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Chapter 16

Savings and the Foreign Trade Regime

In analyzing the impact of India's overall economic policies on the domestic savings effort, we will argue that:

1. there is little evidence that the marginal propensity to save in the Indian economy was significantly different between the 1950s, when the severity of exchange control (on the average) was less, and the 1960s, when it was more;

2. detailed analysis does not support the hypothesis that India's absorption of foreign aid has adversely affected her savings effort; this is a conclusion of interest, not merely because of widespread concern with this problem in LDCs today, but because the 1966 economic policy changes toward "liberalization" were partly motivated by the desire to continue aid flow from the consortium members who had virtually made these policy changes a precondition for continuation of aid;

3. there is no evidence that the more recent, import-substituting industries which have grown up primarily during the years 1956–70 under the economic regime we have been describing are significantly higher savers than the more traditional industries; and

4. we do not have adequate data to test the further hypothesis that "organized" industry *in toto* is a better saver than "agriculture." Thus we cannot argue convincingly that the exchange control regime, which buttressed the increasing industrialization, led to greater saving; nor can we establish any other strong links between savings and the Indian foreign trade regime although we consider several possibilities.

DOMESTIC SAVINGS AND STRINGENCY OF QRs

It is well known that the data on which Indian national income estimates are based are inadequate and even the methodology of computation is not necessarily the best that could be adopted given the data. The situation regarding savings and investment estimates is even worse: there are no "direct" estimates for either. In brief, aggregate investment is estimated as the value of goods and services used in investment activity. Savings estimates are obtained as a residual from investment estimates by subtracting therefrom the estimated external capital inflow. This is not to suggest that direct estimates are not available for some components of savings and investment—indeed, relatively accurate direct estimates are available relating to the savings and investment activities of the public sector as well as the large-scale manufacturing sector. But a large proportion has still to be estimated indirectly.[1]

Given the nature of the data, therefore, it was decided not to attempt to build an elaborate simultaneous-equation model of the Indian economy but rather to work with single-equation regression relationships. The idea is not so much to estimate the marginal propensity to save with great accuracy as rather to obtain some useful insights into overall savings behavior.

Let us begin, therefore, with the simplest possible relationship:

$$S_t = a_0 + a_1 Y_t + u_t \qquad (16\text{–}1)$$

where S_t stands for aggregate savings, Y_t for national income and u_t for a random disturbance term, all variables relating to year t.

In estimating equation (16–1), we had a choice in defining savings and income (1) in either gross or net terms, (2) at either nominal or real value, and (3) in either per capita or aggregate terms. Since the basis on which replacement of capital expenditures is estimated is extremely weak, we decided to define the variables in gross rather than net terms. Again, we decided to concentrate on the relationship between real magnitudes, though in a more elaborate model the impact of monetary factors should be brought in. Finally, to a limited extent we experimented with both alternatives in (3).

The period of our analysis was 1951–52 to 1969–70. There is a belief among some Indian economists that the period since 1965–66 is radically different from the period before, both politically and economically: politically, because the system was exposed to the deaths of Prime Ministers Nehru and Shastri in quick succession in 1964 and 1966; economically, because of (1) the two successive droughts of unprecedented magnitude in 1965 and 1966, (2) aid stoppage during the Indo-Pakistan War of 1965, its resumption in

1966 and subsequent scaling down and (3) the devaluation and liberalization of June 1966. Since we have data only for a four-year period since 1966, we cannot adequately test this belief. However, we do estimate the relationships separately for the entire period and for the period 1951–52 to 1965–66 to see whether there is any sharp break in the income-savings relationship.

From the point of view of the present monograph, perhaps an equally relevant division of the period would be 1951–52 to 1959–60 and 1960–61 to 1969–70 since the exchange control regime was more stringent on the average through the 1960s (the liberalization associated with devaluation being short-lived, as we have seen already). We thus examine the issue whether any significant change in savings behavior can be observed between the decade of the 1950s and that of the 1960s.

For converting nominal investment to real terms, we had two alternative investment deflators available (denoted by subscripts 1 and 2): one developed by the Perspective Planning Division (PPD) of the Planning Commission and the other put out by the Central Statistical Organisation (CSO). Since savings were obtained as a residual from investment by subtracting the external resource flow (i.e., the current account surplus or deficit), we had a number of alternative ways of obtaining real savings, of which the following (denoted by superscripts I and II) were used:

I: Deflate merchandise imports and exports by their respective unit value indices and take the surplus or deficit on non-merchandise account without deflation.

II: Deflate the entire current account surplus or deficit by the unit value index of imports, the idea being that, in this way, we capture the real import potential of nominal resource inflow.

Thus, we had four alternative definitions of real savings, $S_1^{I}(t)$, $S_2^{I}(t)$, $S_1^{II}(t)$ and $S_2^{II}(t)$ where, for instance, $S_1^{II}(t)$ represents the real savings in year t obtained by subtracting from real investment (defined as the nominal investment deflated by the PPD deflator) the real external resource flow obtained by using procedure II described above. The per capita variables are denoted by the same symbols, but in lower case: e.g., s, y, etc.

The results of our regressions are reported in Tables 16–1 and 16–2.[2] The fit as measured by R^2 is quite good in all the regressions. It appears that the estimate of the marginal propensity to save is not very sensitive to the choice of deflators or of the procedure by which the real external resource flow was calculated, though some sensitivity is seen in the period 1960–61 to 1969–70. As is to be expected (given that population, income and savings were rising over time), the marginal propensity to save in each regression involving per capita variables is higher than in the corresponding regression with aggregate variables. The goodness of fit of the per capita relationship is, however, somewhat poorer.

Let us now examine the results in Tables 16–1 and 16–2 for inter-period comparisons of the marginal propensity to save. Clearly, there seems to be little evidence for the view that *either* the post-1966 liberalization years significantly changed the marginal propensity to save from the preceding period

TABLE 16–1

Savings Regressions,
1951–52 to 1965–66 and 1951–52 to 1969–70

	1951–52 to 1965–66		1951–52 to 1969–70	
1. (a) S_1^I =	−1453 + 0.24 Y (241) (0.02)	$R^2 = 0.94$	−1053 + 0.21 Y (212) (0.01)	$R^2 = 0.93$
(b) s_1^I =	−66 + 0.33 y (12) (0.03)	$R^2 = 0.87$	−54 + 0.29 y (10) (0.03)	$R^2 = 0.86$
2. (a) S_2^I =	−1476 + 0.24 Y (253) (0.02)	$R^2 = 0.93$	−1323 + 0.23 Y (191) (0.01)	$R^2 = 0.95$
(b) s_2^I =	−68 + 0.34 y (12) (0.04)	$R^2 = 0.86$	−66 + 0.33 y (10) (0.03)	$R^2 = 0.89$
3. (a) S_1^{II} =	−1509 + 0.24 Y (264) (0.02)	$R^2 = 0.93$	−1216 + 0.21 Y (207) (0.01)	$R^2 = 0.94$
(b) s_1^{II} =	−68 + 0.33 y (13) (0.04)	$R^2 = 0.85$	−61 + 0.31 y (10) (0.03)	$R^2 = 0.87$
4. (a) S_2^{II} =	−1532 + 0.24 Y (260) (0.02)	$R^2 = 0.93$	−1486 + 0.24 Y (186) (0.01)	$R^2 = 0.96$
(b) s_2^{II} =	−70 + 0.34 y (13) (0.04)	$R^2 = 0.86$	−72 + 0.35 y (10) (0.03)	$R^2 = 0.92$

NOTE: Figures in parentheses are standard errors. Refer to the text for explanation of the regressions.

TABLE 16–2

Savings Regressions,
1951–52 to 1959–60 and 1960–61 to 1969–70

	1951–52 to 1959–60		1960–61 to 1969–70	
1. S_1^I =	−815 + 0.18 Y (520) (0.04)	$R^2 = 0.73$	−592 + 0.18 Y (698) (0.04)	$R^2 = 0.73$
2. S_2^I =	−1087 + 0.21 Y (607) (0.05)	$R^2 = 0.72$	−1271 + 0.22 Y (560) (0.03)	$R^2 = 0.87$
3. S_1^{II} =	−532 + 0.16 Y (563) (0.05)	$R^2 = 0.63$	−834 + 0.19 Y (610) (0.03)	$R^2 = 0.80$
4. S_2^{II} =	−804 + 0.18 Y (600) (0.05)	$R^2 = 0.67$	−1514 + 0.24 Y (741) (0.03)	$R^2 = 0.91$

NOTE: Figures in parentheses are standard errors. Refer to the text for explanation of the regressions.

(Table 16–1)[3] *or* the 1960s period of relatively tighter exchange situation was characterized by a higher marginal propensity to save than the somewhat less stringent period of the 1950s (Table 16–2).[4]

DOMESTIC SAVINGS AND EXTERNAL RESOURCES

We have postulated so far that savings are a function of income alone. However, it has been argued recently that savings are a function of domestic expenditure, rather than income, so that we should instead write:

$$C_t = \beta_0 + \beta_1(Y_t + F_t) \qquad (16\text{–}2)$$

where F_t is the foreign capital inflow, defined as the negative of the balance on current account and C_t is domestic consumption. We therefore estimated the following equation as well:

$$S_t = a_0 + a_1 Y_t + a_2 F_t + u_t \qquad (16\text{–}2a)$$

Clearly, when $a_1 = (a_2 + 1)$, this equation will correspond to equation (16–2). A positive (negative) value for a_2 would be consistent with the hypothesis that external resources complement (substitute for) domestic resources.

The following version of (16–2a), with F_t lagged by one year, was also estimated:

$$S_t = a_0 + a_1 Y_t + a_2 F_{t-1} + u_t \qquad (16\text{–}2b)$$

The idea underlying equation (16–2b) is that if indeed consumption is related to expected volume of resources available, then it may be reasonable to presume that such expectations for any year are formed on the basis of the actual resources in the previous year. This would suggest that S_t should be related to Y_{t-1} and F_{t-1}. Given that the correlation between Y_t and Y_{t-1} is very high (while that between F_t and F_{t-1} is not) the relation (16–2b) would, however, do just as well as one with Y_{t-1} instead of Y_t.

The results for both (16–2a) and (16–2b) are shown in Table 16–3. Only the results relating to the PPD deflator and the second procedure for calculating the real resource flow are reported here. We find that when used in conjunction with income, the explanatory power of contemporaneous external resource flow in explaining savings is virtually nil: the coefficients on F are statistically insignificantly different from zero. The lagged response equations also perform badly: with one exception, the coefficients on F_{-1} are also not significantly different from zero. Thus we infer that domestic savings do not seem to be influenced by external resources.

On the other hand, a mild skepticism toward this conclusion may be in order. For one thing, the introduction of F_{-1} generally seems to lead to

TABLE 16–3

Savings Regressions

Including Foreign Capital Inflow, Various Periods, 1951–52 to 1969–70

(1) 1951–52 to 1969–70	(a)	$S_1^{II} = -124 + 0.22\,Y - 0.08\,F$	(0.02) (0.30)	$R^2 = 0.94$
	(b)	$S_1^{II} = -1487 + 0.24\,Y - 0.57\,F_{-1}$	(0.02) (0.33)	$R^2 = 0.95$
(2) 1951–52 to 1965–66	(a)	$S_1^{II} = -1611 + 0.25\,Y - 0.18\,F$	(0.03) (0.45)	$R^2 = 0.93$
	(b)*	$S_1^{II} = -1976 + 0.28\,Y - 0.78\,F_{-1}$	(0.03) (0.38)	$R^2 = 0.95$
(3) 1951–52 to 1959–60	(a)	$S_1^{II} = -553 + 0.16\,Y - 0.02\,F$	(747) (0.06) (0.49)	$R^2 = 0.63$
	(b)	$S_1^{II} = -1262 + 0.22\,Y - 0.70\,F_{-1}$	(665) (0.06) (0.42)	$R^2 = 0.75$
(4) 1960–61 to 1969–70	(a)	$S_1^{II} = -641 + 0.19\,Y - 0.29\,F$	(741) (0.04) (0.57)	$R^2 = 0.81$
	(b)	$S_1^{II} = -862 + 0.21\,Y - 0.49\,F_{-1}$	(626) (0.04) (0.62)	$R^2 = 0.82$

NOTE: Figures in parentheses are standard errors.

* The coefficient on F_{-1} is significantly different from zero at 5 percent level; other coefficients on F_{-1} are not significantly different from zero, in this table.

higher (*not* lower) coefficients on Y than, for comparable periods, in Tables 16–1 and 16–2. In contrast, a different test suggests an opposite inference: i.e., that domestic savings are a function of $(Y + F)$ rather than (Y). Thus, recall that if we write equation (16–2) as follows:

$$C = \beta_0 + \beta_1 (Y + F) \tag{16-2}$$

and

$$S = Y - C$$

we then have:

$$S = -\beta_0 + (1 - \beta_1) Y - \beta_1 F$$

so that we have the relationship that the coefficient on Y is equal to one plus the coefficient on F (or F_{-1}, if we put in lagged response). We can therefore test whether the coefficients on Y are indeed significantly different from one plus the coefficients on F and F_{-1} in Table 16–3. This test indicates that the hypothesis of equation (16–2) is *not* rejected by the data in Table 16–3: thus we cannot rule out *altogether* the possibility that external resources substitute for domestic savings.

On balance, therefore, we would conclude that there is not enough evidence, and at best the evidence conflicts, to say whether the absorption of external resources has adversely affected India's domestic savings effort.

Note also that, in regard to our earlier conclusions in this chapter, the introduction of F or F_{-1} into the estimating equation does not significantly affect the conclusions reached (*via* inter-period analysis) regarding the impact of the severity of exchange control on the savings effort.

Sectoral Impact.

We may next examine the possibility that, even if the overall impact of the external resource inflow on domestic savings is negligible, the impact on certain components thereof may be rather large.

From this viewpoint, it is relevant to distinguish between public and private savings, relating the former to public revenues and the latter to private income alone. Since private income as well as public revenues (to a smaller extent) were in turn correlated with Y, we used Y as the explanatory variable in addition to the external resource flow to reestimate the equations separately for private and government savings. The results are set out in Table 16–4, for the period 1951–52 to 1965–66.

As in the case of total savings, the explanatory power of contemporaneous capital inflow is nil in explaining either public or private savings. The lagged capital inflow, however, has a significant negative coefficient in the case of

TABLE 16–4

Private and Government Savings Regressions, 1951–52 to 1965–66

$S_{1p}^{II} = -1135 + 0.19Y - 0.28F$	$R^2 = 0.91$
(304) (0.03) (0.36)	
$S_{1p}^{II} = -1433 + 0.22Y - 0.77F_{-1}$	$R^2 = 0.94$
(245) (0.02) (0.28)	
$S_{1g}^{II} = -476 + 0.06Y - 0.10F$	$R^2 = 0.84$
(158) (0.01) (0.19)	
$S_{1g}^{II} = -543 + 0.06Y - 0.01F_{-1}$	$R^2 = 0.84$
(160) (0.01) (0.18)	

NOTES: Figures in parentheses are standard errors.

The subscripts p and g denote respectively private and public savings. Refer to the text for explanation of the regressions.

private savings but the marginal propensity to save in the lagged relationship is higher than that in the unlagged one. These results, however, are difficult to interpret, as we would normally have expected the external resource inflow to work primarily through the budget—in view of the larger component of foreign aid—by reducing *public* savings: the significance of the lagged foreign resource inflow in influencing private savings seems to us therefore to be mainly spurious.[5]

Thus we conclude that our analysis contradicts the thesis that incoming foreign resources have seriously interfered with the domestic savings effort. This is probably not surprising since the planning mechanism has, by and large, served to make the domestic tax-and-savings effort keep in step with the aid flow, both because of internal clarity on this objective and external (aid-donor-induced) pressure-cum-ethos in this regard.[6]

RETAINED EARNINGS BY SPECIFIC INDUSTRIES IN THE CORPORATE SECTOR

The manufacturing sector as a whole accounted for less than 14 percent of national income in 1969–70. The contribution of registered factories was around 8 percent. The non-financial private corporate sector which is included in the group of registered factories and is its predominant part is estimated to have contributed about 5 percent of total domestic savings in 1971–72. Thus this sector is not a major source of savings in the Indian economy. However, since the exchange control regime had a major impact on this sector, it may nevertheless be of some interest to see whether the industries favored by the import substitution policies were relatively higher savers.

The Reserve Bank of India publishes financial data relating to large public and private limited companies. The private limited companies account only for about 10 percent of total assets of this group. Since this is a relatively small group, we decided to confine our attention to the public limited companies. A number of alternative relationships between retained earnings (RE) and profits after taxes (PAT) were estimated, of which the following are of interest:

$$RE = \alpha + \beta\,(PAT) + u \qquad (16\text{–}3a)$$

$$\frac{RE}{N} = \alpha + \frac{\beta}{N} + \gamma\left(\frac{PAT}{N}\right) + u \qquad (16\text{–}3b)$$

(N is net worth)

$$\frac{RE}{N} = \alpha + \frac{\beta}{\sqrt{N}} + \gamma\left(\frac{PAT}{\sqrt{N}}\right) + u \qquad (16\text{–}3c)$$

The relationship (16–3a) is straightforward and needs no explanation. The relationship (16–3b) was suggested by the fact that the Reserve Bank publishes only pooled data relating to the companies operating in different sectors of the economy and *not* individual company data. Since the number of companies in each sector has changed over time, it is possible that some heteroscedasticity may be present in equation (16–3a). Equation (16–3b), with $\alpha = 0$, would then correspond to (16–3a) with correction for heteroscedasticity if one assumed that the residual variance in (16–3a) was proportional to the *square* of net worth. Similarly, equation (16–3c), with $\alpha = 0$, would be the correct estimating equation if the residual variance in (16–3a) was proportional to net worth. Note, however, that the coefficient α in the equations estimated was *not* specified to be zero so that the *data* could determine whether it indeed was significantly different from zero. Also, note that a positive (negative) α (in 16–3b or 16–3c) will imply that for any given level of profits after tax, retained earnings will be higher (lower) the larger the net worth.

The regression results relating to 10 industries, for the years 1950–58 and 1960–61 to 1968–69, are given in Table 16–5.

The first four industries in Table 16–5 are, by and large, long-established and "traditional" industries; the first two are also major exporters and none can be considered to have been "helped" by the foreign trade regime. Industries 5 to 10 did certainly "benefit" from such controls, however. If we now look at the results obtained by estimating equation (16–3a), we find that while two out of four "traditional" industries had marginal propensities to save exceeding 0.50, the corresponding figure is four out of six in the case of the remaining industries. The correction for heteroscedasticity [equations (16–3b) or (16–3c)] improves the goodness of fit and equation (16–3c) seems to yield a better fit to a certain extent in almost all cases though, in none of the cases is the increase in R^2 very large.

Confining our attention to estimated equation (16–3c), in Table 16–5, we find that, keeping net worth constant, an increase of a unit in profits after taxes will increase retained earnings by more than 0.75 units in all cases except jute, for which the figure is 0.74. Thus, our analysis suggests that all 10 industries considered were good savers.

In order to examine rigorously, however, whether the "non-traditional" industries are (on the average) better savers than "traditional" industries, we ran a number of statistical tests. These tests were performed as follows. We estimated a common marginal propensity to save [i.e., β of (16–3a), γ of (16–3b) and (16–3c)] for the two *groups* of industries while allowing the other parameters to vary among industries, using an appropriate (slope) dummy variable technique. It turned out that the coefficient of this dummy variable [i.e., a variable that had the value zero for all the observations relat-

TABLE 16–5

Corporate Savings Regressions in Selected Industries

	$RE = \alpha + \beta(PAT)$			$\frac{RE}{N} = \alpha + \frac{\beta}{N} + \gamma\left(\frac{PAT}{N}\right)$				$\frac{RE}{\sqrt{N}} = \alpha + \frac{\beta}{\sqrt{N}} + \gamma\left(\frac{PAT}{\sqrt{N}}\right)$			
	α	β	R^2	α	β	γ	R^2	α	β	γ	R^2
1. Cotton textiles	−707.43	0.77	0.890	−0.05	245.64	0.86	0.997	−14.48	1,227.07	0.85	0.987
	(−7.3)	(11.4)		(−26.7)	(7.4)	(76.2)		(−25.4)	(16.4)	(73.5)	
2. Jute manufactures	−139.77	0.73	0.986	−0.01	−71.27	0.74	0.986	−2.07	−2.38	0.74	0.986
	(−17.85)	(33.15)		−(1.03)	(−1.09)	(29.27)		(−1.08)	(−0.02)	(29.74)	
3. Cement	−73.40	0.48	0.773	−0.06	7.74	0.90	0.957	−7.13	225.27	0.86	0.960
	(−2.12)	(7.37)		(−11.32)	(0.96)	(17.72)		(−10.83)	(8.68)	(18.54)	
4. Electricity generation and supply	−57.29	0.50	0.897	−0.05	−2.16	0.91	0.798	−6.06	183.73	0.94	0.938
	(−3.42)	(11.83)		(−3.34)	(−0.13)	(6.60)		(−5.30)	(4.08)	(10.56)	
5. Aluminum	−16.83	0.59	0.955	−0.05	21.21	0.80	0.924	−4.77	84.40	0.96	0.984
	(−1.64)	(18.40)		(−4.47)	(2.75)	(9.75)		(−7.68)	(6.73)	(18.40)	
6. Iron and steel	−103.73	0.63	0.736	−0.04	−73.50	0.98	0.964	−6.88	238.31	0.94	0.929
	(−0.99)	(6.68)		(−6.83)	(−2.43)	(17.56)		(−6.25)	(3.75)	(13.85)	
7. Transport equipment	−21.93	0.48	0.917	−0.04	31.88	0.79	0.939	−4.87	142.01	0.78	0.969
	(−0.84)	(13.25)		(−5.45)	(5.36)	(12.25)		(−5.93)	(5.78)	(13.74)	
8. Electrical equipment	−29.80	0.57	0.934	−0.02	3.91	0.67	0.853	−4.95	103.28	0.89	0.982
	(−1.48)	(15.13)		(−2.14)	(0.90)	(8.16)		(−7.82)	(7.08)	(18.57)	
9. Other equipment	−96.41	0.65	0.793	−0.03	22.70	0.67	0.874	−4.30	150.98	0.76	0.929
	(−2.45)	(7.81)		(−2.93)	(1.10)	(10.21)		(−5.23)	(3.77)	(13.99)	
10. Basic chemicals	−19.92	0.44	0.868	−0.05	21.21	0.80	0.931	−7.21	196.47	0.93	0.977
	(−0.82)	(10.26)		(−4.46)	(2.75)	(9.76)		(−7.93)	(7.42)	(14.53)	

NOTE: Figures in parentheses are t values. Refer to the text for explanation of the regressions.

ting to "traditional" industries and the value of PAT for (16–3a), PAT/N for (16–3b) and PAT/$\sqrt{N}$ for (16–3c) corresponding to each observation relating to "non-traditional" industries] was negative in each case [i.e., for (16–3a), (16–3b) and (16–3c)], suggesting that "non-traditional" industries on the average had a *lower,* not higher, marginal propensity to save! However, the *t* values of these coefficients turned out to be insignificant so that the average MPS of "non-traditional" industries is *not* significantly different (at 1 percent level) from that of "traditional" industries, except in the case of equation (16–3a).[7]

After comparing the average MPS of the two groups of industries, we also examined whether there is any significant difference between the MPS of industries *within* each group. This is done through an analysis-of-variance test which compares the increase (after dividing by the appropriate degrees of freedom) in the residual sum of squares brought about by estimating a common slope for the group in relation to the sum of the residual sum of squares of the industries in the group when a separate regression is estimated for each industry. It turned out that the MPS of the "non-traditional" industries did not differ significantly (in a statistical sense) regardless of the form of the relationship (16–3a, 16–3b, or 16–c) estimated; the "traditional" industries had, however, significantly different MPS (at 1 percent level) except in the case of equation (16–3a).[8]

We must conclude therefore that it is not possible to argue, on the basis of the available and analyzed evidence, that any systematic differences in the marginal propensity to save can be discerned in different industries, or in "traditional" as against "non-traditional" industries. In fact, the only significant differences within any group of industries that are observed belong to the limited group of "traditional" industries, something that yields no comfort to those who look to the efficacy of the trade regime in raising savings as an offsetting argument against those who convincingly demonstrate its inefficiencies in other respects.

OTHER LINKS WITH SAVINGS

The previous section suggests that, in terms of both the average and the marginal propensity to save, the corporate sector is perhaps the best saver. Hence, if the regime led to "additional" industrialization which, in turn, expanded the *corporate* sector, this could have contributed to greater saving.

In turn, if the result was also an expansion of *urban* incomes, we have the additional evidence, however slight, that urban *households* have a higher marginal propensity to save than rural households. The National Council for Applied Economic Research conducted two household savings surveys, the

first in 1960 covering urban households, and the second in 1962 covering rural households.[9] The Council has also conducted another survey in the early 1970s, the results of which are yet to be published. The earlier surveys, however, showed that the marginal propensity to save (MPS), net of rural households, was 0.168 when savings in the form of currency, consumer durables and livestock were included, and 0.145 if these were excluded. The MPS of urban households was higher, at 0.34, coming down to 0.24 if the top and bottom 10 percent of income groups are excluded on assumption that their incomes are affected by transitory factors, influencing excessively the estimated MPS.[10]

We may finally note that the urban sector is also a better saver, not merely because of the corporate sector and the urban households, but also because the government's tax net is more effective in the urban than in the rural sector (to a point where agricultural income has escaped with virtually no taxation so far). On the other hand, one may also argue that the inability to raise enough savings from the urban sector could well have prompted greater efforts in the direction of agricultural taxation; alternatively, a rapidly growing agricultural sector, as seems now likely in the post-Green-Revolution period, could well have led to a better perception of the need to tax this sector and hence perhaps to greater action in that regard.[11] We also need to note finally that higher savings rates may still imply lower growth rates if the investment needed to sustain unit growth of income increases sufficiently in the process owing to inefficiencies or misallocation of resources. In particular, in relation to the urban expansion, note that such an outcome of the economic policies, even if it leads to an increase in the savings rate, may well require additional investments in high capital-output ratio activities such as housing and related infrastructure in the cities and thus slow down economic growth on that account.

The frequent argument that a QR-regime enables the government to get away with inflation and thereby encourages inflationary policies that combine with low nominal interest rates and declining real interest rates to cause a reduction in savings does not seem relevant to India which, until 1962–63, had experienced only a moderate trend increase in prices. The post-1966 situation in particular has had less price stability, but the period is too short and disturbed in the end by the refugee crisis of 1972 and the emergence of Bangladesh and its associated strains on the Indian economy to make any reasonable evaluation of this hypothesis possible at the time this monograph was written. Needless to say, however, there is *nothing* about a QR-regime which *requires* that real interest rates be kept excessively low.

We may next note the argument that India's development strategy erred in permitting a skewed income distribution which resulted in an unnecessarily import-intensive consumption pattern that increased the foreign exchange con-

straint and reduced the feasible rate of savings and growth.[12] Admittedly, there is a grain of truth in this; but it may well be contended that this argument is a critique of inefficient and unjust income-distribution policies, rather than of the QR-and-industrial-licensing regime. But there *is* a connection. It was really the growth of consumer *industries,* often at a very low economic scale but nevertheless supported by the QR-regime and automatically protected, that enabled the government to claim that luxury imports were down while permitting and encouraging the consumption of similar domestically produced luxury items in the name of industrialization. An economic policy that would have forbidden the indiscriminate growth of such consumer and allied industries domestically would have made the cost of permitting such luxury consumption much more obvious by making it feasible only through importation in many cases. This might well have resulted in greater political pressure to pursue income redistribution more energetically. Of course, a socialist cynic might well argue that the result would have been merely to seek other subterfuges to avoid making the genuine left-wing shift implicit in a redistributive program with a real bite.

Finally, we must note the rents which accrued to those who were given access to the scarce imports carrying large premia through the bulk of the period we have been studying. This implies that an alternative regime, under which these premia had been siphoned off into the tax net, would have been productive of more savings. If we allow for an average premium of 40 percent on imports, and assume an average import bill of Rs. 18 billions (which is the approximate average for the import bill for the first four years of the Third Plan) and assume, in turn, that half of this could have been subject to this premium-siphoning exercise, we would have had an annual tax revenue collection of Rs. 3.5 billions on this account alone, representing nearly 10 percent of the tax revenue in India during 1969–70 of Rs. 39.9 billions. Thus, even if nothing else had been changed in the Indian economic regime, a shift to an exchange rate regime which eliminated this premium, by devaluation or by the use of adjustable tariffs or exchange auctions suitably designed, would have helped generate greater savings.

Needless to say, all the increase in taxation would not have implied a corresponding increase in savings in the economy. While we think that it is reasonable to assume that increased government savings would have more than offset the loss in savings from those deprived of the import premia, we must admit also that the resulting increment in total savings is likely to have been rather small. This is because most of the imports went to the corporate manufacturing sector as the AU import licensing became more important, and the profits of that sector were subject to the 50 percent corporation tax anyway,[13] and, as we have already seen, the corporate sector has a rather large propensity to save out of incremental retained earnings.

In conclusion, we can only say that the linkages between India's trade

regime and her savings performance are many and diverse; they are also difficult to evaluate and quantify with the degree of success that would be necessary to arrive at a reasonably firm conclusion regarding the sign of the *net* impact. It is clear enough, on balance, at the end of our analysis that one *cannot* really justify, on the available and analyzed evidence, any claim that the QR-regime, while it may have led to several static inefficiencies and costs, had at least the saving grace to improve the savings performance and thus lead to higher growth in the long run.

NOTES

1. More can be learned about this subject from C. R. Rao, ed., *Data Base of the Indian Economy* (Calcutta: Statistical Publishing Society, 1972).

2. The statistical results reported in Tables 16–1 through 16–4 have been taken from T. N. Srinivasan, S. D. Tendulkar and A. Vaidyanathan, *A Study of the Aggregate Savings Behaviour of the Indian Economy* (New Delhi: Indian Statistical Institute, 1973).

3. Recall, however, our *caveats* in the preceding discussion about the lack of sufficient data for the post-1966 period to test this hypothesis effectively. Table 16–1 is only a weak way of learning about this issue.

4. Note again that the early half of the 1950s was very comfortable but the last two years of the decade were already characterized by the strict QR-regime, as pointed out in Chapter 2. Note also that if the marginal propensity to save tends to rise with increasing per capita income, its failure to do so in the 1960s may be significant as a possible shortcoming of the QR-regime.

5. In fact, we might as well argue that the resource inflow could have improved investment opportunities—in India, the inflow of private foreign investment leads to the same result since joint ventures are actively promoted by government—and could have led to increased private savings *à la* Hirschman to utilize these opportunities! The only "weak" argument in support of the negative coefficient on F_{-1} is that consumption is a function of available imports which, in turn, reflect foreign aid inflow. This argument would be justified to some extent by PL480 imports.

6. For relevant details on the tax efforts of the Indian government from 1950 to 1966, see Bhagwati and Desai, *India*, pp. 71–73.

7. The t values were:

Form of Equation	*Degrees of Freedom*	t
16–3a	168	−5.23
16–3b	158	−0.84
16–3c	158	−0.19

8. The F values were:

	Traditional		*Non-traditional*	
Form of the Equation	*Degrees of Freedom*	F	*Degrees of Freedom*	F
16–3a	3,64	1.57	5,96	2.18
16–3b	3,60	5.92	5,90	2.26
16–3c	3,60	7.74	5,90	0.32

9. The methodology, the sampling design and the detailed results of these two surveys were published in a series of studies by the government of India, New Delhi: *Urban Income and Saving* appeared in 1962 and the *All India Rural Household Survey* was brought out in three volumes in 1964, 1965 and 1966.

10. The Reserve Bank of India used to publish time series data (discontinued after 1963) on aggregate savings of rural households based on an extrapolation of the benchmark estimates obtained for 1951–52 in its rural credit survey. Since the methodology of extrapolation is subject to criticism (see the chapter by A. Rudra on savings estimates in Rao, *Data Base*), and since data for the years beyond 1962–63 are not available, we do not report the RBI results here. Some fragmentary evidence relating to household savings in some regions of India is also available. See P. G. K. Panikkar, *Rural Savings in India* (Bombay: Somaiya Publications, 1970).

11. At the height of the tax effort in relation to national income in 1965–66, the shares of the public sector and the private corporate sector in net domestic savings were estimated at 22.9 and 4.2 percent. In the preceding year, when there was no drought and therefore no need to subsidize food primarily, these shares were 29.3 and 5.2 percent. See *Fourth Plan Mid-Term Appraisal,* Vol. I, 1971, Government of India, Planning Commission, New Delhi.

12. *The Approach to the Fifth Five Year Plan,* Government of India, Planning Commission, New Delhi, claims to demonstrate this point by contrasting the results of a planning-model exercise with two different consumption vectors, one in which income is redistributed to the bottom 30 percent and one in which it is not. The emerging plan, therefore, is likely to opt for the former course on grounds of *both* growth and redistributive justice. We should note, however, that the alleged contrast between the two variants depends on assumptions about feasible growth rates in agriculture. In case of feasibility constraints on agricultural growth, the redistribution variant could well require the importation of so much food as to reverse the growth ranking of the two variants!

13. However, note also that whenever these premia were "cashed" in the market by *illegal* transactions, they escaped the tax net. In contributing to the large amount of "black" money in circulation, the exchange control regime, which made the transfer of AU licenses illegal but not infrequent, was itself a major force in making the tax effort of the Indian fiscal authorities less effective than it might have been.