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PROBLEMS ARISING IN THE STATISTICS OF THE CENTRALLY
PLANNED ECONOMIES

(Note prepared by the United Nations Statistical Office)

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The attached note on some problems arising in the statistics of the centrally planned economies was submitted to the twentieth session of the Committee on Contributions as a working paper.

NOTE ON SOME PROBLEMS ARISING IN THE STATISTICS OF THE
CENTRALLY PLANNED ECONOMIES

Exchange rate problems

From the point of view of exchange rates the centrally planned economies may be distinguished into three groups in order of the difficulty of conversion of net material product estimates into United States dollars:

- (a) China (mainland), Hungary, Romania,
- (b) Albania, USSR, and Yugoslavia,
- (c) Bulgaria, Czechoslovakia and Poland.

Group (a)

For China (mainland) a single rate is available and is published in Economic Survey of Asia and the Far East, Economic Commission for Asia and the Far East.

In the case of Hungary net material product in forints and in United States dollars for average 1957-1959 together with the applicable exchange rate were communicated to the United Nations Secretariat by the Hungarian delegation.

In the case of Romania net material product in United States dollars for average 1955-1957 was communicated in August 1958 to the United Nations Secretariat by the Romanian delegation. Since no reply was received this year from Romania, the old estimates in dollars were extrapolated by official indices of net material product.

Group (b)

In Albania two exchange rates prevailed during the period under review: (i) official, and (ii) tourist. In document A/CN.2/R.151 an average of the two rates was used. The results of conversion of net material product estimates into dollars by the use of several exchange rates are shown below.

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Exchange rate	Average 1957-59	
	Net material product (million dollars)	Per capita income (dollars)
(i) Official (50 leks per dollar) ^{1/}	387	257
(ii) Tourist (150 leks per dollar) ^{2/}	129	86
(iii) Average of (i) and (ii) ^{3/}	194	129
(iv) Rate calculated through new ruble ^{4/} (90 leks per dollar)	215	143

^{1/} Annual Reports of the Bank of International Settlements.

^{2/} New York Times, 14 October 1957.

^{3/} Presented in A/CN.2/R.151 as the first alternative.

^{4/} Izvestia, 1 January 1961.

In the USSR two exchange rates prevailed during the period under review: (i) official, and (ii) tourist. A new official exchange rate was introduced on 1 January 1961. In document A/CN.2/R.151 two alternatives are presented based on the tourist and the new official rate. The results of conversion of national income in dollars by the use of all the above rates are shown below.

Exchange rate	Average 1957-59	
	National income (1,000 million dollars)	Per capita income (dollars)
(i) Official (0.4 new ruble per dollar) ^{1/}	353	1,704
(ii) Tourist (1 new ruble per dollar) ^{2/}	141	681
(iii) New official (1.11 dollars per new ruble) ^{3/}	157	758

^{1/} Annual Reports of the Bank of International Settlements.

^{2/} New York Times, 14 October 1957. This calculation is presented in A/CN.2/R.151 as the second alternative.

^{3/} Izvestia, 1 January 1961. This calculation is presented in A/CN.2/R.151 as the first alternative.

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In Yugoslavia two exchange rates prevailed during the period under review:
(i) official and (ii) settlement rate for the United States dollar. In document A/CN.2/R.151 an average of the two rates was used. The results of conversion of net material product estimates into dollars by the use of these exchange rates are shown below.

Exchange rate	Average 1957-59	
	Net material product (million dollars)	Per capita income (dollars)
(i) Official (300 dinars per dollar) ^{1/}	6,590	362
(ii) Settlement rate for U.S. dollar ^{1/} (632 dinars per dollar)	3,128	172
(iii) Average of (i) and (ii) ^{2/}	4,243	233

1/ International Financial Statistics, International Monetary Fund.

2/ Presented in A/CN.2/R.151 as the first alternative.

Group (c)

The most serious problems of conversion by the exchange rates which prevailed during the period under review are encountered in the case of countries belonging to this group, viz. Bulgaria, Czechoslovakia and Poland. The following conversion calculations are presented merely by way of illustration. It is obvious that the results in terms of per capita income are either meaningless or unrealistically out of line with estimates for other countries in comparable economic situations as suggested by various economic indicators. Therefore, different methods had to be used for arriving at national income estimates in dollars for the countries in this group.

In Bulgaria two exchange rates prevailed during the period under review:
(i) official, and (ii) tourist. The results of conversion of net national product estimates into dollars by the use of these exchange rates are shown below.

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Exchange rate	Average 1957-59	
	Net material product (million dollars)	Per capita income (dollars)
(i) Official (6.8 levas per dollar) ^{1/}	5,296	685
(ii) Tourist (9.5 levas per dollar) ^{2/}	3,791	491

^{1/} Annual Reports of the Bank of International Settlements.

^{2/} New York Times, 14 October 1957.

When an exchange rate was established between the U.S. dollar and the new USSR ruble on 1 January 1961, a new rate was also established between the ruble and the leva. A calculation was attempted on the basis of an exchange rate derived through the ruble rate which gave the following results.

Net material product (million dollars) 4,502

Per capita income 583

In Czechoslovakia two exchange rates prevailed during the period under review:

(i) official, and (ii) tourist. The results of conversion of net material product estimates into dollars by the use of these exchange rates are shown below.

Exchange rate	Average 1957-59	
	Net material product (million dollars)	Per capita income (dollars)
(i) Official (7.2 crowns per dollar) ^{1/}	63,750	4,731
(ii) Tourist (14.3 crowns per dollar) ^{2/}	32,098	2,382

^{1/} Annual Reports of the Bank of International Settlements.

^{2/} New York Times, 14 October 1957.

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When an exchange rate was established between the U.S. dollar and the new USSR ruble on 1 January 1961, a new rate was also established between the ruble and the crown. A calculation was attempted on the basis of an exchange derived through the ruble rate which gave the following results.

Net material product (million dollars)	44,135
<u>Per capita income (dollars)</u>	3,276

In Poland two exchange rates prevailed during the period under review: (i) official, and (ii) tourist. The results of conversion of net material product estimates into dollars by the use of these exchange rates are shown below.

Exchange rate	Average 1957-59	
	Net material product (million dollars)	<u>Per capita income</u> (dollars)
(i) Official (4 zlotys per dollar) ^{1/}	59,675	2,073
(ii) Tourist (24.4 zlotys per dollar) ^{2/}	9,783	340

1/ Annual Reports of the Bank of International Settlements.

2/ New York Times, 14 October 1957.

When an exchange rate was established between the U.S. dollar and the new USSR ruble on 1 January 1961, a new rate was also established between the ruble and the zloty. A calculation was attempted on the basis of an exchange rate derived through the ruble rate which gave the following results.

Net material product (million dollars)	17,681
<u>Per capita income (dollars)</u>	614

Statistical discrepancies between national income estimates prepared in accordance with United Nations definitions and those employed by the centrally planned economies

In document A/CN.2/R.150, paragraph 7, it is mentioned that in the case of the Union of Soviet Socialist Republics an approximate calculation has been published

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in Economic Survey of Europe, 1959, Economic Commission for Europe, indicating a percentage relationship between estimates prepared in accordance with the two concepts. This calculation is reproduced below.

Estimates of components of net national product

	Approximate share in 1955
Net material product	84
State social outlays on services	7
Consumer services	2
of which	
Passenger transport	1
Cinemas	1/2
Government and defence outlays:	
on armed forces	3
on civil service	2
Imputed and paid rent	2
Net national product (UN definition)	100

The percentage indicated for the USSR could not be assumed with any degree of confidence to apply to the net material product estimates of the other centrally planned economies. Statistics on individual non-productive services for the purpose of making similar calculations for these countries are extremely scant. An approximate method was employed to estimate the income originating in non-productive sector for about half the number of countries. This consisted of first subtracting from net material product turnover taxes and profits to obtain an estimate of wages and salaries in the productive sector. By dividing the last estimate by the number of persons engaged in productive sector an average labour remuneration was obtained for the sector. Assuming the same average labour remuneration to hold for the non-productive sector and multiplying by the number of persons engaged in this sector an estimate was obtained of the total labour remuneration in the sector. However, this method did not yield meaningful results for most of the countries in view of serious problems of comparability of concepts

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and definitions of the various elements and existence of gaps in available statistical data. For the remaining countries basic data for use in such a calculation were lacking.

For the reasons stated in the preceding paragraph a different approach had to be adopted for obtaining a rough indication of the statistical discrepancies between estimates calculated in accordance with the two concepts of national income. The percentage discrepancy is believed to vary from country to country depending on the stage of economic development. The more developed a country the higher the proportion of services in national income. A rough comparison of relative stages of economic development may be based on various economic indicators. For the present purpose use was made of such indicators as (i) the proportion of working population engaged in agriculture, (ii) income originating in agriculture as proportion of total national income, and (iii) income originating in industry as proportion of total national income. Of these three indicators the first two are available for all countries. Estimates of percentage discrepancies were then made by linking the statistics of the USSR with those of the remaining centrally planned economies (except Czechoslovakia) and using the discrepancy for the USSR as computed by the Economic Commission for Europe. In the case of Czechoslovakia it was believed that data on agriculture contained some statistical anomalies owing to special price policies and certain problems of definition. Therefore, the percentage for Czechoslovakia was derived by using the third indicator mentioned above, viz. income originating in industry as proportion of total national income. The results are presented in the following table.

	Percentage discrepancy
Albania	7
Bulgaria	9
China (mainland)	7
Czechoslovakia	20
Hungary	12
Poland	12
Romania	9
Yugoslavia	9