ELABORATION OF SUPPLY TABLES IN MOROCCO

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Outline

– SUPPLY TABLE
– Compilation of domestic production Matrix
– Compilation of import’s vector
– Import duties
– Taxes on products excluding VAT
– Subsidies on products
– VAT channel through an example
– Non-deductible VAT: Moroccan methodology
– Trade margins: Moroccan methodology
– Transport margins
– Transport cost in moroccan accounting code
– Transport margin in moroccan national account’s
– Transport margins an example from SNA2008
– Transport margins have to be more clarified
– Transport margins: different choices by national accountants
## SUPPLY TABLE

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>TTM+ Taxes less subsidies</th>
<th>Output by Industry</th>
<th>( M ) = Total supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade Margins</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport Margins</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non déductible VAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Subsidies on products</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Taxes on products</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes on exports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes on imports excluding VAT</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

industries' Output (basic prices)

Total output

Imports

TOTAL supply at purchaser's prices
Compilation of domestic production Matrix

• Using different data sources:
  – Surveys
  – Census
  – Administrative data
• Constructing “bridge” tables between the classifications used in the various datasets and the SUT categories,
• Converting the data from the original classifications into SUT categories

Challenges:
• Wrong classification in data sources of establishment according to “Moroccan classification of industry”
• Difficulties to breakdown the item "other products" reported in the surveys
• Lack of output’s detail by product for some establishments
Compilation of import’s vector

- Data sources:
  - Customs statistics: import of goods according to HS classification
  - Balance of payments: for services imported
- Converting custom statistics by HS item into production classification
- Introducing CIF/FOB adjustment (from Balance of payments)
- Introducing adjustment for Direct Purchases Abroad by Residents (from Balance of payments: travel item)
Import duties

Data sources:

- Customs statistics: Import duties are drawn directly from customs statistics.
- The bridge table between HS and the product’s classification adopted in SUT is used to present Import duties by SUT’s product.

[import duties_extract.xlsx]
Taxes on products excluding VAT

Domestic consumption tax (DCT) and others taxes

- Data sources:
  - the Government budget
  - Customs statistics

- the products concerned are limited and easily identifiable
  - alcoholic beverages and lemonades
  - cigarettes
  - cement
  - petroleum products
Subsidies on products

Data sources:

- the Government budget: total
- compensation fund: subsidies on:
  - sugar
  - flour
  - petroleum products: gasoline
- inter professional board for cereals and pulses: subsidies on wheat.
VAT channel through an example

<table>
<thead>
<tr>
<th>Economic channel of Sugar (VAT 20%)</th>
<th>Importer</th>
<th>WHOLESALER</th>
<th>Retailer (with accounting)</th>
<th>Retailer (without accounting)</th>
<th>consumer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchases excluding VAT</td>
<td>10000</td>
<td>20000</td>
<td>15000</td>
<td>10000</td>
<td>45000</td>
</tr>
<tr>
<td>VAT on Purchases</td>
<td>2000</td>
<td>4000</td>
<td>3000</td>
<td>2000</td>
<td>6000</td>
</tr>
<tr>
<td>Sales excluding VAT</td>
<td>20000</td>
<td>25000</td>
<td>30000</td>
<td>15000</td>
<td></td>
</tr>
<tr>
<td>VAT on sales</td>
<td>4000</td>
<td>5000</td>
<td>6000</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Recoverable VAT</td>
<td>2000</td>
<td>4000</td>
<td>3000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>VAT received by the government</td>
<td>2000= 4000-2000</td>
<td>1000=5000-4000</td>
<td>3000=6000-3000</td>
<td>2000</td>
<td>6000</td>
</tr>
</tbody>
</table>

\[2000+1000+3000+2000=8000\]  \[2000+6000 = 8000\]
Non-deductible VAT: Moroccan methodology

• VAT is an indirect tax that can be deducted by the companies that achieve a turnover exceeding a level determined by the tax code.

• Households and informal units as well as government, NPISH can not deduct their VAT.

• Data sources:
  – government general budget: VAT collected by the Government (VAT on imports + VAT on domestic activities): the total to have in SUT
  – tax code: VAT’s theoretical rate by product
Non-deductible VAT: Moroccan methodology

• General Directorate of Taxation:
  – VAT invoiced by companies classified by industry
  – VAT paid by those companies on their purchases for IC or GFCF purposes from domestic or external producers and the amount of VAT deductible for each purchase.
  – VAT deductible by these companies

Formulaire de déclaration de la TVA.pdf
Non-deductible VAT: Moroccan methodology

From « structural surveys » we have:

- Output of organised companies by industry and product (including VAT)
  
  questionnaires_structure_industrie_20-5-15 v01.pdf

This structure is used to breakdown the VAT invoiced (from General Directorate of Taxation) by product (1)

- IC of Organised enterprises classified by industry and product (including VAT)

- And their GFCF by product (Including VAT)

We use these two structures to breakdown by product the invoiced and deductible VAT by industry given by the General Directorate of Taxation (2).

from (1) invoiced VAT by product and (2) deductible VAT by product

non deductible VAT by product to be adjusted to the total VAT received by government
Trade margins: Moroccan methodology

Data sources:

**Structural surveys**: trade margins by industry and product (or trade margins’ rate)

[questionnaire_structure_commerce-20-5-2015 v01.pdf](questionnaire_structure_commerce-20-5-2015 v01.pdf)

**Survey on Informal sector**: trade margins of wholesalers and retailers by product

[QUESTIONNAIRE UPI (2).pdf](QUESTIONNAIRE UPI (2).pdf)
The compilation process of supply-side trade margins- Morocco

- Estimation of trade margins matrices by product and industry for wholesale trade and retail trade (structural + informal surveys)
- Estimation of product specific trade margin ratios for wholesale trade and retail trade (structural survey)
- Multiplication of product specific trade margins by the element of turnover matrices
- Trade margins by product and industry for wholesale trade and retail trade
- Trade margins by product and industry
- Allocating differences between the estimated trade margin and the given totals by industry
- Supply side Trade margins by product
Use-side of trade margins

TM supply and use.docx

قمح صلب- توازن.xls
Transport margins

• Transport margins only occur when transport services are separately invoiced. (2008 SNA)
• Transport margins are the transport costs for transportation of products paid separately by the purchaser and included in the use of products at purchasers’ prices but not in the basic price of a manufacturers’ output or in the trade margins of wholesalers or retail traders
  • This definition of transport margins implies that the transportation has to be arranged by the seller (producer or trader).
  • This also implies that transportation arranged directly by the purchaser (and thus, of course, also directly paid for by the purchaser) is not included in the transport margins.
Transport cost in moroccan business accounting

• **Moroccan accounting code**: regulation apply to all natural persons or legal entities subject to the legal obligation to draw up annual accounts.

• Moroccan companies report transport costs on:
  • Purchases: on the Item 61425
  • Sales : on the Item 61426
Transport cost in moroccan business accounting

The accounting treatment of transport costs is quite diversified, because depending on the sales conditions, it is up to the supplier to specify the terms of transport.

1- Free transportation: The port is free when it is not charged to the customer. The invoice can then be marked "Free of charge" or "Free port". This does not mean that the sales price is not calculated to cover transport costs, because the supplier can charge the cost of transport over the price of the goods indirectly.

Example 1: The producer manufactures a good A worth 90 at the basic price and sends a carrier B to deliver the product to a customer C, at 10 (transport cost)

Customer's bookkeeping

<table>
<thead>
<tr>
<th>Item</th>
<th>wording</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>61425</td>
<td>Transportation on purchases</td>
<td>0</td>
</tr>
<tr>
<td>61XX</td>
<td>Purchases</td>
<td>100</td>
</tr>
</tbody>
</table>

Transport cost is not separately invoiced, thus it’s included in the basic price and it’s a supplyer’s IC.
Transport cost in moroccan business accounting

• 2- inclusive shipping
  
The goods are delivered by the seller with his own means. He then charges a lump sum because it is difficult to accurately calculate a priori the cost of each delivery.

• Example: The supplier manufactures a good A worth 90 and use his own means to deliver to C. He charges C a transport cost worth 10

• Supplier’s bookkeeping

<table>
<thead>
<tr>
<th>Item</th>
<th>wording</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7127 Sales and accessories</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>4455 Invoiced VAT</td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

• customer's bookkeeping

<table>
<thead>
<tr>
<th>Item</th>
<th>wording</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>61425</td>
<td>Transportation on purchases</td>
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</tr>
<tr>
<td>61XX</td>
<td>Purchases</td>
<td>100</td>
</tr>
</tbody>
</table>

The cost of transportation (10) is a transport margin. It’s unfortunately, there is no available data to treat it as such.
Transport cost in moroccan business accounting

3- Transport disbursed

transport is disbursed” when the seller (producer) bills the buyer for shipping costs paid to a carrier on behalf of the buyer.

Example: The producer manufactures a good A worth 90 at the basic price and sends a carrier B to deliver the product to a customer C, at 10 (transport cost) invoiced to the customer

• customer's bookkeeping

<table>
<thead>
<tr>
<th>Item</th>
<th>wording</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>61425</td>
<td>Transportation on purchases</td>
<td>10</td>
</tr>
<tr>
<td>61XX</td>
<td>Purchases</td>
<td>90</td>
</tr>
</tbody>
</table>

Item : 61425 refers to a transport margin but it’s not included in the purchases price
Transport cost in moroccan business accounting

4- Transportation due

• In this case the transport costs are not included in the supplier's invoice. The customer himself uses a transport company to collect the purchased goods or materials.

• customer's bookkeeping

<table>
<thead>
<tr>
<th>Item</th>
<th>wording</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>61425</td>
<td>Transportation on purchases</td>
<td>10</td>
</tr>
<tr>
<td>61XX</td>
<td>Purchases</td>
<td>90</td>
</tr>
</tbody>
</table>

Transport cost is not a transport margin, it’s a customer’s IC
Transport margin in moroccan national account’s

In moroccan national account, transport margins refers to the cases 3 (Transport disbursed) and ‘4 (Transportation due) even if the last case doesn’t much with SNA recommendations and the case 2 is missed (as we don’t have any data about it).

- If the customer is a trader (wholesaler or retailer) the transport cost is treated as trader’s IC.

In the structural survey’s:

- The transport cost on purchases is given as a total by establishments which are classified by industry
- Transport margins’ breakdown by product is made using the structure of transportable product bought by industries (IC or GFCF values)
Example:

The surveys allow the M.j vector below:

<table>
<thead>
<tr>
<th>Agriculture</th>
<th>Mining</th>
<th>Manufacturing</th>
<th>Electricity, gas and water</th>
<th>Construction</th>
<th>trade &amp; repair</th>
<th>others services</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>TrM.j</td>
<td>0</td>
<td>6</td>
<td>120</td>
<td>14</td>
<td>56</td>
<td>36</td>
<td>232</td>
</tr>
</tbody>
</table>

And the detail purchases by industry on transportable goods

<table>
<thead>
<tr>
<th>Agriculture</th>
<th>Mining</th>
<th>Manufacturing</th>
<th>Electricity, gas and water</th>
<th>Construction</th>
<th>trade &amp; repair</th>
<th>others services</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xij</td>
<td>Agriculture</td>
<td>Mining</td>
<td>Manufacturing</td>
<td>Electricity, gas and water</td>
<td>Construction</td>
<td>trade &amp; repair</td>
<td>others services</td>
</tr>
<tr>
<td>Agriculture product</td>
<td>198</td>
<td>0</td>
<td>584</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td>796</td>
</tr>
<tr>
<td>Mining products</td>
<td>0</td>
<td>4</td>
<td>394</td>
<td>43</td>
<td>30</td>
<td>1</td>
<td>472</td>
</tr>
<tr>
<td>Manufactured prod</td>
<td>187</td>
<td>33</td>
<td>1461</td>
<td>33</td>
<td>482</td>
<td>185</td>
<td>2381</td>
</tr>
<tr>
<td>Total industry</td>
<td>385</td>
<td>37</td>
<td>2439</td>
<td>76</td>
<td>513</td>
<td>200</td>
<td>3649</td>
</tr>
</tbody>
</table>

Using the structure of the industries purchases by goods we can break down the transport margins TrM.j on kind of products

The last vector refers to the transport margins by product TrMi

<table>
<thead>
<tr>
<th>Agriculture</th>
<th>Mining and quarrying</th>
<th>Manufacturing</th>
<th>Electricity, gas and water</th>
<th>Construction</th>
<th>trade &amp; repair</th>
<th>others services</th>
<th>TrMi.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TrMij</td>
<td>Agriculture</td>
<td>Mining</td>
<td>Manufacturing</td>
<td>Electricity, gas and water</td>
<td>Construction</td>
<td>trade &amp; repair</td>
<td>others services</td>
</tr>
<tr>
<td>Agriculture product</td>
<td>0</td>
<td>0</td>
<td>29</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>51</td>
</tr>
<tr>
<td>Mining products</td>
<td>0</td>
<td>1</td>
<td>19</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Manufactured prod</td>
<td>0</td>
<td>5</td>
<td>72</td>
<td>6</td>
<td>53</td>
<td>33</td>
<td>151</td>
</tr>
<tr>
<td>Total industry</td>
<td>0</td>
<td>6</td>
<td>120</td>
<td>14</td>
<td>56</td>
<td>36</td>
<td>232</td>
</tr>
</tbody>
</table>
By adding the transport margins $TrM_{ij}$ to the initial purchases by industry we estimate the purchasers’ prices of transportable goods by industry $X'_{ij}$

<table>
<thead>
<tr>
<th>X'_{ij}</th>
<th>Agriculture</th>
<th>Mining and quarrying</th>
<th>Manufacturing</th>
<th>Electricity, gas and water</th>
<th>Construction</th>
<th>trade &amp; repair</th>
<th>others services</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture product</td>
<td>198</td>
<td>0</td>
<td>613</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>847</td>
<td>1675</td>
</tr>
<tr>
<td>Mining products</td>
<td>0</td>
<td>5</td>
<td>413</td>
<td>51</td>
<td>33</td>
<td>1</td>
<td>502</td>
<td>1005</td>
</tr>
<tr>
<td>Manufactured prod</td>
<td>187</td>
<td>38</td>
<td>1533</td>
<td>39</td>
<td>535</td>
<td>218</td>
<td>2532</td>
<td>5083</td>
</tr>
<tr>
<td>Total industry</td>
<td>385</td>
<td>43</td>
<td>2559</td>
<td>90</td>
<td>569</td>
<td>236</td>
<td>3881</td>
<td>7763</td>
</tr>
</tbody>
</table>
## Transport margins an example from SNA2008

<table>
<thead>
<tr>
<th>Delivery method</th>
<th>Basic price</th>
<th>Taxe</th>
<th>Producer’s price</th>
<th>Transport margin plus tax on transport</th>
<th>Purchaser’s price</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A charges B an all-inclusive price and uses own delivery fleet</td>
<td>210</td>
<td>21</td>
<td>231</td>
<td></td>
<td>231</td>
<td>Transport is an ancillary activity of A</td>
</tr>
<tr>
<td>A charges B for delivery but uses own delivery fleet</td>
<td>200</td>
<td>20</td>
<td>220</td>
<td>11</td>
<td>231</td>
<td>Transport is a secondary activity of A</td>
</tr>
<tr>
<td>A charges B an all-inclusive price but uses C to deliver</td>
<td>210</td>
<td>21</td>
<td>231</td>
<td></td>
<td>231</td>
<td>C’s production is intermediate consumption of A</td>
</tr>
<tr>
<td>A charges B for delivery but uses C to deliver</td>
<td>200</td>
<td>20</td>
<td>220</td>
<td>11</td>
<td>231</td>
<td>C’s production is intermediate consumption of A</td>
</tr>
<tr>
<td>B collects the product from A using own delivery fleet</td>
<td>200</td>
<td>20</td>
<td>220</td>
<td></td>
<td>220</td>
<td>220 Transport is an ancillary activity of B</td>
</tr>
<tr>
<td>B uses C to collect product from A and deliver to B</td>
<td>200</td>
<td>20</td>
<td>220</td>
<td></td>
<td>220</td>
<td>B buys 2 products; one from A for 220 and one from C for 11</td>
</tr>
</tbody>
</table>
Transport margins have to be more clarified

The concept of transport margin and its relationship to invoicing procedures may need more explanation. Thus if a purchaser of a good receives two separate invoices, one for the good as such, and another one for its transportation, he is supposed to *add them before reporting* his purchase of this good. To get this right not only invoicing procedures should be known, but the instructions on the questionnaires should also reflect this. In general the understanding of basic prices as highly pragmatic (and therefore useful) concept seems to be somewhat lacking among both compilers and users of national accounts data.
Transport margins have to be more clarified

• The complexity of the transport margin is important, not only because of the different kinds of margins (for each type of transport: road, railway, water, air, pipeline) but also because of the definitions themselves. Also, the data availability gives rise to many practical elaboration problems. The relationship between the supply of goods and the transport margins connected with them is much looser than in the case of trade margins.

• Several reasons can be given for this fact: the transport costs are usually not related to the value of the goods transported; a lot of transportation is done as ancillary activity; and the way transportation costs are paid might differ from product to product and from transaction to transaction.
Transport margins: different choices by national accountants

The extreme case is that of Germany: their accountants do not put transport margins in their accounts. In contrast to countries such as Australia or the United States, transport margins are recorded with significant amounts that correspond in part to the relative importance of transport in these two countries. While the Germans do not feel able to isolate a separate billing of transport, the latter two countries account for a significant share of freight transport margins (except the part that "transits" through trade). Other European countries account for more or less significant transport margins.