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LOW HOUSEHOLD SAVINGS AND UNSUSTAINABLE CURRENT ACCOUNT DEFICITS: A STUDY OF PRIVATE SAVINGS USING INTERSECTIONAL MATRICES OF FINANCIAL ASSETS FOR THE MEXICAN ECONOMY

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Low household savings and unsustainable current account deficits: A study of private savings using intersectorial matrices of financial assets for the Mexican economy

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Was the decline in private saving during the period 1989-1994 a forewarning of balance of payments difficulties for the Mexican economy?[2]. Data to address this question have been considered unsatisfactory by analysts trying to explain the exchange rate crisis of December 1994 and the financial debacle that followed it.

An important stumbling block with available information is that - in spite of different implications that changes in household saving, as opposed to those of profits by private firms have for balance of payments analysis- " there are no appropriation accounts by sectors for Mexico, only indirect measures of private savings are available and it is impossible to establish a distinction between households and business."[3]

Indeed, notwithstanding the prominent place acquired by claims for policy actions geared towards increasing domestic savings as a way to recover macroeconomic stability and to foster growth, to date only consolidated and indirect measures of private savings -i.e.

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[1]Preliminary Version. Comments Welcome. Help and suggestions from Jesus Serrano are acknowledged.

[2]The share of private saving in GDP fall from 17.5% in 1988 to 10.7% in 1994 -having registered an unprecedented figure of 8.4% in 1992. In turn, foreign savings required by the Mexican economy (i.e. the current account of the balance of payments) represented in 1994 represented 6.6 points of GDP more than the corresponding figure in 1988.

[3]OECD (1995) p.3. Ignoring these information deficiencies, some analysts -Feldstein (1995) for example- suggest that such a severe balance of payments crisis might have been averted, had the Mexican authorities taken measures towards increasing household savings. (Such as a Chilean type pension fund). Others, e. g. Quintana (1995), conjecture that the fall in private savings can be attributed mainly to conditions related to the private firms; such as lower profit margins associated with import liberalization and price controls.

household cum private enterprises- have been available.[4]

According to some authors (Obstfeld (1995) and Calderón-Madrid (1995) the 1994-1995 Mexican crisis can be better explained with the new generation of currency crisis models. According to these, speculation against a currency creates objective economic conditions that make liability devaluation more likely. Hence, levels of exchange rates that could be sustained indefinitely in the absence of a speculative attack can succumb to adverse market sentiment. Underlying macroeconomic 'fundamentals' are far from irrelevant to the outcome, however, for they determine the range of possible equilibria.

With the aim of highlighting stylized facts that can explain macroeconomic economic conditions in Mexico which determined a vulnerable balance of payments situation at the end of 1994, we combined financial data with income-expenditure statistics to estimate flows of household and private enterprise savings separately. These measurements of saving of households and firms are explicitly linked to the evolution of the real level of financial assets and liabilities held by these sectors[5].

Because these calculations are based on intersectorial matrices of financial **stocks**,[6] (also presented in this work) we achieve two additional advantages: a) We can consider these aggregates together with their accounting counterparts- i.e. total public sector indebtedness and net holdings of financial assets by the rest of the world and b) We can study the roll played by financial intermediaries in influencing the perception that the balance of payments situation was unsustainable.

This results enable us to highlight and discuss two phenomena that, already before december 1994, were pointing towards a vulnerable

[4]Oks. D. and Arrau, P.(1992) and Aspe (1993). OECD (1995) and Bank of Mexico (1995).

[5]As discussed in De Leeuw, F. (1984), there are two approaches to measure the flow of private savings: 'income less outlays' and the 'change in asset approach.' The former is measured in the U.S.A. by the Bureau of Economic Analysis and the latter by the Federal Reserve Board. Because in Mexico available National Accounts do not allow for 'income less outlays' measurements, we follow the alternative based on data provided by the Bank of Mexico, INEGI and the Ministry of Finance.

[6]Although only yearly figures (1980-1994) are presented here, quarterly matrices for 1985-1994 are available upon request to the author.

balance of payments situation and that, with the benefit of hindsight, contribute to the understanding of the reasons for the magnified financial debacle that occurred during the first half of 1995:

in a sustained way,

On the one hand, savings by households were not only sustained at low levels for six years, but, as a consolidated sector, also consistently lower than their expenditures in residential construction. From a macroeconomic perspective this implies that, as a consolidated aggregate, they drew ~~on~~ their previously accumulated financial assets (i.e liabilities issued by ~~other~~ sectors) ~~in order~~ to ~~sustain~~ their pattern of net dissavings. This, in turn had as a consequence that a major change occurred in the financing of public sector and private enterprises: the net increase in liabilities of these two sectors during the period 1988-1994 was not even partly acquired by domestic households- as it had previously been the case.[7] Hence the share of Mexican financial assets held by foreigners at the end of 1994 achieved an unprecedent high value[8].

One the other hand, the household sector which had always been a net debtor with the domestic commercial banking system, turned into a net creditor in 1993. This was the result of a boom in expenditures in houses and durable consumption goods[9], which in turn was propelled by a financial liberalization wave that occurred since 1989 and by the availability of funds resulting from the withdrawal of public debt (due to a privatization program and fiscal accounts in surplus) and by renewal access to international markets by Mexican firms and commercial banks[10]. As a consequence, the balance sheet of the domestic commercial banking system started exhibiting signs of fragility. As it is argued by Calderón-Madrid

[7]That is to say, it is suggested that holdings of domestic financial assets by foreign funds lends itself to a more volatile situation, to the extent that these- and not domestic residents- have available (and are constantly seeking for) substitutable investment opportunities in other countries to which they can quickly move into.

[8]This problem was aggravated by the fact that expectations for 1995 were that, with the recent membership to the OECD, among other factors, Mexican liabilities would be subject to a lower risk qualification by international grading companies. That is to say, domestic entrepreneurs and economic authorities were expecting interest rates to be lower. As a result, most debt was in short-term maturity. See García-Moreno (1995).

[9]See Buira, A. (1994).

[10]See Calderón-Madrid, A. (1995a)

(1995) and Calvo (1995), fears form investors of an eventual bailing-out of banks in problems by the Central Bank contributed to give the impression that a sustained large current account deficit in the balance of payments would no longer be sustainable.

The remaining of these paper is structured in three sections. The first one discusses savings of households and and private firms during the last six years; the second one analizes the behaviour of the private sector, with particular reference with the evolution of their net financial wealth. The third one highlights a number of characteristics of the evolution of the Mexican economy that contributed to its vulnerability at the end of 1994.

I Savings of Households and Private Firms in Mexico.

The tight control of public finance aggregates, to which the administration of president Salinas (December 1988-November 1994) is associated with, was also a characteristic of the macroeconomic policy of his predecessor. In 1987, two years before the outset of Salinas' administration, fiscal accounts had already registered an operational surplus of 1.8% of GDP and a current account **surplus** of 3% of GDP was then achieved. In contrast, as shown in table 1, 1990 was characterized by a current account **deficit** of 3%.[11]

Since private investment resulted only 2.6 percentages points of GDP higher in 1990 than in 1987, it follows that if private savings had remained in 1990 at the same percentage of GDP that in 1987, the current account of the balance of payments would have still remained in surplus in 1990. Stated differently, given a constant share of fiscal surplus in GDP, it is the sharp drop of 3.4 points of GDP in private savings that explains why in 1990 the current account resulted in a deficit of 3%. In subsequent years- with private savings far from recovering their 1987 level- current account deficits further deteriorated.

The sound fiscal accounts and low levels of public debt[12] were taken

[11]The change of six percentage points of GDP in the current account of the balance of payments between 1987 and 1990 reflects, exclusively, a variation in the relationship between the income and the expenditure of the private sector. This is because the relationship between income and expenditure of the public sector, as represented by the share of the fiscal operational surplus in GDP, was also 1.8% in 1990.

[12]The share in GDP of total net debt of the public sector (consolidated with the Central Bank) increased from 51% in 1981 to a peak value of 78% in 1986, falling to 63.5% in 1988. The corresponding figure before the 1994 devaluation was only 22.5%.

to be among the solid economic grounds that encourage investors to hold mexican pesos at the time of the devaluation and that led the authorities to believe that the defense of the peso was possible. In spite of current account deficits at unprecedented levels by 1994, the official policy view[13] -and the idea of most foreign investors in Mexican paper- was that the current account results were not a matter of major worry: it was considered to be the reflection of private domestic agents transferring resources from the future to the present.

In order to consider why the low levels of private savings should have been a matter for policy concern, we consider economic conditions resulted from them which enhanced the vulnerability of the Mexican balance of payments. For this purpose we point out, next, three stumbling blocks for the use of savings as measured in table 1, for empirical work and analysis based on concepts found in economic theory. Next, with the measurements obtained in this work we analyze the characteristics of the evolution of the Mexican economy that contributed to its vulnerability at the end of 1994.

a) Drawbacks of measurements of private savings in Mexico.

The flow of private savings is conventionally calculated in Mexico[14], as in table 1, indirectly by means of an identity[15]. This identity states that private investment is financed either by savings of the private sector, by external savings - the counterpart of which is a deficit in the current account of the balance of payments- and by public savings net of public investment (i.e. the fiscal operational surplus).

This measure of savings has to be complemented in at least two important aspects for empirical and analytical studies based on concepts used in economic theory. These are:

Table 1
(Shares of GDP)

[13]See Aspe, P. (1993) and Mancera (1991).

[14]Because the system of national accounts in Mexico does not provide data measuring disposable income of the private sector, it is not possible to calculate its savings by subtracting consumption expenditure from such an aggregate.

[15]Net public saving is equal to operational fiscal deficit. External Saving to the current account of the balance of payments and unlike the figures presented below, direct foreign investment is presented here as part of private investment.

YEAR	(1) PRIVATE INVESTMENT	(2) EXTERNAL SAVING	(3) NET PUBLIC SAVING	(4) PRIVATE SAVING
1981	14.1	[illegible] 4	-10.0	17.7
1985	11.4	0.7	-0.8	12.9
1989	12.6	-2.8	-1.7	11.5
1990	13.7	-3.0	1.8	8.9
1991	14.9	-5.2	2.9	6.8
1992	16.8	-7.5	2.5	6.8
1993	16.6	-6.5	1.1	9.0

Source: Banco de Mexico (1994) "The Mexican Economy."
(4) = (1) - (3) + (2)

First, Since this aggregate represents a consolidation of savings of the two main aggregates constituting the private sector, further disaggregation between household savings on the one hand and undistributed corporate profits of the enterprise sectors, on the other, is required for adequate economic analysis[16]. This disaggregation is not available in current Mexican statistics.

Second, analyses about saving of households and firms cannot be dissociated from the evolution of the real level of assets and liabilities held by these sectors. Therefore, flow measurements of private savings must be an implicit calculation from -and consistent with- stock measures of private net wealth which evolves through time.

In addition, two concepts must be added to the measurement of public savings -hence reduced from that of private savings. These are the inflation tax on monetary balances and the changes in net wealth of Central Bank[17] and Development Banks.

Moreover, inaccurate measurements of real rates of return on financial assets held by private sector underestimate the fall in private savings. (With a positive net asset position with the

[16]This is due to a number of reasons why, the so-called Modiggliani-Miller theorem cannot be expected to hold. See Stiglitz, J. E. and Weiss (1981).

[17]See Baqueiro, A.(1991).

rest of the world, a period of exchange rate appreciation reduces amount of private disposable income).

b) Disaggregating private savings: the "change of assets" approach.

Household and private enterprise saving, presented in tables 2 and 3, have been estimated by means of an alternative method to the one followed to elaborate table 1. Our private savings measurements do not have the above mentioned drawbacks, since they are based on the so called 'change in asset approach.'

TABLE 2
DISAGREGATED PRIVATE SAVING
(Shares of GDP)

YEAR	HOUSEHOLD SAVING	PRIVATE ENTERPRISE SAVING	HOUSEHOLD INVESTMENT	PRIVATE ENTERPRISE INVESTMENT	MEMORANDUM DIRECT FOREIGN INVESTMENT
1981	11.29	7.03	4.40	8.76	1.13
1985	5.14	7.04	3.95	7.08	0.27
1989	1.33	8.46	4.03	7.11	1.46
1990	0.40	9.01	3.97	8.66	1.07
1991	-1.00	6.87	4.17	9.09	1.64
1992	0.65	5.25	4.87	10.61	1.31
1993	2.03	8.05	4.95	10.32	1.33

These data has been obtained by means of information pertaining to matrices of financial flows elaborated for the years under consideration.[18] These flow of funds matrices, in turn, have been deduced from stocks matrices. These latter ones have been elaborated according to assets and liabilities recorded by financial institutions and to information related to other asset and liabilities held by firms and households from the public and foreign sector.

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[18] The methodology for the elaboration of these matrices is based on the work by Arriazu (1987) and Khadr, A. y Schmidt-Hebbel, K. (1989).

TABLE 3
SAVING AND CONSUMPTION OF PRIVATE SECTOR
AS A SHARE OF PRIVATE DISPOSABLE INCOME

YEAR	PRIVATE ENTERPRISE SAVING	HOUSEHOLD SAVING	PRIVATE CONSUMPTION
1981	8.52	13.68	77.80
1985	9.43	6.89	83.68
1989	11.40	1.79	86.80
1990	12.04	0.54	87.41
1991	9.54	-1.39	91.85
1992	7.20	0.89	91.90
1993	10.52	2.66	86.93

Our stock and flow of funds matrices, presented in the appendix as tables 4 and 5,[19] enable us to identify the allocation of savings across various assets and to assess the role of financial intermediaries in making the private expenditure boom possible.

The flow measurements of dissagregated private savings presented here are an implicit calculation from -and are consistent with- stock measures of private net wealth which evolves through time. In addition, both stocks and flow measurements are along their accounting counterpart, namely public debt and net foreign debt.

We have two stock matrices for each year, one for the beginning of period and the other for the end of period. They relate to each other by the flow of funds matrix. These flows represent the amount and type of allocation of financial savings of the sectors which integrate the economy. Hence, by adding investment of household sector the real variations in net financial wealth of this sector the measurement of household savings is deduced. Similarly, by adding investment by firms to real variations in net indebtedness by this sector, we obtain the measurement of firms savings.

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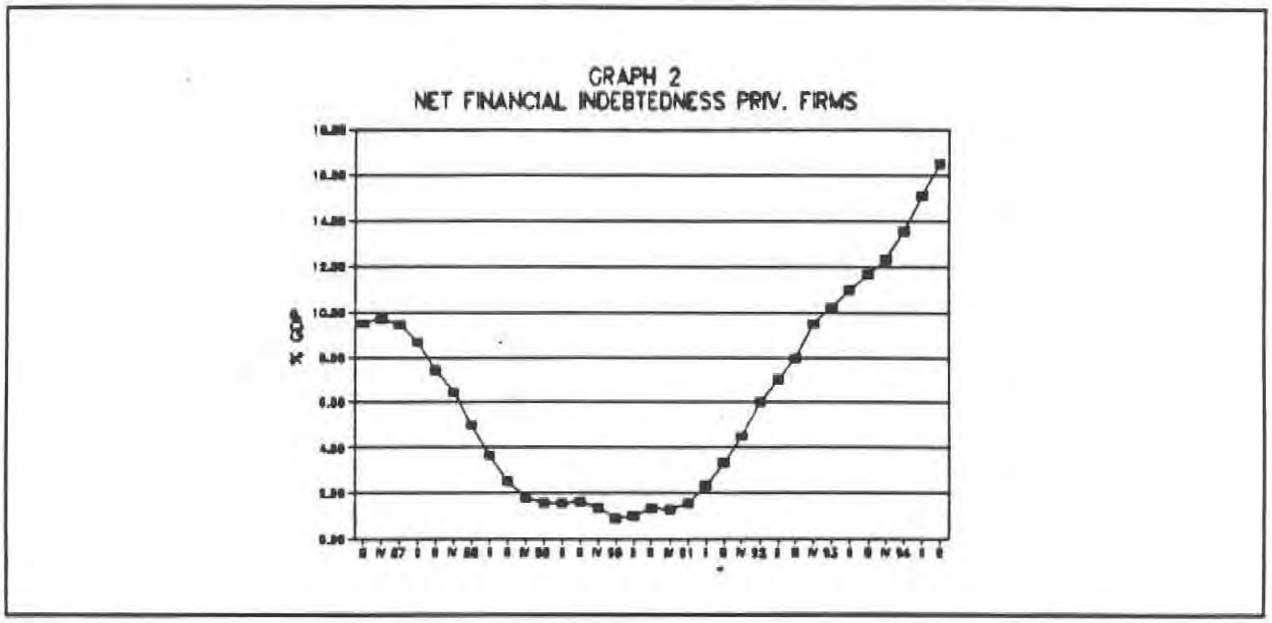
[19] In these matrices, cumulative flow of past savings determine the net wealth position of each sector in the economy. This net wealth is constituted by two types of stocks, financial and physical capital.

II Private Behavior During the Years Previous to the Crisis.

a) Cummulative Implications of Current Account deficits, fiscal surplus and private net savings.



In graph 3 we present the evolution of the net financial wealth, in U.S. dollars, of the consolidated private sector, together with the net indebtedness of the country with the rest of the world (foreign sector). This graph illustrates that in 1987, for example, total indebtedness of the country with the foreign sector reduces (because of a surplus in current account of the balance of payments) while net financial wealth of the private sector increases (since expenditures by private sector were less than its saving). It also shows the opposite movements exhibited by these two aggregates in 1990 (because of level of private savings resulting less than private investment and because of a current account deficit). It also show that, after 1988 private financial wealth decreases in a sustained manner, as it happens with net assets held by the household sector also represented there. The graph also shows implicitly the consolidated total net indebtedness of the public sector. This last aggregate either diminishes or, as it happened during the last year and a half, remains constant.

By identity, net financial wealth of private sector has as a counterpart the sum of two stocks, namely net indebtedness of the country with the foreign sector and total net public indebtedness. Whereas the latter was reduced during the period 1988-1994 by means of a fiscal surplus, inflationary tax, and withdrawal of public debt by means of privatization proceeds, the former changed as a result of current account deficits net of direct foreign investment.

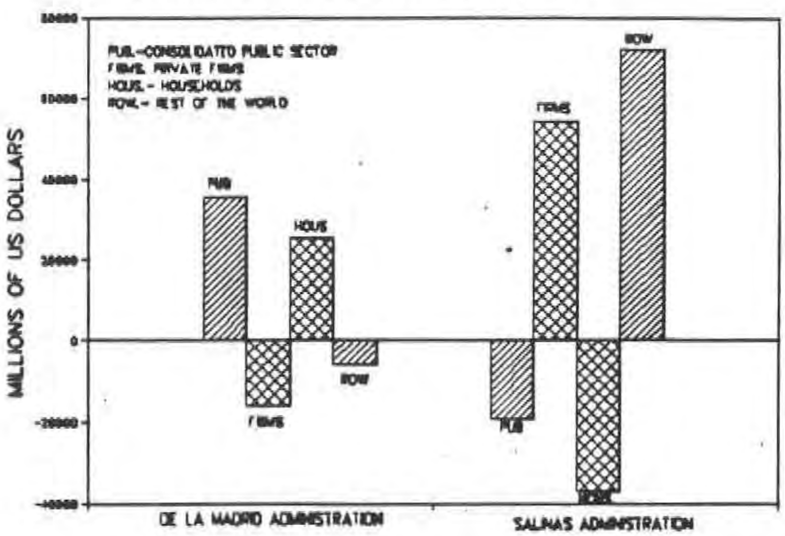
In a closed economy the net stock of privately held financial assets is, by identity the counterpart of the net stock of public sector financial liabilities. (Hence, not only interest bearing public debt, but also high powered money, i.e. bills and currency, are considered as a liability of the consolidated public sector). Therefore, for the consolidated total net indebtedness of the

public sector to remain constant between two points of time, the following condition must hold: the amount of real interest payments on cumulated public debt must be equal to the sum of operational surplus and inflationary tax on high powered money. In this case real flow of resources to spend in consumption and investment by the private sector exactly match its resources available as disposable income.

In turn, in an open economy without public sector and no direct foreign investment, the counterpart of the level of foreign financial indebtedness is the net stock of privately held assets, hence a current account deficit corresponds to private investment in excess of private savings.

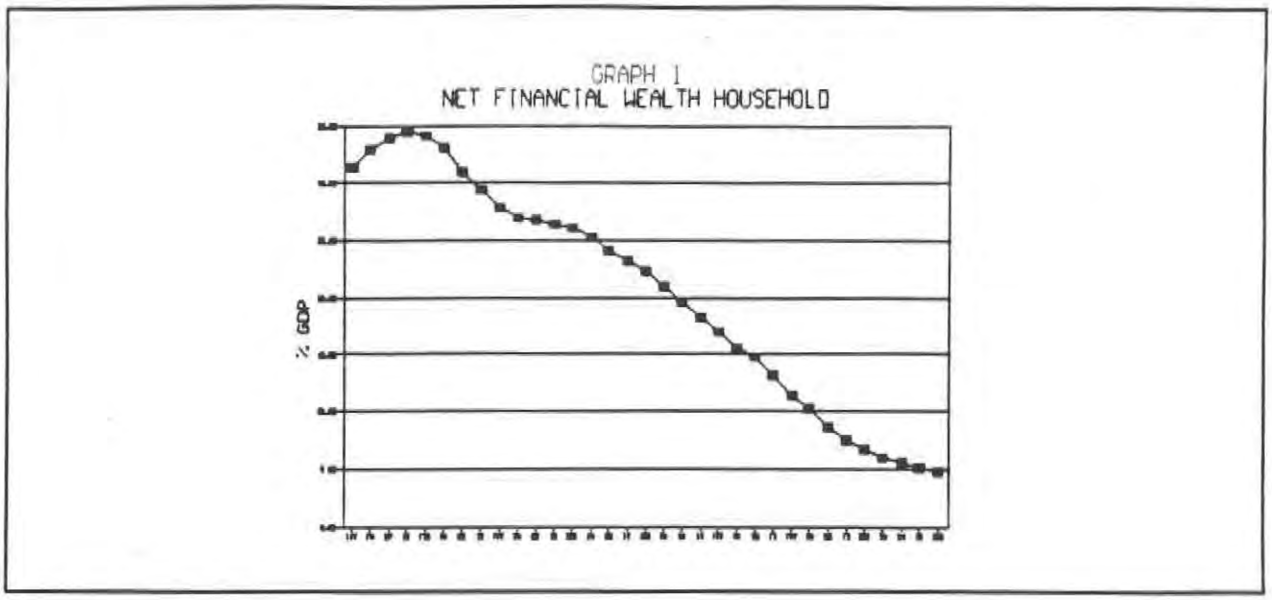
Alternatively in an open economy with a public sector we have that variations in the net public indebtedness exactly correspond with changes in foreign sector indebtedness when private investment is entirely financed by private savings. i.e. when private financial wealth remains constant.

FIGURE 2
CHANGE OF NET FINANCIAL ASSETS



b) Evolution of Financial Wealth and Indebtedness of Households and Private Firms.

The results in table 1 show that, unlike what happened in 1987, in 1990 -as well as in the succeeding years of the Salinas administration- the spending by the private sector in consumption and investment surpassed the amount of its disposable income. Indeed, even in those years with low growth of private investment during the presidential term of Salinas, the level of saving by the private sector was not even sufficient to finance its own investment expenditure. As external savings financed the difference between private investment and private savings during the administration of president Salinas, net financial wealth of the private sector (as shown in graph 3) declined as a result of two phenomena: a) the savings of households resulting below their investment (since 1988) and b) firms increasing their net financial



liabilities. [20]

The persistence of this behavior of the private sector for such a long time has no precedent in recent Mexican history. It was sustainable because of the changes in the economic context which made it possible. Among them, a change in financial liberalization, privatization of banks and a substantial reduction in financing requirements of public sector from commercial banks (these changed from 7% of GDP in 1988 to less than 1.5% in 1993). These factors prompted an expenditure boom to the private sector and, as a result of this, balance sheets of commercial banks experienced radical changes, most noticeable among them is that households liabilities with commercial banks changed from 4.9% of GDP in 1989 to 14.7% in 1993. In turn this additional credit made a consumption boom feasible. This occurred because of a number of factors, in addition to the one just mentioned, among them trade liberalization, wealth effects and a perception of an improvement in permanent income.

The implications, in terms of changes in financial assets, of this peculiar behavior of the private sector are illustrated in graphs 1 and 2. In the former it is shown there how net financial wealth of household sector, as a share of GDP, declines in a sustained manner as from 1988. In the latter it is presented how, the share of net indebtedness by firms remains constant during 1989 and 1990, thereafter, its share in GDP is multiplied by eight in less than

[20]This is also implicitly shown in graph 3, because household's financial wealth declines less than total private financial wealth. (The difference between these two aggregates is given by net indebtedness of private firms).

four years[21].

III Low Household Savings and Vulnerable Balance of Payments.

a) Evolution of Domestic and Foreign Ownership of Mexican Financial Assets.

Before 1988, the household sector in Mexico had traditionally been a net lender of financial resources to private firms and to the public sector -i.e. households had historically been saving not only enough resources to finance their own investment in new housing, they were also generating a surplus that enabled them to increase their holdings of assets issued by firms and the public sector. In 1981, for example, households saved almost seven points of GDP more than their investment requirements during that year. This enabled them to finance an equivalent of the investment by domestic private firms that was not financed with their profits in addition to an amount of almost seven points of GDP to finance a fiscal deficit.

This pattern was no longer continued during the administration of president Salinas: As it is shown in table 2, savings of households were not enough to finance their own expenditure in housing. As a consequence, their net holdings of indebtedness by private firms and public sector were substantially reduced.

Indeed, their share of the sum of net indebtedness of firms and public sector held by households fell from 44.1% in 1988 to 11.2% before the exchange rate devaluation in 1994. Hence, the corresponding share of the foreign sector increased- by identity net indebtedness of private firms and public sector that is not held by domestic households is held by the rest of the world.

To be more specific, we represented in figure 1 the stock of net liabilities of private firms and public sector at the end of 1982, which added to 104.15 billion dollars. Of this total, 28.1% was financed by households.

During the six-year administration of De la Madrid (1982-1988), net indebtedness of the country with the rest of the world decreased its level, instead of increasing as it had happened throughout

[21] The difference between graph 3 and these ones is that in addition to the dollar changes in financial assets, these captures the constant real exchange rate appreciation since 1988 and the relatively modest, but positive rates of real GDP growth. These concepts do not include equities.

recent Mexican economic history[22]. Due to the debt crisis of 1982, access to international financial markets was closed. In turn, households increased their net holdings of financial assets, as had previously happened.

According to figure 2, additional net lending by the household sector increased by 25.3 billion dollar during the period 1982-1988, surpassing by more than 6 billions dollar the net sum of changes in financing requirements of public sector and private firms. That is, the household sector absorbed all additional debt in addition to the reduction in net holdings by the rest of the world.

It is also shown in figure 2 that during the years corresponding to the administration of president Salinas, results opposite to those of the period 1982-88 were registered: On the one hand, the holdings of net financial assets by households registered a decline of 37 billion dollars. On the other hand, net indebtedness of the country with the rest of the world increased by 72 billions U.S. dollars. That is, this latter level increased not only by an amount that financed -by 35 billion dollar- the variation in the sum of net indebtedness by private firms and public sector. The level of indebtedness of the country with the rest of the world had an additional increase to compensate for the reduction of net holdings of assets by the household sector during these years.

Another contrasting result between the Salinas administration and the preceding one is the composition of the net increase in the sum of liabilities by the public sector and private firms. This can also be seen in figure 2. During the period 1982-1988 net public indebtedness increased by 35.4 billion dollar, while the net indebtedness of firms decreased by 16.2 billions dollars. In contrast, during the Salinas administration private firms net indebtedness increased by 54.2 billion dollar, while net public indebtedness decreased by 19.3 billion.

The data elaborated here to analyze these "stylized facts" are disaggregated not only by type of asset, they are also identified by the currency in which they are denominated. Our calculations show, for example, two interesting features of the financial situation of private firms before the devaluation[23].

[22]That is, cumulative sum of surplus in current account of the balance of payments (net of direct foreign investment) of 1983, 1984 and 1987 was greater than corresponding sum for deficits of 1985 and 1986 and 1988.

[23] Could a nominal exchange rate devaluation of more than 100% and sustained high real interest rates lead the private sector and commercial banks lead to unsustainable circumstances

In september 1994 the level of indebtedness by private firms in foreign currency only -direct credit and indirect financing through domestic banks and money market- was 58.8 billion dollar[24], more than 55% of the corresponding figure for the public sector[25]. They also show that financial assets held by private firms denominated in domestic currency increased its share in GDP during 1993 and 1994 -as a reflection of a "wait and see" attitude of firms with regard to investment projects[26].

Why was the behavior of the private sector during the period 1989-1994 so different from the one exhibited in the preceding six-year period?

The answer to this question must be sought in distinguishing features which accompanied the continuation of a contractionary fiscal policy by the Salinas administration. Among them, substantial reduction of public debt, privatization of banks, liberalization of the financial system and creation of conditions for the return of private firms to international capital markets[27].

By using intersectoral matrices of stocks and flows of funds provided in this paper we investigated, among other "stylized facts" of the period 1988-1994, how the credit boom, absorbed by households and private enterprises, was created not only by the liberalization in the banking system and capital markets. Other

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in the first half of 1995? The matrices presented in this paper constitute a useful tool to address this question, since we identify assets and liabilities according to the currency in which they are denominated.

[24]This level was, in 1988, only 14.5 billion dlls.

[25]Adding the domestic commercial bank loans granted to private firms in dollars to the loans obtained directly by them in world markets we get a figure of 10% of GDP in 1994 before the exchange rate devaluation. This proportion contrasts sharply with a corresponding share of 5% for 1988. To this difference, a further 2.37% of GDP must be added to the 1994 figures. It corresponds to the amount that firms obtained in the money markets -i.e. foreign portfolio investment (not equities) in private firms.

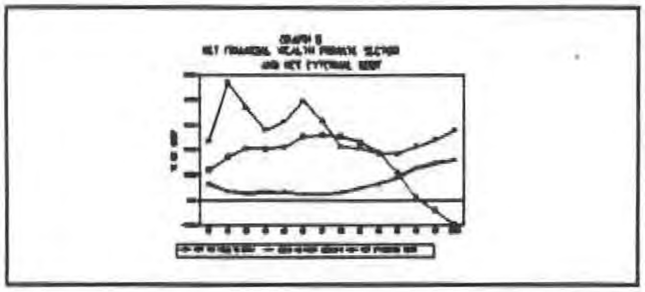
[26]During 1993 the approval of NAFTA had not taken place yet, while 1994 was a year with political turmoil and presidential elections.

[27]*Cfr*. Ortiz, G. (1991). OECD (1992). Oks, D. and Van Wijnbergen, S. (1992). Mansell Carstens, C. (1994).

factors that conditioned it were the reduction of public sector domestic debt and the sustained surplus of the capital account of the balance of payments, which the return of private firms to international financial markets made possible. These arguments are developed and presented in Calderon-Madrid, A. (1995a).

b) Domestic Commercial Banks Fragility and Fears of Bailing-out Actions by the Central Bank.

The problem of how to asses external sustainability has been addressed by a number of authors. Among them Dolado and Viñals (1991) and Horne (1991). One of the indicators suggested by these authors is the actual and expected evolution of the coefficient of net external debt to GDP. The corresponding coefficient for the Mexican economy for the period before the 1994 devaluation is presented in graph 5.



This coefficient -obtained from data provided in our intersectoral stock matrices- is represented there together with what clearly determined its evolution since 1990, namely net financial wealth of the consolidated private sector as a share of GDP.

It can be argued that if it is the expected evolution of this coefficient which determines the sustentability of current account deficits, that two observations follow immediately. Firstly that, high levels of growth in GDP require high of high levels of domestic savings, and viceversa. Hence, to the extent that the sharp and sustained fall in household savings was not expected to reverse, the expected evolution of the coefficient foreign debt/GDP was generating concern among financial market participants. Secondly, if the real exchange rate was considered to be grossly appreciated, the dollar-denominated debt should be converted at a "shadow" equilibrium exchange rate into pesos and this would give a higher coefficient than the one presented in Graph 5.

c) Concluding Comments

One of the components of private financial wealth which clearly determined its evolution was, as it is also shown in graph 5, the sharp increase in the credit granted to the household sector by commercial banks. This fact, and the analysis presented here, suggest that the expected evolution of net foreign debt as a share of GDP should not be the main indicator for assessing the external sustainability of an economy. The composition of this aggregate must also be explicitly considered[28]. That is it also becomes necessaty to identify whether public or private debt is the counterpart of net indebtedness of the country with the rest of the world and to consider the extent to which commercial banks credit was granted to sound customers, the extent to which the maturity of liabilities differs from the maturity of bank deposits and other indicators of the financial held of the domestic banking industry[29].

If this is not the case, (as the Mexican postdevaluation experience suggests) the balance sheet of the domestic commercial banking system would exhibit signs of potential fragility[30]. As it is argued by Calderón-Madrid (1995) and Calvo (1995), this kind of situations makes more likely that self-fulfilling prophesies of exchange rate crisis occur: fears form investors of an eventual bailing-out of banks in problems by the Central Bank contribute to conjecture that a sustained large current account deficit in the balance of payments would no longer be sustainable, "If investors deem you unworthy, no funds will be forthcoming and, thus, unworthy you will be".[31]

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[28]Other indicators of vulnerability of balance of payments in Mexico by december 1994, related to government short-term debt and the amount of international reserves, have been suggested by Sachs et. al. (1995) and Calvo and Mendoza (1995).

[29]See Hausmann,R. and Gavin, M. (1995)

[30]A number of authors have examined balance of payments pressures that can originate from a situation in which the Central Banks acts as a lender of last resort to the domestic banking system. Among them Velasco, A. (1987), Obstfeld, M. and Rogoff, K. (1995).

[31]Calvo (1995) p.1.

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Appendix

I. Flow of Funds Matrices for the Mexican Economy

Stock matrices provide a useful framework for empirical analysis and enables us to identify the stylized facts which characterized the economic policy that ended in the 1994 devaluation. They also enable us to measure the flow componenents of household and private entrerprise savings. Savings presented in this paper have, therefore, been calculated from -and made consistent with- measures of private net wealth which evolves through time. These stocks, in turn, were presented together with their counterpart, namely public debt and net foreign debt.

Flow of funds matrices can also be found in annual reports by the Bank of Mexico and in order to achieve comparatibility, we present in table 4 our stock matrices, for the period 1980-1994, with a format similar to the one established by the Bank of Mexico for its nominal flow of funds. In table 5 we present real flows of financial funds with the same format.

It is worth stressing a number of features that distinguish these matrices. Unlike ours, the ones constructed by the Bank do not present household and enterprise sectors as different components of the private sectors[32]. In addition the flow of funds matrices provided in the reports of the Central Bank are not related to **Stock Matrices,** as they are in our work.

The flow of funds matrices presented by the Central Bank have an important drawback for economic analysis of saving behavior. This is that they include the part of interest payments that compensate asset holders for inflation and for variations in real exchange rate.

That is, in order to determine savings of private sector as the amount of real disposable income which was not consumed, the following is required: real interest earnings, and not nominal interest earnings must constitute the relevant component for the corresponding concept of *disposable income of private sector*. In addition, inflation tax which reduces the amount which is either consumed or saved, must not be part of real disposable income.[33]

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[32]In this work we differentiate Commercial, Development and Central Bank, the flows of funds reported by the Bank of Mexico represent a consolidate of these three concepts.

[33] Our matrices have stocks denominated in domestic currency that are distinguished from those valued in foreign currency, thereby enabling an important distinction. On the one hand real

a) Intersectoral Matrices of Financial Stocks for 1980-1994.

The net financial wealth of private and public sectors was obtained by means of available data for assets and liabilities at a point in time. The components of the net financial wealth of the foreign sector and public sector are compatible with them. Total net financial wealth of the foreign sector is calculated in a way to ensure that changes in its level exactly match with the amount of the current account deficit of the balance of payments net of direct foreign investment.

b) Intersectoral Matrices of Real Financial Flows.

Changes in the level of public net financial wealth correspond to fiscal deficits. Therefore, when these are netted out with changes in the level of foreign net wealth a measure of private savings is obtained.

Two important points must be stated as a caution for the saving concepts presented here.

First, total net wealth of the private sector is constituted not only by stocks of financial assets and liabilities -i.e net financial wealth, but also by physical capital, i.e. Machinery, buildings and houses.

Hence, changes in the real level of the net stock of financial assets held by the private sector is only part of the real flow of savings by the household sector. Changes in prices of houses, equities and other durable goods are also part of it. Therefore this latter component should not de disregarded when searching for an explanation of induced adjustments in the real level and composition of indebtedness by households and firms, and of the real level of both, financial wealth and physical stocks held by the consolidated private sector. That is, of expenditure and wealth allocation decisions by private agents, relative to its flow of disposable income. Fundaments of economic theory not only indicate that savings and investment decisions should be seen as an attempt by private agents to achieve desired levels of stocks.

This imply that the real level of the net stock of financial assets of the household sector remains constant not when real

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flows of savings by each sector, and on the other hand capital gains and losses due to variations in the real level of assets due to inflation and variations due to movements in the real level of exchange rate. This property enable us to asses the redistributive -and disruptive- effects of the exchange rate devaluation of december 1994.

savings are zero, but when the discrepancy between consumption and disposable income equals reevaluation of houses and of durable goods, capital gains on equities.

With this definition disposable income of the household sector is the flow which could be consumed in a given period while leaving the real value of future consumption possibilities at the end of the period the same as they were at the beginning.

Second, our data reflect a disaggregation of a consolidated aggregate. Stated differently they do not include direct flows between household and firms. This drawback can be avoided by adding corresponding concepts, as it is shown in table 6.

The real level of the net financial wealth of private firms remains constant when dividend payments to the household sector are consistent with maintaining the real level of financial wealth and capital held by firms constant. That is when after tax profits less net return to net financial wealth including its revaluations equal dividend payments less reevaluation due to equity gains plus investment to replace depreciated machinery.

II. Private Savings and Social Accounting Matrices

Unavailable estimates of households and private firms disposable income do impede the analysis of major changes in national disposable. For example, between 1985 and 1990 a sharp drop in oil price and major tax reforms change the composition of disposable income. By means of the savings of households and firms presented in table 2 it is possible to provide an estimate of these flows.

In this appendix we provide, in table 5 a disaggregated income-expenditure relationship of the private sector for the years 1985 and 1990[34]. We present there a disaggregation between households and private firms and among different components of disposable income and outlays[35].

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[34]The saving rate in this the table presented there differs from those corresponding to table 2. This is because the latter include the inflation component of interest payments.

[35] Income-Expenditure disaggregation is based on the work by Dubcovsky, G. (1994). A division of the operational surplus between private and public enterprises, as measured by the System of National Accounts, is possible with data available in Mexico. In addition, it is possible to rely on Industrial Census in order to attribute to the household sector part of the unincorporated profits redistribution of profits. We identified all concepts of our table except dividends paid by firms to households, which is

AS SHARE OF GDP (%)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994-III
SYSTEM															
SOURCES CHANNELED TO PRIVATE SECTOR	16.48	16.48	11.64	9.34	11.24	10.77	9.60	9.46	10.85	15.18	17.96	23.27	29.58	34.43	37.39
CREDIT TO PRIVATE FIRMS															
COMMERCIAL BANKS	7.10	7.19	5.35	5.05	5.48	4.84	4.32	4.34	4.78	7.61	9.48	12.08	14.37	15.97	18.52
DEVELOPMENT BANKS	1.47	1.44	1.39	1.29	1.63	1.93	2.12	2.32	2.33	2.51	1.86	2.09	2.52	3.40	3.96
CREDIT TO HOUSEHOLDS															
COMMERCIAL BANKS	6.07	6.25	3.32	2.66	3.16	3.04	2.45	2.26	3.04	4.87	6.45	8.92	12.42	14.68	15.03
DEVELOPMENT BANKS	1.84	1.60	0.98	0.95	0.97	0.94	0.70	0.54	0.69	0.19	0.17	0.19	0.28	0.38	0.48
T CREDIT TO NON FINANCIAL PUBLIC SECTOR	18.84	22.52	34.55	30.11	25.57	28.24	33.06	26.63	22.15	20.22	15.95	12.72	7.84	4.54	5.47
COMMERCIAL BANKS	0.40	1.28	5.01	5.10	4.65	7.27	10.34	9.08	7.11	6.35	5.89	6.08	2.44	0.98	0.87
DEVELOPMENT BANKS	7.02	8.88	14.84	12.17	10.14	11.56	15.15	14.73	9.09	8.11	5.57	4.69	4.17	4.25	4.70
BANK OF MEXICO	11.42	12.36	14.70	12.84	10.78	9.42	7.57	2.83	5.95	5.75	4.49	1.95	1.23	-0.69	-0.11
ERNATIONAL RESERVES BANK OF MEXICO	1.94	1.95	1.39	3.09	4.08	3.37	4.94	8.97	2.94	2.83	3.47	5.13	4.83	5.82	3.87
CLASSIFIED RESOURCES	2.46	2.77	1.49	0.86	1.01	2.03	-0.34	0.93	0.99	2.39	3.66	4.57	4.73	4.22	4.62
T DEBT WITH FOREIGN SECTOR	8.73	10.82	22.19	19.68	16.67	19.66	26.32	24.77	16.58	15.33	12.37	12.18	11.11	11.82	12.63
COMMERCIAL BANKS	2.36	2.88	5.45	5.16	4.10	4.05	4.69	2.69	2.50	2.67	3.43	4.00	3.53	3.84	3.85
DEVELOPMENT BANKS	6.37	7.94	15.98	13.77	11.40	13.96	18.85	18.79	12.00	10.52	6.79	6.28	6.11	6.85	7.85
BANK OF MEXICO	0.00	0.00	0.75	0.75	1.17	1.65	2.79	3.29	2.08	2.15	2.15	1.90	1.48	1.14	0.93
SOURCES OBTAINED FROM PRIVATE SECTOR	26.06	27.36	23.91	22.61	23.22	20.69	21.62	19.36	18.37	20.50	21.35	24.37	26.40	28.74	30.08
SECTOR															
SOURCES CHANNELED TO BANKING SYSTEM	26.16	27.36	23.91	22.61	23.22	20.69	21.62	19.47	18.37	20.50	21.35	24.37	26.43	28.74	30.08
PRIVATE FIRMS															
DEPOSITS ON COMMERCIAL BANKS	4.90	5.09	4.68	4.38	4.86	4.34	3.93	3.85	3.03	5.54	7.00	9.89	9.52	11.80	14.97
DEPOSITS ON DEVELOPMENT BANKS	1.33	0.71	0.82	0.74	0.53	0.52	0.45	0.31	0.36	0.45	0.66	0.82	1.02	1.38	1.56
HOUSEHOLDS															
DEPOSITS ON COMMERCIAL BANKS	15.47	16.66	14.19	13.37	13.27	11.28	12.35	10.93	10.20	10.36	10.25	10.71	12.83	11.97	10.58
DEPOSITS ON DEVELOPMENT BANKS	1.13	1.46	1.18	1.23	1.51	1.29	1.37	1.00	1.26	0.73	0.37	0.40	0.96	1.60	1.90
T RESOURCES CHANNELED BANK OF MEXICO															
PRIVATE FIRMS	-0.61	-0.61	-0.63	0.03	0.18	0.63	1.17	1.25	1.03	0.69	0.32	-0.41	-0.91	-1.16	-1.67
RRENCY	3.93	4.06	3.67	2.85	2.86	2.63	2.35	2.13	2.49	2.73	2.76	2.96	3.02	3.15	2.73
LDING OF PUBLIC BONDS	0.75	0.76	1.71	1.49	1.78	1.69	2.40	3.64	6.54	8.50	9.17	5.38	2.52	3.58	1.69
PRIVATE FIRMS	0.50	0.51	1.15	1.00	1.19	1.13	1.07	2.48	3.25	4.58	4.68	2.97	2.15	3.04	1.44
HOUSEHOLDS	0.25	0.25	0.57	0.49	0.59	0.56	1.33	1.16	3.29	3.93	4.49	2.41	0.37	0.54	0.25
REIGN ASSETS															
HOUSEHOLDS	2.88	6.79	17.37	17.25	14.49	17.28	20.35	19.11	14.39	11.63	8.44	6.45	4.76	4.06	4.10
SOURCES OBTAINED FROM BANKING SYSTEM	16.48	16.48	11.64	9.94	11.24	10.77	9.60	9.46	10.85	15.18	17.98	23.27	29.58	34.43	37.99
COMMERCIAL BANKS	13.17	13.44	9.27	7.71	8.64	7.89	6.77	6.60	7.82	12.48	15.93	20.99	26.79	30.65	33.55
DEVELOPMENT BANKS	3.31	3.04	2.38	2.24	2.60	2.88	2.83	2.86	3.03	2.70	2.03	2.27	2.80	3.78	4.43
SOURCES OBTAINED FROM FOREIGN SECTOR	6.64	6.80	14.20	10.83	7.91	8.35	9.44	6.96	3.24	- 2.54	2.59	5.05	6.90	10.43	12.23
PRIVATE FIRMS															
DIRECT INDEBTNESS	6.64	6.80	14.20	10.83	7.91	8.35	9.44	6.96	3.24	2.54	2.59	2.87	3.06	3.44	3.87
STOCK MARKET	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77	2.75	4.95	6.02
MONEY MARKET	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	1.09	2.04	2.35
ATISTICAL DISCREPANCE															
CLASSIFIED RESOURCES COMMERCIAL BANKS	0.77	0.36	0.00	0.00	0.00	0.42	0.01	0.05	0.15	0.29	0.58	3.04	3.82	4.34	4.66
T FINANCIAL WEALTH	7.44	11.99	17.16	20.58	20.33	20.97	25.35	25.85	25.36	23.21	18.98	10.92	1.04	-4.14	-9.69
ANCIAL PUBLIC SECTOR															
SOURCES OBTAINED FROM BANKING SYSTEM	18.84	22.52	34.55	30.11	25.57	28.24	33.06	26.63	22.15	20.22	15.96	12.72	7.84	4.54	5.47
VATE SECTOR HOLDING OF PUBLIC BONDS	0.75	0.76	1.71	1.49	1.78	1.69	2.40	3.64	6.54	8.50	9.17	5.38	2.52	3.58	1.69
SOURCES OBTAINED FROM FOREIGN SECTOR	8.98	11.40	23.05	21.92	21.14	24.79	40.42	40.99	22.96	19.64	16.62	14.28	14.23	13.82	15.34
NET DIRECT INDEBTNESS	8.99	11.40	23.05	21.92	21.14	24.79	40.42	40.99	22.96	19.64	16.62	12.75	10.71	8.86	9.49
HOLDING OF PUBLIC BONDS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53	3.52	4.96	5.84
CLASSIFIED RESOURCES COMM & DEV BANK	1.37	1.86	-1.63	-1.23	-0.51	-0.42	-2.43	-2.35	-1.19	-0.20	1.01	-0.57	-1.13	-1.84	-2.27
IET FINANCIAL WEALTH	27.20	32.83	60.94	54.75	49.01	55.15	78.31	73.61	52.84	48.55	40.73	32.95	25.72	23.78	24.77
SECTOR															
T FINANCIAL WEALTH PRIVATE SECTOR	7.44	11.99	17.16	20.58	20.33	20.97	25.35	25.85	25.36	23.21	18.98	10.92	1.04	-4.14	-9.69
T FINANCIAL WEALTH NON FINANCIAL PUBLIC SECTOR	-27.20	-32.83	-60.94	-54.75	-49.01	-55.15	-78.31	-73.61	-52.84	-48.55	-40.73	-32.95	-25.72	-23.78	-24.77
CLASSIFIED RESOURCES BANK OF MEXICO	0.32	0.55	3.12	2.09	1.52	2.03	2.07	3.23	2.03	2.29	2.07	2.09	2.05	1.73	2.23
ATISTICAL DISCREPANCE	-3.33	-3.32	-6.42	-4.90	-0.79	0.75	11.37	13.14	4.35	2.34	1.33	1.55	1.37	2.49	4.58
T FINANCIAL WEALTH FOREIGN SECTOR	22.76	23.61	47.09	36.99	27.94	31.40	39.52	31.39	21.10	20.71	18.34	18.38	21.26	23.71	27.65
T DIRECT INDEBTNESS NON FINANCIAL PUBLIC SECTO	8.99	11.40	23.05	21.92	21.14	24.79	40.42	40.99	22.96	19.64	16.62	12.75	10.71	8.86	9.49
T DIRECT INDEBTNESS PRIVATE SECTOR	6.64	6.80	14.20	10.83	7.91	8.35	9.44	6.96	3.24	2.54	2.59	2.87	3.06	3.44	3.87
T DIRECT INDEBTNESS BANKING SYSTEM	8.73	10.82	22.19	19.68	16.67	19.66	26.32	24.77	16.58	15.33	12.37	12.18	11.11	11.82	12.63
RTFOLIO INVESTMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.72	7.36	11.94	14.21
USEHOLDS FOREIGN ASSETS	2.88	6.79	17.37	17.25	14.49	17.28	20.35	19.11	14.39	11.63	8.44	6.45	4.76	4.06	4.10
ATISTICAL DISCREPANCE	-3.33	-3.32	-6.42	-4.90	-0.79	0.75	11.37	13.14	4.35	2.34	1.33	1.56	1.37	2.49	4.58
ERNATIONAL RESERVES BANK OF MEXICO	2.04	1.95	1.39	3.09	4.08	3.37	4.94	9.08	2.94	2.83	3.47	5.13	4.86	5.82	3.87

AS SHARE OF GDP (%)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
BANKING SYSTEM															
RESOURCES CHANNELED TO PRIVATE SECTOR	6.76	1.34	-4.94	-2.21	1.65	-0.19	-1.59	0.04	1.51	4.67	3.44	5.93	6.94	5.05	4
CREDIT TO PRIVATE FIRMS															
COMMERCIAL BANKS	4.48	0.66	-1.29	-1.16	0.61	-0.50	-0.72	0.10	0.50	2.98	2.20	2.93	2.62	1.70	3
DEVELOPMENT BANKS	-0.27	0.09	-0.06	-0.17	0.38	0.35	0.11	0.23	0.05	0.25	-0.53	0.29	0.49	0.90	0
CREDIT TO HOUSEHOLDS															
COMMERCIAL BANKS	3.45	0.67	-2.38	-0.80	0.59	-0.04	-0.71	-0.14	0.80	1.93	1.79	2.70	3.74	2.35	0
DEVELOPMENT BANKS	-0.91	-0.09	-0.63	-0.08	0.06	-0.00	-0.28	-0.15	0.16	-0.48	-0.02	0.02	0.10	0.10	0
+ NET CREDIT TO NON FINANCIAL PUBLIC SECTOR	0.48	5.20	11.39	-5.96	-3.49	3.32	3.71	-5.81	-4.14	-1.23	-3.39	-2.67	-4.56	-3.24	1
COMMERCIAL BANKS	0.43	0.91	3.72	-0.13	-0.28	2.74	2.78	-1.07	-1.85	-0.53	-0.19	0.39	-3.48	-1.44	-0
DEVELOPMENT BANKS	-0.47	2.42	5.91	-3.33	-1.60	1.67	3.15	-0.14	-5.46	-0.69	-2.19	-0.68	-0.39	0.10	0
BANK OF MEXICO	0.52	1.87	2.26	-2.50	-1.61	-1.09	-2.22	-4.60	3.16	-0.01	-1.02	-2.38	-0.67	-1.90	0
+ INTERNATIONAL RESERVES BANK OF MEXICO	0.04	0.17	-0.56	1.64	1.10	-0.61	1.44	4.12	-5.91	-0.02	0.76	1.78	-0.16	1.01	-1
- UNCLASSIFIED RESOURCES	20.25	0.50	-1.29	-0.70	0.18	1.04	-2.45	1.27	0.07	1.44	1.38	1.03	0.29	-0.48	0
- NET DEBT WITH FOREIGN SECTOR	-0.79	2.79	11.30	-3.48	-2.32	3.42	5.88	-1.06	-7.87	-0.72	-2.31	0.25	0.74	0.78	1
COMMERCIAL BANKS	0.54	0.71	2.55	-0.54	-0.88	0.06	0.48	-1.90	-0.16	0.24	0.88	0.69	-0.36	0.33	0
DEVELOPMENT BANKS	-1.25	2.08	7.99	-2.92	-1.88	2.85	4.34	0.29	-6.55	-1.09	-3.28	-0.27	-0.01	0.78	1.
BANK OF MEXICO	-0.08	0.00	0.75	-0.03	0.44	0.51	1.07	0.55	-1.16	0.13	0.09	-0.17	-0.37	-0.33	-0
= RESOURCES OBTAINED FROM PRIVATE SECTOR	-12.18	3.41	-3.63	-2.35	1.40	-1.94	0.13	-1.86	-0.74	2.71	1.74	3.77	2.69	2.52	2.
PRIVATE SECTOR															
RESOURCES CHANNELED TO BANKING SYSTEM	-12.75	3.31	-3.63	-2.35	1.40	-1.94	0.13	-1.75	-0.85	2.71	1.74	3.77	2.71	2.49	2.
PRIVATE FIRMS															
DEPOSITS ON COMMERCIAL BANKS	-2.67	0.58	-0.44	-0.50	0.63	-0.40	-0.58	-0.01	-0.77	2.60	1.70	3.14	-0.11	2.35	3.
DEPOSITS ON DEVELOPMENT BANKS	-4.20	-0.52	0.11	-0.12	-0.18	0.00	-0.09	-0.13	0.06	0.10	0.23	0.19	0.22	0.36	0.
HOUSEHOLDS															
DEPOSITS ON COMMERCIAL BANKS	-5.16	2.44	-2.57	-1.44	0.37	-1.66	0.63	-1.19	-0.59	0.48	0.34	0.81	2.41	-0.78	-0.
DEPOSITS ON DEVELOPMENT BANKS	-0.76	0.42	-0.28	0.00	0.32	-0.18	0.04	-0.35	0.27	-0.48	-0.33	0.04	0.57	0.65	0.
NET RESOURCES CHANNELED BANK OF MEXICO															
PRIVATE FIRMS	0.03	-0.05	-0.03	0.70	0.15	0.45	0.51	0.10	-0.21	-0.30	-0.35	-0.72	-0.51	-0.25	-0.
CURRENCY	0.02	0.45	-0.41	-0.98	0.10	-0.15	-0.39	-0.18	0.39	0.31	0.15	0.30	0.14	0.16	-0.3
+ HOLDING OF PUBLIC BONDS	0.55	0.08	0.94	-0.29	0.34	-0.04	0.65	1.29	2.96	2.17	1.03	-3.47	-2.71	1.08	-1.7
PRIVATE FIRMS	0.37	0.05	0.63	-0.20	0.23	-0.04	-0.10	1.43	0.81	1.43	0.30	-1.56	-0.73	0.90	-1.5
HOUSEHOLDS	0.18	0.03	0.31	-0.10	0.11	-0.01	0.74	-0.14	2.14	0.74	0.73	-1.92	-1.98	0.17	-0.2
+ FOREIGN ASSETS															
HOUSEHOLDS	3.52	4.14	10.54	-0.89	-2.16	3.16	2.39	-0.86	-4.47	-2.30	-2.68	-1.69	-1.52	-0.66	0.1
- RESOURCES OBTAINED FROM BANKING SYSTEM	6.76	1.34	-4.94	-2.21	1.65	-0.19	-1.59	0.04	1.51	4.67	3.44	5.93	6.94	5.05	4.7
COMMERCIAL BANKS	7.94	1.34	-4.26	-1.96	1.20	-0.54	-1.43	-0.04	1.30	4.91	3.99	5.62	6.36	4.04	3.9
DEVELOPMENT BANKS	-1.18	-0.00	-0.68	-0.25	0.44	0.35	-0.16	0.08	0.21	-0.23	-0.55	0.31	0.58	1.00	0.7
RESOURCES OBTAINED FROM FOREIGN SECTOR	0.43	0.70	7.35	-3.99	-2.54	0.63	0.76	-2.30	-3.62	-0.60	0.16	2.56	1.98	3.58	2.1
PRIVATE FIRMS															
DIRECT INDEBTNESS	0.43	0.70	7.35	-3.99	-2.54	0.63	0.76	-2.30	-3.62	-0.60	0.16	0.36	0.27	0.40	0.5
STOCK MARKET	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77	1.02	2.22	1.2
MONEY MARKET	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.69	0.95	0.3
STATISTICAL DISCREPANCE															
UNCLASSIFIED RESOURCES COMMERCIAL BANKS	16.64	-0.34	-0.36	0.00	0.00	0.42	-0.43	0.03	0.10	0.15	0.30	2.48	0.86	0.55	0.4
NET FINANCIAL WEALTH	0.78	5.15	5.09	2.67	0.47	1.15	3.56	0.98	-0.16	-1.35	-3.22	-7.39	-9.59	-5.17	-5.6
NON FINANCIAL PUBLIC SECTOR															
RESOURCES OBTAINED FROM BANKING SYSTEM	-0.78	5.20	11.89	-5.96	-3.49	3.32	3.71	-5.81	-4.14	-1.23	-3.39	-2.67	-4.56	-3.24	1.0
PRIVATE SECTOR HOLDING OF PUBLIC BONDS	0.55	0.08	0.94	-0.29	0.34	-0.04	0.65	1.29	2.96	2.17	1.03	-3.47	-2.71	1.08	-1.7
RESOURCES OBTAINED FROM FOREIGN SECTOR	-0.51	3.14	11.58	-2.14	-0.01	4.18	14.66	1.33	-17.51	-2.59	-2.17	-1.75	0.33	-0.31	1.9
NET DIRECT INDEBTNESS	-0.51	3.14	11.58	-2.14	-0.01	4.18	14.66	1.33	-17.51	-2.59	-2.17	-3.28	-1.70	-1.77	0.9
HOLDING OF PUBLIC BONDS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.03	1.46	1.0
UNCLASSIFIED RESOURCES COMM & DEV BANK	4.23	0.60	-3.86	0.47	0.67	0.15	-1.99	0.03	1.12	0.96	1.20	-0.40	-0.58	-0.72	-0.4
(-)NET FINANCIAL WEALTH	-4.95	7.82	28.27	-8.86	-3.84	7.31	21.00	-3.23	-19.83	-2.60	-5.73	-7.49	-6.34	-1.76	1.7
FOREIGN SECTOR															
NET FINANCIAL WEALTH PRIVATE SECTOR	0.78	5.15	5.09	2.67	0.47	1.15	3.56	0.98	-0.16	-1.35	-3.22	-7.35	-9.59	-5.17	-5.69
NET FINANCIAL WEALTH NON FINANCIAL PUBLIC SECTOR	4.95	-7.82	-27.91	8.86	3.84	-7.38	-21.00	3.23	19.83	2.60	5.73	6.35	6.34	1.76	-1.79
UNCLASSIFIED RESOURCES BANK OF MEXICO	-0.62	0.25	2.57	-1.17	-0.49	0.54	-0.04	1.20	-1.16	0.33	-0.12	0.09	0.01	-0.31	0.57
STATISTICAL DISCREPANCE	-3.33	-0.26	-3.08	1.80	3.94	1.52	10.59	1.98	-8.62	-1.87	-0.91	0.26	-0.14	1.13	2.17
NET FINANCIAL WEALTH FOREIGN SECTOR	-1.78	2.68	23.33	-12.16	-7.76	4.17	6.89	-7.39	-9.89	0.28	-1.48	0.64	3.37	2.59	4.75
NET DIRECT INDEBTNESS NON FINANCIAL PUBLIC SECTO	-0.51	3.14	11.58	-2.14	-0.01	4.18	14.66	1.33	-17.51	-2.59	-2.17	-3.28	-1.70	-1.77	0.93
NET DIRECT INDEBTNESS PRIVATE SECTOR	0.43	0.70	7.35	-3.99	-2.54	0.63	0.76	-2.30	-3.62	-0.60	0.16	0.36	0.27	0.40	0.54
NET DIRECT INDEBTNESS BANKING SYSTEM	-0.79	2.79	11.30	-3.48	-2.32	3.42	5.88	-1.06	-7.87	-0.72	-2.31	0.25	-0.74	0.78	1.21
PORTFOLIO INVESTMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.72	3.74	4.64	2.67
HOUSEHOLDS FOREIGN ASSETS	3.52	4.14	10.54	-0.89	-2.16	3.16	2.39	-0.86	-4.47	-2.30	-2.68	-1.69	-1.52	-0.66	0.18
STATISTICAL DISCREPANCE	-3.33	-0.26	-3.08	1.80	3.94	1.52	10.59	1.98	-8.62	-1.87	-0.91	0.26	-0.14	1.13	2.17
INTERNATIONAL RESERVES BANK OF MEXICO	0.72	0.07	-0.56	1.64	1.10	-0.61	1.44	4.23	-6.02	-0.02	0.76	1.83	-0.13	0.99	-1.74

INSTITUTIONAL ACCOUNTS AS SHARE OF GDP(%)

PRIVATE SECTOR

	1985	1990
HOUSEHOLDS INCOME		
Wages and Salaries	28.7	25.0
Revenues from rest of the world	0.2	0.2
Non corporate profits	23.5	28.3
Interest from investment abroad	1.8	-1.8
Dividends from private firms	16.0	13.1
Interest from goverment bonds	2.4	3.5
Current transfer payments from the rest of the world	0.5	1.2
Interest from public enterprises bond	1.2	0.5
Transfer payments public enterprises	0.8	4.1
HOUSEHOLDS TOTAL INCOME	74.9	75.7
PRIVATE FIRMS INCOME		
Corporate profits	32.7	32.8
Interest from goverment bonds	4.8	3.7
Statistical discrepancy	-8.0	-1.1
PRIVATE FIRMS TOTAL INCOME	29.5	35.4
PRIVATE SECTOR INCOME	104.4	111.1

	1985	1990
HOUSEHOLDS OUTLAYS		
Final consumption	62.5	65.4
Direct taxes	1.9	2.7
Transfer payments public enterprises	1.7	2.8
HOUSEHOLDS TOTAL OUTLAYS	66.1	70.9
PRIVATE FIRMS OUTLAYS		
Direct taxes	2.1	3.9
Interest payments to rest of the world	1.7	1.4
Dividends to households	16	13.1
Other payments to rest of the world	0.9	0.8
PRIVATE FIRMS TOTAL OUTLAYS	20.7	26.2
PRIVATE SECTOR OUTLAY	86.8	97.1

SAVINGS	1985	1990
HOUSEHOLDS	8.8	4.8
PRIVATE FIRMS	8.8	9.2
TOTAL	17.6	14.0

INVESTMENT	1985	1990
HOUSEHOLDS	4.0	4.0
PRIVATE FIRMS	7.1	8.7
TOTAL	11.1	12.7

PUBLIC SECTOR

	1985	1990
GOVERMENT INCOME		
Indirect taxes	12.0	11.0
Direct taxes	4.0	5.2
Other income	0.9	2.4
GOVERMENT TOTAL INCOME	16.9	18.6
PUBLIC ENTERPRISES INCOME		
Profits	5.6	6.3
Transfer payments to households	1.7	2.8
Subsidies	2.6	1.3
PUBLIC ENTERPRISES TOTAL INCOM	9.9	10.4
PUBLIC SECTOR INCOME	26.8	29.0

	1985	1990
GOVERMENT OUTLAY		
Subsidies	2.6	1.3
Domestic interest payments	7.2	7.2
Foreign interest payments	2.2	1.8
Consumption	9.2	8.4
GOVERMENT TOTAL OUTLAY	21.3	18.8
PUBLIC ENTERPRISES OUTLAY		
Transfer payments to households	0.6	4.1
Domestic interest payments	1.2	0.5
Foreign interest payments	1.6	0.5
Net transfer payments from governme	3.4	2.3
PUBLIC ENTERPRISES TOTAL OUTLA	6.8	7.4
PUBLIC SECTOR OUTLAY	28.1	26.2

SAVINGS	1985	1990
GOVERMENT	-4.4	-0.2
PUBLIC ENTERP	3.1	3.0
TOTAL	-1.3	2.8

INVESTMENT	1985	1990
GOVERMENT	1.5	0.9
PUBLIC ENTERPRI	5.6	4.6
	7.1	5.5

REST OF THE WORLD

REST OF THE WORLD INCOME	1985	1990
Imports	10.3	16.0
Interest payments from goverment	2.2	1.8
Interest payments from public enterp	1.6	0.5
Interest payments from private firms	1.7	1.4
Other payments from private firms	0.9	0.8
REST OF THE WORLD TOTAL INCOME	16.7	20.5

REST OF THE WORLD OUTLAY	1985	1990
Exports	15.4	14.8
Revenues to households	0.2	0.2
Interest payments to households	1.8	1.8
Transfer payments to households	0.5	1.2
REST OF THE WORLD TOTAL OUTLAY	17.9	18.1

SAVINGS	1985	1990
	-1.2	2.4

Our results have a characteristic worthmentioning. Although none of our data came from Surveys of Income and Expenditure, the shares that our estimates of savings of households represent of disposable income do not differ substantially from those reported in the Surveys.

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taken as a residual.