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**IMPROVING THE VOLUME COMPARISON OF GDP:  
ENSURING THE CONSISTENT TREATMENT OF TIPS, INCOME IN KIND,  
DISCOUNTS AND VAT IN PPP AND NATIONAL ACCOUNTS**

Submitted by Eurostat\*

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## 1. INTRODUCTION

The reliability of PPPs and particular the discrepancies in the development of volume aggregates deflated by PPP and developments of constant price GDP have been subject to criticism for quite a while (see Varjonen, Daalgard, Magnien<sup>1</sup>). Of course, there are many objective reasons why the development of the GDP volume index in PPS and the constant price GDP in NA are not fully in line and why the accuracy of international comparisons is lower. Among those the most important ones are:

- ◆ Price collected for PPP follow a basket that is designed for international price comparisons and therefore gives priority to comparability over representativity.
- ◆ The baskets underlying the prices for the constant price calculations in NA, e.g. CPI, can be considerably different from the PPP basket, particularly when the economic situation of a country and consequently its consumption pattern is very different from the other countries participating in the comparison. This is the situation for the Eurostat comparison since the EU-Candidate Countries have joined.<sup>2</sup>

Therefore, transitivity over space and time at the same time cannot be achieved. However the discrepancies currently observed are too big to be explained by the factors mentioned above and index formula differences alone.

On the NA front the one to be blamed was quickly identified: the prices are wrong. On the other hand, the PPP world for a long time insisted that PPP are no time series, but a snapshot in time and should not be compared over time anyway. The latter could be accepted for the underlying prices, however not for the expenditure weights that are used to compile aggregated PPP up to GDP level. These come from the NA and are therefore a timeseries and subject to regular revisions.

The problem of the PPP calculation is that it brings together the uncertainties and errors of (at least) two domains of statistics: spatial price comparison and NA. This paper is not about right or wrong, it is about consistency between the PPP prices and the GDP values deflated with PPP. Eurostat believes that with improved communication and co-operation between price statisticians and national accountants many potential inconsistencies can be avoided in future.

## 2. OUTLINE OF THE ISSUES

Among the items that have an impact on the volume comparison of GDP are tips, income in kind, price discounts and the treatment of VAT for capital goods. So far most of the theoretical discussion in the PPP world has been focused on the treatment

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<sup>1</sup> Esben Dalgaard and Henrik Sørensen “Consistency Between PPP Benchmarks and National Price and Volume Indices “ (IARIW meeting 2002); Seppo Varjonen “Improving the Quality of PPP Series” (OECD NA meeting 2002); Francois Magnien “Various Problems in the Interpretation of PPPs” (OECD NA meeting 2002)

<sup>2</sup> One needs to bear in mind that in the current Eurostat comparison 31 countries are included. The difference in economic development of the extreme countries at the higher and the lower end is probably 30-40 years. This would also for the NA be a long period for producing consistent results.

of the price discounts for cars. The issues related to tips and income in kind have not been discussed very much. In practice, however, so far no consistency adjustments at all are made for all these three items. Concerning income in kind, the paper concentrates on the biggest issue for a single basic heading in the PPP comparison, canteens. Only recently, in the framework of the PPP revision task force, also the problem of consistent treatment of VAT in PPP and NA came up.

To ensure proper volume comparison of GDP, consistency between the prices underlying PPP and the GDP values in national currency deflated with PPP must be established.

For example, if there is an adjustment made for voluntary tips in restaurants in the NA, the prices collected in PPP for restaurant services have to be adjusted by the same rate to include tips. Consistency between PPP and GDP in the case of tips, however, would also be ensured if in the NA no explicit adjustment is made (or the tips are not implicitly covered by the sources used to compile NA) and the PPP prices are also net of voluntary tips. The latter situation is, however, not a perfect one since it implies that expenditures in restaurants are underestimated in the NA. This underestimation leads to improper (smaller) weight of that item in the aggregation process of PPP up to the levels like private household consumption expenditure and GDP.

The consequences of non-consistency between GDP and PPP prices are mathematically fairly straightforward. If, in an individual country, in the NA a necessary adjustment, e.g. for tips is made and the PPP prices are not adjusted, the PPP price level for this country is underestimated and consequently, the volume index for this country, compared to other countries, is overestimated. In the opposite case, e.g. with discounts for cars, the PPP prices are list prices (not allowing for discounts) and in the National Accounts market prices (after discounts) may be used. Now the PPP price level for such a country is overestimated and its volume index will be underestimated, compared to other countries.

One should be aware that the consistency between GDP and prices underlying PPP does not ensure automatically the comparability of price level indices across the countries<sup>3</sup>. For pure **volume** comparison it is enough to have consistency between the prices and GDP, even if there are countries that should do adjustments, but do not make them. This paper, however, does, in the short term, not call for any changes to the NA, only for communication of current practice in the individual countries to enable appropriate PPP price adjustments. In the medium and long term, of course, also necessary adjustments should be made to the NA for countries where these are currently missing.

Before looking at what can be done to improve consistency, some insight is given to the treatment of tips, income in kind, discounts and VAT of capital goods in the NA and their current handling in the PPP price surveys.

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<sup>3</sup> In fact, we actually would need 2 PPPs – one for price comparison and one as volume deflator.

### **3. TREATMENT OF TIPS, INCOME IN KIND, PRICE DISCOUNTS AND VAT ON CAPITAL GOODS IN NA THEORY AND PRACTICE AND THEIR CURRENT HANDLING IN THE PPP PRICE SURVEYS**

#### **3.1 Tips**

Tips are the cash payments that the consumers of services voluntarily<sup>4</sup> give to the providers of the services. That happens e.g. in restaurants, taxi transports and other personal services (e.g. haircut). In fact, the tips are also part of the price of the service, but they are not recorded in the PPP price collection practice.

The level of tips is not equal across the countries, in some countries the people are more “generous” than in others. By countries, the size of tips can vary remarkably because of cultural differences and habits.

In the national accounts, the tips are recorded as the part of the output<sup>5</sup> of the services (e.g. catering, haircut) and hence also the part of the Household Final Consumption Expenditure (HFCE).

Tips are probably mostly recorded as part of HFCE also in practice. The problem could be rather the partial recording of tips in HFCE. For example the respective adjustments are sometimes made for catering services, but not done for the transports (e.g. taxis) or they have not been taken into account in full amount. Also the opposite situation may occur, where the size of tips is overestimated. This may happen if the share of tips is grossed up to all different kind of catering services, even to those where the tips are not paid.

There could be also implicit coverage of tips if the Household Budget Survey is the basic source in the compilation of HFCE. People may report e.g. in the household budget survey the expenditure that already includes tips. If we do not know if they are included or not, there is not much we could do about it in the PPP work.

#### **3.2 Income in kind**

Income in kind is the non-cash income that the employee receives from the employer. It could be for example:

- use of the working equipment by employees for their private needs: e.g. cars, telephones, clothing
- provision of cheap dwelling services for the employee (rent paid by the employer or the dwelling owned by the employer)
- provision of cheap meals for the employee (the so called “canteens” issue)
- provision of cheap credits for employees: e.g. in the banking sector.

Naturally, income in kind is the income of individuals and as such to be recorded as wages and salaries, but it is, by convention, also to be recorded as expenditure of

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<sup>4</sup> This shall not be mixed up with the service charge in restaurants, that is sometimes included in the meal price, sometimes charged separately

<sup>5</sup> Tips are considered as part of output of the service provider, although mostly directly received by the employees of the businesses; the issue is shortly described in SNA 93 para. 7.33 (e)

those individuals because this non-cash income is consumed by them. Therefore it forms a part of the HFCE and should be included in the NA weights of PPP exercise.

In national accounts practice, the income in kind is in many cases recorded. As for the tips, the problem could be partial recording of that item in the HFCE. If left out of HFCE, it is recorded in the intermediate or capital consumption of the companies or non-market units, depending to which sector the employer belongs.

The focus of this paper is on the income in kind in the case of canteens, as expenditure of consumers in canteens is seen as an important expenditure category.

When looking at the price side of the PPP exercise, the picture is a bit more complicated than it is for the tips. In the case where the employer is subsidising the canteen in one way or the other (provides money to the canteen or runs it himself) the prices are below the normal market price and these are the prices collected by the price collectors for the PPP exercise.

In the case where employer provides to the employees the coupons they can use to get the meals for “free” or for lower price, the prices of the catering firm are the market prices (and the market prices are also gathered in the price collection work). The problem here is that the coupons may be used in a type of otherwise not subsidised canteens but also in normal catering establishments classified as restaurants. Then the issue will already move outside the scope of the “canteens issue”.

### 3.3 Price discounts

The discounts made to the prices concern mainly cars. Lately, two methodological papers concerning the car prices were written by Mr Serguei Sergueev, Statistics Austria, and Ms Silke Stapel, Eurostat, for the PPP June 2002 WP meeting<sup>6</sup>.

Eurostat listed three possibilities that may exist in the recording of the individual consumption of cars in national accounts:

**Firstly**, the starting point can be use side, where the information is derived from the household budget surveys. Data concerning expenditure on new cars reported by households represent *market prices*, as households will report what they actually paid.

**Secondly**, one can start from the supply side, using a commodity-flow type of approach. Commodity flow is based on output information (i.e. turnover) from car-selling enterprises (dealers). The data thus obtained also represents *market prices*.

**Thirdly**, and this is a very widely used approach because central sources are easily available, one can start from the number of new cars registered for private households within a reference period and a list price. Such price lists provide *list prices for basic models* of the cars.

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<sup>6</sup> S. Stapel: “Methodological problems of the survey 02-2 – car prices”; S. Sergueev: “Treatment of price data about cars (experience from the survey E99-2 / Group C)”

By definition, in national accounts the expenditure has to be at market prices, but it may not always be the case as it is described in the third case in the list above, under the condition that no extra allowances are made for discounts.

The car prices collected in the PPP work are list prices.

### **3.4 VAT on capital goods**

In national accounts, only that part of the VAT is recorded in the gross fixed capital formation that is effectively paid by the investing unit. The difference between the VAT applied to the product and the “effectively paid VAT” come from the fact that market producers can deduct the VAT, i.e. the VAT paid is reimbursed by the tax office.

Normally the deductibility rules apply for companies, i.e. in many cases the VAT is deductible and not paid when purchasing the investment good. Still there could be certain goods on which the deductibility does not apply or does not apply in full amount (e.g. cars).

On the other hand, for the units belonging to the government sector the VAT on capital goods is normally to a large extent non-deductible, i.e. they pay almost the full amount. Still some deductibility may apply as the government may have market sales and pay VAT on these sales. Again, even when having market sales, there may be still some products for which the deductibility rules could be different from “normal”.

In addition to the deductibility rules, there could also be different VAT rates in force for different goods.

In the PPP exercise, the capital goods experts<sup>7</sup> so far provide a VAT rate applicable in their countries and in the calculations this rate is applied to all construction projects. The experts in some cases try to allow for different rules for deducting VAT, however, this is not done consistently over all countries. All equipment goods are handled without VAT. No distinction between investing sectors is possible.

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<sup>7</sup> As capital goods require very specialised knowledge, pricing is in most countries done by contracted experts rather than the National Statistical Institutes.

**4. WORK TO BE DONE CONCERNING TIPS, INCOME IN KIND, PRICE DISCOUNTS AND VAT ON CAPITAL GOODS TO IMPROVE VOLUME COMPARABILITY OF GDP**

To bring clarity in the PPP work concerning the issues touched upon above, the tables 1, 2 and 3 have been drawn. The tables list the situations that may occur for a single country.

**4.1 Tips**

**Table 1. The volume comparability in different cases of treatment of tips and the steps to be taken to solve the problems**

Case	Household final consumption expenditure	Price collected in PPP work	Volume comparability	What should be done in PPP work to ensure volume comparability of GDP?
1.	Tips <i>not</i> included	Tips <i>not</i> added	yes	Nothing
2.	Tips included	Tips <i>not</i> added	no	Tips should be added to the price collected for PPP

*Explanation to table 1.* The volume comparability is ensured in the very common case where both weights and prices are net of tips (case 1). The case 2 is also a very common one. Here the adjustment for tips is made in national accounts but not for the PPP prices. The volume comparability is disturbed in that case and the PPP prices should be adjusted to include also the tips. However, even after this adjustment the situation is still not perfect since the NA weight of restaurants, taxi services etc is underestimated and this affects the comparability at the aggregate's level. Efforts should be undertaken to improve the NA estimates in the future. For the time being, it is vital that the PPP price experts are at least aware of the coverage and methodological treatment of tips in their NA to be able to undertake appropriate adjustments.

The countries that fall under case 2 (tips included in NA, but PPP prices net of tips) overestimate the volume of GDP **in relation to other countries**. The price is too low in comparison with the respective GDP value. The degree of overestimation of the volume level (relative to other countries) depends on the rate of tips in that country and also on the extent to which the tips are covered in HFCE.

## 4.2 Income in kind in canteens

**Table 2. The volume comparability in different cases of treatment of income in kind in canteens and the steps to be taken to solve the problems**

Case	Way of making the meal cheap for employees	Household final consumption expenditure	Price collected in PPP work	Volume comparability	What should be done in PPP work to ensure volume comparability of GDP?
1.	Direct subsidy to or the owner of the canteen	Income in kind is included	The price is below the market price (the price employees pay is collected)	no	The price should be increased to the level of market price
2.	Direct subsidy to or the owner of the canteen	Income in kind is <i>not</i> included	The price is below the market price (the price employees pay is collected)	yes	Nothing

### *Explanation to table 2.*

In the cases 1 and 2 the employer is subsidising the canteen (for the sake of simplicity the issue of the “coupon system” mentioned in part 3.2 is not described). It could be in the form of monetary transaction (employer provides money for the catering firm) or non-monetary (the canteen is run in the premises of the employer and low or zero rent is charged for that activity and/or equipment is provided). In addition, there are often situations where the canteen is an establishment of the employing company, i.e. it is owned by the employer.

In case 1, the PPP price should be increased to ensure the consistency between GDP and prices. No adjustment to the PPP prices in case 1 leads to the overestimation of the volume level of GDP. (the price level is too low in comparison with the respective NA value).

In case 2 nothing should be done with the PPP price. However, even if formal consistency is given in case 2, the situation is still not perfect since the NA weight of canteens is underestimated and this affects the comparability at the aggregate’s level. Efforts should be undertaken to improve the NA estimates in the future. For the time being, it is vital that the PPP price experts are at least aware of the coverage and methodological treatment of canteens in their NA to be able to make appropriate adjustments.

### 4.3 Price discounts on cars

**Table 3. The volume comparability in different cases of treatment of price discounts for cars and the steps to be taken to solve the problems**

Case	Household final consumption expenditure	Price collected in PPP work	Volume comparability	What should be done in PPP work to ensure volume comparability of GDP?
1.	Discounts taken into account (weight is at market prices)	Discounts <i>not</i> taken into account (list price)	no	The price should be adjusted (downwards) for discounts to arrive at market price
2.	Discounts <i>not</i> taken into account: estimation done based on list prices	Discounts <i>not</i> taken into account (list price)	yes	Nothing

*Explanation to table 3.* In case 1, the price should be adjusted downward to arrive at market prices since otherwise there is no volume comparability. In terms of the over- or underestimation of the volume level of GDP **in relation to the other countries**, case 1 would lead to an underestimation if nothing were done. The price level is too high in comparison with the respective NA value.

Nothing should be done with the price data in the case 2. However, even if formal consistency is given in case 2, the situation is still not perfect since the NA weight of households expenditure on cars is underestimated and this affects the comparability at the aggregate's level. Efforts should be undertaken to improve the NA estimates in the future. For the time being, it is vital that the PPP price experts are at least aware of the coverage and methodological treatment of new cars' purchases by households in the NA to be able to make appropriate adjustments.

### 4.4 VAT on capital goods

To improve consistency between the GDP and the prices for capital goods in PPP, it is proposed to use the average VAT rates established in the NA. Eurostat should receive from NA the information about the VAT that the units effectively pay when making the investment. Combining the price net of VAT and the effectively paid VAT will tell us actually what is the effective (or actual) price the companies or government has paid for the capital good. To have the VAT information separately from the GFCF, the supply and use tables could be used.

The question is now if the national accountants could regularly provide information on:

- the share of tips and income in kind in the respective important expenditure categories and
- on the average discounts taken into account in the National Accounts
- effective VAT rates from NA sources

Based on this information, it would be possible that the prices collected in the PPP exercise could be adjusted accordingly to ensure consistency between NA and PPP.

## 5. CONCLUSIONS

The message of this paper is that there should be consistency between the GDP values and the prices connected with these values to ensure the volume comparability of GDP across countries, even if the price comparability is not fully ensured.

This paper does not call for changes in the NA estimates. It calls for the adjustment of PPP prices for the sake of the volume comparability of GDP. It is true that also the NA estimates should be improved (better coverage of tips, income in kind etc.), but for the volume comparison it is the consistency between NA and PPP prices that mainly matters.

It should be, however, clear that we have not only a pure formal consistency between PPP and NA in mind. Formal consistency leads only to comparable volume indices at basic heading level. Comparable volumes at GDP level we will only achieve if the NA expenditure weights, which are used for the aggregation of BH up to GDP level are actually correct, exhaustive and fully in line with classifications in force and internally consistent.

It is important that countries deliver to Eurostat information about the coverage and methodology applied in the GDP compilation and about the respective PPP prices collected. The idea is that Eurostat would make centrally the adjustments to the prices based on information from the countries to enforce consistency with the national accounts.

To gather information on these issues, Eurostat has designed draft questionnaires. With the first questionnaire (annex 1) the information is asked about the treatment of tips and income in kind in national accounts. The second questionnaire (annex 2) is designed to receive as detailed information on the car price discounts as possible. The third questionnaire (annex 3) is asking for information on the VAT on capital goods.

### Tips in national accounts

Please show what is the share of tips in % of these basic headings

Please show the % only in the case the estimate of tips is  
included in that NA item

Country:

BH Code	Description	Share of tips, %
110732.2	Local passenger transport by taxi	
111111.1	Restaurant services whatever the type of establishment	
111111.2	Pubs, bars, cafés, tea rooms and the like	
111211.1	Services of hairdressers and the like for men	
111211.2	Services of hairdressers and the like for women	

### Income in kind in canteens in national accounts

Please show what is the share of income in kind in % of that basic heading

BH Code	Description	Share of income in kind, %
111112.1	Canteens (Private Household Consumption Expenditure)	

**Discounts on cars' prices in national accounts**

**Country:**

Please mark with X

**Q1. How do you calculate the private household consumption expenditure of cars?**  
(please mark your method with X)

- a) based on Household Budget Survey or its' equivalent - please ignore the rest of the questionnaire
- b) based on output side (information on the turnover from car dealers) - please ignore the rest of the questionnaire
- c) based on the list prices and number of cars registered - please go to the next question


**Q2. When calculating the expenditure on cars, do you take into accounts for any discounts made to the cars' prices?**

- a) yes - please go to the questions 3 and 4
- b) no - please ignore the rest of the questionnaire


**Q3. Please indicate the share of discounts as a % of list price in these expenditure items:**

Please indicate %

**Total PHCE on cars:**

110711 Motor cars

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**and by basic headings:**

- 110711.1 Motor cars with diesel engine
- 110711.2 Motor cars with petrol engine of cubic capacity of less than 1200cc
- 110711.3 Motor cars with petrol engine of cubic capacity of 1200cc to 1699cc
- 110711.4 Motor cars with petrol engine of cubic capacity of 1700cc to 2999cc
- 110711.5 Motor cars with petrol engine of cubic capacity of 3000cc and over


**Q4. Please indicate the average discounts as a % of list price by brands (for as many brands as you can)**

- Audi
- Renault
- .....


**EXAMPLE** done only for the aggregate levels

Questionnaire on average rate of VAT  
based on national accounts data

Table 24 code	description	GFCF* without VAT, millions of nat. currency	GFCF with VAT (purchasers' prices), millions of nat. currency	Non-deductible VAT	Average rate of VAT
1	2	3	4	5=4-3	6=5/3
<b>150100</b>	<b>MACHINERY AND EQUIPMENT</b>	224433	239464	15030	6.7%
150110	Metal products and equipment	167339	178764	11425	6.8%
150120	Transport equipment	57095	60700	3605	6.3%
<b>150200</b>	<b>CONSTRUCTION</b>	284050	343415	59365	20.9%
150210	<b>Residential buildings</b>	163930	201516	37586	22.9%
150211	One and two dwelling buildings [CPA division 45]				
150212	Multi-dwelling buildings [CPA division 45]				
150213	Renovation of residential buildings [CPA division 45]				
150220	<b>Non-residential buildings</b>	76570	90462	13892	18.1%
150221	Agricultural buildings [CPA division 45]				
150222	Industrial buildings and warehouses [CPA division 45]				
150223	Commercial buildings [CPA division 45]				
150224	Other non-residential buildings [CPA division 45]				
150225	Renovation of non-residential buildings [CPA division 45]				
150230	<b>Civil engineering works</b>	43550	51437	7887	18.1%
150231	Transport infrastructures [CPA division 45]				
150232	Pipelines, communication and power lines [CPA division 45]				
150233	Other civil engineering works [CPA division 45]				
150312	Software [CPA 72.20]				

\*GFCF - Gross Fixed Capital Formation

**1995**

Country:

Questionnaire on average rate of VAT  
based on national accounts data

Table 24 code	description	GFCF without VAT, millions of nat. currency	GFCF with VAT (purchasers' prices), millions of nat. currency	Non-deductible VAT	Average rate of VAT
1	2	3	4	5=4-3	6=5/3
<b>150100</b>	<b>MACHINERY AND EQUIPMENT</b>			0	#DIV/0!
150110	Metal products and equipment			0	#DIV/0!
150120	Transport equipment			0	#DIV/0!
<b>150200</b>	<b>CONSTRUCTION</b>			0	#DIV/0!
150210	<b>Residential buildings</b>			0	#DIV/0!
150211	One and two dwelling buildings [CPA division 45]			0	#DIV/0!
150212	Multi-dwelling buildings [CPA division 45]			0	#DIV/0!
150213	Renovation of residential buildings [CPA division 45]			0	#DIV/0!
150220	<b>Non-residential buildings</b>			0	#DIV/0!
150221	Agricultural buildings [CPA division 45]			0	#DIV/0!
150222	Industrial buildings and warehouses [CPA division 45]			0	#DIV/0!
150223	Commercial buildings [CPA division 45]			0	#DIV/0!
150224	Other non-residential buildings [CPA division 45]			0	#DIV/0!
150225	Renovation of non-residential buildings [CPA division 45]			0	#DIV/0!
150230	<b>Civil engineering works</b>			0	#DIV/0!
150231	Transport infrastructures [CPA division 45]			0	#DIV/0!
150232	Pipelines, communication and power lines [CPA division 45]			0	#DIV/0!
150233	Other civil engineering works [CPA division 45]			0	#DIV/0!
150312	Software [CPA 72.20]			0	#DIV/0!

Note: Please provide data on the VAT in GFCF at the level of detail asked in the questionnaire.

If not possible, please try to give information at least on the aggregate levels shown in bold.

In the questionnaire, please fill only the cells with yellow highlighting. The rest will be calculated by formulas.

.....  
.....  
.....

2002\*

Country:

Questionnaire on average rate of VAT based on national accounts data

Table 24 code	description	GFCF without VAT, millions of nat. currency	GFCF with VAT (purchasers' prices), millions of nat. currency	Non-deductible VAT	Average rate of VAT
1	2	3	4	5=4-3	6=5/3
<b>150100</b>	<b>MACHINERY AND EQUIPMENT</b>			0	#DIV/0!
150110	Metal products and equipment			0	#DIV/0!
150120	Transport equipment			0	#DIV/0!
<b>150200</b>	<b>CONSTRUCTION</b>			0	#DIV/0!
150210	Residential buildings			0	#DIV/0!
150211	One and two dwelling buildings [CPA division 45]			0	#DIV/0!
150212	Multi-dwelling buildings [CPA division 45]			0	#DIV/0!
150213	Renovation of residential buildings [CPA division 45]			0	#DIV/0!
150220	Non-residential buildings			0	#DIV/0!
150221	Agricultural buildings [CPA division 45]			0	#DIV/0!
150222	Industrial buildings and warehouses [CPA division 45]			0	#DIV/0!
150223	Commercial buildings [CPA division 45]			0	#DIV/0!
150224	Other non-residential buildings [CPA division 45]			0	#DIV/0!
150225	Renovation of non-residential buildings [CPA division 45]			0	#DIV/0!
150230	Civil engineering works			0	#DIV/0!
150231	Transport infrastructures [CPA division 45]			0	#DIV/0!
150232	Pipelines, communication and power lines [CPA division 45]			0	#DIV/0!
150233	Other civil engineering works [CPA division 45]			0	#DIV/0!
150312	Software [CPA 72.20]			0	#DIV/0!

Note: Please provide data on the VAT in GFCF at the level of detail asked in the questionnaire.

If not possible, please try to give information at least on the aggregate levels shown in bold.

In the questionnaire, please fill only the cells with yellow highlighting. The rest will be calculated by formulas.

Average VAT rate 1995-2002

Country:

Table 24 code	description	Average rate of VAT								
		EXAMPLE	1995	1996	1997	1998	1999	2000	2001	2002*
<b>150100</b>	<b>MACHINERY AND EQUIPMENT</b>	6.7%	#DIV/0!							
150110	Metal products and equipment	6.8%	#DIV/0!							
150120	Transport equipment	6.3%	#DIV/0!							
<b>150200</b>	<b>CONSTRUCTION</b>	20.9%	#DIV/0!							
150210	Residential buildings	22.9%	#DIV/0!							
150211	One and two dwelling buildings [CPA division 45]		#DIV/0!							
150212	Multi-dwelling buildings [CPA division 45]		#DIV/0!							
150213	Renovation of residential buildings [CPA division 45]		#DIV/0!							
150220	Non-residential buildings	18.1%	#DIV/0!							
150221	Agricultural buildings [CPA division 45]		#DIV/0!							
150222	Industrial buildings and warehouses [CPA division 45]		#DIV/0!							
150223	Commercial buildings [CPA division 45]		#DIV/0!							
150224	Other non-residential buildings [CPA division 45]		#DIV/0!							
150225	Renovation of non-residential buildings [CPA division 45]		#DIV/0!							
150230	Civil engineering works	18.1%	#DIV/0!							
150231	Transport infrastructures [CPA division 45]		#DIV/0!							
150232	Pipelines, communication and power lines [CPA division 45]		#DIV/0!							
150233	Other civil engineering works [CPA division 45]		#DIV/0!							
150312	Software [CPA 72.20]		#DIV/0!							

\*please give estimate, if possible. This data can already be used for the 2002 capital goods survey

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