrium need to be based on a strengthening of broad-based domestic taxes (income taxes and VAT).

(3) There is a further need to substitute taxes on trade by taxes on domestic activity, as a result of trade reform. Taxes on imports increased with import liberalization in the short run in some latinamerican countries where protection was based more on quantitative restrictions than on tariffs and where elimination of exemptions and the way in which nominal tariffs were reduced permitted an initial increase in the average effective tariff <sup>17</sup>. This was not the case in Colombia. In Colombia, as in some other latinamerican countries, the reduction of tariffs has gone pari-passu

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<sup>17</sup> Ibid. Even in these cases import taxes reduced their importance in the long run.

with increases in VAT rates, as some recent analytical developments have recommended <sup>18</sup>.

(4) Given the limited bases of most regional and local taxes, and the inelasticities of some of them, fiscal decentralization has required increased transfers from national revenues and, thus, has put more pressure on increasing revenues from VAT and income taxes. This pressure has been somewhat moderated in Colombia by the availability of growing fiscal revenues from oil exports. The whole area of regional and municipal taxation and a proper design of revenue transfers remain high on the fiscal reform agenda for the nineties.

(5) At the same time, the greater capital mobility related to financial liberalization, has put pressure on reduction of corporate and income tax rates and, more generally, on reducing nominal taxation of capital income. The reduction of rates, exemption of dividends and capital gains on stocks (1986), the introduction of full inflation adjustments in the balance sheet of enterprises, the reduction of remittance taxes and the repeal of the personal net wealth tax (from 1992 onwards), have all been justified on such grounds. Similar developments have taken place in most major latinamerican countries. The US tax reform of 1986 had a large influence on these developments.

(6) The observed need to increase revenues on a permanent basis, however, required to broaden bases (eliminating or reducing exemptions and special deductions), both in income taxes and the VAT, widening the scope of withholding and current payment systems and strengthening tax administration. In the case of Colombia (and in some other latinamerican countries) it has required some reversal of the previous reduction in corporation and personal income tax marginal rates.

The second major conclusion of this paper (Section III) is that some of the most outstanding fiscal reform issues relate more to what we have called "unconventional" tax reform, than to conventional topics of tax reform. In the case of Colombia, besides the fiscal federalism issues, they refer particularly to the need to establish institutions for

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<sup>18</sup> See Mitra, P. (1990).

establishing the "expendable" fiscal revenues derived from primary exports (first coffee, now oil). Institutions, such as Stabilization Funds created by law, are needed to obtain:

(1) Stabilization of "expendable" fiscal revenues vis-a-vis commodity export prices cycles (a problem common to many other latinamerican countries for which such revenues represent a high fraction of consolidated public sector revenues), in order to moderate inefficient cycles in public expenditure, real exchange rates and economic activity, that would reduce investment levels and yields and, thus, long term growth rates.

(2) "Stretching" in time of additional expenditures permitted by large revenue increases derived from sudden increases in export quantities, to avoid poor expenditure selection and moderate adverse "dutch-disease" effects.

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Table 1  
MACROECONOMIC INDICATORS

|                                    | 1971 | 1972  | 1973  | 1974  | 1975  | 1976  | 1977  | 1978  | 1979  | 1980  | 1981 |
|------------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Fiscal Surplus (% of GDP)          | -2.7 | -2.7  | -3.4  | -0.1  | 0.1   | 1.3   | -1.2  | 0.8   | 0.3   | -2.3  | -5.5 |
| Current Account Surplus (% of GDP) | -5.8 | -2.2  | -0.5  | -2.8  | -1.3  | 1.1   | 1.9   | 1.1   | 1.6   | -0.6  | -5.4 |
| Gross Domestic Product (% change)  | 6.0  | 7.7   | 6.7   | 5.7   | 2.3   | 4.7   | 4.2   | 8.5   | 5.4   | 4.1   | 2.3  |
| Consumer Price Index (% change)    | 9.1  | 13.4  | 20.8  | 24.3  | 22.9  | 20.2  | 33.1  | 17.8  | 24.7  | 26.5  | 27.5 |
| Real Exchange Rate Index 1/        | n.a. | n.a.  | n.a.  | n.a.  | n.a.  | 104.5 | 93.9  | 93.6  | 89.5  | 91.4  | 89.3 |
| Real Exchange Rate Index 2/        | 98.0 | 102.5 | 101.5 | 99.1  | 107.4 | 104.3 | 90.4  | 89.0  | 87.9  | 88.9  | 85.0 |
|                                    | 1982 | 1983  | 1984  | 1985  | 1986  | 1987  | 1988  | 1989  | 1990  | 1991  |      |
| Fiscal Surplus (% of GDP)          | -6.0 | -7.4  | -5.9  | -4.4  | -0.3  | -1.9  | -2.5  | -2.4  | -0.7  | -0.6  |      |
| Current Account Surplus (% of GDP) | -7.8 | -7.8  | -3.7  | -5.2  | 1.1   | 0.9   | -0.6  | -0.5  | 1.0   | 3.6   |      |
| Gross Domestic Product (% change)  | 0.9  | 1.6   | 3.4   | 3.1   | 5.8   | 5.4   | 3.7   | 3.6   | 4.2   | 2.3   |      |
| Consumer Price Index (% change)    | 24.5 | 19.8  | 16.1  | 24.0  | 18.9  | 23.3  | 28.1  | 25.8  | 29.1  | 26.8  |      |
| Real Exchange Rate Index 1/        | 82.8 | 80.6  | 87.4  | 100.0 | 118.8 | 121.7 | 121.9 | 124.3 | 139.5 | 135.5 |      |
| Real Exchange Rate Index 2/        | 80.2 | 77.6  | 75.3  | 100.0 | 128.5 | 132.4 | 132.4 | 136.1 | 146.5 | 165.9 |      |

1/ Calculated by the Central Bank, taking into account the producers price index.

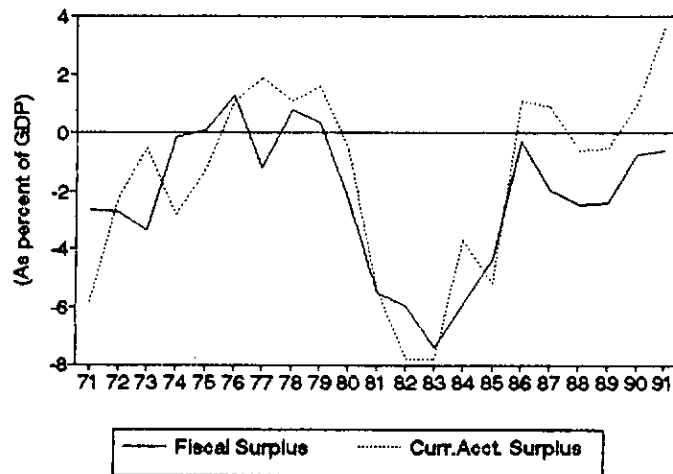
2/ Calculated by Fedesarrollo, taking into account the consumers price index.

Source: International Monetary Fund, Banco de la Republica and Fedesarrollo.

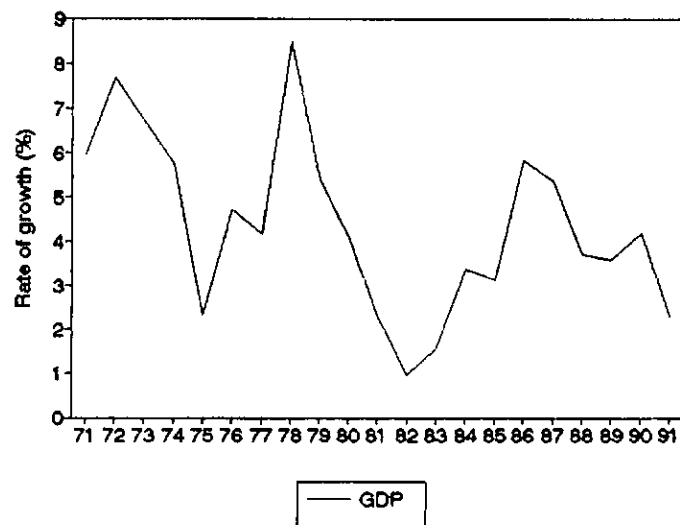


# Graphic 1. MACROECONOMIC INDICATORS

## A. Fiscal and External Surplus



## B. Economic Growth



## C. Price Variations

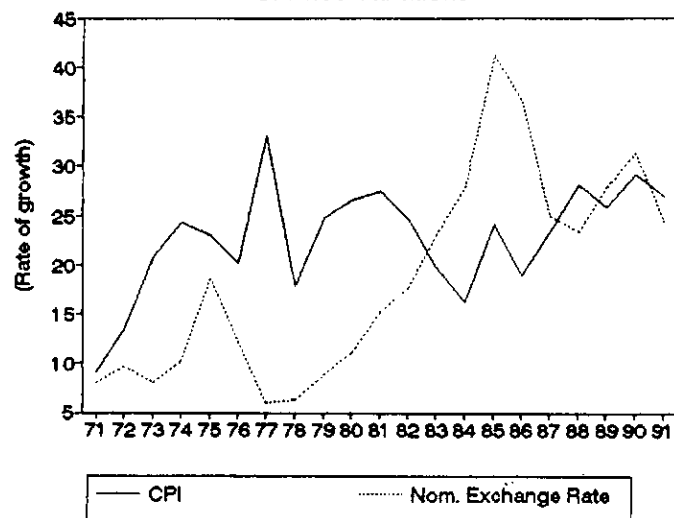


Table 2  
BALANCES BY SECTOR  
(As Percent of GPD)

|                          | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Savings                  | 16.3 | 13.3 | 16.1 | 18.2 | 18.8 | 17.1 | 19.0 | 21.6 | 20.4 | 19.7 | 19.6 |
| Private                  | 11.9 | 10.0 | 13.1 | 15.1 | 14.8 | 12.2 | 12.3 | 14.2 | 13.6 | 15.1 | 15.0 |
| Public                   | 4.4  | 3.3  | 3.0  | 3.1  | 4.0  | 4.9  | 6.7  | 7.4  | 6.8  | 4.6  | 4.6  |
| Investment               | 18.0 | 17.6 | 16.1 | 15.8 | 16.4 | 15.3 | 15.9 | 14.5 | 15.4 | 15.5 | 16.8 |
| Private                  | 12.4 | 11.6 | 9.8  | 10.1 | 11.5 | 9.9  | 10.3 | 7.9  | 9.9  | 9.9  | 9.4  |
| Public                   | 5.6  | 6.0  | 6.3  | 5.7  | 4.9  | 5.4  | 5.6  | 6.6  | 5.5  | 5.6  | 7.4  |
| Inventories accumulation | 2.2  | 1.9  | 2.0  | 2.5  | 5.1  | 1.7  | 1.7  | 4.2  | 2.9  | 2.7  | 2.3  |
| Private                  | 2.1  | 1.5  | 2.5  | 1.4  | 5.3  | 1.8  | 1.6  | 1.7  | 1.6  | 2.5  | 2.1  |
| Public                   | 0.1  | 0.4  | -0.5 | 1.1  | -0.2 | -0.1 | 0.1  | 2.5  | 1.3  | 0.2  | 0.2  |
| External Sector          | 3.9  | 6.1  | 1.9  | 0.0  | 2.6  | -0.0 | -1.5 | -2.9 | -2.2 | -1.6 | -0.5 |
|                          | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |      |
| Savings                  | 16.9 | 15.0 | 14.7 | 15.5 | 17.0 | 22.0 | 21.1 | 22.7 | 21.9 | 20.8 |      |
| Private                  | 14.1 | 13.2 | 13.4 | 12.4 | 12.9 | 14.3 | 14.1 | 15.2 | 15.5 | 15.1 |      |
| Public                   | 2.8  | 1.8  | 1.3  | 3.1  | 4.1  | 7.7  | 7.0  | 7.5  | 6.4  | 5.7  |      |
| Investment               | 17.6 | 17.4 | 17.2 | 17.0 | 17.5 | 17.8 | 17.6 | 19.6 | 19.2 | 18.2 |      |
| Private                  | 9.8  | 8.9  | 8.1  | 8.3  | 8.3  | 9.3  | 8.5  | 10.0 | 10.2 | 10.0 |      |
| Public                   | 7.8  | 8.5  | 9.1  | 8.7  | 9.2  | 8.5  | 9.1  | 9.6  | 9.0  | 8.2  |      |
| Inventories accumulation | 3.0  | 3.0  | 2.7  | 2.0  | 1.5  | 0.3  | 2.5  | 2.5  | 1.2  | 1.3  |      |
| Private                  | 2.3  | 2.1  | 1.9  | 1.7  | 1.0  | 0.6  | 2.0  | 1.9  | 0.6  | 0.7  |      |
| Public                   | 0.7  | 0.9  | 0.8  | 0.3  | 0.5  | -0.3 | 0.5  | 0.6  | 0.6  | 0.6  |      |
| External Sector          | 3.7  | 5.4  | 5.2  | 1.9  | 0.4  | -2.0 | -1.5 | 0.3  | -0.9 | -0.8 |      |

Source: National Accounts, DANE.

Table 3  
CONSOLIDATED PUBLIC SECTOR BALANCE  
(As percent of GDP)

|                               | 70   | 71   | 72   | 73   | 74   | 75   | 76   | 77   | 78   | 79   | 80   | 81   | 82   | 83   | 84   | 85   | 86   | 87   | 88   | 89   | 90   | 91   |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| I. Current Revenue            | 18.6 | 19.1 | 17.4 | 18.1 | 18.3 | 18.5 | 19.6 | 19.7 | 20.8 | 19.4 | 18.3 | 17.6 | 18.1 | 18.0 | 19.5 | 21.7 | 25.0 | 22.9 | 23.0 | 23.1 | 23.2 | 23.6 |
| A. Tax Revenue                | 13.3 | 13.8 | 12.5 | 13.0 | 13.0 | 13.8 | 14.9 | 14.6 | 17.1 | 14.2 | 12.9 | 12.5 | 12.4 | 12.6 | 12.6 | 13.6 | 13.9 | 14.4 | 14.2 | 14.2 | 14.2 | 14.2 |
| B. Non-tax Revenue            | 5.2  | 5.4  | 4.9  | 5.1  | 5.2  | 4.7  | 4.7  | 5.1  | 3.6  | 5.2  | 5.4  | 5.1  | 5.7  | 5.4  | 6.9  | 8.1  | 11.1 | 8.4  | 8.8  | 8.9  | 9.0  | 9.4  |
| II. Current Expenditure       | 14.1 | 15.8 | 14.4 | 14.9 | 14.2 | 13.6 | 12.9 | 12.3 | 13.9 | 14.8 | 13.9 | 14.8 | 15.4 | 16.2 | 16.9 | 17.0 | 16.4 | 17.4 | 17.0 | 17.5 | 16.6 | 16.3 |
| A. Operational Expenditures   | 9.3  | 11.0 | 9.6  | 9.5  | 8.7  | 8.9  | 8.2  | 7.7  | 8.6  | 9.3  | 8.2  | 9.1  | 9.3  | 9.4  | 9.8  | 9.0  | 8.4  | 8.4  | 8.5  | 8.8  | 8.2  | 8.0  |
| B. Interest Payments          | 1.1  | 1.0  | 1.1  | 1.3  | 1.6  | 1.4  | 1.5  | 1.4  | 1.6  | 1.7  | 1.5  | 1.6  | 1.9  | 2.2  | 2.6  | 3.2  | 3.3  | 4.0  | 3.8  | 3.9  | 3.7  | 3.7  |
| External Debt                 | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | 1.0  | 1.0  | 1.2  | 1.5  | 1.8  | 2.2  | 2.4  | 2.8  | 2.6  | 2.7  | 2.7  | 2.5  |
| Domestic Debt                 | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | 0.5  | 0.6  | 0.7  | 0.7  | 0.8  | 1.0  | 0.9  | 1.2  | 1.1  | 1.2  | 1.1  | 1.2  |
| C. Other Current Expenditures | 3.8  | 3.8  | 3.7  | 4.1  | 3.9  | 3.4  | 3.1  | 3.2  | 3.7  | 3.7  | 4.2  | 4.1  | 4.1  | 4.5  | 4.5  | 4.8  | 4.8  | 5.0  | 4.8  | 4.8  | 4.7  | 4.6  |
| III. Savings                  | 4.4  | 3.3  | 3.0  | 3.1  | 4.0  | 4.9  | 6.7  | 7.4  | 6.8  | 4.6  | 4.5  | 2.8  | 2.7  | 1.9  | 2.6  | 4.7  | 8.6  | 5.4  | 6.0  | 5.7  | 6.6  | 7.3  |
| IV. Capital Expenditure       | 5.6  | 6.0  | 5.7  | 6.5  | 4.2  | 4.8  | 5.4  | 8.6  | 6.0  | 4.3  | 6.8  | 8.3  | 8.7  | 9.3  | 8.6  | 9.0  | 8.8  | 7.4  | 8.4  | 8.1  | 7.4  | 7.9  |
| Gross Fixed Capital Formation | 5.2  | 5.6  | 5.9  | 5.4  | 4.7  | 5.2  | 5.4  | 6.3  | 5.2  | 5.3  | 5.9  | 7.1  | 7.4  | 8.3  | 7.4  | 8.0  | 6.7  | 6.2  | 6.9  | 7.3  | 6.8  | 7.3  |
| Other Capital Expenditure     | 0.4  | 0.4  | -0.2 | 1.1  | -0.5 | -0.4 | 0.0  | 2.3  | 0.8  | -1.0 | 0.8  | 1.2  | 1.3  | 1.0  | 1.1  | 1.0  | 2.1  | 1.2  | 1.5  | 0.8  | 0.6  | 0.6  |
| V. Deficit or Surplus         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Primary                       | -0.1 | -1.6 | -1.6 | -2.1 | 1.5  | 1.5  | 2.8  | 0.3  | 2.4  | 2.1  | -0.8 | -3.9 | -4.1 | -5.2 | -3.4 | -1.2 | 3.0  | 2.1  | 1.3  | 1.5  | 2.9  | 3.1  |
| Non-financial Public Sector   | -1.2 | -2.7 | -2.7 | -3.4 | -0.1 | 0.1  | 1.3  | -1.2 | 0.8  | 0.3  | -2.3 | -5.5 | -6.0 | -7.4 | -5.9 | -4.4 | -0.3 | -1.9 | -2.5 | -2.4 | -0.8 | -0.6 |
| Financial Public Sector       | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | -0.2 | 0.0  | 0.8  | -0.5 | -1.0 | -0.9 | -1.0 | -1.1 | -1.1 | -0.8 | n.a. | n.a. | n.a. |
| Consolidated                  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | 0.1  | -2.3 | -4.7 | -6.5 | -8.5 | -6.8 | -5.4 | -1.4 | -3.0 | -3.3 | n.a. | n.a. | n.a. |

n.a.: not available.

Source: 1970-1979: DANE; 1980-1990: Banco de la Republica.  
Non-financial Deficit: Serie Política Fiscal No.16, CEPAL(1990).

Table 4  
DYNAMICS OF THE FISCAL CONSOLIDATED SURPLUS/(DEFICIT)  
(Variations in GDP Percentage)

| Period                            | Disadjustment | Adjustment |       |       |
|-----------------------------------|---------------|------------|-------|-------|
|                                   | 83/79         | 86/83      | 89/83 | 91/89 |
| SURPLUS/(DEFICIT)                 | -7.8          | 8.2        | 5.1   | 1.7   |
| EXPENDITURE INCREASE              | 6.4           | -1.2       | 0.1   | -1.3  |
| Interest Payments                 | 0.5           | 1.1        | 1.7   | -0.2  |
| Transfers to the Private Sector   | 0.0           | 0.0        | 0.0   | 0.0   |
| Operation                         | 0.9           | -1.8       | -0.4  | -1.0  |
| Investment                        | 5.0           | -0.5       | -1.2  | -0.1  |
| REVENUE INCREASE                  | -1.4          | 7.0        | 5.1   | 0.5   |
| Primary products a/               | -1.0          | 5.1        | 3.4   | -1.5  |
| Hydrocarbons                      | 0.3           | 1.7        | 3.3   | -0.9  |
| Coffee                            | -1.3          | 3.5        | 0.1   | -0.6  |
| Other Current Revenue             | -0.4          | 1.9        | 1.7   | 2.0   |
| <i>NATIONAL TAXES</i>             |               |            |       |       |
| <i>(WITHOUT PRIMARY PRODUCTS)</i> | -1.3          | 1.3        | 1.2   | 1.0   |
| Income Tax                        | -0.7          | -0.2       | 0.0   | 1.0   |
| V.A.T.                            | 0.1           | 0.6        | 0.8   | 0.3   |
| Excises                           | 0.1           | -0.1       | -0.1  | 0.0   |
| International trade               | -0.0          | 0.8        | 0.7   | -0.5  |
| Other                             | -0.8          | 0.2        | -0.2  | 0.2   |

a/ Current Revenue.

b/ It does not include income tax of the private oil companies.

c/ It includes income tax of the private oil companies.

Source: Perry, G. (1992).

Table 5  
CONTRIBUTION TO VARIATION IN THE FISCAL SURPLUS/(DEFICIT)  
(Variation in GDP percentage)

|                             | <u>Disadjustment</u> | <u>Adjustment</u> |       |
|-----------------------------|----------------------|-------------------|-------|
|                             | 83/79                | 86/83             | 88/83 |
| 1. External Variables       | -3.0                 | 1.8               | -1.9  |
| 2. Real Exchange Rate       | -0.3                 | 1.2               | 0.8   |
| 3. Domestic Interest Rate   | -0.6                 | 0.1               | 0.2   |
| 4. Other Domestic Variables | 2.7                  | 1.4               | 2.4   |
| 5. Fiscal Policy Variables  | -9.2                 | 1.0               | -0.1  |
| Larger Revenue              | 1.5                  | 1.7               | 2.7   |
| Larger Expenditure          | 10.7                 | 0.7               | 2.8   |
| Explained Variation         | -10.3                | 5.5               | 1.4   |
| Observed Variation          | -7.8                 | 7.2               | 5.0   |

Source: Serie Política Fiscal, Cepal.  
Author's calculations.

Table 6  
FISCAL REVENUE FROM OIL ACTIVITY  
(As Percent of GDP)

|      | Income<br>Tax | Royalties | Tax on<br>fuels | Ecopetrol<br>Operational<br>Surplus | Total   |
|------|---------------|-----------|-----------------|-------------------------------------|---------|
| 1970 | 0.05          |           |                 | 0.23                                | 0.28    |
| 1971 | 0.05          |           | 0.58            | 0.27                                | 0.90    |
| 1972 | 0.05          |           | 0.63            | 0.28                                | 0.96    |
| 1973 | 0.06          |           | 0.58            | 0.25                                | 0.89    |
| 1974 | 0.37          |           | 0.47            | 0.82                                | 1.66    |
| 1975 | 0.02          |           | 0.54            | 0.44                                | 1.00    |
| 1976 | 0.06          |           | 0.70            | 0.20                                | 0.95    |
| 1977 | 0.00          |           | 0.71            | 0.01                                | 0.72    |
| 1978 | 0.01          |           | 0.73            | -0.33                               | 0.40    |
| 1979 | 0.01          | 0.03      | 0.72            | -0.40                               | 0.35    |
| 1980 | 0.00          | 0.03      | 0.72            | -0.42                               | 0.33    |
| 1981 | 0.00          | 0.04      | 0.91            | -0.44                               | 0.51    |
| 1982 | 0.00          | 0.11      | 0.85            | -0.09                               | 0.86    |
| 1983 | 0.15          | 0.13      | 0.81            | -0.48                               | 0.62    |
| 1984 | 0.14          | 0.14      | 0.79            | 0.98                                | 2.05    |
| 1985 | 0.21          | 0.16      | 0.76            | 0.91                                | 2.04    |
| 1986 | 0.17          | 0.26      | 0.69            | 1.17                                | 2.28    |
| 1987 | 0.63          | 0.47      | 0.68            | 1.70                                | 3.49    |
| 1988 | 0.29          | 0.47      | 0.67            | 1.16                                | 2.59    |
| 1989 | 0.75          | 0.81      | 0.69            | 1.70                                | 3.95    |
| 1990 | 0.39 a/       | 0.97      | 0.83            | 1.85                                | 4.04 a/ |
| 1991 | 0.37 a/       | 0.68      | 0.90            | 1.11                                | 3.06 a/ |

a/ It does not include income tax from the private companies.

Source: Perry, G. (1992).

Departamento Nacional de Planeación.

Table 7  
IMPACT OF THE EXCHANGE RATE ON THE FISCAL SURPLUS  
(As percent of GDP)

|  | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 |
|--|------|------|------|------|------|------|------|------|------|------|------|------|
| NET EFFECT OF A 100% DEVALUATION         | 4.0  | -0.2 | 2.5  | -0.5 | -0.2 | 1.9  | 4.8  | 4.7  | 2.9  | 3.8  | 3.3  | n.d. |
| Public Sector External Surplus/(Deficit) | 1.5  | -2.6 | 0.0  | -2.4 | -1.9 | -0.4 | 2.0  | 1.5  | -0.3 | 0.9  | 0.8  | n.d. |
| VAT on imports                           | 0.9  | 0.8  | 0.8  | 0.7  | 0.6  | 0.7  | 0.9  | 1.0  | 1.1  | 1.0  | 0.9  | 1.0  |
| Tariffs                                  | 1.6  | 1.5  | 1.7  | 1.3  | 1.1  | 1.6  | 1.9  | 2.1  | 2.1  | 1.9  | 1.6  | 1.4  |

Source: Departamento Nacional de Planeacion and Lora, E. and F. Sanchez (1992).

Table 8  
MACROECONOMIC EFFECT OF CUSIANA  
(Average 1993-2000)

|                 | GDP Growth<br>Rate | Inflation | Public<br>Deficit* | Current<br>Account* |
|-----------------|--------------------|-----------|--------------------|---------------------|
| Without Cusiana |                    |           |                    |                     |
| Scenario A      | 2.88               | 23.21     | 1.97               | -2.04               |
| Cusiana 600     |                    |           |                    |                     |
| Scenario A      | 4.02               | 24.26     | 0.02               | -0.31               |
| Scenario B      | 1.28               | 13.43     | 0.50               | -1.20               |
| Scenario C      | 4.31               | 24.30     | 1.38               | -1.57               |
| Scenario D      | 1.99               | 13.21     | 3.31               | -3.73               |
| Scenario E      | 3.33               | 20.80     | 0.95               | -1.31               |

\* % of GDP

A = Neutral Scenario

B = Central Bank Scenario

C = Government Scenario

D = Non-Cooperative Scenario

E = Cooperative Scenario

Source: Perry, G., E. Lora and F. Barrera (1993).



Table 9  
COMPOSITION OF TAX REVENUE  
(As percent of GDP)

|                        | 70   | 71   | 72   | 73   | 74   | 75   | 76   | 77   | 78   | 79   | 80   |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Tax Revenue            | 13.3 | 13.8 | 12.5 | 13.0 | 13.0 | 13.8 | 14.9 | 14.6 | 17.1 | 14.2 | 12.9 |
| 1. Nation              | 10.2 | 10.8 | 9.7  | 10.4 | 10.7 | 11.6 | 12.9 | 12.6 | 15.1 | 12.2 | 10.6 |
| Central Sector         | 9.2  | 9.3  | 8.9  | 8.5  | 8.1  | 9.7  | 9.3  | 8.9  | 8.8  | 8.5  | 7.8  |
| Decentralized Agencies | 1.0  | 1.5  | 0.8  | 1.9  | 2.6  | 1.9  | 3.6  | 3.7  | 6.3  | 3.7  | 2.8  |
| 2. Departments         | 2.0  | 1.9  | 1.7  | 1.6  | 1.5  | 1.5  | 1.4  | 1.4  | 1.4  | 1.4  | 1.6  |
| 3. Municipalities      | 1.1  | 1.1  | 1.0  | 1.0  | 0.8  | 0.7  | 0.7  | 0.6  | 0.6  | 0.6  | 0.7  |
|                        | 81   | 82   | 83   | 84   | 85   | 86   | 87   | 88   | 89   | 90   | 91   |
| Tax Revenue            | 12.5 | 12.4 | 12.6 | 12.6 | 13.6 | 13.9 | 14.4 | 14.2 | 14.2 | 14.2 | 14.2 |
| 1. Nation              | 10.1 | 10.1 | 10.1 | 10.0 | 11.0 | 11.4 | 11.9 | 11.7 | 11.6 | 11.6 | 11.6 |
| Central Sector         | 7.5  | 7.5  | 7.5  | 7.4  | 8.5  | 8.8  | 9.5  | 9.3  | 9.2  | 9.3  | 10.3 |
| Decentralized Agencies | 2.6  | 2.6  | 2.6  | 2.6  | 2.5  | 2.6  | 2.4  | 2.3  | 2.3  | 2.3  | 1.2  |
| 2. Departments         | 1.6  | 1.5  | 1.7  | 1.7  | 1.7  | 1.6  | 1.6  | 1.6  | 1.6  | 1.6  | 1.6  |
| 3. Municipalities      | 0.8  | 0.8  | 0.8  | 0.9  | 0.9  | 0.9  | 0.9  | 1.0  | 1.0  | 1.0  | 1.0  |

Source: 1970-1979: DANE; 1980-1990: Banco de la Republica.

Non-financial Deficit: Serie Política Fiscal No.16, CEPAL(1990).

Table 10-A  
NATIONAL GOVERNMENT TAX REVENUE  
(As percent of th GDP)

|                         | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980  |
|-------------------------|------|------|------|------|------|------|------|------|------|------|-------|
| TAX REVENUE             | 9.12 | 9.29 | 8.85 | 8.39 | 8.07 | 9.56 | 8.84 | 8.70 | 8.50 | 8.38 | 8.10  |
| 1. Direct taxes         | 4.49 | 4.45 | 4.23 | 3.76 | 3.48 | 4.50 | 3.84 | 3.34 | 3.36 | 3.24 | 2.93  |
| Income Tax              | 4.49 | 4.45 | 4.23 | 3.76 | 3.48 | 4.50 | 3.84 | 3.34 | 3.36 | 3.24 | 2.93  |
| Temporary contributions | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     |
| 2. Indirect taxes       | 4.64 | 4.83 | 4.62 | 4.62 | 4.59 | 5.06 | 5.01 | 5.35 | 5.13 | 5.14 | 5.16  |
| Total VAT               | 0.81 | 1.08 | 1.05 | 1.01 | 1.22 | 1.91 | 1.89 | 1.88 | 2.05 | 2.09 | 2.06  |
| Domestic                | 0.75 | 0.86 | 0.76 | 0.69 | 0.79 | 1.28 | 1.22 | 1.17 | 1.23 | 1.31 | 1.15  |
| Internat'l              | 0.06 | 0.22 | 0.29 | 0.32 | 0.43 | 0.64 | 0.67 | 0.71 | 0.83 | 0.79 | 0.91  |
| Tax on fuels            | 0.58 | 0.60 | 0.65 | 0.54 | 0.44 | 0.39 | 0.54 | 0.55 | 0.59 | 0.62 | 0.72  |
| International trade     | 2.80 | 2.59 | 2.37 | 2.50 | 2.37 | 2.35 | 2.25 | 2.62 | 2.17 | 2.16 | 2.08  |
| Imports                 | 1.92 | 1.93 | 1.71 | 1.71 | 1.75 | 1.73 | 1.74 | 1.72 | 1.49 | 1.42 | 1.60  |
| Ad-valorem on coffee    | 0.88 | 0.66 | 0.66 | 0.79 | 0.61 | 0.62 | 0.51 | 0.90 | 0.68 | 0.74 | 0.48  |
| Other (Stamp taxes)     | 0.45 | 0.56 | 0.55 | 0.57 | 0.56 | 0.41 | 0.33 | 0.30 | 0.32 | 0.27 | 0.31  |
|                         | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991p |
| TAX REVENUE             | 7.77 | 7.61 | 7.59 | 7.35 | 8.48 | 8.76 | 9.46 | 9.29 | 9.22 | 9.27 | 10.27 |
| 1. Direct taxes         | 2.63 | 2.56 | 3.17 | 3.04 | 3.17 | 2.99 | 3.53 | 3.42 | 3.58 | 4.02 | 4.98  |
| Income Tax              | 2.63 | 2.56 | 3.17 | 3.04 | 3.17 | 2.99 | 3.53 | 3.42 | 3.58 | 4.02 | 4.73  |
| Temporary contributions | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 0.25  |
| 2. Indirect taxes       | 5.15 | 5.06 | 4.41 | 4.31 | 5.31 | 5.76 | 5.93 | 5.87 | 5.63 | 5.24 | 5.30  |
| Total VAT               | 2.11 | 2.11 | 1.99 | 2.04 | 2.48 | 2.61 | 2.82 | 2.85 | 2.81 | 2.72 | 3.06  |
| Domestic                | 1.27 | 1.30 | 1.33 | 1.44 | 1.75 | 1.73 | 1.80 | 1.74 | 1.78 | 1.82 | 2.09  |
| Internat'l              | 0.84 | 0.81 | 0.66 | 0.60 | 0.73 | 0.89 | 1.02 | 1.11 | 1.03 | 0.91 | 0.97  |
| Tax on fuels            | 0.91 | 0.81 | 0.81 | 0.79 | 0.76 | 0.68 | 0.68 | 0.67 | 0.69 | 0.70 | 0.69  |
| International trade     | 1.88 | 1.88 | 1.37 | 1.19 | 1.68 | 2.10 | 2.25 | 2.18 | 1.96 | 1.66 | 1.40  |
| Imports                 | 1.52 | 1.66 | 1.25 | 1.13 | 1.58 | 1.93 | 2.14 | 2.10 | 1.88 | 1.58 | 1.36  |
| Ad-valorem on coffee    | 0.36 | 0.22 | 0.11 | 0.07 | 0.09 | 0.17 | 0.10 | 0.09 | 0.08 | 0.08 | 0.04  |
| Other (Stamp taxes)     | 0.25 | 0.26 | 0.24 | 0.29 | 0.39 | 0.37 | 0.19 | 0.16 | 0.17 | 0.16 | 0.15  |
| Domestic activity       | 5.05 | 4.93 | 5.56 | 5.56 | 6.07 | 5.77 | 6.20 | 5.99 | 6.23 | 6.69 | 7.65  |
| Internat'l Activity     | 2.72 | 2.69 | 2.03 | 1.79 | 2.41 | 2.98 | 3.26 | 3.30 | 2.99 | 2.57 | 2.38  |

Source: Operaciones Efectivas del Gobierno Nacional. Unidad de Inversiones Publicas, D.N.P. (1991).

Table 10-B  
NATIONAL GOVERNMENT TAX REVENUE  
(As percent of tax revenue)

|                         | 1970   | 1971   | 1972   | 1973   | 1974   | 1975   | 1976   | 1977   | 1978   | 1979   | 1980   |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| TAX REVENUE             | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Income Tax              | 49.18  | 47.94  | 47.81  | 44.88  | 43.15  | 47.07  | 43.38  | 38.45  | 39.60  | 38.67  | 36.22  |
| Temporary contributions |        |        |        |        |        |        |        |        |        |        |        |
| Total VAT               | 8.87   | 11.62  | 11.89  | 12.08  | 15.17  | 20.03  | 21.37  | 21.60  | 24.14  | 25.00  | 25.39  |
| Domestic                | 8.28   | 9.24   | 8.82   | 8.27   | 9.83   | 13.36  | 13.80  | 13.40  | 14.43  | 15.62  | 14.20  |
| Internat'l              | 0.61   | 2.37   | 3.27   | 3.80   | 5.35   | 6.67   | 7.57   | 8.20   | 9.71   | 9.38   | 11.19  |
| Tax on fuels            | 6.34   | 6.46   | 7.29   | 6.48   | 5.46   | 4.04   | 6.07   | 6.38   | 6.95   | 7.38   | 8.86   |
| International trade     | 30.66  | 27.93  | 26.81  | 29.83  | 29.34  | 24.57  | 25.46  | 30.07  | 25.59  | 25.76  | 25.65  |
| Imports                 | 21.00  | 20.80  | 19.36  | 20.41  | 21.74  | 18.09  | 19.65  | 19.76  | 17.55  | 16.92  | 19.76  |
| Ad-valorem on coffee    | 9.66   | 7.14   | 7.45   | 9.42   | 7.60   | 6.49   | 5.81   | 10.32  | 8.04   | 8.85   | 5.89   |
| Other (Stamp taxes)     | 4.95   | 6.05   | 6.20   | 6.74   | 6.89   | 4.28   | 3.71   | 3.49   | 3.72   | 3.19   | 3.88   |
| Domestic activity       | 68.73  | 69.69  | 69.92  | 66.38  | 65.32  | 68.75  | 66.97  | 61.72  | 64.70  | 64.86  | 63.16  |
| Internat'l Activity     | 31.27  | 30.31  | 30.08  | 33.62  | 34.68  | 31.25  | 33.03  | 38.28  | 35.30  | 35.14  | 36.84  |
|                         | 1981   | 1982   | 1983   | 1984   | 1985   | 1986   | 1987   | 1988   | 1989   | 1990   | 1991 p |
| TAX REVENUE             | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Income Tax              | 33.77  | 33.58  | 41.85  | 41.30  | 37.35  | 34.20  | 37.29  | 36.85  | 38.87  | 43.41  | 46.05  |
| Temporary contributions |        |        |        |        |        |        |        |        |        |        | 2.40   |
| Total VAT               | 27.10  | 27.72  | 28.27  | 27.80  | 29.28  | 29.84  | 29.80  | 30.69  | 30.47  | 29.41  | 29.78  |
| Domestic                | 16.29  | 17.06  | 17.57  | 18.60  | 20.64  | 19.71  | 19.04  | 18.71  | 19.30  | 19.60  | 20.31  |
| Internat'l              | 10.81  | 10.67  | 8.70   | 8.19   | 8.64   | 10.13  | 10.76  | 11.87  | 11.17  | 9.81   | 9.48   |
| Tax on fuels            | 11.74  | 10.59  | 10.67  | 10.80  | 8.96   | 7.82   | 7.14   | 7.20   | 7.50   | 7.53   | 6.67   |
| International trade     | 24.19  | 24.64  | 18.00  | 16.21  | 19.78  | 23.95  | 23.74  | 23.52  | 21.28  | 17.96  | 13.67  |
| Imports                 | 19.59  | 21.77  | 16.54  | 15.31  | 18.69  | 22.03  | 22.66  | 22.56  | 20.36  | 17.04  | 13.27  |
| Ad-valorem on coffee    | 4.60   | 2.87   | 1.46   | 0.90   | 1.10   | 1.92   | 1.08   | 0.96   | 0.92   | 0.91   | 0.40   |
| Other (Stamp taxes)     | 3.21   | 3.48   | 3.21   | 3.89   | 4.63   | 4.19   | 2.03   | 1.75   | 1.88   | 1.69   | 1.43   |
| Domestic activity       | 65.00  | 64.70  | 73.30  | 75.59  | 71.58  | 65.92  | 65.50  | 64.51  | 67.55  | 72.24  | 74.46  |
| Internat'l Activity     | 35.00  | 35.30  | 26.70  | 24.41  | 28.42  | 34.08  | 34.50  | 35.49  | 32.45  | 27.76  | 23.14  |

Source: Operaciones Efectivas del Gobierno Nacional. Unidad de Inversiones Publicas, D.N.P. (1991).

Table 11  
NON-FINANCIAL PUBLIC SECTOR OPERATIONS BY LEVEL OF GOVERNMENT  
(As percent of GDP)

|  | 80   | 81   | 82   | 83   | 84   | 85   | 86   | 87   | 88   | 89   | 90   |
|--|------|------|------|------|------|------|------|------|------|------|------|
| <b>I. Nation</b>                           |      |      |      |      |      |      |      |      |      |      |      |
| A. Savings                                 | 5.6  | 4.9  | 4.7  | 4.5  | 3.6  | 5.2  | 5.9  | 6.2  | 6.1  | 5.7  | 5.8  |
| 1. Current Revenue                         | 8.5  | 8.1  | 8.0  | 7.9  | 7.8  | 9.0  | 9.7  | 10.2 | 10.2 | 10.0 | 9.9  |
| 2. Current Expenditure                     | 2.9  | 3.1  | 3.3  | 3.4  | 4.1  | 3.8  | 3.7  | 4.0  | 4.1  | 4.3  | 4.1  |
| B. Capital Revenue                         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| C. Capital Expenditure                     | 0.3  | 0.3  | 0.4  | 0.3  | 0.2  | 0.3  | 0.2  | 0.2  | 0.3  | 0.2  | 0.2  |
| D. Surplus/(Deficit)                       |      |      |      |      |      |      |      |      |      |      |      |
| Primary                                    | 5.8  | 5.2  | 5.0  | 4.9  | 4.3  | 5.9  | 6.7  | 7.3  | 7.2  | 6.8  | 7.0  |
| Originated in the sector                   | 5.3  | 4.6  | 4.3  | 4.2  | 3.4  | 4.9  | 5.7  | 6.0  | 5.8  | 5.5  | 5.6  |
| Net Transfers                              | 7.1  | 7.4  | 8.0  | 7.5  | 7.2  | 7.4  | 6.6  | 6.5  | 6.9  | 6.8  | 6.4  |
| After Transfers                            | -1.8 | -2.8 | -3.7 | -3.3 | -3.8 | -2.5 | -0.9 | -0.5 | -1.1 | -1.3 | -0.8 |
| <b>II. National Decentralized Agencies</b> |      |      |      |      |      |      |      |      |      |      |      |
| A. Savings                                 | 1.2  | 0.5  | 1.0  | 1.3  | 1.8  | 1.8  | 3.7  | -0.6 | 0.3  | 0.3  | -0.4 |
| 1. Current Revenue                         | 3.7  | 2.8  | 3.3  | 3.3  | 3.7  | 3.7  | 5.4  | 1.1  | 1.9  | 1.7  | 0.9  |
| 2. Current Expenditure                     | 2.5  | 2.3  | 2.3  | 2.0  | 1.9  | 1.9  | 1.7  | 1.7  | 1.6  | 1.4  | 1.3  |
| B. Capital Revenue                         | 0.1  | 0.1  | -1.1 | 0.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| C. Capital Expenditure                     | 2.2  | 2.4  | 2.1  | 2.2  | 1.8  | 1.4  | 1.3  | 1.5  | 1.6  | 1.6  | 1.4  |
| D. Surplus/(Deficit)                       |      |      |      |      |      |      |      |      |      |      |      |
| Primary                                    | -0.9 | -1.6 | -2.0 | -0.4 | 0.5  | 0.7  | 2.5  | -1.8 | -1.0 | -1.1 | -1.7 |
| Originated in the sector                   | -0.9 | -1.8 | -2.2 | -0.9 | 0.0  | 0.4  | 2.3  | -2.1 | -1.3 | -1.3 | -1.9 |
| Net Transfers                              | 1.1  | 1.1  | 1.0  | 1.0  | 1.0  | 1.0  | 1.1  | 1.1  | 1.1  | 1.0  | 1.3  |
| After Transfers                            | -2.0 | -3.0 | -3.2 | -1.9 | -1.0 | -0.6 | 1.2  | -3.2 | -2.4 | -2.3 | -3.2 |
| <b>III. National Public Enterprises</b>    |      |      |      |      |      |      |      |      |      |      |      |
| A. Savings                                 | 0.2  | 0.8  | 0.9  | 0.5  | 1.5  | 1.0  | 1.7  | 2.2  | 2.0  | 2.3  | 3.4  |
| 1. Current Revenue                         | 1.1  | 1.6  | 1.6  | 1.3  | 2.4  | 2.4  | 3.1  | 4.1  | 3.5  | 3.8  | 5.2  |
| 2. Current Expenditure                     | 0.9  | 0.8  | 0.7  | 0.8  | 0.9  | 1.4  | 1.4  | 1.9  | 1.5  | 1.6  | 1.8  |
| B. Capital Revenue                         | 0.1  | 0.0  | 0.1  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  | 0.0  | 0.0  | -0.0 |
| C. Capital Expenditure                     | 2.1  | 2.3  | 2.9  | 3.5  | 3.1  | 3.8  | 2.7  | 1.5  | 2.0  | 1.9  | 1.4  |
| D. Surplus/(Deficit)                       |      |      |      |      |      |      |      |      |      |      |      |
| Primary                                    | -1.1 | -1.1 | -1.5 | -2.4 | -0.8 | -1.6 | 0.2  | 2.1  | 1.2  | 1.7  | 3.3  |
| Originated in the sector                   | -1.8 | -1.6 | -2.0 | -3.1 | -1.8 | -2.8 | -1.0 | 0.7  | 0.0  | 0.4  | 1.9  |
| Net Transfers                              | -1.0 | -0.5 | -0.5 | -0.3 | -0.4 | 0.3  | 0.5  | 0.6  | 1.0  | 0.8  | 1.4  |
| After Transfers                            | -0.7 | -1.1 | -1.5 | -2.7 | -1.2 | -3.1 | -1.5 | 0.1  | -1.0 | -0.4 | 0.5  |
| <b>IV. Departments</b>                     |      |      |      |      |      |      |      |      |      |      |      |
| A. Savings                                 | -0.2 | -0.7 | -0.8 | -1.1 | -0.9 | -0.8 | -0.8 | -0.7 | -0.7 | -0.8 | -0.8 |
| 1. Current Revenue                         | 2.8  | 3.0  | 3.0  | 2.9  | 3.0  | 2.8  | 2.6  | 2.7  | 2.6  | 2.6  | 2.6  |
| 2. Current Expenditure                     | 3.0  | 3.6  | 3.8  | 4.0  | 3.9  | 3.6  | 3.4  | 3.4  | 3.3  | 3.5  | 3.4  |
| B. Capital Revenue                         | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.1  | 0.1  | 0.1  | 0.2  | 0.1  | 0.1  |
| C. Capital Expenditure                     | 0.7  | 0.7  | 0.7  | 0.7  | 1.0  | 0.8  | 1.1  | 1.1  | 1.1  | 1.1  | 1.1  |
| D. Surplus/(Deficit)                       |      |      |      |      |      |      |      |      |      |      |      |
| Primary                                    | -0.7 | -1.1 | -1.2 | -1.5 | -1.6 | -1.4 | -1.6 | -1.5 | -1.4 | -1.7 | -1.7 |
| Originated in the sector                   | -0.7 | -1.2 | -1.3 | -1.6 | -1.7 | -1.5 | -1.7 | -1.7 | -1.6 | -1.8 | -1.8 |
| Net Transfers                              | -1.3 | -1.5 | -1.8 | -1.9 | -2.0 | -1.9 | -1.9 | -1.8 | -1.7 | -2.0 | -2.1 |
| After Transfers                            | 0.6  | 0.3  | 0.5  | 0.3  | 0.3  | 0.3  | 0.1  | 0.2  | 0.1  | 0.2  | 0.2  |
| <b>V. Municipalities</b>                   |      |      |      |      |      |      |      |      |      |      |      |
| A. Savings                                 | 0.6  | 0.5  | 0.4  | 0.4  | 0.5  | 0.6  | 0.6  | 0.6  | 0.6  | 0.4  | 0.3  |
| 1. Current Revenue                         | 2.0  | 2.1  | 2.1  | 2.3  | 2.4  | 2.6  | 2.6  | 2.8  | 2.8  | 2.8  | 2.7  |
| 2. Current Expenditure                     | 1.3  | 1.5  | 1.7  | 1.9  | 1.9  | 2.0  | 2.1  | 2.2  | 2.2  | 2.4  | 2.3  |
| B. Capital Revenue                         | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.2  | 0.3  | 0.2  |
| C. Capital Expenditure                     | 1.2  | 1.9  | 1.9  | 2.2  | 1.9  | 2.0  | 2.4  | 2.5  | 2.9  | 3.1  | 3.1  |
| D. Surplus/(Deficit)                       |      |      |      |      |      |      |      |      |      |      |      |
| Primary                                    | -0.2 | -1.0 | -1.0 | -1.3 | -0.9 | -0.7 | -0.9 | -1.0 | -1.3 | -1.6 | -1.7 |
| Originated in the sector                   | -0.4 | -1.3 | -1.3 | -1.7 | -1.4 | -1.3 | -1.7 | -1.7 | -2.1 | -2.4 | -2.6 |
| Net Transfers                              | -0.3 | -0.5 | -0.5 | -0.6 | -0.6 | -0.5 | -0.5 | -0.7 | -0.7 | -0.9 | -0.9 |
| After Transfers                            | -0.1 | -0.8 | -0.8 | -1.1 | -0.8 | -0.9 | -1.2 | -1.0 | -1.4 | -1.5 | -1.6 |

Source: "Colombia: Descentralización y Federalismo Fiscal", Presidencia de la Republica, D.N.P. (1992).

Table 12-A  
REGIONAL TAX INCOME  
(As percent of GDP)

|                             | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980  |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|-------|
| REGIONAL TAX INCOME         | 3.12 | 2.99 | 2.73 | 2.54 | 2.26 | 2.25 | 2.06 | 2.00 | 2.00 | 2.03 | 2.31  |
| I. DEPARTMENTAL TAXES       | 2.04 | 1.93 | 1.75 | 1.59 | 1.47 | 1.50 | 1.39 | 1.38 | 1.38 | 1.40 | 1.59  |
| Liqueurs                    | 0.82 | 0.79 | 0.75 | 0.69 | 0.63 | 0.64 | 0.60 | 0.60 | 0.65 | 0.65 | 0.59  |
| Tobacco                     | 0.46 | 0.44 | 0.39 | 0.36 | 0.35 | 0.38 | 0.34 | 0.33 | 0.30 | 0.29 | 0.32  |
| Beer                        | 0.55 | 0.51 | 0.48 | 0.41 | 0.39 | 0.42 | 0.38 | 0.38 | 0.37 | 0.39 | 0.47  |
| Other                       | 0.21 | 0.19 | 0.15 | 0.13 | 0.09 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.21  |
| II. MUNICIPAL TAXES         | 1.08 | 1.06 | 0.99 | 0.95 | 0.80 | 0.75 | 0.67 | 0.61 | 0.62 | 0.63 | 0.72  |
| Tax on property             | 0.40 | 0.37 | 0.35 | 0.35 | 0.31 | 0.30 | 0.26 | 0.22 | 0.22 | 0.21 | 0.23  |
| Industry and commerce       | 0.20 | 0.22 | 0.20 | 0.20 | 0.18 | 0.20 | 0.20 | 0.19 | 0.19 | 0.21 | 0.23  |
| Contributions and appraisal | 0.21 | 0.22 | 0.21 | 0.22 | 0.16 | 0.12 | 0.10 | 0.09 | 0.11 | 0.10 | 0.11  |
| Other                       | 0.27 | 0.25 | 0.22 | 0.19 | 0.15 | 0.13 | 0.11 | 0.11 | 0.10 | 0.10 | 0.15  |
|                             | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991p |
| REGIONAL TAX INCOME         | 2.36 | 2.29 | 2.49 | 2.61 | 2.57 | 2.50 | 2.51 | 2.52 | 2.62 | 2.64 | 2.64  |
| I. DEPARTMENTAL TAXES       | 1.60 | 1.53 | 1.67 | 1.71 | 1.68 | 1.62 | 1.61 | 1.56 | 1.61 | 1.61 | 1.61  |
| Liqueurs                    | 0.5  | 0.5  | 0.6  | 0.6  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5   |
| Tobacco                     | 0.3  | 0.3  | 0.3  | 0.4  | 0.4  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3   |
| Beer                        | 0.5  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5   |
| Other                       | 0.2  | 0.2  | 0.2  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3   |
| II. MUNICIPAL TAXES         | 0.76 | 0.76 | 0.83 | 0.90 | 0.90 | 0.89 | 0.90 | 0.96 | 1.01 | 1.03 | 1.03  |
| Tax on property             | 0.2  | 0.2  | 0.2  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3   |
| Industry and commerce       | 0.3  | 0.3  | 0.3  | 0.4  | 0.3  | 0.3  | 0.4  | 0.4  | 0.4  | 0.4  | 0.4   |
| Contributions and appraisal | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1   |
| Other                       | 0.2  | 0.1  | 0.1  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2   |

p: preliminary.

Source: 1970-1979. Finanzas Intergubernamentales en Colombia, DNP.  
1980-1987. Finanzas Públicas Regionales de Colombia. Banco de la República.  
1988-1990. Descentralización y Federalismo Fiscal. Presidencia de la República.

Table 12-B  
REGIONAL TAX INCOME  
(As percent of regional tax income)

|                             | 1970   | 1971   | 1972   | 1973   | 1974   | 1975   | 1976   | 1977   | 1978   | 1979   | 1980   |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| REGIONAL TAX INCOME         | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| I. DEPARTMENTAL TAXES       | 65.40  | 64.58  | 63.89  | 62.44  | 64.79  | 66.86  | 67.64  | 69.24  | 69.14  | 69.11  | 68.89  |
| Liqueurs                    | 26.24  | 26.41  | 27.43  | 27.10  | 27.83  | 28.33  | 29.18  | 29.95  | 32.32  | 32.06  | 25.57  |
| Tobacco                     | 14.67  | 14.83  | 14.33  | 14.17  | 15.60  | 16.86  | 16.70  | 16.76  | 14.82  | 14.12  | 13.82  |
| Beer                        | 17.73  | 17.10  | 16.71  | 16.07  | 17.17  | 18.45  | 18.37  | 19.19  | 18.37  | 19.32  | 20.36  |
| Other                       | 6.76   | 6.24   | 5.42   | 5.10   | 4.18   | 3.22   | 3.39   | 3.34   | 3.62   | 3.62   | 9.14   |
| II. MUNICIPAL TAXES         | 34.60  | 35.42  | 38.11  | 37.56  | 35.21  | 33.14  | 32.36  | 30.76  | 30.86  | 30.89  | 31.11  |
| Tax on property             | 12.68  | 12.53  | 12.98  | 13.70  | 13.52  | 13.15  | 12.78  | 10.98  | 11.05  | 10.53  | 9.86   |
| Industry and commerce       | 6.45   | 7.21   | 7.41   | 7.73   | 8.01   | 8.94   | 9.61   | 9.63   | 9.39   | 10.32  | 10.17  |
| Contributions and appraisal | 6.86   | 7.27   | 7.60   | 8.67   | 7.08   | 5.42   | 4.66   | 4.59   | 5.47   | 5.12   | 4.72   |
| Other                       | 8.60   | 8.41   | 8.12   | 7.47   | 6.61   | 5.63   | 5.32   | 5.56   | 4.94   | 4.93   | 6.35   |
|                             | 1981   | 1982   | 1983   | 1984   | 1985   | 1986   | 1987   | 1988   | 1989   | 1990   | 1991p  |
| REGIONAL TAX INCOME         | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| I. DEPARTMENTAL TAXES       | 67.82  | 66.72  | 66.81  | 65.47  | 65.15  | 64.60  | 64.02  | 61.93  | 61.54  | 61.07  | 61.07  |
| Liqueurs                    | 22.99  | 22.41  | 22.68  | 21.23  | 21.14  | 21.79  | 20.96  | 19.82  | 20.29  | 20.51  | 20.51  |
| Tobacco                     | 14.11  | 12.12  | 13.53  | 13.54  | 13.86  | 13.70  | 11.94  | 11.86  | 11.35  | 10.78  | 10.78  |
| Beer                        | 21.54  | 21.85  | 21.41  | 19.08  | 18.83  | 18.71  | 19.84  | 18.11  | 17.60  | 17.28  | 17.28  |
| Other                       | 9.18   | 10.33  | 9.20   | 11.62  | 11.32  | 10.40  | 11.28  | 12.14  | 12.30  | 12.51  | 12.51  |
| II. MUNICIPAL TAXES         | 32.18  | 33.28  | 33.19  | 34.53  | 34.85  | 35.40  | 35.98  | 38.07  | 38.46  | 38.93  | 38.93  |
| Tax on property             | 9.88   | 10.25  | 10.00  | 9.92   | 10.12  | 10.68  | 10.26  | 10.85  | 11.52  | 11.94  | 11.94  |
| Industry and commerce       | 10.93  | 12.18  | 11.75  | 13.61  | 13.51  | 13.30  | 14.12  | 15.93  | 16.30  | 16.65  | 16.65  |
| Contributions and appraisal | 4.68   | 4.50   | 5.69   | 4.22   | 3.80   | 4.00   | 3.55   | 2.02   | 2.01   | 2.02   | 2.02   |
| Other                       | 6.59   | 6.38   | 5.74   | 6.79   | 7.42   | 7.52   | 8.06   | 9.27   | 8.63   | 8.32   | 8.32   |

p: preliminary.

Source: 1970-1979. Finanzas Intergubernamentales en Colombia, DNP.  
1980-1987. Finanzas Publicas Regionales de Colombia, Banco de la Republica.  
1988-1990. Descentralizacion y Federalismo Fiscal, Presidencia de la Republica.