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**Experiences in Europe in Updating the SNA:  
Implementing Selected Recommendations for General Government**

Albert Braakmann, Thomas Forster

- First Draft -

**Abstract:** This paper highlights the feasibility of implementing certain recommendations to update the 1993 System of National Accounts (SNA). Since reliable and comparable national accounts data can only be provided if the concepts and definitions are implementable, the findings from practice are intended to constitute a separate input for further discussions in the update process. The focus of the paper is on issues concerning general government. The possibilities to implement the recommendations relating to accrual tax accounting, capital service on government owned assets, granting of guarantees as well as private public partnerships (PPP) are dealt with.

For additional information please contact:

Author Name(s) : Albert Braakmann, Thomas Forster  
Author Address(es) : c/o Federal Statistical Office, D-65180 Wiesbaden, Germany  
Author E-Mail(s) : [albert.braakmann@destatis.de](mailto:albert.braakmann@destatis.de), [thomas.forster@destatis.de](mailto:thomas.forster@destatis.de)  
Author FAX(es) : ++49-611-753952  
Author Telephone(s) : ++49-611-752529

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## 1. Introduction

The most frequent use of national accounts data is to assess, to analyse and to forecast the short term economic performance of an economic area. The focus on the business cycle requires to produce timely quarterly estimates in addition to annual data. The quarterly data have to be compiled in nominal and real terms as well as seasonally adjusted. Obviously a variety of other uses of national accounts data exist, like serving as a basis for economic research. In addition, national accounts data may be used for administrative purposes. The use of Gross National Income of the Member States as a basis to finance the budget of the European Union is one example. Another example is the use of net lending/borrowing of the General Government Sector in the so-called excessive deficit procedure of the European Union. Obviously these administrative uses require a high degree of accuracy and reliability of the (annual) national accounts data.

There are a couple of reasons why national accounts data are much in demand. The most prominent advantage seems to be that national accounts data are comparable in time and across countries. The high degree of comparability, first of all, is due to fact that the data are based on agreed common definitions and concepts, i.e. the worldwide System of National Accounts (SNA) 1993 and the European System of National Accounts (ESA) 1995, which was derived from the SNA 1993 for the purpose of the European Union. However, definitions and concepts are not figures but theory. To obtain national accounts data statistical information and procedures are required as another important input. Often the actual production of the data – from a top - down perspective - is considered as a merely technical implementation. But given that data are wanted by the users, one might look at it from a bottom–up angle: national accounts data can only be provided, if the definitions and concepts are implementable. From this perspective definitions and concepts serve the production of the data. Concepts and definitions, that are not implementable in a timely, accurate, reliable and comparable way will damage the reputation and use of national accounts data and therefore should be avoided.

The United Nations Statistical Commission at its 34th meeting in March 2003 has launched the process to update the SNA-93 and adopted a couple of principles for the update. A list containing 44 update items has been established as well. On the basis of so-called issue papers the Advisory Expert Group (AEG) develops its recommendation with regard to certain definitions and concepts. This paper focuses on the feasibility of selected changes to the SNA -93. In this context it may be recalled that the feasibility has been adopted as one criterion for the update by the Statistical Commission. For selected issues concerning general government a couple of implementation aspects are presented:

- Government owned assets and capital services,
- Accrual accounting of taxes,
- Public-private partnerships,
- Granting and activation of guarantees.

A brief summary can be found at the end of this paper.

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\* Federal Statistical Office of Germany. The views expressed in this paper do not necessarily reflect the opinion of the German Federal Statistical Office.

\*\* For valuable comments we would like to thank Wolfgang Eichmann and Dietrich Stache.

## 2. Government owned assets and capital services (issue 16)

### 2.1 The recommendation

In the present SNA-93, the output and value added of non-market production, by convention, is measured by the sum of the relevant costs. The new recommendation is to introduce an additional cost element, i. e. a return on the capital used for non-market production. One reason mentioned is, that hereby differing values of non-market output are avoided, if the non-market producer switches between renting assets and owning them (e.g. government buildings).

The key aggregates GDP, GNI and disposable income are affected by this recommendation. At the production side, value added of the non-market producers as well as of the total economy is increased. At the income side, operating surplus and disposable income of the non-market producers are increased. At the expenditure side, general government consumption expenditure and consumption expenditure of private non-profit institutions increase. Net lending/borrowing of the government sector is not affected.

### 2.2 Implementation aspects

To implement the recommendation two items are needed: The capital stock used by non-market producers on one hand and an appropriate rate of return on the other. The present paper looks at both items, but focuses on the general government sector, given the importance of these data in the European Union.

#### 2.2.1 Capital stock data

To estimate capital stock data (more precisely fixed assets at current purchasing prices, mid-year) usually the perpetual inventory method (PIM) is used. Basically it consists in adding to the existing capital stock at the beginning of the year – valued at current purchasing prices – the fixed capital formation (GFCF) in the current year, including acquisitions, less disposals, of used fix assets.

To compile GFCF estimates mainly two approaches are used in practice, both having certain advantages and disadvantages:

- a) The commodity-flow method to estimate GFCF starts from the macro-economic domestic supply of goods and services in a detailed breakdown. On the basis of additional technical and/or administrative information the GFCF parts are determined. The net acquisitions of used assets have to be added. This method allows to produce timely data on an accrual basis in addition to excluding the value of land. A challenge of this method is the accurate allocation of GFCF to the employing industry or sector.
- b) The investor-method to estimate GFCF requires that the individual producers provide information on their GFCF expenditure during a given period. An advantage of this method is the sector allocation. A challenge of this method are differing valuation principles (incl. accrual), that the value of land may be included, that there may be an exhaustiveness problem (e.g. own-account GFCF) and that the detailed commodity breakdown needed for a sound price-adjustment mostly is not available.

Obviously both methods in practice may lead to differing GFCF and hence capital stock estimates. Another issue of capital stock estimates in time is the stability of the asset ownership. The assets are allocated to a certain sector in the year of investment, but in the case of private-public partnerships as well as of outsourcing and privatisation the sector allocation of capital stocks may change substantially in time and question the accuracy of sector capital stocks.

Since the net capital stock has to be estimated, capital consumption is another issue to look at. This issue is particularly important in the case of general government, because due to the cash booking in most countries, for this sector no capital consumption data are readily available at the micro-economic level. A model calculation of capital consumption is needed, requiring to estimate, for instance, the present value of the stock of fixed assets, the average lifetime of various types of assets or the pattern of depreciation. In the SNA 1993 the following statement is included: "Not all countries make such calculations, and when they do there may be differences in methodology." (cf. para. 2.177). Are we really sure that this situation has been improved meanwhile?

However, the most crucial question concerns the availability of capital stock data for general government. Taking the 25 Member States of the European Union as an example, an area which should be considered as relatively well developed with regard to statistics, the present situation as far as the availability of fixed assets by industry is as follows:

- 6 countries provide data on fixed assets in a sector/industry breakdown
- 4 countries provide data on fixed assets for total economy.
- 15 countries do not provide data on fixed assets at all.

Briefly this means that it seems that the 19 European countries are not in the position to compile a return to the capital stock of general government, due to a lack of capital stock data.

### 2.2.2 Rate of return

The appropriate rate of return is the other important ingredient to estimate capital services for general government. The Advisory Expert Group (AEG) at its meeting in Frankfurt (30.01.-08.2.2006) recommended to use the (implicit) rate of all government bonds outstanding (in real terms), rather than the current bond rate being offered. Particularly in the case of a thin bond market or a negative real rate of interest other indicators of the cost of capital to government should be taken into account as well. At the same time the AEG confirmed the principle that a rate of return should be applied to all fixed assets (excluding land under buildings).

An implicit rate of return on all governments bonds outstanding is compiled and published monthly by the Deutsche Bundesbank. The comparability in time could be restricted since for instance the Federal Rail and Federal Mail bonds seem to be included until roughly end 1994. For the international comparability it would be important to find out, whether such information exists for other countries as well in a comparable manner. Another question is, in how far the comparability is restricted by the fact that some countries are issuing bonds only at a medium term, whereas others prefer long term bonds (as a matter of principle).

To compile a real rate of return, the second element needed is an inflation rate. Given that in the European countries the Harmonised Consumer Price Index (HCPI) has been developed, there should be a high degree of a comparability of this figure.

One question is whether the comparability of CPIs has an impact on the capital service estimates. Possible differences in the capital service estimates due to not fully harmonised consumer price index (CPI) may be highlighted by comparing the results of the partly harmonised national CPI for Germany with the EU-harmonised CPI for Germany: Depending on the year under consideration, the deviation in the capital service may be up to  $\pm 10\%$ . It has to be feared that in the case of less harmonised CPIs, the impact on the capital service estimates increases and hence their non-comparability.

### 2.2.3 Impact on GDP

To highlight the impact of the AEG-recommendation to include a capital service on government owned assets on GDP a model calculation has been carried out for Germany:

		2004
Implicit rate of return on all outstanding government bonds	3,7%	
- Inflation rate		1,8%
= real rate of return		1,9%

Combining for 2004 the real rate of return with the capital stock, i.e. the net fixed assets at repurchasing prices of general government (957,32 bn. EUR) results in a capital service of 18,2 bn. EUR for Germany. The introduction

of a capital service increases the level of GDP by almost a full percent in 2004. The increase of annual GDP figures in the period 1996-2004 varies between 0,8 % and 2,2 % for Germany.

For many countries outside the European Union, the level of GDP and GNI are probably not a primary concern. A more crucial question is, whether the introduction of a capital service affects the growth rate of GDP. A model calculation for Germany indicates that the impact on the annual GDP growth rate varies between -0,4 and +0,5 percentage points in the period 1996-2004.

More surprising is another result: If the capital stock is kept constant over the years, the annual GDP growth rate changes by almost the same magnitude, i.e.  $\pm 0,5$  percentage points. This means, that the changes to the GDP growth rate over time are mainly not due to differing capital stocks, but to changes in the real rate of return.

### 3. Accrual accounting of taxes (issue 35b)

#### 3.1 The issue

The due dates of the various taxes differ more or less considerably from the moment in which the underlying transactions take place (time of accrument). The German oil tax, for example, has to be paid by the tax debtor at the latest on the 10th day of the second month following the tax accrument (cf. Table 1). The oil tax revenues shown in the public finance statistics for the month of August therefore represents the results of tax liabilities accrued in June (two months before). However, for other taxes, like the land tax, the tax payments imposed by the municipalities are evenly distributed over the calendar year. The tax debtor has to pay the annual amount of the land tax in four equal instalments (in advance) on February 15th, May 15th, August 15th and November 15th. In such a case the tax payments recorded on a cash basis widely correspond with the period in which the liabilities have been arisen. Another issue is that the taxes recorded at a certain date comprise not only payments for the current calendar year but also for previous periods (cash in advance, additional payments and refunds). This kind of overlapping in the recorded tax payments are inherent in the tax system and mainly determined by the administrative procedure of the tax authorities and tax debtors (for instance tardiness, objection against the tax assessment).

The commingling of payments, whose accrument time is in different periods, causes difficulties in the presentation of the taxes according to the concepts of System of National Accounts (SNA). The rules of the SNA require an allocation of flows (e.g. taxes) on an accrual basis. The tax revenues (cash data) of the government, thereafter, have to be recorded in the SNA at the time the tax liabilities occur. This is the case when an economic activity, transaction or other event – that was responsible for a claim/liability - has taken place. For the statistical work it means that the cash data recorded in the public finance statistics have to be re-adjusted whenever we have to suppose that the recorded amounts differ in a considerable extent from the amounts belonging to the period the tax liability has arisen.

**Table 1: Due dates of selected taxes in Germany.**

Tax	Due date	Difference between cash and accrual data
Value-added tax	10th day of the month after the accrual of the tax liability.	1 month
Insurance tax	15th day of month after the accrual of the tax liability	1 month
Beer tax	20th day of the month after the accrual of the tax liability	1 month

Customs duties	16th day of the month after the accrual of the customs duties	1 month
Power tax	15th day of the month after the accrual of the tax liability	1 month
Sparkling wine tax	25th day of the second month after the accrual of the tax liability. The tax accrued in November has to be paid on December 27th at the latest.	2 months
Coffee tax	1 <sup>st</sup> day of the second month after the accrual of the tax liability.	2 months
Tax on spirits	25th day of the second month after the accrual of the tax liability.	2 months
Oil tax	10th day of the second month after the accrual of the tax liability. The tax accrued in November has to be paid on December 27th at the latest.  Tax liabilities resulting from December 1 <sup>st</sup> to December 18 <sup>th</sup> have to be paid on December 27 <sup>th</sup> at the latest.	2 months
Wage tax	10th day of the month after the accrual of the tax liability.	1 month
Capital gain tax	10th day of the month after the accrual of the tax liability.	1 month
Interest income tax	10th day of the month after the accrual of the tax liability.	1 month

### 3.2 Methods of accrual accounting

There are different procedures conceivable to calculate tax revenues on an accrual basis as required by the SNA. Roughly the possible procedures can be divided into three categories (cf. figure 1).

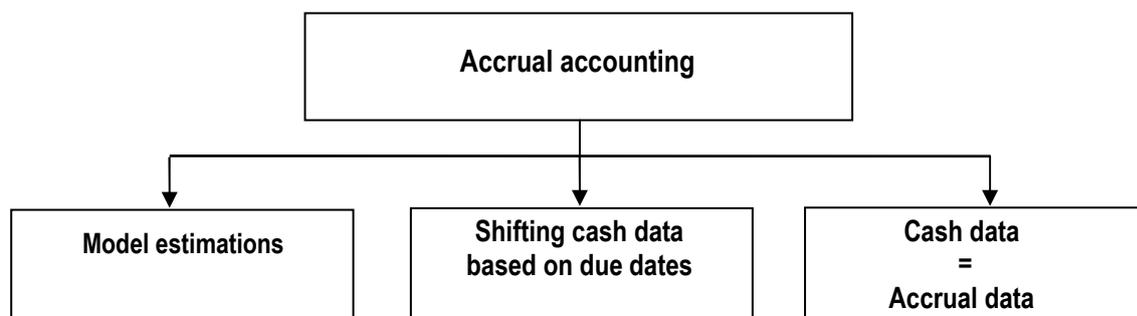


Figure 1: Methods of accrual accounting.

One possibility to compile taxes on an accrual basis is to develop model estimations. Basically in such models the relevant influence factors (e.g. demand fluctuations, payment structures), control variables (e.g. tax rates) and

interdependencies are analysed and transformed into mathematical equations. The results of these model calculations are proxies for the required taxes on an accrual basis. Apart from the considerable resources needed or the difficulties in the modelling, the compilations are often difficult because of missing monthly or quarterly data. The ancillary indicators used in these cases can sometimes lead to a substantial blurring in computing tax data on an accrual basis.

Another possibility is the shifting of cash data which essentially is based on payments. Very simple variants are using the due dates mentioned in the tax laws as reference, for example to shift the complete cash data without any other adjustments a certain number of periods (e.g. one or two months) in the direction of the tax accrual. This method leads to very good results if particularly the recorded cash data show a really strong left steep distribution around the due date. In this case the accrual accounting of data via a global shift of cash data leads only to minor deviations between the recorded taxes on a cash or accrual basis.

Usually it is possible to assume such a distribution as the tax payers make their tax payments close to the due dates. Otherwise they have to bear a lot of disadvantages. For example, if they pay their tax liabilities too early with regard to the due date they have to sustain a loss of interest and if they pay too late they have to pay surcharges or penalties. This procedure, however, is also not free from distortions since the cash data contain different types of tax payments accrued in different periods (see above). If information about the temporal structure of the cash data is available it is possible to adjust the method by using different time periods to defer the different types of tax payments. The main advantage of this method is that cash data can be directly transformed into accrual data and thus possible deviations can be explained clearly.

The third procedure finally uses the cash data itself as an adequate surrogate for accrual accounting. This procedure is suitable if tax payments (cash data) are generally carried out at the time to which the underlying economic activities and transactions take place and payments related to earlier periods have a minor importance.

German national accounts use only two of the explained methods for accrual accounting. That is the time displacement of cash data method and the use of cash data as surrogate for accrual accounting. However, model calculations are carried out for the purpose of quality control and verification of the methods used in practice.

### **3.2.1 Cash bases accrual accounting**

The method of time shifting of cash data and the effects associated with that can be shown by using the example of the oil tax. A model based computation will be also presented later for the purpose of comparison.

There are two aspects leaping to the eye considering oil tax revenues recorded for periods less than a year (cf. figure 2):

- A relatively equal distribution of the tax revenues (cash data) within the months of March until November and
- significant jumps in the months of December, January and February.

In December the recorded cash data are two and a half times higher than the average monthly cash data. On the other hand the revenues of the oil tax are even negative in January. The payments roughly achieve a normal level in February again, however, they are still behind the payments recorded for the months of March until November.

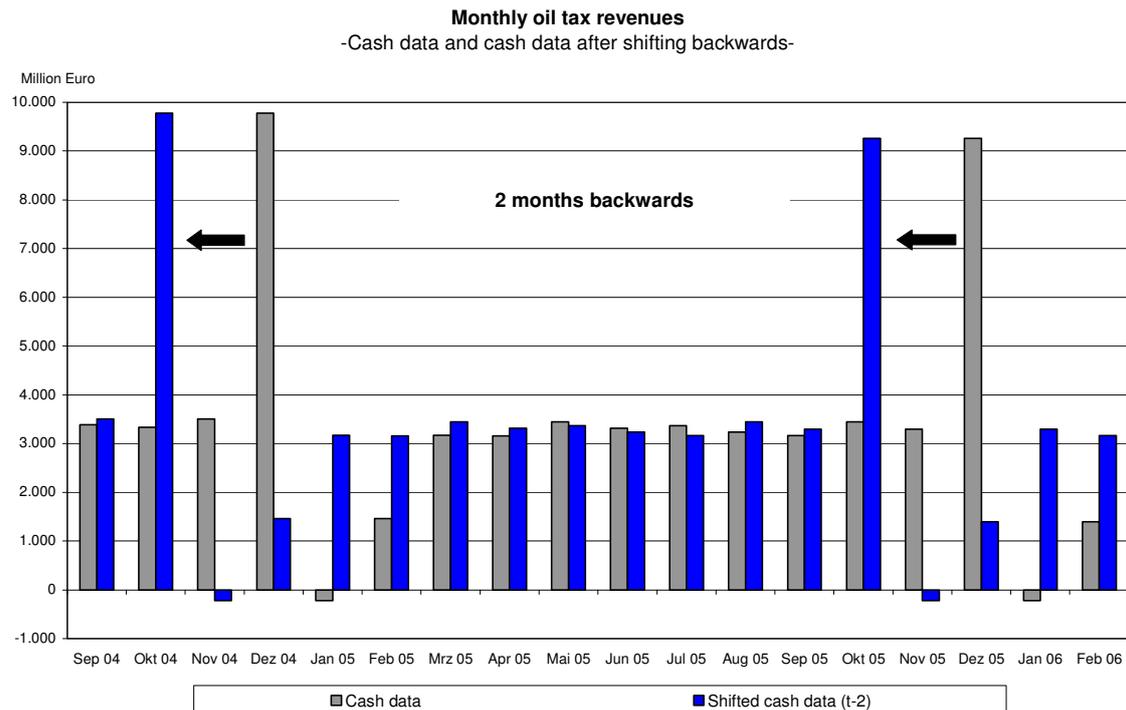


Figure 2: Monthly oil tax revenues

The reason for this distortion is based on tax payment terms provided by the oil tax law. The tax payer has to pay the taxes on oil accrued in a certain month at latest on the 10<sup>th</sup> day of the second month after the accrual of a tax liability. If the activity or transaction which causes the tax payment has taken place in May, the tax payer has to settle the tax liability on July 10 at the latest. Special regulations apply for the months of November and December. The German oil tax law provides that tax liabilities for the month of November as well as the liabilities resulting from December 1<sup>st</sup> to December 18<sup>th</sup> have to be paid on December 27<sup>th</sup> at the latest. Moreover, for the oil tax accrued in the period of December 1<sup>st</sup> to December 18<sup>th</sup> the tax debtor can choose, whether he pays the tax in full (corresponding to quantities) or based on average amount. If the average method has been selected the taxpayer has to pay the difference between the average amount and the actual tax liability accrued in February at the latest. The cash data recorded in December, therefore, containing payments for two and a half months (October, November and ½ December) and the cash data recorded in February for a half month (½ December). In January mainly technical clearings (refunds and additional payments) take place which occasionally causes negative cash data.

Provided that the recorded cash data are primarily determined by payments which have been accrued two months ago and refunds and additional payments for former periods achieve only a small extent, the conditions for an accrual accounting based on a global shift of cash data are met. Following the due dates provided in the oil tax law the monthly cash data have been shifted two months backwards. The December cash data are therefore displaced to October, the data for January to November and so on. There are still considerable differences in the monthly data but this does not affect the results negatively, as the SNA only refers to annual and quarterly data.

The method of shifting cash data implies a problem for compiling timely data, because it requires tax payment data two months in advance in the case of the oil tax. Normally these forecasts are based on the extrapolation of historical developments and on the results of the working group tax estimation. As soon as cash data are available these forecasts are replaced step by step. In addition to the short-term cash data annual accounts data are available with a time lag of normally 24 months. Thus the final SNA results are available 24 months after a reporting period at the earliest. This procedure assures that the calculations of taxes on an accrual basis are fully backed by monthly and annual statistics.

### 3.2.2 Model based accrual accounting

Apart from the method of shifting cash data, a model based computation of accrual data is possible. These estimations (cf. figure 3) are based on the most important components (e.g. low viscosity oil, diesel, fuel oil and natural gas) of the taxable base (e.g. taxed quantities).

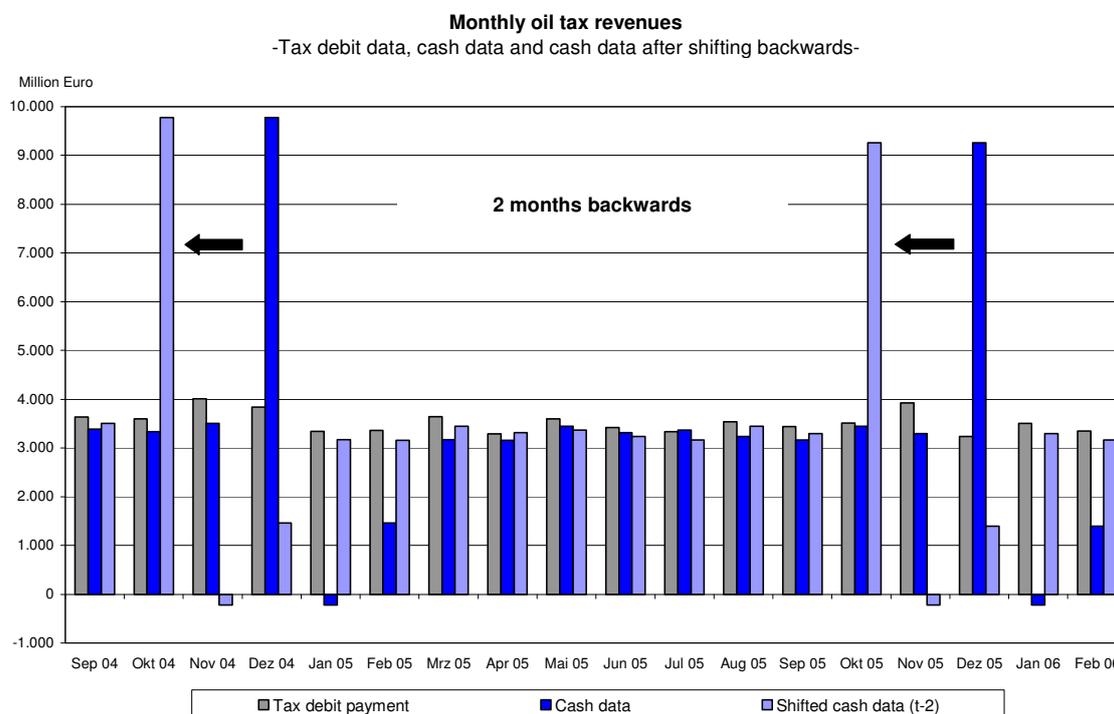


Figure 3: Monthly oil tax revenues

First of all, a monthly tax debit payment has been calculated on the basis of tax rates and the quantities of oil which have been taxed. The problem of missing data for the most recent periods occurs here too. In comparison with the shift of cash data method, the model based method generates evenly distributed accrual data.

On a monthly basis the model results appear clearly better than the results obtained from the shifting method, as they provide for each month tax payments on an accrual basis. The more relevant quarterly perspective in SNA shows only minor deviations between the two methods in the first and fourth quarter (cf. table 2).

Table 2: Oil tax revenues in 2005

Quarter	Tax debit payment (1)	Shifting method (2)	Cash data (3)	Difference (1)-(3)	Difference (2)-(3)
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Million Euro

1. Quarter 2005	9.894	9.772	4.407	5.488	5.365
2. Quarter 2005	9.855	9.921	9.916	-60	6
3. Quarter 2005	9.866	9.910	9.776	90	134
4. Quarter 2005	10.220	10.444	16.003	-5.783	-5.559
Total	39.836	40.047	40.101	-265	-54

The second and third quarter are close together. These deviations might primarily result from the above mentioned time displacement of due dates and the overlapping of payments belonging to different periods. Whereas the model based computations are free from such factors the accrual data derived from the shifting method include such factors. Related to the year 2005 total payments received by the government from oil taxation was 40.1

billion euros. The corresponding value based on accrual accounting is estimated at 38.6 billion euros for the model and at 40.0 billion euros for the shifting method. This shows that the differences in the results between the two methods can be widely neglected and that under certain conditions simple methods can generate very good estimations for accrual data.

### 3.2.3 Cash data as a substitute for accrual data

This alternative is used among others for the accrual accounting of the income tax, trade tax, the land tax, the car tax and the fire brigade tax. It is assumed that the cash data related to these taxes are adequate surrogates for accrual accounting. This can be shown using the example of income tax. At a particular time the recorded income tax payments comprise of different payments (e.g. cash in advance, additional payments and refunds) belonging to different periods. We can distinguish payments particularly for the current year and previous years t-1, t-2, t-3 and t-4 and the following years. Table 3 shows that the total revenue received by the government is mainly determined by payments which have taken place in the same year. However the revenues are also considerable influenced by previous years (e.g. final payments, payments in excess). If we transform the cash data into accrual data by means of the available payment structure (cf. table 3) it is obvious that the cash data estimated at 3.46 billion euros in March 2002 are almost the same as the income tax calculated on an accrual basis (3.50 billion euro). From this it follows that it is possible to use cash data as a surrogate of accrual data without any major error in the case of the total of German income tax. This should be an acceptable approach for other taxes as well, if circumstances are similar. A very important condition for the quality of the results is that payment structures of the respective tax remains stable in time.

**Table 3: Income tax revenues in March 2002, 2003 and 2004**

Year	Payment structure					Total
	t	t-1	t-2	t-3	t-4 et sqq.	
<b>Million Euro</b>						
<b>cash based</b>						
2002	4276,0	-829,0	-79,3	8,9	79,3	3455,9
2003	4192,9	-817,0	-95,4	-12,4	78,6	3346,6
2004	4154,7	-1097,5	-39,4	0,0	72,1	3089,9
<b>accrual accounting</b>						
2002	4276,0	-817,0	-39,4	-1,2	76,7	3495,0

## 4. Public-private partnerships (PPPs, issue 24)

### 4.1 The issue

A general description of public-private partnerships (PPPs) is: "A PPP is a contractual arrangement in which private enterprise agrees to acquire a complex of fixed assets and then to use those assets together with other production inputs to produce services. Those services may be delivered to the government, either for use as an input to its own production (for example, motor vehicle maintenance services) or for distribution to the public on behalf of the government without payment by the public (for example, education services). In this case, the government will make periodic payments during the contract period and the private enterprise expects to recover its costs and earn an adequate rate of return on its investment from those payments. Alternatively, the private enterprise may sell the services to the public (for example, a toll road), with the price regulated by the government but set at adequate rate of return on its investment. At the end of the contract period, the government may gain legal ownership and operational control of the assets, possibly without payment. There can be many variations in

PPP contracts regarding the disposition of the assets at the end of the contract, the required operation and maintenance of the assets during the contract, the price, quality, and volume of services produced, and so forth”<sup>1</sup>

One question is the proper sector allocation of a given PPP, i.e. does it belong to general government or to private enterprises.<sup>2</sup> This may change the sectorial GFCF and the net lending/borrowing. However, GDP should not be affected to a great extent by this discussion.

The situation is somewhat different at the European level, where data on the general government sector are used for assessing the budgetary sustainability of Member States (so-called excessive deficit procedure, EDP). Putting emphasis on the sectorial data (including the theoretical possibility to create disguised PPPs) led to the Eurostat decision from 11/2/2006 on the treatment of PPPs in national accounts. According to this decision the assets involved in a PPP contract have to be allocated based on the risk distribution between the public and private partner. Thus, in the SNA the assets are allocated to the private partner if he takes the bulk of the risk in connection with the contract. Otherwise the assets are allocated to the public partner (government sector). Since PPP projects show most different risks in the practice, Eurostat has defined three central risk categories (i.e. construction risk, the availability risk and the demand risk) that are relevant for the allocation question. Of special importance is the construction risk which covers events like late delivery, technical deficiency or non-respect of specified standards for example. If the public partner bears the construction risk, the assets have to be assigned to the government sector in principle. If the private partner bears the construction risk, the availability risk (e.g. delivery of sufficient quantities) and the demand risk (e.g. variability of demand) attain relevance too, as the PPP project is only assigned to the private partner if he bears one of these two risks in addition to the construction risk.

## **4.2 Implementation aspects**

### **4.2.1 Contracts and statistical data**

Roughly eight different contract models concerning PPPs can be distinguished in Germany. The buyer model, the leasing model, the renting model the owner model, the contracting model, the concession model, the BOT model and the collaborative enterprise model are included. All models are based on detailed contractual provisions concerning the different project stages, i.e. planning, constructing, financing, operating and, if necessary, also the liquidation of public infrastructure by the private partner. Differences between the individual models arise primarily from the provisions in connection with the assignment of property of land and buildings at the end of the contract period, the possibility of charging a fee or the distribution of risks between the public and private partner.

For data on general government and its sub-sectors the main statistical survey is the public finance statistics. In addition, direct information from the Ministry of Finance is available for the Federal level. In both cases the data are cash-based, implying that only actual payments in the context of PPP arrangements (e.g. rents, facility services) are recorded together with similar non-PPP expenditure. However, public finance statistics show for instance (instalment-) payments for the acquisition of pre-financed roads separately. For the time being the total amount of GFCF erected by PPP projects cannot be derived from public finance statistics. Instead one has to rely on private research estimates, where it is not always clear, whether they relate to actual or planned PPP projects or whether their amount covers one year or a couple of years.

### **4.2.2 Implementing the risk assessment / Eurostat criteria**

The implementation of the Eurostat risk assessment is thought to be easy, since the required pieces of information may be taken from the PPP contracts. However, the reality looks different in Germany. At the moment there is neither an obligation to report these contracts to the Federal Statistical Office nor a legal basis that enables to inspect the contracts. The federal structure also complicates the collection and assessment of such contracts in Germany. Whereas general information (not specific terms of the contract) on current PPP projects can be obtained relatively easy at the federal level, the situation looks quite different at the level of the federal states and the municipalities. Especially information on PPP projects carried out by municipalities is difficult to

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<sup>1</sup> Description taken from the AEG issue paper 24 (SNA, M1.06/10), p.2.

<sup>2</sup> In addition to a contractual agreement the institutional PPP in same times mentioned. The institutional PPP is not dealt with in this paper, since this is in our view a topic for the sector delineation.

obtain. Other institutions neither do provide information on PPP projects on a systematical, comprehensive and continuous manner in Germany.

Uncertainties are also connected with the risk judgement by itself. The available model contracts - concerning the construction of motorways – show that this is a quite effortful work which requires the work of specialists in this field. The risk categories (construction, availability and demand risk) suggested by Eurostat are diversified in a hardly manageable variety in these contracts whereby the impact for the primary risk sometimes can only be identified with difficulty and additional legal assessments are required to enable a ranking. Subjective decisions cannot be avoided always in the end. The work of the statistician is in addition aggravated by the variety of different forms of contracts. Eventually, every contract must be checked, judged and decided one by one to apply the Eurostat decision strictly.

The implementation of the Eurostat decision at present is based on a mixed procedure:

- a) GFCF in infrastructure (roads, bridges, tunnels et cetera) are always allocated to the general government sector. Given that PPP projects in Germany – for the time being – concentrate on this type of structures, this will cover the majority of PPP projects,
- b) in case by case studies for bigger PPP projects (eg. the extension of certain motorways to six lanes) the PPP contracts are analysed in detail, which is an extremely time-consuming work.

In addition to the aforementioned, at the present the Federal Statistical Office is setting the course for a better recording of PPP projects to be able to take into account the growing importance of these contracts within the next years. A principal component of this work will be extended and/or supplemented questions in the construction survey. At the same time a concept for the assessment of PPP projects on the basis of the Eurostat risk criteria is developed, taking into account the special needs of the practical statistical work too. This latter part of the work is still in the starting phase. The most important requirement for an assessment of individual cases is the access of the Federal Statistical Office to the corresponding individual contracts. An alternative and implementable approach for the sectorial allocation of PPP projects probably could be based on model contracts of the respective PPP projects. A combination of detailed examinations of large-scale projects and general solutions for smaller projects according to the underlying model contracts is also conceivable. The main question for the update of the SNA-93 is, whether the introduction of the European rules, which are initiated by a specific administrative use of the data, is necessary and useful at the world level.

## **5. Granting and activation of guarantees (issue 37)**

### **5.1 The recommendation**

In the present SNA-93, the granting of guarantees is not recorded, since it is considered a contingent liability. However, the call of a guarantee is recorded in the financial accounts. In addition, when the called amount is cancelled eventually, a capital transfer to the beneficiary of the guarantee is entered.

The new proposal is to show a liability (of general government) already at the time when a standard guarantee is granted, with an amount equal to the net present value of the expected loss due to a call of the guarantee. The restriction to standard guarantees is needed to derive an average rate of calls (for instance from past experience). Furthermore, it seems that at the same time a transfer of the same magnitude is recorded from general government to the beneficiary, replacing the actual payment due some time later. Moreover, it is recommended to use the insurance model as the national accounts frame.

The proposed new treatment has at least an impact on debt and net lending/net borrowing of general government.

## 5.2 Implementation aspects

To implement the granting of standard guarantees in the form of the national accounts' insurance model, the following ingredients are needed:

- a) Insurance service charge (P.1, P.2),  
i.e. the value of the insurance service provided by granting the guarantees.
- b) Property income attributed to insurance policyholders (D.44),  
i.e. the income from the investment of technical reserves, which in the SNA is considered as a premium supplement of the policyholders.
- c) Net non-life insurance premiums (D.71),  
i.e. the amount intended to cover the damages due to guarantee calls.
- d) Non-life insurance claims (D.72),  
i.e. the amounts transferred to the insured to cover their losses.
- e) Insurance technical reserve (F.6),  
i.e. the prepayment of premiums and reserves against outstanding claims (by policy holders). In the new proposal for guarantees the contents of F.6 is changed to cover assumed future claims against the guarantor.

In addition, it is proposed to impute a subsidy or a capital grant, for instance, in the case the premiums are lower than the expected losses.

The types of standard guarantees concerned by the new proposal include export credits, student loans, loans to small businesses, and loans to home buyers.<sup>3</sup> To highlight the feasibility of the proposed new treatment we deliberately select the case of the German export guarantee system. The German export (credit) guarantees are handled by a private insurance corporation (Hermes) on behalf and on account of the federal government. Broadly speaking, the export guarantee system works the following way: An exporter asks for a guarantee and, if accepted, pays an amount comprising two elements, the handling fee and the premium to cover the average loss. The latter depends mainly on the amount of the guarantee, the country of destination, the term of the contract etc. In the case of a guarantee being called, the exporter receives a payment covering around 90 % of his losses; the residual has to be born by the exporter himself. Together with the payment to the exporter, the claim against the importer/importing country is taken over by the federal government and then presented during debt negotiations in the frame of the Paris Club or London Club, respectively.

From the annual reports the following data can be derived:

- As insurance service charge, the handling fee which has to be paid by the exporter could be accepted.
- As property income accruing to insurance policyholders there are no data available<sup>4</sup>.
- As net premium, the premium fee paid by the exporters to cover the costs of a guarantee due to a call could be accepted. This amount is only available as a total.
- As a proxy for insurance claims, the total amount of guarantees called could be used. A breakdown of these loans according to the year of granting of the guarantee is not given.

To derive the insurance technical reserve, i.e. the net present value of the guarantees, the pieces of information available are the total amount of guarantees granted in a year and the guarantees called in the same year (but mainly granted in earlier years, cf. next table). If this shortcoming is accepted, an assumed default ratio for a

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<sup>3</sup> Cf. issue-paper 37 (SNA/M1.06/08) for the 4<sup>th</sup> meeting of the Advisory Expert Group on National Accounts on 30/1-8/2 2006, p.9.

<sup>4</sup> The interests received by the federal government on guarantees called cannot be attributed to the insured, since the beneficiaries of the guarantees have been paid already.

given year could be compiled by combining these two pieces of information. Obviously such a default ratio is based on past experience.

The next step of the proposal is to compile an imputed capital transfer, if there is an undercoverage of the guarantee calls (and presumably also in the case of overcoverage). If the payments are accepted again as a starting basis, an amount for the imputed capital grant could be derived by comparing the amount of export guarantees called with the premiums for losses paid by the exporters (data in mill. EUR):

Year	Premiums paid by exporters	Payments for export guarantee calls	Difference (1-2)
	(1)	(2)	(3)
2000	505	973	- 468
2001	513	881	- 368
2002	269	689	-420
2003	386	514	- 128
2004	407	558	- 151
2005	445	695	- 250

In our example the figures shown in the table under difference could be used as a proxy for the (imputed) capital grant in the case of export guarantees. In relation to total general government expenditure the amounts represent between 0,01% and 0,05%. From a theoretical point of view the compilation in the above table can be criticized, because the payments for guarantee calls and the premiums paid are not directly connected. For a proper estimation it would be desirable to obtain a comparison of the premiums for guarantees granted in a given period with the payments for calls of guarantees from exactly the same period. This complete "accrualisation" would require a lot of additional information. However, on the ground that standard guarantees (i.e. many similar guarantees) are dealt with, the above shown compilation based on payments may be considered as an acceptable average. At least if adding the cost-benefit question, such a simple solution would probably be preferred.

A more fundamental question is, whether the proposed insurance model reflects the German export guarantee system. In the case of a car insurance, some policy holders receive payments after having incurred a damage, i.e. all policy holders cover the losses of a few damaged. But in the case of export guarantees there is a follow-up after the guarantee has been called. The claim against the foreign importer (country) is assumed by the federal government and then dealt with in debt-negotiations in the context of the Paris Club or the London Club, respectively. The amounts received by the federal government following debt-negotiations are considerable and in some years are higher than the amounts of guarantees called. If these amounts are also included in the insurance model, for some years the liability of general government would turn into an asset and the imputed capital grant would increase government revenue.<sup>5</sup> Therefore the most important question is, whether the aim of rendering visible the granting of (standard) guarantees could be met by a much simpler approach. Using again the German export guarantees, such an approach could consist in just recording a liability of general government (i.e. the net present value of annual losses) and at the same time record an asset of general government (i.e. the claim against the importer).

## 6. Summary

The findings of this paper concerning the possibilities to implement certain recommendations to update the 1993 SNA may be summarised as follows:

- Government owned assets and capital services (issue 16):  
From a practical point of view, it seems not advisable to introduce this conceptual idea in the updated SNA. On one hand, the accuracy of capital stock data in a sector breakdown is questioned for instance by

<sup>5</sup> Taking the year 2005 as an example, for which an exceptional amount of repayments was recorded, the revenue of general government would increase by 4,6 bn. EUR and net lending/net borrowing decrease by the same amount. This would reduce the deficit ratio 2005 by 0,2 percentage points.

PPPs, outsourcing and privatisations. On the other hand, neither capital consumption estimates nor price indices are harmonised at the world level. However the most crucial obstacle at present is the fact, that many countries, even industrialised ones, do not provide capital stock estimates for general government.

- Accrual accounting of taxes (issue 35b):  
To produce accrual estimates of tax revenue usually two methods are used, the time-shifting of cash data or model estimations. Using the German oil tax as an example, it could be shown, that model estimations and time shifted cash data produce similar results for quarterly and annual figures. The second question investigated concerned the use of proper cash data as a proxy for accrual figures. Using the German income tax revenue as an example it could be demonstrated, that cash data may be a good proxy for accrual figures, if certain circumstances are met.
- Public-private partnerships (PPPs, issue 24):  
The allocation of PPPs is an important question, if the emphasis is on accurate (general government) sector data. However, given the restricted influence of PPPs on key national accounts aggregates like GDP on one hand and the enormous work-load required to study the individual contracts case by case on the other hand, it would seem preferable to present this issue not in a very extensive way in an updated SNA.
- Granting an activation of guarantees (issue 37):  
On the basis of the German export guarantees the implementation of the recommended insurance model to record standard guarantees (including an imputed capital transfer) is highlighted at an annual basis. At first sight it seems that this recommendation increases general government expenditure and debt slightly. But differently from the insurance model, the losses due to export guarantees called have a follow-up in the negotiations of the Paris or London Club, implying later payments. The idea of rendering visible the granting of guarantees could probably met by a much simpler conceptual solution.

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