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**SOME SELECTED PROBLEMS CONCERNING THE ADAPTATION  
OF THE 1993 SNA FROM THE ASPECT OF A TRANSITION  
COUNTRY - HUNGARY**

Submitted by the Hungarian Central Statistical Office <sup>1</sup>

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**Some selected problems concerning the adaptation of the 1993 SNA from the aspect of a transition country**

Statisticians and many other economics experts are aware of the fact that, although the 1993 SNA has a comprehensive set of recommendations regarding the construction/compilation of national accounts on international level, most, if not all, of the old SNA countries have problems with its full adaptation. The main reason is the 'transformation' from the old SNA into the new one.

The situation is quite different in the case of transition countries because this 'transformation' process means the introduction of an accounting system with entirely different aspects and concepts compared to former ones. Hungary should not be regarded as an exception even though the regular compilation of the national accounts started in the late sixties; at the time when the Hungarian economy was a centrally planned one and the statistical system was based upon the Marxian concept of productive work.

There is another difference, from a methodological sense probably even more substantial, between these two sets of countries; i.e. the consequence of the transition process, which is full of changes in the institutional structure (which are fundamental preconditions for establishing a market economy). Since the main objective of statistics is to pursue as closely as possible the relevant events of the economy, statisticians would have had been in a difficult situation even if they had applied the SNA earlier. This is the main reason why the problems of the transition countries have to be investigated together with the "old" SNA countries, but from a different aspect. The "old SNA" countries have a market economy, which the SNA is constructed for.

Every transition country has its very own problems concerning the adaptation of the System of National Accounts and that is why we think it would be useful to present some of the problems we have faced and are facing now. These problems are probably occurring in the same manner, causing similar effects in their common roots or in their appearance, in all or in most of the transition countries. As the scope of these problems is wide-ranging, and their relative importance different from country to country, the selection among them and arranging them into a logical order is quite difficult, if not impossible.

Several papers have already been published on this topic, some with the co-operation of the Hungarian Central Statistical Office <sup>1</sup>. One of the best collections of the problems which all of the transition countries had to face was presented in an IMF paper <sup>2</sup>.

In this paper the problems concerning the treatment of the government owned enterprises, the borderline between market and non-market production, the accounting of the services of owner-occupied dwellings and public housing services, the treatment of the underground or informal economy, the accounting of changes in inventories/correction for holding gains/losses and

the compilation of quarterly national accounts are discussed.

#### **1) Treatment of the government owned enterprises**

There is the question of the treatment of government-owned enterprises. Part of the whole accounting system covers those subjects that are to be investigated to answer the question 'how to treat government-owned enterprises for national accounts purposes?'.

The coverage of the government sector after the revision of the Hungarian National Accounts (HNA) in 1992 became close to the SNA recommendations. The NPIs serving business and households were reclassified into the corporation and household sectors respectively. In this sense there were no problems arising - even before the revision - with public corporations, as they were all classified to the non-financial corporation sector and their data were never mixed with those referring to the general government. It was the case even for the highly subsidised corporations as well, where this solution could not be taken as self-evident. Now there is no need for applying such conventions concerning classification since subsidies were reduced, as a consequence of which the cost of all corporations in Hungary are covered by sales realised on the market.

There is only one exception, that is the State Privatisation and Holding Company, which in contrast with the SNA/ESA recommendations is classified as a government unit. This approach can be explained by the fact that this share holding company has no market output; and further more that the management of the privatisation - this is the task of this company - is a definite government activity.

#### **2) Borderlines between market and non-market production**

The next question regards the need to find the appropriate borderline between market and non-market producers/production. The recommendations of the SNA, i.e. market producers with legal status should not be included within the government sector, is not fully complied by the HNA at the moment. There are some market producers within the government sector even now. They are market producers because more than 50% of their costs are covered by sales revenues. For example, public research institutions may work for private companies, also the local governments increased substantially the price of some services provided to the households - water supply, refuse disposal. This tendency is encouraged by the need to reduce government deficit. On the other hand, the Hungarian tax regulations are against the tendency from the producers' side because higher share of income generated from market sales can be kept by corporations compared to the possibilities of government units. So the interest of all these units is to be treated then as separate units, but the decision is not in their hands.

Because of statistical/register problems it can happen also that some market producers are not handled as separate legal entities. Nevertheless,

the annual reports of the relevant government units do include market output as output of secondary activity, but without the required industrial breakdown of these activities. This is why these cannot be treated as quasi-corporations. Since the total output of these government units is valued on a cost level operating surpluses cannot be taken into account on the market activities - these are treated as incidental sales - so the output and the consumption expenditure of the government is underestimated. (The government final consumption expenditure is the difference between total costs and incidental sales.)

As has been mentioned already, reclassifying the NPIs was a substantial improvement of the HNA through the adaptation of the SNA. But one should not forget about the several borderline cases when 'financing' and 'controlling' are not in harmony with each other; however, this harmony is indispensable for a correct classification. The presently applied method of classifying them is quite 'mechanic' in character; if their annual reports are included in the state budget they are classified into the government sector, if their financing is accounted as transfers paid by the government then they are recorded as part of the NPISHs sector. For example: hospitals or schools maintained by the church but receiving the same amount of per capita contributions as government owned ones, are treated as NPISHs - this means that the way of 'financing' is not an absolute criterium.

### **3) Accounting of services of owner-occupied dwellings and public housing services**

Going on with enumerating the problems arising from the required classification of market - non-market production/producer, we would like to describe the accounting of housing services in somewhat more detail and discuss some problems of privatisation, too. There are several reasons why we deal with the topic in a little bit more detail:

- i) the change that was introduced by the revision of the HNA was a substantial one, having significant effect even on the volume of GDP;
- ii) this problem must be an important problem for any other PAC;
- iii) the new way of recording this item is far from being entirely acceptable, substantial improvements are still needed.

This category includes two sub-categories, namely:

- services of owner-occupied dwellings and
- public housing services/services of government owned dwellings.

Summarizing in one sentence the introduced change. Since the revision, the first sub-category has been measured and recorded on a so-called market rate, and not on cost base as it was previously, there was no change needed in the accounting method for other sub-categories, the basic method remained the same: recording on cost base.

It was important to make this change because it was generally accepted

that housing services were undervalued in the HNA.

**Table 1**

The output, the intermediate consumption and the value added of the housing services of owner occupied dwellings demonstrating the results of the two different (pre- and post) methods of the HNA in 1991 and the post in 1995 (billion HUF)

	1991 (A)	1991 (B)	1995
Output	56.5	139.8	345.3
Intermediate consumption	38.8	67.4*	160.1*
Consumption of fixed capital	17.7	72.4	185.2
Housing services in the share of GDP, per cent	0.7	4.2	6.2

\* These figures are reflecting the intermediate consumption and mixed income together

The reasons for this undervaluation can be presented by describing the deviation between the different concepts of rent applied by the SNA and by the HNA. In this sense there were two highly important differences between the two systems regarding:

- the content of rent
- the valuation of consumption of fixed capital.

While the content of rent is not defined directly by the SNA, the way it treats this concept makes it clear that it should cover - just like any other relevant concept within market production - some net return on capital (dwelling) in addition to costs. This is not the case if the valuation is based on cost level <sup>3</sup>.

The importance of the valuation of the consumption of fixed capital can be simply justified by the fact that, in the case of government owned dwellings, even the total cost of these services was not covered by the rents paid on these services. In the past consumption of fixed capital (CFC) was not covered by the rent but accounted as social transfer in kind provided to the households. The reason for the undervaluation, caused by the valuation of CFC, was the relevant book-keeping regulations; the stock of government dwelling assets was recorded on historical book-values instead of applying replacement cost.

Because of these basic differences two questions had to be answered during the revision:

- how to come closer to the SNA rent concept;
- how to handle the problem concerning the valuation of CFC?

Since the solution of the second question required only the availability of acceptable figures for transforming the stock data on replacement cost, a practical matter, there was no floor for any debate and it is not discussed by this paper.

More interesting from a methodological point of view is the answer on the first question. This relates only to the accounting method of housing services of owner occupied dwellings; but considering that up to now less than 10 per cent of dwellings are owned by the government, this is a very important issue. As has been mentioned already, since the revision these services have been valued on 'so-called' market rents. 'So-called' because, instead of using 'imputed' market rents, which are recommended by the SNA<sup>4</sup>, these types of rents recorded by the HNA are only the adjusted versions of the actual market rents and this difference has to be emphasised.

The question should be raised automatically: why not to use the proper/actual rent figures? The answer is simple: there is a lack of genuine market of dwellings in Hungary. In Hungary the average wages and salaries do not cover the value of the actual market rents, so if this value were to be imputed both as income and consumption the structure of household income would be greatly distorted compared to the one that is actually realised by households. This is the reason why the actual market rents had to be reduced.

Our possibilities for these adjustments are heavily limited, especially because of the shortage of financial resources concerning the sample survey that the market prices are obtained from. The measure of adjustment was determined by the location of the dwellings, with different coefficients for the capital, the other towns and the villages. The ratio between rent for government owned dwellings and the actual market rents with their relative weights were incorporated for a further adjustment.

Our solution may be challenged since, according to the SNA, if actual market prices do not exist the given activity must be accounted on cost level. But there are two arguments that support our solution:

- the certain undervaluation of these services valued on cost
- within several years - nobody knows how many years will it mean - Hungary should have a real market for dwellings.

The treatment of privatisation of government owned dwellings, which has been a very definite item of the capital account of households for nearly ten years, should not be taken as an entirely acceptable solution. These purchases are recorded (on the capital account of households) at the transaction price defined on the contract. For defining the transaction prices the dwellings are revalued, since the book-values in the government accounts are heavily distorted. The transaction price corresponds to the market price of non-occupied dwellings. The actual purchasing price is much lower, depending upon the way of the purchase for which there are two possibilities:

- the total price is paid in one step; in this case the household enjoys a 40% reduction which is accounted as capital

- grant/transfer provided by the government to the household;
- the obligatory 10% of the transaction price is paid by the household and the remaining 90% is given as a preferential loan.

But there is a problem with the treatment of this loan, since this initial 90% share is not fixed. The 40% reduction is valid if the rest of the loan is paid by the household in one step. The problem is that there is no information on these flows, i.e. there is no information on how much of the difference (between the nominal and the real purchasers price) is the real debt of the households and what is the share of the 40% 'cancelled debt'. This is why it is treated by the HNA as capital transfer rather than loan.

Compensation cards may also be used for purchasing dwellings, but there are many other possibilities for their use too. Their distribution is recorded in the capital accounts as capital transfers payable by the government and receivable by the households. The owners of these cards have different possibilities how to use them and so their market price may vary in a great extent.

Privatisation is a much broader category than just the scope of privatisation of dwellings and the distribution of compensation cards. But, as the HNA has not yet constructed financial accounts for all the sectors, just for the household sector, transactions concerning privatisation cannot be recorded for all the relevant transfers of government ownership.

#### **4) Treatment of the underground or informal economy**

There can not be observed and recorded all the economic activities that are taking place here in Hungary. Nevertheless, this is true for the National Accounts Departments of all countries, whatever phase of development they are. Here are some kinds of undercoverage of economic activities in the data sources used for compiling the HNA.

The HNA does not include estimates on illegal activities. However, while the data sources used by the Department of National Accounts - administrative and own organised surveys - can not provide any help for the estimation of either the output or the intermediate consumption of illegal activities in the registered enterprises, there were and are efforts made to make estimates on the activities which are concealed.

Why do some of the units conceal their activities?

The registered enterprises can hide some part of their activities for tax evasion or to avoid paying social security contributions. There are estimates made upon a careful examination of the tax declaration, the enterprise balance sheets and the employment survey databases. Corrections are made to take into account careless reporting, to improve the quality and reliability of the reported data and for deliberating under-reporting. Further adjustments are needed to harmonise and to synchronise the data

obtained from different sources/databases.

We apply a correction to compensate the under-reporting of the registered quasi-corporations and unincorporated enterprises. The output of quasi-corporations can be derived from the tax declarations and assumed to reflect the real output. The intermediate consumption is adjusted downwards; based upon the hypothesis that their main activities do not have high intermediate consumption, therefore their gross value added is assumed to be higher than those of the incorporated enterprises that the estimations are based upon.

In the case of registered unincorporated enterprises the output and the intermediate consumption are adjusted upon the hypothesis that this type of enterprises are working with lower intermediate material input (no office rent, or the rent is lower, and a part of the owners' household consumption is accounted as cost for the enterprise; e.g. company car is used partly for private/household purposes, etc.) and with higher labour input (the type of business they are offering is more labour intensive) than the incorporated counterparts.

Some of the registered, mainly small, unincorporated enterprises can hide all of their activities - i.e. themselves - as they are not reporting to the tax authorities. The statistical service considers these registered enterprises as virtually non-existent enterprises.

**Table 2**

Number of active and total number of the registered unincorporated enterprises in the period between 1992 and 1995

	1992	1993	1994	1995
Number of active enterprises	410,000	470,000	510,000	500,000
Total number of enterprises	606,207	688,843	778,036	791,496

There is no administrative data available for small unincorporated enterprises below a certain threshold as they are exempt from registration and from declaration of their income separately. We are making estimates on these activities:

- agricultural production non-registered, (using the commodity flow method),
- construction of dwellings (local government registration),
- private accommodation let by the household (expert estimates),
- not reported tips (annual household budget surveys).

There is a need for making further efforts in the future to continue our adjustment procedure for correcting biases and over/underestimating data of the corporations and to get reliable estimates on the unregistered legal production.

The following data sources should be used more effectively to improve

the estimates in the HNA concerning the underground economy:

- labour survey statistics (professional structure and earning structure in 60 branches),
- statistics on unemployment,
- gross output, intermediate consumption by components in 60 branches,
- financial statistics by type of legal form and in 60 branches,
- tax-authorities statistics,
- Input/Output statistics, using the material- and money flows, and import intensity,
- household survey data,
- time budget and living standard analysis,
- central bank statistics on money flows and account transfers.

#### **5) Accounting changes in inventories / Correction for holding gains/losses**

During the transition period there was, and still is, high inflation (between 18.8% and 35.0%), and as a consequence of this fact the valuation of stocks is considered to be a key point of the compilation of HNA. The statistical service gained the annual stock figures of the enterprises from the corporate tax declaration database and used these stock figures to estimate the changes in inventories. As the book-keeping is consolidated - at least at the large enterprises - there can be gained estimates on the level of stock on inventories annually, using the corporate tax declaration database. (In the beginning of the 90's we had difficulties to have reliable estimates on the holding gains/losses on inventories; while we had had this problem before it had not caused significant effects on the estimates of GDP because of the relative low inflation).

In 1994 there was introduced a quarterly survey on inventories, where the sample covered the corporations with over 50 employees. The following sections were sampled:

- Mining and quarrying (C),
- Manufacturing (D),
- Electricity, gas and water supply (E),
- Construction (F),
- Wholesale- and retail trade (G), and
- Transport and storage (I) [from 1995.]

The questionnaire is sent to 4000 enterprises and has a quite high response rate. In the questionnaire the enterprises report the level of closing and opening stocks of:

- own produced goods,
- purchased goods for intermediate use,
- purchased goods for resale at book value.

Corrections are made for non-response. The sample is grossed up with the same method as applied for small enterprises not covered by the sample.

The rate of turnover of the inventories is used to substitute for missing data and for grossing up the sample. It is assumed that the rate of turnover of the inventories is characteristic for the industry concerned, but it may vary from quarter to quarter because of the changes in the short term business cycles. In each quarter, the average rate of the turnover of inventories observed at the enterprises responding in the survey is used to estimate the missing data for those enterprises either not responding to the survey and for the small enterprises [those with employees less than 50] not covered by the sample.

We started to estimate the holding gains/losses quarterly from 1994, at the two digit level of ISIC Rev. 3. But the calculation of the holding gains/losses is done only for aggregates of inventories as a whole, and no breakdown can be provided by the type of inventories. It is assumed that enterprises apply the FIFO accounting method, as it is recommended by the Hungarian Act on business accounting.

The stockholding period is estimated on a two digit level quarterly. The stockholding period seems not to be longer than 1.5 months in each branch in the quarters, and that is why the price indices of the preceding months' could be used as a deflator.

The producer price index is used as a deflator for each of the inventories in industries C, D, E, F and I, and the consumer price index (excluding services) is used as a deflator for each type of inventory in industry G.

The method of estimating holding gains/losses is following the procedure advised by the IMF.

**Table 3**

Changes in inventories by industries at book value, at current prices and at constant prices, 1995 (million HUF)

Industries					
	C	D	E	F	G
At book value					
Q1	-735	83,032	-394	9,463	34,541
Q2	942	13,361	1,143	-2,892	-47,677
Q3	109	83,849	3,608	17,994	38,412
Q4	372	-19,006	-11	-24,641	-25,620
At current prices					
Q1	-1,184	32,313	-11,321	6,987	16,969
Q2	731	-22,406	561	-6,250	-58,842

Q3	-184	64,353	1,708	16,179	33,904
Q4	-95	-40,629	-1,061	-28,819	-35,727
At constant prices					
Q1	-940	24,317	-8,819	5,809	12,182
Q2	582	-15,507	414	-4,719	-38,909
Q3	-136	42,890	1,240	11,538	21,795
Q4	-66	-26,023	-731	-19,477	-21,692

## 6) **Compilation of quarterly national accounts**

Meanwhile, efforts were made to improve the estimates on the yearly national accounts but there were more and more need arisen to have short term indicators measuring the performance of the whole economy and its parts. The Hungarian Central Statistical Office considered, as one of its major tasks, to start methodological work on the compilation of the quarterly national accounts, as well as to examine the content of the existing databases and to extend the data sources of these estimates.

After a development period the first pilot estimates on the first quarter of 1996 were released on July 15, 1996, and the compilation of QNA has continued since. The results are released between 90 and 100 days after the corresponding quarter.

In the preparation period it was a difficult task to integrate the different short-term statistics into a consistent framework, to examine the existing data-sources, the content of data, the scope of the different surveys and their correspondence to each other. A new survey had to be introduced for the estimation of holding gains/losses on inventories. Parallel with the yearly accounts the production and the expenditure side of the QNA are compiled, and volume indices are published for the expenditure side on household consumption, government final consumption expenditure, gross capital formation, external balance of goods and services. The reason of publishing the expenditure side indices is twofold:

- for these aggregates almost all the short term data are available, and
- the first estimates of the GDP in the beginning of the consecutive year are made upon these aggregates as well.

The data sources used for compiling the QNA are the following:

- quarterly investment survey,
- quarterly inventory survey,
- monthly and quarterly labour survey,
- monthly retail trade survey,
- annual/quarterly household budget survey,
- monthly industrial statistical survey,
- monthly report on construction,
- monthly and quarterly VAT declarations,
- monthly foreign trade statistics,
- quarterly survey at enterprises on exports and imports,
- monthly BOP statistics,
- annual tax declarations of enterprises.

All the efforts are made to solve the problem of the reconciliation of the annual and the quarterly estimates, but the problem is that when starting to compile the QNA for the corresponding quarter of the year "t" the annual accounts 3rd release of the year "t-2" is just available.

- 1 OECD and Hungarian CSO: National Accounts for Hungary, Sources, Methods and Estimates, OECD, 1994., 1996. s
- 2 IMF Statistics Department: National Accounts in Transition Countries : Distortions and Biases, by A. M. Bloem, P. Cotterell, T. Gigantes , November, IMF Working Paper, 1996.
- 3 The 1993 SNA does not specify exactly what kinds of services should be covered by the category of rent. Whether gas, electricity, disposal of refuse are included or not. In the HNA it was decided that the imputed rents of owner occupied dwellings and the rents paid by the local government are 'pure' rents excluding any kind of additional services.
- 4 Further for the case of simplicity we use the attribute 'imputed' .