STATISTIK AUSTRIA

Die Informationsmanager

# A consistent price system for supply/use tables

# Price and volume measures in ESA 95

- Covered in ESA 95 chapter 10, SNA 93 chapter XVI (SNA 08 chapter XV)
- Importance of harmonized methods of price and volume measures:
  - Administration of Pact for stability and growth
  - Important instrument for economic policy
  - Development of prices over time
  - Price adjusted economic values over time (volume growth of GDP)
  - Comparing different economies at the same time (development, level)
- Basic principles for price and volume measures in the EU:
  - Commission Decisions 98/715 and 2002/990
  - Eurostat Handbook on price and volume measures
  - Reports of specific task forces (recommendations)
  - Member states have submitted price and volume inventories
- Efforts on harmonization in progress, especially on individually attributable non-market services (education, health)

# Real supply/use tables and ESA 95

- ESA 10.66: „Estimating accounts data in constant prices has to be done at the finest level of detail possible if the data are to be consistent within the framework of an integrated system of price and volume measures. **The supply and use tables form the central, conceptual and statistical framework for all the measures at constant prices.** Additional data are found in supplementary tables."
- SU-Tables as ideal framework for a system of consistent price indicators which relate to a system of economic independent flows of goods and service:
  - Creation of transparency between prices for consumption, production, imports and exports (deflators)
  - Provision of consistent weights for the calculation of different versions of price indices (e.g. production price indices for goods or for activities)

# Generating an integrated system


- An integrated system of price and volume indices should be based on **flow of goods** specified by the system of national accounts

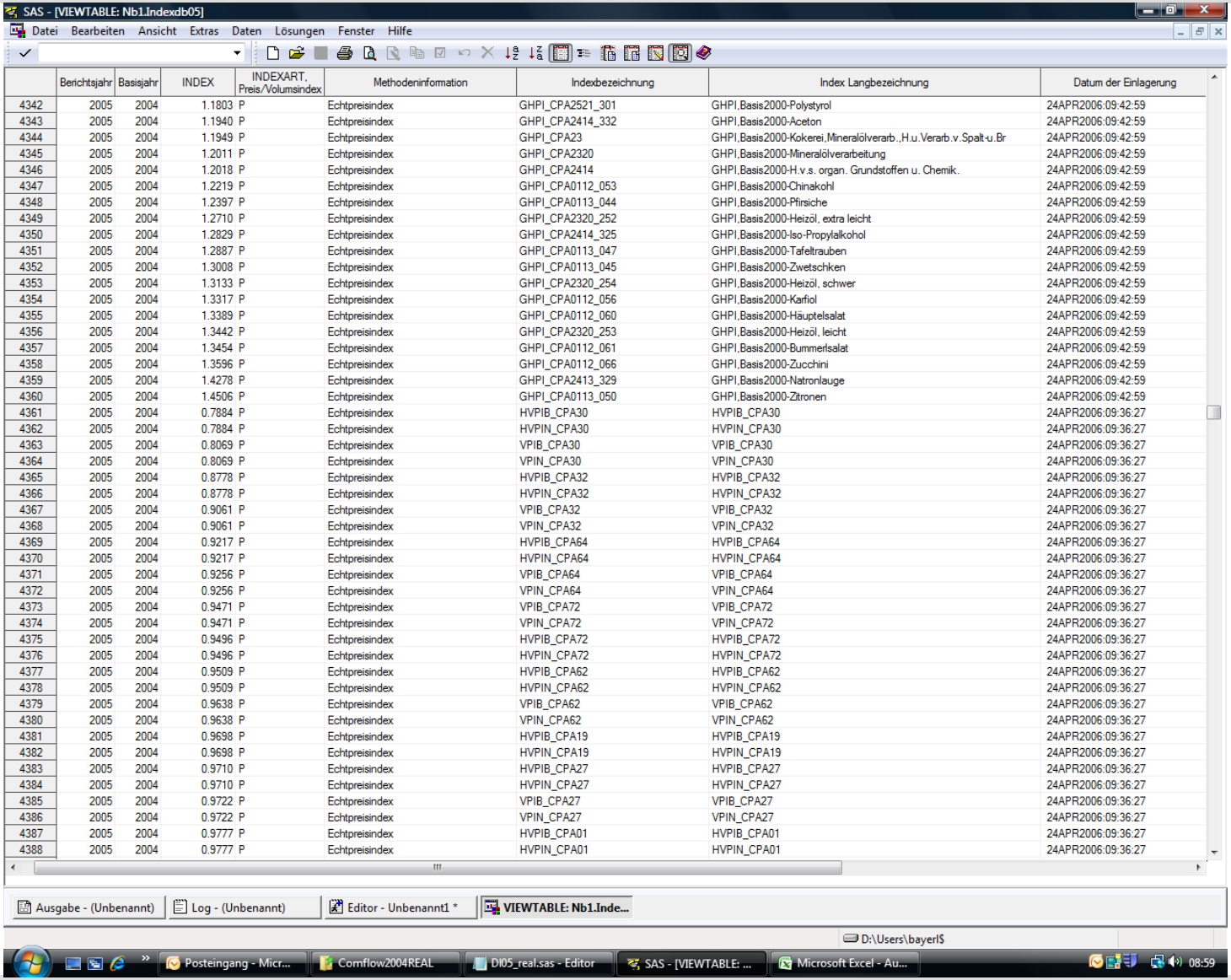
# Requirements for a real accounting system

- Calculation on detailed level of flow of goods: Central database of price indices containing as much price information for each transaction as possible
- Consideration of all the assumptions concerning the purchase of goods by different trade channels and the impact of margins and taxes: All the assumptions of the IO-model must be integrated in the real accounting system, involves a detailed reproducing of all the valuation steps from the basic price version to the purchasers‘ price version
- Assessment of adequacy of price indices for specific transactions
- Hierarchy in the use of price information: Indices based on real price information must be preferred to the remaining indices
- Getting from available price information to non-existing price data (e.g. margins)
- Use of as much as possible information of the production, expenditure and the income approach and the SU-balancing process

**MAIN RULE FOR CALCULATING REAL SU-TABLES: EQUAL ISSUES HAVE TO BE TREATED EQUALLY ON THE SUPPLY SIDE AS WELL AS ON THE USE SIDE**

**PRICE DEVELOPMENT SELLER SIDE = PRICE DEVELOPMENT PURCHASER SIDE**

# Central database for price indices




| | Berichtsjahr | Basisjahr | INDEX | INDEXART, Preis/Volumsindex | Methodeninformation | Indexbezeichnung | Index Langbezeichnung | Datum der Einlagerung |
|---|---|---|---|---|---|---|---|---|
| 4342 | 2005 | 2004 | 1.1803 | P | Echtpreisindex | GHPI_CPA2521_301 | GHPI,Basis2000-Polystyrol | 24APR2006:09:42:59 |
| 4343 | 2005 | 2004 | 1.1940 | P | Echtpreisindex | GHPI_CPA2414_332 | GHPI,Basis2000-Aceton | 24APR2006:09:42:59 |
| 4344 | 2005 | 2004 | 1.1949 | P | Echtpreisindex | GHPI_CPA23 | GHPI,Basis2000-Kokerei,Mineralölverarb.,H.u.Verarb.v.Spalt-u.Br | 24APR2006:09:42:59 |
| 4345 | 2005 | 2004 | 1.2011 | P | Echtpreisindex | GHPI_CPA2320 | GHPI,Basis2000-Mineralölverarbeitung | 24APR2006:09:42:59 |
| 4346 | 2005 | 2004 | 1.2018 | P | Echtpreisindex | GHPI_CPA2414 | GHPI,Basis2000-H.v.s. organ. Grundstoffen u. Chemik. | 24APR2006:09:42:59 |
| 4347 | 2005 | 2004 | 1.2219 | P | Echtpreisindex | GHPI_CPA0112_053 | GHPI,Basis2000-Chinakohl | 24APR2006:09:42:59 |
| 4348 | 2005 | 2004 | 1.2397 | P | Echtpreisindex | GHPI_CPA0113_044 | GHPI,Basis2000-Pfirsiche | 24APR2006:09:42:59 |
| 4349 | 2005 | 2004 | 1.2710 | P | Echtpreisindex | GHPI_CPA2320_252 | GHPI,Basis2000-Heizöl, extra leicht | 24APR2006:09:42:59 |
| 4350 | 2005 | 2004 | 1.2829 | P | Echtpreisindex | GHPI_CPA2414_325 | GHPI,Basis2000-Iso-Propylalkohol | 24APR2006:09:42:59 |
| 4351 | 2005 | 2004 | 1.2887 | P | Echtpreisindex | GHPI_CPA0113_047 | GHPI,Basis2000-Tafeltrauben | 24APR2006:09:42:59 |
| 4352 | 2005 | 2004 | 1.3008 | P | Echtpreisindex | GHPI_CPA0113_045 | GHPI,Basis2000-Zwetschken | 24APR2006:09:42:59 |
| 4353 | 2005 | 2004 | 1.3133 | P | Echtpreisindex | GHPI_CPA2320_254 | GHPI,Basis2000-Heizöl, schwer | 24APR2006:09:42:59 |
| 4354 | 2005 | 2004 | 1.3317 | P | Echtpreisindex | GHPI_CPA0112_056 | GHPI,Basis2000-Karfiol | 24APR2006:09:42:59 |
| 4355 | 2005 | 2004 | 1.3389 | P | Echtpreisindex | GHPI_CPA0112_060 | GHPI,Basis2000-Häuptelsalat | 24APR2006:09:42:59 |
| 4356 | 2005 | 2004 | 1.3442 | P | Echtpreisindex | GHPI_CPA2320_253 | GHPI,Basis2000-Heizöl, leicht | 24APR2006:09:42:59 |
| 4357 | 2005 | 2004 | 1.3454 | P | Echtpreisindex | GHPI_CPA0112_061 | GHPI,Basis2000-Bummerlsalat | 24APR2006:09:42:59 |
| 4358 | 2005 | 2004 | 1.3596 | P | Echtpreisindex | GHPI_CPA0112_066 | GHPI,Basis2000-Zucchini | 24APR2006:09:42:59 |
| 4359 | 2005 | 2004 | 1.4278 | P | Echtpreisindex | GHPI_CPA2413_329 | GHPI,Basis2000-Natronlauge | 24APR2006:09:42:59 |
| 4360 | 2005 | 2004 | 1.4506 | P | Echtpreisindex | GHPI_CPA0113_050 | GHPI,Basis2000-Zitronen | 24APR2006:09:42:59 |
| 4361 | 2005 | 2004 | 0.7884 | P | Echtpreisindex | HVPIB_CPA30 | HVPIB_CPA30 | 24APR2006:09:36:27 |
| 4362 | 2005 | 2004 | 0.7884 | P | Echtpreisindex | HVPIN_CPA30 | HVPIN_CPA30 | 24APR2006:09:36:27 |
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| 4364 | 2005 | 2004 | 0.8069 | P | Echtpreisindex | VPIN_CPA30 | VPIN_CPA30 | 24APR2006:09:36:27 |
| 4365 | 2005 | 2004 | 0.8778 | P | Echtpreisindex | HVPIB_CPA32 | HVPIB_CPA32 | 24APR2006:09:36:27 |
| 4366 | 2005 | 2004 | 0.8778 | P | Echtpreisindex | HVPIN_CPA32 | HVPIN_CPA32 | 24APR2006:09:36:27 |
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| 4368 | 2005 | 2004 | 0.9061 | P | Echtpreisindex | VPIN_CPA32 | VPIN_CPA32 | 24APR2006:09:36:27 |
| 4369 | 2005 | 2004 | 0.9217 | P | Echtpreisindex | HVPIB_CPA64 | HVPIB_CPA64 | 24APR2006:09:36:27 |
| 4370 | 2005 | 2004 | 0.9217 | P | Echtpreisindex | HVPIN_CPA64 | HVPIN_CPA64 | 24APR2006:09:36:27 |
| 4371 | 2005 | 2004 | 0.9256 | P | Echtpreisindex | VPIB_CPA64 | VPIB_CPA64 | 24APR2006:09:36:27 |
| 4372 | 2005 | 2004 | 0.9256 | P | Echtpreisindex | VPIN_CPA64 | VPIN_CPA64 | 24APR2006:09:36:27 |
| 4373 | 2005 | 2004 | 0.9471 | P | Echtpreisindex | VPIB_CPA72 | VPIB_CPA72 | 24APR2006:09:36:27 |
| 4374 | 2005 | 2004 | 0.9471 | P | Echtpreisindex | VPIN_CPA72 | VPIN_CPA72 | 24APR2006:09:36:27 |
| 4375 | 2005 | 2004 | 0.9496 | P | Echtpreisindex | HVPIB_CPA72 | HVPIB_CPA72 | 24APR2006:09:36:27 |
| 4376 | 2005 | 2004 | 0.9496 | P | Echtpreisindex | HVPIN_CPA72 | HVPIN_CPA72 | 24APR2006:09:36:27 |
| 4377 | 2005 | 2004 | 0.9509 | P | Echtpreisindex | HVPIB_CPA62 | HVPIB_CPA62 | 24APR2006:09:36:27 |
| 4378 | 2005 | 2004 | 0.9509 | P | Echtpreisindex | HVPIN_CPA62 | HVPIN_CPA62 | 24APR2006:09:36:27 |
| 4379 | 2005 | 2004 | 0.9638 | P | Echtpreisindex | VPIB_CPA62 | VPIB_CPA62 | 24APR2006:09:36:27 |
| 4380 | 2005 | 2004 | 0.9638 | P | Echtpreisindex | VPIN_CPA62 | VPIN_CPA62 | 24APR2006:09:36:27 |
| 4381 | 2005 | 2004 | 0.9698 | P | Echtpreisindex | HVPIB_CPA19 | HVPIB_CPA19 | 24APR2006:09:36:27 |
| 4382 | 2005 | 2004 | 0.9698 | P | Echtpreisindex | HVPIN_CPA19 | HVPIN_CPA19 | 24APR2006:09:36:27 |
| 4383 | 2005 | 2004 | 0.9710 | P | Echtpreisindex | HVPIB_CPA27 | HVPIB_CPA27 | 24APR2006:09:36:27 |
| 4384 | 2005 | 2004 | 0.9710 | P | Echtpreisindex | HVPIN_CPA27 | HVPIN_CPA27 | 24APR2006:09:36:27 |
| 4385 | 2005 | 2004 | 0.9722 | P | Echtpreisindex | VPIB_CPA27 | VPIB_CPA27 | 24APR2006:09:36:27 |
| 4386 | 2005 | 2004 | 0.9722 | P | Echtpreisindex | VPIN_CPA27 | VPIN_CPA27 | 24APR2006:09:36:27 |
| 4387 | 2005 | 2004 | 0.9777 | P | Echtpreisindex | HVPIB_CPA01 | HVPIB_CPA01 | 24APR2006:09:36:27 |
| 4388 | 2005 | 2004 | 0.9777 | P | Echtpreisindex | HVPIN_CPA01 | HVPIN_CPA01 | 24APR2006:09:36:27 |



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# SU-Tables as a framework for price statistics

| Supply | | | | | | | | Use | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P.1 Output at basic prices of establishment producing for: | | | Imports cif | Transport and distribuation margin adjustment | D.21-D.31 Taxes less subsidies | | P.2 Intermediate consumption at purchasers' prices of establishments producing for: | | | P.31 Individual consumption | P.32 Collective consumption | P.5 Gross capital formation | | | P.6 Exports fob |
| P.11 Market | P.12 Own use | P.13 Other non-market | P.7 Imports fob | | | cif/fob adjustment | P.11 Market | P.12 Own Use | P.13 Other non-market | | | P.51 Gross fixed capital formation | P.52 Change in inventories | P.53 Acquisitions less disposals of valuables | |
| Product x Industry | Product x Industry | Product x Industry | + Goods Services | + Goods (+) Services (-) | + Product x 1 | + Goods (+) Services (-) | = Product x Industry | Product x Industry | Product x Industry | + Product x 1 | Product x 1 | Product x 1 | Product x 1 | Product x 1 | + Product x 1 |
| Producer Price Index (PPI) | | Implicit deflator for other non-market output (IDI) | Import Price Index (IMPI) | Price Index for distribution and transport margins | Price Index for taxes and subsidies | Price Index for cif/fob adjustment | Producer Price Index (PPI), Wholesale Price Index, Consumer Price Index (CPI/HICP), Agricultural Price Index | | | Wholesale Price Index, Consumer Price Index (CPI/HICP), Volume Indicators | Inputs Price Index | Price Index on Producer Durables, Producer Price Index (PPI) | Inventory price index | Valuables price index | Producer Price Index, foreign markets |
| Output Price Index (YPI) | | | | | | | | | | Total final uses price index | | | | | |
| Supply Price Index (SPI_BP), basic prices | | | | | | | | | | | | | | | |
| | | | | | | | + B.1 Value added 1 x | + B.1 Value added 1 x | + B.1 Value added 1 x | | | | | | |
| | | | | | | | Double deflated value added price index | | | | | | | | |
| = P.11 Output at basic | = P.12 Output at basic | = P.13 Output at basic | | | | | = P.11 Output at basic | = P.12 Output at basic | = P.13 Output at basic | | | | | | |
| Supply Price Index (SPI_PP), purchasers prices | | | | | | | Use Price Index (UPI_PP), purchasers prices | | | | | | | | |

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# Current Balancing of real SU-Tables in Austria

- At the moment sequential balancing, not simultaneous, based on nominally balanced SU-Tables

**Initial point:**
Goods and services accounts

↓

**Requirement of congruence for:**
Principal and secondary production of goods | Typical and additional use of goods

↓

**Interlinked consideration of:**
Goods and services accounts | Production accounts

↓

**Real accounts by integrating:**
Price indices for goods | Price indices for activities

↓

**Real goods and services accounts:**
Eliminating imbalances

↓

**Real production accounts :**
Analysis of impact on value-added

↓

**Feedback on preliminary real goods and services accounts:**
Eliminating implausible development of value-added

# Imbalances of goods and production accounts

Possible reasons for preliminary imbalances

- **Different index values** for equal issues on the supply side as well as on the use side
- **Different level of detail**: Deflation of aggregates of goods or parts of the valuation matrices on the one hand and of detailed single components on the other hand
- **Different composition** of the product-mix on the supply and the use side

Further approach:

- Balancing agricultural and manufacturing goods: Based on commodity-flow account
- Balancing services: Based on nominal balancing data set

# Real balancing and Commodity-Flow account

Commodity-Flow account:

- Calculated for agricultural and manufactured goods (CPA 01-36)
- Allocation of domestically available supply (domestic production+imports-exports) to final demand categories
- Displays flow of specific goods from supply at producers´ prices to use at purchasers´prices by defining rates for intermediate and final use categories, assumptions on the purchase of goods by different trade channels and margin and tax rate for each good

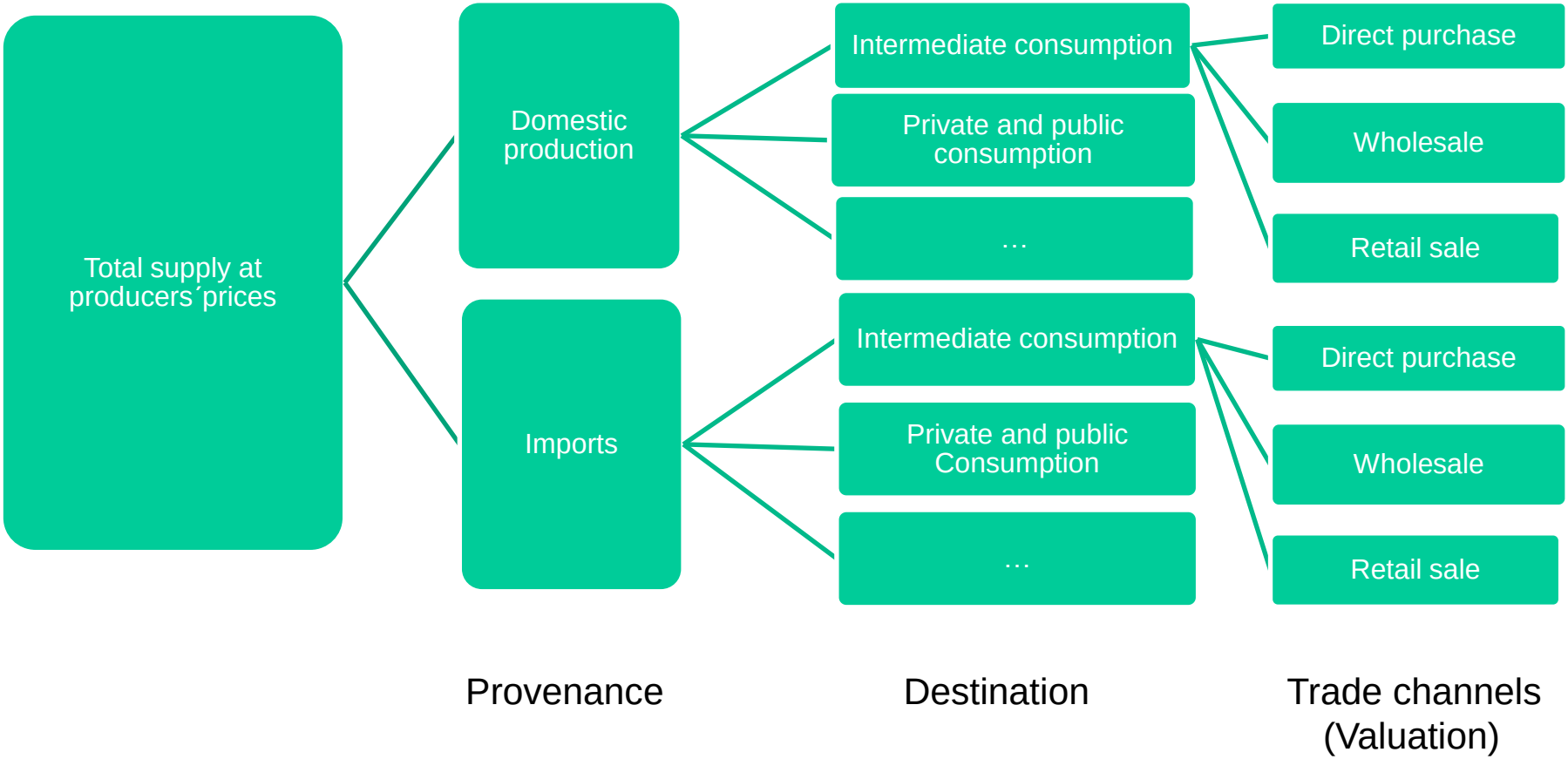
Advantages of the commodity-flow approach for real balancing:

- Permanent equality of supply and use side, no SU-imbalances
- Full transparency over the steps of valuation
- Availability of information of goods at a very detailed level (CPA-6 digit level according CPA 2003 classification)
- Fully automated system: Immediate availability of new nominal and real results, when the nominal flow account is changed

BUT: For full real accounts <u>further calculation steps</u> are necessary:

- Not the total balancing process is displayed
- No activity dimensions (important for supply and intermediate consumption)

# Distribution and valuation of goods




Good at producers´prices+Trade and transport margins+non deductable VAT
=Good at purchasers´prices
This equation has to be **valid in nominal as well as in real terms**

# Adequacy of price indices for transactions

| CPA 151118 Meat of horses, asses, mules or hinnies | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Provenience Destination Procurement | Total Supply/Use at producers´prices | Provenience Domestic/ Import | Destination Use-categories | Procurement Direct/ Whole Sale/ Retail Sale | Valuation component Whole Sale Trade Margin | Retail Sale Trade Margin | Transport Margin | Non deductable VAT | Total Supply/Use at purchasers´ prices | Real accounting Price Index Code | INDEX | Real Total Supply/Use at purchasers´prices |
| Domestic Private Consumption Direct Procurement | 1024,64 | 333,52 | 273,95 | 4,52 | 0,00 | 0,00 | 0,07 | 0,46 | 5,05 | EPI_EP_CPA_15111 | 1,04908333 | 4,814003771 |
| Domestic Private Consumption Whole Sale | | | | 9,18 | 21,15 | 0,00 | 0,14 | 3,05 | 33,52 | GHPI_CPA1511 | 1,1844 | 28,30041659 |
| Domestic Private Consumption Retail Sale | | | | 260,26 | 37,03 | 97,18 | 4,08 | 39,86 | 438,42 | HVPIB_PK_CPA151118 | 1,00488 | **436,2862813** |
| Domestic Intermediate Consumption Direct procurement | | | 59,57 | 39,14 | 0,00 | 0,00 | 0,58 | 0,42 | 40,14 | EPI_EP_CPA_15111 | 1,04908333 | 38,25937179 |
| Domestic Intermediate Consumption Whole Sale | | | | 14,47 | 4,96 | 0,00 | 0,21 | 0,21 | 19,86 | GHPI_CPA1511 | 1,1844 | 16,76718829 |
| Domestic Intermediate Consumption Retail Sale | | | | 5,96 | 0,14 | 1,99 | 0,09 | 0,09 | 8,26 | HVPIB_CPA1511 | 1,01504934 | 8,138822359 |
| Import Private Consumption Direct Procurement | | 691,12 | 567,69 | 9,37 | 0,00 | 0,00 | 0,15 | 0,95 | 10,47 | EPI_EP_CPA_15111 | 1,04908333 | 9,975513232 |
| Import Private Consumption Whole Sale | | | | 19,02 | 43,83 | 0,00 | 0,30 | 6,31 | 69,46 | GHPI_CPA1511 | 1,1844 | 58,64373889 |
| Import Private Consumption Retail Sale | | | | 539,30 | 76,74 | 201,38 | 8,46 | 82,59 | 908,48 | HVPIB_PK_CPA151118 | 1,0048802 | 904,0665066 |
| Import Intermediate Consumption Direct Procurement | | | 123,43 | 81,10 | 0,00 | 0,00 | 1,20 | 0,88 | 83,17 | EPI_EP_CPA_15111 | 1,04908333 | 79,2805506 |
| Import Intermediate Consumption Whole Sale | | | | 29,99 | 10,28 | 0,00 | 0,44 | 0,44 | 41,15 | GHPI_CPA1511 | 1,1844 | 34,74473985 |
| Import Intermediate Consumption Retail Sale | | | | 12,34 | 0,29 | 4,13 | 0,18 | 0,18 | 17,12 | HVPIB_CPA1511 | 1,01504934 | 16,86515715 |

# Calculating real valuation steps: Feedback loop

| CPA 151118 Meat of horses, asses, mules or hinnies | | | | | | |
|---|---|---|---|---|---|---|
| Provenience Destination Procurement | Procurement at producers´prices | Valuation component | | | | Total Supply/Use at purchasers´prices |
| | Direct/ Whole Sale/ Retail Sale | Whole Sale Trade Margin | Retail Sale Trade Margin | Transport Margin | Non deductable VAT | |
| Domestic Private | 260,26 | 37,03 | 97,18 | 4,08 | 39,86 | 438,42 |
| Price Index Code | EPI_D_EP_CPA_15111 | No observed price indices available, but real values have to range between real values at producers´prices and real values at purchasers´prices, implicit price indices must have similar developments, indices must be calculated iteratively and residually | | | | HVPIB_PK_CPA151118 |
| INDEX | 1,027916667 | | | | | 1,004880204 |
| Real Value | 253,19 | 183,10 | | | | 436,29 |

# Further steps for full real accounts

- Calculation of a difference line $\text{Diff}_{(2\text{digit})}$ to obtain the boundary values of the Balancing Process $BV^{Ind}_{Bal}$ per producing industry (NACE-2-digit)
- Transforming the column vector of the boundary values of the Comflow Account $BV_{CPA\_CF}$ for production and intermediate consumption to the matrix form with the activity dimension by iterative RAS-Adjustment Algorithm

| CPA x NACE | $\text{NACE}_{1\ (2\text{digit})}$ | $\text{NACE}_{2\ (2\text{digit})}$ | $\cdots$ | $\text{NACE}_{n\ (2\text{digit})}$ | $\Sigma$ |
|---|---|---|---|---|---|
| $\text{CPA}_{1\ (6\text{digit})}$ | $CPA_1/Ind_1$ | $CPA_1/Ind_2$ | $\cdots$ | $CPA_1/Ind_n$ | $BV_{CPA1\_CF}$ |
| $\text{CPA}_{2\ (6\text{digit})}$ | $CPA_2/Ind_1$ | $CPA_2/Ind_2$ | $\cdots$ | $CPA_2/Ind_n$ | $BV_{CPA2\_CF}$ |
| $\vdots$ | $\vdots$ | $\vdots$ | $\ddots$ | $\vdots$ | $\vdots$ |
| $\text{CPA}_{n\ (6\text{digit})}$ | $CPA_n/Ind_1$ | $CPA_n/Ind_2$ | $\cdots$ | $CPA_n/Ind_n$ | $BV_{CPAn\_CF}$ |
| $\text{Diff}_{(2\text{digit})}$ | $(Diff_{CPA}$ | $Diff_{CPA}$ | $Diff_{CPA}$ | $Diff_{CPA})$ | $BV_{CPA2\_Diff}$ |
| $\Sigma$ | $BV^{Ind\,1}_{Bal}$ | $BV^{Ind\,2}_{Bal}$ | $\cdots$ | $BV^{Indn}_{Bal}$ | |

# Balancing real services accounts

Based on the nominal balancing data set with the full range of relevant variables:

- Not the same detail information as for agricultural and manufactured goods disposable: product-mix, price index availability
- Not as detailed consideration on different valuation steps as for agricultural and manufactured goods necessary: No trade and transport margins for services

Real balancing procedure for services:

- Allocation of prices indices and creation of preliminary real accounts
- Analysing the reasons for imbalances: equal issues not treated equally on supply and use side, use of different indices, use of different index values
- Basic rule for further steps: The best information concerning the real transaction (level of detail, quality of price information, adequacy) has to be used respectively
- Manual corrections from the supply side to the use side and vice versa
- Change of indices by fixing one account side and transmitting real information on the other account side (Automatically by programme): Creation of a quota calculation system which is transferred into the fully coded balancing data file

# Preliminary accounts and analysing imbalances

Good 45A Works for complete construction or parts thereof

| Summe von wert_vtl | Spaltenbe | | |
|---|---|---|---|
| Zeilenbeschriftungen | S | U | |
| 45A | 22.477.000 | 22.477.006 | |
| BPI_HBSO | 5.077.095 | 19.249.785 | Construction above ground others |
| BPI_HBWO | 8.620.768 | 307.963 | Dwellings |
| BPI_HTB | 893.043 | | Construction above and below ground |
| BPI_TBBB | | 103.182 | Construction below ground bridge construction |
| BPI_TBSB | 5.109.849 | 776.113 | Construction below ground road construction |
| BPI_TBSO | 1.652.322 | 2.039.964 | Construction below ground others |
| TLI_1BA | 33.695 | | Wage labour |
| REAL_GST_GUT45A | 3.592 | | Taxes on products |
| REAL_GSU_GUT45A | -2.575 | | Subsidies on products |
| REAL_UST_GUT45A | 1.089.211 | | VAT non-deductable |
| Gesamtergebnis | 22.477.000 | 22.477.006 | |

- Detail information on product-mix
- Flow of goods at basic prices and at purchasers´prices

# Correction 1: Manual correction steps

| Summe von wert_vtl | Spaltenbe | |
|---|---|---|
| Zeilenbeschriftungen | S | U |
| 45A | 22.477.000 | 22.477.006 |
| BPI_HBSO | 5.077.095 | 18.334.525 |
| BPI_HBWO | 8.620.768 | 307.840 |
| BPI_HTB | 893.043 | |
| BPI_TBBB | | 90.324 |
| BPI_TBSB | 5.109.849 | 711.255 |
| BPI_TBSO | 1.652.322 | 1.942.826 |
| TLI_1BA | 33.695 | |
| REAL_GST_GUT45A | 3.592 | 3.572 |
| REAL_GSU_GUT45A | -2.575 | -2.558 |
| REAL_UST_GUT45A | 1.089.211 | 1.089.222 |
| Gesamtergebnis | 22.477.000 | 22.477.006 |

- Separate allocation of indices to the components of the valuation matrix on the use side

# Correction 2: Transforming from use to supply

| Zeilenbeschriftungen | Werte Summe von wert_vtl_s | Summe von wert_vtl_u |
|---|---|---|
| **45A** | **22.477.000** | **22.477.006** |
| BPI_HBSO | 5.077.095 | 18.334.525 |
| BPI_HBWO | 8.620.768 | 307.840 |
| BPI_HTB | 893.043 | 0 |
| BPI_TBBB | 90.325 | 90.324 |
| BPI_TBSB | 5.109.850 | 711.255 |
| BPI_TBSO | 1.561.997 | 1.942.826 |
| TLI_1BA | 33.695 | 0 |
| REAL_GST_GUT45A | 3.592 | 3.572 |
| REAL_GSU_GUT45A | -2.575 | -2.558 |
| REAL_UST_GUT45A | 1.089.211 | 1.089.222 |
| **Gesamtergebnis** | **22.477.000** | **22.477.006** |

- Production of the use of specific goods: construction below ground bridge construction TBBB against construction below ground others TBSO

# Correction 3: Transforming from supply to use

| Zeilenbeschriftungen | Spaltenbeschriftungen: Summe von Wert S | Summe von Wert U | Summe von wert_real S | Summe von wert_real U |
|---|---|---|---|---|
| **45A** | **22.477.000** | **22.477.006** | **22.059.517** | **22.059.522** |
| BPI_HBSO | 5.077.095 | (-) 5.077.095 | 4.919.665 | 4.919.665 |
| BPI_HBWO | 8.620.768 | (+) 8.620.751 | 8.418.719 | 8.418.702 |
| BPI_HTB | 893.043 | (+) 893.041 | 878.115 | 878.113 |
| BPI_TBBB | 90.325 | ( ) 90.324 | 88.902 | 88.902 |
| BPI_TBSB | 5.109.850 | (-) 5.109.841 | 5.094.566 | 5.094.557 |
| BPI_TBSO | 1.561.997 | (-) 1.561.997 | 1.563.560 | 1.563.560 |
| TLI_1BA | 33.695 | (+) 33.695 | 32.889 | 32.889 |
| REAL_GST_GUT45A | 3.592 | (+) 3.592 | 3.534 | 3.534 |
| REAL_GSU_GUT45A | -2.575 | (-) -2.541 | -2.514 | -2.481 |
| REAL_UST_GUT45A | 1.089.211 | (-) 1.089.211 | 1.062.079 | 1.062.079 |
| **Gesamtergebnis** | **22.477.000** | **22.477.006** | **22.059.517** | **22.059.522** |

- Elimination of high surplusses in use of HBSO (Construction above ground others), in use of TBSO (Construction below ground others) and in UST (VAT non-deductable)
- Real SU-equilibrium at prices of the previous year

# Summary and outlook

- High requirements for an integrated system can be met well so far
- Works for continuous improvements are in progress
- Importance of price statistics for National Accounts
- Future work:
  - Improvements for the service activities in general
  - Special approaches: e.g. ESA revision and treatment of R&D as capital goods Index for R&D