Value of Production in Agriculture: Meaning, Measurement, and Implications in a WTO Context

Lars Brink

Annual Meeting, International Agricultural Trade Research Consortium (IATRC)
San Diego, California, 9-11 December 2012
Lars.Brink@hotmail.com
Why worry about Value of Production?

- Key measurement in Agreement on Agriculture

- *De minimis* thresholds
  - Exemptions for distorting support
  - 5% or 10% of VOP

- Exemptions motivate much concern in Doha
  - 5% was thought too large
### De minimis percentage of selected countries

<table>
<thead>
<tr>
<th>Total AMS commitment?</th>
<th>De minimis percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Positive</td>
<td>EU</td>
</tr>
<tr>
<td></td>
<td>Norway</td>
</tr>
<tr>
<td></td>
<td>United States</td>
</tr>
<tr>
<td>NIL</td>
<td>China</td>
</tr>
</tbody>
</table>
More important but often overlooked

• Increasing support in developing countries

• How soon will they hit 10%?

• Have some already done so?

• This requires data on their VOP
Consistency and quality of VOP data

• Not a WTO principle

• Important for analysis, assessment, projection

• Differences in VOP measurements?
  
  – Among countries? Over time?
Outline

• Review VOP concept

• Examine VOP data series
  – Twelve countries
  – 1995-2011

• VOP series in different sources – how close?

• VOP versus value-added in agriculture
Sources of agr sector VOP data

- WTO
  - Notifications (some members; many notif’s missing)
  - Secr 2010 Doha paper (some members; up to 2008)
- FAO data base
- OECD PSE data base (some countries)
- National sources

- + World Bank value-added in “agriculture”
VOP definitions

• Few countries publish **Value of Production**
  – Can be part of National Accounts
  – But not defined in SNA *System of National Accounts*
  – Contrast to **Value Added in Agriculture**
    • WB: VA in agriculture, hunting, fishing, forestry

• VOP definitions vary across countries
  – Different wording, similar concepts
  – Coverage can differ (commodity, pricing, timing, etc.)
Examples

- USDA: Value of agricultural sector production is the gross value of the commodities and services produced ... 

- Eurostat: The valuation of output at basic prices.

- Australia: The value estimates ... are derived by the multiplication of price and quantity estimates of agricultural commodities.

- Canada: ... total value of production, which represents the value of the farm sector's gross output.

- FAO: Value of gross production has been compiled by multiplying gross production in physical terms by output prices at farm gate.

- OECD: National sources (inconsistent definitions?)
Brazil: VOP data by source

- WTO notif.
- WTO Secr.
- OECD
- FAO

BRL billion
India: VOP data by source

INR billion

Notes:
• No OECD data.
• National data is sum of crops and livestock.
Indonesia: VOP data by source

Note:
- WTO notifications show no VOP data
Japan: VOP data by source

JPY billion
Mexico: VOP data by source

1991 pesos billion

- WTO notif.
- WTO Secr.
- OECD
- FAO
Norway: VOP data by source

- WTO notif. (est.)
- WTO Secr.
- OECD
- FAO
- National stats.
Philippines: VOP data by source

Note
- No VOP in WTO notif.
- No OECD data
Russia: VOP data by source

RUB billion

Accession data
OECD
FAO
National stats.

Note
• No WTO Secr. data
United States: VOP data by source

USD billion

WTO notif.
WTO Secr.
OECD
FAO

1995 1997 1999 2001 2003 2005 2007 2009 2011
Value added in agriculture

• World Bank data
  – Value added in agriculture
    • Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs.
    • Agriculture corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production.

• WB data overstates value added in agriculture
  – Significance varies by country and type of economy
Brazil: VOP and VA data

- WTO notif.
- WTO Secr.
- OECD
- FAO
- VA in agr (WB)

BRL billion
India: VOP and VA data

Notes:
• No OECD data.
• National data is sum of crops and livestock.
Note:
- WTO notifications show no VOP data
Japan: VOP and VA data

The graph shows the trend of VOP and VA data in Japan over the years from 1995 to 2011. The data is represented in JPY billion and is sourced from various organizations including WTO, WTO Secr., OECD, FAO, and VA in agr (WB).
Norway: VOP and VA data

- WTO notif. (est.)
- WTO Secr.
- OECD
- FAO
- National stats.
- VA in agr (WB)
Philippines: VOP and VA data

Note
• No VOP in WTO notif.
• No OECD data
Note
• No WTO Secr. data
Turkey: VOP and VA data

- WTO Secr. (est.)
- OECD
- FAO
- National stats.
- National stats. marketable
- VA in agr (WB)
Value added in agriculture

- Expect more “developed” countries to use more intermediate inputs in production
  - Means smaller share of Value-added in VOP

- Rank 12 countries by GDP per capita
  - Show share of value-added in VOP
  - Broadly consistent with expectation
  - Indonesia and Norway outliers
  - Forestry and fisheries?
Share of Value-Added and “Intermediate inputs” in VOP

Value-added as % of VOP

Intermediate inputs as % of VOP

Indonesia

China

World

Mexico

Brazil

Turkey

Russia

EU

Japan

United States

Norway
Implications

– VOP data from several sources
  • WTO notifications, country submissions to WTO, OECD, FAO, national sources

– Measurements do not fully coincide
  • Timing and small definitional differences

– More serious: large differences between:
  • WTO notifications vs. other sources
  • Submissions to WTO vs. notifications
Conclusions

– Members report different kinds of VOP to WTO
  • Marketed vs. total production? Measuring value-added?

– Larger VOP used for WTO than in other outlets?
  • Larger VOP gives higher *de minimis* threshold
  • Some countries, but not all, use larger VOP for WTO

– What difference does it make?
  – If VOP in WTO is 10% mis-reported & *dm* percentage is 10%
  – 11%, or 9%, of VOP can make big difference in tight situation
  – Extreme: one country, with $100 billion VOP, seemingly 100% off?

– Uncertainty in monitoring compliance

– What about product-specific VOP?
Thank you for your attention!

Lars.Brink@hotmail.com