

CURRENT POSITION OF NATIONAL WEALTH ESTIMATION IN THE WORLD*

BY L. NESTEROV

United Nations Statistical Office

A decade has passed since the last significant attempt to review methods of national wealth estimation of different countries in the world and available statistical data in this field. The results of this earlier review were discussed at the Fifth Conference of this Association in 1957 and published as Volume VIII of the *Income and Wealth Series* in 1959 [1]. For that conference Mr. Th. D. van der Weide of the Netherlands Central Bureau of Statistics prepared summary tables of available data (primarily the results of private estimators) on national wealth composition of 18 countries and on particular methods used. Those tables were the result of his time-consuming recalculations on the basis of the international SNA classification. They provided some important facts to think over. First of all it was possible to discover many common features in the composition of the national wealth estimates which could serve as the basis of possible inter-country comparisons. Many estimators recognized only domestic reproducible tangible assets in the national wealth. Sub-soil deposits of minerals, standing timber and other natural resources were excluded from the estimates of most countries because of lack of reliable information and of difficulties in their evaluation, etc.

At the same time the conference showed clearly that inter-country comparisons involve numerous problems, even within an identical theoretical concept. The papers presented at that conference showed many differences in concepts of national wealth used, in actual coverage of those concepts with available data, in valuation methods, in price structure, etc. Some researchers stressed the need to put indicators of national wealth in a single and consistent framework of main economic indicators (national product, national income, fixed capital formation, etc.). It was evident also that national wealth estimating required solid background in statistical information for a long period of time and certain experience of that type of estimating, suitable for particular conditions and possibilities of the country. It is necessary to mention, nevertheless, that many questions of comparisons were not discussed, especially the questions of some particular problems of common monetary units for actual comparisons of national wealth estimates, and some other specific problems of comparability.

Since that conference there have been significant achievements in this field. The last decade evidenced numerous additions to the list of countries which have published estimates of national wealth (or its major components). Now there are more than 50 countries that have published such estimates, but only 15 countries succeeded in covering the whole range of national wealth components. Additional countries gathered information necessary for such estimates, but were unable to work out suitable ones. More than 40 countries (see Annex I) have official estimates made by their statistical administrations. Some countries have based their official estimates on special statistical surveys, inventories of their fixed and circulating assets as in the USSR, Czechoslovakia, Poland and Japan. Some countries are on the way to such special surveys (the U.S.A.). The OECD is working on such estimates but has not yet published them [2].

Sound results in each country may be obtained through hard and time-consuming work involving large amounts of calculations of reliable statistical information. For instance, preparation of recommendations to conduct an inventory in a large country such as the U.S.A.—The Wealth Inventory Planning Study—has required work of 150 experts in different fields [3]. About three million people participated in the USSR general inventory and revaluation of over 100 million objects of fixed assets in 1959 and 1961 [4]. Nevertheless, most countries have been satisfied with the work of a relatively small team of economists; in many cases their calculations had been simplified by the use of electronic computers. Electronic techniques have made it possible to process huge amounts of statistical information during all evaluations of wealth in the country.

*The views expressed in this paper are the sole responsibility of the author, and do not necessarily reflect the views of the Statistical Office.

ANNEX I

SUMMARY CHARACTERISTICS OF NATIONAL WEALTH COMPONENTS ESTIMATION IN DIFFERENT COUNTRIES
OF THE WORLD FOR THE POST-WAR PERIOD

Country or Region	Latest Estimate Available	Kind of Estimate	Major Components of the Estimate							Coverage of the Estimate	
			Fixed Assets	Inventories	Consumer Durables	Land	Other Natural Resources	Net Foreign Assets	Non- tangible Assets		
			4	5	6	7	8	9	10		11
<i>I. Official estimates of statistical authorities</i>											
1. Argentina	End of 1946- 1948	Census of book values	×	×	—	×	—	—	—	—	Industry, transport, state property
2. Australia	Middle of 1966	Census of book values	×	×	—	×	—	—	—	—	Mining, manufacturing, communications, trade, fishing
3. Brazil	End of 1959	Census of book values	×	—	—	—	—	—	—	—	Industry, commerce, services
4. Bulgaria	End of 1966	Annual balance of re- producible value	×	—	—	—	—	—	—	—	All economy
5. Canada	End of 1959	} Perpetual inventory estimate	×	—	—	—	—	—	—	—	All economy
6. Czechoslovakia	End of 1960 End of 1966		Annual balance of re- producible value	×	—	—	—	—	—	—	—
7. Denmark	End of 1966	Annual assess- ment of real property	×	—	—	×	—	—	—	—	All economy
8. Ethiopia	Mid 1966	Annual survey of book value	×	—	—	×	—	—	—	—	Manufacturing, electricity
9. Germany (Dem. Rep.)	End of 1966	Annual balance of re- producible value	×	—	—	—	—	—	—	—	Productive sphere of all economy
10. Hungary	End of 1967	Annual balance of re- producible value	×	×	—	—	—	—	—	—	All economy

11. Iceland	End of 1964	Assessment of real estate	×	×	—	×	—	—	—	Industry, agriculture, fishing, housing
12. India	End of 1965	Annual survey of book value	×	×	—	×	—	—	—	Industry
13. Iran	End of 1965	Annual survey of book value	×	×	—	—	—	—	—	Manufacturing
14. Japan	End of 1955	Sample survey of reproducible value	×	×	×	—	—	×	—	All economy
	End of 1965		×	×	—	—	—	—	—	Business enterprises
15. Luxembourg	End of 1950	Mixed estimates	×	×	×	×	—	×	×	All economy
16. Libya	End of 1964	Survey of book value	×	—	—	—	—	—	—	Large industrial units
17. Malawi	End of 1962	Survey of book value	×	×	—	—	—	—	—	Industry
18. Mexico	End of 1965	Census of book value	×	×	—	—	—	—	—	Industry and services
19. Nepal	End of 1965	Census of book value	×	—	—	×	—	—	—	Industry
20. Netherlands	End of 1958	Mixed estimates	×	×	—	×	—	×	—	All economy
21. New Zealand	Mid 1966	Survey of book value	×	×	—	×	—	×	—	All economy
22. Norway	End of 1964	Mixed estimates	×	×	×	—	—	×	—	All economy
23. Paraguay	End of 1963	Estimates of market value	×	×	—	×	—	—	—	Industry and electricity
24. Philippines	End of 1961	Census of book value	×	×	—	—	—	—	—	All economy
25. Poland	End of 1965	Annual balance of reproducible value	×	—	—	—	—	—	—	All economy
26. Portugal	End of 1964	Census of book value	×	×	—	×	—	—	—	Industry
27. Pakistan	End of 1960	Census of book value	×	×	—	×	—	—	—	Industry
28. Papua and New Guinea	Mid 1967	Census of book value	×	—	—	×	—	—	—	Industry
29. Rumania	End of 1966	Annual balance of reproducible value	×	—	—	—	—	—	—	All economy
30. Rhodesia, South	End of 1965	Survey of book value	×	×	—	×	—	—	—	Industry
31. Singapore	End of 1964	Survey of book value	×	×	—	×	—	—	—	Industry

It is worth noting that adoption of the United Nations System of National Accounts (SNA) by most countries with market economies in the post-war period is a good base for improvement of many estimates including national wealth. First of all, the SNA provides mutual reconciliation of all national aggregates within a framework balancing the flows of all resources and expenses in the country for certain periods of time. This is an important factor for significant improvement of the accuracy of estimation, especially in capital formation indicators, with the help of which it is possible to calculate annual changes in the stock of main national wealth assets. Besides that, a high degree of accuracy in the total volume of capital formation makes it possible to reconcile the detailed data on particular processes of capital formation in every sector of the economy, in each asset of it. The last indicators are widely used in many countries for calculating the stock of fixed and circulating assets at a given date. One of the most vivid examples was given by the Norwegian Central Statistical Bureau which in 1965 published its estimates of national real capital for nearly a whole century, for 1865–1960. Its main economic indicators are mutually consistent and provide a solid base for much sound economic analysis. It is interesting to mention also that in 1953 the U.N. Statistical Office issued a report on an international standard, *A System of National Accounts and Supporting Tables* [5], which was three times revised (in 1958, 1964 and 1968). This international recommendation has helped many countries to organize their own systems of main economic indicators. In the first post-war years such systems were applied in only a few West-European countries, but now such systems have been applied in a hundred countries. In 1958 the U.N. Statistical Office inaugurated the first issue of the *Yearbook of National Accounts Statistics* [8] with information on 70 countries and territories. The latest available (eleventh) issue for 1967 provides information on 112 countries and territories. In the first issue of this Yearbook, 56 countries provided estimates of fixed capital formation (usually of a single aggregate without details of its structure). The last issue of this Yearbook contains detailed information on composition of fixed capital formation for 86 countries and on total volume for 105 countries. So, this Yearbook has helped to gather very valuable and rather detailed information on fixed capital formation for the period since 1950 for most countries of the world within the framework of SNA.

All available national experience and new trends in estimation techniques should be summarized, analysed and discussed thoroughly to choose the most interesting and effective methods. Such examples will be of great help to those countries which have not yet started evaluation of their wealth. They will be in a position to decide which of the methods is the most suitable for their own particular conditions. At the same time, such a review will be of great help to draft sound international recommendations as a standard for inter-country comparisons. This is a task not for individual researchers (which was a characteristic in the past) but for international organisations.

In October 1966 the fourteenth session of the U.N. Statistical Commission adopted the *Integrated five-year programme of international statistics* [7]. The programme proposes to “. . . develop international suggestions in respect of the compilation and collection of statistics of real wealth; and prepare a study, including national practices, problems and developments, on the needs for objectives of these data, concepts, methods of valuation, classifications and tabulations of wealth statistics, and sources and methods of collecting and estimating the data” [7].

In line with this programme, a review was made. The review covered published information to obtain an idea of how many countries had any experience in the field of national wealth estimation during the post-war period and what were the main features of those estimates. Annex I to this paper is a result of some systematization of the available information on more than 50 countries. It is quite possible that not all estimates (especially private) were covered in this review because its main focus was on official statistical publications.

All information gathered may be considered from several points of view according to the significance of the published estimates, to their scope, to methods of estimation, to kind of stock estimates, etc.

The published estimates may be classified geographically as follows:

Europe	America	Asia	Africa	Oceania
1. Belgium*	1. Argentina	1. India*	1. Ethiopia	1. Australia*
2. Bulgaria	2. Brazil	2. Iran	2. Libya	2. New Zealand
3. Czechoslovakia	3. Canada*	3. Israel*	3. Malawi	3. Papua and New Guinea
4. Denmark	4. Chile	4. Japan*	4. Rhodesia, South Africa*	
5. Finland	5. Colombia	5. Nepal	5. South Africa*	
6. France*	6. Honduras*	6. Philippines	6. Zambia	
7. Germany, D. R.	7. Mexico	7. Pakistan		
8. Germany, F. R.*	8. Paraguay	8. Singapore		
9. Greece	9. Uruguay	9. Taiwan		
10. Hungary	10. USA*	10. Thailand		
11. Iceland	11. Venezuela			
12. Italy*	12. Costa-Rica			
13. Luxembourg*				
14. Netherlands				
15. Norway*				
16. Poland				
17. Rumania				
18. Spain				
19. Sweden*				
20. UK				
21. USSR*				
22. Yugoslavia*				

Published estimates cover at least the following major elements of national wealth:

- Fixed assets
- Circulating assets (inventories)
- Consumer durables (except for Sweden)
- Net foreign assets (except for Germany, India and USSR)
- Land (in many cases).

So, out of 53 countries that have published estimates on major elements of national wealth, 22 countries are in Europe, 12 in America, 10 in Asia, 6 in Africa and 3 in Oceania. But only in 18 cases do the estimates cover at least reproducible tangible assets and net foreign assets, or only in those countries may the estimates be considered practically as national wealth (9 in Europe, 3 in America, 3 in Asia, 1 in Africa and 1 in Oceania).

According to the significance of the published estimates they may be classified into three groups:

1. The first group of estimates of *national statistical administrations* (they may be titled also as Bureaus or as Offices) is the largest and consists of 43 countries, and among them it is possible to mention countries with the centrally planned economies (the USSR, Czechoslovakia, Poland and others) as well as the USA, UK, Japan and others.
2. The second group embraces two countries—Sweden and the USA—as having *semi-official estimates* (i.e. private estimates reproduced in official statistical publications with reference to their authors).
3. The third group consists of *private estimates*. Many of them covered the bulk of elements comprising national wealth for several Latin-American countries (Argentina, Brazil, Chile, Colombia, Mexico and Venezuela), and for the region as a whole estimates were prepared under the auspices of the U.N. Economic Commission for Latin America. In this group, it is possible to find an attempt to evaluate national wealth of the world as a whole. Some countries may be found in two groups (Australia, Canada, Japan, UK, USSR, Yugoslavia and others) and even in three groups (USA).

The first main conclusion that can be reached from the material gathered is that the time has arrived to spread the rich experience of some countries in national wealth estimation. The U.N. Statistical Office now is accumulating published information on national experience of statistical administrations and private researchers to draft possible recommendations. At the same time it will be extremely useful if the IARIW tries once more to summarize new experience of individual researchers in different countries of the world and to prepare a new study in this field, sponsoring also national wealth estimation in many new countries of the world.

According to the methods of estimation all published material may be classified as follows:

- (a) general inventory (and revaluation) or census,
- (b) inventory with samples of detailed characteristics,
- (c) survey of book values for fixed and circulating assets (in some cases with revaluation of assets),
- (d) "perpetual inventory",
- (e) capitalisation (Giffen) method,
- (f) real property assessment.
- (g) mixed methods,

Surveys of bookkeeping records on fixed and circulating assets usually are the first steps in gathering information on major national wealth components. This method is characteristic not only for numerous recent newcomers in national wealth statistics but also for Australia where the statistical services have used this method since the beginning of this century. But without the subsequent revaluation of such data into the prices of a given base year this information has little significance for economic analysis. Several countries are in favor of the perpetual inventory method which can be successfully used in estimation on the basis of available detailed information on capital formation in the country for a long period of time. Centrally planned economies use annual balances of fixed and circulating assets in the whole economy (both book values and revaluated estimates) as the chief method for national wealth estimation supplemented by calculations based on information from family budget surveys, etc. But the experience of all experienced countries showed the necessity for solid detailed benchmarks—information from censuses, surveys or special statistical observations on national wealth main components.

Certain peculiarities may be found in each country implementing those methods, but general principles are very close. So it will be possible to formulate the second main conclusion that there is a good base for an international recommendation for the countries to choose the methods most suitable for the particular conditions.

The same conclusion may be reached on concepts, on scope and other aspects of national wealth estimation.

The time is ripe to start this work on a new level of international organisations and through cooperation of all statistical organisations and individual researchers who are eager to provide valuable information for analysis of economic growth of countries and the world.

Some References:

1. *Income and Wealth*, Series VIII, London, 1959.
2. *The Review of Income and Wealth*, 1966, No. 2, pp. 128–129.
3. *Measuring the Nation's Wealth*, United States Government Printing Office, Washington, 1954, p. XII.
4. *Planovoe khoziaistvo (Planned Economy)* 1960, No. 10, p. 7; 1962, No. 11, p. 48.
5. *A System of National Accounts and Supporting Tables*, Studies in Methods, Series F, No. 2, Rev. 2, United Nations, New York, 1964.
6. Statistical Commission, Report of the Fourteenth Session, United Nations, New York, E/CN.3/354, pp. 6–7.
7. *Integrated Five-Year Programme of International Statistics*. United Nations, New York, E/CN.3/351, p. 74.
8. *Yearbook of National Accounts Statistics*, United Nations, New York, N.Y., 1958 and 1968.

ANNEX II

LIST OF MAIN PUBLICATIONS

CONTAINING COUNTRY ESTIMATES OF NATIONAL WEALTH

I. ESTIMATES PUBLISHED BY REGIONAL OR INTERREGIONAL ORGANIZATIONS

1. The United Nations Economic Commission for Latin America (ECLA) in (a) *Economic Survey of Latin America 1951-1952*, N.Y. 1954 (E/CN.12/291/Rev.2)—estimates for Argentina, Brazil, Chile, Mexico and for the whole region; in (b) *Economic Survey of Latin America, 1954*, N.Y. 1955 (E/CN.12/362/Rev.1)—estimates for Venezuela, Argentina, Chile and for the whole region.
2. EEC, Office Statistique des Communautés Européennes in *Informations Statistiques (Série orange) 1960, No. 6*, estimates for Australia, Belgium, Canada, Finland, France, Germany (F.R.), Italy, Netherlands, Norway, Sweden, U.S.A., United Kingdom.
3. IARIW, *Income and Wealth, Series VIII*. (London, 1959), estimates for Belgium, Luxembourg, Netherlands, Germany (F.R.), France, United Kingdom, Sweden, Norway, Yugoslavia, Canada, U.S.A., Mexico, Australia, South Africa, Argentina, Colombia, Japan, India.
4. IARIW, *The Review of Income and Wealth, Series 12, No. 2* (June 1966), pp. 128-130; estimates for U.S.A., U.K., France, Germany (F.R.), Belgium, Norway, Italy, Japan, Israel, Mexico, India and U.S.S.R.

II. COUNTRY ESTIMATES

1. *Argentina*
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 - (b) ECLA in I. 1(a), pp. 36-50.
 - (c) M. Balboa, A. Fracchia and A. Ganz in I.3., pp. 242-251; 274-292.
2. *Australia*
 - (a) Commonwealth Bureau of Census and Statistics (CBCS)—in *Yearbook of Commonwealth of Australia*, No. 53 for 1967 (and in previous issues); in *A Summary of Principal Statistics of Factories*, No. 19 (1966-1967), Canberra 1967, pp. 7, 32, 33 (and previous issues); in *Manufacturing Industry*, Bull. No. 2 (1964-1965), Canberra, 1967, pp. 1, 71-81 and previous issues.
 - (b) T. M. Garland and R. W. Goldsmith in I.3., pp. 323-364.
 - (c) EEC in I.2.
3. *Belgium*
 - (a) G. Labeau in *Cashiers économiques de Bruxelles*, No. 25 (1965), pp. 5-46.
 - (b) C. Duprez and B. Kahn, reproduced in I.2. (pp. 588-589).
 - (c) F. Baudhuin, reproduced in I.3. (pp. 8-33).
 - (d) OECD, reproduced in I.4.
4. *Brazil*
 - (a) Servico Nacional de Recenseamento in VII Recenseamento Geral do Brasil, Vol. III Censo Industrial de 1960, pp. 61, 115; Vol. IV Censo Comercial e dos Serviços de 1960, pp. 10, 11, 46-51, 114-115, 160-171.
 - (b) ECLA by A. Ganz in I.1(a), pp. 51-62.
5. *Bulgaria*
 - (a) Central Statistical Administration in *Statistical Yearbook (Статистически годишник на НРБ)* for 1966 (as well as for previous years), pp. 87-90, 102-104; 129-169; 212-214; 220-222; 225-246; 394; 449-460.
6. *Canada*
 - (a) Dominion Bureau of Statistics in
 - Daily Bulletin, Supplement*—2; Dec. 22, 1965.
 - Fixed Capital Flows and Stocks Manufacturing, Canada 1926-1960*, Ottawa 1967.
 - Canada Year Book*, 1966 (and in previous issues), pp. 514, 716, 765, 782-784; 805, 833, 880.

- (b) O. J. Firestone in *Income and Wealth, Series VII*, (1958).
 - (c) W. M. Hood and A. Scott in *Output, Labour and Capital in the Canadian Economy*, Ottawa, 1957 (especially pp. 227–306, 401–492).
 - (d) A. Scott in I.3., pp. 193–216.
 - (e) G. W. Wilson, S. Gordon and S. Judek in *Canada: an appraisal of its needs and resources*, N.Y. 1965 (especially Part II).
7. *Chile*
 - (a) ECLA by A. Ganz in I.1(a), pp. 62–75.
 - (b) ECLA in I.1(b), p. 24.
 8. *Colombia*
 - (a) ECLA by A. Ganz in I.3., pp. 225, 229; 251–260.
 - 8^a. *Costa Rica*
 - Dirección General de Estadística y Censos, in III Censo de Industrias Manufactureras 1964, pp. 75–79; 83–93; in III Censo de Comercio y Servicios 1964, pp. 33–49; 63–65.
 9. *Czechoslovakia*
 - (a) Central Statistical Administration in *Statistical Yearbook (Statistická Ročenka CSSR)* for 1967 (and in previous issues), pp. 153–156; 179–187.
 10. *Denmark*
 - Statistical Bureau of Denmark in *Statistical Yearbook (Statistisk Årbog)*, 1968, pp. 83–87.
 11. *Ethiopia*
 - Central Statistical Office in *Statistical Abstract*, 1966, pp. 59, 62.
 12. *Finland*
 - (a) L. Tornquist in *Statistiska Institutionen Helsingfors Universitet Särtryck, Series No. 1* Helsinki, 1958.
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 13. *France*
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 - (b) OECD, reproduced in I.4.
 14. *Germany (D.R.)*
 - Central Statistical Office in *Statistical Yearbook (Statistisches Jahrbuch, 1968, der DDR)*, Berlin 1968, p. 55.
 15. *Germany (F.R.)*
 - (a) *Deutsches Institute für Wirtschaftsforschung in Sonderheftes*, Reihe A No. 34, 41, 42, 62.
 - (b) IARIW in I.3., pp. 147–159.
 - (c) IARIW in I.4.
 16. *Greece*
 - (a) Center of Planning and Economic Research in *Research Monograph Series*, No. 16 (Athens, 1966) (Fixed Capital Stock and Future Investment Requirements in Greek Manufacturing by R. Krengel and D. Mertens).
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 18. *Hungary*
 - (a) Central Statistical Office—in *Statistical Yearbook 1966 (Statisztikai Écönyv)*, Budapest 1967, p. 41; in *A Népgazdaság Allóeszközei*, 1959–1961, Budapest 1963; in *Statisztikai Időgzaki Kézlemények*; 94 kötet, Budapest 1965, pp. 45–46; 103 kötet, Budapest 1967, pp. 16–17, 21–53.
 19. *Iceland*
 - Statistical Bureau in *Statistical Abstract (Tölfraedihandbók)*, Reykjavik 1967, pp. 88–89, in Hagskýrslur Islands, Series II, No. 29 (Industrial Production Statistics for 1960), pp. 28–31, 38–39; No. 38 (Fishery Industry), pp. 1, 15.
 20. *India*
 - (a) Department of Statistics—in *Annual Survey of Industries, 1965*, Calcutta 1967; and in previous issues since 1958; up to 1958 there were 13 *Censuses of Indian Manufacturers* (Annual).
 - (b) IARIW in I.3., pp. 365–389.

- (c) IARIW in I.4.
 (d) M. S. Joshi, *The National Balance Sheet of India*, University of Bombay, Bombay 1966, esp. p. 10.
21. *Iran*
 Bureau of Statistics, Ministry of Economy in *Report on the Results of Annual Industrial Survey in 1965*, Teheran 1967, pp. II, VIII, XVI.
22. *Israel*
 By R. Goldsmith in I.4.
23. *Italy*
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26. *Luxembourg*
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28. *Mexico*
 (a) Central Statistical Office in *V Censo de Servicios 1966*, Mexico 1967, Resumen General, p. 3; in *VIII Censo Industrial 1966*, Mexico 1967, Resumen General, p. 3; in *V Censo Commercial*, 1966, Resumen General, pp. 3–20.
 (b) ECLA in I.1(a), pp. 75–89.
 (c) IARIW in I.3., pp. 225–230, in I.4.
29. *Nepal*
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32. *Norway*
 (a) Central Bureau of Statistics in *Norges Officielle Statistikk VII. 163* (Oslo, 1965—National Accounts for 1865–1960).
 (b) IARIW in I.3., pp. 80–118.
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33. *Pakistan*
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34. *Papua and New Guinea*
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40. *Romania*
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41. *Singapore*
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42. *South Africa*
 - (a) Bureau of Statistics in *Statistical Yearbook 1966*, Pretoria 1966, pp. J-22; M-8; M-14, 15; N-4, 5; O-3; P-2, 3.
 - (b) IARIW by D. G. Franzsen and J. J. D. Willers in I.3.; pp. 292–322.
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