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# GDP AT BASIC PRICE, NEW TREATMENT OF GOVERNMENT AND OTHER PROPOSED CHANGES IN THE NATIONAL ACCOUNTS

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# GDP AT BASIC PRICE, NEW TREATMENT OF GOVERNMENT AND OTHER PROPOSED CHANGES IN THE NATIONAL ACCOUNTS[1]

## ABSTRACT

The paper proposes to rethink about **the treatment of Government in the National Accounts**. It starts with the old question of "double counting", which is: in the definition of GDP, is it correct to add a non market value added from Government and taxes minus subsidies on products, which "finance" that value added? The answer cannot be that of the former MPS, which denied any non-market production.

The measure of GDP in the SNA is actually a demand-oriented measure. On the production side, when calculating GDP, it looks strange to add taxes to a measure of production: indeed taxes are carefully separated in the I/O table by products, but not for the total GDP. If acquisition prices are the economically meaningful price for the demand side, it should be agreed that basic prices are the ones for the production side, so that the basic balance equation reads:

**GDP ( basic price) + Import + (Taxes minus subsidies on products ) = Uses ( acquisition price)**

The third term on left appears as a valuation correction term between resources and uses. It is very different by country in % of GDP (0 for Japan, 7% for US, around 11% for European countries).

If there is an agreement to measure GDP at basic price, the sequence of accounts has to be modified, taxes minus subsidies on products should disappear from the production account. Where to record them? One can take this opportunity to have all taxes and subsidies in the distribution of income account. This results in a **reorganised sequence of accounts** which shows Government as a producer of non market services up to the Allocation of primary income account, and then as redistributing the national income: the two functions are clearly distinguished.

With this treatment, GDP is exactly the sum of all value added, and it is exactly split in Compensation of employees and Operating surplus: this is more in line with economic theory … and simpler. This is also a solution to the question of **consumption subsidies**: with a GDP at basic price, it is possible to treat them simply as subsidies on products: they will decrease the value of consumption on the demand side without decreasing GDP.

[1] This paper expresses only the author's view and not necessarily that of INSEE.

The second part of the paper is devoted to another proposed change. In the present SNA, all the Government production is recorded as final demand (and is totally include in GDP) despite the fact that a part of it is intermediate consumption of all the institutional sectors. A **simple conventional breakdown of this Government production between intermediate and final consumption** is proposed in proportion of total market domestic demand. It is an adaptation, in the context of GDP at basic price, of my paper at IARIW 2002 “Another allocation of Government production”.

This second part is formally independent from the first one (some people may agree with one and not the other, … and some may disagree with both). But the two deals with the same question, Government in the National Accounts, the treatment of taxes and subsidies, the breakdown between market and non-market GDP.

This new presentation of the National Accounts, which does not require new information, nor difficult calculations, is proposed with the aim of being conceptually clearer and practically simpler.

## SUMMARY

## 1 - INTRODUCTION

The paper proposes to rethink about the consequences of alternative treatments of Government in the National Accounts. Some old personal thoughts were stimulated by the chapter 6 " Difficulties around Government activities" of Andre Vanoli's book: Une histoire de la comptabilité nationale, Editions La Découverte, June 2002 ( an English translation is in progress). This chapter is the first of Part IV "Concepts and Economic theory". It deals with the consistency between theoretical constructions and accounting conventions, which is at the heart of National Accounts.

Apart from non-financial market sectors for which direct information on sales and prices are available, the measure of the production of the other sectors needs theoretical and practical conventions that are of consequences in the results. This is true for the financial sector but moreover for the Government sector. Its two joint activities: production of non market services, redistribution of income, are so much closely related that it has been proposed at the beginning of the National Accounts to measure Government production with the amount of taxes. Andre Vanoli recalls us the many debates between the Founder Fathers ( Pigou, Stone, Hicks, Kuznets, to mention only a few of them) about the treatment of taxes, especially the indirect taxes. Should they, and which of them, are to be included in the definition of the National Income?

Actually, the fundamental point is: what is the right valuation of the reference aggregate, a GDP "at factor costs" or a GDP "at market prices" ? Or, what consistency between Production / Income / Expenses ? Or also, what choice in the debate GDP versus GNP ? In my opinion, all those related questions are still open.

This paper proposes two changes about the treatment of taxes and Government: a GDP at basic price and an allocation of collective consumption of Government, they will be presented in turn.

## 2 - GDP AT BASIC PRICE

### 2.1 - A QUESTION OF « DOUBLE COUNTING » ?

In France, the new 1970 benchmark introduced for the first time in the French National Accounts, a non market production for Government ( and also a production for the financial sector, but this is not the point here). At that time at INSEE, the debates were strong about the question of "double counting": in the definition of GDP, is it correct to add a non market value added from Government and the market value added which "finance" through the taxes that non market value added? Unfortunately no paper about these debates is still available. The only surviving evidence of them was ( up to the 1995 ESA ) the French practice of a breakdown of GDP in market GDP and non market GDP.

More recently, when the national accountants using the Material Product System (MPS) turned to the SNA, some of them raise again the question. This is also sometimes the case with informed users … or perspicacious students.

Two answers can be given to that question of double counting. The fist one is that of the former MPS: there is neither non-market production nor value added. It can be easily shown as irrelevant.

The second possible answer is : the double counting can be avoided with a proper definition of GDP and a clear distinction between Government production and income.

## 2.2 - NON MARKET PRODUCTION

In my opinion, the MPS answer is irrelevant. In any kind of economy, with labour and capital ( teachers and schools, nurses and hospitals), there are production and value added, whatever the “finance” comes from. It seems to me difficult, if not ridiculous, to argue that only teachers in private schools and nurses in private hospitals do produce. It is a different question to ask if the public teachers and nurses do add to the national income, and it is a mistake to mix up the two questions.

After having agreed that a non-market production of Government exists, it has to be measured. In the beginning of the National Accounts, this measure was based, not on costs as today, but on income, that is to say for Government, on taxes. More precisely, taxes paid by enterprises were deemed to represent their intermediate consumption of public non-market services and taxes paid by households their final consumption of these services. A further distinction was made: only indirect taxes were taken into account for that measure.

The final clarification was given in the 1968 SNA with a calculation from costs, but it also introduced a conceptually important breakdown of indirect taxes between taxes on products and other taxes on production ( and the same for subsidies). Actually, only VAT was treated as taxes on products in the 1968 SNA and the 1970 ESA, but the 1993 SNA enlarged it to all net taxes on products.

## 2.3 - GDP AT BASIC PRICE

With a calculation of Government production from costs, whatever the way they are financed, the objection of « double counting » becomes irrelevant. But there is still a problem with the valuation of GDP. This aggregate is deemed to be a measure of the creation of wealth in the period under review. In the SNA, it is measured as the sum of the different value added and nets taxes on products. This measure is said to be “at market price”, but this terminology refers much more to a valuation of demand, which is also said to be “at acquisition price”. In my opinion, the relevant “market price” on the production side is the “basic price”: it is the gross receipt of the producer, without nets taxes on products (and its right name should be “producer price”, which is misused in the present terminology). There is a main conceptual difference between taxes on products and all other taxes: the former do not enter really in the producer gross receipt, he is simply a collector of taxes on behalf of Government, the amount of taxes is calculated in proportion of sales, but totally independently from his proper income or wealth. And symmetrically subsidies on products are paid in proportion of production, not of income. (On the other hand, all other taxes and subsidies are deemed to

take into account, more or less, the actual economic situation of the taxpayer or receiver of subsidies). For instance, the fiscal legislation about VAT in France requires that the amount of VAT should appear separately on the invoices, and consequently in business accounts the turnover is measured net of VAT.

Actually, this valuation of production at basic price is used in the balance of resources and uses by product in the I/O table where nets taxes are shown distinctly from production. Along with the trade and transport margins, they appear as a valuation reconciliation between production at basic price and uses at acquisition prices, these prices on each side being the economically meaningful one.

It seems logical to have the same treatment for the GDP and that the basic balance equation reads:

**GDP ( basic price) + Import + (Taxes minus subsidies on products ) = Uses ( acquisition price)**

This equation raises some conceptual remarks. First, the SNA is based on the notion of production and its boundary and it seems a little contradictory to value the GDP with a market price, which is a demand-oriented price. Second, the present proposal does not choose in the debate “market price” versus “factor costs”, which use the same price for both resources and uses, it has different prices for each of them.

According to this new « GDP at basic price » (GDP_bp), Government gets a part of its resources in increasing the acquisition prices for users, but this is without consequences on the measure of the created wealth by production. For instance, an increase of VAT has no influence on GDP_bp as it should economically be: the point of view here is only an accounting one ( if VAT is increasing, then GDP at market price rises accordingly) and not an economic one ( if VAT is increasing, then the prices …, so demand … and then GDP …). Conversely consumption subsidies are no more a problem: they do lower the prices for consumers, but not the GDP_bp.

On the production side, this GDP_bp is then simply the sum of all value added, the latter being the differences between productions at basic prices and intermediate consumptions at acquisition prices. On the demand side, it is the sum of final uses minus imports and minus nets taxes on products.

Of course, these calculations can be performed at current prices as well as at previous year prices.

## 2.4 - A REORGANISED SEQUENCE OF ACCOUNTS

With this valuation of GDP_bp, the sequence of accounts has to be reviewed. If net taxes on products (D21N=D21-D31) disappear from the Production Account, they have to be recorded somewhere else. One can take the opportunity to gather them with the other net taxes on production and imports (D29N=D29-D39) together in the Secondary Distribution of Income Account, which records in that case quite all the redistribution in the economy.

The third measure of GDP_bp, from income side, is then the sum of the Compensation of employees (D1) and of an adjusted Operating surplus (B2). This adjustment is simply the deleted D29N: at that stage of the sequence of accounts, no net taxes are paid nor received. Operating surpluses are gross of all Other net taxes on production and import, like Compensations of employees are gross of social contributions.

All this results in a modified sequence of accounts :

A modified (partial) sequence of accounts.

| Uses | | | Resources | |
|---|---|---|---|---|
| ECO | G&S | | G&S | ECO |
| | | **Production** | | |
| | P1 | Production | | P1 |
| P2 | | Intermediate Consumption | P2 | |
| B1 | | Value Added / GDP | | |
| | | **Generation of Income** | | |
| | | Value Added / GDP | | B1 |
| D1 | | Compensation of employees | | |
| B2 | | Operating surplus | | |
| | | **Allocation of primary income** | | |
| | | Compensation of employees | | D1 |
| | | Operating surplus | | B2 |
| D4 | | Property income | | D4 |
| B5 | | Primary income | | |
| | | **Secondary distribution of income** | | |
| | | Primary income | | B5 |
| | D21 | Taxes on products | | D21 |
| D29 | | Other taxes on production | | D29 |
| D31 | | Subsidies on products | D31 | |
| D39 | | Other subsidies on production | | D39 |
| D5 | | Taxes on income | | D5 |
| D6 | | Social contributions and benefits | | D6 |
| D7 | | Current Transfers | | D7 |
| B6 | | Disposable income | | |

To be consistent with this sequence of accounts, the measure of the production of the non-market sector has to be slightly modified by excluding from the sum of costs the other net taxes on production (D29N). And without the indirect taxes D2N appearing as resources for Government in the Allocation of primary income account, its primary income will be close to zero, if not negative, for most countries: that is to say, Government does not add very much to the National income. This is the same economic idea behind than the one in the MPS, but about income instead of production.

Moreover the idea of grouping all redistribution in the relevant Secondary distribution of income account, as proposed above, can be followed completely with questioning the notion of Capital transfers. In the present SNA, they are distinguished from Current transfers, the explanation being that the latter change income while the former change wealth ( But this distinction is not very clear, as it appears with the discussions

about the exact classification of holding gains taxes). In my view, they are first both transfers and it can be argued that, from a macroeconomic point of view, the major part of capital taxes (notably inheritance taxes) or investment grants are current, and should, in line with the proposition, be recorded within the redistribution account (Capital taxes with taxes, investment grants with subsidies and other capital transfers with other current transfers). Consequently the notion and value of saving are enlarged to include all transfers. The present definition of saving, excluding capital transfers, seems too restrictive because when the economic units adjust their saving, they take in account all the transfers received, current and capital.

For another reason, the item D8 ( Adjustment for pension funds) should also be recorded in this redistribution account, because its position in the use of income account creates an asymmetry in the calculation of the saving ratio: D8 is included in the denominator (income) but excluded from the numerator (saving).

The secondary distribution of income account could then be further reorganised with the following items and their breakdowns ( this is done in the modified table at the end of the paper ):

- Taxes: new D2 = present ( D2 + D5 + D91 )
- Subsidies: new D3 = present ( D3 + D92 )
- Property income : new D4 = present D4
- Social contributions : new D5 = present D61
- Social benefits other than in kind : new D6 = present D62
- Social transfers in kind : new D7 = present D63
- Adjustment for pension funds : new D8 = present D8
- Other transfers : new D9 = present ( D7 + D99 )

### 2.5 - COMMENTS

This presentation of the National Accounts, GDP at basic price and the other proposed changes, has some merits, conceptual and practical. In the author's mind, all these propositions are linked ( and the paper was written with one idea introducing another one), but they can be discussed separately.

* First three conceptual remarks:

- This presentation is **conceptually clearer**. GDP_bp is now exactly the sum of all the value added, and it is split exactly in Compensation of employees and Operating surplus, which fits with economic theory. The three measures related to GDP (definition from supply, demand, income) are still valid with few modifications.

This new sequence of accounts shows Government as a producer of non market services up to the Allocation of primary income account, and then as redistributing the national income: the two functions are clearly distinguished. All redistribution appears in the relevant Secondary distribution of income account

which shows in one account the main differences between countries in the social sharing of national income.

With the grouping of capital tranfers in the Secondary distribution of income account, as proposed in the previous paragraph, taxes and social contributions are shown with an accrual valuation as payable, and the unpaid part as transfer, so that the disposable income is shown as net revenue of Government. This may be a solution to the debate between accrual recording versus net revenue recording.

- There is no more a problem with the so called "**question of consumption subsidies**": with a GDP at basic price, it is possible to include subsidies on the demand side without decreasing GDP. This is not the case with the present SNA definition of GDP and the discussions in the expert group preparing the 1993 SNA, for instance about the former high subsidies on rents on dwellings in some Eastern Europe countries, could not succeed in that framework. It then results in an underestimation of GDP.

- The new separate item "**nets taxes on products**" appearing in the basic balance equation has to be shown explicitly and not embedded in GDP because the proportion D21N / GDP, calculated according to the present SNA, is very different between countries ( source OECD for 1997), and with the figures of the economy described in the 1993 SNA, D21N / GDP is 133 / 1854 = 7,2%. It is clear that these differences may blur the proper comparison of production and GDP between countries. Probably all this has to be checked in order to reach a real comparability.

| D21N / GDP | JAPAN | -0,1 | | CZECH REPUBLIC | 10,6 |
|---|---|---|---|---|---|
| % | TURKEY | 3,4 | | AUSTRIA | 10,7 |
| | KOREA | 3,4 | | BELGIUM | 10,7 |
| | SWITZERLAND | 4,9 | | LUXEMBOURG | 10,8 |
| | UNITED STATES | 7,4 | | FRANCE | 11,0 |
| | CANADA | 7,5 | | UNITED KINGDOM | 11,1 |
| | NEW ZEALAND | 7,8 | | GREECE | 11,5 |
| | AUSTRALIA | 8,3 | | POLAND | 12,6 |
| | SPAIN | 8,5 | | SWEDEN | 12,7 |
| | MEXICO | 9,5 | | PORTUGAL | 13,4 |
| | GERMANY | 9,6 | | FINLAND | 13,8 |
| | SLOVAK REPUBLIC | 9,7 | | NORWAY | 13,9 |
| | IRELAND | 10,3 | | HUNGARY | 14,4 |
| | ITALY | 10,4 | | DENMARK | 14,5 |
| | NETHERLANDS | 10,6 | | ICELAND | 15,8 |

The quasi zero in the Japan figure deserves a special comment. It seems appealing because it would be a great practical simplification if it were possible to have this zero result from the very definitions. But I can't see any rationale to justify that zero from theoretical considerations.

* This new sequence of accounts results also in some practical simplifications.

- The first one is that **subsidies are shown directly as positive uses and resources**, and not as negative taxes as in the present SNA. This latter presentation puzzles often users, but moreover treating subsidies as

negative taxes can be questioned conceptually. As mentioned earlier, subsidies are paid out of the total of resources of Government, without any link with a particular one. All transfers are also shown as positives.

- A second practical simplification is that it is no more necessary to introduce, in the Integrated Economic Accounts Table, a **nominal sector** to deal with net taxes on products ( except for those countries which do not allocate FISIM).

## 3 - ANOTHER ALLOCATION OF GOVERNMENT PRODUCTION

The second part of this paper is devoted to another proposed change. In the present SNA, all the Government production is recorded as final demand (and is totally include in GDP) despite the fact that a part of it is intermediate consumption of all the institutional sectors. A simple conventional breakdown of this production between intermediate and final consumption is proposed in proportion of total market demand. The text that follows is an adaptation, in the context of GDP at basic price, of my paper at IARIW 2002 “Another allocation of Government production”.

This second part is formally independent from the first one. But the two deals with the same question, Government in the National Accounts, the treatment of taxes and subsidies, the breakdown between market and non market GDP. And it is conceptually consistent to decide that if Government has a close to zero or a negative Net Primary Income, it should have a **zero Actual Final Consumption**.

### 3.1 - WHY AN ALTERNATIVE TREATMENT?

In the 1968 SNA and the 1970 ESA, the production of non-market services by Government is, by convention, shown as being mainly consumed by Government itself. A small part is shown as household expenditure. Some countries (not France) also record in their accounts a small amount of intermediate consumption in respect of non-market services.

This treatment is not very satisfactory from a conceptual point of view. As with financial intermediation services indirectly measured (FISIM), an output is calculated without having a proper definition of who uses it and so it is assigned to a conventional balancing item. About Government, the treatment is justified on two grounds. First a conceptual one: that this is not Government as such, as producer of these services, who consumes them, but Government as representative of the collectivity (or the citizens, the nation). Second a practical one: that there is no way to assign it to the actual consumers. But those treatments have undesirable consequences on the GDP’s levels: to allocate all FISIM to intermediate consumption results in an underestimation of GDP, to allocate (almost) all non-market services to final consumption results in an overestimation of GDP. Those two poor treatments have to be removed, this is now being done for FISIM in many countries, but nothing is discussed about the allocation of non-market services.

As regards final consumption of Government and non-profit institutions serving households (NPISH), the 93 SNA and the 95 ESA have made progress by introducing the idea of individual consumption for services (mainly education and health services) that are provided to identifiable individuals. These are included in actual final consumption expenditure of households. In the future, an allocation of other parts of Government services (for instance the maintenance of roads) can be proposed. However there will remain a collective final consumption of Government without a home to go to. (By convention, the output of non-profit institutions serving households is all treated as individual consumption of households).

The proposal that follows deals with the actual consumption of (non-market) collective services of Government (except those already allocated directly to households). Another conceptual exclusion should be R&D which is to be capitalised in the revised version of the SNA. These collective services (general administration, justice, security, etc) are produced to a lesser or greater extent in all societies because societies cannot exist without them. It therefore seems desirable to have a different way of treating these services than the present one. What is needed is a procedure that will explicitly show the “use” of these services by the various institutional units and sectors in the economy.

The proposal to allocate the production of collective Government services does not call into question their collective nature (indivisible public goods), nor does it imply that they are not “ non-market”. It is simply a question of identifying those who actually benefit from them so as to allocate to them, in a more or less conventional way, the consumption of this collective output. And as a consequence of this complete allocation, households remain the only final consumer, a conclusion often considered in theoretical economics.

This alternative treatment does not propose a new calculation of the non-market production of Government, but another allocation of it. It could be used with any measure of the non market production, that of the present SNA or any other one that could be proposed in the future.

### 3.2 - MARKET GDP AND NON MARKET GDP

Before starting with the calculation of the proposed allocation, a preliminary step is necessary. The specificities of non-market sectors, and especially the Government sector, need a breakdown of GDP between market GDP and non market GDP, which will be used in the following ( but which can be useful in itself). As mentioned above, this breakdown was systematically presented in the French national accounts up to 1999 (implementation of the 1995 ESA).

The following table can be straightforwardly constructed from the figures in Table 15.1 of the 1993 SNA. The letters M and N refer respectively to Market and Non market. In this simplified presentation, market M is the sum of market and own final use, and non market N is the sum of Government S13 and NPISHs S15 (and is coded S13). The market production of non market sector (4) has been added to the market sector: the production matrix is then bloc-diagonal in market / non market and consequently total market products equals total market sectors ( and the same for non market).

| | P1 | D21 | D31 | P7 | TOT RES | P2 M | P2 N | P2 | P31 S14 | P31 S13 | P32 S13 | P3 | Other USES | TOT USES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P1 M | 3228 | 141 | -8 | 499 | 3860 | 1644 | 239 | 1883 | 1008 | 15 | | 1023 | 954 | 3860 |
| P1 N | 376 | | | | 376 | | | | 7 | 213 | 156 | 376 | 0 | 376 |
| P1 | 3604 | 141 | -8 | 499 | 4236 | 1644 | 239 | 1883 | 1015 | 228 | 156 | 1399 | 954 | 4236 |
| | | | | | | | | | | | | | | |
| B1 M | 1584 | 141 | -8 | 499 | 2216 | 0 | 239 | 239 | 1008 | 15 | | 1023 | 954 | 2216 |
| B1 N | 137 | | | | 137 | 0 | -239 | -239 | 7 | 213 | 156 | 376 | 0 | 137 |
| B1 | 1721 | 141 | -8 | 499 | 2353 | 0 | 0 | 0 | 1015 | 228 | 156 | 1399 | 954 | 2353 |
| | | | | | | | | | | | | | | |
| B1 SNA | 1854 | | | 499 | 2353 | 0 | 0 | 0 | 1015 | 228 | 156 | 1399 | 954 | 2353 |

The first three rows are the aggregation of Table 15.1 with the desired detail. The next three rows are obtained from the former three by deducting intermediate consumption from the relevant production. GDP_bp is shown on row B1, and GDP according to the present SNA in last row.

### 3.3 – AN ALLOCATION PROPORTIONAL TO TOTAL MARKET DOMESTIC DEMAND

If the aim is to allocate the (remaining) collective consumption of Government to the “beneficiaries”, what weights should be assigned among the users to each unit or sector? This is also an old question without a definitive answer. It has been proposed allocations according, for instance, to taxes paid, or to wealth. The following proposition seems to be new: to allocate according to total domestic market demand. The logic behind this is that (market) demand requires the existence of a system of economic regulation and Government output represents the costs of this regulation. And since it is a question of consumption, and to make things simple in a first step, an easy and consistent solution is to allocate Government non-market output proportionally to total market consumption (intermediate and final) of each institutional unit or sector. This is clearly a conventional allocation, but the present treatment is also a conventional one.

In order to keep saving (or net borrowing if capital transfers are treated as other transfers) unchanged despite the introduction of these imputed consumption of Government services, it is then necessary to balance the increase in consumption, intermediate or final, by “transfers” from Government.

Explanations will be given with the figures of the 1993 SNA aggregated as shown in the above table. The allocation of non-market production of Government (156) will be done according to total market consumption (1644; 239; 1008+15).

The calculation is actually a bit more complicated than a simple calculation of proportions because any increase in the intermediate consumption of Government or NPISHs leads to an equal increase in their non-market output. To take this into account, it is necessary to allocate not 156 , the amount of collective consumption, but $156+a*156+a^2*156+a^3*156+\ldots = 156 / ( 1-a)$, with “a” as the part of non market sectors in total consumption T. The coefficient of proportionality is then, not simply $k = 156 / T$ , but $k = 156 / ( 1-a) T$ , i.e. the ratio of the collective consumption to total market consumption except for non market sectors.

In our example, k = 156 / (1644+1008+15) = 5,85%. In the second row of the table below, this coefficient is multiplied with the different market consumption: we have 1644 * 5,85% = 96 for the non market intermediate consumption of market sectors, 239 * 5,85% = 14 for the non market intermediate consumption of non market sectors, and (1008+15) * 5,85% = 60 for the non market individual consumption expenditure of Government. Non market production of S13 shows an increase of 14, like its intermediate consumption.

| | P1 | D21 | D31 | P7 | TOT RES | P2 M | P2 N | P2 | P31 S14 | P31 S13 | P32 S13 | P3 | Other USES | TOT USES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | | | | | | 1644 | 239 | 1883 | 1008 | 15 | | | | |
| **Alloc N** | 14 | | | | 14 | 96 | 14 | 110 | | 60 | -156 | -96 | | 14 |

The increase in final individual consumption is balanced by an increase in transfers of individual non-market goods and services (D632).

The increase in intermediate consumption has to be balanced by a special entry under subsidies, which appears as negative resources of those administrations that produce the services and a negative uses for users. But, because we are dealing with non market collective services, it seems more adequate conceptually to introduce these subsidies as **Subsidies on non market products D31** (rather than as Other subsidies on production D39, for all sectors). This means that the intermediate consumption of non market products is totally subsidised, i.e. at zero purchasers' price[2]. In that case, the values added are not modified, either for market sectors or for non market sectors, because the productions and the intermediate consumptions remain the same. This modified allocation is shown in the next table :

| | P1 | D21 | D31 | P7 | TOT RES | P2 M | P2 N | P2 | P31 S14 | P31 S13 | P32 S13 | P3 | Other USES | TOT USES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Alloc N** | | | -96 | | -96 | | | | | 60 | -156 | -96 | | -96 |

Now the calculation can be made even simpler: 156 are split directly in proportion of market intermediate consumption of market sectors (1644) and market final consumption of households (1008+15). At that step, one can also enlarge the contents of the calculations (intermediate and final consumption) to total domestic demand by including Gross capital formation. This is conceptually better, and the results are not very much modified. If GCF is introduced, 1644 become 1644+287 for the relative weight of market sectors and 1008+15 become 1008+15+68 for the relative weight of households, so that 156 is split into 100 and 56, not very far from 96 and 60.

[2] Thanks to A. Vanoli, I have discovered that this treatment is not completely new: in his book (on page 313), he recalls us that Hicks had proposed to treat **all** non market production as totally subsidised ( in "The Valuation of Social Income", Economica, May 1940).

Then the GDP table becomes :

| | P1 | D21 | D31 | P7 | TOT RES | P2 M | P2 N | P2 | P31 S14 | P31 S13 | P32 S13 | P3 | Other USES | TOT USES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P1 M | 3228 | 141 | -8 | 499 | 3860 | 1644 | 239 | 1883 | 1008 | 15 | | 1023 | 954 | 3860 |
| P1 N | 376 | | -100 | | 276 | | | | 7 | 269 | 0 | 276 | 0 | 276 |
| P1 | 3604 | 141 | -108 | 499 | 4136 | 1644 | 239 | 1883 | 1015 | 284 | 0 | 1299 | 954 | 4136 |
| | | | | | | | | | | | | | | |
| B1 M | 1584 | 141 | -8 | 499 | 2216 | 0 | 239 | 239 | 1008 | 15 | | 1023 | 954 | 2216 |
| B1 N | 137 | | -100 | | 37 | 0 | -239 | -239 | 7 | 269 | 0 | 276 | 0 | 37 |
| B1 | 1721 | 141 | -108 | 499 | 2253 | 0 | 0 | 0 | 1015 | 284 | 0 | 1299 | 954 | 2253 |

All the changes are concentrated on the non market products, for which there are two conventions: measure of production, allocation of this production, and this is a good reason to show separately the two parts of GDP. For all sectors, production, intermediate consumption and value added are not changed.

Net taxes on products (D21N) are strongly reduced by the amount of compensatory subsidies implicitly paid to the market sectors: starting from 133 in the present SNA, it is now at 33 ( see above the remark about the zero in the Japan case). Of course GDP_bp is not changed ( this is a big difference with my former paper which used the SNA measure of GDP at market price).

## 4 - CONCLUSION

Starting from the question of a possible “double counting” in the GDP, this paper proposes a new measure of this aggregate and develops some consequences of this change in the sequence of accounts. It insists on the usefulness of a breakdown between market GDP and non market GDP, and on a full allocation of non market Government services. This new presentation of the National Accounts, which does not require new information, nor difficult calculations, is proposed with the aim of being conceptually clearer and practically simpler.

All the proposed changes to the sector accounts and to the aggregates are presented in the next two tables which show the current accounts and the capital part of the Integrated Economic Accounts (IEA), the original and the modified one.

**Table 2.8. Integrated economic accounts** — Current accounts

Uses

| Accounts | Total | Goods and services (res.) | Rest of the world | S.1 Total economy | Not allocated | S.15 NPISHs | S.14 Households | S.13 General government | S.12 Financial corporations | S.11 Non-financial corporations |
|---|---|---|---|---|---|---|---|---|---|---|
| I. Production/ external account of goods and services | 499 | 499 | | | | | | | | |
| | 540 | | 540 | | | | | | | |
| | 3 604 | 3604 | | | | | | | | |
| | 1 883 | | | 1 883 | | 9 | 884 | 262 | 28 | 699 |
| | 133 | 133 | | | | | | | | |
| II.1.1. Generation of income account | 1 854 | | | 1 854 | 133 | 31 | 575 | 186 | 73 | 854 |
| | 222 | | | 222 | | 3 | 42 | 30 | 10 | 137 |
| | 1 632 | | | 1 632 | 133 | 28 | 533 | 156 | 63 | 717 |
| | | | -41 | | | | | | | |
| II.1.2. Allocation of primary income account | 799 | | 6 | 792 | | 23 | 39 | 140 | 16 | 545 |
| | 191 | | 0 | 191 | 133 | 0 | 2 | 2 | 3 | 51 |
| | 133 | | 0 | 133 | 133 | | | | | |
| | 58 | | 0 | 58 | | 0 | 2 | 2 | 3 | 51 |
| | 459 | | | 459 | | 8 | 92 | 46 | 55 | 258 |
| | 442 | | | 442 | | | 442 | | | |
| | 247 | | | 247 | | 5 | 60 | 16 | 46 | 121 |
| | 432 | | | 432 | | | 432 | | | |
| II.2. Secondary distribution of income account | 454 | | 53 | 391 | | 6 | 41 | 42 | 157 | 135 |
| | 1 883 | | | 1 883 | | 9 | 1 409 | 227 | 29 | 209 |
| | 1 661 | | | 1 661 | | 6 | 1 367 | 197 | 19 | 72 |
| II.2. Secondary distribution of income account | 213 | | 1 | 212 | | 0 | 176 | 0 | 10 | 24 |
| | 322 | | 0 | 322 | | | 322 | | | |
| | 332 | | 0 | 332 | | 1 | 0 | 289 | 29 | 13 |
| | 278 | | 9 | 269 | | 2 | 71 | 141 | 45 | 10 |
| II.3. Redistribution of income in kind account | 1 854 | | | 1 854 | | 43 | 1 206 | 386 | 33 | 186 |
| | 1 632 | | | 1 632 | | 40 | 1 164 | 356 | 23 | 49 |
| II.3. Redistribution of income in kind account | 228 | | | 228 | | 16 | | 212 | | |
| | 1 854 | | | 1 854 | | 27 | 1 434 | 174 | 33 | 186 |
| | 1 632 | | | 1 632 | | 24 | 1 392 | 144 | 23 | 49 |
| II.4. Use of income account | | | | | | | | | | |
| | 1 399 | | | 1 399 | | | 1 243 | 156 | | |
| | 1 399 | | | 1 399 | | 16 | 1 015 | 365 | | |
| | 11 | | 0 | 11 | | 0 | | 0 | 11 | 0 |
| | 455 | | | 455 | | 27 | 202 | 18 | 22 | 186 |
| II.1. Capital account | 233 | | | 233 | | 24 | 160 | -12 | 12 | 49 |
| | -41 | | -41 | | | | | | | |
| | 376 | | | 376 | | 19 | 61 | 37 | 9 | 250 |
| | -222 | | | -222 | | -3 | -42 | -30 | -10 | -137 |
| | 28 | | | 28 | | 0 | 2 | 0 | 0 | 26 |
| | 10 | | | 10 | | 0 | 5 | 3 | 0 | 2 |
| | 0 | | 0 | 0 | | 1 | 4 | 2 | 0 | -7 |
| | 0 | | -38 | 38 | | 4 | 148 | -62 | 6 | -58 |

Resources

| Code | Transactions and other flows, stocks and balancing items | S.11 Non-financial corporations | S.12 Financial corporations | S.13 General government | S.14 Households | S.15 NPISHs | Not allocated | S.1 Total economy | Rest of the world | Goods and services (uses) | Total | Accounts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P.7 | Imports of goods and services | | | | | | | | 499 | | 499 | I. Production/ external account of goods and services |
| P.6 | Exports of goods and services | | | | | | | | | 540 | 540 | |
| P.1 | Output | 1 753 | 102 | 440 | 1 289 | 40 | | 3 604 | | | 3 604 | |
| P.2 | Intermediate consumption | | | | | | | | | 1883 | 1 883 | |
| D.21-D.31 | Taxes less subsidies on products | | | | | | 133 | 133 | | | 133 | |
| B.1g/B.1*g | Value added, gross/GDP | 854 | 73 | 186 | 575 | 31 | 133 | 1 854 | | | 1 854 | II.1.1. Generation of income account |
| K.1 | Consumption of fixed capital | | | | | | | | | | | |
| B.1n/B.1*n | *Value added, net/GNP* | 717 | 63 | 158 | 533 | 28 | 133 | 1 632 | | | 1 632 | |
| B.11 | *External balance of goods and services* | | | | | | | | -41 | | | |
| D.1 | Compensation of employees | | | | 766 | | | 766 | 2 | | 766 | II.1.2. Allocation of primary income account |
| D.2-D.3 | Taxes less subsidies on production and imports | | | 191 | | | | 191 | 0 | | 191 | |
| D.21-D.31 | Taxes less subsidies on products | | | 133 | | | | 133 | 0 | | 133 | |
| D.29-D.39 | Other taxes less subsidies on production | | | 58 | | | | 58 | 0 | | 58 | |
| B.2g | Operating surplus, gross | 258 | 55 | 46 | 92 | 8 | | 459 | | | 459 | |
| B.3g | Mixed income, gross | | | | 442 | | | 442 | | | 442 | |
| B.2n | *Operating surplus, net* | 121 | 45 | 16 | 60 | 5 | | 247 | | | 247 | |
| B.3n | *Mixed income, net* | | | | 432 | | | 432 | | | 432 | |
| D.4 | Property income | 86 | 141 | 32 | 150 | 7 | | 416 | 38 | | 454 | II.2. Secondary distribution of income account |
| B.5g | Balance of primary incomes, gross/National income, gross | 209 | 29 | 227 | 1 409 | 9 | | 1 883 | | | 1 883 | |
| B.5n/B.5*n | *Balance of primary incomes, net/National income, net* | 72 | 19 | 197 | 1 367 | 6 | | 1 661 | | | 1 661 | |
| D.5 | Current taxes on income, wealth etc. | | | 213 | | | | 213 | 0 | | 213 | |
| D.61 | Social contributions | 14 | 39 | 268 | 0 | 1 | | 322 | 0 | | 322 | |
| D.62 | Social benefits other than social transfers in kind | | | | 332 | | | 332 | 0 | | 332 | |
| D.7 | Other current transfers | 10 | 43 | 108 | 36 | 36 | | 238 | 39 | | 278 | |
| B.6g | Disposable income, gross | 186 | 33 | 386 | 1 206 | 43 | | 1 854 | | | 1 854 | II.3. Redistribution of income in kind account |
| B.6n | *Disposable income, net* | 49 | 23 | 356 | 1 164 | 40 | | 1 632 | | | 1 632 | |
| D.63 | Social transfers in kind | | | | 228 | | | 228 | | | 228 | II.4. Use of income account |
| B.7g | Adjusted disposable income, gross | 186 | 33 | 174 | 1 434 | 27 | | 1 854 | | | 1 854 | |
| B.7n | *Adjusted disposable income, net* | 49 | 23 | 144 | 1 392 | 24 | | 1 632 | | | 1 632 | |
| B.8g | Disposable income gross | 186 | 33 | 386 | 1 206 | 43 | | 1 854 | | | 1 854 | |
| B.8n | *Disposable income, net* | 49 | 23 | 356 | 1 164 | 40 | | 1 632 | | | 1 632 | |
| P.4 | Actual final consumption | | | | | | | | | 1399 | 1 399 | |
| P.3 | Final consumption expenditure | | | | | | | | | 1399 | 1 399 | |
| D.8 | Adjustment for the change in net equity of households on pension funds | | | | 11 | | | 11 | 0 | | 11 | |
| B.8g | Saving, gross | | | | | | | | | | | |
| B.8n | *Saving, net* | 49 | 12 | -12 | 180 | 24 | | 233 | | | 233 | II.1. Capital account |
| B.12 | *Current external balance* | | | | | | | | -41 | | -41 | |
| P.51 | Gross fixed capital formation | | | | | | | | | 376 | 376 | |
| K.1 | Consumption of fixed capital (-) | | | | | | | | | | | |
| P.52 | Changes in inventories | | | | | | | | | 28 | 28 | |
| P.53 | Net Acquisitions of valuables | | | | | | | | | 10 | 10 | |
| K.2 | Net Acquisitions of NPNF assets | | | | | | | | | | | |
| D.9 | Capital transfers, receivable | 33 | 0 | 6 | 23 | 0 | | 62 | 4 | | 66 | |
| D.9 | Capital transfers, payable (-) | -16 | -7 | -34 | -5 | -3 | | -65 | -1 | | -66 | |
| B.9 | *Net lending (+) / net borrowing (-)* | | | | | | | | | | | |

**Table 2.8.** Integrated economic accounts — Current accounts — MODIFIED

| Uses: Account | Total | Goods and services (rec.) | Rest of the world | S.1 Total economy | S.15 NPISHs | S.14 Households | S.13 General government | S.12 Financial corporations | S.11 Non-financial corporations | Code | Transactions and other flows, stocks and balancing items | Resources: S.11 Non-financial corporations | S.12 Financial corporations | S.13 General government | S.14 Households | S.15 NPISHs | S.1 Total economy | Rest of the world | Goods and services (uses) | Total | Account |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I. Production/ | 499 | 499 | | | | | | | | P.7 | Imports of goods and services | | | | | | | 499 | | 499 | I. Production/ |
| external account | 540 | | 540 | | | | | | | P.6 | Exports of goods and services | | | | | | | | 540 | 540 | external account |
| of goods and | 3 602 | 3 602 | | | | | | | | P.1 | Output | 1 753 | 102 | 438 | 1 269 | 40 | 3 602 | | | 3 602 | of goods and |
| services | 1 883 | | | 1 883 | 9 | 694 | 252 | 29 | 899 | P.2 | Intermediate consumption | | | | | | | | 1 883 | 1 883 | services |
| | 1 719 | | | 1 719 | 31 | 575 | 186 | 73 | 854 | B.1g/B.1*g | Value added, gross/GDP | 854 | 73 | 186 | 575 | 31 | 1 719 | | | 1 719 | II.1.1. Generation of income |
| | 222 | | | 222 | 3 | 42 | 39 | 10 | 137 | K.1 | Consumption of fixed capital | | | | | | | | 222 | 222 | |
| | 1 497 | | | 1 497 | 28 | 533 | 168 | 63 | 717 | B.1n/B.1*n | *Value added, net/NDP* | 717 | 63 | 156 | 533 | 28 | 1 497 | | | 1 497 | |
| | | | -41 | | | | | | | B.11 | *External balance of goods and services* | | | | | | | -41 | | | |
| II.1.1. Generation of | 768 | | 6 | 762 | 23 | 39 | 149 | 15 | 545 | D.1 | Compensation of employees | | | | 766 | | 766 | 2 | | 768 | II.1.2. Allocation of primary |
| income account | 515 | | | 515 | 8 | 94 | 46 | 58 | 309 | B.2g | Operating surplus, gross | 309 | 58 | 46 | 94 | 8 | 515 | | | 515 | income account |
| | 442 | | | 442 | | 442 | | | | B.3g | Mixed income, gross | | | | 442 | | 442 | | | 442 | |
| | 303 | | | 303 | 5 | 62 | 16 | 48 | 172 | B.2n | *Operating surplus, net* | 172 | 48 | 16 | 62 | 5 | 303 | | | 303 | |
| | 432 | | | 432 | | 432 | | | | B.3n | *Mixed income, net* | | | | 432 | | 432 | | | 432 | |
| II.1.2. Allocation of | 454 | | 83 | 391 | 6 | 41 | 42 | 167 | 135 | D.4 | Property income | 86 | 141 | 32 | 150 | 7 | 416 | 38 | | 454 | |
| primary income | 1 748 | | | 1 748 | 9 | 1 411 | 36 | 32 | 260 | B.5g | Balance of primary incomes, GNI | 260 | 32 | 36 | 1 411 | 9 | 1 748 | | | 1 748 | II.2. Secondary distribution of |
| account | 1 526 | | | 1 526 | 6 | 1 369 | 6 | 22 | 123 | B.5n/B.5*n | *Balance of primary incomes, NNI* | 123 | 22 | 6 | 1 369 | 6 | 1 526 | | | 1 526 | income account |
| II.2. Secondary | 459 | 141 | 1 | 308 | 0 | 183 | 2 | 13 | 110 | D.2 rev | Taxes | | | 450 | | | 450 | 0 | | 450 | |
| distribution of | 141 | 141 | | | | | | | | D.21 | Taxes on products | | | 141 | | | 141 | 0 | | 141 | |
| income account | 94 | | 0 | 94 | 0 | 3 | 2 | 3 | 86 | D.29 | Other taxes on production | | | 94 | | | 94 | 0 | | 94 | |
| | 213 | | 1 | 212 | 0 | 178 | 0 | 10 | 24 | D.5 | Current taxes on income, wealth etc. | | | 213 | | | 213 | 0 | | 213 | |
| | 2 | | 0 | 2 | | 2 | | | | D.91 | Capital taxes | | | 2 | | | 2 | 0 | | 2 | |
| | 167 | | 0 | 167 | 0 | 0 | 167 | 0 | 0 | D.3 rev | Subsidies | 58 | 0 | 0 | 1 | 0 | 59 | 4 | 104 | 167 | |
| | 104 | | 0 | 104 | | | 104 | | | D.31 | Subsidies on products | | | | | | | | 104 | 104 | |
| | 38 | | 0 | 36 | | | 38 | | | D.39 | Other subsidies on production | 36 | | | 1 | | 36 | 0 | | 36 | |
| | 27 | | 0 | 27 | | | 27 | | | D.92 | Investment grants | 23 | | | | | 23 | 4 | | 27 | |
| | 322 | | 0 | 322 | | 322 | | | | D.5 rev | Social contributions | 14 | 39 | 268 | 0 | 1 | 322 | 0 | | 322 | |
| | 332 | | 0 | 332 | 1 | 0 | 289 | 29 | 13 | D.9 rev | Social benefits other than in kind | | | | 332 | | 332 | 0 | | 332 | |
| | 11 | | 0 | 11 | 0 | | 0 | 11 | 0 | D.8 | Adjustment for pension funds | | | | 11 | | 11 | 0 | | 11 | |
| | 315 | | 10 | 305 | 5 | 74 | 148 | 52 | 26 | D.9 rev | Other transfers | 20 | 49 | 112 | 59 | 36 | 276 | 39 | | 315 | |
| | 278 | | 9 | 269 | 2 | 71 | 141 | 45 | 10 | D.7 | Other current transfers | 10 | 49 | 108 | 36 | 36 | 239 | 39 | | 278 | |
| | 37 | | 1 | 36 | 3 | 3 | 7 | 7 | 16 | D.99 | Other capital transfers | 10 | 0 | 4 | 23 | 0 | 37 | | | 37 | |
| | 1 753 | | | 1 753 | 40 | 1 235 | 260 | 15 | 203 | B.6g | Disposable income, gross | 203 | 15 | 260 | 1 235 | 40 | 1 753 | | | 1 753 | II.3. Redistribution of income |
| | 1 531 | | | 1 531 | 37 | 1 193 | 230 | 5 | 66 | B.6n | *Disposable income, net* | 66 | 5 | 230 | 1 193 | 37 | 1 531 | | | 1 531 | in kind account |
| II.3. Redistribution of | 285 | | | 285 | 16 | | 270 | | | D.7 rev | Social transfers in kind | | | | 285 | | 285 | | | 285 | |
| income in kind | | | | | | | | | | | | | | | | | | | | | |
| account | 1 753 | | | 1 753 | 24 | 1 521 | -10 | 15 | 203 | B.7g | Adjusted disposable income, gross | 203 | 15 | -10 | 1 521 | 24 | 1 753 | | | 1 753 | II.4. Use of income account |
| | 1 531 | | | 1 531 | 21 | 1 479 | -40 | 5 | 66 | B.7n | *Adjusted disposable income, net* | 66 | 5 | -40 | 1 479 | 21 | 1 531 | | | 1 531 | |
| II.4. Use of income account | | | | | | | | | | B.6g | Disposable income gross | 203 | 15 | 260 | 1 235 | 40 | 1 753 | | | 1 753 | |
| | | | | | | | | | | B.6n | *Disposable income, net* | 66 | 5 | 230 | 1 193 | 37 | 1 531 | | | 1 531 | |
| | 1 301 | | | 1 301 | | 1 301 | 0 | | | P.4 | Actual final consumption | | | | | | | | 1 301 | 1 301 | |
| | 1 301 | | | 1 301 | 16 | 1 015 | 270 | | | P.3 | Final consumption expenditure | | | | | | | | 1 301 | 1 301 | |
| | 452 | | | 452 | 24 | 220 | -10 | 15 | 203 | B.8g | Saving, gross | | | | | | | | | | |
| | 230 | | | 230 | 21 | 178 | -40 | 5 | 66 | B.8n | *Saving, net* | 66 | 5 | -40 | 178 | 21 | 230 | | | 230 | III.1. Capital account |
| | -38 | | -38 | | | | | | | B.12 | *Current external balance* | | | | | | | -38 | | -38 | |
| III.1. Capital account | 376 | | | 376 | 19 | 61 | 37 | 9 | 250 | P.51 | Gross fixed capital formation | | | | | | | | 376 | 376 | |
| | -222 | | | -222 | -3 | -42 | -30 | -10 | -137 | K.1 | Consumption of fixed capital (-) | | | | | | | | -222 | -222 | |
| | 28 | | | 28 | 0 | 2 | 0 | 0 | 26 | P.52 | Changes in inventories | | | | | | | | 28 | 28 | |
| | 10 | | | 10 | 0 | 5 | 3 | 0 | 2 | P.53 | Net acquisitions of valuables | | | | | | | | 10 | 10 | |
| | 0 | | 0 | 0 | 1 | 4 | 2 | 0 | -7 | K.2 | Net acquisitions of NPNF assets | | | | | | | | 0 | 0 | |
| | 0 | | -38 | 38 | 0 | 148 | -62 | 6 | -68 | B.9 | *Net lending (+) / net borrowing (-)* | | | | | | | | | | |
| | | 4 242 | | | | | | | | | Total Goods & Services | | | | | | | | 4 242 | | |