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NATIONAL INCOME ACCOUNTING
IN
PAKISTAN

by

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I. Historical Background.

i) Pre-partition.

1. Although a number of estimates are available for pre-partition India (see Appendix I), only few of them can be said to be systematic in approach and reliable in conclusions. A common feature of the estimates is the emphasis they laid on the measurement of national income rather than to fit in these accounts into a close net-work of economic transactions. The shift in emphasis from the total product to various component sub-totals is clearly to record the relative importance of various sectors in the economic activity of the country. This light-bearing aspect is completely missing from them and the estimates of income for undivided India do not furnish such information.

2. During the last thirty years or so, some important improvements have been made in the concepts and methodology of national income estimation. Particularly, the Statistical Office of the United Nations is continuously trying to standardise the concepts and methodology of national accounts with a view to render them comparable internationally,

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for "international comparisons of economic magnitudes are not merely a matter of academic interest, but an important adjunct to official policy".¹⁾ When judged from the point of view of present day methodology perhaps none of the above estimates may be deemed to be reliable, systematic or a result of scientific efforts; and they are therefore, of no help to present-day estimators of national income in Pakistan.

ii) Post-partition.

3. Up to now, three sets of national income estimates have been prepared by the Central Statistical Office in Pakistan. The first of these were prepared in 1950 for the year 1948/49 in current prices and utilised the concept of net domestic product at factor cost²⁾ (see Appendix II). Subsequently, with the availability of more data, estimates for 1949/50 to 1952/53 in terms of current prices were computed and published in February, 1955 issue of the Statistical Bulletin. These were then revised and published in 1955 Statistical Year Book together with 1953/54 national income estimates also in current prices (see Appendix III). Estimates for subsequent years at current prices have not yet been computed. However, in accordance with the recommendations of the United Nations,³⁾ also emphasised in the First Five Year Plan,⁴⁾ in order to measure the economic growth in real terms, a third set of national income estimates has been developed in terms of constant prices (i.e. prices as averages of 1949/50 to 1952/53, which have been continued to date (see Appendix IV). This new series at constant prices is not comparable with the previous series at current prices and is the only Table published at present.

- 1) Harold C. Edey and Alan T. Peacock, National Income and Social Accounting, London 1954, p. iii.
- 2) See Statistical Bulletin, Vol. I, No.3 of May, 1952. Since, in order to fill in the many gaps in statistical data, a number of expedients and assumptions were employed, these estimates are rough calculations of the productive activity and services produced in the country, and are no more quoted by the Government of Pakistan.
- 3) United Nations, A System of National Accounts and Supporting Tables, New York 1953, p. vii.
- 4) The First Five Year Plan, Karachi 1958, p. 125.

II. Conceptual Difficulties and Limitations of Available Data.

4. In line with other underdeveloped countries, Pakistan shares the difficulty in applying some of the concepts and methods of national accounting used in the industrialized economies. Another major difficulty consists in the complete absence of some data and unreliability of the available data.

5. A distinct feature of Pakistan economy is that it lacks a clear-cut differentiation in economic functions in as much as a large portion of its economy consists of household enterprises performing functions which would normally fall under different industrial categories. Sizeable groups, especially among agricultural producers, pursue other occupations, often in urban areas, outside the main industry in which they are supposed to be engaged. Hence, the customary classification of national income by industrial origin, which is based on the concept of income originating in each single branch of economic activity, cannot be applied except possibly as a broad and rough approximation to a classification of the population into different groups whose main income is derived from one single industry.

6. The problem of measurability is further complicated in Pakistan by the fact that a considerable portion of output is either consumed by the producer himself or bartered away for other commodities and services. It simply does not enter the market for exchange into money through usual commercial channels. "This raises a problem of including the whole of such product in the national income estimate and of evaluating it in terms of money".⁵⁾ Even in industrialized countries, where the problem is relatively insignificant, statisticians have often complained of this difficulty,⁶⁾ which presents a formidable job for the income estimator. Moreover, the resulting under-valuation of national income, imposes a serious limitation on international comparisons, particularly between the underdeveloped and the industrialized countries.

5) V.K.R.V. Rao, Some Reflections on the Comparability of Real National Income of Industrialized and underdeveloped countries, in: I&W Series III, I.A.R.I.W., Baltimore 1953, p. 181.

6) See, 'Treatment of Government Economic Activity in the National Accounts' by Ingvar Ohlson, in: I&W Series III, I.A.R.I.W., Baltimore 1953, p. 224.

7. Many producers have only a very vague idea of the quantity and value of their output. Book-keeping is very rare among producers and consumers, the vast majority of whom are illiterate. Even in Western countries, most households and many firms do not keep any accounts. For households, family budget inquiries can be conducted, but for business enterprises case study may be the only practical solution. In absence of these, only guesswork remains.

8. Apart from the conceptual difficulties mentioned above, there is a much larger problem of the non-availability of comprehensive statistical data regarding almost all sectors of the economy for the estimation of national income and related accounts in Pakistan. Comparatively few economic data are collected according to the requirements and specifications of national income estimator; and the gaps in technical information and statistical data are particularly glaring, especially in case of complex economic structure and activities. Where the available information is conceptually adequate, it may be inaccurate due to the limitations of the collection process. There are errors in observation, reporting and recording. Thus, for example, prices and cost data, especially for agriculture and related activities are very unsatisfactory; manufacturing data are available only for large-scale industry, there is no adequate information on the structure of costs, on consumer expenditures and savings; some of the items in the international balance of payments are rough estimates; there are no satisfactory data on distribution of income or capital formation.

9. Whereas the general lack of statistical data may continue for some time, it is also true that there have been some improvements. The population censuses of 1951 and 1961, censuses of manufacturing industries and several family budget inquiries have provided much of the needed information. There are six main sources for national income estimation in Pakistan:

- i) Agricultural production and prices;
- ii) Data on large-scale manufacturing industry, including the volume of output and cost structure;
- iii) Some very inadequate information on the working population, which permits derivations, in some cases as residuals, of persons engaged in cottage and small-scale industries, professional and related services, domestic servants, etc.
- iv) Information on the revenue and expenditure of government and government enterprises;
- v) Data on exports, imports and the international balance of payments. However, even these data are not complete and often inaccurate;
- vi) Information on income and expenditure, rural indebtedness and cottage industries in rural areas made available by the National Family Expenditure Survey 1955/56 for twenty one urban centres and by the Family Expenditure Survey 1960/61 for rural areas.

10. East and West Pakistan have somewhat different people with different habits of consumption and somewhat different economic patterns and inadequacy of data cannot easily be overcome by extending data for one region to another. This necessitates the compilation of data on a regional basis.

III. The Available Estimates.

11. The existing methods of national accounting in Pakistan have been found unsatisfactory. The main table published by Central Statistical Office is entitled National Income of Pakistan (see Appendix IV) and it gives the distribution of national product by industrial origin at constant (1949/50 to 1952/53) prices. This table is unsatisfactory in many respects. For instance, the order of sectors given in this table does not conform to U.N. procedure. It is an obsolete order introduced some twelve years ago without any attempt to change it subsequently. On the other hand, a cursory glance on

Appendix II will suggest that at least this table was better organized than later estimates in some respects. The compilers of national income of Pakistan are aware of the shortcomings and are now trying to recast this table so as to bring it in conformity with the U.N. recommendations.⁷⁾

12. The income concept, at present used in Pakistan, is that of net national product at factor cost. It equals the net aggregate output of all the goods and services produced in various sectors of the economy during the year. It has been valued exclusive of indirect taxes, and subsequently adjusted for net factor income payments. The estimates are further adjusted for the effects of the terms of trade and indirect taxes on exports.

13. About 65 per cent of the total national income has been estimated by means of product approach and the rest with the aid of income method. Except for some minor improvements, the new constant-prices estimates are no more accurate and in some aspects less reliable than the earlier current-price estimates. In fact, the procedure of estimation in certain sectors often involves the use of current prices which have not been subsequently adjusted. Many of the component estimates are nothing but guesses. In due course, estimates will be made at current prices and subsequently reduced to constant prices with the aid of appropriate deflators.

14. More than half of the present estimates is either based on out-of-date statistics or obtained through a crude extrapolation of essentially weak bench-marks. As a result, the existing estimates are highly unreliable and the margin of error may be 20 to 30 per cent. It is doubtful, therefore, whether such estimates serve any meaningful indication of the rate of economic growth and of the structural changes.

7) See para 59 below. Since the author was the Secretary of the Committee referred to in para 59, some of the suggestions put forward in this paper may coincide with the recommendations of the Committee.

15. The major weakness in these estimates arises from the lack of reasonably accurate and currently available data on the volume of output and the relevant prices. These problems are discussed below:

A. Agriculture.

i) Crops.

16. At present, there is a recording system⁸⁾ and fairly accurate acreage figures are available in Pakistan. However, information relating to acreage figures of major agricultural crops as reported in East Pakistan need to be improved. Complete coverage will further improve the estimates.

17. Production data are not based on scientific methods of estimation and are rather subjective in character. Suitable techniques will have to be evolved, in consultation with the Provincial Agricultural Departments, for estimating reliable crop production estimates all over the Pakistan, as the "eye estimation" by the petty village officials (e.g. Patwaris in West Pakistan and Presidents of the Union Boards/Agricultural Assistants in East Pakistan) contains an unknown amount of error.

18. At present estimates of value added by crop production are based on physical output of data and harvest prices.⁹⁾ The district-wise average (1949/50 to 1952/53) harvest prices¹⁰⁾ are multiplied by

8) This machinery, however, does not exist at present for about 83 million acres of Pakistan's territory. But very little is under cultivation in these hilly or barren areas of Pakistan.

9) Harvest prices are usually the wholesale prices in the rural markets at the time of harvest.

10) For many crops, harvest prices are not available. In such cases, wholesale prices have been used after deflating by certain percentages. Since wholesale prices are collected from the nearest local markets; an element of transport cost gets into these prices, which is difficult to separate.

district-wise production in each year to obtain gross value. The net value added has been estimated after deduction of 5% for seeds; 3% for cereal crops and 1% for other crops for wastage; and 5% for maintenance, repair and depreciation of agricultural implements, farm buildings etc.

19. One of the serious limitations of the prices data in Pakistan is the lack of clear-cut definition. The definition of harvest prices differs from region to region. Although it represents prices prevailing during harvest period, analysis has shown that harvest prices are frequently higher than the average of wholesale prices for the corresponding period in small market towns or primary mundis (i.e. the nearest points of sales from the farms). Thus, a standard definition of harvest prices need to be evolved and utilized for such official statistics.

20. Since no firm basis is yet available for netting the agricultural products, information on cost structure of various crop items need be obtained through a series of case studies of carefully selected representative farms engaged, as exclusively as possible, in single crop production. Relevant studies in other Asian countries may provide a check.

21. Since, according to the available estimates, agriculture accounts for about 57% and major and minor agricultural crops about 42% of the national income, some of these shortcomings constitute a great weakness in the national income estimates and require a speedy action.

22. At present, agricultural output is divided into major and minor crops. The division of crops into major and minor should be replaced by (a) Food crops and (b) Industrial raw material of agricultural origin. This may prove more useful for a developing economy experiencing structural changes.

ii) Livestock.

23. At present, the income originating in livestock sector constitutes slightly more than 10% of the national income and is estimated on the basis of production of major livestock products.

24. Using the 1945 (pre-partition) and the abbreviated 1949 livestock census data, the Central Department of Co-operation and Marketing compiled province-wise figures of major livestock products for 1948/49 and on all Pakistan basis for 1952/53. The figures of 1952/53 were broken down by provinces on the basis of ratios exhibited by 1948/49 figures. The figures for intervening years, were obtained by interpolation and for the subsequent years were either available with the aforesaid departments or repeated from previous years.

25. Total output figures are obtained by applying yield per animal. None of these information appears to be valid and the estimates should be regarded as very rough approximation as they are based on old and out-of-date surveys. At present, in addition to this, some data are available on the number of animals from the abbreviated 1955 Agricultural Census Report. More complete count and breakdown will be published in the 1960 Agricultural Census Report. Interpolation between 1955 and 1960 as well as extrapolation after 1960 will be thus possible. It will, however, be desirable that, an Agricultural Sample Survey should be taken every five years to provide bench-marks. Quick sample surveys of consumption and sales can be used as a check on the quantity estimates obtained from the interpolation and extrapolation of the Census data.

26. Monthly wholesale prices of livestock product are available from the Central Department of Co-operation and Marketing. In order to obtain annual average producers' prices, the wholesale prices by commodity were deflated by ratios varying from 20% to 25% by kinds of livestock products, determined through some partial surveys and in consultation with governmental authorities. Until some scientific case

studies are made on the marks-up of producers' prices to wholesalers on area sample basis it is difficult to ascertain the validity of the present technique. Since no information is available on maintenance of livestock and the cost of materials and depreciation of implements, no attempt has so far been made to arrive at the net value added of the livestock products, which constitutes a serious shortcoming in the present estimates.

iii) Forestry.

27. Present estimates of forestry are based on the value of forest products reported by the Ministry of Agriculture and by Chief Conservators of Forests, East and West Pakistan; but the figures as available from the Ministry of Agriculture and the Chief Conservators of Forests are at variance. No information regarding the value of products of private forests is available and therefore the contribution of forestry is an underestimate. Aerial photographs recently taken may help to provide information for private forests in due course.

28. Auction prices are used for the evaluation of forest products, and do not include cost of cutting and transporting to the nearest railhead. To bring it in line with other agricultural sectors, it is necessary to add the value of these activities to the auction prices.

29. These estimates can be further improved by examining the railway reports on the transport of timber and firewood to urban centres, and the results of sample survey on rural consumption of firewood and other forestry product.

30. At present, no allowance is made for inputs in forestry from other sectors; and depreciation of forests is also not estimated for the purpose of national accounting.

iv) Hunting.

31. At present, no data are available concerning hunting, trapping and game propagation, and this sector, therefore, has not been included in the national income estimates. Available data with various agencies need be searched out and examined.

v) Fisheries.

32. Production figures for both marine fish and inland fisheries are supplied by the Central and Provincial Fisheries Departments. In the estimates of inland fisheries output of East Pakistan especially, widely diverging figures have been reported by the Provincial Fisheries Department and the Central Fisheries Department. These divergencies between the two sets of estimates need be removed. The fact probably can best be estimated from surveys of house-holds expenditure and consumption both in the rural and urban areas. Perhaps the present National Sample Survey programme carried on by the Central Statistical Office in few years time will produce reliable measures to produce useful estimates.

33. For estimating the contribution of fisheries, only the retail prices were available in the case of East Pakistan. These were arbitrarily reduced to obtain prices received by the fishermen in rural and urban areas. In the case of West Pakistan, wholesale prices for former provinces were available and were reduced by varying appropriate ratios for individual areas to obtain producers prices. To obtain the prices actually realized by the fishermen, marks-up between wholesale/retail sale prices and producers'/fishermen's prices need be estimated. At present, to obtain net income of this sub-sector 5% deduction has been made from the gross value for depreciation. Satisfactory estimates for depreciation of boats, nets etc., are necessary for the evaluation of fish products.

B. Mining.

34. Till now, production and price data of all minerals, except rock-salt, were collected by the Bureau of Mineral Resources. The statistics of rock-salt are compiled by the Central Board of Revenue. The official data on mining refer only to West Pakistan. Mining products are not commercially exploited in East Pakistan, hence they are not included in the official statistics. For estimation of contribution of the mining sector to national income, data for major mining items only are processed. Since the commercial exploitation of small items started late, constant pit-head/well-head prices to be used could not be ascertained. Hence, their contribution has not been included in the national income estimates. The estimates are valid only to the extent that the prices are relevant. These prices must be scrutinized and, in any case, estimates for intermediate products consumed in the process of producing minerals need be worked out. A study of cost structure of mining enterprises need be undertaken and the results of this study should be used for the estimation of gross and net value added in the mining sector.

C. Manufacturing Industries.

35. The estimates of large-scale industries rest primarily on the 1954 Census of Manufacturing Industries carried out in respect of factories employing twenty or more persons.¹¹⁾ This census provided bench-mark value added data¹²⁾ in current prices, and had wider coverage than 1953 of 1955 Censuses.¹³⁾ A wholesale price index of selected

- 11) No such census was held for 1956; and those held for 1955, 1957, 1958 and 1959/60 although represent improvement over the last censuses, the fact remains that in addition to many inaccuracies contained therein, these contained an unknown amount of undercoverage.
- 12) Due allowance was made for non-reporting industries.
- 13) For use of most recent census data as bench-marks, besides reducing the present time lag, it is very important to extend the coverage to non-reporting factories, as well as to factories employing 10 or more persons.

domestic manufactured goods was prepared to deflate the bench-mark figures in order to convert them into constant prices. In order to provide a series in constant prices for earlier and later years, the interpolation and extrapolation of the bench-mark data is carried on with a quantum index of industrial production. No satisfactory price index, however, exists, nor have adequate prices been collected with which to convert the constant prices measure to current price measure.

36. From now onward, these censuses will be conducted once in two years. Such data, therefore, will not be available before considerable lag; which points out to the need of a method for obtaining preliminary estimates and estimates for intervening years. Labour productivity estimates together with manpower estimates can be used for establishing preliminary figures for the value added by the large-scale manufacturing until the Census of Manufacturing Industries data become available.

37. Census of Manufacturing Industries at present excludes one of the major segments of Pakistan's industrial economy, i.e. small-scale and cottage industries. Although it constitutes a little more than 5 per cent of the national income, from the stand point of number of persons engaged, this sector comes next only to agriculture. The present bench-mark figures which is based on 1951 Population Census is little more than a guess as it has been extrapolated by the annual increase in the population¹⁴⁾ under the assumption that growth in small-scale industries has been in proportion to increase in population.

14) "The first Plan assumed that the rate of population growth will be 1.4% per annum. There is evidence that this was probably an underestimate. The subject is under careful study. The present indications are that the rate of population growth during first and second Plan periods will be 1.6% and 1.8% per annum respectively" - quoted from "Objectives of Second 5-year Plan, Pakistan News Digest, Vol.7, No.15, 1 August, 1959". However, 1961 Census figures reveal that the actual rate of population growth is in the neighbourhood of 2.2% for Pakistan as a whole.

Hence reliable annual estimates for various types of small-scale or cottage industries are badly needed, when only estimates for their production value, profits wage bill, etc. can be prepared. For this purpose the procedure described in paragraph 36 above need be followed for small-scale and cottage industries also; and the estimates for these sub-sectors should be revised in the light of the results of some sample surveys and case studies. Or else a quin-quennial census becomes necessary for providing bench-mark data.

D. Transport and Communication.

38. At present, income from transport and communication constitutes about 3 per cent of the national income. Transport other than rail is estimated from the product side on the basis of assigning annual receipts to taxis, trucks, busses, lorries, victorias, ¹⁵⁾ tongas ¹⁵⁾ etc., the number of which is obtained from the Ministry of Communications, as well as from scattered and partial data. The average net income per vehicle has been calculated on the basis of information from various sources after deducting intermediary expenses. Net income has been obtained by multiplying average net income per vehicle by the number of vehicles. Country transport by animal drawn vehicles is treated as part of agriculture and no attempt is made to estimate it independently. Valid estimates for cost of maintenance, depreciation of vehicles in addition to the monthly wages paid to the drivers and conductors etc. are not wholly available. The major shortcoming appears to be in water transport specially that provided by water boats in East Pakistan. Except for those mechanically propelled, no information of any kind relating to river transport is available. The net income of other transport services composed of transport managers, road vehicle drivers, air transport workers, sea and river craft workers, was, therefore, calculated on the basis of the number of persons engaged in such services as derived from 1951 population census and their assumed income for each category. Projection for back and subsequent years was made on the basis of rate of change in population, which, however, is not the correct measure of their contribution. In the case of mechanized vehicles the estimates can be improved with the help of sample surveys

15) Victorias and tongas are local horse drawn vehicles.

with special reference to cost structure. For non-mechanical vehicles in urban areas, comprehensive sample surveys are the only possible method of estimation. For water-transport the reports of the Inland Water-Transport Authority in East Pakistan which provide information on the number of employees passenger carried, boats etc. need be utilized. Moreover, these estimates can further be improved as and when further information is made available from the 1961 population census.

39. The income originating in Rail-Transport and Communication has been estimated from the income side on the basis of wages and salaries paid to the employees engaged in these services as derived from the budgetary reports of the Pakistan Railways and Post & Telegraph administration, and these data are reliable. However, Railways and Post & Telegraph should be treated as commercial enterprises and operating surpluses of railways and posts and telegraph services (excluding broadcasting) should be included in the estimated; which is not being done at present.

40. In addition to rail transport and communication, virtually all other industries have been estimated from the income side. That is; wages and other personal earnings have been estimated for a benchmark year (normally 1951) by assigning to each figure an average annual earnings for persons engaged and expending this by the number engaged according to 1951 population census. This method places heavy reliance on the accuracy of the occupational industrial classification in the census, as well as on the estimates of their average annual earnings. The later, while essentially rough estimates, no doubt take into account such information as has been contained in various surveys. This cannot be regarded as reliable benchmark for the trade and services sector, especially since these are dominated by very small concerns in which entrepreneurial profit income predominates. No useable information

on profit exists, that from the income tax statistics not being satisfactorily classified for this purpose nor having adequate coverage.¹⁶⁾

E. Trade and Services.

41. In the case of services, the extrapolation of the bench-mark mentioned above has been carried out on the estimated annual increase in the population. The number of persons engaged in services for 1950/51 was derived from the figures of occupational distribution as provided by 1951 population census. Income tax data and other sources were utilized to determine an average annual income for each of the various categories of services. Income for this sector was computed with the help of the above data which were projected backward and forward for earlier and subsequent years. There is ample room for improvement. For instance, till recently no firm figures existed for the natural increase in population; it is doubtful that the personal services have increased at the actual rate of growth of the population. Details of occupational distribution from the 1961 census when made available, will provide better bench-mark data. At least, to start with, income originating in broad sub-groups (by category) like (a) Education; (b) Medical, public and private health services; (c) Recreation and entertainments and (d) Domestic services etc. etc. need be computed for better understanding of the estimates.

42. Figures of persons employed in wholesale and retail trade have been obtained from 1951 census of population. A rough figure of average annual income separately for each category was determined with the help of income tax returns. The total income for this sector (1950/51) was obtained by multiplying average annual income by the number of persons by categories. The year to year variation in the total income have been adjusted by the changes in the value of the production of agriculture, manufacturing and mining all in constant prices. The use of estimated changes in the commodity producing sectors for extrapolating the bench-marks for trade neglect the changes in the

16) At present, tax receipt are about 8 per cent of the national income.

proportion of the products of agriculture that pass through trading channels, as well as omitting change in the volume and gross margins of imports. For these reasons trade and services estimates are extremely weak and cannot be relied upon as to changes or level.

43. At present, construction, as well as electricity, gas, water and sanitary services are included in services sector. Some data are available for public construction, but there are practically no data on private construction. The estimates of income for construction have, therefore, been computed on the basis of number of persons engaged in this industry as reported in the 1951 population census and the estimated annual income determined on the basis of income tax data and some wage surveys. The bench-mark for 1950/51 has been projected backward and forward in relation to change in population growth. This is not a satisfactory basis for evaluating the income originating in construction. These estimates do not correspond to the present day conditions and cannot therefore, be regarded as sufficiently reliable or accurate to be useful.¹⁷⁾

44. Local authorities should legally be made responsible for the collection of such information for at least urban areas. In fact, a general law is needed to make it obligatory for firms and persons undertaking construction to supply the necessary information to local authorities. Until such time 'input approach' can be used and appropriate coefficients can be worked out from the basic materials used in construction in consultation with experts in the field.

45. In the absence of any system of reporting construction data for rural areas, Central Statistical Office has recently decided to undertake a rural construction survey. Such surveys should be conducted every five years to provide necessary bench-marks. For the intervening years intercensal rates of growth should be used. Besides these, the material on construction available with other agencies need be examined and used, if found suitable.

17) The same criticism applies to electricity, gas, water and sanitary services which should be shown as a separate sector.

F. Rental Income.

46. Estimates of rental income are based on the number of dwellings as shown in the 1951 census and estimated annual rents for rural areas and different size urban areas. In order to arrive at net rental income in urban areas 50 per cent of the gross income was allowed for depreciation and the rest was further deflated by 10 per cent for maintenance and repairs. For rental income of rural areas, only 10 per cent of the total rental income was deducted for maintenance and repairs. These represent net rental for urban and rural areas for the year 1950/51. The bench-mark figures so obtained have been projected backward and forward on the basis of rate of change in population. These estimates do not correspond to the present day conditions and, therefore, cannot be regarded as sufficiently reliable. Municipalities levy a tax on rental income in urban areas. With the help of these records the aggregate rent can be estimated on the basis of tax assessed. Conducting of sample survey of rents paid and imputed in rural and urban areas will provide satisfactory information on ownership of dwellings. At present, plans are in hand for conducting surveys of rural rental paid or imputed and the results when available will help improve the estimates.

47. The title of this sector is misleading and it should be changed to 'ownership of dwellings' to bring it in line with the U.N. classification.

G. Government.

48. It has been assumed that the real output in this sector is measured by money wages paid. Income originating in this sector is drawn from the final accounts of the central provincial and local authorities budgets. The estimates are probably the best that can be made at present. Since government budgets are classified in a manner which requires adjustment for use in national income estimation, there is a possibility that certain items, like transfer payments, subsidies, capital formation, etc. may not receive a proper treatment. The two

major difficulties are the lack of sufficient details in the budgets and the continuous inability to obtain adequate coverage of local authorities budgets; these figures therefore have been practically guessed. Field statisticians when employed may help improve the collection of data from reluctant local authorities.

49. The title of this sector is also misleading and it should be changed to 'public administration and defence' to bring it in line with the U.N. classification.

H. Banking and Insurance.

i) Banking.

50. Income originating in banking is derived from the financial reports of the major concerns in this field and is computed on the basis of wages and salaries of the employees of State Bank and the wages and salaries, as well as the operating surplus of the scheduled banks. No imputed charges for banking services from other sectors are deducted. At present, no reporting system exists for non-scheduled banks. Relevant ratios, however, can be determined on the basis of information concerning wages, profits and deposits in the scheduled banks. This is being taken in hand and will be introduced soon. Furthermore, no information exists on the volume or income arising from professional money lenders who play an important role in the supply of credit in the country's rural economy. Moreover, at present, semi-government banking institutions which are not scheduled by the State Bank such as PICIC, Industrial Development Bank etc. are not included in the present estimates, which should also be included together with the various statutory bodies for public development, e.g. PIDC, WAPDA, KDA etc. etc. At present, very little information is available on transactions concerning the sale of land and buildings. This calls for a study of the subject by a research institute in order to introduce an estimate for 'real estate' sub-sector.

51. Contribution of co-operative societies is also based on the wages and salaries paid to their employees. This information was

obtained from the Central Co-operation and Marketing Department. No up-to-date information on Co-operative Credit Societies is available at present. Field statisticians, when made available, can help in obtaining this information.

ii) Insurance.

52. At present, contribution of insurance is also estimated on the basis of wages and salaries paid to employees and commission paid to commission agents. At present, the operating surplus of the insurance companies, has not been included in the estimate which is therefore too low. Contribution of postal life insurance at present is being included in the communication sub-sector instead of the insurance sector.

I. Rest of the World.

53. At present, this sector consists of sub-sectors: (i) Factor income payments, (ii) Adjustment for indirect taxes on exports, and (iii) Effects of terms of trade. Net investment income is taken from the Balance of Payments statements. For estimating the factor income payments at constant prices, the net investment is deflated with the adjusted import price index for current year with that of the base year. But the calculation of 'net factor income payments' is limited only to investments; other factor income should also be included. For the adjustment of indirect taxes on exports, average export taxes during the base years 1949/50 to 1952/53 have been extrapolated by change in the physical volume of exports. The adjustment for indirect taxes on exports does not seem to be meaningful. All indirect taxes should be included in order to move from factor cost to market prices estimates. The effect of changes in the terms of trade has been computed by deflating the value of exports in the current year by the import price index and by the export price index. The difference between the two deflated values represents the effect of terms of trade.

54. Detailed official statements on transactions with the rest of the world are available. There are large differences between the commodity data from the balance of payments and from the trade statistics. Otherwise the rest of the world sector does not present any substantial problem. Delays in the publication of the official estimates often make it impossible to correctly assign the balance of current external accounts of the factor income receipts or payments to the year in which transactions actually took place. Therefore, recording of data requires improvement.

55. Since the estimates have to be related to development planning and to the productive efforts of the country, it is desirable that the table on national income exclusive of adjustment of indirect taxes on export and effects of terms of trade be prepared in future. The adjustment for terms of trade means a revaluation of major exports because of a change in world prices. This procedure, in fact, amounts to calculation of a part of the national product at current prices, while the rest of the national product is expressed in constant prices. Therefore, this method should not be employed in the calculation of the rate of growth of real national product.

J. Other Problems.

56. At present, for the estimation of per capita income, the total national income has been divided by the population figures as at 30th June. Since the present financial year is July-June and most government statistics are available on this time-basis, it is all the more necessary to use population estimates as on 31st December each year. Furthermore, population has been taken for the country as a whole, but in the estimates of national income non-reported areas have not been included.¹⁸⁾ As a result, per capita income is underestimated.

57. The present table on national income estimates indicates the time reference as April-March, but in fact, the estimates for agricultural sector were computed for July-June and also the contribution of

18) See para 16 and footnote 8 on p. 7.

government sector is estimated on this basis since the change over of financial year in Pakistan in 1959 from April-March to July-June. As a result, the estimates of all the sectors do not relate to the same time reference.

58. Very little information is available at present on the national expenditure side and correct measures of personal consumption expenditure will not be available till such time that the present sample survey programme is completed successfully. However, an estimate of National Expenditure for 1960/61 has already been made in the Planning Commission under the supervision of Dr. E.F. Szczepanik, Harvard University Adviser.

59. At present, the margin of error in the national income estimates of Pakistan cannot be ascertained; but it must be computed for a real understanding of the estimates. The present estimates do not provide satisfactory indication of the rate of economic growth and of the structural changes. Setting up of a complete system of national accounting is, therefore, badly needed. For this purpose, a Committee of Experts on National Accounts was formed in November 1961 to revise the existing system and to initiate national accounts in conformity, as far as possible, with the U.N. recommendations. Report of this Committee will provide a manual for setting up a new system of national accounts. The implementation of these recommendations, however, depends on a very substantial increase in the number and improvement of the quality of the available staff.

K. Conclusion.

60. It will be seen that the greatest limitation in the way for improvement of these estimates is the paucity and unreliability of data and the lack of adequate reporting system. In order to meet the growing needs of planners, research workers and other users of national income data, these accounts must be prepared in a comprehensive form. And efforts are being directed to improve the estimates as far as

possible. Collection of statistics is a time consuming process and will take its own time. However, it is strongly felt that unless the Central Statistical Organizations in the developing countries are equipped with legal authority to collect all types of statistics it is difficult to obtain adequate and reliable basic information. In order to achieve quick and cheaper results in these countries, sampling techniques as well as necessary quality controls will have to be applied more and more to collect the needed statistics. It may also be emphasized that the national income accounting cells in these countries should serve as the clearing houses for all sorts of statistics. No statistical data collection programme should be planned or undertaken without the consultation of such cells so that the statistics collected can be used for national income accounting as well. Moreover, competent personnel possessing sound knowledge of economics and statistics should be attached to the field of national income accounting for skillful handling, processing and analysis of data. It is also most desirable that adequate training facilities should be provided to the national income workers so that they may acquaint themselves with the procedures and techniques of national income accounting in the advanced countries.

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APPENDIX I

ESTIMATES OF NATIONAL INCOME PER CAPITA - PRE)PARTITION INDIA^{*}

Estimated by	Year for which estimated	National income per capita in Rupees	
Dadabhai Naoroji	1868	20	(a)
F.G. Atkinson	1875	27.3	(a)
Earl Cromer Baring & Sir David Barbour	1882	27	(a)
F.G. Atkinson	1895	35.2	(a)
William Digby	1899	18	(a)
Lord Curson	1897-98	30	(a)
Sir B.N. Sharma	1911	50	(a)
Findlay Shirras	1911	49	(b)
Vakil and Muranjan	1910-14	58.5	(b)
Wadia and Joshi	1913-14	44.3	(a)
Findlay Shirras	1921	107	(a)
Shah and Khambhata	1921	74	(a)
Findlay Shirras	1922	116	(a)
Vakil and Muranjan	1925	74	(a)
Simon 'Commission's Report (attempt made in 1929).	Not stated	100	(a)
Central Banking Enquiry Committee report (for Agricultural Population only).	1928	42	(b)
V.K.R.V. Rao	1925-29	77.9	(c)
Findlay Shirras	1931	63	(b)
V.K.R.V. Rao	1931-32	62	(d)
Sir James Griggs	1937-38	56	(b)
V.K.R.V. Rao	1942-43	114	(e)

- (a) Quoted from V.K.R.V. Rao (An Essay on India's National Income 1925-29, London 1939, p. 10).
- (b) Quoted from monthly Statistical Bulletin, No.3, Vol.I, May, 1952, Karachi 1952, p. vii.
- (c) An Essay on India's National Income 1925-29, London 1939, p. 155.
- (d) The National Income of British India 1931-32, London 1940, p. 185.
- (e) Quoted from M.K. Ghosh and S.C. Chaudhri, Statistics Theory and Practice, Allahabad 1954, p. 707.

* Reproduced from 'Probleme der Volkseinkommensberechnung in Pakistan,' dissertation for doctorate submitted by the author to the Hamburg University, West Germany.

NATIONAL INCOME OF PAKISTAN¹⁾

(1948/49)

Net National Product Sector	Rupees (in million)	Percentage contribution
1. Agriculture:		
(a) Major agricultural crops	6,297	
(b) Minor agricultural crops	1,747	
(c) Livestock products	3,017	
(d) Fishing.	620	
(e) Forests	33	
	11,714	69.2
2. Mining	72	0.4
3. Manufacturing	54	0.3
4. Transport & Communications	165	1.0
5. Government	643	3.2
6. Public utility services	202	1.1
7. Services	2,518	15.0
8. Rental income	418	2.5
9. Wholesale and retail trade	1,376	8.7
		101.4
10. Rest of the World	-243	-1.4
TOTAL NATIONAL INCOME	16,919	100
ESTIMATED POPULATION (1948/49)	73.4	
PER CAPITA INCOME	Rs. 230.37	

(Source: Central Statistical Office.)

1) Report of the Economic Appraisal Committee, November, 1952.
(Reviewed: February, 1953) Vol. II, Karachi 1953, p. 226.

APPENDIX III.

Estimates of National Income of Pakistan in Current prices 1) by

Industrial Origin 1949/50 to 1953/54.

(Million Rupees)

S e c t o r s	1949/50	1950/51	1951/52	1952/53	1953/54
TOTAL ALL INDUSTRIES					
1. Agriculture					
(a) Major agricultural crops	16,815	17,151	18,469	18,276	18,155
(b) Minor agricultural crops	10,288	10,323	11,178	10,847	10,470
(c) Livestock	6,095	6,146	6,667	6,185	5,735
(d) Fisheries and Forestry	1,172	1,141	1,313	1,389	1,362
2. Mining	2,282	2,350	2,350	2,348	2,565
3. Manufacturing	739	686	848	925	808
4. Government	21	26	30	37	38
5. Banking and Insurance	1,091	1,150	1,218	1,325	1,517
6. Transport and Communications	808	858	1,048	1,032	1,052
7. Trade, House Rents, Services and Construction	43	51	58	68	69
8. Rest of the World	442	504	513	529	536
Per Capita Income in rupees	4,133	4,248	4,433	4,452	4,473
	-11	-9	-9	-14	-
	226	227	241	235	231

1) Pakistan Statistical Yearbook 1955, issued by Central Statistical Office, Ministry of Economic Affairs, Government of Pakistan, Karachi 1956, p. 40.

APPENDIX V

INDUSTRIAL ORIGIN OF NET DOMESTIC PRODUCT (AT FACTOR COST OF 1949/50 to 1952/53).

S e c t o r s	(Million Rs.)												
	1949/50	1950/51	1951/52	1952/53	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61	1961/62
Agriculture	10,696	11,072	10,850	11,239	11,955	11,858	11,335	12,224	12,099	11,819	12,578	13,051	13,357
Mining	20	23	27	32	33	35	37	44	47	52	56	65	70
Manufacturing	1,216	1,298	1,396	1,525	1,781	1,958	2,219	2,392	2,491	2,603	2,801	2,918	3,131
Transp. & Communic.	442	504	513	519	534	538	565	584	611	646	685	701	712
Wholesale & Retail Trade	1,606	1,671	1,654	1,725	1,857	1,867	1,832	1,987	1,973	1,951	2,080	2,161	2,232
Banking & Insurance	43	51	58	60	62	71	83	92	99	112	117	128	130
Ownersh. of dwellings	1,031	1,045	1,059	1,080	1,101	1,123	1,145	1,167	1,190	1,214	1,239	1,264	1,289
Publ. Adm. & Defence	810	853	1,034	1,019	1,025	1,018	1,065	1,082	1,111	1,199	1,118	1,193	1,259
Services (including Construction, Elec- tricity, Gas, Water & Sanitary Services	1,494	1,524	1,554	1,585	1,617	1,648	1,681	1,714	1,748	1,783	1,818	1,853	1,889
Net Domestic Product at Factor Cost	17,358	18,041	18,145	18,784	19,965	20,116	19,962	21,286	21,369	21,379	22,492	23,334	24,069
Annual Rate of Growth in NDP	-	3.9	0.6	3.5	6.3	0.8	-0.8	6.6	0.4	-	5.2	3.7	3.1
Net Factor Income Payments abroad	-10	-9	-8	-14	-	-9	-26	-12	-8	-10	-18	-19	-13
National Income	17,348	18,032	18,137	18,770	19,965	20,107	19,936	21,274	21,361	21,369	22,474	23,315	24,056
Population b)	74.25	75.04	77.86	80.09	81.57	83.07	84.51	85.96	87.58	89.26	90.99	92.79	94.65
National Income per Capita	234	240	233	234	245	242	236	247	244	239	247	251	254
Annual rate of Growth per Capita b)	-	2.6	-2.9	0.4	4.7	-1.2	-2.5	4.7	-1.2	-2.0	3.3	1.6	1.2

Note:- 1. The time reference of the estimate is April to March.

a) Population figures are those worked out by the Planning Commission on the basis of preliminary results of 1961 Population Census.

b) Rate of growth per capita in each year has been shown over the previous year.

c) Figures are provisional.

APPENDIX IV

NATIONAL INCOME OF PAKISTAN AT CONSTANT PRICES (BY INDUSTRIAL ORIGIN) 1949/50 to 1961/62. (Prices Average of 1949/50 to 1952/53)

S e c t o r s	(Millions of Rs.)												
	1949/50	1950/51	1951/52	1952/53	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61	1961/62
Agriculture:													
Major agr. crops	10,696	11,072	10,850	11,239	11,955	11,858	11,335	12,224	12,099	11,819	12,578	13,051	13,357
Minor "	6,272	6,549	6,145	6,355	6,922	6,738	6,334	7,195	7,015	6,717	7,432	7,836	8,125
Livestock	1,464	1,456	1,512	1,612	1,760	1,703	1,621	1,630	1,660	1,678	1,694	1,767	1,784
Fisheries	2,274	2,323	2,369	2,415	2,415	2,415	2,379	2,401	2,419	2,417	2,437	2,433	2,433
Forestry	676	730	811	844	839	975	975	975	975	975	975	975	975
Mining	10	14	13	13	19	27	26	23	30	32	40	40	40
Manufacturing:	20	23	27	32	33	35	37	44	47	52	56	65	70
Large-scale	1,216	1,298	1,396	1,525	1,781	1,958	2,219	2,392	2,491	2,603	2,801	2,918	3,131
Small-scale	250	313	391	500	735	890	1,129	1,280	1,356	1,445	1,619	1,712	1,901
Government	966	985	1,005	1,025	1,046	1,068	1,090	1,112	1,135	1,158	1,182	1,206	1,230
Banking & Insurance	810	853	1,034	1,019	1,025	1,018	1,065	1,082	1,111	1,199	1,118	1,193	1,259
Transp. & Communic.	43	51	58	60	62	71	83	92	99	112	117	128	130
Services a)	442	504	513	519	534	538	565	584	611	646	685	701	712
Rental Income	1,494	1,524	1,554	1,585	1,617	1,648	1,681	1,714	1,748	1,783	1,818	1,853	1,889
Wholesale & Retail Trade	1,031	1,045	1,059	1,080	1,101	1,123	1,145	1,167	1,190	1,214	1,239	1,264	1,289
Adjustm. of Indirect Taxes on Exports	1,606	1,671	1,654	1,725	1,857	1,867	1,832	1,987	1,973	1,951	2,080	2,161	2,232
Factor Income Payments	182	356	286	292	288	235	287	220	178	182	191	161	139
Eff. of Terms of Trade	-10	-9	-8	-14	..	-9	-26	-12	-6	-10	-18	-19	-13
Total Nat. Income	12	187	99	-301	-526	-278	-637	-612	-528	-701	-982	-533	-393
Population (in 000's)	17,542	18,575	18,522	18,761	19,727	20,064	19,586	20,882	21,011	20,850	21,683	22,943	23,802
Per Capita Income	74,250	75,040	77,861	80,089	81,571	83,074	84,510	85,964	87,584	89,261	90,997	92,793	94,651
	236	248	238	234	242	242	232	243	240	234	238	247	251

- Note:- 1. The estimates under all the sectors except Fisheries, Adjustment of Indirect Taxes on Exports, Factor Income Payments and Effects of Terms of Trade have been revised.
2. Income from Fisheries has been repeated from previous years owing to wide discrepancy between the reported production data of East Pakistan by the Central and Provincial Fisheries Departments. The two sets of figures are under reconciliation.
- a) Includes construction.
- b) Population figures are those worked out by the Planning Commission on the basis of preliminary results of 1961 Population Census.

