VIABILITY OF THE EXTERNAL DEBT:
The Case of Colombia Over the 2000s

(Abstract)

This paper analyses the evolution of the Colombian external debt over the 1990s with the purpose of finding the conditions in which the external debt/GDP ratio would stabilize around its current level of 38% over the early 2000s. Using Simonsen´s dynamic model, we conclude that recent surpluses on the non-financial external current account permit to be optimist on such possibilities, where the public component would level-off at 26% of GDP and the private one at 12% of GDP. However, this possibility hinges crucially on deepening the current "exporting effort" and the continuation of structural adjustments so that the consolidated fiscal deficit settles below 2% of GDP in the near future.

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I.   INTRODUCTION

In early 2001 rating agencies and investment banks promoted a series of meetings aiming at assessing the perspectives of Latin America. At the time there were concerns regarding prospects of growth and external viability in Argentina and an optimist view with respect to trends in fiscal adjustment and exports performance in Brazil and Mexico (specially supported by NAFTA's results). These meetings coincided with the arrival of the New Bush Administration and the announcement of clear signals of a debilitating US-economy. After a decade of continuos expansion, growth forecasts for the US-economy ranged between 1-2% for the year, a significant slow-down after growth reports of 4-5% in the first half of 2000.

In spite of the serious fiscal imbalances derived from Laws instituted in the years 1992-94, after the New Chart of 1991, Colombia was granted "full investment grade" in 1995 by the main international rating agencies. Over the years 1996-98, the country experienced high fiscal deficits (5% of GDP), unsustainable external deficits (4% of GDP), and clear signals of long-term economic growth stagnation (around 2% per year). As a result of this under-performance, Colombia was advised in mid-1998 to adopt quick and enduring corrections in order to avoid downgrading.

In the period August 1998 – March 1999, the New Pastrana Administration adopted expenditure cuts, declared Emergency-Laws to tackle the out-bursting financial crises, and along with the independent Central Bank worked-out further flexibilization of the "crawling exchange-bands". Such actions, however, proved to be insufficient in avoiding "down-grading" by the rating agencies, leaving Colombia back in the "speculative grade" at the beginning of April 1999.

Furthermore, the effect of the January 1999 earthquake and the exacerbation of the internal conflict, after the concession of a demilitarized zone to the guerrillas, led the rating agencies to place Colombia on a continuos "negative outlook" beginning in May 2000. In the January 2001 meeting in Wall Street it was stated that:

> "(…) after a prolonged period of political uncertainty following President Pastrana´s call for a referendum on Congress in April 2000 …
> Standard&Poors (S&P) characterized Colombia as an "all-or-nothing" case in the sense that the failure to implement fiscal reform would prevent sufficient improvement in the debt ratios over the longer term.
> *Reversing the recent rise in debt ratios will be the key factor in removing the negative outlook on Colombia's BB rating".*
> (J.P. Morgan, 2001; our italics).

S&P endorsed this position in February 2001, when a "negative outlook" was maintained for Colombia. Several factors were mentioned: uncertainties surrounding the peace process, weaknesses in aggregate demand that pointed to real GDP-growth below the targeted 4%, and risks of contagion stemming from mounting difficulties in Latin America.

Capital inflows towards Latin America have decreased significantly since the outburst of the February 2001 crisis in Turkey, followed by the near-default situation faced by Argentina beginning in March 2001. Rating agencies quickly downgraded short-term debt in Turkey and Argentina, reaching default-C-levels, comparable only to countries where sovereign debts have been partially repudiated (e.g. Russia or Ecuador). By July 2001 sovereign debt spreads in Turkey and Argentina had already surpassed the 1,500 basic points default-limit.

In spite of these difficulties in the region, since April 2001 Moody's had ratified a stable outlook for Colombia, thanks to the good behavior of the external accounts and the progress made in the fiscal program. Notwithstanding, rating agencies underscored the importance of continuing such programs in a way that debt ratios could attain stability in the near future. *It is clear then that Colombia will not be able to avoid this defensive stand with respect to the rating agencies until the agenda of the EFF-program agreed with the IMF is evacuated completely by end-year 2002.*

This paper focuses on the dynamics of the public and private Colombian external debt and the conditions on which the external debt/GDP ratio would stabilize in the near future. Such conditions hinge crucially on the difference between non-financial export-growth (measured in

dollar-terms) and the effective interest rate paid on the debt-stock, on one hand, and the initial conditions related to the level of the debt/GDP ratio, on the other hand. Following Simonsen's model (1985), solutions for convergence are provided in terms of "instant exporting-efforts" and "dynamic exporting-efforts", depending on the time-horizon expected for the debt/GDP ratio stability (one to five years).

It is found that "exporting efforts" like the ones observed in Colombia since the flotation of the peso (beginning in September 1999) could allow for the stabilization of the external debt/GDP ratio around 38%, with the public sector accounting for 26% and the private sector for 12%. Such behavior would entail continuos efforts to achieve consolidated fiscal deficits below the target of 2% of GDP, as agreed in the IMF program (2001). It would also call for success in deepening the exporting model supported until now by the Andean Trade Pact Agreement (ATPA) and eventual extensions under the Caribbean Basin Initiative (CBI) and the ALCA.

Section II is devoted to analyzing recent behavior of debt structure, including some comparisons with main Latin American economies. Section III explains the model and main results for Colombia. Section IV summarizes and concludes.

II. TRENDS IN THE EXTERNAL DEBT OF COLOMBIA

A. Public and Private External Debt

Table 1 shows that in the early 1990s Colombian external debt was close to US$18 billion, where public liabilities amounted to US$15,5 billion (85% of the total) and private liabilities explained US$2,5 billion (the remaining 15%). By the end of the boom-cycle of the years 1993-1997, total external debt had almost doubled, reaching US$32 billion, but now the private component amounted to US$15 billion (48% of the total), and the public component had barely increased to US$17 billion (52% of the total).

Table 1: TOTAL EXTERNAL DEBT OF COLOMBIA *

	(In Million of Dollars)			(As a Percentage of GDP)		
	Public	Private	Total	Public	Private	Total
1990	15,471	2,522	17,993	33.0	5.4	38.4
1995	15,540	9,211	24,751	16.8	10.0	26.7
1996	16,249	12,698	28,947	16.7	13.1	29.8
1997	16,453	15,228	31,681	15.4	14.3	29.7
1998	18,468	15,068	33,536	18.6	15.2	33.8
1999	19,751	13,873	33,624	22.8	16.0	38.9
2000	20,248	13,015	33,263	24.4	15.7	40.1
2001(e)	21,754	11,426	33,180	24.8	13.0	37.8
Variation:						
2001/1995	6,214	2,215	8,429	8.0	3.1	11.1

 (e): Estimates
 *   Includes short term-debt, but excludes leasing and forwards of commodities.

Source: Our computations based on Banco de la República (2001) and Ministry of Finance

During the post-Asian crises (1998-2000) private debt contracted down to US$13 billion (38% of total). However, the public sector occupied the room left by those pre-payments of the private sector, increasing again external public indebtedness to US$20 billion (62% of the total). We have estimated that by the end of 2001 total external debt could be stabilized around US$33 billion. Hence, over the years 1995-2001(e) total debt would have increased by US$8 billion, where almost US$6 billion are explained by public deficits and US$2 billion by the private sector.

Table 1 also illustrates the behavior of the external debt/GDP ratio, where it is worth to note the net increase of about 11 percentage points over the years 1995-2001(e), while passing from 27% to 38%. Interestingly enough, the current levels of indebtedness are similar to those of the early 1990s. The fact that catches the eye is the net increase in the private component, which actually multiplied by three over the decade, reaching 16% of GDP. We will later comment on how these phenomena also occurred in other Latin American countries, as capital accounts were liberalized in the early 1990s. In fact, the inflows of Foreign Direct Investment (FDI) into the region did not preclude dramatic increases in the external debt in countries like Chile o Brazil during the years of the Asian post-crises.

B. Non-Financial Public Sector (NFPS) Debt

Another reason explaining why *external* public debt did not explode over these years of high fiscal deficits has to do with the intensive use of internal indebtedness. In fact, table 2 illustrates internal-NFPS debt, which amounted to US$4,4 billion in 1990 (converted at average foreign exchange), out of the total internal and external public debt, which reached US$20 billion that year. Over the years 1995-2001(e) internal debt increased by the equivalent of US$9,5 billion, reaching a stock of US$19,5 billion by end-2001(e), a similar amount to the public external debt. Hence, total public debt of the NFPS is currently at US$41 billion, including debt related to the financial sector crises managed through FOGAFIN.

Table 2: PUBLIC DEBT OF COLOMBIA

	(In Million of Dollars)			(As a Percentage of GDP)		
	External *	Domestic **	Total	External *	Domestic **	Total
1990	15,471	4,362	19,833	33.0	9.3	42.3
1995	15,540	9,916	25,456	16.8	10.7	27.5
1996	16,249	11,499	27,748	16.7	11.8	28.6
1997	16,453	15,932	32,385	15.4	14.9	30.3
1998	18,468	16,411	34,879	18.6	16.5	35.1
1999	19,751	17,332	37,083	22.8	20.0	42.9
2000	20,248	18,524	38,772	24.4	22.3	46.8
2001(e)	21,754	19,437	41,191	24.8	22.1	46.9
Variation:						
2001/1995	6,214	9,521	15,735	8.0	11.4	19.4

(e): Estimates
*   Includes short term-debt, but excludes leasing and forwards of commodities.
** Includes territorial debt and public enterprises's (without netting public tenors), at market exchange rates.

Source: Our computations based on Banco de la República (2001) and Ministry of Finance

Fortunately, internal debt maturity was extended from 1.5 years in 1996 to nearly 3.4 years by end-2000. After the successful internal-debt-swap carried out in May 2001, involving nearly 20% of the debt-stock, maturity was further extended to 4.5 years with minor marginal costs and significant improvement in liquidity for tenors. Dollar denominated internal debt has been kept below 10% of the internal stock at all times, showing that Colombia is well aware of the negative experiences of the Mexican Tesobonos in 1995 and the over-night Brazilian debt of early 1999.

Total public debt increased from 27% to 47% of GDP over the years 1995-2001(e), an increase of almost 20 percentage points, where about half is explained by the increase in the internal debt (see table 2). Thanks to the reduction of the NFPS deficit from 5% of GDP in 1999 to 3.6% of GDP in 2000 and 2.6% of GDP in 2001(e), total public debt should be stabilized for the first time since 1994.

C. Some Comparisons with Latin America

Table 3 shows that current levels of public debt in Colombia (47% of GDP) are no longer moderate. In fact, they are higher than Argentina's (46%), Chile's (32%), Mexico's (21%) and Venezuela's (38%). Only Brazil's (60%) surpasses the relative levels of Colombia, in this sample of large economies of the region.

Furthermore, note that over the period 1997-2001(e), Colombia exhibited the largest increment in public debt (almost 17 GDP-percentage points), seconded by Argentina (11 points). This is at counter with public debt contraction in countries like Chile and Mexico, where fiscal adjustment was significant and continuous. Even in the case of late but continuous adjustments, like in Brazil, public debt has retracted to pre-crises levels (60% of GDP). However, under the current scenario of contagion from the Argentinean crises, debt stocks could increase once more by about 2-3% GDP-percentage points by end-2001. Venezuela is definitely an outlier, where "wind-fall-gains" from oil-prices have permitted a significant reduction of the debt/GDP ratio to 38%, without incurring yet in the pain of carrying out structural reforms.

Table 3: EXTERNAL AND PUBLIC DEBT IN LATIN AMERICA

Country	Years	(As a Percentage of GDP)		Liquidity Buffer (Net Int. Reser./ Amotizations Due)
		External Debt	Total Public Debt	
Argentina	1997	42.6	34.5	1.70
	2000	52.5	45.0	0.90
	2001(e)	54.3	46.0	0.90
	Var.01/97	11.7	11.5	-0.80
Brazil	1997	24.8	60.0	0.79
	2000	40.6	65.0	0.55
	2001(e)	39.6	60.0	0.70
	Var.01/97	14.8	0.0	-0.09
Chile	1997	35.2	38.3	3.20
	2000	51.5	34.1	3.00
	2001(e)	51.5	32.5	3.00
	Var.01/97	16.3	-5.8	-0.20
Colombia	1997	29.7	30.3	1.08
	2000	40.1	46.8	1.02
	2001(e)	37.8	46.9	1.00
	Var.01/97	8.1	16.6	-0.08
Mexico	1997	38.8	24.0	0.40
	2000	30.2	20.8	0.80
	2001(e)	29.4	20.8	0.80
	Var.01/97	-9.4	-3.2	0.40
Venezuela	1997	39.6	40.3	2.21
	2000	28.2	35.3	3.62
	2001(e)	28.3	38.1	3.59
	Var.01/97	-11.3	-2.2	1.38

Source: Our computations based on IMF (2000) and Goldman & Sachs (2001)

In Latin America preoccupation with debts are not limited to the public area. In fact, table 3 also illustrates the trend exhibited by total external debt, including privately owned, which in the cases of Argentina, Brazil, Chile and Colombia increased by 8-16 GDP-percentage points. Only Mexico and Venezuela managed to reduce such indicator below the 30% mark over the years 1997-2001(e). Curiously enough, in the case of Colombia total external debt only increased by 8 GDP-percentage points, while Chile recorded the highest increase (16 GDP-percentage points), in both cases led by private indebtedness. The difference stems from a drastic contraction of the public debt in Chile that propelled private investment, allowing real GDP-growth on sustainable basis above 6% per-anum, while in Colombia public crowding-out reduced growth to an average of 2% in recent years and long-term growth probably down to 4% from the 6% observed in previous decades.

Argentina and Chile show the highest levels of external debt (above 50% of GDP) in the region. Brazil and Colombia maintain moderate levels (around 40%) and Mexico and Venezuela have low levels (30% of GDP). Financial prudence recommends having net international reserves (NIR) that at least match amortization's due over the following year (including short-term debt). Table 3 illustrates the so-called "buffer liquidity indicator", which in the case of Chile maintains a ratio of 3 to 1 between NIR/Amortization's due, but in the case of Argentina and Brazil it is below one. Colombia maintains a ratio close to one, although it would be an advantage to increase it towards 1.2 in the near future to be better prepared for international turbulence.

In short, over the period 1995-2001(e) Colombia experienced significant increases in public debt, only surpassed by Argentina (17 and 11 GDP-percentage points, respectively). The highest ratios of public debt/GDP in Latin America by the end-2000 were in Brazil (60%), Argentina (46%) and Colombia (47%). However, in the case of Colombia such increases were not reflected one to one in the external debt indicators (as happened in Argentina) due to pronounced increases in the internal debt, which reached almost the same level of the public external debt (22% of GDP).

Due to the high levels of indebtedness already attained, rating agencies have been recommending to deepen fiscal adjustment in order to contain further deterioration of Colombian debt indicators. Recent progress made in approving a fiscal responsibility law at the territorial level (Law 617/00) and a constitutional reform (Acto 012/01) to delink territorial transfers from central government tax revenues (up to year 2008) are good signals of the commitment towards such goal.

Privatization of financial public entities and approval of the second generation of structural reforms (including educational Law 60/93 and national pension reform) would permit a significant turn-around of the public deficit in the years to come and a long-term reduction in debt indicators. Flotation of the peso, since September 1999, has already spurred a structural correction in the current account of the balance of payments, while the completion of this fiscal agenda should permit full-correction of the public debt-component.

The external debt private-component has decreased by about US$4 billion over the period 1997-2001(e), stabilizing around US$11,5 billion (13% of GDP). In similar fashion, as occurred in Chile, private debt is likely to maintain moderate levels close to 12% of GDP in the near future, although above the 5% of GDP observed in the pre-opening of the capital account in the early 1990s. Mexico constitutes a good example of an export-led growth economy which conquered "investment grade" in 2000, after almost five years of struggling with fiscal adjustment and trade opening policies (see Clavijo, 2000).

III. DEBT DYNAMICS AND EXPORTING EFFORTS

This section is devoted to establishing the circumstances in which the external debt/GDP ratio could stabilize in the near future. In Colombia such ratio is currently at 37% of GDP. Following Simonsen's model (1985), we shall assess the role played by the interest rate paid on the external debt, on one hand, and the non-financial current account surplus, driven mainly by the rate of growth of exports, on the other hand. Before presenting the model and results, it is useful to review historical trends in some debt values.

A. Net External Debt = Gross External Debt - Net International Reserves (NIR)

Graphs 1 and 2 depict net external debt, which amounted to only US$1,7 billion in the early 1980s (about 4% of GDP).   Such debt peaked at US$14 billion (33% of GDP) in 1987. During the crises of 1982-85 the NIR fell below US2 billion (less than 3.5 months of imports) and the external debt increase by US$5,5 billion in only four years (see Caballero, 1997).
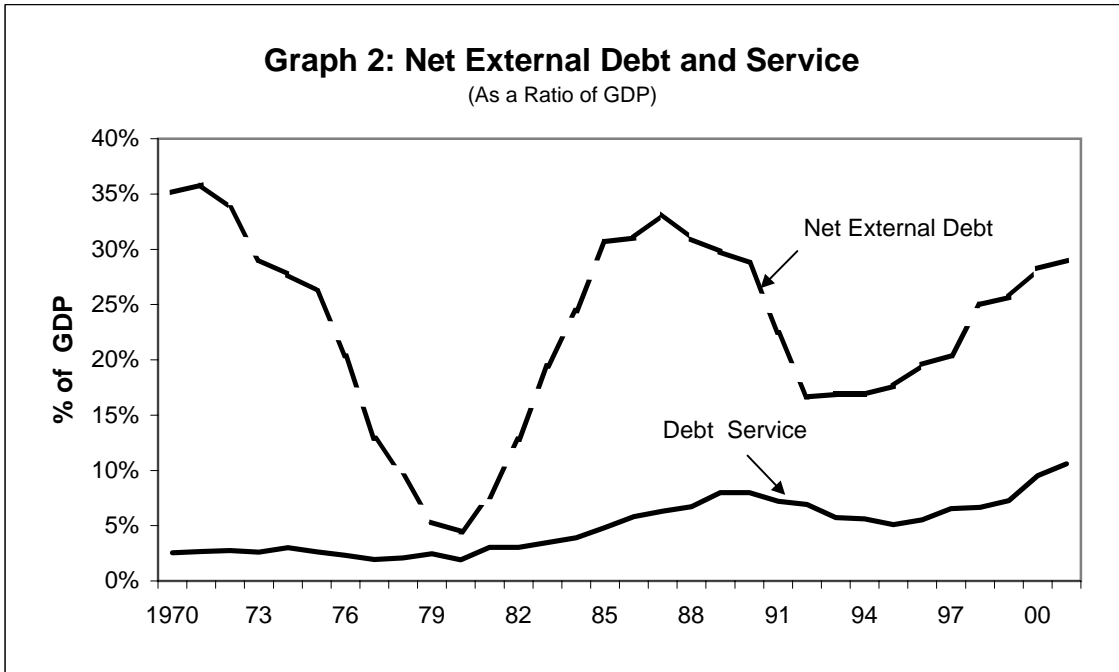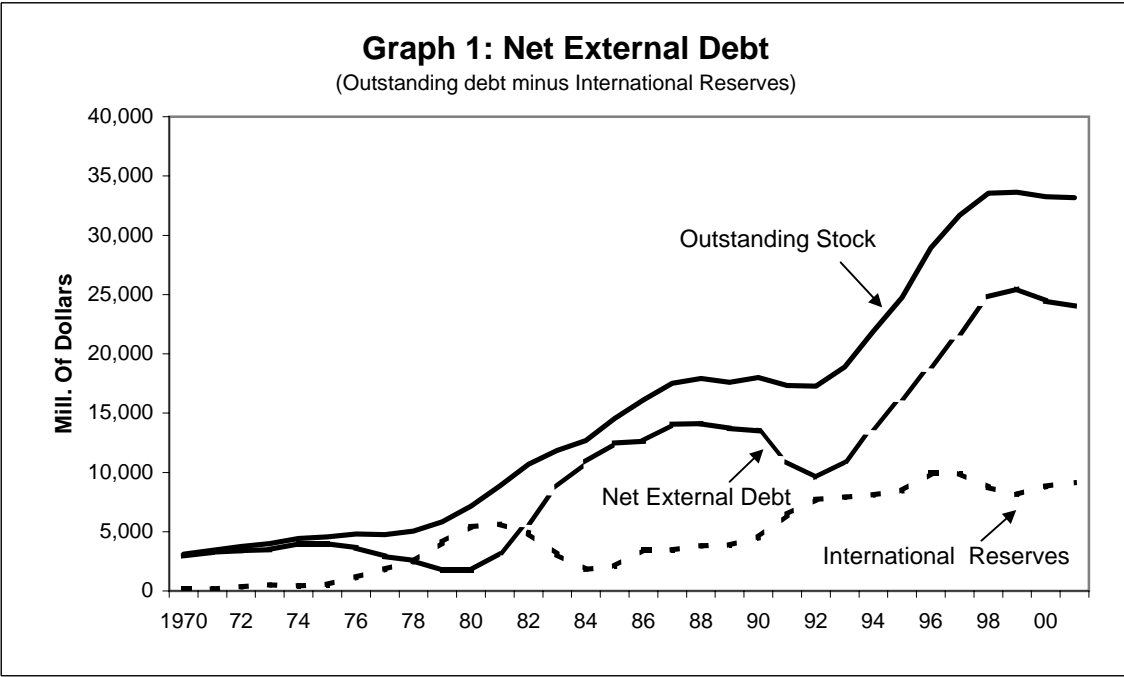
Over the 1990s, net external debt hovered around US$14 billion, but it diminished to US$11 billion in 1993 (17% of GDP) due to cash-fiscal surpluses that allowed for debt pre-payments (including proceeds from privatization's). As explained in the previous section, net external debt increased to 28% of GDP in the period 1995-2001(e), only surpassed by the peaks of 1971 and 1987. Graph 2 also shows how the debt service/GDP ratio reached 8% in late 1990s and almost 10% in 2001(e), very high levels compared to the 3% of GDP observed in late 1970s.

B. Public vs. Private External Debt

Graph 3 illustrates the dominant role played by public debt over the period 1980-91. However, during the 1990s private debt picked-up as a result of the capital account opening, reaching 16% of GDP in 1999. About two thirds of the private external debt was linked to trade finance (short-term) in the 1980s (see graph 4), but beginning in 1993 long-term finance increased significantly inverting the relation in favor of the latter.

C. Net Transfers from Abroad

Such transfer is defined as the difference between gross disbursements, on one hand, and amortization's and interest payments, on the other hand. Graph 5 decomposes the public and private components of the net transfer from abroad, where a positive number represents a net inflow to Colombia and a negative number a net outflow.   Years 1972-74 illustrate a net public inflow,

Graph 1: Net External Debt
(Outstanding debt minus International Reserves)

Mill. Of Dollars

Outstanding Stock

Net External Debt

International Reserves

40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0

1970 72 74 76 78 80 82 84 86 88 90 92 94 96 98 00

Graph 2: Net External Debt and Service
(As a Ratio of GDP)

% of GDP

Net External Debt

Debt Service

40%
35%
30%
25%
20%
15%
10%
5%
0%

1970 73 76 79 82 85 88 91 94 97 00

under the Stand-by agreement with the IMF, which more than compensated the outflows of the private sector. Years 1975-85 showed almost equilibrium, except for the early 1980s. The period 1987-1992 registered net outflows, led by pre-payments of the public sector, while the period 1994-97 showed net inflows, led by the private sector indebtedness. More recently, (1999-2001) we have observed net outflows, over 3% of GDP, driven mainly by the private sector.

D. Exporting Effort and External Debt Stabilization

Annex 1 illustrates technical details explaining how debt reduction hinges, first, on the difference between the rate of growth of exports (x) and the effective interest rate (i) paid on the debt stock, and, second, on the initial ratio of debt stock with respect to non-financial exports, where $Z =$ (External Debt Stock – Net International Reserves)/(Non-financial Exports).
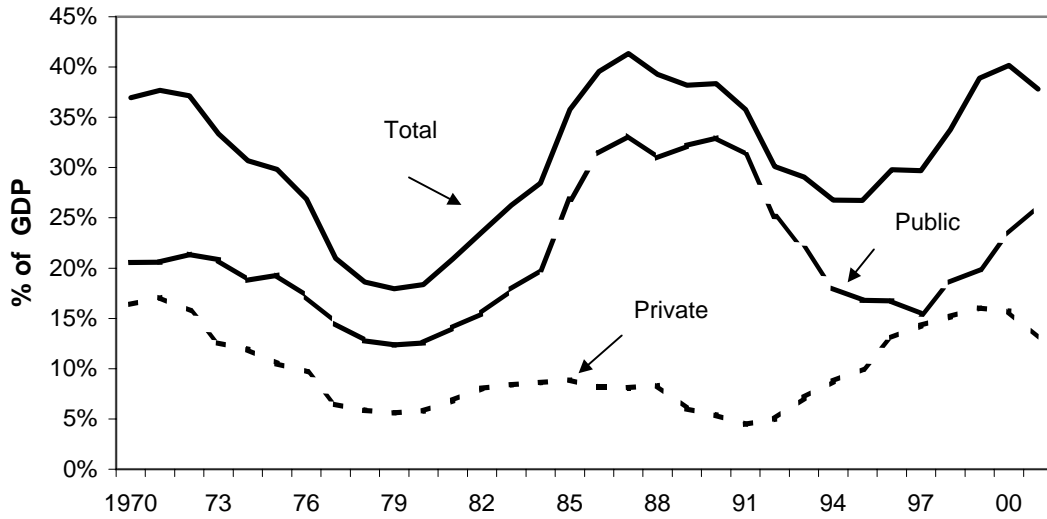
It is useful to illustrate the evolution of the (x - i) component, as shown in graph 6. Exports grew at a rate of 15-30% per-anum during the 1970s, while the interest rate hovered around 4-7% in dollars, generating financial relief in about 9-23 percentage points. In consequence, the rate of growth of external debt decreased, reaching levels of only 5% of GDP. These effects are also reflected in the critical values of $Z = 3$ in 1971, compared to only $Z = 0.3$ in 1980.

As export growth diminished and interest rates skyrocketed during the 1980s, a significant "debt burden", (x-i) < 0, was generated, resulting in a dramatic increase of Z, surpassing the critical value of 2 by 1985. "Windfall gains" from coffee and oil over the period 1986-90 allowed Colombia to enter a phase of "debt relief", (x-i) > 0, resulting in low levels of Z by 1992. A new cycle of debt deterioration occurred over the years 1995-1999, which were reflected in a Z=1.8 by 1999.

Let us define "exporting effort" as the increase required in the non-financial current account, (X - M)/X, as to stabilize the debt/GDP ratio, say, instantly or in the five-year horizon. In the instant case, it is possible to demonstrate that the solution is driven by the levels of Z and i, while in the dynamic case the solution hinges on the debt burden generated through (i - x).

Graph 3: External Debt Composition
(As a percentage of GDP)

% of GDP

Total

Public

Private

1970 73 76 79 82 85 88 91 94 97 00

45%
40%
35%
30%
25%
20%
15%
10%
5%
0%

Graph 4: Private External Debt
(Mill. Of Dollars)

Mill. Of Dollars

Total

Long Term

Short Term

16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0

1970 73 76 79 82 85 88 91 94 97 00
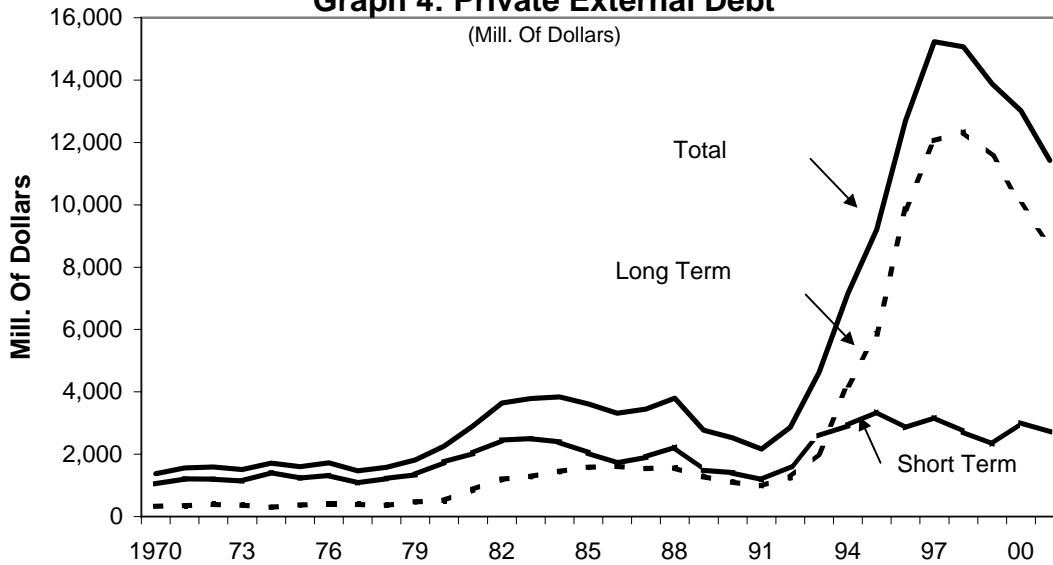
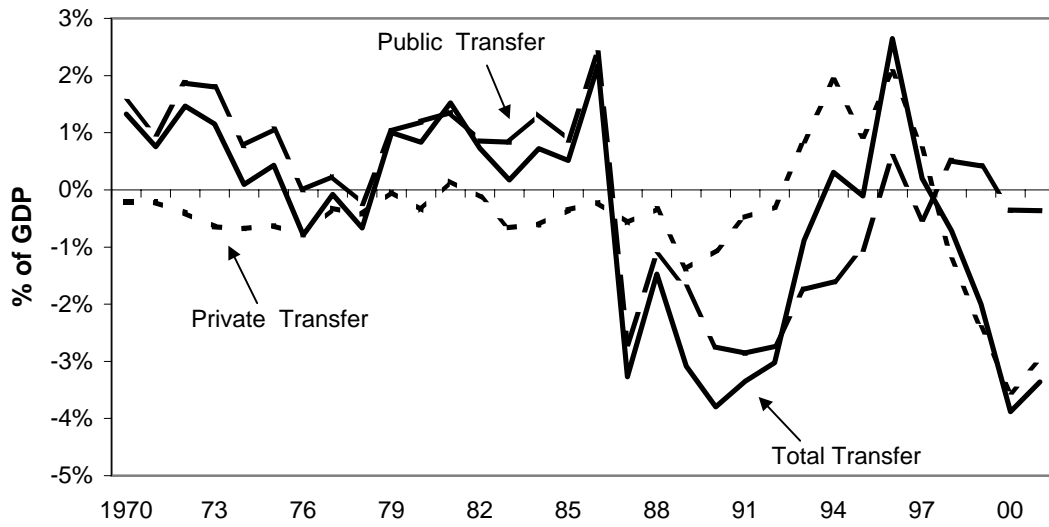Graph 7 shows the results of these simulations. Due to the dynamic "debt relief" entailed in the (x-i) path, the "exporting effort" declined from 10% to only 2% over the 1970s (see Annex 2). However, the "debt burden" experienced through the mid-1980s increased the exporting effort (X - M)/X up to 22% by 1985. Such effort has been reached only through short episodes of export booms, like in the 1986-89 period, under very favorable terms of trade.

By contrast, during the period 1993-98 the exporting efforts declined, generating a dangerous debt dynamic path. Such path was only halted by the recent exporting efforts of the years 1999 and 2000, which reached 8-9%, but yet they were slightly below the 11% requested to stabilize the debt/GDP ratio over the five-year horizon. The flotation of the peso against the dollar since end-1999 and the successful disinflation pattern, that has permitted to reach one-digit-inflation ever since, have helped to maintain such exporting effort. In fact, the effective real exchange rate against the main trading patterns of Colombia has maintained a depreciation of around 15-20 percentage points with respect to the values observed back in the mid-1990s, which at the time were perceived as close to "purchasing power parity". However, during the first half of 2001(e) guerrilla attacks on oil and electric infrastructure have impaired significant export growth, threatening again the goal of stabilizing external indicators around 38% of GDP.

Similar conclusions are obtained when comparing the rate of growth of the economy, g, (in dollar terms) with the external interest rate paid on the debt, i. In fact, it is possible to demonstrate that such a difference between (g-i), times the debt/GDP ratio, is a good proxy of the current account surplus required to stabilize this debt ratio. Our simulations (not shown in here) illustrate that stabilizing such debt ratio over the years 1997-1999 would have required external surpluses close to 5% of GDP. Such conditions were not fulfilled and the debt ratio continued to increase. If during 2001(e) the GDP in dollar-terms were to increase by 5%, then a 1% of GDP current account surplus would be sufficient for stabilizing the debt/GDP ratio. In late 2000 such GDP growth was in the upper-bound of the forecast for Colombia. However, after the slump observed in the US-economy and the financial turbulence in Argentina and Turkey experienced during the first term of 2001,

Graph 5: Net Transfers From Abroad

(Inflows (+), Outflows (-), As a percentage of GDP)

Public Transfer

% of GDP

Private Transfer

Total Transfer

3%
2%
1%
0%
-1%
-2%
-3%
-4%
-5%

1970   73   76   79   82   85   88   91   94   97   00

Graph 6: Dynamic Burden over the Debt Stock

(Burden (-); Relief (+), in percentages)

Exports Growth

Percentages

Interest Rate

Dynamic Burden

50%
40%
30%
20%
10%
0%
-10%
-20%
-30%
-40%

71   73   75   77   79   81   83   85   87   89   91   93   95   97   99   01
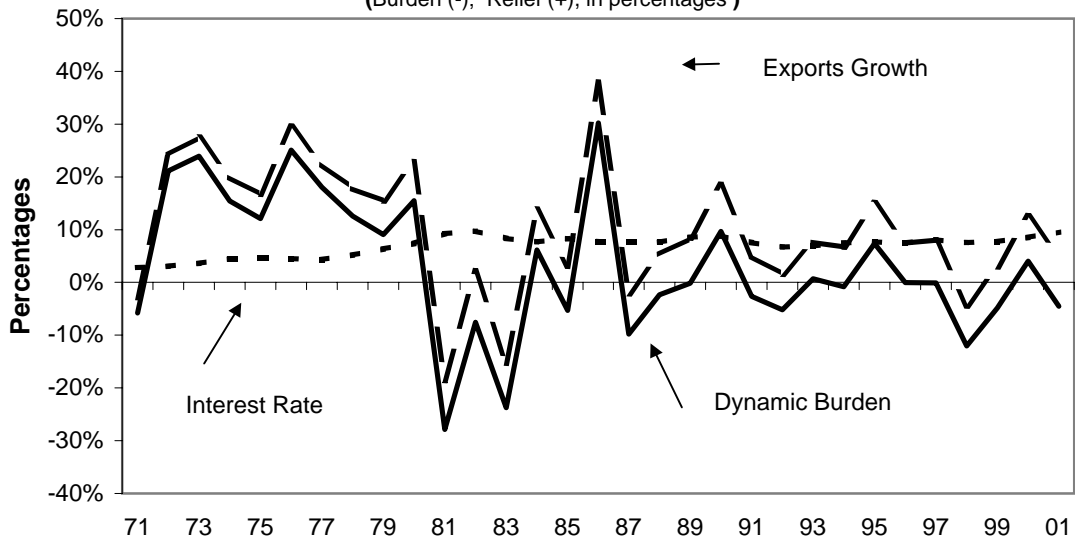
such forecast is clearly out reach in the short-term.

Graph 8 illustrates the path followed by the non-financial current account of the balance of payments. It also shows such deficit adjusted by Foreign Direct Investment (FDI). Note how such adjusted deficit is reduced from 4% to 2% of GDP over the years 1993-95, showing the benefits of recurring to FDI in financing external deficits. Chile, Mexico and Brazil have managed to reduce the pressures on the debt/GDP ratio by attracting significant amounts of FDI.

In short, we have seen how the stance of the external accounts can alter significantly due to changes in the terms of trade and/or world-economic cycles. In 1980 external debt indicators looked sound: Net External Debt/GDP ratio was as low as 4.5%, exports growth was 15 percentage points above the external interest rate and the required "exporting effort" was only 2%. However, debt crises exploded in 1982-85, and again in 1994-95, 1998-99 and once more in 2001, as difficulties in Argentina and Turkey seem hard to come by without affecting emerging markets. In the case of Colombia, the 1993-97 period was characterized by credit boom, asset inflation, and real appreciation of the peso, all of which left the economy with an external debt/GDP ratio of 40% and public debt/GDP ratio of 47%.

IV. CONCLUSIONS

In this paper we have analyzed the evolution of the Colombian external debt over the 1990s with the purpose of finding the conditions in which the debt/GDP ratio would stabilize around its current level of 38% over the early 2000s. Using Simonsen´s dynamic model, we conclude that recent surpluses on the non-financial external current account permit to be optimist on such possibilities, where the public component would level-off at 26% of GDP and the private one at 12% of GDP.

However, this possibility hinges crucially on deepening the current "exporting effort" and the continuation of structural adjustments so that the consolidated fiscal deficit settles below 2% of GDP and success in deepening the exporting model supported until now by the Andean Trade Pact
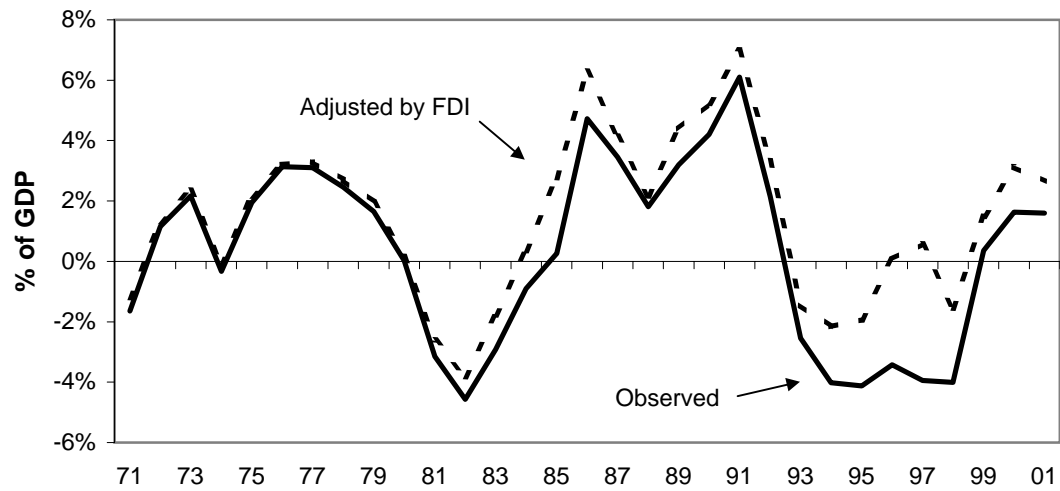
Graph 7: Required Exporting Effort for Colombia
[Assuming a fixed ratio of Net Debt/Exports for five years]

Dynamic Effort

Instant Effort

Observed
Effort
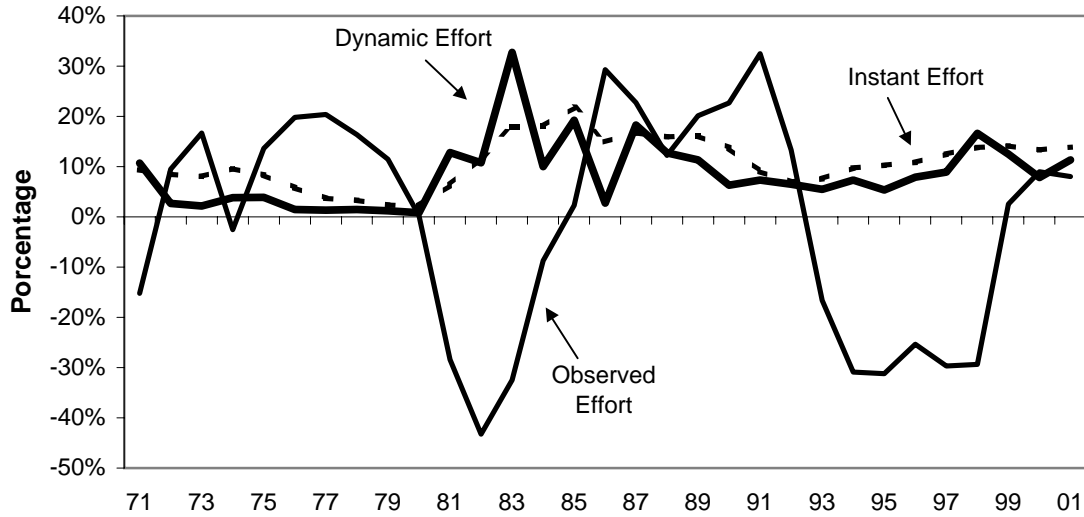
Porcentage

Graph 8: Non-Financial Current Account Deficit
(As a percentage of GDP)

Adjusted by FDI

Observed

% of GDP

Agreement (ATPA) and eventual extensions under the Caribbean Basin Initiative (CBI) and the ALCA.

Over the period 1997-2001(e), Colombia exhibited the largest increment in public debt (almost 17 GDP-percentage points), seconded by Argentina (11 points). Current levels of public debt in Colombia (47% of GDP) are no longer moderate; in fact, they are larger than Argentina's (46%), Chile's (32%), Mexico's (21%) and Venezuela's (38%). Only Brazil's (60%) surpasses those of Colombia, in this sample of large economies of the region.

Due to these high levels of indebtedness, rating agencies have been recommending to deepen fiscal adjustment in order to contain further deterioration of Colombian debt indicators. Recent progress made in approving a fiscal responsibility law at the territorial level (Law 617/00) and a constitutional reform (Acto 012/01) to delink territorial transfers from central government tax revenues (up to year 2008) are good signals of the commitment towards such goal. However, privatization of financial public entities and approval of the second generation of structural reforms (including educational Law 60/93 and national pension reform) are required to impulse a significant turn-around of the public deficit in the years to come and a long-term reduction in debt indicators. Flotation of the peso, since September 1999, has already spurred a structural correction in the current account of the balance of payments, while the completion of this fiscal agenda should permit full-correction of the public debt-component.

ANNEX 1: External Debt Indicators of Colombia
(Includes Public and Private debt)

Stock Outstanding As of:	Share over Total Stock: By Agent		Short-Term Debt:			As a Ratio of GDP (%)				Exporting Effort (%)		
Mill. US$	Public %	Private %	Public %	Private %	Total	Total Debt	Net Debt (after Internat. Reserves)	Debt Service	Net Transfers From Abroad (-) Outflow	Instant	Dynamic	Observed
1970 3,098	55.6%	44.4%	13.0%	33.9%	46.9%	36.9%	35.1%	2.6%	1.3%	------	------	------
71 3,434	54.7%	45.3%	11.8%	35.3%	47.1%	37.7%	35.8%	2.7%	0.8%	9.3%	10.7%	-15.2%
72 3,749	57.6%	42.4%	11.5%	32.0%	43.5%	37.1%	33.7%	2.8%	1.5%	8.5%	2.7%	9.5%
73 3,997	62.3%	37.7%	11.8%	28.5%	40.3%	33.4%	29.1%	2.6%	1.2%	8.0%	2.2%	16.7%
74 4,421	61.2%	38.8%	11.0%	32.0%	43.0%	30.7%	27.7%	3.0%	0.1%	9.6%	3.8%	-2.5%
75 4,551	64.8%	35.2%	10.5%	27.1%	37.7%	29.8%	26.2%	2.6%	0.4%	8.4%	3.9%	13.6%
76 4,800	64.0%	36.0%	10.6%	27.6%	38.2%	26.9%	20.3%	2.3%	-0.8%	5.8%	1.5%	19.8%
77 4,754	69.2%	30.8%	10.7%	22.6%	33.4%	21.0%	12.9%	1.9%	-0.1%	3.7%	1.3%	20.4%
78 5,048	68.6%	31.4%	11.3%	24.2%	35.4%	18.6%	9.5%	2.1%	-0.7%	3.3%	1.5%	16.4%
79 5,842	68.8%	31.2%	9.7%	23.1%	32.7%	18.0%	5.3%	2.5%	1.0%	2.3%	1.2%	11.4%
80 7,145	68.4%	31.6%	7.9%	24.4%	32.3%	18.4%	4.4%	1.9%	0.8%	2.2%	0.8%	0.2%
81 8,866	67.3%	32.7%	8.3%	23.0%	31.2%	20.9%	7.6%	3.1%	1.5%	6.4%	12.8%	-28.4%
82 10,697	65.9%	34.1%	9.1%	22.9%	32.0%	23.6%	12.8%	3.0%	0.7%	11.8%	10.8%	-43.3%
83 11,850	68.0%	32.0%	10.0%	21.1%	31.1%	26.3%	19.4%	3.5%	0.2%	18.0%	32.7%	-32.5%
84 12,673	69.7%	30.3%	7.8%	18.9%	26.6%	28.4%	24.4%	3.9%	0.7%	18.1%	10.0%	-8.7%
85 14,535	75.1%	24.9%	9.1%	14.0%	23.1%	35.8%	30.7%	4.8%	0.5%	21.8%	19.2%	2.3%
86 16,100	79.4%	20.6%	2.0%	10.6%	12.6%	39.6%	31.0%	5.8%	2.2%	14.9%	2.7%	29.3%
87 17,512	80.3%	19.7%	1.3%	10.9%	12.2%	41.3%	33.2%	6.3%	-3.3%	16.7%	18.3%	22.8%
88 17,935	78.8%	21.2%	1.7%	12.5%	14.2%	39.3%	30.9%	6.7%	-1.5%	15.9%	12.7%	12.2%
89 17,587	84.2%	15.8%	5.6%	8.5%	14.1%	38.2%	29.8%	8.0%	-3.1%	16.1%	11.3%	20.1%
90 17,994	86.0%	14.0%	4.9%	7.8%	12.7%	38.4%	28.8%	8.0%	-3.8%	13.7%	6.3%	22.7%
91 17,336	87.5%	12.5%	4.1%	6.8%	10.9%	35.8%	22.5%	7.2%	-3.3%	9.0%	7.3%	32.5%
92 17,278	83.4%	16.6%	5.4%	9.3%	14.7%	30.1%	16.6%	6.9%	-3.0%	6.9%	6.5%	13.3%
93 18,886	75.5%	24.5%	5.3%	13.7%	19.0%	29.1%	16.9%	5.7%	-0.9%	7.6%	5.5%	-16.6%
94 21,876	67.3%	32.7%	5.3%	13.4%	18.7%	26.8%	16.9%	5.6%	0.3%	9.7%	7.3%	-30.9%
95 24,751	62.8%	37.2%	6.4%	13.6%	20.0%	26.7%	17.6%	5.1%	-0.1%	10.3%	5.4%	-31.2%
96 28,947	56.1%	43.9%	4.0%	9.8%	13.8%	29.8%	19.6%	5.5%	2.6%	10.8%	7.9%	-25.3%
97 31,680	51.9%	48.1%	2.9%	10.0%	13.0%	29.7%	20.4%	6.5%	0.2%	12.5%	8.9%	-29.7%
98 33,536	55.1%	44.9%	2.9%	8.1%	11.0%	33.8%	25.0%	6.6%	-0.7%	13.8%	16.6%	-29.4%
99 33,624	58.7%	41.3%	2.0%	6.9%	8.9%	38.9%	25.7%	7.3%	-2.0%	14.1%	12.5%	2.6%
00 33,263	60.9%	39.1%	0.6%	9.1%	9.7%	40.1%	28.3%	9.5%	-3.9%	13.3%	7.8%	9.0%
01 33,180	65.6%	34.4%	0.6%	8.2%	8.8%	37.8%	29.0%	10.6%	-3.4%	13.9%	11.3%	8.0%

Source: Our computations based on Simonsen´s Model for Colombia.

ANNEX 2: External Debt Dynamics

Following Simonsen's Model (1985), it is possible to establish the growth conditions for the non-financial current account, $(X-M)/X$, that would allow for the stabilization of the external debt/GDP ratio. This condition is known as the "dynamic solvency test".

Equation [1] indicates that the stock of net external debt, D = (Gross External Debt – International Reserves) = $(S$ - $R)$, would tend to increase with non-financial deficits of the current account of the balance of payments, $(M$ - $X)$, and with the level of the interest rate (i) paid on such stock.

$$\Delta D = (M - X) + iD \qquad\qquad [1]$$

Let us also define $Z = (D/X)$, as the ratio of net external debt to non-financial exports, so that we can transform equation [1] into [2], which is the appropriate expression for setting debt solvency tests.

$$\Delta Z = (i - x)Z - H \qquad\qquad [2]$$

Equation [2] shows that if interest rate (i) happens to be greater than the rate of growth of such exports (x), then the ratio Z (Net Debt / Exports) will increase even if there are no new deficits in the current account. Put differently, even if $H = (X-M)/X = 0$, Z could increase due to debt dynamics. Hence, positive values of (i-x) represent a 'dynamic burden' on the external debt and in this case H becomes the "exporting effort" required to decelerate the increase of the debt/GDP ratio.

The simulations shown in the text explain, first, the path of the "dynamic debt" (i-x) and, secondly, the "exporting effort" values, given certain historical parameters related to export booms and economic growth rates.   In fact, it is possible to prove that under a dynamic debt relief provided by $x > i$, the exporting effort would take the form shown in equation [3], where the initial values of the debt stock (Z_o) determine the time horizon (t) for reaching exponential (e) debt convergence towards an stable ratio.

$$H = \frac{Z_o i(x-i)}{xe^{t(x-i)} - i} \qquad\qquad [3]$$

In short, passing the "strong solvency test" implies that a country is performing an exporting effort such that, given the initial debt values, the external debt/GDP ratio would tend to stabilize within the next "t" periods. The difficulty arises from the fact that, under international turbulence, interest rates tend also to increase forcing emerging markets to put out additional "exporting efforts" to avoid further deterioration in debt/GDP ratios.

Our simulations (see annex 1) show that during the 1970s Colombian exports grew at a rate that clearly surpassed the interest rate and, as a result, debt ratios stabilized at low levels. However, during the 1980s the international interest rates skyrocketed and at the same time exports growth declined, generating a heavy dynamic burden on debt ratios (see data and graphs 6 and 7 in the text). More details in Clavijo (1986) and De Resende (1984).

Non-financial exports grew at a rate of 12.5% (in dollar terms) during 2000, but the effective interest rate on the external debt also increased to 8.5% (similar to that of the early 1980s). Yet, external debt ratios experienced a dynamic debt relief of about 4 percentage points. If these conditions prevail for the next five years ($t=5$), and provided that $Z = 1.8$, then an exporting effort of 6% would allow for the stabilization of the net external debt/GDP ratio. Interestingly, an instant exporting effort, required to avoid an increase in the external debt ratio, would require exports growth running at 13%, below the 21% that was required back in the mid-1980s, but yet above the historical values obtained in absence of coffee or oil booms.

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