Corporate saving in India, as in other developing nations, plays a minor role. Whereas in developed countries the corporate sector contributes significantly to national savings. Private corporate business sector consists of non-government, non-financial public and private limited companies and non-government financial companies excluding banking, insurance and chit fund companies. The companies with unlimited liability and those with limited by guarantee are not covered by this sector. In this chapter present some methodological issues involved in preparing the saving estimates of private corporate sector and its determinants.

The RBI studies on company finances covering companies with liability limited by shares constitute the primary data. Source for preparation of estimates of income, expenditure, saving, investment, lending and borrowing to the private corporate business sector. The studies on non-government, non-financial public limited and private limited companies and private financial and investment companies, thus form the basis for building up the saving estimates. However, companies engaged in the activities of insurance, banking and all services like community, business laundry personal and other services are excluded from the purview of RBI studies.
Saving is derived as balancing entry in income and expenditure account of the corporate enterprises. Income consists of production and other income including non-operating surplus. Expenditure comprises intermediate consumption expenditure, wages and salaries (including bonus, provident fund and other welfare expenses), interest and provisions for taxes, depreciation and dividends. The difference between income and expenditure (including provisions) is shown as profits retained. The retained profit, however, includes non-operating surplus/deficit. Non-operating surplus/deficit arises on account of (i) sales of fixed assets and financial investment, (ii) revaluation / devaluation of foreign currencies, (iii) provisions written back which are no longer required, (iv) insurance claims realised, (v) income or expenditure relating to the previous years and such other items of non-current nature. In order to avoid capital gain (losses) saving is measured net of non-operating surplus or deficit.

The provisions made by companies for taxation, dividend, bad and doubtful debts, etc. are treated as items of expenditure. These provisions are earmarked to meet certain specified expenditure. In some years, provisions made by exceed the needs. In certain years they may be found to be inadequate. The excess provisions are accounted as non-operating surplus in subsequent years. Non-operating surplus / deficit and provisions made in excess of the requirements
many have to be considered for assessing the resources available with the companies. Such flows are treated as current transfers and as such they are excluded from the measures of saving. They, therefore, stand on a different footing.

RBI studies are based on certain selected companies. The coverage of these studies is adjusted in terms of paid-up capital (PUC) to derive the estimates for the entire private corporate business sector. This procedure of 'blowing up' is adopted in the absence of any other suitable criterion. In the past, the global level data used to be available on PUC only. In recent years, the Department of Company Affairs started collecting data on items like reserves, total assets, incomes, etc. besides PUC for their quinquennial census studies. The information on these items is published in their Directory of Joint Stock Companies. It is found that the data on PUC are relatively more reliable. Moreover, the data for other items are not available for inrecessal years. It may, however, be argued that PUC may not be an appropriate parameter for arriving at population estimates of various items from the sample figures. But the problem has eluded solution. For this reason, the blowing-up factors are worked out on the basis of PUC of all companies and PUC of the companies selected for the RBI studies. The global estimates are derived separately for non-government public and private limited companies and private financial and investment
companies based on the RBI studies. Some of the exercises carried out earlier suggest that PUC is reasonably correlated with balance sheet items. Such an association could not be established with saving. As per the study on finance of 1867 public limited companies, the retained profit of 1305 profit-making companies was reported as Rs. 1219 crores. While it was substantially low at Rs. 66.3 crores for all 1867 companies in 1985-86. It may thus be that retained profit declines even when PUC increases. These figures might suggest that the blowing-up procedure may not strictly be applicable to derive surplus of all public limited companies. At the same time, there are many profit-making loss incurring companies which are not covered by the study, for which some adjustment for under coverage is required to be made.

In the case of public limited companies the coverage in terms of PUC is reasonably high and consequently the multiplier is low. It is not, however, the case with private limited companies. The study on private limited companies covers about 1050 companies only out of more than a lakh of such companies. As the coverage of the study is quite low in terms of paid-up capital, the blowing-up factor is high. It may, however, be stated that the surplus of all the private limited companies selected for the study may not exceed Rs. 50 crores. It may thus indicate that although the private limited companies are substantially large in number the variations in the multiplier may not significantly influence the total saving of the entire sector.
RBI annual studies cover operating companies. Non-operating companies comprise companies in the formative stage and others companies in the formative stage are those in the process of construction of a factory, erecting, plant and machinery or having completed the capital works have not started commercial production at the end of the reference year. Such of these companies generally publish balance sheet account only. In case these companies prepare income and expenditure account, the entire expenditure gets capitalised and transferred to the respective balance sheet heads once these companies commence their business activity. For working out the blowing-up factors the PUC of these companies are included in the total PUC of all companies RBI studies generally present data for three years. The details for any particular year may, therefore, be available from more than one study. As the composition of the companies including in different studies may yield different sets of estimates. The firm figures on paid-up-capital are made available by the Department of Company Affairs (DCA) based on their census study carried out once in five years. The provisional figures of PUC for intercensal years are worked out by DCA on the basis of details of registrations of new companies, liquidation, amalgamations and mergers of companies during different years. These provisional figures are revised according to the census study such revisions are found to be substantial in one of the recent years. Consequently the saving estimates also underwent sharp upward revisions.
Companies do not follow a uniform accounting year, their accounting dates being spread throughout the year from January to December. The accounts closed during any given period represent financial results of the working during different 12-months periods. For purposes of RBI studies, the reference year is April to March. That is, the results presented for 1987-88 relate to the combined data in respect of accounts of companies closing their accounts at any time during April 1987 to March 1988. It is expected that all companies may adopt a uniform accounting year of April to March commencing 1988-89.

Companies are governed generally by legal provisions in presenting accounts in their annual reports. But some of the companies may adopt certain modified practices to meet their accounting needs for example, some companies revalue their assets and some capitalise the interest on funds borrowed for investment purpose. In case of any restrictions imposed on such practices, the companies revert to the earlier practices and adjust their current accounts accordingly with representative effect. While making adjustments in balance sheet aggregates in all such cases, the flows are routed through income and expenditure accounts affecting the levels of retained profit. The RBI studies make certain adjustments based on available details so as to make the income and expenditure flows pertain to current provision activity. The available details may not, however, be adequate to effect
appropriate modifications in some cases. In the case of amalgamations of companies, the details for the pre-amalgamation period are collected to construct the combined account of amalgamated units eliminating inter-unit transactions to the extent possible. In case the closing dates of such accounts differ profit and loss account is adjusted while combining the accounts of amalgamated companies. Some companies follow written-down-value method (WDV) and some others the straight-line (SL) method in making provision for depreciation on their fixed assets. Companies following WDV method may provide extra shift allowance while companies adopting SL method may not provide depreciation on the assets used in second and third shifts of production operations. Many companies in the recent years have started changing their methods. These changes may sometimes lead to shifts in depreciation provision and thus effect estimates of gross saving.

The depreciation accounting is hitherto governed by fiscal regulations. As per the latest amendment to the companies Act, the method of depreciation accounting in the books is delinked from the existing practice. The amendment to the companies Act prescribed a separate set of depreciation rates. The CSO has adopted economic criterion of providing depreciation on fixed capital in its recent white book on National Accounts statistics which is different from accounting practices. It may, however, be stated that it is
difficult to derive the current market value of fixed assets of companies based on which the depreciation provision is worked out. The value of fixed assets presented in the book of accounts is neither at original value nor at current values as companies revalue their fixed assets partly or fully at frequent intervals. In case the book values are revalued under the assumption that they are at acquisition costs, there is a possibility for revaluing the fixed assets which have already been revalued. This may lead to over-estimation of depreciation provision for the year. Revaluation of fixed assets including those due to have to be taken into account for preparing depreciation estimate in National Accounts Statistics at current prices.

The Recent RBI Studies do not cover branches of foreign companies as the number of such branches eligible for the studies showed a sharp decline over the years. It is, however, necessary to measure the 'retained net income of branches. The 'retained net income' is defined as post-tax profit net of proprietors withdrawals. The branches are those companies which are incorporated outside India. In case these branches are treated as a part of our private corporate business sector, their retained net income has to be shown as our liability to Rest of the world sector. In the case of foreign controlled rupee (FCR) companies they are incorporated in India and their retained profit is net saving of these companies. RBI studies on public and private limited
companies cover FCR companies. The studies on FCR companies are separately made to assess their financial performance by country of controlling interest.

Most of above limitations will get gradually ignored out with the improvement in the coverage of RBI studies adoption of uniform accounting year, standardization of accounting practices and possible efforts initiated by DCA in streamlining, the system of collection of PUC data to result in reduction in the magnitude of revisions. It is hoped to effect considerable improvement in the saving estimates of this sector once the above measures are implemented.

Private corporate savings performance are poor in India. Over the years this sector has shown a downward trend, although the entire period has been marked by ups and downs corporate savings were as high as 15.10 percent in 1951-52, only to dip to 7.40 percent in 1952-53. These once again increased to 15.00 percent in 1961-62, and again to fall back to 8.80 percent in 1969-70. This share recovered again. Private corporate savings were 11.50 percent of total saving in 1974-75, but dipped to 6 percent in 1976-77, 8.7 percent in 1985-86, 8.5 percent in 1987-88 and 8.65 percent 1988-89. Thus the performance of corporate sector has been disappointing.
PRIVATE SAVING RATIO:

It is more meaningful to explain private saving rate. There is not even a notional peak in either the gross or net private saving ratio. A plot of saving rate suggests that this rate may have plateaued out around 1977-78 or 1978-79 (Figure 1).

This visual observation needs however to be confirmed statistically. This is done by running a series of regressions some of which are reported in table -29 and their regression some of which are reported in table-29. the regression shows that there is no trend in the private saving ratio over the period 1978-79 to 1984-85. Comparing the first and second regression we can see that the second has a slightly higher R.-squared (adjusted) than the first. Thus, there is some evidence of plateauing in the private saving ratio. Comparison of the second and fourth regression shows that the break occurs after 1977-78 rather than after 1978-79. A firmer conclusion of this phenomenon would have been possible if the National Accounts series had remained unchanged.
Figure 1: Gross and Net Private Saving Ratios.
### TABLE - 29

**PRIVATE SAVING RATIO**

<table>
<thead>
<tr>
<th>Equation</th>
<th>Coefficients</th>
<th>T-statistics</th>
<th>Adjusted R-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{SPGD}_t = -9.7 + 0.005 \text{YEAR}$, $\text{DW} = 1.67$, $R^2 \text{(Adj.)} = 0.008$</td>
<td>(-15)</td>
<td>(15.4)</td>
<td></td>
</tr>
<tr>
<td>$\text{SPGD}_t = -9.7 + 9.7 \text{D78}_t + 0.0048 \text{Y77}_t - 0.0001 \text{Y78}_t$</td>
<td>(-9.9)</td>
<td>(2.4)</td>
<td>(10.1)</td>
</tr>
<tr>
<td>$\text{DW} = 2.06$, $R^2 \text{(Adj.)} = 0.929$.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\text{SPGD}_t = -9.2 + 9.5 \text{D78}_t + 0.0048 \text{Y77}_t$</td>
<td>(-10)</td>
<td>(10.5)</td>
<td>(10.3)</td>
</tr>
<tr>
<td>$\text{DW} = 2.06$, $R^2 \text{(Adj.)} = 0.929$.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\text{SPGD}_t = -10.2 + 10.45 \text{D79}_t + 0.005 \text{Y78}_t$</td>
<td>(-10.7)</td>
<td>(10.9)</td>
<td>(10.9)</td>
</tr>
<tr>
<td>$\text{DW} = 1.9$, $R^2 \text{(Adj.)} = 0.91$.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** (a) Numbers in brackets are t statistics. (b) $\text{D78}$ or $\text{D79}$ is a dummy variable which is 1 in all years starting at $t$, zero in all previous years. $\text{Y77}$ ($\text{Y78}$) is equal to the year in year $t$ and all preceding (succeeding) years, and 0 in all years after (before) $t$.

**PRIVATE NEW SERIES:**

A new series for the period 1980-81 and 1985-87 are too short to enable any definite conclusions about the current positions. Given that the available data points in the new series are only 7, no trend can be statistically confirmed. A small positive but statistically insignificant trend is observed for the available data: the private saving ratio has been risen from about 0.18 during 1981-82 to 0.21 in the next two years.
Though the ratios examined above are commonly used because of their relatively easy availability one must be beyond them if an explanation of saving performance is to be attempted. The private saving rate can be defined as the ratio of net private saving to net private disposable income. Net private saving obtained by adding retained earning of domestic corporations to net household saving. Net private disposable income is obtained by adding the same retained earnings to personal disposable income. The net private saving rate explained in the table - 30. The net private saving rate as defined here is found to have virtually the same trend as that observed for the ratio considered earlier in equation one.

**TABLE - 30**

**NET PRIVATE SAVING RATE**

\[
SNPYPD = -10.3 + 10.5 D78P + 0.0053 Y77M
\]

\[
\begin{align*}
&(9.5) & (9.6) & (9.6) \\
DM &= 2.10, R^2 (Adj.) = 0.91
\end{align*}
\]

\[
SNPYPD = 0.318 - 1108/YPD - 0.357 GDP ag/GDP
\]

\[
\begin{align*}
&(4.06) & (-2.54) & (-1.78) \\
DM &= 2.16, R^2 (Adj.) = 0.84
\end{align*}
\]

\[
SNPYPD = 0.177 - 1770/YPD + 0.293 RETP/YPD
\]

\[
\begin{align*}
&(3.80) & (-4.26) & (0.05) \\
DM &= 2.08; R^2 (Adj.) = 0.81
\end{align*}
\]

**Note:** Y77M(D78P) is equal to year (zero) from 1960-61 to 1977-78 and zero (one) thereafter. RETP=retained earnings of private corporations.
We also tested to see whether corporate retained earnings are treated differently from household income by private savers. The ratio of retained earnings to private disposable income was introduced into the basic equation. The coefficient on this term is insignificant (third equation of table - 30), indicating that there is no statistical difference between general MPS and the MPS out of corporate income. This is consistent with our decision to look at private saving as a whole, rather than at household and corporate savings separately. Nevertheless, when equity markets are imperfect, a case can be made examining corporate savings separately. A thorough analysis requires modelling of dividend and investment policy of corporations. But, in these study it is difficult to analysed and only the basic factual position regarding corporate saving is examined.

We look first at the conventional corporate saving ratio obtained by dividing net private corporate saving by net national product at market price (SNCNPri). There is considerable amount of fluctuation in this ratio over the period 1960-61 to 1984-85 in table - 31.
### TABLE - 31

**CORPORATE SAVINGS, VALUE-ADDED AND PROFITS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Saving/NNP (SNCPSPM)</th>
<th>VA/NDP (YPONDP)</th>
<th>Save/Profit (SNCPSPRO)</th>
<th>Profit/NNP (PRONPSPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>0.80</td>
<td>14.02</td>
<td>14.89</td>
<td>5.38</td>
</tr>
<tr>
<td>1961</td>
<td>0.88</td>
<td>14.26</td>
<td>15.82</td>
<td>5.54</td>
</tr>
<tr>
<td>1962</td>
<td>0.87</td>
<td>14.75</td>
<td>15.74</td>
<td>5.70</td>
</tr>
<tr>
<td>1963</td>
<td>0.81</td>
<td>14.78</td>
<td>14.51</td>
<td>5.69</td>
</tr>
<tr>
<td>1964</td>
<td>0.49</td>
<td>14.01</td>
<td>0.91</td>
<td>5.32</td>
</tr>
<tr>
<td>1965</td>
<td>0.44</td>
<td>14.67</td>
<td>0.85</td>
<td>5.21</td>
</tr>
<tr>
<td>1966</td>
<td>0.44</td>
<td>13.66</td>
<td>0.95</td>
<td>4.61</td>
</tr>
<tr>
<td>1967</td>
<td>0.25</td>
<td>12.05</td>
<td>0.71</td>
<td>3.49</td>
</tr>
<tr>
<td>1968</td>
<td>0.27</td>
<td>12.51</td>
<td>0.79</td>
<td>3.35</td>
</tr>
<tr>
<td>1969</td>
<td>0.43</td>
<td>12.81</td>
<td>10.66</td>
<td>3.99</td>
</tr>
<tr>
<td>1970</td>
<td>0.59</td>
<td>11.85</td>
<td>19.06</td>
<td>5.10</td>
</tr>
<tr>
<td>1971</td>
<td>0.70</td>
<td>12.63</td>
<td>20.59</td>
<td>3.43</td>
</tr>
<tr>
<td>1972</td>
<td>0.56</td>
<td>12.26</td>
<td>19.80</td>
<td>2.83</td>
</tr>
<tr>
<td>1973</td>
<td>0.87</td>
<td>11.07</td>
<td>28.91</td>
<td>2.99</td>
</tr>
<tr>
<td>1974</td>
<td>1.17</td>
<td>11.17</td>
<td>34.98</td>
<td>3.55</td>
</tr>
<tr>
<td>1975</td>
<td>0.50</td>
<td>11.01</td>
<td>19.52</td>
<td>2.54</td>
</tr>
<tr>
<td>1976</td>
<td>0.39</td>
<td>11.89</td>
<td>13.51</td>
<td>2.92</td>
</tr>
<tr>
<td>1977</td>
<td>0.50</td>
<td>11.53</td>
<td>19.17</td>
<td>2.63</td>
</tr>
<tr>
<td>1978</td>
<td>0.62</td>
<td>11.99</td>
<td>22.51</td>
<td>2.74</td>
</tr>
<tr>
<td>1979</td>
<td>1.14</td>
<td>12.16</td>
<td>38.54</td>
<td>2.96</td>
</tr>
<tr>
<td>1980</td>
<td>1.05</td>
<td>11.34</td>
<td>39.62</td>
<td>2.61</td>
</tr>
<tr>
<td>1981</td>
<td>0.78</td>
<td>11.62</td>
<td>25.73</td>
<td>3.05</td>
</tr>
<tr>
<td>1982</td>
<td>0.71</td>
<td>12.15</td>
<td>25.60</td>
<td>2.77</td>
</tr>
<tr>
<td>1983</td>
<td>0.56</td>
<td>11.77</td>
<td>25.67</td>
<td>2.37</td>
</tr>
<tr>
<td>1984</td>
<td>0.65</td>
<td>11.76</td>
<td>25.38</td>
<td>2.49</td>
</tr>
</tbody>
</table>
The low point was 0.25 percent in 1967-68, while the high point was 1.17 percent in 1974-75. The latter was almost reached again in 1979-80 1.13 percent. There is however no clear trend in this ratio over this period with the time trend variable being statistically insignificant in table-32.

**TABLE - 32**

**CORPORATE SAVING TRENDS**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SNCNPM</td>
<td>$-0.15 + 0.00008$ YEAR,</td>
<td>AR = 0.54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.57)</td>
<td>(0.59)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(2.98)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DM = 1.66, $R^2$ (Adj.) = 0.26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RYPOND</td>
<td>$2.80 - 0.001$ YEAR,</td>
<td>AR = 0.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.78)</td>
<td>(-2.65)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(3.22)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DM = 1.49, $R^2$ (Adj.) = 0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RYPOND</td>
<td>$5.72 - 5.60$ D75P - $0.003$ Y74M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(8.8)</td>
<td>(-8.62)</td>
<td>(-8.80)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DW = 2.01, $R^2$ (Adj.) = 0.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SNCPRD</td>
<td>$-17.8 + 0.009$ YEAR,</td>
<td>AR = 0.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.39)</td>
<td>(2.41)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DW = 1.51, $R^2$ (Adj.) = 0.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There is an impression that the size of the corporate sector has been expanding. If this true, the fact that the corporate saving ratio has not been rising may be of concern. It is therefore necessary to look at the ratio of private corporate value added to total value added. There is a practical problem in obtaining a series for private corporate income. The NAS gives data for the sector income originating in the private organised sector. We assume that this approximates value added in the private corporate sector. The ratio of organised private sector in value added to NDF YPOND/P is given in table - 31. This has been fluctuated between 12 percent and 15 percent over the period 1960-61 to 1984-85, with a statistically significant negative time trend over the period as a whole. A closer look at the series suggests that negative time trend prevailed till about the mid-seventies statistical analysis confirms that the decline took place till 1975 and that the ratio stabilised thereafter. Thus the facts are the opposite of the impression that the private corporate sector is responsible for an increasing share of economic activity. One possible reason for the confusion is that the size of the total organised sector has been increasing because of the rapid growth of the public corporate sector.

From the behavioural perspective we should also look at the rate of corporate saving out of profit accruing to this
sector. The profits and dividends accruing to the organised private sector is assumed to approximate the net of depreciation income of the private corporate sector. Given these assumptions we can construct a series for the corporate saving rate (SNCPR0). The most important characteristic of this series is the extremely wide fluctuations to which it is subject ranging in value from 7 percent to 40 percent (table-51). A statistically significant positive trend of 0.09 per year is found in this ratio over the period 1950-61 to 1984-85 (fourth equation of table - 52). As the ratio of saving to NNP is stationary over the period, the ratio of profits to NNP must be declining over time. This is consistent with the decline in the ratio of private organised value added to NNP.

In Indian Economy private corporate saving, declining over a period of time. While there, is increase in rate of investment was made possible in the western economies because of an almost proportionate rise in saving rate. Savings therefore, have been subject to extensive inquiry. Surprisingly, however, the majority of these enquiries are devoted to personal savings and corporate savings received rather limited attention with a few exceptions, time series studies capable of throwing light on the dynamic behaviour of this source of finance are practically non-existent in India.

Even few studies that have dealt with this aspect have not arrived at uniform inferences. While one infers that
variations in savings can be explained by an understanding of the behaviour of current profits and lagged dividend payment, other argue that some additional forces also have to examined (1,2,3,4,5,6). Thus there is a timely need to make fresh probe into corporate savings behaviour. If adequate attention is paid to get over the data limitations of earlier studies this probe may prove useful in establishing operational superiority of one over the others. This chapter, also makes an attempt towards that end.

The following notations are adopted for the variables used in the theoretical and empirical analysis of the study.

\[\begin{align*}
\text{APP}_t & = \text{Accounts payable at the end of year}_t. \\
\text{ARR}_t & = \text{Accounts receivable at end of year}_t. \\
\text{CBB}_t & = \text{Stock of cash and bank balances at the end of year}_t. \\
\text{BDEP}_t & = \text{Depreciation provision in year}_t. \\
\text{DIV}_t & = \text{Dividends distributed in year}_t. \\
\text{DIV}_t^* & = \text{Desired level of dividend payments for year}_t. \\
\text{DUM}_t & = \text{Dummy variable representing the sample period (} 1,2,3,4\text{)}. \\
\text{GFA}_t & = \text{Stock of gross fixed assets at trend of year}_t. \\
\text{GIN}_t & = \text{Stock of inventories at the end of year}_t. \\
\text{GIF}_t & = \text{Stock of plant and machinery assets at the end of year}_t. \\
\text{GSS}_t & = \text{Stock of government and semi-government securities at the end of year}_t.
\end{align*}\]
\[ \text{PA}_t \] = Net profits after tax earned in year \(_t\).

\[ \text{PAT}_* \] = Assumed permanent level of profits after tax for year \(_t\).

\[ \text{RET}_t \] = Profits retained (saved) in year \(_t\).

\[ \text{IPM}_t \] = GIS\(_t\) - GIS\(_{t-1}\)

\[ \text{IFA}_t \] = GFA\(_t\) - GFA\(_{t-1}\)

\[ \text{INV}_t \] = GIN\(_t\) - GIN\(_{t-1}\)

\[ \text{LIQ}^{1}_t \] = CBB\(_t\) + GGS\(_t\)

\[ \text{LIQ}^{2}_t \] = CBB\(_t\) + GSS\(_t\) + GIN\(_t\) + ARR\(_t\)

\[ \text{LIQ}^{3}_t \] = CBB\(_t\) + GSS\(_t\) + GIN\(_t\) + ARR\(_t\) - APP\(_t\)

By definition, corporate savings will be equal to net profits less dividend payments. Therefore, an investigation aimed at an explanation of either one of the two components of net profits can be considered. Therefore, an investigation aimed at an explanation of either one of the two components of net profits can be considered as adequate for the purpose of drawing inferences regarding the remainder. The issue, however, is which one of the two—savings or dividends—is to be recognised as the primary decisive force. On this, the general consensus is that dividends constitute the primary decision, and saving follow as a residual factor. The main support for this view can be traced in the writings of Liminer. From field interviews and analyses of balance sheets, he inferred that most of the corporations are conservative and decide to pay out a fixed proportion (target
pay out ratio) of their profits as dividends. Further, because of their preference to maintain some degree of stability in dividend payments whenever profits change the firms adjust dividends only by a fraction of the amount indicated by the target pay out rate. Lintner's hypothesis can mathematically be expressed as,

\[ D_V t - D_V \_t - l - c (D_V^* t - D_V t - l) + m + u_t \ldots (1) \]

Where c, m and u represent the speed of adjustment, the intercept and random error term respectively.

The constant term is included to reflect the asymmetry between reaction of dividends to falling earnings (and thus a negative difference between the current target dividends and the actual dividend in the last period) and the reaction to raising earnings. The measurement of DIV* according to Lintner, is given by the application of the firms desired pay out ratio (say r) to the level of current earnings measured in terms, of profits net of taxes and depreciation (PAT) that is

\[ D_V^* t - r PAT_t \ldots (2) \]

The substitution of (2) and (1) and transfer of DIV t-1 to the right side gives the final dividend equation as:

\[ D_V t = a_0 + a_1 PAT_t + a_2 DIV t-1 + u_t \ldots (3) \]
As has been pointed out by Lintner, the presence of the intercept \((m)\) in (1) runs at variance with the drift of Lintner's basic target pay out hypothesis. But, the rational that has prompted Lintner to include it is the belief that corporations always try to prevent dividends from declining altogether to zero in periods of temporary adversity. This suggests that inclusion of intercept can be justified if there exists a possibility of the net profits of the current profits falling short of dividend payments made in the preceding period. Underlying, however, is the assumption of the existence of reserves subject to infrequent activation: they would be activated only in periods when current profits do not prove adequate enough to meet current dividend obligations. Their infrequent activity makes it inappropriate to consider them as a separate explanatory force. Instead the intercept if present in the model, can be identified as indicative of the managerial motivation to draw on reserves in case of need. Also in macro setting (wherein profit-making and loss-making corporations would be mixed together) inclusion of intercept can be rationalised on the ground that the latter in general would found to maintain dividends even in the event of disappointing profits.

Lintner's hypothesis can be identified as an analogue of strong version permanent income hypothesis pursued by Friedman in context of consumption analysis. This has made
some of the subsequent writers suspicious of bias properly in respect of the OLS estimate of the coefficient representing the influence of net profits. It is argued that the estimate will be biased due to the non-admission of transitory elements. However, theoretically speaking, there is no a priori basis to expect any definitive sign to the bias. In addition, it is observed that such bias, if it exists will be of a small order and would lie within the normal confidence limits of the least square estimation.

The bias is presumed to creep in mainly because of the implicit assumption of the hypothesis that transitory dividends besides being completely uncorrelated with the transitory profits, would be independent of permanent dividends. Though the division of measured earnings into permanent and transitory components seems useful and justifiable, the assumption that the transitory component of earnings will not have any effect, whatsoever on current dividend payments, has to be recognised as too strong an assumption. Alternatively it can be postulated that the influences of both the transitory and permanent need to be reckoned with, although the influence of the former may be expected to be relatively small. Taking $\text{PAT}^*$ as representing the permanent part of measured earnings, the dividend equation can be written as

$$\text{DIV}_t = m_0 + a_1 \text{PAT}_{t^*} + a_2 (\text{PAT} - \text{PAT}_{t^*}) + u_t \quad \text{(4)}$$
Under this format, it may then be tested whether \( a_2 \) differ significantly from zero or not. In case it does not it may be inferred that the suggested modification is not necessary. On the other hand, if it is of a significant order, it may be examined whether it differs significantly from the estimate of \( a_1 \).

The other way of examining the appropriateness of the permanent income theory is to replace PAT with \( \text{PAT}^* \) (representing long run profits) in the formulation of \( \text{DIV}_t^* \). For simplicity, \( \text{PAT}^* \) can be measured as a weighted sum of current and lagged profits that is:

\[
\text{PAT}^*_t = W_1 \text{PAT}_t + W_2 \text{PAT}_{t-1} \quad \text{........ (5)}
\]

This, is suit the formulation permanent income theory can be recast as:

\[
\text{PAT}^*_t = (W_1 + W_2) \text{PAT}_t - W_2 (\text{PAT}_t - \text{PAT}_{t-1}) \quad \text{........ (6)}
\]

Substitution of this in (1) gives the dividend equation as:

\[
\text{DIV}_t - g_0 + g_1 \text{PAT}_t + g_2 (\text{PAT}_t - \text{PAT}_{t-1}) + g_3 \text{DIV}_{t-1} + \eta_t \quad \text{........ (7)}
\]

where \( g_1 = m \); \( g_1 = e (W_1 + W_2); \) \( g_2 = e W_1 \)

and \( g_3 = (1 - e) \)

This formulation presumes a negative sign for the estimate.
According to Lintner, earnings are to be measured in terms of profits, net of taxes and depreciation. The appropriateness of this measurement has been subjected to some criticism. On this, observing that liberalised depreciation and tax laws may artificially reduce the size of PAT, Brittain\(^8\) identifies that dividend behaviour may be better explained through the use of a variable which takes note of an explicit inclusion of the depreciation factor.

As noted earlier, Lintner's argument rests on the core assumption that by nature of corporations, being conservative are guided by static financial policies. To quote Lintner

"the net effect of other factors, in so far not systematically reflected by current profits and lagged dividends is assumed as small and random". In recent years, this contention too has been questioned. It is opined that factors such as investment and growth too have to be considered as potential constraints on dividend decision. The inclusion of investment is argued on the basis of the usual financial lore, which consider rights or not that retained earnings are cheaper when compared to other forms of investment finances. This in the context of the present day of imperfections in capital markets makes investment requirement compete with dividend payments.

Emphasising that growth in sales or output may give an indication of the firm's need for financial resources for fixed investment, working capital etc. Darling\(^9\) favours of inclusions of changes in sales as another separate variable.
It is expected that, other things being equal, a firm experiencing faster growth may try to pay less in the form of dividends. In addition to investment and growth liquidity may be identified as another determinant of dividend decision. The rationale for this is that like an individual a firm too will have a number of reasons for preferring maintenance of a certain level of point of time; the more secure the firm’s liquidity position the more it can afford to distribute.

Given the absence of sufficient prior information regarding the operational superiority of these alternative hypotheses. This study maintains that choice among different hypotheses can be attempted in terms of ex post facto evidence. In this examination equal importance has been given to the three basic summary statistics viz the coefficient of determination, the standard error of the overall fit and measure of serial correlation.

This study confines itself to the analysis of the aggregate manufacturing sector. The data are taken from the RBI sample studies on finances of Indian Joint-stock companies. One of the difficulties in the use of this data is that the series as such are not comparable on a time scale. This arises because the RBI revised the sample size quinquennally one procedure to obtain comparable data is to blow up individual sample figures by population paid up capital. This is the generally preferred procedure. The
procedure however, has certain inherent limitations apart
from the time lag involved in getting population paid up
capital. It implicitly assumes that paid up capital would
be linearly related with all items of the balance sheet and
profit and loss accounts. An alternative to this method is to
use dummy variables to represent different series in
statistical estimation. Though this method is susceptible to
the introduction of the problem of unequal variances it would
not distort the basic data itself and has been chosen for the
purpose of the present analysis.

The results indicate that the most important
determinant of corporate saving is corporate income. In
addition saving are positively related to investment demand
and liquidity position. Coefficients relating to these two
factors have the predicted signs and are statistically
significant. However, in comparison to income these variables
appear to have a relatively lesser impact. The results also
indicate that the Lintner hypothesis, the permanent income
hypothesis, and the Nerlovian rigidity model which in their
basic terms lead to the same behavioural relationship are
able to explain observed behaviour better than the weaker
version of the permanent income hypothesis.

The high dependance of savings on net income indicates
that tax policy does exert a significant influence on
financing decisions. Given the tendency to follow a target
pay out policy and non-shiftable nature of the corporate tax burden, a policy aimed at reducing corporate tax rate may help in boosting corporate investments. Further, the observed positive relationship between investment and savings indicates that investment stimulating policies need not be coupled with policies aimed at increasing planned savings. Indeed, they may prove overlapping.
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