BOOK REVIEW

Capital Formation and Its Financing in India by Ram N. Lal, Delhi School of Economics, Monograph in Economics No. 3, Bombay, Allied Publishers, 1977, xxii + 274 pp.

Capital formation is one of strategic variables in economic analysis as well as in economic planning. It is pleasing to find out that Dr. Ram N. Lal has given such a great effort to measuring capital formation and its financing in India and has made his contribution available in the book under review. The research work was firstly conducted as his Ph.D. thesis (the University of Delhi, 1974). As a member of the Working Group on Saving and Capital Formation in the Central Statistical Organization (CSO) the author developed the methodology and prepared the new official estimates of gross and net capital formation in India (*Estimates of Capital Formation in India, 1960–61 to 1965–66,* 1969). Using the national accounting framework he has attempted, with a considerable success, (1) to extend the series of Indian capital formation up to 1950–51 from 1959–60 under the identical concept and methodology adopted by the CSO's new series of capital formation for the years 1960–61 to 1972–73 (Chapters 4 and 5), (2) to break-up the aggregate capital formation series (a) by institutional sectors (Chapter 6), (b) by type of services (Chapter 7), (c) by type of assets (Chapter 8) and (d) by States (Chapter 9), and (3) to prepare a new series of estimates of saving and net capital inflow from abroad in order to make a cross-check between capital formation and saving (Chapter 10).

More comprehensive knowledge on the Indian economy in a historical perspective is now enriched through his attempts which require an enormous amount of painstaking work. As the author himself mentions several times (p. xv and Chapter 12), there is no end for such a research work as this in which the results are subject to errors due to many limitations.

The book consists of twelve chapters. The economic meaning and scope of capital formation and capital consumption are examined in the first two chapters basing on the new System of National Accounts (SNA) of the United Nations in 1968. On valuation problem the "backward looking" or "cost" principle is adopted due mainly to practical reasons. The treatment of government expenditure on machinery and equipment for defence as consumption is the same as in the SNA, which causes an obvious bias if there is a considerable shift of old assets from the defence sector to other sectors (Chapter 1). For the measurement of capital consumption the author's notion on obsolescence is worth special attention (pp. 31–32). In developing countries like Indonesia I have seen many old assets like harbor cranes and paper-mill machines of more than sixty years old and the situation could be identical in prewar Japan. In order to make the measurement of capital consumption more meaningful, information on the age distribution of discarded assets by industries, by type of services and by type of assets should be compiled in a national economy scale for different time periods.

TABLE I
DIFFERENT ESTIMATES OF NET DOMESTIC CAPITAL FORMATION IN INDIA
FOR SELECTED YEARS: LEVEL AND GROWTH RATE

(at current prices in Rs. crores and %)

Year	RBI (1)	NCAER (2)	CSO (3)	T.K.K. (4)	R.N.L. (5)
Level:					
1950–51	534	717	480	482	675
1959–60	1,360	1,044	1,663	1,372	1,222
1960–61	1,869	1,971	1,959	1,730	1,847
Annual growth rate:					
1959–60 to 1960–61	37.43	88.79	17.80	26.09	51.11
1950–51 to 1959–60	10.95	4.36	14.81	12.33	6.82

Source: Table 3.1, p. 50.
Note: RBI=the Reserve Bank of India; NCAER=the National Council
of Applied Economic Research; CSO=the Central Statistical Organization;
T.K.K.=S.G. Tiwari, B. Kumar, and J. Kumar; and R.N.L.=Ram N. Lal.

Chapter 3 is a historical review on the preceding works in the measurement of capital formation in India. Six different estimates are examined and tabulated in Table 3.1 (p. 50). A more comprehensive review is desirable so that those not familiar with preceding works in this field can evaluate the present work in the long line of research works made by many institutions and independent economists.

Before our discussion on specific points of Chapters 4 to 9, comparisons are made between five different estimates of capital formation based on Table 3.1 to clarify the basic performance of the present results in comparison to the others'. Relevant figures are presented in Table I. There are two points to be checked: (1) growth rate between 1959–60 and 1960–61 in relation to the linkage problem between the CSO's new series and the R.N.L.'s and (2) growth rate between 1950–51 and 1959–60 with respect to the secular performance of these estimates. For the first point the growth rate of R.N.L. (51.11 per cent) is the highest except that of NCAER and there is a wide range of the growth rates from 17.80 per cent (CSO, old series) to 88.79 per cent (NCAER). Since the discrepancies in terms of level between the five estimates for 1960–61 are rather small, the above wide range of growth rates is caused by the estimates for 1959–60 shown in Table I. The lowest level is recorded by the NCAER's estimates followed by the R.N.L.'s. Quite an opposite tendency is observed in the years 1950–51 to 1959–60, which results in the lowest secular growth rate by the NCAER's followed also by the R.N.L.'s. From the above two examinations we can conclude that the performance of the R.N.L.'s estimates is much closer to the NCAER's than the others'. In other words, according to the two estimates the investment activities during the period 1950–51 to 1959–60 is between 4 to 7 per cent in terms of annual compound growth rate in comparison to 10 to 15 per cent in the other three estimates. It would be interesting to find out which view is more relevant to understanding the general performance of the Indian economy during 1950s and 1960s. No substantive judgment is unfortunately given by the present author, nor by myself due to my ignorance of the Indian economy. A glance, however, at Table

3.1 will provide the real situation of the availability and reliability of statistical data on capital formation in India for the period 1950s. The computation of annual growth rates for the six estimates provides more chaotic impression about the general performance of investment activities in India. There seems to be, up to present, no common understanding about it based on firm quantitative evidence.

Another important point to be clearly mentioned is the fact that all blown-up ratios from sample to population as in the case of corporate sectors and other coefficients are based on the benchmark estimates for 1961–62 and naturally fixed over the period concerned. Extrapolation forward (the CSO's new series) and backward (the R.N.L.'s) with the fixed benchmark estimates would have caused considerable biases in the measurement of capital formation and capital consumption in India, though quantitatively unknown up to present. More benchmarks are essential to improve the estimates now available, at least one benchmark for each decade, besides the other improvements discussed in Chapter 12.

Thirdly, well-cared treatment is needed in the household sector where a constant capital formation series has been derived as residuals. The derived "implicit" deflators as a ratio of current and constant capital formation series should be closely examined (Chapters 6 to 8) in order to escape deflation biases. Unfortunately no such examination has been carefully made in this book.

More specific comments are to be made over Chapters 4 to 8. Freight and distribution rate (or trade and transport mark-up in the author's terminology) is the most important factor for the better use of the commodity flow approach. In the case of machinery and equipment, for instance, 15 per cent has been assumed for public sector and 40 per cent for private sector (p. 62). For prewar Japan 15 per cent was adopted for the two sectors by Shinohara, afterwards by Rosovsky, Emi, and myself.[1] The rate has been kept rather constant for postwar Japan by the Economic Planning Agency. Different treatment can be advised in the case of developing countries like India and possibly Bangladesh from my recent research experience in Dacca. The difference between the two mark-ups should be attributed to the public sector as additional value added originated in the producers of government services on the one hand and the mark-up for private sector is also applied to public sector on the other in order to keep consistency between the production and expenditure sides in the national accounting.

Estimates of livestock are separated in machinery and equipment and change in stocks (p. 63), which is a reasonable treatment of livestock but no such attempt has been made for prewar Japan where a considerable part of livestock was used as fixed assets such as breeding stocks, draught animals, and dairy cattle.

Under the given definition of each term, the equation of total stock of foodgrains in the economy (S_f) should be

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[1] K. Emi, *Shihon keisei* [Capital formation], Chōki keizai tōkei [Estimates of long-term economic statistics of Japan since 1868], ed. K. Ohkawa, M. Shinohara, and M. Umemura, Vol. 4 (Tokyo: Tōyō-keizai-shimpōsha, 1971); and K. Ohkawa, S. Ishiwata, S. Yamada, and H. Ishi, *Shihon sutokku* [Capital stock], Chōki keizai tōkei [Estimates of long-term economic statistics of Japan since 1968], ed. K. Ohkawa, M. Shinohara, and M. Umemura, Vol. 3 (Tokyo: Tōyō-keizai-shimpōsha, 1966).

TABLE II

CAPITAL CONSUMPTION-GROSS DOMESTIC FIXED CAPITAL
FORMATION RATIO, 1950–51 TO 1972–73

(%)

Year	Ratio	Year	Ratio
1950–51	32.36	1962–63	34.98
1951–52	35.84	1963–64	31.79
1952–53	40.34	1964–65	30.39
1953–54	43.62	1965–66	29.74
1954–55	40.12	1966–67	30.33
1955–56	36.66	1967–68	30.49
1956–57	30.98	1968–69	31.40
1957–58	36.37	1969–70	32.52
1958–59	41.56	1970–71	33.06
1959–60	39.57	1971–72	31.95
1960–61	34.14	1972–73	31.04
1961–62	33.69		

Source: Table 4.4, p. 79.
Note: The original series are at current prices.

$$S_f = 0.25[(1-\alpha)F - F_p] + S_f(g)$$

(p. 64), not αF for the underlined part in the original equation. Substantive explana-
tion may be needed in Table II for the cyclical movement of capital consumption-
GDFCF ratio in 1950s in comparison to rather stable movement after 1960–61.

No comment is made on Chapter 5 where price deflators of capital formation and
capital consumption are discussed. This, however, does not mean that there is no
problem in the measurement of price changes, but as mentioned the real situation
is completely opposite not only in developing countries but also in developed countries
(pp. 89–93).

Purchases and sales of old assets are neglected when capital formation series are
subdivided by institutional sectors (Chapter 6). This omission will produce sectoral
biases if inter-sectoral movement of old assets is not negligibly small. The adoption
of the residual approach for the household sector has not made any strong bias,
when we examine it by computing implicit price deflators of gross capital formation
in household sector by type of assets.

In spite of the non-availability of data it is very inconvenient for users that residential
buildings constructed by government and private corporate sectors are included not
in the category of dwellings but in that of other construction and work (Chapters 7
and 8). For constant price series we are not so clear why consistency between the
two series obtained in Chapters 5 and 7 has been kept when different price deflators
are adopted in the two measurements.

Regional breakdown of capital formation has been a long-felt need for economic
policy makers in regional economic planning. The expenditure approach adopted in
Chapter 8 may cause strong biases from the estimates derived from other methods
and its constant series is essential.

The next two chapters are devoted to interesting topics related to capital formation.

It is quite disappointing for the readers that there is also no substantive explanations about the fact findings given in these chapters. Secular movement of the average saving ratio in Table 10.1 (column 8, p. 207), for example, presents an upward trend from 9.2 per cent in 1950–51 to 17.8 per cent in 1972–73. Over a little more than twenty years the ratio almost doubled. The largest contribution to the secular trend in the average saving ratio has been made by the household sector both in terms of growth rate and absolute level. Similar feelings of disappointment can be felt in the capital formation proportions (or investment rate) in Table 11.2 (p. 220) and the incremental capital-output ratios in Table 11.5 (p. 225).

The consistency between capital formation by the commodity flow and expenditure approaches and saving by the financial approach has been claimed by the author. There seems to be, however, no explicit criteria for consistency between the two estimates in Chapter 10. Since household saving in physical assets is derived as residuals, numerical consistency is approximately held in the two estimates. But how about real consistency? The comparison of gross domestic capital formation and gross domestic (or national) saving makes us realize that even mere consistency may not be held for several years as shown in Table 10.9 (column 11, p. 216), and since the household sector has dominated saving activities, exclusion of household saving in physical assets from both capital formation and saving widens the errors in percentage terms.   (Shigeru Ishiwata)