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

Lars Brink

**Annual Meeting, International Agricultural Trade Research Consortium (IATRC)
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*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

Total AMS commitment?	<i>De minimis</i> percentage		
	5%	8.5%	10%
Positive	EU Japan Norway Russia United States		Brazil
NIL		China	India Indonesia Mexico Philippines Turkey

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

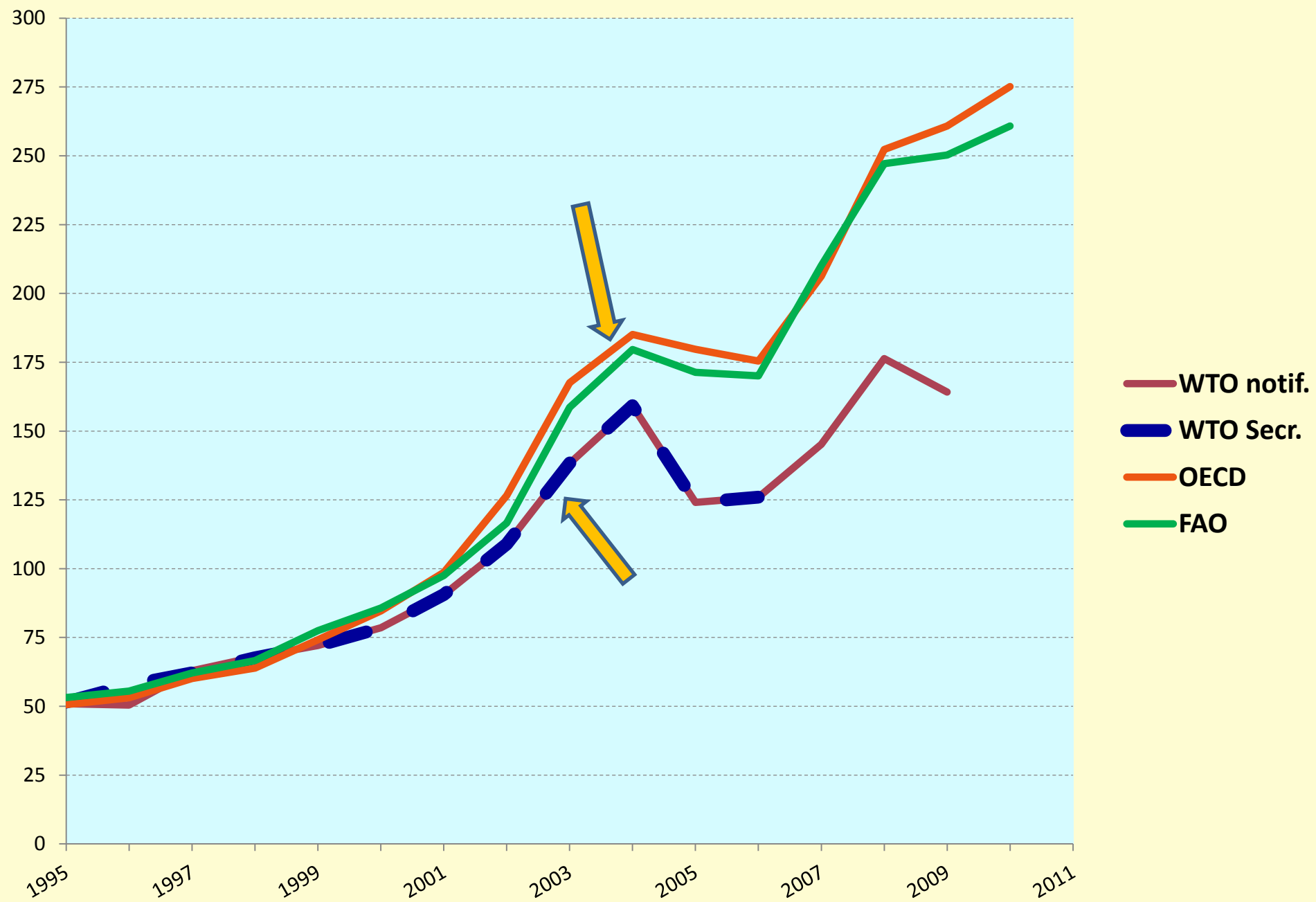
- Few countries publish Value of Production
 - Can be part of National Accounts
 - But not defined in SNA System of National Accounts
 - Contrast to Value Added in Agriculture
 - WB: VA in agriculture, hunting, fishing, forestry
- VOP definitions vary across countries
 - Different wording, similar concepts
 - 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?)**

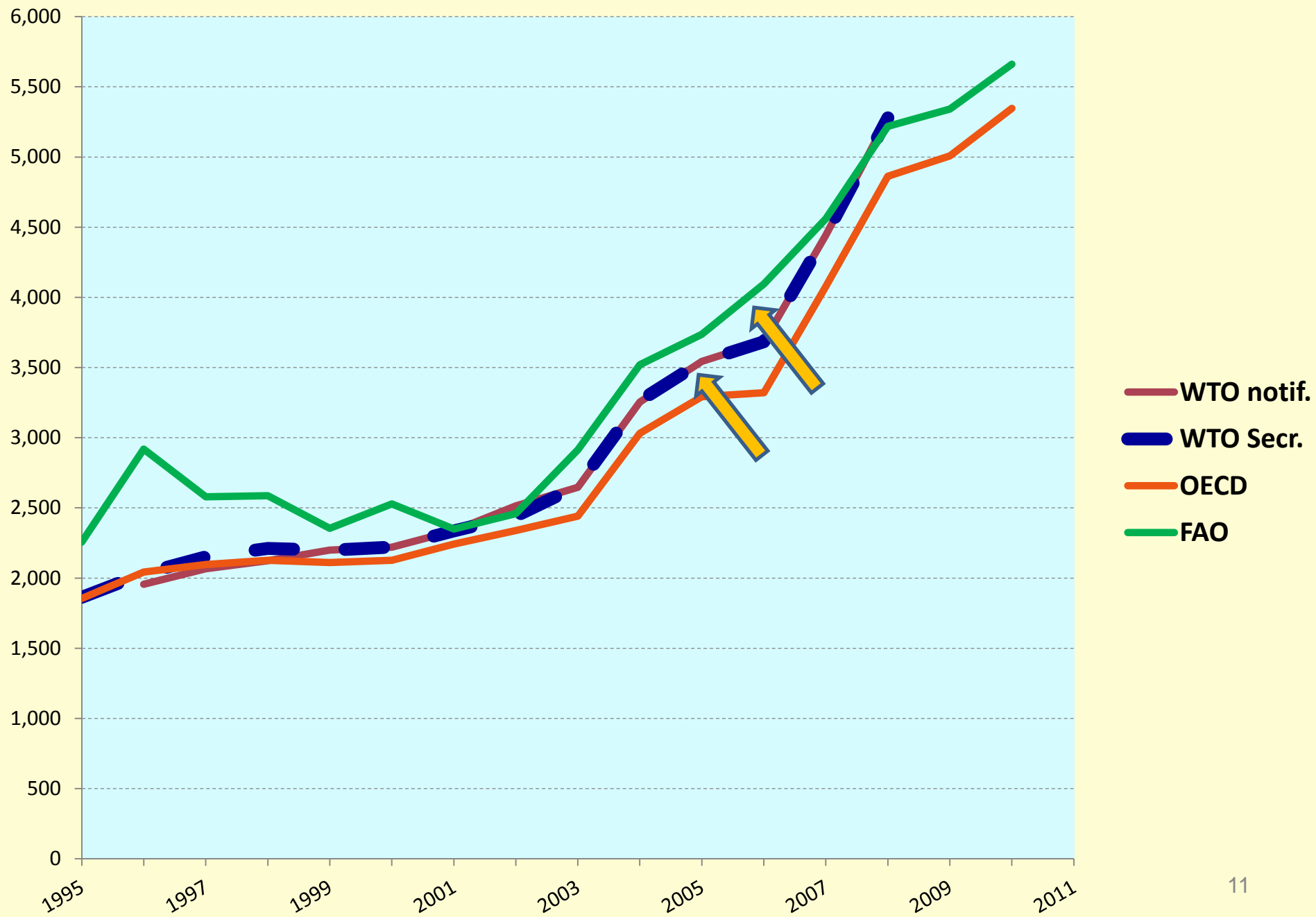
Brazil: VOP data by source

BRL billion



China: VOP data by source

CNY billion



EU: VOP data by source

EUR billion

400

350

300

250

200

150

100

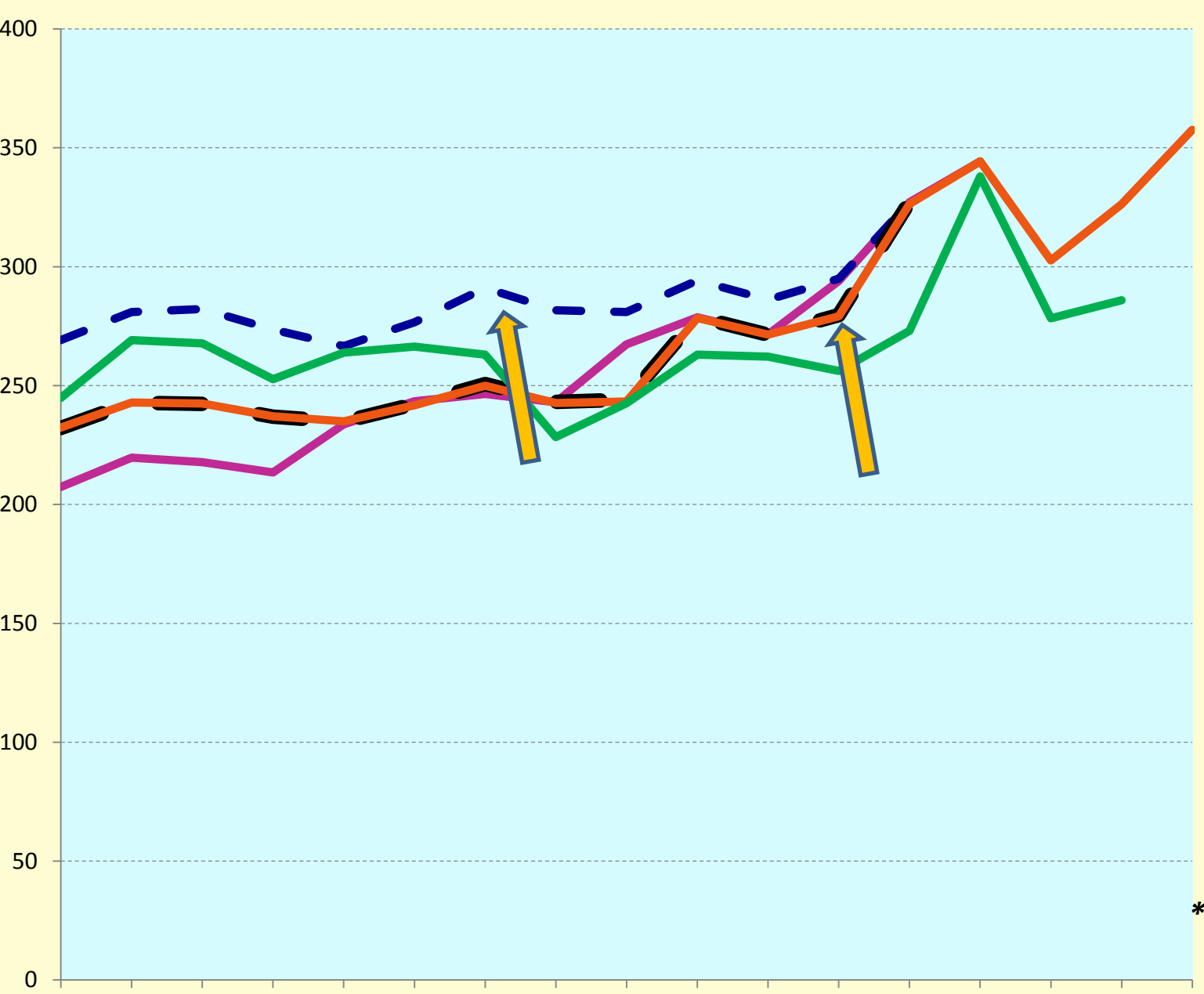
50

0

1995 1997 1999 2001 2003 2005 2007 2009 2011

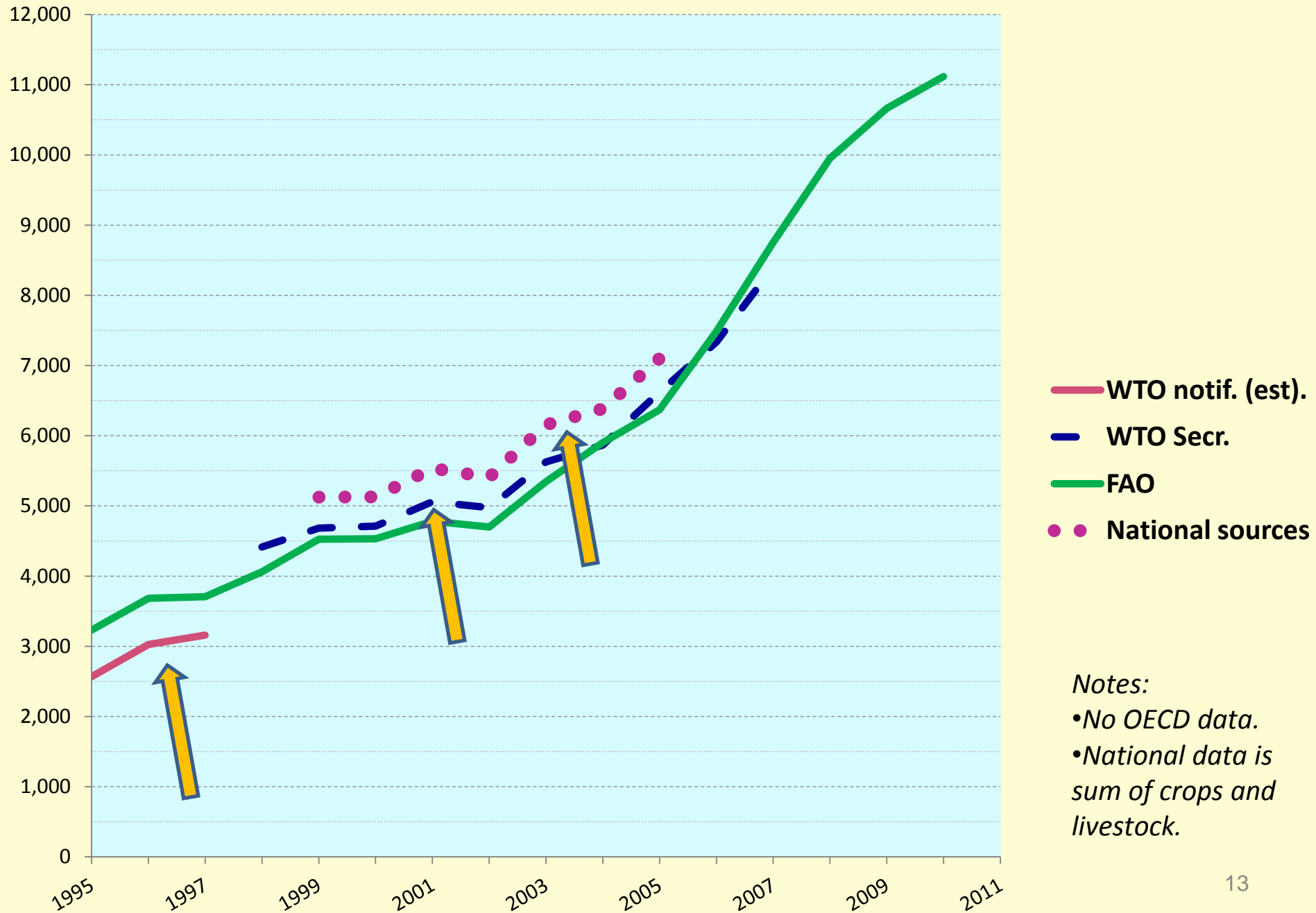
- WTO notif.
- WTO Secr.
- WTO Secr.*
- OECD
- FAO

* EC15, EC25, EC27

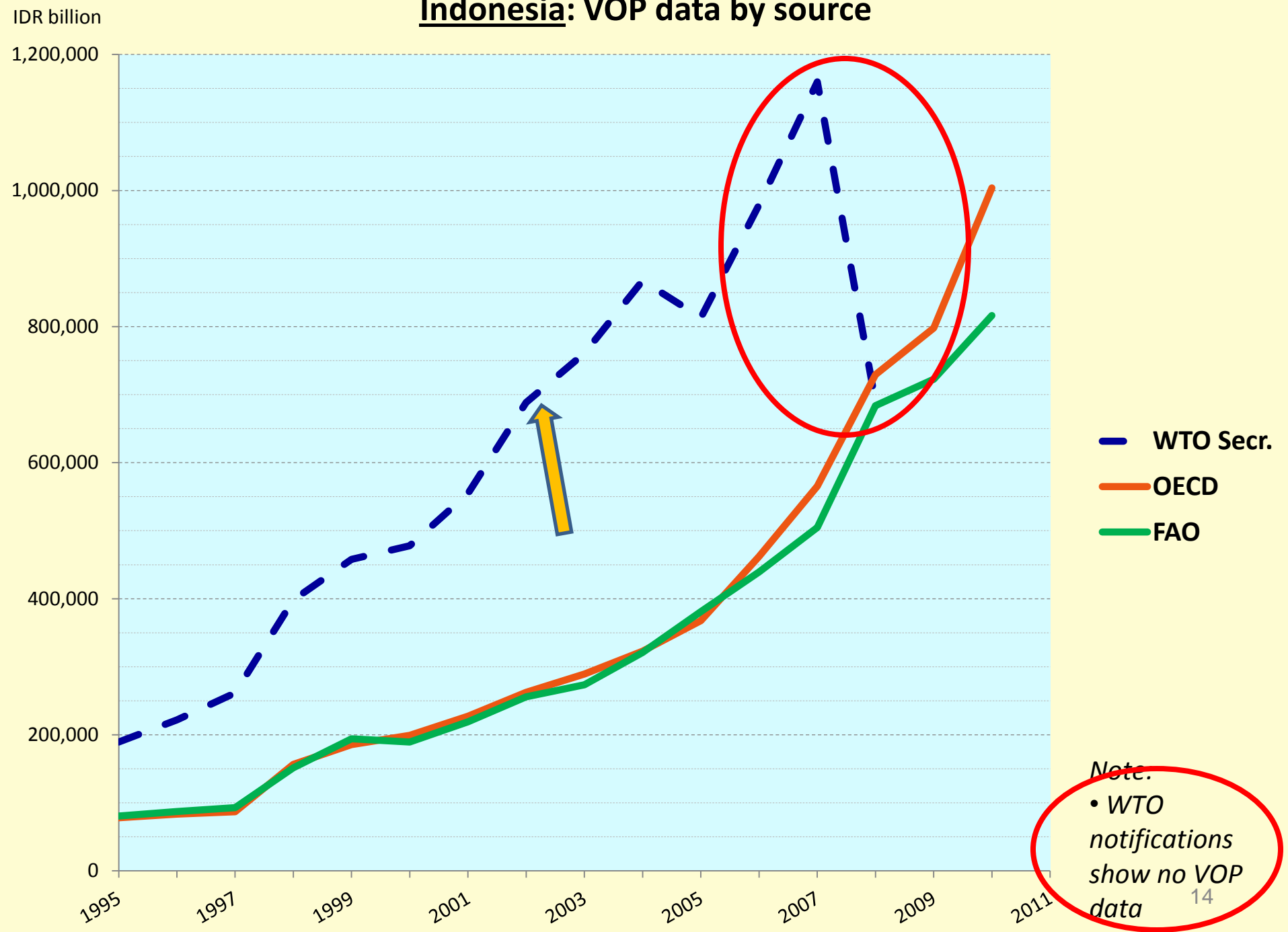


India: VOP data by source

INR billion

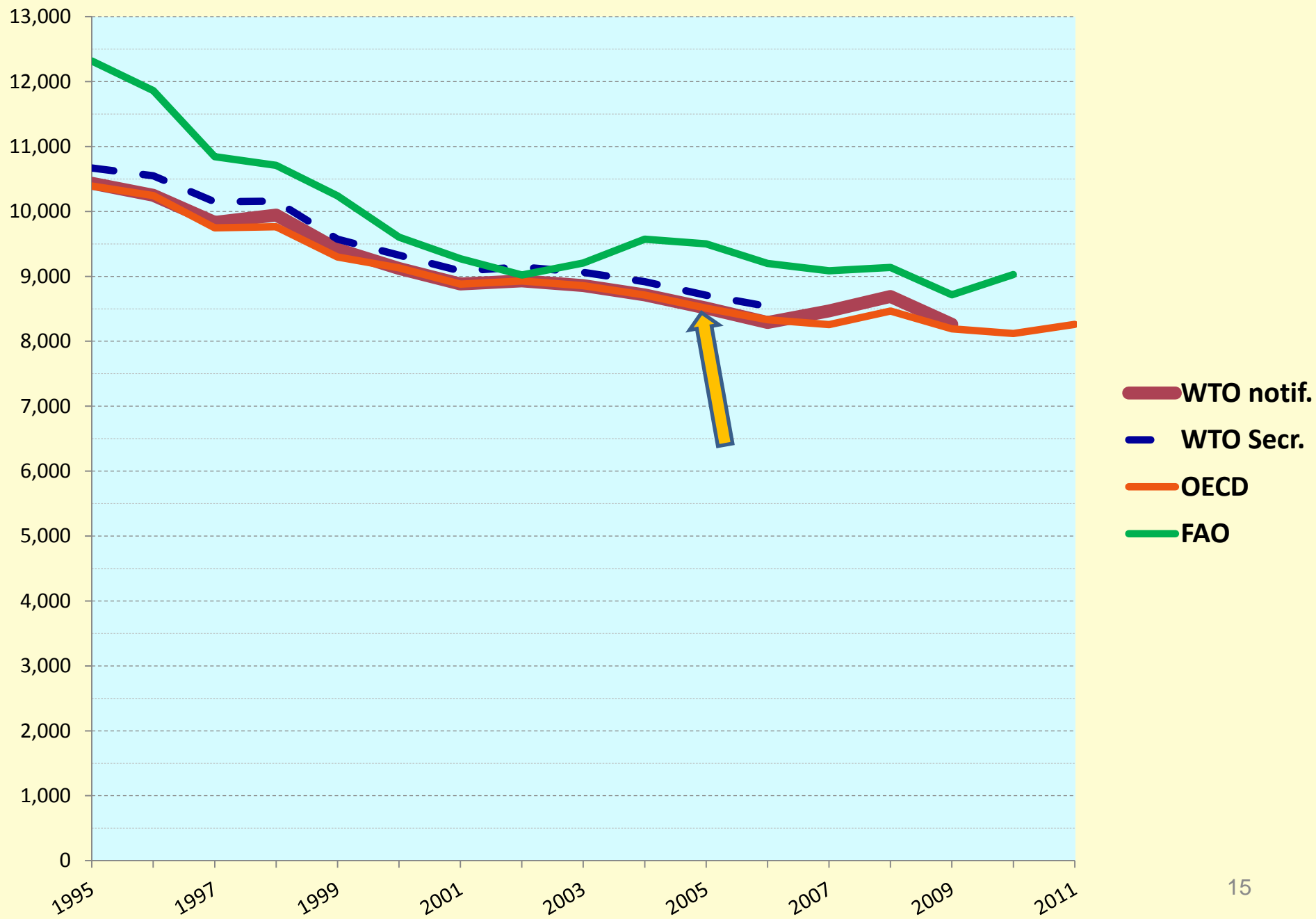


Indonesia: VOP data by source



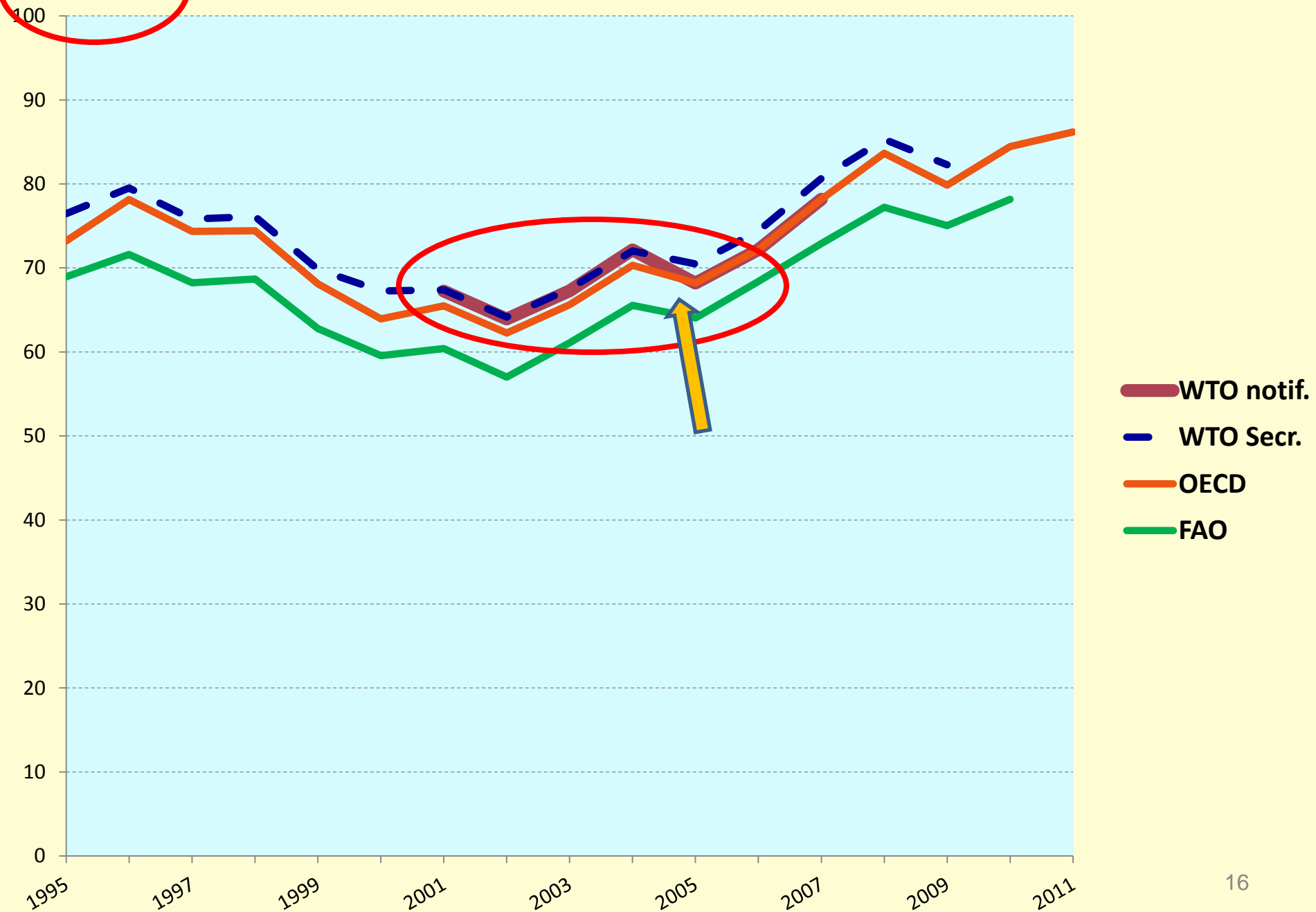
Japan: VOP data by source

JPY billion

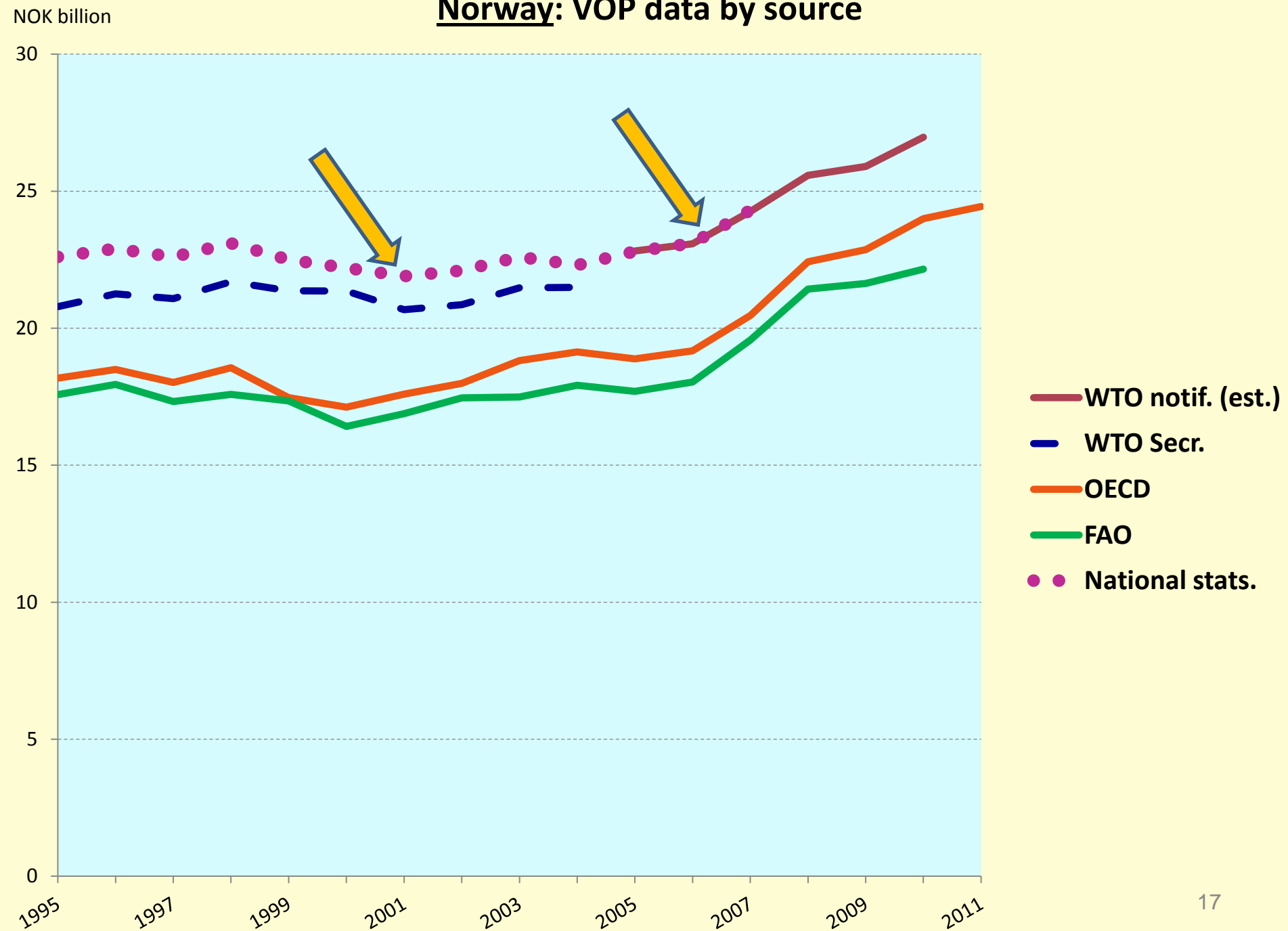


1991 pesos
billion

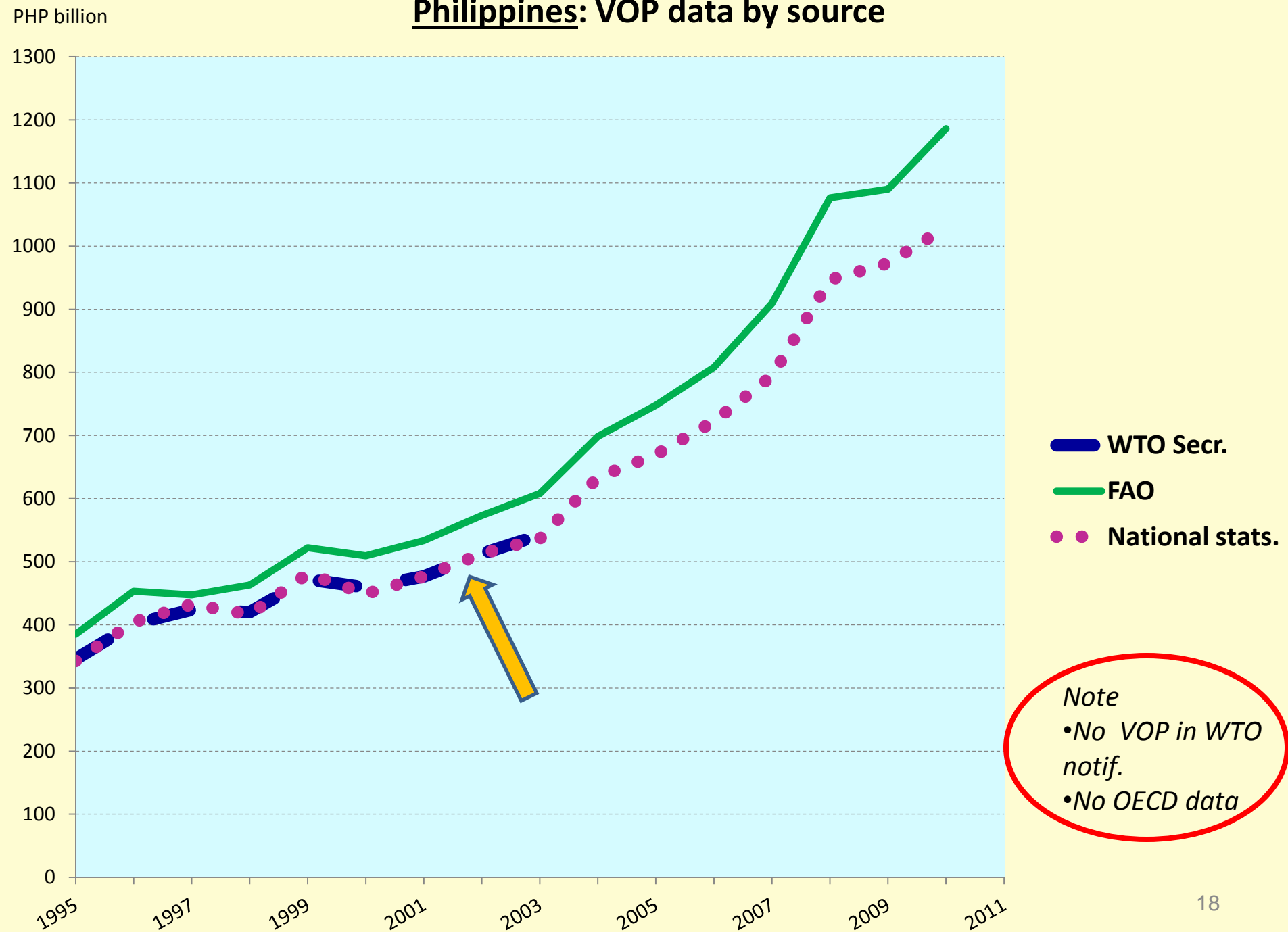
Mexico: VOP data by source



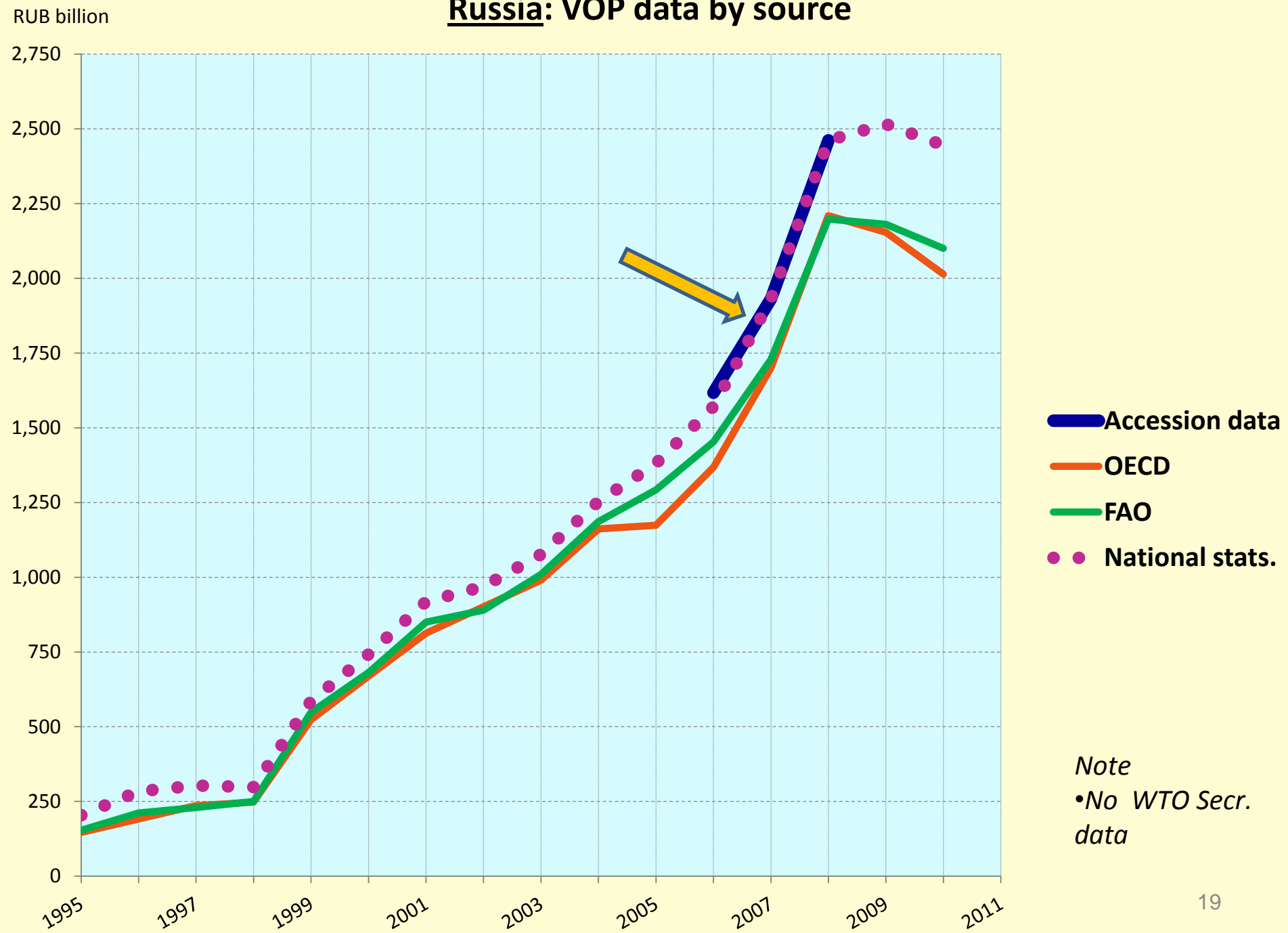
Norway: VOP data by source



Philippines: VOP data by source

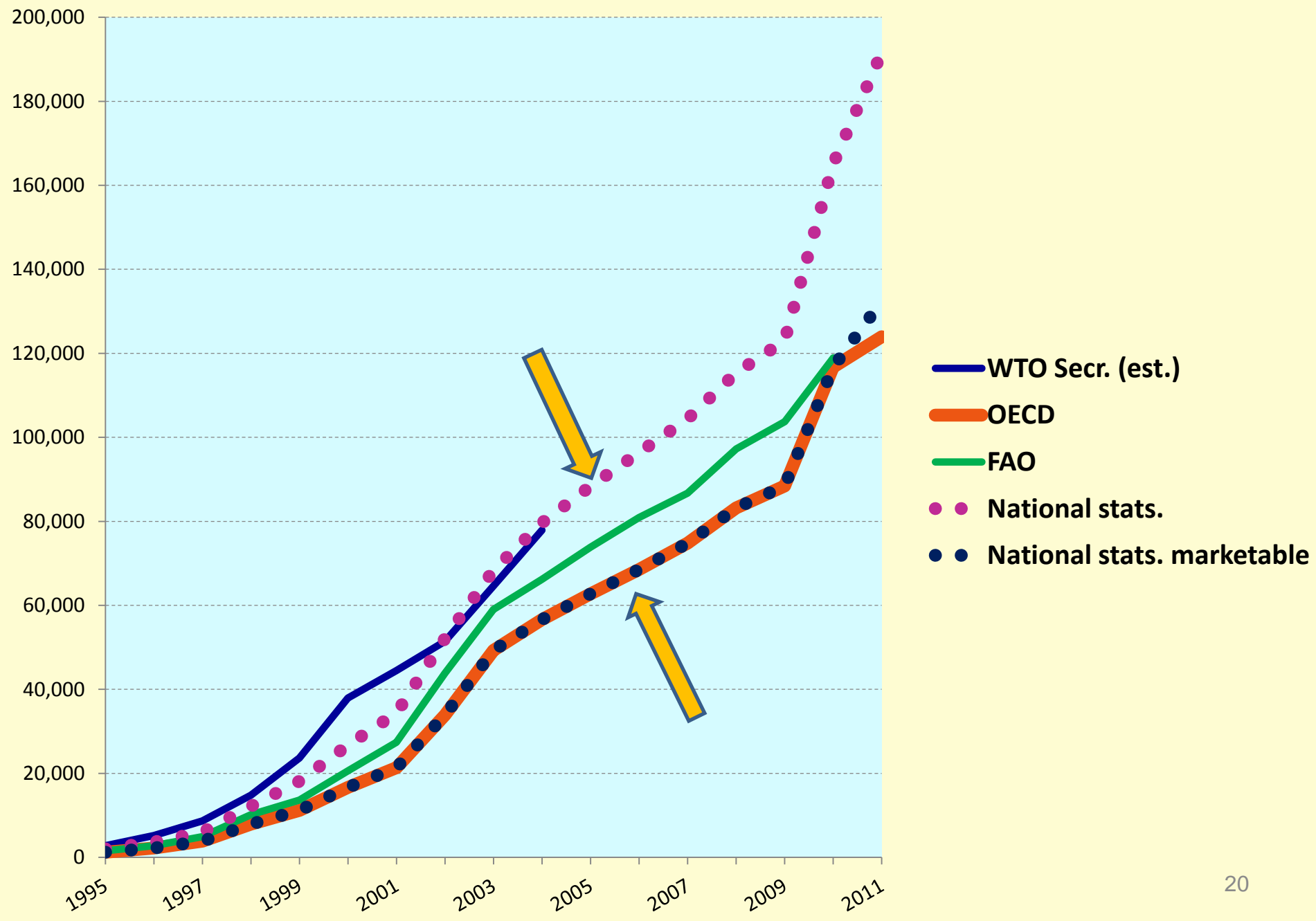


Russia: VOP data by source



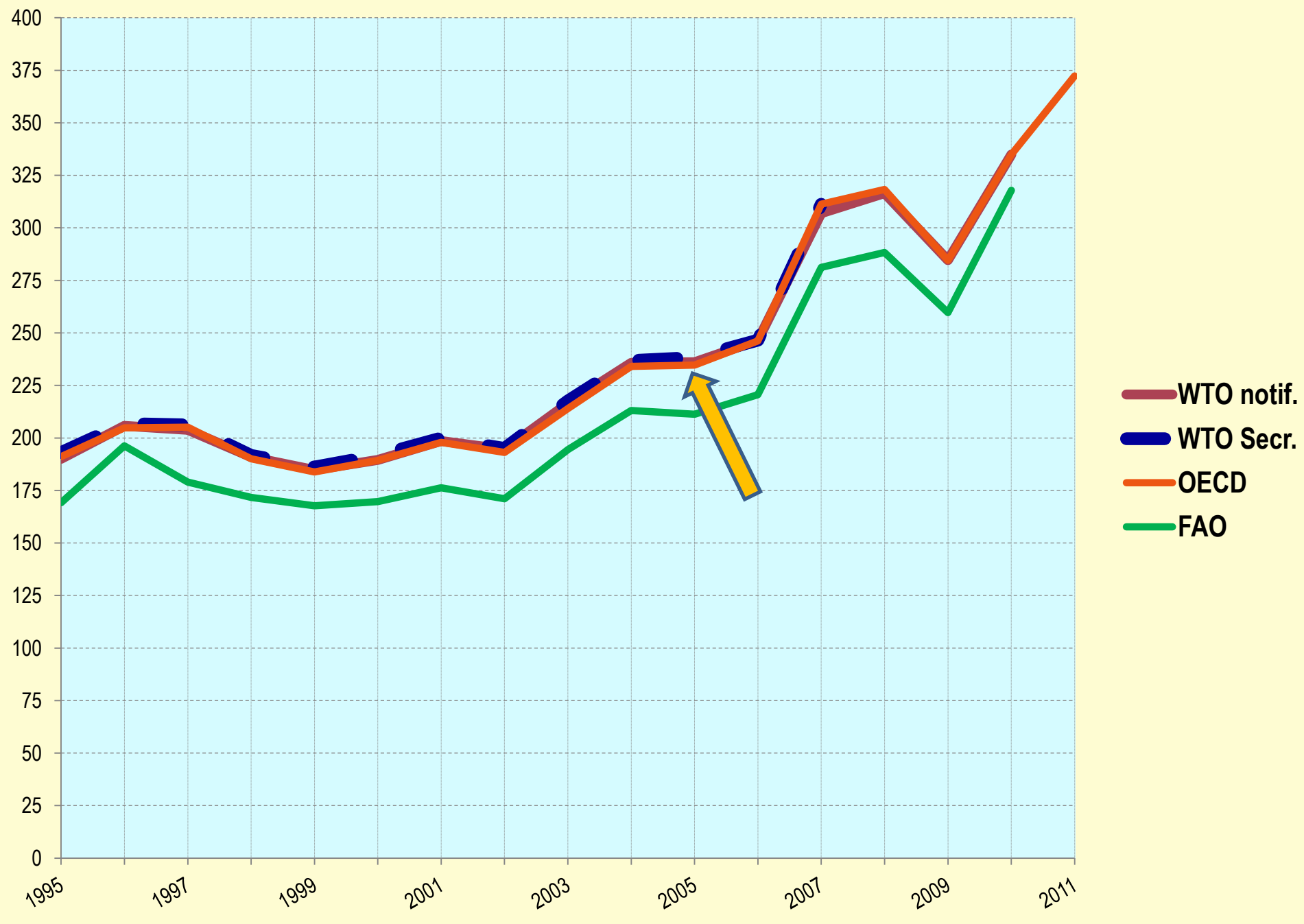
Turkey: VOP data by source

TRL million



United States: VOP data by source

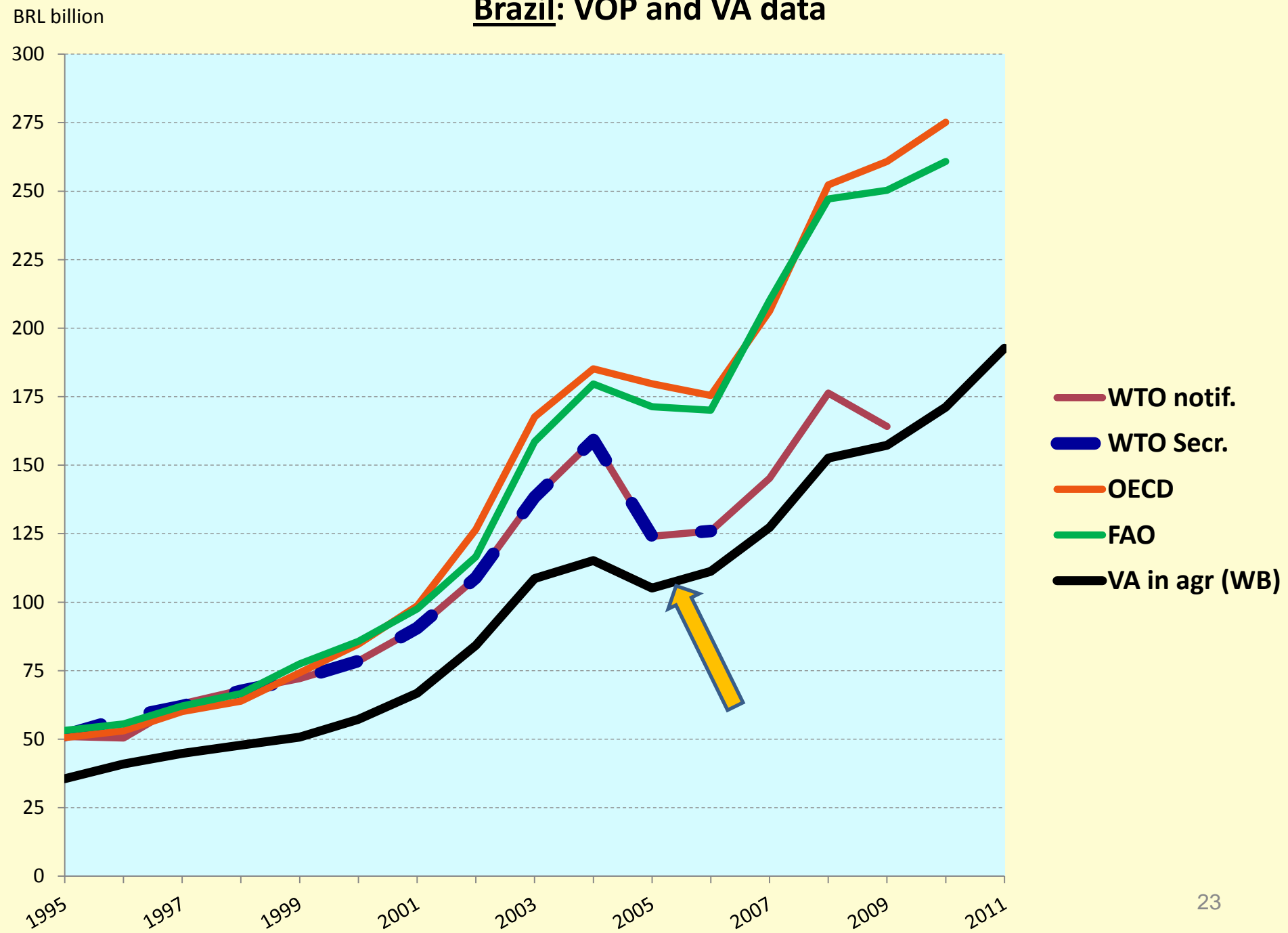
USD billion



Value added in agriculture

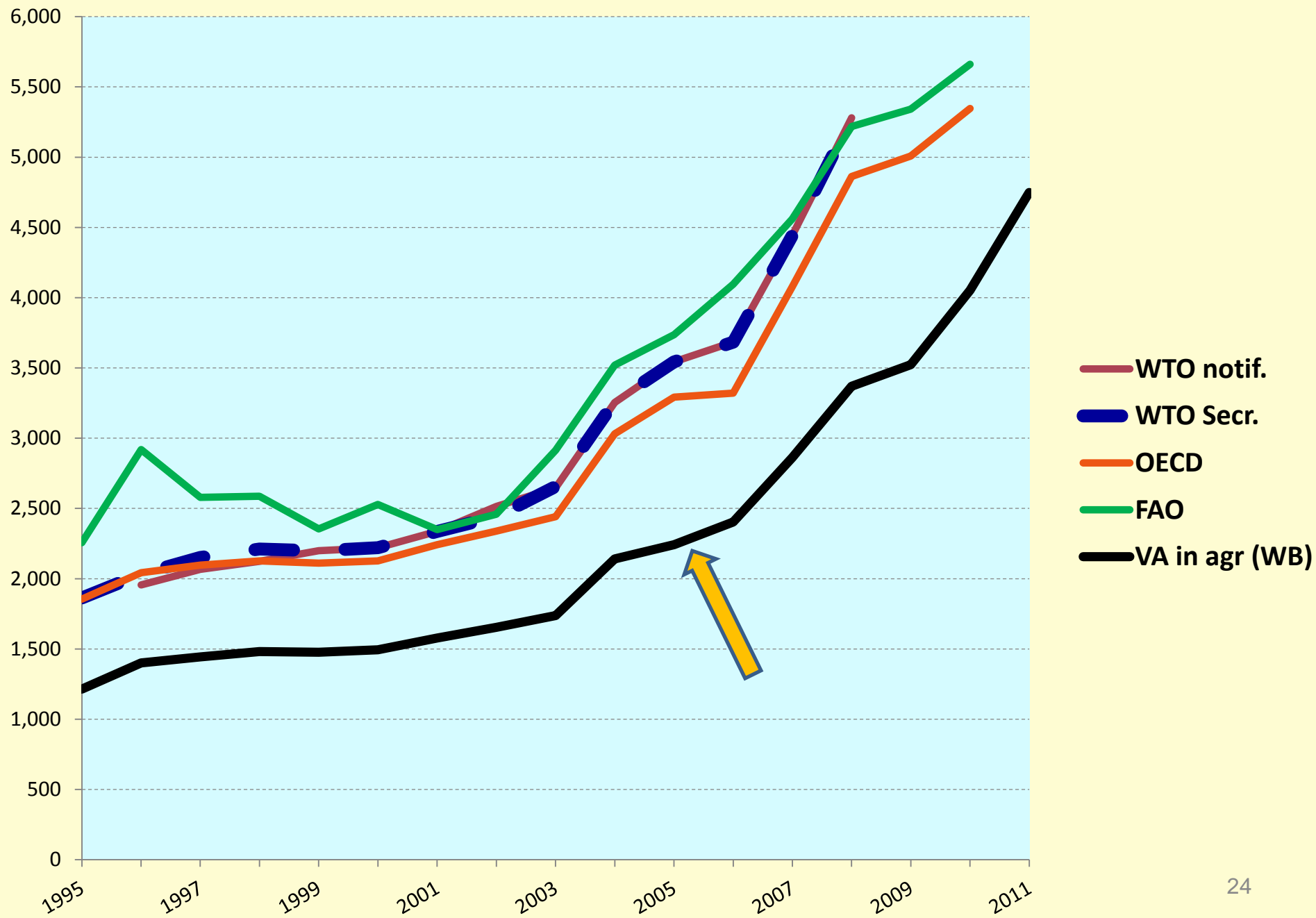
- **World Bank data**
 - Value added in agriculture
 - Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs.
 - Agriculture corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production.
- **WB data overstates value added in agriculture**
 - Significance varies by country and type of economy

Brazil: VOP and VA data



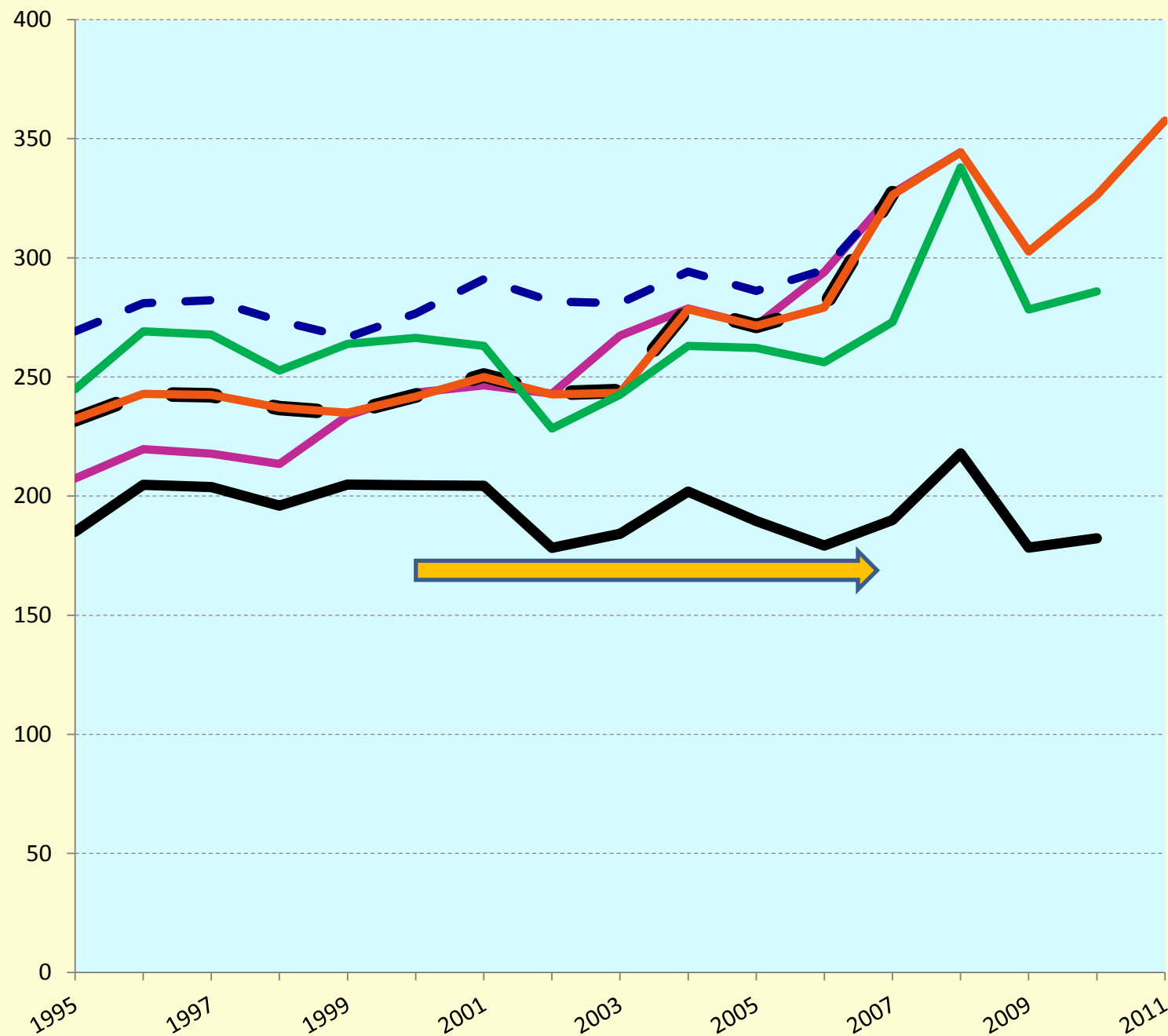
China: VOP and VA data

CNY billion



EU: VOP and VA data

EUR billion



WTO notif.

WTO Secr.

WTO Secr.*

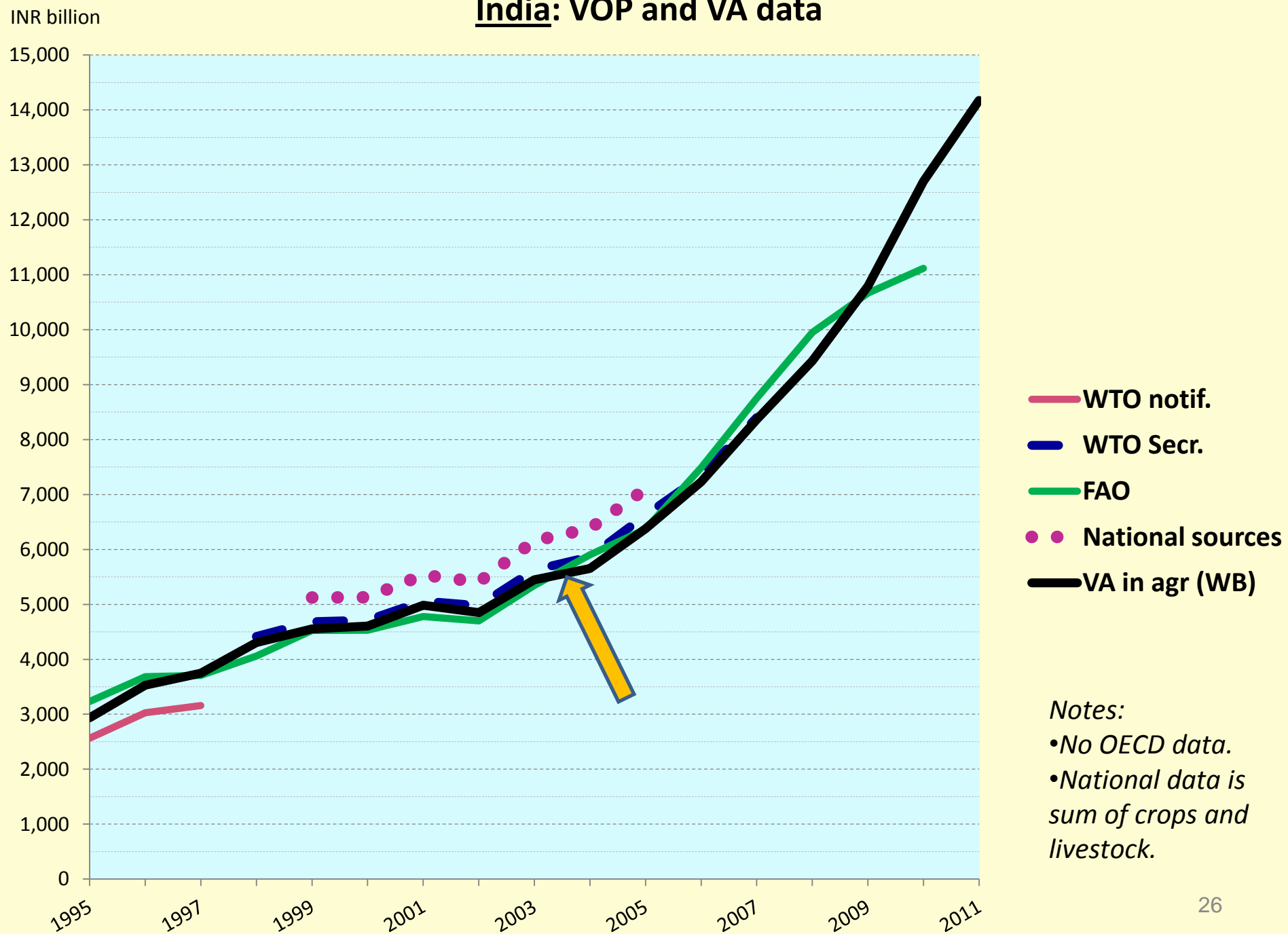
OECD

FAO

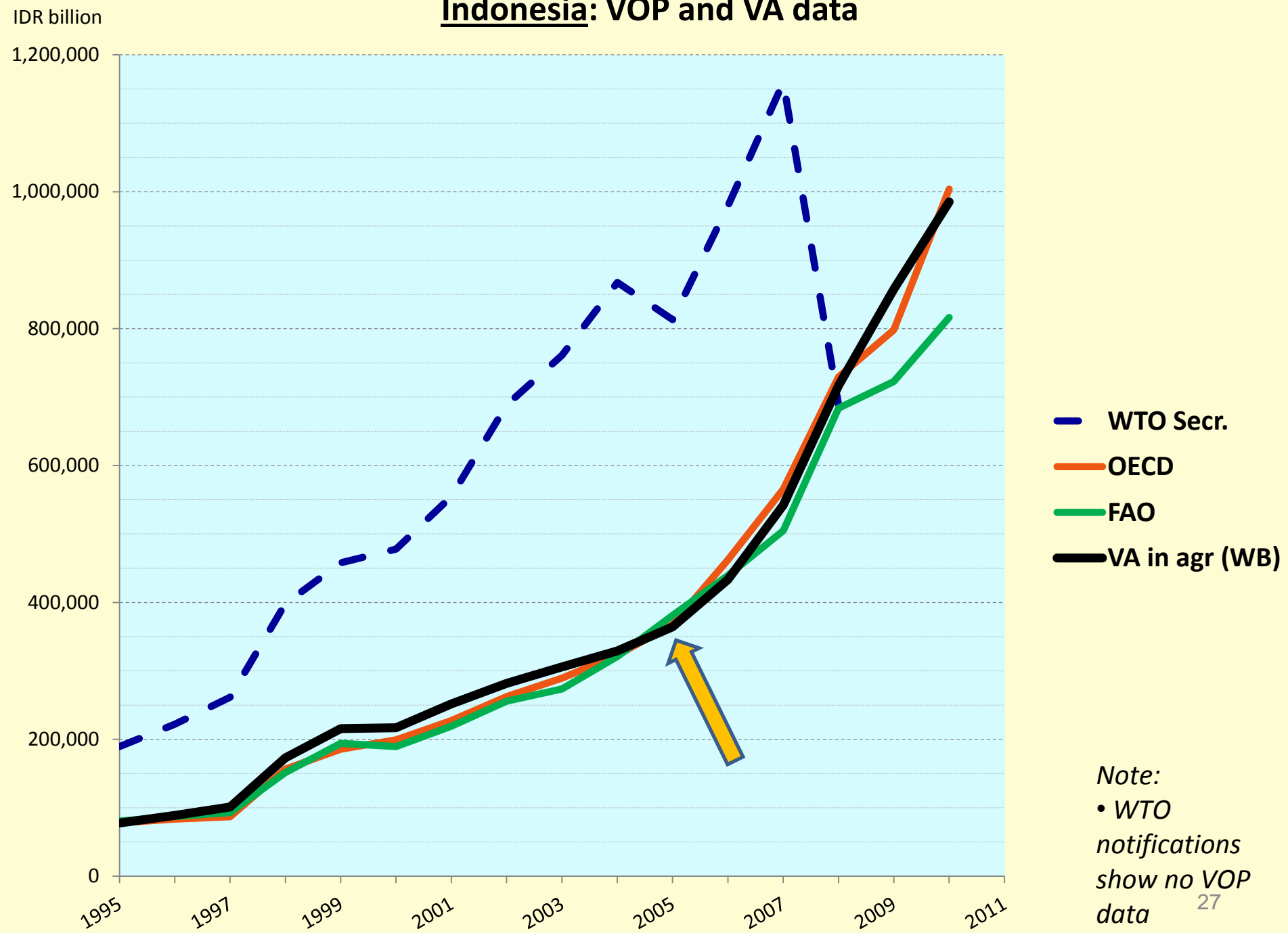
VA in agr
(WB)

* EC15, EC25, EC27

India: VOP and VA data

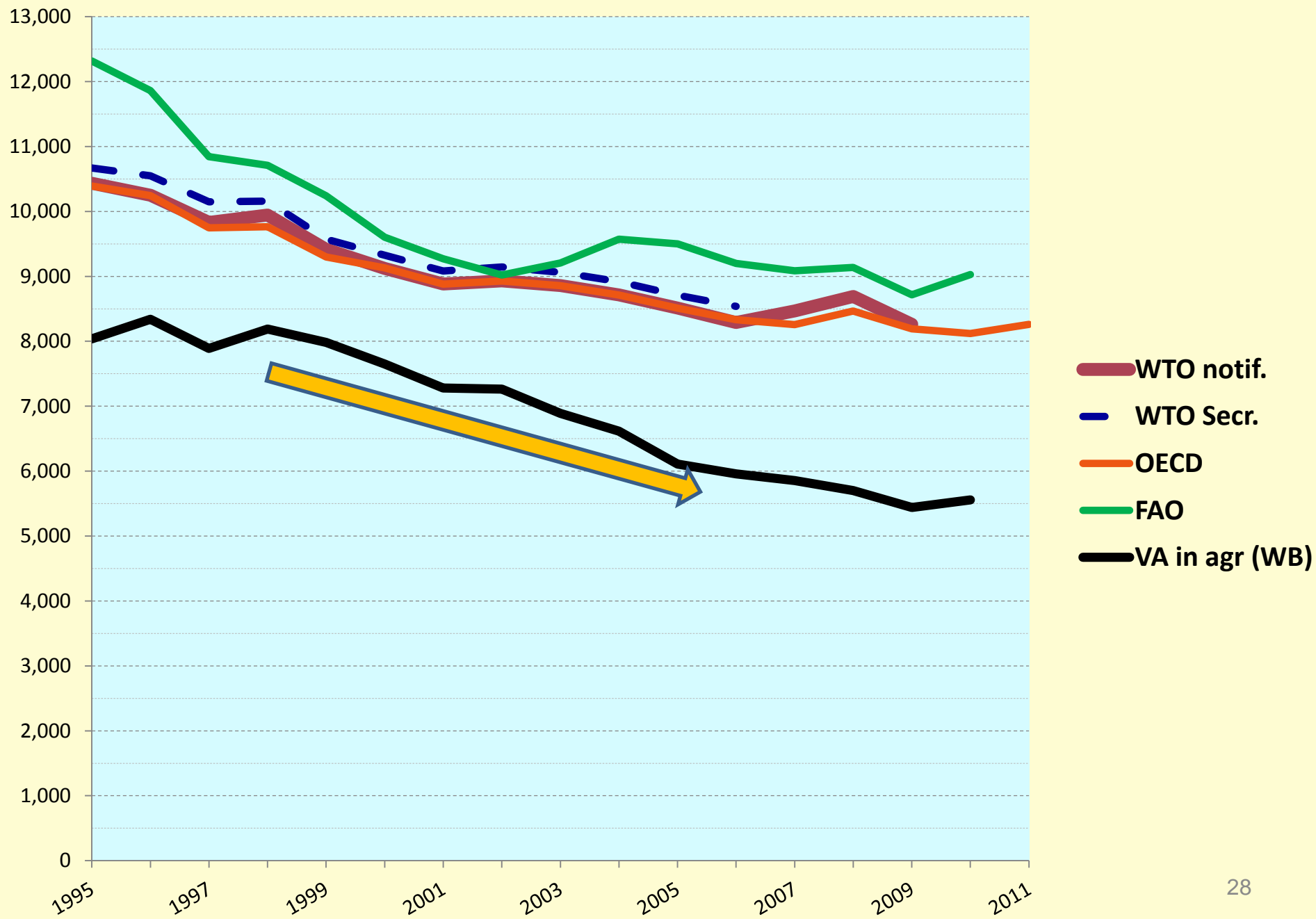


Indonesia: VOP and VA data



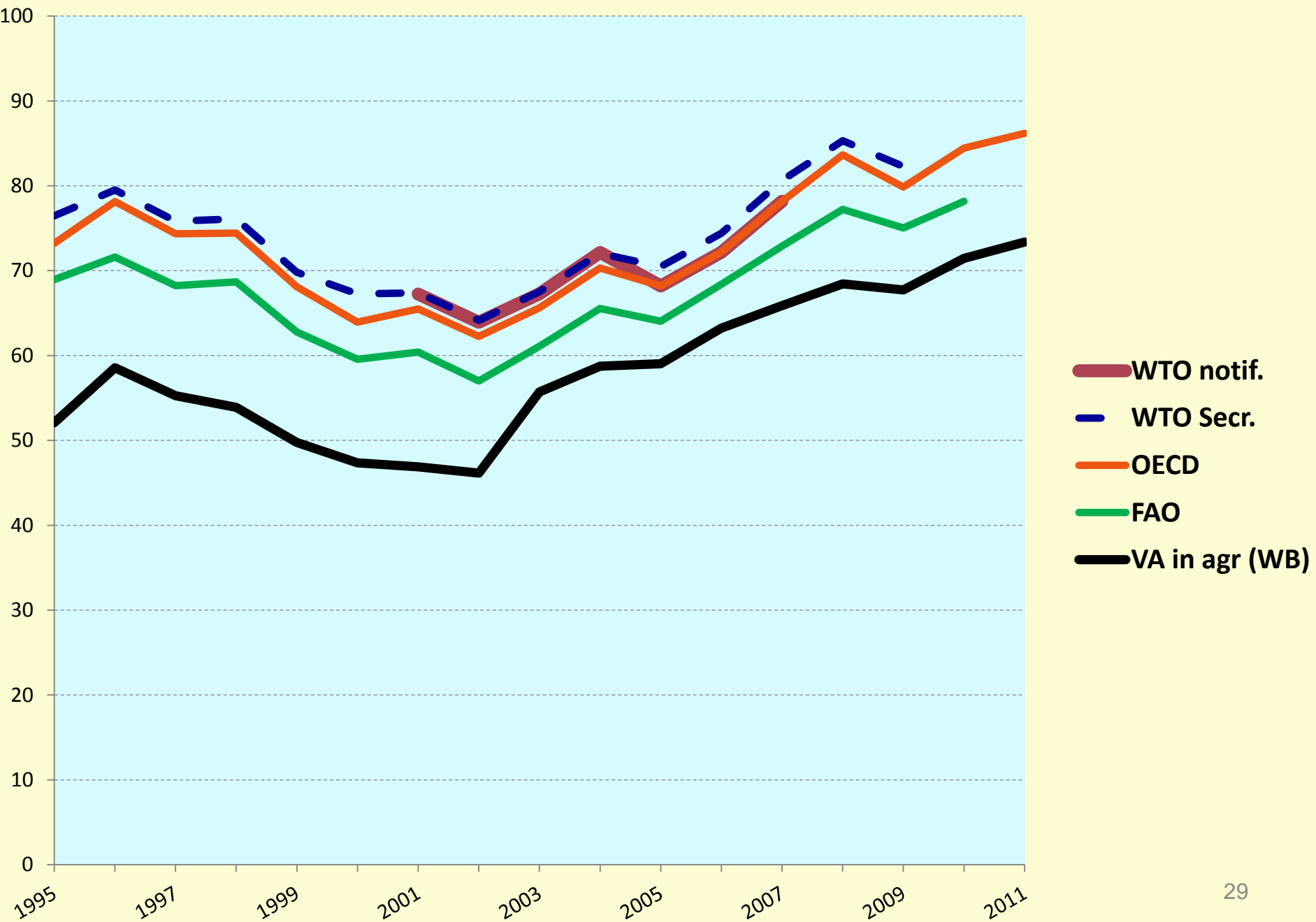
Japan: VOP and VA data

JPY billion

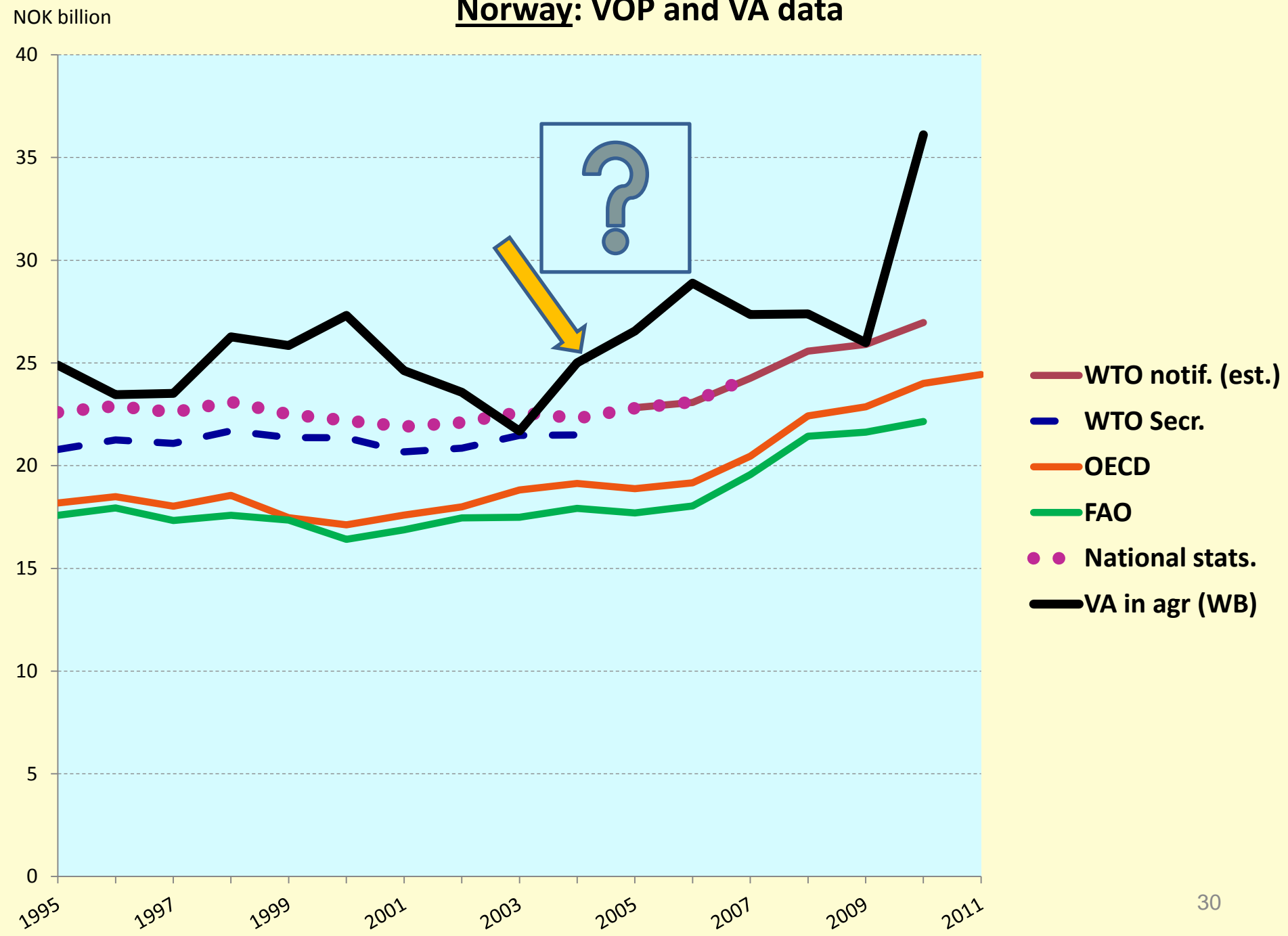


1991 pesos
billion

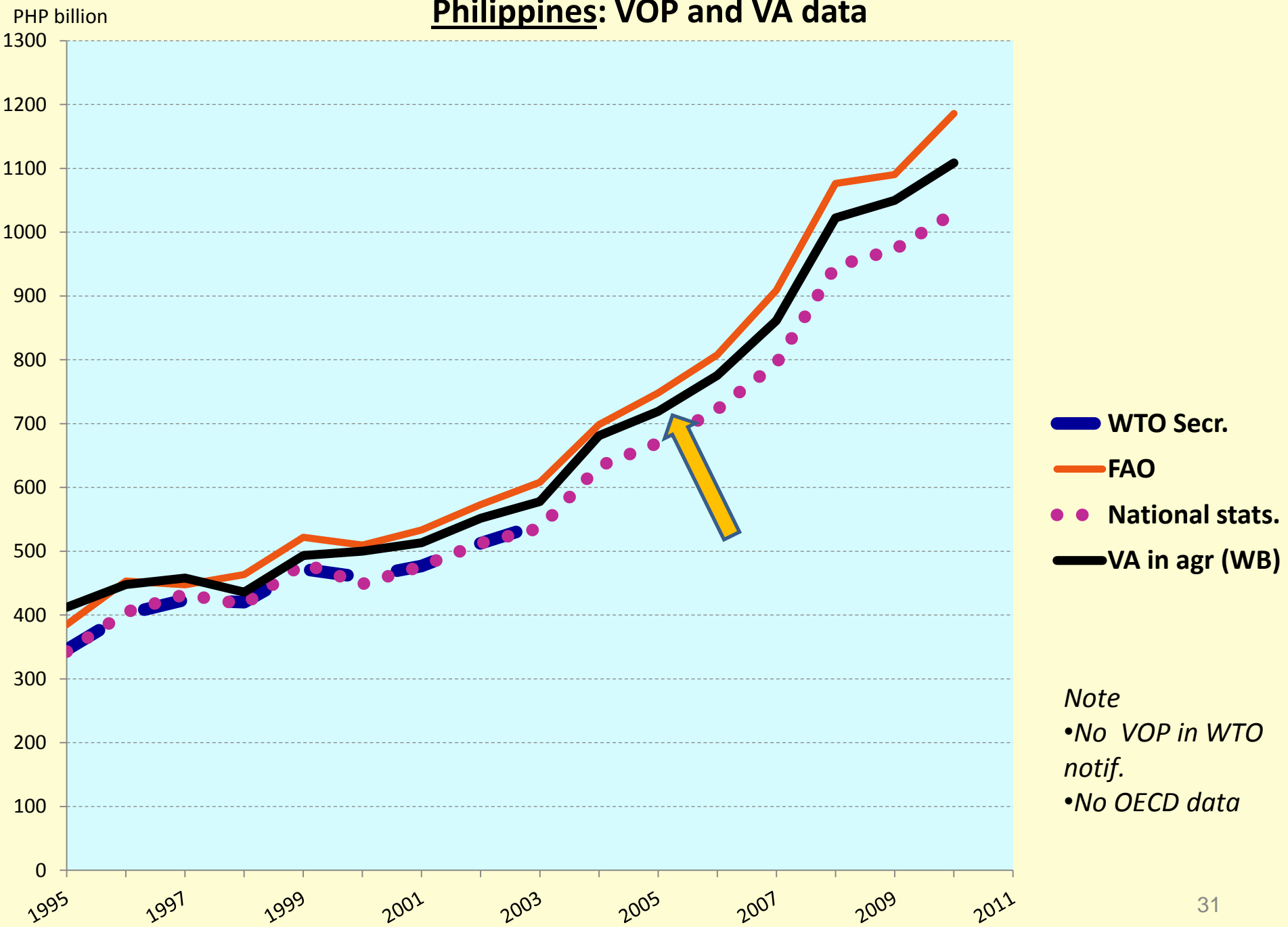
Mexico: VOP and VA data



Norway: VOP and VA data

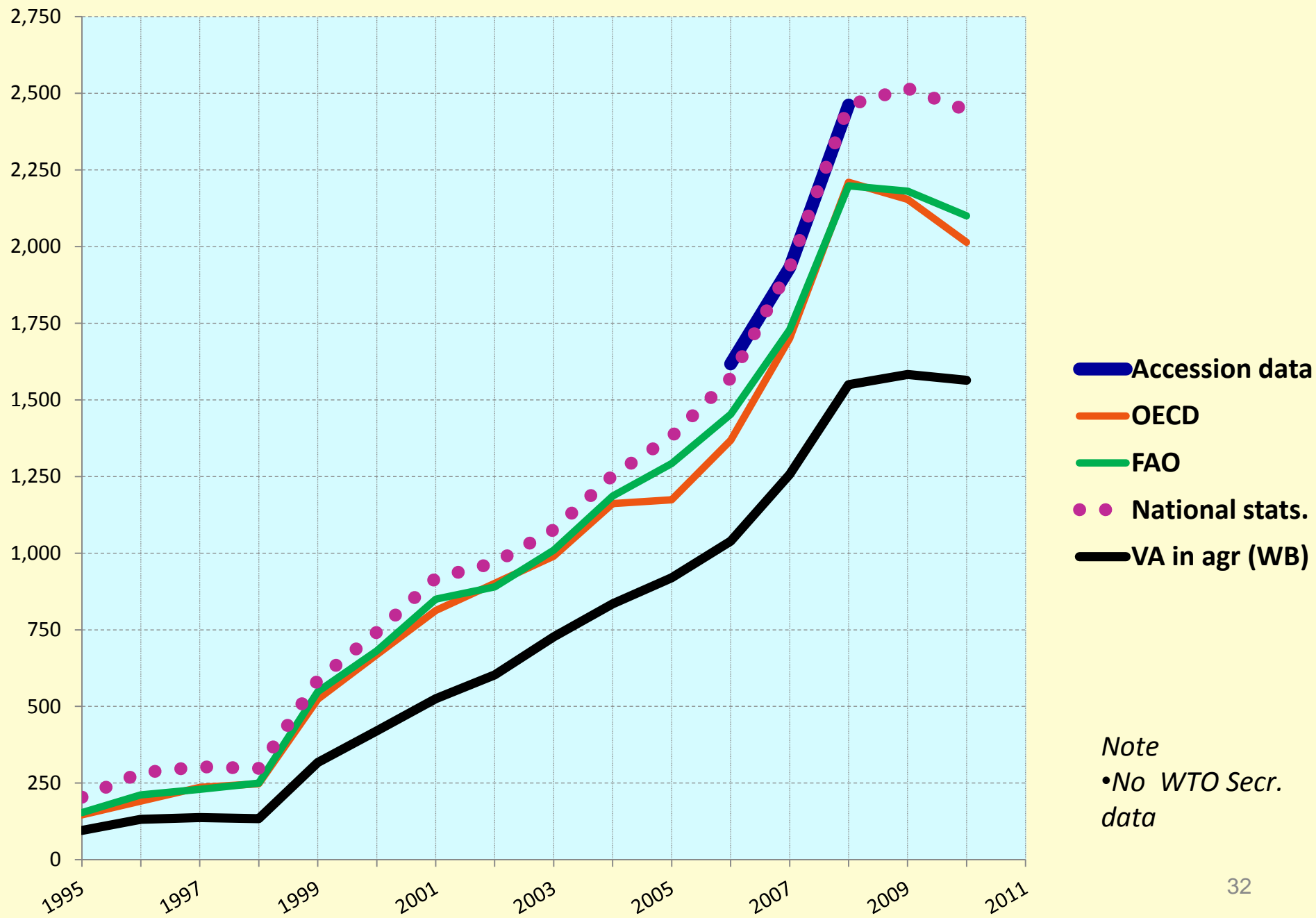


Philippines: VOP and VA data

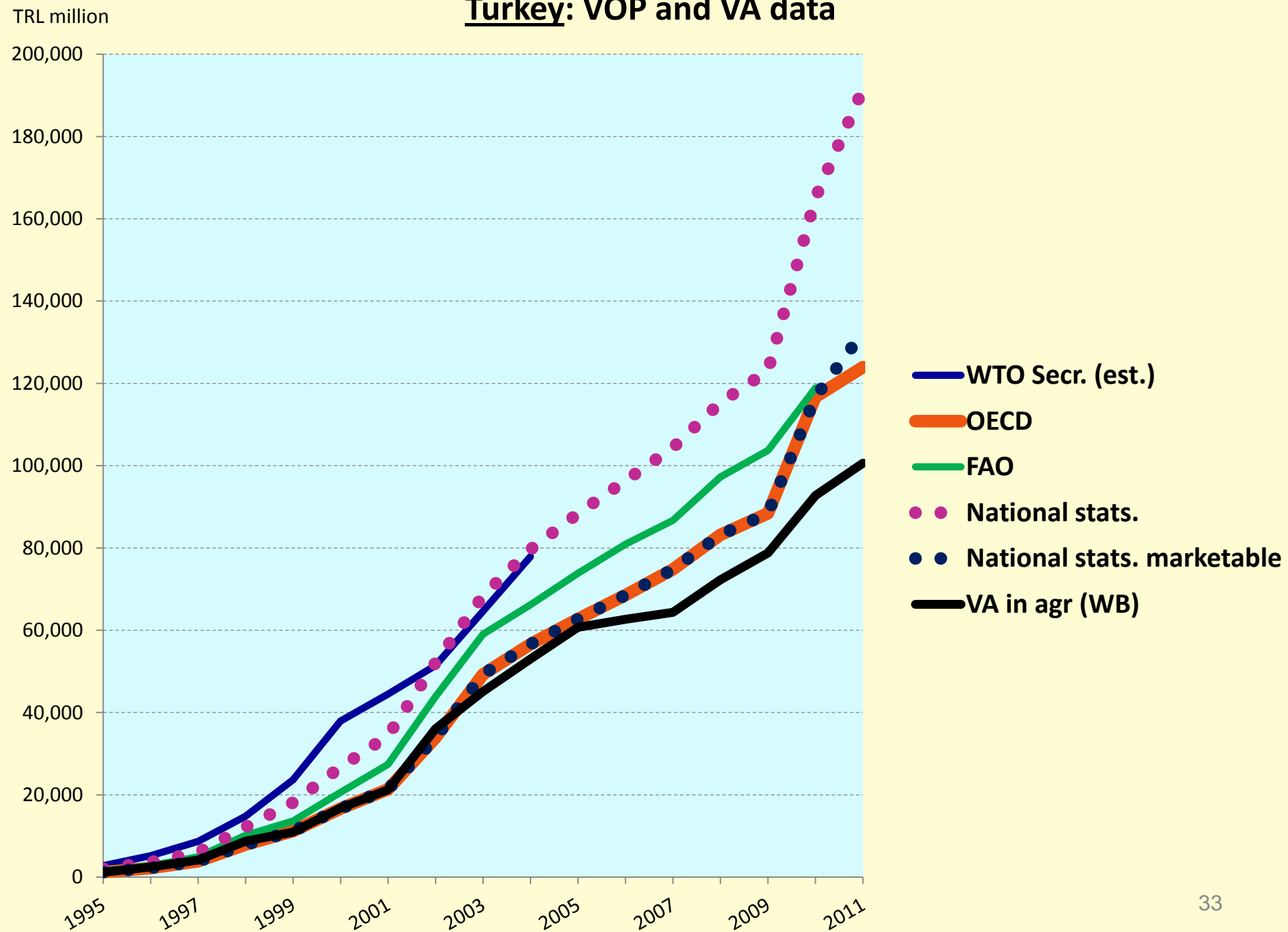


Russia: VOP and VA data

RUB billion

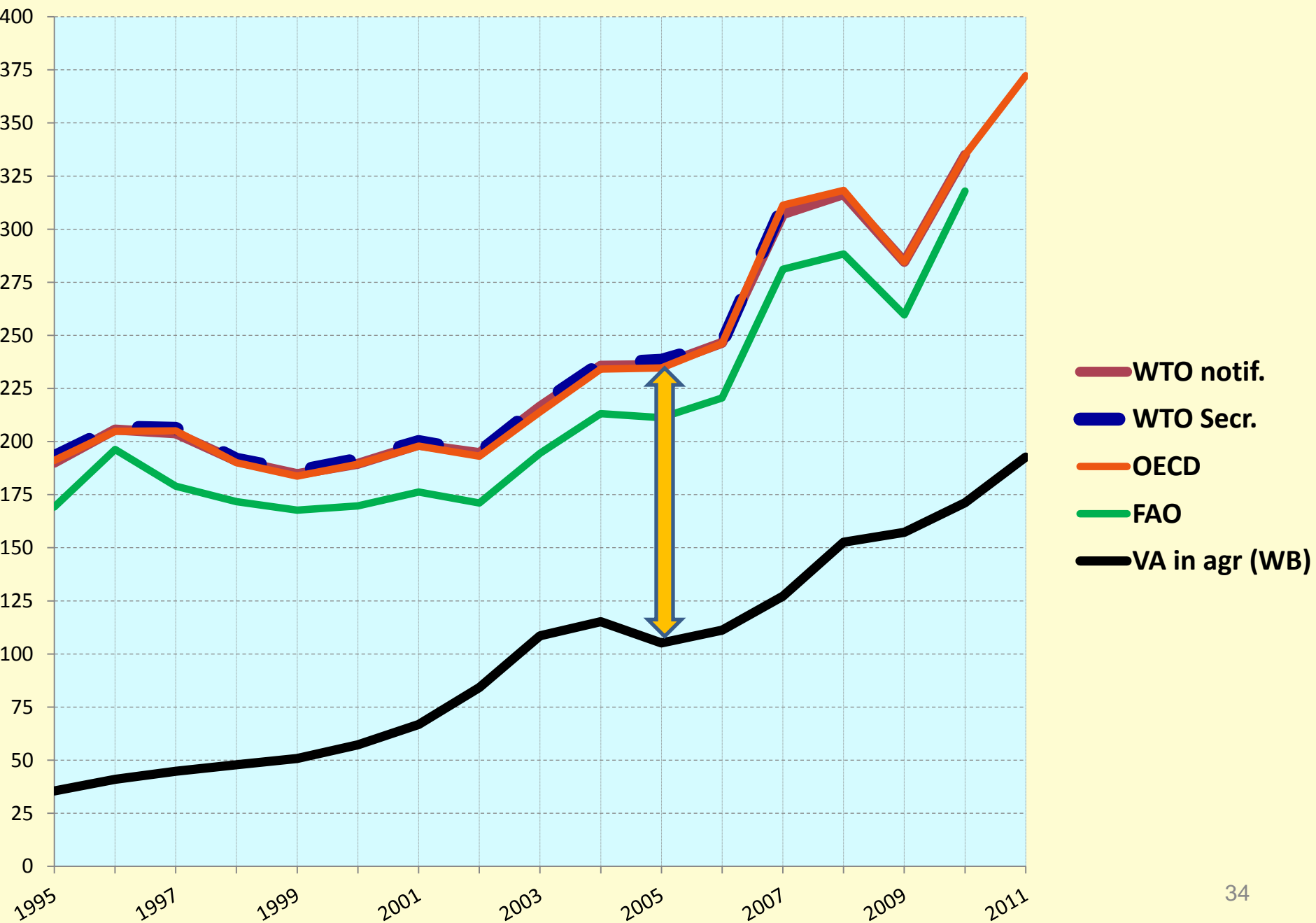


Turkey: VOP and VA data



United States: VOP and VA data

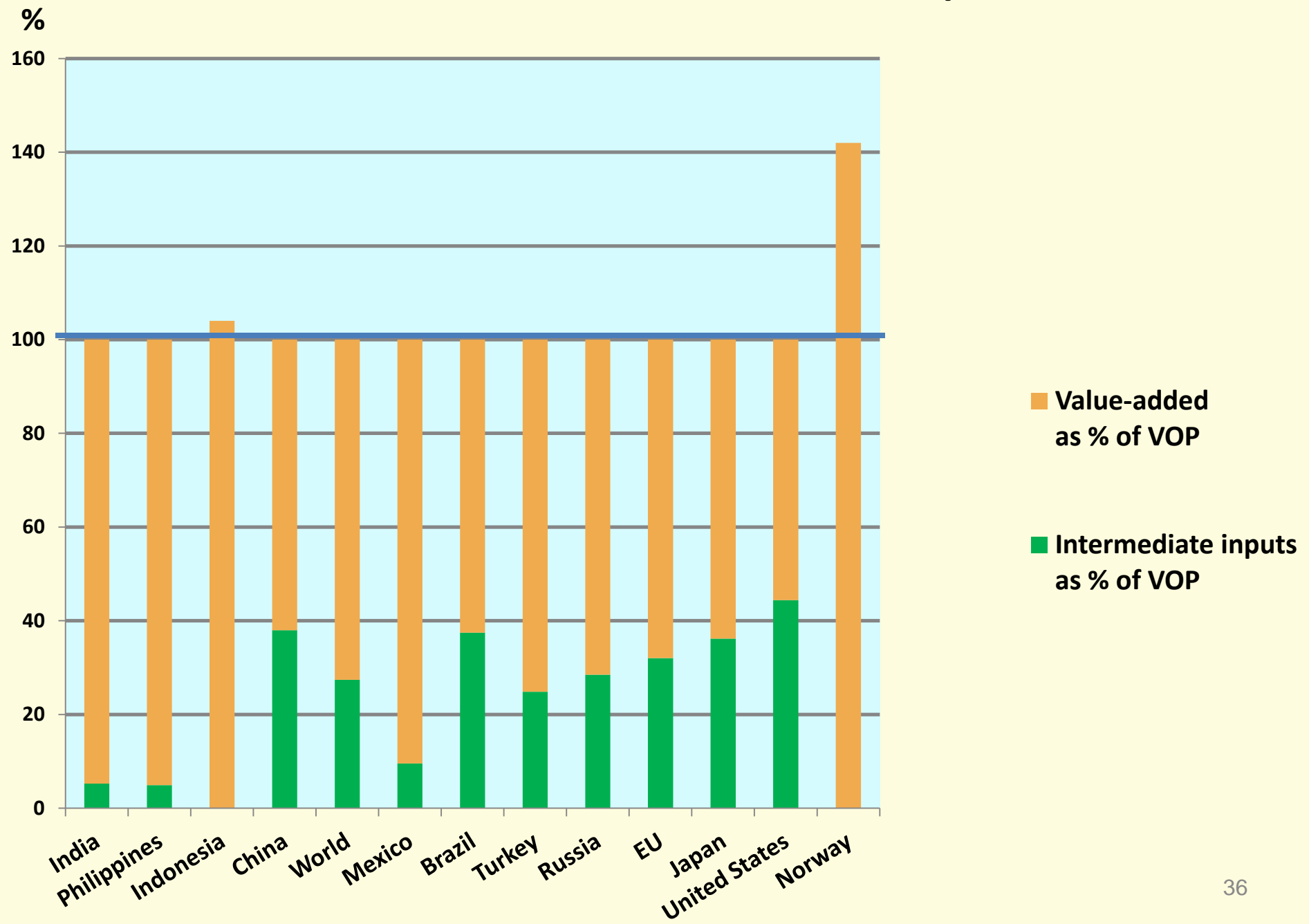
USD billion



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



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?

A photograph of a gravel driveway or path that curves through a lush, green forest. The path is made of light-colored gravel and is surrounded by dense trees and foliage. The scene is captured from a slightly elevated angle, showing the path leading into the woods.

Thank you for your attention!

Lars.Brink@hotmail.com