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3 Flow-of-Funds and National Income and Product Account Savings Estimates in Latin America

Clark W. Reynolds and Wayne Camard

3.1 Introduction

This paper will argue that flow-of-funds data have considerable potential for addressing the role of finance in savings mobilization. Some of the data that have been compiled on the flow of funds in Latin America are examined to show that, despite their limitations, they are useful in gaining a better understanding of the sectoral distribution of savings. Attempts at compiling flow of funds in Latin America go back at least as far as the early 1960s in Argentina and Chile and have continued, if intermittently, until the present day. There has not, however, been a concomitant stream of research analyzing the data. As a result—with the exception of Colombia, which continued and improved the preparation of financial accounts, integrating them with the real accounts in the process—most of the countries in Latin America have abandoned their short-lived forays into flow-of-funds accounting. Nevertheless, the studies examined here produce estimates of household savings considerably higher than those of the national income and product accounts (NIPAs).

Flow-of-funds analysis can be useful in understanding the investment uses of savings. It can also be useful in understanding and encouraging saving itself. It is an open question whether the level of investment is constrained by the amount of available savings or whether new savings arise spontaneously to meet the needs of investors. If the rate of savings is the constraint, as is argued by McKinnon (1973), Shaw (1973), and others (owing to an implicit assumption of excess demand for investment

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funds), how much can the savings rate be enhanced by manipulation of the financial environment? The answers to these questions, accepting the premise that marginal savings in the economy goes into a financial asset (essentially true for households), are entwined with the responsiveness of savers/asset holders to the rate of return on their savings. This, presumably, is the principal mechanism through which the needs of borrowers are communicated to actual or potential savers.

Flow-of-funds analysis offers the possibility for innovative research on the relation between real and financial decision making now that it is evident that finance is of importance to the real behavior of economies. It is well suited to deal with questions of choice among competing financial assets by measuring financial flows among asset types and the allocation of net savings. Notwithstanding the pitfalls of financial model building, econometric models such as that of Hendershott (1977) permit an even more sophisticated examination of the effect of interest rate manipulation on portfolio shifting. In addition, the less formal examination of financial flows in response to interest rate and other policies can be highly suggestive as to the potential for voluntary financial savings in the enhancement of real investment.

In order to construct and interpret a set of flow-of-funds accounts (FFAs) successfully, it is necessary to sectorize the economy in a functional way that addresses likely policy questions. "Government" and "rest of world" are natural and easy-to-define categories, though at the fringe the exact definition may be largely a matter of taste. The natural division within the private sector, that between producers and consumers (or firms and households), is particularly difficult in developing countries. Indeed, McKinnon and other analysts frequently use the "firm-household" as their representative agent. Flow-of-funds systems in industrial countries typically differentiate between corporations, noncorporate enterprise, and households. The firm-household would correspond to the aggregation of noncorporate enterprise and households, and in some places this is done. In others, though the process requires some ad hoc estimation, a traditional division between households and firms is made. In still others, the task of sectoring has proved too great, and the private sector is presented as a unitary entity. These issues are taken up in depth in the next section.

3.2 Flow of Funds in Latin America

Pilot flow-of-funds studies were done in the early 1970s in several countries of the Western Hemisphere: Colombia (1962–69), Peru (1965–70), Costa Rica (1961–71), Jamaica (1964–72), and Brazil (1959–69, selected years) (Banco de la República 1971; Comisión Nacional Supervisora de Empresas y Valores 1973; Banco Central de Costa Rica,

n.d.; Bank of Jamaica 1974; Banco Central do Brasil 1973). This and the next section of the paper focus on these studies, though work has been done on financial accounts in some other countries as well. As is the case in Argentina, though, the data are not always amenable to the comparison of NIPA and FFA savings data because the FFAs are made to conform to NIPA savings figures (for a discussion of Argentina's FFAs, see Banco Central de la Republica Argentina 1972 and Reynolds 1982). The accounts examined here do allow comparison and also give important components of the countries' national balance sheets (for discussion of national balance sheets, see Goldsmith 1985).

A country's national accounts are commonly divided into several categories: income and product, input-output, and flow of funds are the major divisions. The NIPAs and the FFAs intersect over the measurement of intersectoral capital flows. Sectoral saving minus sectoral investment in the NIPAs should generate a figure for net financial saving that matches the change in the financial assets of that sector in the FFAs. Differences in definitions and in method, though, would ensure that the corresponding figures from the two accounts not match. The fact that some fairly strong and divergent assumptions underlie each set of accounts further guarantees that the figures will be different. However, an integration of the accounts involving reconciliation of divergent estimates can and has been done in some countries, improving the reliability of both sets of accounts.

The flow-of-funds studies that have been done in Latin America were prepared with varying degrees of comprehensiveness. At one end of the spectrum, the Brazilian flow-of-funds study covers little beyond the banking system. At the other end is Colombia, which continues to compile FFAs, and where improvements in methodology have led to a more thorough accounting for all sectors and integration with the NIPAs. With the exception of the Colombian accounts since 1970, some sections of the Brazilian accounts, and the external accounts of Jamaica and Costa Rica, flow-of-funds accounting was performed on a stock-change basis. That is to say, the accounts give outstanding stocks of financial assets and liabilities and infer flows from the changes in the stocks, after making the appropriate valuation changes wherever possible. The cases in which adjustments were or were not made are discussed sector by sector below. Table 3.1, showing the ratio of total financial assets in the economy to gross domestic product (GDP), chronicles the increasing use of financial assets in the economies studied. Almost none of the increase, as table 3.2 indicates, was in monetary holdings; almost all was in more sophisticated assets. Thus, the increased financial interrelatedness in the economy—the extent to which the different sectors of the economy are bound up in financial relations with the rest of the economy, the subject of flow-of-funds study—was

Table 3.1 Gross Financial Assets (percent of GDP)

	Brazil	Colombia	Costa Rica	Jamaica	Peru
1961	. . .	. . .	126	. . .	. . .
1962	99	145	128	. . .	. . .
1963	83	130	133	. . .	. . .
1964	. . .	124	148	136	. . .
1965	102	131	157	144	170
1966	83	129	159	. . .	165
1967	. . .	135	159	143	169
1968	116	147	161	156	168
1969	116	157	158	153	178
1970	. . .	. . .	160	169	195
1971	. . .	. . .	178	81	. . .
1972	. . .	. . .	. . .	179	. . .

Sources: Brazil: Banco Central do Brasil 1973, supplementary tables; Banco Central do Brasil, n.d., table 3.13.2.1, p. 510. Colombia: Banco de la República 1971, table 1, p. 14. Costa Rica: Banco Central de Costa Rica, n.d., table II-1, p. 25. Jamaica: Bank of Jamaica 1974, pt. 1, table 3.00, p. 71; Department of Statistics of Jamaica 1973, account 1, p. 17. Peru: Comisión Nacional Supervisora de Empresas y Valores 1973, vol. 1, table 1, p. 18.

Note: Average financial assests/GDP for available years: Brazil (1962–69), 100 percent; Colombia (1962–69), 137 percent; Costa Rica (1961–71), 152 percent; Peru (1965–70), 174 percent; and Jamaica (1964–69), 158 percent.

Table 3.2 Monetary Holdings (percent of GDP)

	Brazil		Colombia		Costa Rica		Jamaica		Peru	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
1961	. . .	. . .	. . .	. . .	14	17	. . .	. . .	. . .	. . .
1962	25	29	19	26	15	18	. . .	. . .	. . .	. . .
1963	23	25	17	24	15	18	. . .	. . .	. . .	. . .
1964	. . .	. . .	16	21	16	19	12	31	. . .	. . .
1965	27	29	17	23	15	18	10	29	20	33
1966	22	25	16	22	15	18	13	33	18	30
1967	. . .	. . .	17	22	18	21	13	34	18	29
1968	26	29	17	22	17	21	15	39	18	27
1969	25	28	17	23	18	21	16	43	20	31
1970	. . .	. . .	. . .	. . .	18	21	15	43	. . .	. . .
1971	. . .	. . .	. . .	. . .	20	23	17	48	. . .	. . .
1972	. . .	. . .	. . .	. . .	. . .	. . .	16	50	. . .	. . .

Sources: Brazil: Banco Central do Brasil 1973, supplementary tables; Banco Central do Brasil, n.d., table 3.13.2.1, p. 510. Colombia: Banco de la República 1971, table 1, p. 14, and annex table 1, pp. 82–97. Costa Rica: Banco Central de Costa Rica, n.d., table II-2, p. 26. Jamaica: Bank of Jamaica 1974, pt. 2, app. 1, pp. 22–44; Department of Statistics of Jamaica, *Income and Product Accounts 1975*, account 1, p. 17. Peru: Comisión Nacional Supervisora de Empresas y Valores 1973, vol. 1, table 1, p. 18, and table 20, p. 78.

Note: M1 = currency and demand deposits. M2 = M1 + time deposits.

not due simply to a transactions motive. However, it is important not to compare the figures from table 3.1 across countries. With the exception of the comparatively high ratios for Costa Rica, the rank ordering of financial assets to GDP among the five countries tends to reflect the comprehensiveness of the flow-of-funds data rather than the relative degree of financial intermediation of the country concerned.

Some indication of the strengths and weaknesses of these accounts may become apparent through the following examination of the sectoral treatment accorded the data. Particular attention will be paid to the relation between the flow-of-funds treatment in the Organization of American States (OAS) system and the income and product account equivalents. While the major domestic source of net financial savings for use by other sectors is households, its treatment in the NIPAs is particularly weak. For this reason, corporation, noncorporate enterprise, government, rest of world, and financial system activities will be dealt with largely in terms of their interrelation with households.

3.2.1 Households

In any sort of national accounting framework, the household accounts are the most difficult to capture accurately, and FFAs are no exception. Many of the component figures were arrived at by assigning a fixed share of a particular type of asset to the household sector over time. Sometimes these shares were derived from survey data, but this was not always the case. Estimated holdings of currency and demand deposits in Jamaica and Colombia (before the integration of the accounts) will serve as useful examples. Currency held by households in Jamaica was found by assuming that firms held 5 percent of all currency in circulation, so that the household figure could be arrived at by deducting all other sectors from the national total. In Colombia, a similar method was used, with 10 percent of private-sector currency holdings assigned to firms. In the case of demand deposits, the Colombians calculated a share for official deposits at commercial and public-sector banks using surveys taken by the superintendent of banks in 1968 and 1969. These shares were then deducted from aggregate deposits, and 40 percent of the balance was assigned to families on the basis of a survey taken in 1971. Jamaica had readily available data on official deposits and used surveys from the early 1960s and 1972 to calculate a trend share of the remainder for households; the 1972 share was 46.9 percent.

Until the integrated national accounts for Colombia (which made use of more recent U.N. methodology), the NIPA figure for household saving in the five countries was a residual item derived from an erroneous base. A fundamental assumption in the NIPAs is that investment by households is zero. A precise accounting must include owner/

occupier-built housing as household investment. Purchases of consumer durables, treated as investment in the U.S. FFAs, could be—but are not—counted as well, though the derivation of the stream of services from these consumption investments would be seriously error prone. In short, the NIPAs are measuring net rather than gross investment by households and misattributing some of it as well.

Saving by households in the NIPAs is derived by taking the national accounting estimate of total saving and deducting savings by firms and government. Weaknesses in these other figures will be indicated in the appropriate section, but it is worth pointing out here that the figure for total saving is frequently figured as $S = I + X - M$ where independent estimates of consumption are unavailable to cross-check with the more familiar $S = Y - C$. The result is that inaccuracies in the figure for total investment translate one for one into inaccuracy in the household saving figure. Moreover, while the current account figure is among the most reliable in the income and product account framework, underinvoicing of exports has been a chronic problem in Latin America, resulting in an overstated current account deficit and again a one-for-one understatement of household saving.

In addition, the real accounts are likely to underestimate household saving because of their derivation of it as a residual item that is sensitive to underestimation of investment. The gross investment figure is generally a composite index of a very incomplete set of measures of capital goods production, producers goods imports, cement production as a proxy for construction, land clearing, and the like. It is not built up from physical asset figures or a more comprehensive set of capital formation estimates.

A particularly important weakness of the household accounts is the nearly complete omission (except for Jamaican foreign exchange data for some years, unlikely to be a thorough accounting) of statistics on foreign assets and liabilities. This issue will be discussed more fully later, but some mention here is appropriate. Recent discussions of capital flight in the early 1980s have raised the question of "normal" levels of foreign asset holding; Diaz-Alejandro (1984, 377) speculated that Latin American households typically held 10 percent of their wealth overseas. It would have been useful to be able to test such assertions empirically. This is thus a particularly disheartening omission considering its importance for current policy questions.

3.2.2 Corporations

The transactions of firms are only slightly easier to capture in a national accounting framework than those of households, but this sector presents a particularly thorny problem in the flow-of-funds context. Owners' equity is among the most important components of firms'

financial accounts. The way this has been handled in these FFAs has been to record new issues at book value and add retained earnings to the firms' liabilities to shareholders. No attempt was made to capture the market value of the firm, only the flows. However, this major divergence from the stock-differencing methodology hampers meaningful discussion of portfolio preferences based on outstanding asset balances.

An important element on the other side of a firm's balance sheet that is quite difficult to record is the assets generated by sales on credit, whether interfirm suppliers' credits or consumer credit. These figures are entirely missing from Brazil's and Colombia's (early) FFAs and no doubt contributed to Costa Rica's decision to present a consolidated private sector in its FFAs. In Jamaica, survey data from the early 1960s was inflated along with personal consumption expenditures to estimate consumer credit from businesses, but no attempt was made to capture interfirm credit (Department of Statistics of Jamaica 1970). Only Peru, of the five countries studied, estimates this particular figure, but the published accounts do not indicate the precise method used.

Both investment and saving by firms are inaccurately measured in the NIPAs. Capital consumption allowances are thought to be overstated and some investment not captured by the accounts, though any actual investment by households erroneously boosts corporate investment.

3.2.3 Noncorporate Enterprise

This is a difficult sector to capture accurately and is only occasionally of independent analytic interest. Indeed, this is a great stumbling block in the construction of FFAs. Nowhere is it separately reported in either the NIPAs or the FFAs. In practice, noncorporate enterprise is treated in several different ways. Costa Rica leaves the private sector as a single sector. In the cases of Brazil, Colombia (early system), Jamaica, and Peru, it is necessary to estimate the sectoral dividing line between firms and households, and for Colombia (current system) noncorporate enterprise is lumped in with households as a residual. In the revised Colombian methodology, because the social accounts use the corporate balance sheets submitted to the Superintendencia de Sociedades (the government regulators of corporations), corporations are identified separately, and noncorporate enterprises are classed with households. Naturally, this makes the analysis of Colombian household behavior somewhat problematic. This issue will be dealt with more fully in section 3.4.

3.2.4 Government

The figures for net financial saving in the FFAs are generally complete and correct. Indeed, it is precisely this financial measure, commonly

referred to as the public-sector borrowing requirement, that is often looked to as the best measure of the government deficit.

Income and product account figures for government saving and investment are highly suspect, as government current expenditures are often disguised as investment. The net figure, thankfully, benefits from the offset of the two errors generated by the reclassification of transactions. There may, however, be discrepancies between the two sets of accounts owing to differing classification of some autonomous governmental or quasi-governmental agencies. More important, the timing of receipts and expenditures may generate year-to-year fluctuations in the difference between the two that can be substantial.

3.2.5 Rest of World

Assets and liabilities of the rest-of-world sector are frequently denominated in foreign currency. This subjects them to valuation changes that appear as flows in the domestic currency representation of the FFAs since the stock-change methodology was used. An adjustment to the figure for outstanding claims needs to be made in order to approximate the true flows. However, the obvious adjustment does not always bring the data into conformity with the flows recorded in the balance of payments (BPAs). It is fortunate that, for at least some countries in the group, devaluation was infrequent during the period of study. Costa Rica, in fact, maintained a completely stable exchange rate for the decade of the study. Peru devalued only once, in 1967. Jamaica, tied to sterling until 1972, moved against the U.S. dollar until that date only in 1967 and 1971. In this case, though, there is a problem of deciding on the currency composition of foreign assets: the usual dollar standard is likely to have been replaced with a dollar-pound mix.

Assets and, especially, liabilities of the rest-of-world sector are prone to omission because of lack of data. In three out of five cases (Brazil, Costa Rica, and Jamaica), the FFA rest-of-world sector relies directly on the capital account of the BPAs. Where the sector is directly estimated, it is possible that foreign-sector assets are reported more fully than liabilities. In such a case, the discrepancy between the FFAs and the NIPAs gives an indication of that component of capital flight that is registered in the capital account of the BPAs. Some countries use a residual from the BPAs, which will embrace part of these omissions, to estimate the relations between the foreign and the domestic private sectors. Export underinvoicing, so far as it can be estimated, provides an additional source from which capital flight estimates can be improved, in this case capturing capital flight through the current account. A combination of these techniques holds the potential for finally getting more accurate figures for this very important phenomenon. Because this is the only account in the NIPA estimates that includes both real

and financial flows, it permits an estimate of "errors and omissions." These errors and omissions figures are analogous to and form a part of the discrepancy between real and financial flows that can be estimated fully only through the availability of both real and financial accounts, the only such discrepancy available in routinely compiled data.

3.2.6 The Financial System

A pure financial intermediary would show net financial saving of zero at all times since all its assets are financial and always equal its (all financial) liabilities. In reality, however, financial intermediaries are corporations and do hold some real assets (offices, e.g.). Statistical problems of one sort or another may also contribute to the observed variation in net financial assets of the financial system in the FFAs. The discrepancies are, in most cases, fairly small. Where they are not, they can be interpreted either as a problem related to data collection or as an item belonging properly to the corporate sector. The financial system, insofar as it appears in the NIPAs, is included in that sector, as it should be. It should also be noted here that the monetary authorities are classified as part of the financial system, so that central bank holdings of government debt do in fact show up in the government's intersectoral accounts. Thus, operating losses (or, less commonly, profits) of the central bank, which can be substantial, may also contribute to the discrepancy between the two systems.

This extremely brief introduction to the methods used to compile flow-of-funds statistics in Latin America is a testament to the ingenuity of the creators of these accounts. By concentrating on the weaknesses of the FFAs, we have perhaps left the impression that the accounts are weaker than they in fact are, but a catalog of the accurately recorded figures would obscure the more important issues that need further improvement. The next section will compare the household saving figure from the FFAs (which, as was mentioned earlier, is the weakest section of the accounts) with the corresponding figure from the NIPAs, and it will be seen that the FFAs compare quite favorably with their more established counterparts.

3.3 A Comparison of Household Saving

The importance of attention to financial flows in the estimation of real saving is particularly evident when one explores the household sector in Latin America. In the studies examined, sizable discrepancies appear when FFA estimates are compared with NIPA estimates of household saving. Household savings are always among the weakest figures in the NIPAs, even in industrial countries with well-developed

statistical agencies, and the discrepancy between NIPA and FFA estimates can be considerable. In Latin America, NIPA household savings have long been thought to be understated (see Mamalakis 1976), and are subject to substantial upward correction when matched with the comparable figure from FFAs.

Among the five countries examined, only Colombia, Peru, and Jamaica have households as a separate sector in both the NIPAs and the FFAs. For Colombia, we consider here only the years 1963–69, the years of the original OAS study; for years after that, the accounts have been recalculated on the basis of the new U.N. methodology and integrated, eliminating almost all the discrepancy (the earlier estimates of Colombian FFAs appear in Banco de la Republica n.d.-a).

The implications of the accompanying tables are quite striking. The FFAs impute a level of net financial saving to households that is, on the average over the sample periods, significantly higher than that of the NIPAs. The difference amounts to an increase in the ratio of household savings to GDP of 2.2 percent of GDP in Peru (table 3.3), 3.0 percent in Jamaica (table 3.4), and 4.5 percent in Colombia (table 3.5). To illustrate the likely downward bias of the NIPA figures for household saving, savings in the real accounts are actually negative for 1966 and 1969 in Colombia and for 1971, 1972, and 1973 in Jamaica, with con-

Table 3.3 **Peru: Household-Sector Savings: Comparison of FFAs and NIPAs**

	FFA Assets (1)	FFA Liabilities (2)	FFA NFA (1) − (2)	FFA Change in NFA (3)	NIPA Saving (4)	Statistical Discrepancy (3) − (4)
1965[a]	44.3	20.2	24.1	N.A.	1.7	N.A.
1966[a]	55.7	21.6	34.1	10.0	2.7	7.3
1967[a]	61.1	28.0	33.1	−1.0	5.2	−6.2
1968[a]	72.9	32.2	40.7	7.6	.0	7.6
1969[a]	83.4	37.7	45.7	5.0	2.8	2.2
1970[a]	105.4	44.1	61.3	15.6	6.2	9.4
1965[b]	38.6	17.6	21.0	N.A.	1.5	N.A.
1966[b]	40.7	15.8	24.9	7.3	2.0	5.3
1967[b]	38.9	17.8	21.1	−.6	3.3	−4.0
1968[b]	39.2	17.3	21.9	4.1	.0	4.1
1969[b]	39.9	18.0	21.9	2.4	1.3	1.1
1970[b]	43.8	18.3	25.5	6.5	2.6	3.9

Sources: Comisión Nacional Supervisora de Empresas y Valores 1973, vol. 1, table 1, p. 18, table 38, p. 114, and table 43, p. 126; Banco Central de Reserva del Perú 1974, table 5, pp. 18–19.

Note: NFA = net financial assets; N.A. = not available.

[a]Figures given in millions of soles.

[b]Figures given as percentage of GDP.

Table 3.4 **Jamaica: Household-Sector Savings: Comparison of FFAs and NIPAs**

	FFA Assets (1)	FFA Liabilities (2)	FFA NFA (1) − (2)	FFA Change in NFA (3)	NIPA Saving (4)	Statistical Discrepancy (3) − (4)
1964[a]	244.7	91.1	153.6	. . .	. . .	. . .
1965[a]	260.4	97.0	163.4	9.8	10.6	−.8
1966[a]	310.4	111.1	199.3	35.9	11.3	24.6
1967[a]	340.2	126.6	213.6	14.3	19.6	−5.3
1968[a]	401.7	149.4	252.3	38.7	33.6	5.1
1969[a]	518.5	195.9	322.6	70.3	14.8	55.5
1970[a]	556.1	201.2	354.9	32.3	20.7	11.6
1971[a]	691.6	246.8	444.8	89.9	−16.8	106.7
1972[a]	777.9	287.3	490.6	45.8	−49.8	95.6
1964[b]	41.6	15.5	26.1	. . .	. . .	. . .
1965[b]	41.0	15.3	25.7	1.5	1.7	−.1
1966[b]	44.9	16.1	28.9	5.2	1.6	3.6
1967[b]	45.7	17.0	28.7	1.9	2.6	−.7
1968[b]	49.0	18.2	30.8	4.7	4.1	.6
1969[b]	52.2	19.7	32.5	7.1	1.5	5.6
1970[b]	47.5	17.2	30.3	2.8	1.8	1.0
1971[b]	53.9	19.2	34.7	7.0	−1.3	8.3
1972[b]	54.1	20.0	34.1	3.2	−3.5	6.6

Sources: Bank of Jamaica 1974, pt. 1, table 3.16, p. 103, and table 3.22, p. 114; Bank of Jamaica, n.d., table 4, p. 15; Department of Statistics of Jamaica 1973, account 1, p. 17, and account 5, p. 21.

Note: NFA = net financial assets.

[a]Figures given in millions of Jamaican dollars.

[b]Figures given as percentage of GDP.

sistently low rates in both countries. The figures for Peru are also quite low, though here it is an FFA figure that suggests dissaving, in this case for 1967.

It is also possible to report a distinct figure for household saving for Brazil from the FFAs (table 3.6), even though the household sector is not broken out of the NIPAs. These data suggest a household saving rate similar to those reported in the FFAs for the other countries, with an average of 4.4 percent of GDP for the four years reported. In principle, it would also be possible to report a net financial savings estimate for businesses on the basis of the FFAs. This could be done by deducting the FFA estimate of household savings from the NIPA figure for private-sector savings. This would, however, be inaccurate. The NIPA figure for private-sector saving is subject to underestimation because of all the "upstream" problems discussed in section 3.2. Deducting from this a substantially correct figure for household saving

Table 3.5 **Colombia: Household-Sector Savings: Comparison of FFAs and NIPAs**

	FFA Assets (1)	FFA Liabilities (2)	FFA NFA (1) − (2)	FFA Change in NFA (3)	NIPA Saving (4)	Statistical Discrepancy (3) − (4)
1962[a]	17.20	1.68	15.53	N.A.	1.10	N.A.
1963[a]	18.22	1.91	16.31	.78	.61	.17
1964[a]	23.68	2.08	21.60	5.29	.39	4.90
1965[a]	25.10	2.47	22.63	1.03	1.59	−.56
1966[a]	32.50	3.05	29.45	6.82	−.18	7.00
1967[a]	37.14	3.58	33.56	4.11	1.22	2.89
1968[a]	43.01	4.80	38.21	4.65	1.60	3.05
1969[a]	51.12	6.37	44.75	6.53	−.60	7.13
1962[b]	50.3	4.9	45.4	N.A.	3.2	N.A.
1963[b]	41.9	4.4	37.5	1.8	1.4	.4
1964[b]	44.0	3.9	40.2	9.8	.7	9.1
1965[b]	41.3	4.1	37.2	1.7	2.6	−.9
1966[b]	44.2	4.1	40.0	9.3	−.2	9.5
1967[b]	44.7	4.3	40.4	4.9	1.5	3.5
1968[b]	44.6	5.0	39.6	4.8	1.7	3.2
1969[b]	46.1	5.7	40.3	5.9	−.5	6.4

Sources: Banco de la República 1971, table 9, p. 20; Banco de la República, n.d. = g, table 4, p. 33; Banco de la República, n.d. = h, table 4, p. 6.

Note: NFA = net financial assets; N.A. = not available.

[a]Figures given in billions of pesos.

[b]Figures given as percentage of GDP.

would accordingly leave us with an underestimated figure for firm saving. It bears repeating, especially in the case of Brazil (for which we report a figure without an alternative source for comparison), that there are substantial problems with these figures. However, they do consistently point in the direction in which we know the true figures to lie, thus adding to the information available from NIPAs.

This has important implications for the role of financial policy in a developing economy. Giving credence to the artificially low personal saving rate that appears in the NIPAs can lead to an unduly pessimistic appraisal of the role that households can play in the mobilization of capital resources. In the same vein, the opportunity costs of financial repression are likely to be understated, and so the bias of the NIPA saving figures can lead to an overreliance on restrictive capital market policies. To know that a well-designed capital market development program could raise the rate of personal saving by 50 percent is a different thing when that rate is 2 percent of GDP from what it is when that rate is 6 percent.

Table 3.6 **Brazil: Private-Sector Net Financial Savings**

	Private Sector				Private Sector			
	NIPA[a]	FFA[a]	Firms: FFA[a]	Households: FFA[a]	NIPA[b]	FFA[b]	Firms: FFA[b]	Households: FFA[b]
1960	−58	−28	−126	98	−2.1	−1.0	−4.6	3.6
1963	330	−13	−510	497	2.8	−.1	−4.3	4.2
1966	500	−1,559	−4,355	2,796	.9	−2.9	−8.1	5.2
1969	5,110	−7,980	−14,392	6,412	3.8	−6.0	−10.8	4.8

Sources: Banco Central do Brasil 1973, supplementary tables; Fundação Getulio Vargas 1973, tables 5, and 7.

[a]Figures given in millions of cruzeiros.

[b]Figures given in percentage of GDP.

It is to be expected, from the considerations discussed in section 3.2, that the FFAs will provide a more comprehensive coverage of household savings than do the NIPAs. This is because the accumulation of financial assets and liabilities of households is directly covered by the financial accounts (except for informal sector transactions, many of which are interhousehold flows that would net out in the accounts anyway). Also, while the informal sector of the real economy may escape reporting in the NIPAs, the financial flows that they permit may well be captured in the FFAs as changes in financial savings of the producing units (which appear as households). It must be admitted, though, that, in cases in which there is severe financial disintermediation, the portion of the informal credit market that is not captured directly in the FFAs may well assume significant proportions. There also may be some underreporting of consumer credit and other lending from business to households in the FFAs that could exaggerate the net financial savings of households vis-à-vis the real accounts. Under such circumstances, the real account estimates of financial savings could approach—or even exceed—those of the FFAs.

As useful as they are in improving the NIPAs, the significance of these estimates of household saving extends beyond their usefulness for refinement of the statistical source. In general, households are the only net-saving domestic sector in a modern economy. From an economic policy perspective, it is clearly important to know the resources potentially available for deployment, the more so since the FFA estimates permit us to revise the figure for household saving sharply upward. Any attempt to increase the gross saving in the economy must rely on capturing the financial savings of households. The next section will examine more closely the recent experience of Colombia and will show the susceptibility of financial savings of households (albeit firm-households) to both deliberate manipulation and circumstantial adjustment.

3.4 A Case Study of Colombia, 1970–83

As was mentioned earlier, Colombia has integrated its NIPAs with the FFAs for the years since 1970 and has produced flow-based figures up through 1983 with a substantially smaller discrepancy between the real and financial accounts and an improved set of NIPAs. The availability of both sets of accounts at the sectoral level permits one to observe the interaction between real and financial savings of households. This type of information is particularly important in identifying the net effect of financial policy and real economic shocks on voluntary financial savings as a source of actual and potential resources available for accumulation and growth. It illustrates that greater attention to

policies favoring the use of funds for investment rather than consumption lending may be critical in permitting financial savings to realize their real accumulation potential.

From a policy perspective, five periods may be identified for Colombia during the seventies and early eighties (Jaramillo 1982; World Bank 1984; Brock 1980). The pattern they show is one in which a heavily repressed economy liberalizes partially, returns to repression, and then liberalizes more fully. The major macroeconomic characteristics of each period are summarized in table 3.7.

3.4.1 1970–72: Financial Repression

During these years, financial policy by and large continued the preliberalization measures of the 1960s, with government ceilings on lending and borrowing rates, credit rationing in the formal financial sector, and financial disintermediation. While in the late 1960s and early 1970s some of the interest ceilings were raised and the country moved from a fixed to a crawling peg exchange rate, Colombia began the 1970s in conditions fundamentally similar to those in many developing countries. Attempts to restrict nominal interest rate responses to inflation led to financial repression, the problems of proliferating informal credit market activity (the "extrabank" market), less than optimal saving rates, and investment inefficiency.

3.4.2 1972–74: First Step to Liberalization

In 1972, although credit markets remained subject to regulation, a new instrument, inflation indexed, was introduced for the express purpose of funding housing finance. This first step was partial at best. This new instrument came to be known by the name of the indexing unit, the UPAC ("unit of constant purchasing power"). While UPACs enjoyed understandable success in attracting voluntary savings into residential construction, much of their growth involved a shift in portfolios out of less-favored financial instruments. (UPACs are included in "savings

Table 3.7 Financial Policy Regimes in Colombia, 1970–83

Period	Financial Policy	Economic Conditions
1970–72	Financial repression	Rapid growth Low inflation
1972–74	First steps to liberalization	Accelerating inflation
1974–76	Liberalization is broadened	"Growth recession," 1975
1977–79	Stabilization and financial repression	Coffee boom
1979–83	Increasing liberalization	Coffee "bust" External deficits

deposits" in the tables. They show considerable growth as a share of household financial savings over the period [table 3.8], even though financial savings as a share of GDP did not rise significantly [table 3.9].)

3.4.3 1974–76: Liberalization Is Broadened

These were years of more extensive, though still incomplete, financial liberalization. Interest rates were increased across the board, with limits placed on the indexing of UPACs to reduce their preferred status, which had led to considerable diversion of funds out of other assets. Indeed, there was speculation that the UPAC was devised to be a "foot in the door" for broader liberalization. Time and savings deposit rates were raised (though not deregulated) along with yields on government bonds, though the interest on the latter lost its tax exemption.

3.4.4 1977–79: Stabilization and Financial Repression

The fourth period involved the imposition of restrictive credit policies in order to prevent increased export revenues from generating inflation. Improved coffee terms of trade and expansion of the "other economy" (illegal drug exports) caused a considerable increase in dollar earnings. To prevent this expansion of the monetary base from increasing the monetary aggregates and stimulating inflation, the authorities implemented a program that included import and foreign borrowing restrictions, a fiscal surplus, and increased reserve requirements.

Table 3.8 **Colombian Household Financial Investment by Asset Type**

	Investment Shares (percent of annual total)				
Year	Money	Savings Deposits	Equity	Other Long-Term Assets	Other Short-Term Assets
1970	17.5	6.4	19.6	8.6	47.8
1971	12.1	6.3	35.4	23.2	23.1
1972	20.0	11.1	26.4	13.5	28.9
1973	16.7	19.4	18.7	7.7	37.5
1974	7.2	16.1	19.8	6.4	50.5
1975	14.6	24.1	18.6	−6.6	49.3
1976	30.3	21.6	17.2	6.0	24.9
1977	24.8	19.3	13.3	11.0	31.6
1978	17.0	22.2	7.0	31.1	22.6
1979	16.0	20.0	13.2	12.2	38.6
1980	11.8	35.7	12.8	8.8	30.8
1981	8.5	42.2	14.3	13.2	21.8
1982	14.2	25.9	13.5	5.6	40.7
1983	16.6	37.3	13.7	11.8	20.6

Sources: Banco de la República, n.d. = b, table 15a; Banco de la República, n.d. = f, table 16.

Table 3.9 Colombia Firm-Household Data (percent of GDP)

Year	Investment	Saving	Net Real Saving	Net Financial Saving	Asset Increase	Liability Increase
1970	4.7	7.1	2.4	4.5	8.9	4.3
1971	3.9	5.1	1.3	1.2	7.2	6.0
1972	5.7	8.8	3.3	3.5	9.0	5.4
1973	5.4	10.2	4.8	3.9	10.4	6.5
1974	6.3	9.0	2.9	1.9	9.1	7.3
1975	5.6	7.9	2.5	2.7	6.8	4.0
1976	5.2	7.9	2.9	3.5	9.1	5.6
1977	4.5	9.9	5.5	5.4	9.4	4.0
1978	5.0	9.0	4.3	4.5	9.0	4.5
1979	5.3	9.4	4.2	4.5	7.9	3.4
1980	5.0	9.0	4.1	4.0	9.6	5.1
1981	4.9	8.0	3.1	4.6	9.0	4.4
1982	5.0	8.1	2.9	3.4	7.3	3.9
1983	5.3	5.3	3.4	2.8	7.0	4.2

Sources: Banco de la República, n.d.-b, table 1; Banco de la República, n.d.-c, table 1; Banco de la República, n.d.-e, table 1; Banco de la República, n.d.-f. table 1.

As intended, the share of savings flowing into money and savings deposits fell sharply between 1976 and 1979 (table 3.8), but the figures in table 3.9 indicate that net financial saving of households still rose significantly as a share of GDP.

3.4.5 1979–83: Increasing Liberalization

In 1979 and 1980, a number of fundamental changes took place in financial policy; most important were the liberalization of important lending and borrowing rates, the removal of 100 percent marginal reserve requirements, and the introduction of marketable short-term government securities. This caused a considerable increase in both deposit and lending rates from their earlier repressed levels. Though net financial savings of households as a share of GDP remained fairly stable during the period of policy transition from 1979 to 1981, the ensuing years showed a sharp decline (table 3.9). This was almost certainly due to the slowdown in real growth (which had averaged 5.4 percent per year from 1976 to 1980 and fell to 1.6 percent from 1981 to 1983) that accompanied the decline in export revenue. During the period 1981–83, there was a reversal of net foreign savings as the capital account of the balance of payments, which had been negative from 1975 to 1980, became a deficit averaging 4.8 percent of GDP during the period 1981–83 (table 3.10).

Before examining the Colombian FFA data in depth, there are two issues particular to Colombia that need to be discussed: the parallel economy and the sectorization of the accounts. To a considerable degree, the

Table 3.10 Colombian Saving and Investment

Year	Investment	Saving	Current Account Deficit [a, b]	Inflation (%)	GDP Growth (%)
1970	20.3	16.3	3.9	6.8	9.3
1971	19.4	13.3	6.2	9.0	6.0
1972	18.1	16.2	2.0	13.4	7.7
1973	18.3	18.3	.0	20.8	6.7
1974	20.8	18.3	2.5	24.3	5.7
1975	17.0	17.1	−.1	22.9	2.3
1976	17.6	19.0	−1.5	20.2	4.7
1977	18.8	21.6	−2.8	33.1	4.2
1978	18.3	20.4	−2.2	17.8	8.5
1979	18.2	19.8	−1.6	24.7	4.1
1980	19.1	19.6	−.5	26.5	2.3
1981	20.6	16.9	3.7	27.5	.9
1982	20.5	15.1	5.4	24.5	1.6
1983	19.9	14.7	5.2	19.8	3.2

Sources: Banco de la República, n.d.-b, table 1; Banco de la República, n.d.-c, table 1; Banco de la República, n.d.-e, table 1; Banco de la República, n.d.-f, table 1; International Monetary Fund 1986 (inflation data only).

[a]Figures given in percentage of GDP.

[b]A minus sign (−) indicates a surplus

drug economy functions like a traditional Latin American enclave and does not grossly distort either the real or the financial accounts. Colombia's informal credit market does include a small-scale consumer loan market. For most informal credit market operations, though, firms are the principle takers and a frequent source of funds, so that these transactions appear in the balance sheets incorporated in the FFA corporate sector. The parallel market is thus not as important a source of error in the FFAs as might be imagined.

In what follows, the sector is referred to interchangeably as the household sector and the firm-household sector. The difference is that, in a great many instances, the household has the option of investing its earnings in the family enterprise rather than a financial asset. McKinnon's (1973) analysis of the "fragmented economy," which chronicles the lack of investment opportunities and savings vehicles in a developing economy, emphasizes the difficulty of separating the family's savings decision from its entrepreneurial investment decision. Given the difficulty, even in industrial countries, of distinguishing noncorporate enterprise from household transactions, the treatment of the two as a single sector in Colombia seems wholly justified.

Household-sector savings as estimated in the earlier NIPAs prior to their integration with the financial accounts can be compared with the postintegration accounts for the years 1970–74. The results support

the contention that FFA estimates provide a more comprehensive figure for the residual of household savings over investment than traditional (nonintegrated) NIPAs and that integrated real and financial accounts do an even better job. During these years, the household saving figure under the earlier system averaged 2.7 percent of GDP, a ratio that is somewhat higher than the figures for the 1960s examined in the previous section. But, in the same years (1970–74), the comparable figures in the integrated social accounts is 8.0 percent. The difference between these two figures is reasonably close to the difference of 4.5 percent found by comparing the NIPAs with the FFAs for the 1960s. In short, the initial OAS FFAs, despite the degree of disintermediation in those earlier years, were able to identify a serious downward bias in the NIPA estimates of household saving. Given the critical importance of household saving to the noninflationary finance of public and private investment and debt service, it is imperative that such estimates be as accurate as possible.

If one were to compare the net real saving of the household sector as reported in the NIPAs with the net financial saving from the financial accounts, the difference is almost zero. While a slight statistical discrepancy does exist, it is quite small for most of the years and shows no systematic bias. For only eight years out of fourteen does the financial account figure exceed the corresponding figure of the real accounts, and the average premium is only 0.2 percent of GDP. Thus, the large discrepancy reported for Colombia in section 3.3 for the years prior to the new, integrated account estimates appears to have been entirely corrected by the revised real saving figure, as one would have expected, leaving only a small residual between the two sets of accounts.

What did households do with their savings? One of the main objectives of financial policy from the very beginning of liberalization was to increase real savings and channel them into productive investment and noninflationary finance of the public deficit. It is possible to determine the effectiveness of such efforts once comprehensive real and financial accounts are available. One can derive two types of disaggregation from the financial accounts in order to address such questions. First, asset accumulation may be divided by type of asset, which is done for households in table 3.8. For this purpose, we have divided financial assets into five categories: (1) money, including demand deposits; (2) various forms of savings deposits; (3) equity capital, including partnership investment as well as corporate shares; (4) other long-term assets (having a maturity of more than two years); and (5) other short-term assets. The results show how the composition of household asset portfolios adjusted to real and financial conditions during the period studied. Note that the integrated accounts from Colombia deal with annual flows rather than end-year stocks and reflect only actual intersectoral transactions rather than

valuation adjustments (Pinot de Libreros, Vinasco Medina, and Riveros Mora 1982). The difficulties that were examined in section 3.2 in moving from stock measures to flow measures were bypassed. Our second breakdown of financial flows in table 3.11 disaggregates them by institutional sectors of origin and destination. All domestic household transactions are divided into three main sectors: corporations, government, and the financial system. It is an unfortunate limitation of the available data that household transactions with the rest of the world are not presented as independent estimates. The omission of resource flows between households and proprietary firms is equally lamentable.

We look first at the aggregate accumulation of assets and liabilities. We turn next to the examination of asset portfolio adjustment and finally to an examination of intersectoral flows.

The firm-household sector accumulated financial assets at an average rate of 8.5 percent of GDP over our fourteen-year sample period while accumulating liabilities at a rate of just under 5 percent of GDP. In the period 1970–72, prior to liberalization, households acquired financial assets valued at an average of 8.4 percent of GDP while acquiring liabilities in an average amount equal to 5.2 percent of GDP; net financial saving thus averaged 3.2 percent of GDP. Since the years from 1972 to 1980 involved different degrees of partial liberalization, as

Table 3.11 Colombian Household Financial Flows by Sector (percent of total)

	Assets			Liabilities		
Year	Firms	Government	Financial System	Firms	Government	Financial System
1970	23.1	16.1	60.8	35.1	6.5	58.4
1971	32.7	17.0	50.4	22.3	31.9	45.7
1972	30.5	11.2	58.4	30.1	19.4	50.5
1973	32.5	7.5	59.9	36.3	24.8	38.9
1974	27.3	6.3	66.4	30.7	19.5	49.8
1975	32.8	6.9	60.2	2.2	35.4	62.4
1976	31.3	3.9	64.7	33.4	−4.1	70.6
1977	18.7	2.8	78.5	25.0	16.5	58.5
1978	17.0	2.3	80.7	6.8	46.0	47.2
1979	18.4	2.0	79.6	35.4	8.5	56.1
1980	35.8	1.3	62.9	39.5	5.5	55.0
1981	43.1	1.1	55.9	45.9	−.7	54.7
1982	26.1	1.0	72.9	41.6	5.3	53.2
1983	34.3	.9	64.8	19.2	7.4	73.5

Sources: Banco de la República, n.d.-b, tables 26a–42b; Banco de la República, n.d.-c, tables A-1–A 19; Banco de la República, n.d.-e, tables A-1–A-19; Banco de la República, n.d.-f, tables A-1–A-19.

Note: Figures represent shares of net increases in financial assets and liabilities.

described at the beginning of this section, all of which went well beyond the policies of the 1960s and early 1970s, the period is best taken as a whole. Excluding the slow-growth year of 1975, financial assets grew by an average of 9.1 percent of GDP from 1972 to 1980 as against a 5.1 percent growth of liabilities, causing net financial savings to rise to 4.0 percent of GDP (table 3.9), 0.8 percent above the "preliberalization" rate. In the liberalized (but recessionary) period 1981–83, assets grew by only 7.8 percent of GDP, with liabilities also growing at a reduced rate of 4.2 percent of GDP, cutting net financial savings of households back to 3.6 percent of GDP, midway between the two earlier periods.

The implications of these figures are quite interesting. They suggest that a partial financial liberalization did encourage firm-households to acquire more financial assets as a share of income without triggering a boom in consumer lending that would have offset any increase in financial saving. It is important to note in this regard that substantial liberalization, with the exception of UPACs, did not begin until 1974. In fact, the greatest spurt of household borrowing was associated with the UPAC system and consequent boom in housing construction. The years 1973 and 1974 constituted the peak for household borrowing, with new financial liabilities equal to 6.5 and 7.3 percent of GDP, respectively. Hence, net financial saving by households had fallen to 1.9 percent of GDP in 1974 (table 3.9), a full percentage point below the net real saving figure from the NIPAs.

Only after 1976 did net financial saving grow significantly, coinciding as much with the export boom as with financial liberalization per se. It may well be that the coffee boom gave households the wherewithal to finance their purchases out of income rather than taking up loans that were available. Certainly, a rational household would increase its net saving (out of transitory income) during a cyclical boom, irrespective of additional incentives provided by financial liberalization. But the availability of attractive financial assets would certainly provide an incentive to hold those savings in a form that would be more readily available for productive investment (rather than, e.g., inflation hedges). And 1979, the peak of the coffee boom, was also the lowest year in the sample in growth of household liabilities. It looks as though one effect of liberalization was simply to increase the rate of acquisition of both financial assets and financial liabilities. But this also places greater emphasis on policies to direct the use of funds into investment rather than consumption expenditures.

For the final period 1981–83, economic downturn was the dominant characteristic—GDP grew by only 1.6 percent per year from 1981 to 1983. By contrast, from 1970 to 1980 (again excluding 1975) the Colombian economy grew at a rate of 6.1 percent. Public administration, which had

shown a surplus in both the real and the financial accounts from 1974 to 1980, moved into deficit, with that deficit reaching 3 percent of GDP by 1983. As we have seen, these events show up clearly in the household FFA aggregates. As could be expected, asset accumulation slows by 1.3 percent of GDP, and liability growth falls by 0.9 percent of GDP, resulting in a fall in net saving of just under half a percentage point of GDP.

Turning now to the composition of this growth in household financial asset holdings (table 3.8), we focus particularly on the effect of increased financial liberalization. As mentioned above, perhaps the most important element of this was the introduction of the UPAC-indexed savings deposit. As it happens, Colombian inflation increased during the 1970s from an average of under 10 percent per year in the period 1970–72 to 24 percent from 1973–83. The result was a shift not so much out of money as out of longer-term assets. This accords well with the observation that the extrabank credit market, which mushroomed during the financially repressed years of the coffee boom, was heavily concentrated in short-term lending.

Though the figures are highly variable from year to year since they reflect marginal shifts in portfolios, the pattern is quite clear. In the process of financial liberalization, while incremental money holdings and "other short-term assets" held a steady share of the total increase in assets, new equity (shares plus partnership investment) fell from 27.1 percent in 1970–72 to 15.1 percent from 1973 to 1983, and "other long-term assets" fell from 15.1 to 9.6 percent of total increases. At the same time, savings deposits (including UPAC deposits) skyrocketed from 7.9 to 22.3 percent of the total. From the boom of the 1970s into the slump of the 1980s, savings deposits grew even further, at the expense of other short-term assets. A slight decline in incremental money holdings, corresponding to the slower rate of income and therefore transactions growth, was the only other significant change into the early 1980s.

These changes in asset holdings had important effects on the sectoral distribution of the increase in firm-household assets as shown in table 3.11. The most significant shift among sectors between 1970–72 and 1973–83 was the sharp decline in household claims against government, from 14.8 percent to 3.3 percent, offset by increases in assets of the financial system from 56.5 percent to 67.9 percent. This represents in part the strong fiscal position of the government in the years of the coffee boom and in part increases in minimum denominations for some public-sector liabilities. The net assets of households against the business sector remained the same 28.8 percent over the two periods. On the liability side, household liabilities to business also showed almost no change (29.2 percent in the first period as against 28.7 percent in

the years of liberalization), while liabilities to the financial system rose from 51.5 percent to 56.4 percent of the total increment. This further illustrates that financial opening such as Colombia experienced can effectively increase the amount of financial savings of households available for channeling into investment through the financial system.

The preceding analysis has been conducted from the vantage of the firm-household sector. It might well have been repeated for the corporate sector. Table 3.12, though, shows that corporate saving remained fairly steady throughout the period being examined (reflecting in part the steady rate of capital consumption) and that the investment rate varies mostly with the business cycle (table 3.13). An important reason for this is likely to be the ability of the larger enterprises represented in the corporate sector to get access to credit. Table 3.14 outlines the forms this credit took. Leff (1976, 1978, 1979) and Strachan (1976) discuss the ways in which financial conglomerates (*grupos*) in Latin America ensure themselves a supply of credit. In the Colombian case, Tybout (1980, 1983, 1984) has established a clear link between firm size and credit access. The phenomenal growth of *grupos* through takeovers during the 1970s makes the analysis of the corporate sector accounts even more difficult. Further work on corporation finance at the micro level would be an essential complement to analysis of that sector's aggregate flow of funds.

Table 3.12 **Colombia Corporation Data (percent of GDP)**

Year	Investment	Saving	Real NFS	Financial NFS
1970	11.7	5.4	−5.8	−8.6
1971	11.7	5.5	−5.9	−6.7
1972	9.3	5.1	−3.9	−6.3
1973	7.9	5.2	−2.6	−2.8
1974	11.0	5.4	−5.6	−5.8
1975	8.7	4.1	−4.5	−4.0
1976	9.5	4.7	−4.8	−4.8
1977	7.2	4.8	−4.0	−4.0
1978	9.1	4.5	−4.6	−6.0
1979	9.8	5.5	−4.3	−3.2
1980	9.9	5.4	−4.4	−5.8
1981	10.4	5.4	−4.5	−6.1
1982	15.0	5.0	−7.3	−7.6
1983	9.5	5.2	−4.0	−6.0

Sources: Banco de la República, n.d.-b, table 1; Banco de la República, n.d.-c, table 1; Banco de la República, n.d.-e, table 1; Banco de la República, n.d.-f, table 1.

Note: NFS = net financial saving.

Table 3.13 **Colombian Corporate Asset Growth (percent of GDP)**

Year	Total	Commercial Credit	Loans	Domestic Equity	M1*	Indexed Accounts	Other Deposits	Foreign Assets
1970	7.7	5.0	1.1	.6	.4	.0	.4	.1
1971	4.4	3.5	.4	.1	.3	.0	.0	.2
1972	7.1	4.4	1.1	.4	.5	.0	.5	.1
1973	9.5	5.4	1.4	.4	.7	.3	.9	−.1
1974	6.7	4.5	1.1	.3	.4	.1	.3	.3
1975	5.2	3.8	1.0	.2	.5	.0	.4	−.3
1976	7.2	4.3	1.4	.2	.8	.1	.3	−.1
1977	11.3	4.1	3.4	.6	.9	.1	.8	−.2
1978	8.8	4.5	1.8	.7	.6	.3	.4	.2
1979	8.7	5.0	1.1	.7	.5	.1	.8	.1
1980	12.3	7.0	1.4	.7	.9	.2	1.9	.2
1981	8.7	4.1	1.4	.6	.8	.2	1.4	−.1
1982	6.2	3.6	.8	.2	1.0	.3	.0	−.1
1983	6.2	3.2	.4	.3	.8	.1	1.1	.0

Sources: Banco de la República, n.d.-b, tables 1, 14a; Banco de la República, n.d.-c, tables 1, 15; Banco de la República, n.d.-e, tables 1, 15; Banco de la República, n.d.-f, tables 1, 15.

*M1 = currency and demand deposits.

Table 3.14 Colombian Corporate Liability Growth (percent of GDP)

Year	Total	Commercial Credit	Loans	Domestic Equity
1970	16.3	6.0	5.8	2.9
1971	11.2	2.3	4.3	3.3
1972	13.4	2.0	5.9	3.3
1973	12.3	5.6	3.0	2.7
1974	12.5	3.5	4.8	3.0
1975	9.2	2.7	3.6	1.9
1976	11.9	3.8	5.1	2.1
1977	15.3	3.2	9.1	2.4
1978	14.8	4.5	7.9	1.9
1979	11.9	.7	7.7	2.3
1980	18.1	4.6	9.3	2.3
1981	14.8	3.7	7.5	2.6
1982	13.8	3.9	6.0	1.9
1983	12.3	2.9	6.1	1.9

Sources: Banco de la República, n.d.-b, tables 1, 14b; Banco de la República, n.d.-c, tables 1, 15; Banco de la República, n.d.-e, tables 1, 15; Banco de la República, n.d.-f, tables 1, 15.

3.5 Conclusions

By presenting evidence from the FFAs, NIPAs, and integrated social accounts of several countries from Latin America and one from the Caribbean, it has been possible to illustrate the importance of source and use of funds analysis to an assessment of the effect of real and financial changes on developing countries. Academic attention to financial sector development led to important steps in the direction of financial liberalization in the 1970s. These steps caused a reduction in the degree of financial repression and disintermediation resulting from the imposition of interest rate ceilings, credit rationing, and other controls on financial markets. Evidence has been presented that financial liberalization did in fact increase financial intermediation of household savings.

However, one danger with liberalization is the threat that financial intermediation might inadvertently offset gross financial savings with dissaving by other sectors (for consumption lending and funding of government current expenditures), thus preventing the potential real savings and investment out of income from being fully realized. While the present study is not designed to pursue these inquiries in depth or to deal with issues of financial development policy, it suggests that such an endeavor would be extremely productive, especially in the present period of Third World indebtedness and the need to resort to internal sources of accumulation for recovery, restructuring, and growth.

In addition, the study illustrates the value of flow-of-funds analyses, even of a relatively rudimentary kind, in identifying possible gaps between actual levels of household savings and those reported in NIPAs. The Colombian case is particularly compelling in this regard, as it shows how the increase of several percentage points of GDP in personal savings uncovered by the earlier OAS Capital Markets Project FFAs was in time eliminated by the country's statisticians through the preparation of integrated real and financial flow accounts. It is unfortunate that Colombia is one of the only countries in the earlier OAS project that elected to continue its flow-of-funds accounting and to integrate it into improved national income accounting procedures. The importance of institutional cooperation between the central bank and the national statistical office, in this case, along with the use of U.N. supported advisers cannot be overstated. Unfortunately, however, the use of the resulting estimates has been limited to research by only a few economists, and the data have been relatively ignored outside Colombia.

It is quite likely that the potential for analysis of the relation between financial structure and growth in developing countries is only beginning to be realized, and a considerable increase in attention to such work may lie ahead. This will be especially important as both lending and borrowing countries and international institutions rediscover the importance of financial policies that will attract domestic savings into development finance (Reynolds 1978, 1979; Reynolds and Camard 1988). There are roles to be played by FFAs and by integrated social accounting as instruments of development policy.

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Comment

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Introduction

This paper by Clark W. Reynolds and Wayne Camard offers the prospect of new, disaggregated data, based on flow-of-funds analysis, for the study of savings behavior in less-developed countries (LDCs). That prospect is all the more welcome because of the inadequacies of the estimates compiled within the framework of the national income and product accounts (NIPAs). Data limitations, however, hamper the

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capacity of the authors to deliver as much as one would like in the way of improved and more reliable savings estimates.

The research is motivated by the assumption that saving is crucial for economic development. Consequently, it would help to have more (and better) data to facilitate understanding of the conditions that promote domestic saving in LDCs. I am sympathetic to this general approach. But it is worth noting that, for many economists, the operational paradigm in the field of economic development no longers accords so central a role to saving and physical capital formation (Krueger 1986). Much more emphasis is now accorded to such conditions as human capital formation, external trade, and foreign-exchange availability. Even within the new paradigm, however, saving remains important for economic development. Here, Reynolds and Camard are correct in noting that the hypotheses presently available to explain savings behavior in developing countries do not have much predictive power.

To illustrate, some Latin American countries have shown upward trends in their aggregate saving ratios during the past three decades. By contrast, other countries in the region have experienced statistically significant negative trends. Available models of saving in developing countries are not very helpful in explaining this observed behavior. Further, the present state of the analytical literature is such that economists have little in the way of tested, practicable advice to recommend to policymakers in Latin America who might be interested in raising domestic saving rates in their countries. In this context, the prospect that flow-of-funds analysis may make available new and better-quality data on savings behavior in individual countries is extremely attractive. More accurate statistical information should help raise the level of analysis. The availability of new, disaggregated data would permit the application in an LDC context of previously unused analytic models. Reynolds and Camard report sparse flow-of-funds data for five Latin American countries (Brazil, Colombia, Costa Rica, Peru, and Jamaica) as well as more complete information for one country, Colombia.

The Flow-of-Funds Results and Their Implications

As careful scholars, Reynolds and Camard take pains to explain the methodological limitations of the flow-of-funds studies that they report. That discussion points to a series of approximations that culminate in doubts concerning the reliability of the results. The authors share these doubts. They must be taken into account in assessing the usefulness of the results.

The paper's main substantive finding is that the flow-of-funds results show household saving to be substantially higher than estimated in the NIPAs for these five countries. This is an important finding; however,

it is not entirely clear what to make of it. Part of the disparity may reflect the behavioral porosity of the corporate and household sectors in the LDCs. In such conditions, it is difficult to allocate uniquely to one sector or the other flows that belong to essentially the same agents. To the extent that strong substitution effects exist as between the two components of private saving, the policy implications of higher-than-expected household saving are weakened.

I think it is fair to conclude from this paper that flow-of-funds analysis of saving in LDCs can be a useful complement to the estimates developed in the NIPA framework. The two sets of estimates do not always tell the same story. The paper also suggests new directions for future work on flow-of-funds research in developing countries. First, it may be useful to refocus from the present emphasis on the household sector to an emphasis on saving in the corporate sector. Because of corporate reporting requirements, such a refocusing may mitigate data problems. Further, the availability of flow-of-funds data for the corporate sector would permit application and development of some of the analytic models that have been elaborated to apply corporate finance theory in the special context of the LDCs (Galvez and Tybout 1985; Sundararajan 1985).

In view of the greater richness—in depth and in time—of the flow-of-funds data available for Colombia, greater attention might be given to analyzing financial flows, saving, and investment for that country. Two topics come immediately to mind: the interaction of the individual sectoral components of aggregate saving and their joint responsiveness to changing economic conditions and policy incentives. Apart from the possible analytic and policy benefits from that research, such use of flow-of-funds statistics may also help increase the demand for collecting these data (see below).

It is also fair to learn something from the history of flow-of-funds research in Latin America. Despite the long-standing efforts of those concerned for such research, flow-of-funds estimates are still not prepared on a regular basis for many developing countries. A reason for the absence of this statistical output seems to be the lack of demand for these data on the part of economists in these countries. I expect the future to be like the past in this respect. To the extent that economists in Latin America are not educated to the potential uses of flow-of-funds statistics, they will not demand them. In practice, I do not see any such wave of education on the uses of flow-of-funds data reaching the graduate schools that Latin American economists attend, either in their own countries or in the United States. Consequently, it is unlikely that demand for flow-of-funds statistics will increase significantly. Accordingly, neither will the resources allocated for the preparation of such estimates.

In that event, research to improve the quality of the savings data in Latin America may follow a different route: more surveys to enhance the accuracy of the NIPA estimates. Some of these surveys—in particular those identifying and addressing the weak points in the NIPA estimates—may well be informed by flow-of-funds perspectives. In effect, we may see the fusion of the two approaches in improved NIPAs. This paper can be a milestone in such an evolution.

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