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# Consumption matrices in the German Democratic Republic and in the Federal Republic of Germany — a Contribution to Intercountry Input-Output Analysis\*

by Edith Biebler\*\* and Jochen Schmidt

## 1. Introduction

The different national accounts systems, SNA (System of National Accounts) and MPS (Material Product System), make common analysis difficult. This concerns especially private consumption where the differences between both systems are enormous.

The paper represents an attempt to compare the consumption matrices of the Federal Republic of Germany (FRG) and the German Democratic Republic (GDR). Further it can be considered as a contribution to the joint research project of the German Institute for Economic Research (DIW/FRG) and the Institute of Economic Sciences of the Academy of Sciences (IWW/GDR). It includes

- the description of the different procedures to construct consumption matrices in the FRG and the GDR;
- the elaboration of important differences between the consumption matrices in the FRG and the GDR;
- the problems connected with the construction of comparable consumption matrices;
- the analysis of structural differences and divergences caused by the SNA and the MPS in private consumption between the FRG and the GDR.

The construction of comparable consumption matrices is based on the input-output tables 1986 for the FRG respectively 1987 for the GDR; differences in the level of private consumption referring to this timing are considered as small and therefore they are neglected.

The authors are conscious that the establishment of comparable consumption matrices requires a lot of compromises and so the conclusions have to be drawn in consideration of this. Nevertheless, relationships and sizes, both in the structure of private consumption and also between the two different concepts of national accounts have become obvious.

## 2. The different approaches of constructing consumption matrices for the FRG and the GDR

The consumption matrix shows the distribution of goods and services produced in the different production sectors for the final demand of private consumption (FRG) respectively of whole consumption (GDR) according to individual positions of use (FRG) or complexes of needs (GDR):

Production sectors $i$ $i=1, \dots, n$	Positions of use $k$ (Complexes of needs) $k=1, \dots, m$	(Private) Consumption $y_i$
$1$	$y_{11} \dots y_{1m}$	$y_{1.}$
.	.	.
.	.	.
.	.	.
.	.	.
$n$	$y_{n1} \dots y_{nm}$	$y_{n.}$
$1-n$	$y_{.1} \dots y_{.m}$	$y_{..}$

The consumption matrices present information about the sectors where the goods and services are produced as well as for which complexes of needs they are used. Thereby it is possible to analyse the structure of private consumption and also to calculate the requirements of production and resources for these complexes with the input-output model. Between the FRG and the GDR differences exist in the procedure of constructing consumption matrices.

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## 2.1 Approach of constructing the consumption matrix in the FRG

At the DIW the starting point for the construction of the consumption matrices is given with the data on national accounts disaggregated according to delivering sectors. The consumption matrix is derived on the basis of various single matrices with the same formats (see scheme 1):

$$(1) \quad Y = Y_{EH} + Y_{GH} + Y_I + Y_H + Y_L$$

whereby

$Y = y_{ik}$  the consumption matrix with the elements  $y_{ik}$ ;  $y_{ik}$  represents the final demand of consumption  $y$  of goods and services produced in the sector  $i$  ( $i=1, \dots, n$ ) for the position of use  $k$  ( $k=1, \dots, m$ )

$Y_{EH}$  matrix of retail trade

$Y_{GH}$  matrix of wholesale trade

$Y_I$  matrix of industry (direct purchases)

$Y_H$  matrix of handicraft

$Y_L$  matrix of the residual delivering sectors

There are necessary extensive calculations and processes of coordination. This concerns both the allocation of input data to the various positions of use and the determination of exfactory prices for retail and wholesale trade.

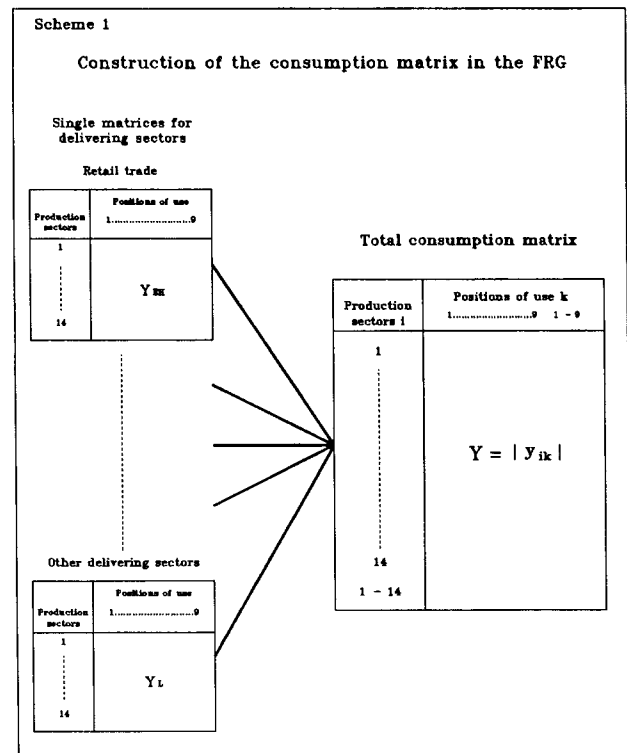
The consumption matrix calculated by the DIW for the FRG<sup>1</sup> has a size of 55 x 9, that means 55 production sectors (corresponding to the input-output table of the DIW) and the following 9 positions of use:

- Food, beverages and tobacco
- Clothing and footwear
- Gross rent
- Fuel and power
- Furniture, household equipment
- Health
- Transport and communication
- Culture, education, entertainment
- Other goods and services.

The input-output table of the DIW is constructed according to the institutional principle, that means the deliveries of the enterprises are classified in production sectors in accordance with the main activities.

## 2.2 Procedure for calculating the consumption matrix in the GDR

At the beginning of the seventies consumption matrices have been elaborated to investigate the relations between consumption (complexes of needs), production and the inputs of resources with input-output tables at the Institute of Economic Sciences (IWW)<sup>2</sup>.



The consumption matrix has been derived from the vector of final demand by using a structural matrix built up at the IWW (see scheme 2). This structural matrix contains time independent constant shares in percent in order to distribute goods and productive services which are included in the final demand of consumption<sup>3</sup> according to complexes of needs. The consumption matrix of the GDR will be calculated as follow:

$$(2) \quad Y = \hat{y} * S$$

whereby

$Y = y_{ik}$  the consumption matrix  $Y$  with the elements  $y_{ik}$ ;  $y_{ik}$  represents the final demand of consumption  $y$  of the production sector (main groups of goods)  $i$  in the complex of needs  $k$

$\hat{y}$  diagonal matrix with the elements  $y_i$  on the diagonal

$S = s_{ik}$  the structural matrix  $S$  with the elements  $s_{ik}$ ;  $s_{ik}$  expresses the share of consumption in the production sector  $i$  for the complex of needs  $k$  in percent ( $s_i = 100 \%$ )

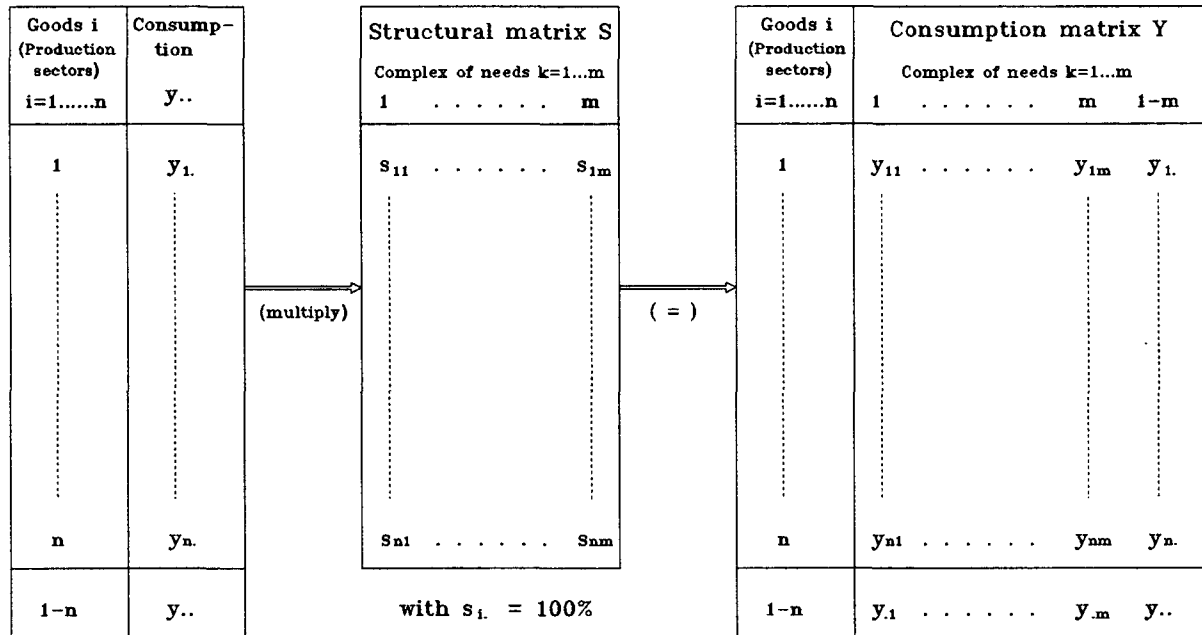
<sup>1</sup> J. Schmidt, Neuberechnung der DIW-Konsummatrizen unter besonderer Berücksichtigung des Einzelhandels, Vierteljahrshefte zur Wirtschaftsforschung, Heft 4/1989, DIW.

<sup>2</sup> E. Biebler, Struktur der Konsumtion nach Bedürfniskomplexen und Entwicklung ihres volkswirtschaftlichen Aufwandes, Wirtschaftswissenschaft, Heft 11/1988.

<sup>3</sup> The problem „complex of needs” or „complex of use” will be not discussed in this connection (see E. Biebler, p. 1672).

Scheme 2

Construction of the consumption matrix in the GDR



The consumption matrix will be established by involving the following complexes of needs:

- Nutrition
- Clothing
- Housing
- Health care
- Education
- Culture, sport, recreation
- Transportation and communication
- General public needs.

The consumption matrix of the GDR includes both the individual consumption (this is an essential part of the private consumption) and the social consumption (comparable with the government consumption; whereby the expenditures for pure public fields are included in the complex of needs „General public needs”).

### 3. The essential differences between the consumption matrices of the FRG and the GDR

#### 3.1 Differences in the methodological field

As can be seen from chapter 2, the consumption matrices differ from each other especially

- in the approach of their construction:
  - FRG: The different elementary matrices are combined to derive the consumption matrix (see scheme 1).
  - GDR: The consumption vector has been allocated to the different complexes of needs, that means it has been transformed into a consumption matrix (see scheme 2).
- in the concepts of the input-output systems and therefore in the structure of the consumption matrices:

FRG: The DIW input-output tables, which have been used in this paper, are based on the institutional principle of classifying goods and services according to production sectors contrary to the input-output tables of the Statistical Federal Office of the FRG where the functional principle is used. Therefore, in production sectors like machinery also the use of nutrition goods for works canteens can be included.

GDR: The input-output table comprehends goods and services according to the functional principle, that means all goods and services are classified in groups of goods and services independent from their place of production or use.

— in the different aggregation and allocation of goods and services:

FRG: The DIW input-output table has a classification of 55 production sectors (included are the non-material sectors).

GDR: The input-output table 1987 elaborated by the Statistical Office of the GDR reflects different aggregation levels of goods, whereby only goods and productive services are involved:

1. aggregation level	131
2. " "	31
3. " "	13
4. " "	6

— in the diverse notations for the positions of consumption, whereby the correspondence in regard of the content is very close:

FRG: Positions of use (food and beverages, clothing and footwear, gross rent, fuel and power, household goods, health, transport and communication, education and recreation).

GDR: Complexes of needs (nutrition, clothing, housing, health care, education/culture/recreation, transportation/communication).

### 3.2 Differences with regard to the content

The differences are caused by the other concepts of the national accounts in the FRG (SNA) and the GDR (MPS). Accordingly, the consumption matrices of the FRG and the GDR differ from each other especially

— in the consideration of paid and non-paid non-material services:

FRG: The consumption matrix includes private consumption only and therefore mainly the purchases of goods and services (material as well as non-material)<sup>4</sup>. Not-market public services (health service, educational system, law and order, administration etc.) are classified as final consumption of government; they are not part of the consumption matrix.

GDR: The vector of consumption in the input-output table which is taken as basis for the consumption matrix contains the consumption of goods and services. The non-material services are not taken into consideration whereby the expenditures on material and productive services are included<sup>5</sup>. Therefore the consumption matrix consists of the consumption of goods and productive services,

● which is paid mostly by the population (individual consumption);

● which is offered unpaid by the government (part of the social consumption).

Beyond of this, the social consumption includes the expenditures on materials and productive services necessary to satisfy general social needs (financial institutions, research, administration and others). They belong to the complex of needs „General public needs” in the consumption matrix.

— in the definition of the production sphere and therefore in the designation of the costs which belong to intermediate consumption or to final demand:

FRG: In the SNA the non-material services are also part of production. For producing the non-material services, inputs of intermediate consumption are needed<sup>6</sup> in addition to the factor costs of ground, capital and labour. So, for instance, the repair costs of owners of rented dwellings and houses belong to intermediate consumption.

GDR: The production term does not comprehend the non-material services. Therefore intermediate consumption is not considered in this definition. The material expenditures (materials and productive services) for the non-material services are included in the final demand of the social consumption. With respect to the definition of non-material services there are some differences between the countries which apply the MPS system<sup>7</sup>. In the GDR the

<sup>4</sup> Volkswirtschaftliche Gesamtrechnungen, Fachserie 18/1984, Reihe 2, Input-Output Tabellen, Statistisches Bundesamt Wiesbaden, Verlag W. Kohlhammer GmbH, Stuttgart und Mannheim.

<sup>5</sup> Definitionen für Planung, Rechnungsführung und Statistik, Teil 1, Staatsverlag der DDR, Berlin 1973. U. Ludwig, E. Hesse, E. Kigyossy-Schmidt, Nichtmaterielle Leistungen in der statischen Verflechtungsbilanz, Studie, ZIW, Berlin 1989.

<sup>6</sup> R. Swat, Volkswirtschaftliche Gesamtrechnung — System of National Accounts (SNA), Darstellung und Vergleich mit dem System der Volkswirtschaftlichen Gesamtrechnung der sozialistischen Länder, Hochschule für Ökonomie, Internationale Wirtschaftsstatistik (UNO-Statistik), 2. Lehrheft, 2. überarbeitete Auflage, 1986.

<sup>7</sup> Basis for this evaluation is the survey of non-material branches given by R. Stäglin in his article „Die Bedeutung von

following services are regarded as productive services<sup>8</sup>:

- veterinary
- geodesy
- chemical, chemo-technical and physical laboratories
- laundry, cleaning (included the chemical cleaning, dye-works for clothing).

— in considering the costs of social insurance:

FRG: The expenditures of the social insurance and the social security are intermediate consumption of general government and not final consumption.

GDR: The material expenditures of the social insurances are part of the individual consumption.

#### 4. Some problems in constructing comparable consumption matrices for the FRG and the GDR

As can be seen in chapter 3, a lot of differences in concepts and definitions as well as with regard to the content are existing. Thereby the creation of comparable consumption matrices becomes very difficult and can only be reached by some compromises. Approximately comparable consumption matrices were elaborated for the FRG and the GDR in order to show the deviations of consumption structures resulting from the different national systems.

##### 4.1 The determination of common production sectors for the MPS and SNA variants

With regard to the methodological differences (institutional classification in the DIW input-output tables — functional definition in the GDR input-output tables) a relatively high aggregation level was chosen<sup>9</sup> for the production sectors; therefore deviations caused by these differences can be neglected. Thus, ten aggregates of production sectors were derived for the MPS variant which were enlarged by 4 sectors of non-material services for the SNA variant (see the tables of sector classifications in the appendix). As basis for comparing the two input-output systems, the following classification were used:

- ELN Classification of the GDR;
- Nomenclature of economic branches, GDR (edition 1985);
- Nomenclature of production sectors in input-output tables (SIO), FRG (edition 1980);
- Classification of economic branches, FRG (edition 1979).

Despite of the high aggregation level conversions were necessary for the SNA variant of the GDR and for the MPS variant of the FRG. In the computation of the SNA

matrix for the GDR not all modifications explained in the table of sector classifications 2.2 could be considered; only the consumption of foods and beverages in restaurants was regarded, the other positions as veterinary, flying and driving schools and others were not taken into account.

##### 4.2 The determination of private consumption for the MPS and SNA variant

With regard to the differences in the consumption content between the FRG and the GDR as well as in the existing shortages of data, some specific features are reflected in the comparable consumption matrices according to SNA and MPS which influence the intercountry comparison.

###### *SNA matrix for the FRG*

Private consumption contains the purchases of goods and services of private households and the own consumption of nonprofit institutions. In addition to the real purchases some imputed purchases are included (for instance the value for utilizing owner dwellings, allowances of workers). The non-market government services for the population as education, health and so on are not involved in contrast to the GDR. This has an influence on the comparison, especially for the production sectors „Health and veterinary services”, „Education, culture, sporting and publishing services” and for the positions of use/complexes of needs „Health”, „Education, culture, recreation”, „Others”.

###### *SNA matrix for the GDR*

Private consumption for the GDR shown in the consumption matrix comprehends essentially

- the individual consumption exclusive the material services for the social insurances<sup>10</sup>;
- the subsidies for goods and productive services to satisfy cultural and social needs<sup>11</sup>;
- the non-material services for the population<sup>12</sup>;

Input-Output-Tabellen bei der Verbindung des Systems of National Accounts und des Material Product System”.

<sup>8</sup> Basis for the classification in material or non-material services is the „Systematik der Volkswirtschaftszweige der DDR (Ausgabe 1985)” and the „Erzeugnis- und Leistungs-nomenklatur der DDR”.

<sup>9</sup> This is in line with the common classification of production sectors used in the paper of G. Boda and R. Stäglin „Intersystem Comparison between the Federal Republic of Germany and Hungary on the Basis of SNA Type and MPS Type Input-Output Tables”, presented at Ninth International Conference on Input-output Techniques, Keszthely, Hungary, 4-9 September 1989 and also published in this volume.

<sup>10</sup> Data are received from the Statistical Office, East Germany, for calculation of the total national output.

<sup>11</sup> Data are received as described in footnote 10.

<sup>12</sup> Own calculations on the basis of data contained in the balance for non-material services, Statistical Office, East Germany.

— the services of banks and insurances for the population<sup>13</sup>.

Therefore the main difference compared with the SNA matrix of the FRG consists in the inclusion of the non-market non-material services into private consumption. As education and health services are given free of charge for disposition of the population from the government, a limitation on paid services only would disturb the comparison of consumption structures more than involving the unpaid services.

#### MPS matrix for the FRG

The MPS matrix for the FRG consists essentially of

- the private consumption supplied by the material production sectors;
- the intermediate consumption of the material production sectors from non-material sectors.

Basing on the activities which are classified as non-material services in the MPS system, the private consumption in the DIW input-output table was accordingly corrected. Problems of comparison with the MPS matrix of the GDR are again resulting from the expenditures on materials and productive services for such services as education, culture, health and others which are supplied by the government without individual payments.

#### MPS matrix for the GDR

The private consumption in the MPS matrix for the GDR contains

- the individual consumption;
- the expenditures for materials and productive services for satisfying cultural and social needs (part of the social consumption).

In the same kind as in the SNA matrix, the MPS matrix for the GDR includes the material expenditures on paid as well as on unpaid services.

### 4.3 Methodological problems in the elaboration of the consumption matrices

For the GDR some adjustments were necessary in the original MPS matrix calculated with the structural matrix; only goods and services which immediately satisfy the individual needs of people could be involved in the comparable consumption matrix. This affected especially the complex of „General public needs”; the value of this complex of needs was compared with the expenditures in the social consumption for satisfying the public government needs, afterwards corrected and then removed from the original matrix of consumption. The MPS matrix which has been elaborated in the way described above and the structural matrix for the individual consumption<sup>14</sup> became the basis for computing the SNA matrix for the GDR; additional corrections were necessary due to involving the non-material services.

## 5. The analysis of structural and methodical differences on the basis of comparable consumption matrices for the FRG and the GDR

### 5.1 Structural comparison of private consumption

Based on SNA structural comparison shows the following relations for the different positions of use between the FRG and the GDR (see table 1):

FRG < GDR: — Nutrition  
— Health

<sup>13</sup> Own calculations.

<sup>14</sup> U. Ludwig und E. Hesse, Methodik zur Erfassung der Bedürfnisse der Bevölkerung und der Gesellschaft nach Bedürfniskomplexen, Berlin 1986, internes Material, ZIWI.

Table 1

**Structural comparison FRG - GDR of private consumption**  
by complexes of needs

Complexes of needs	Based on SNA			Based on MPS		
	FRG (%)	GDR (%)	FRG/GDR	FRG (%)	GDR (%)	FRG/GDR
Nutrition	23,0	37,0	0,62	30,8	42,3	0,73
Clothing	9,0	9,6	0,94	12,0	10,9	1,10
Housing	30,6	23,8	1,29	21,9	24,2	0,91
Health care	4,9	6,9	0,71	3,4	5,5	0,62
Education, culture, sport etc.*	10,0	11,5	0,87	11,4	6,4	1,78
Transport and communication	15,7	8,0	1,96	20,5	10,7	1,91
Others	6,8	3,2	2,13	.	.	.
Total consumption	100,0	100,0	.	100,0	100,0	.

\* Includes in the field MPS/FRG the share of the complex of needs „Others”.

Table 2

**Structural comparison FRG — GDR of private consumption  
by production sectors**

Production sectors	Based on SNA			Based on MPS		
	FRG (%)	GDR (%)	FRG/GDR	FRG (%)	GDR (%)	FRG/GDR
Agriculture and food	16,0	27,5	0,58	25,9	34,6	0,75
Energy and mining	7,6	8,4	0,91	10,7	10,5	1,02
Chemicals	2,6	2,6	1,00	3,7	5,2	0,71
Metals	0,2	0,1	2,00	0,3	0,1	3,00
Capital goods	11,1	8,4	1,32	15,2	10,5	1,45
Construction	0,9	4,3	0,21	2,9	5,6	0,52
Consumption goods	9,9	11,7	0,85	14,5	14,0	1,04
Trade	15,4	12,4	1,24	20,8	14,8	1,41
Transport and communication	3,9	1,9	2,05	5,6	2,7	2,07
Financial institutions, insurances	3,5	2,7	1,30	.	.	.
Market health, veterinary services	1,4	5,7	0,25	.	.	.
Restaurants, cultural, research etc.	6,6	10,1	0,65	.	.	.
Rented dwellings	16,0	2,7	5,93	.	.	.
Other services	4,9	1,5	3,27	0,4	2,0	0,20
Total consumption	100,0	100,0	.	100,0	100,0	.

— Education, culture, recreation

FRG = GDR: — Clothing

FRG > GDR: — Housing

— Transport and communication

— Others

The partially strong differing shares for the positions of use represent — in our opinion — understandable relations between the FRG and the GDR. Thus, the great share of nutrition in private consumption of the GDR is a result both of the prices (subventions for foods, production taxes for industrial goods) and also of the deficiency of industrial goods. As mentioned in chapter 4, the private consumption of the GDR includes in contrary to the FRG also the unpaid non-material services which results in higher shares of private consumption for the complexes of needs „Health” and „Education, culture, recreation”. The higher percentage of „Housing” for the FRG compared with the GDR is especially caused by higher rents (16.0% in the FRG in comparison with 2.7% in the GDR, see table 2), but can also be attributed to better equipments of households with durables in the FRG. The extremely high share of „Transport and communication” for the FRG can be traced back to the higher equipment with cars and telephones. Especially the financial and insurance services in the FRG may be the cause for the higher share of „Others” for the FRG.

### 5.2 Comparison between the SNA and the MPS system

For quantifying the differences of the coefficients of the input-output tables between the SNA and MPS, the coefficient  $\varrho$  can be calculated<sup>15</sup>:

$$\varrho = \frac{\text{Value}_k \text{ (SNA)}}{\text{Value}_k \text{ (MPS)}}$$

Corresponding coefficients  $\varrho$  were calculated both for the positions of use and for the production sectors. The comparison of the coefficients for the different positions of use between the FRG and the GDR (see table 3) demonstrates first of all the volume of non-material services in these positions. The higher rents in the FRG are reflected in the relatively high value of  $\varrho$  for „Housing”, whereby the involving of unpaid non-material services causes the higher value for „Education, culture, recreation” in the GDR. One reason for  $\varrho < 1$  in „Transport and communication” can be found in the fact that the

Table 3  
**SNA/MPS-coefficients for the private consumption  
by complexes of needs**

Complexes of needs	FRG	GDR
Nutrition	1,00	1,00
Clothing	1,00	1,00
Housing	1,88	1,13
Health care	1,92	1,43
Education, culture, sport etc.	1,49	2,04
Transport and communication	1,03	0,85
Total consumption	1,34	1,14

<sup>15</sup> R. Stäglin, Die Bedeutung von Input-Output-Tabellen bei der Verbindung des Systems of National Accounts und des Material Product System, in: U.-P. Reich, C. Stahmer et al., S. 143-162.



Table 4  
**SNA/MPS-coefficients for the private consumption**  
 by production sectors

Production sectors	FRG	GDR
Agriculture and food	0,83	0,91
Energy and mining	0,95	0,92
Chemicals	0,94	0,56
Metals	0,94	0,96
Capital goods	0,98	0,91
Construction	0,43	0,87
Consumption goods	0,91	0,96
Trade	0,99	0,95
Transport and communication	0,94	0,80

transport and communication services are productive services and therefore they are partially included in the value of non-material services in the SNA. The total coefficients  $\varrho$  for the private consumption of the FRG ( $\varrho = 1,34$ ) and of the GDR ( $\varrho = 1,14$ ) express the higher share of non-material services in the FRG compared with the situation in the GDR.

The coefficient  $\varrho$  calculated for the production sectors  $i$  (see table 4) is in each case  $\varrho < 1$ . That results from the allocation of expenditures for materials in the non-material sectors in the MPS. Here the material costs of non-material services are expressed as consumption of goods and productive services in the adequate production sectors, whereby in the SNA the expenditures for materials of the non-material services are included in the value of the non-material services; therefore they do not appear in the appropriate production sector. The comparison of  $\varrho$  between the FRG and the GDR shows both the different extent of goods of the productive sectors in the value of the non-material services and also differences in their level;

more profound investigations are necessary in order to evaluate this issue in detail.

## 6. Final remarks

Many problems connected with the computation of comparable intercountry consumption matrices and with the conclusions drawn from the analysis have only been touched (for instance paid/unpaid services, institutional/functional principle of constructing the consumption matrices). The demonstrated results can only be evaluated by taking into account the compromises and estimations which have been done. Nevertheless they reflect reasonable sizes and orders for the different positions of use and for the production sectors.

Many problems refer not only to the SNA and the MPS but also to the different construction of consumption matrices. Among them are, for instance

- the concepts of classifying goods and services of the production sectors according to positions of use;
- the system of „total consumption” discussed by the UNO<sup>16</sup>;
- the classification of non-material production sectors with regard to their financing (market or non-market services) or their uses (expenditures for individuals or for the government).

Some of these problems will be investigated in further common research work.

<sup>16</sup> Economic and Social Council, United Nations, Working Party on National Accounts and Balances, Fourteenth session, Geneva, 16-19 May 1989, CES/WP. 22/100.

● Conference of European Statisticians, Fourteenth session, Geneva, 16-19 May 1989, CES/WP. 22/102, Comparison of total consumption of the population between Czechoslovakia and Finland.

**Sector classifications used for comparison FRG/GDR**

**1. Sector classification FRG (Nomenclature of the DIW)**

**1.1. Production sectors in SNA**

<b>Joint classification (14 sectors)</b>	<b>Basic classification (55 sectors)</b>	<b>Joint classification (14 sectors)</b>	<b>Basic classification (55 sectors)</b>
1. Agriculture and food	1. Agriculture and forestry 36. Food (without beverages) 37. Beverages 38. Manufacture of tobacco products	7. Consumption goods	27. Musical instruments, toys, jewellery etc. 28. Saw-mills and timber processing 29. Manufacture of wood products 30. Cellulose and paper processing 31. Manufacture of paper products 32. Printing and duplicating 33. Textile industry 34. Leather and shoe industry 35. Clothing industry
2. Energy and mining	2. Electricity 3. Gas 4. Water 5. Coal mining 6. Other mining 8. Mineral oil refining	8. Trade	41. Wholesale trade and recycling 42. Retail trade
3. Chemicals	7. Chemical industry 9. Manufacture of plastic products 10. Manufacture of rubber products	9. Transport and communication	43. Railways 44. Shipping, waterways, harbors 45. Other transport 46. Postal and telecommunication services
4. Metals	14. Iron and steel industry 15. Industry of non-ferrous metals 16. Foundries 17. Drawing and cold rolling mills	10. Financial institutions, insurances	47. Credit institutes 48. Insurances (except social security)
5. Capital goods	18. Constructional steel 19. Machinery 20. Electronic data processing machinery 21. Manufacture of road vehicles 22. Shipbuilding 23. Aerospace 24. Electrical engineering 25. Precision engineering and optics 26. Manufacture of metal goods	11. Market health and veter. services 12. Restaurants, cultural, research etc.	49. Rented dwellings 50. Market health and veterinary services 51. Hotels, restaurants and residences 52. Cultural, research and publishing services
6. Construction	11. Industry of building materials 12. Fine ceramic industry 13. Glass industry 39. Surface and underground engineering 40. Completion services	13. Rented dwellings 14. Other services	53. Rented dwellings 54. Other market services 55. Public administration Non-profit organisations

## Sector classifications used for comparison FRG/GDR

### 1. Sector classification FRG (Nomenclature of the DIW)

#### 1.2. Production sectors in MPS

Joint classification (10 sectors)	Basic classification (55 sectors)
1. Agriculture and food	Sectors 1, 36 - 38 + Meals and beverages from sector 50 + Veterinary services from sector 52
2. Energy and mining	Sectors 2 - 6, 8
3. Chemicals	Sectors 7, 9, 10
4. Metals	Sectors 14 - 17
5. Capital goods	Sectors 18 - 26
6. Construction	Sectors 11 - 13, 39, 40
7. Consumption goods	Sectors 27 - 35
8. Trade	Sectors 41, 42
9. Transport and communication	Sectors 43 - 46 - Travel agencies from sector 45 + Driving schools from sector 51
10. Other productive services	Sector 53 without the following positions: Financial leasing Pawnshops Stock exchanges Companies of shares Insurances agency Housing Legal consultation, tax accountancy Business consultation Advertising Other services for enterprises Chemical and physical laboratories Renting of household goods, clothes etc. Clearing of waste material Hairdressing, personal hygiene Other personal services

## Sector classifications used for comparison FRG/GDR

## 2. Sector classification GDR (Nomenclature of the Input-output model 1987)

## 2.1. Production sectors in MPS

Joint classification (10 sectors)	Basic classification (31 sectors)
1. Agriculture and food	22. Food 23. Beverages, tobacco 24. Industrial fodder 26. Agricultural produces 27. Produces of forestry
2. Energy and mining	1. Electricity, gas, water 2. Coal 3. Petroleum
3. Chemicals	4. Basic chemicals 5. Special chemicals 6. Potash 7. Plastic products, synthetic fibres
4. Metals	8. Ferrous metals 9. Non-ferrous metals 10. Pieces of wrought-iron work
5. Capital goods	11. Machinery 12. Equipments 13. Vehicles 14. Metal products 15. Electrical machinery 16. Electronic products, precision instruments
6. Construction	17. Building materials 18. Glass and fine ceramic products 25. Building and construction services
7. Consumption goods	19. Wood products 20. Paper products, records, film products etc. 21. Textiles, clothing, leather goods
8. Trade	30. Trade services
9. Transport and communication	28. Transport services 29. Telecommunication services
10. Other productive services	31. Other productive services

## Sector classifications used for comparison FRG/GDR

## 2. Sector classification GDR (Nomenclature of the Input-output model 1987)

## 2.2. Production sectors in SNA

Joint classification (14 sectors)	Basic classification (31 sectors) + supplements
1. Agriculture and food	Sectors 22 - 24, 26, 27 - Meals and beverages in residences - Veterinary services
2. Energy and mining	Sectors 1 - 3
3. Chemicals	Sectors 4 - 7
4. Metals	Sectors 8 - 10
5. Capital goods	Sectors 11 - 16
6. Construction	Sectors 17, 18, 25
7. Consumption goods	Sectors 19 - 21
8. Trade	Sector 30
9. Transport and communication	Sectors 28, 29 + Travel agencies - Driving schools
10. Financial institutions, insurances	Financial institutions, insurances
11. Health and veterinary services	Health care + Veterinary services from sector 1
12. Education, cultural, sporting etc.	Education, cultural, sporting etc. + Driving schools from sector 9
13. Rented dwellings	Rented dwellings
14. Other services	Sector 31