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Evaluating Agricultural Domestic Support in Developing Countries

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Selected Paper prepared for presentation at the International Agricultural Trade Research Consortium's (IATRC's) 2015 Annual Meeting: Trade and Societal Well-Being, December 13-15, 2015, Clearwater Beach, FL.

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Evaluating Agricultural Domestic Support in Developing Countries

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Outline

- **Introduction and Motivation**
- **A Review of Literature**
- **CGE model Strategies**
- **Trends in OECD's PSE**
- **Focus on Domestic Support in India**
- **Plan of further work**
- **Preliminary Conclusions**

Introduction and Motivation

- **Measurement of agricultural domestic support**
 - **For Policy Decisions** (at a high level, e.g. WTO negotiations)
 - *For Policy Modeling using Computable General and Partial Equilibrium models*
- **Our study aims at:**
 - **Review of literature on domestic support in developing countries**
 - **Analyze domestic support in developing countries**
 - **Develop a dataset for India's domestic support**

Introduction and Motivation

- **Data availability for developing countries**
 - **WTO notifications**
 - ***OECD PSE (Producer Support Estimates)***
 - **FAO's MAFAP (Monitoring and Assessment of Food and Agricultural Policies) initiative, extending/updating the World Bank Agricultural Policy Distortions dataset**
 - **Other national sources/primary studies**
- **We employ OECD PSE for analysis, briefly explain some strategies to model this in CGE (GTAP framework)**

Introduction and Motivation

- **MAFAP is comprehensive, includes a wide range of policy measures for a few developing countries; but this and other sources need further processing before analysis**
- **We employ OECD PSE for analysis, briefly explain some strategies to model this in CGE (GTAP framework)**
- **For India, we rely on the literature and some national sources**

Literature Review

- **What is PSE?**
- **“an indicator of the annual monetary value of gross transfer from consumers and taxpayers to agricultural producers.” -- Portugal (2002)**
- **Annual *monitoring and evaluation* (not *analysis*, initially) of agricultural policies by the OECD is “the most ambitious and inclusive effort in monitoring agricultural policies yet undertaken” – Josling and Valdes (2004)**

Literature Review

- **Is PSE universally acceptable?**
- **Contentious, since objectives of domestic support vary across countries, yet it is useful to be able to compare measures across countries**
 - **Developed countries protect an established (and relatively small) agricultural sector**
 - **Developing countries: much bigger share of this sector, so protection from imports and food security/sovereignty are key issues**

Literature Review

- **Has PSE been relevant over time?**
- **Depends on how is this used – mere comparison of total PSE for a country over time may not be appropriate.**
- **Compositional effects matter – Tangerman (2005). Total support may have remained the same or even increased, but the degree of decoupling with production has increased over time → much less distortive support, despite what we can see from the total PSE**

Literature Review

- **Links between Distortions and effectiveness of different domestic support programs at transferring income to recipients: Dewbre, Anton, and Thompson (2001) *analyzed* (as against, *monitor/evaluate*) the PSE data using the Policy Evaluation Model (PEM)**
- **PSE has 3 components: *Market Price Support (MPS)*, Budgetary payments (BP) and General Service Support Estimate (GSSE)**

Literature Review

- **Context for developing countries – focusing on studies on India**
- **Twin policy objective of self-sufficiency on supply side and low prices on demand side → incentivized over-production of staples at high cost and insulation: Mullen, Orden and Gulati, 2005 (MOG)**
- **Measurement of time-series domestic support: MOG (1985-2002) using PSE-like approach and Fan, Gulati and Orden (FGO) (2008) using a**

Literature Review

- **FGO: Subsidies have risen 90 times from 1966 to 1999 moved from GSSE-like public investment to develop infrastructure (in irrigation, credit and power) to MPS-like fertilizer and power subsidies.**
- **MOG: India's domestic support is counter-cyclical, reference prices (following Byerlee and Morris, 1993): difficult to measure, given India's volatile net trade status**
- **Cheng and Orden, 2007: Exchange rate misalignment may cost more than and even outweigh farmers' benefits from domestic support**

Literature Review

- **Martin et al (2014)**
 - **India's domestic support policies serve their goals of supply and demand**
 - **But this is at a very high cost both to India and the world (unmeasured burden of an insulating large country exporting price volatility)**
 - **The same goals are possible to achieve by much more effective reforms**

Literature Review

- **Villoria and Mghenyi (2015)**
 - **India's domestic support policies: Mostly trade-related MPS, but also Minimum Support Price (MSP) and public procurement, storage and distribution.**
 - **Indian policies' external burden indicated by Martin et al., is not substantial due to low trade volumes, so the domestic burden is a greater incentive for India to reform.**

CGE Model Strategies

- **OECD PSE's MPS part has 4 categories in the increasing order of decoupling**
 - **Single Commodity Transfers (SCT)**
 - **Group Commodity Transfers (GCT)**
 - **All Commodity Transfers (ACT)**
 - **Other Transfer Payments (OTP)**
- **Standard GTAP strategy is to convert all these in the form of SCT → we lose a lot of information and modeling ability of decoupling, for the luxury of a uniform model treatment**

CGE Model Strategies

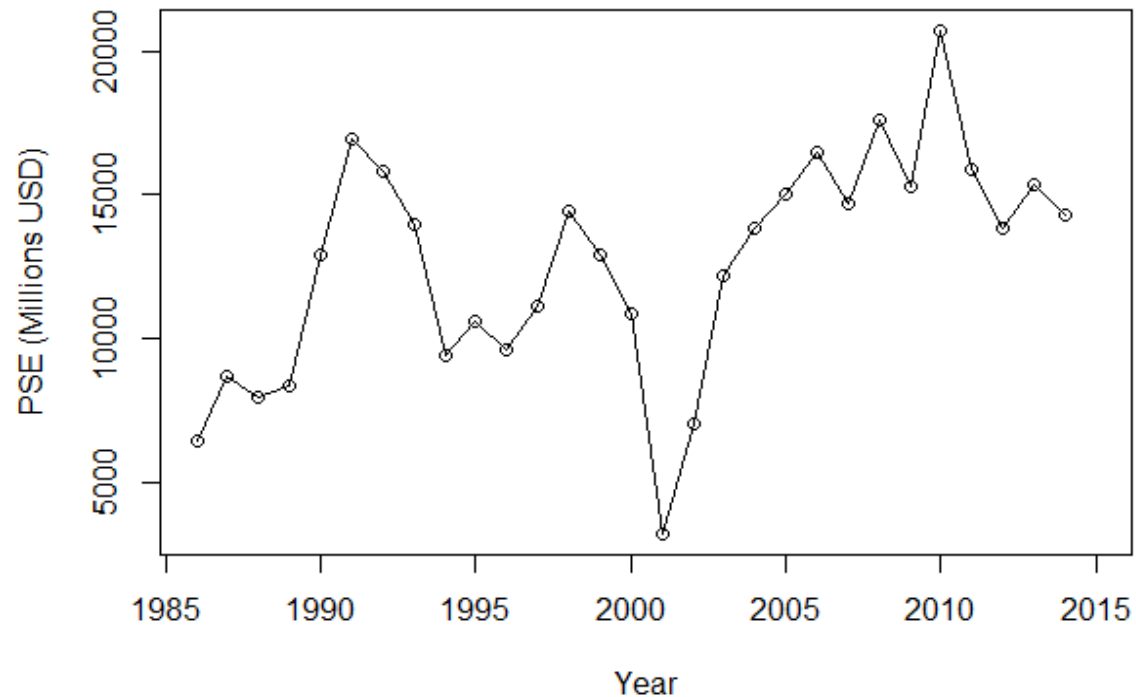
- **Recent work (Urban, Jensen and Brockmeier, 2014) has improved upon this, by defining within the model/data, multiple types of domestic support instruments in-line with the OECD categories.**
- **Distinction between ad valorem and specific payments of domestic support is another area of work to pursue along the lines of models like CAPRI and tariff modeling done in Narayanan and Villoria (2013).**

CGE Model Strategies

- **Border price support measures in the OECD data are not included in GTAP, as it already has tariff data, to avoid double-counting**
- **Other sources of data**

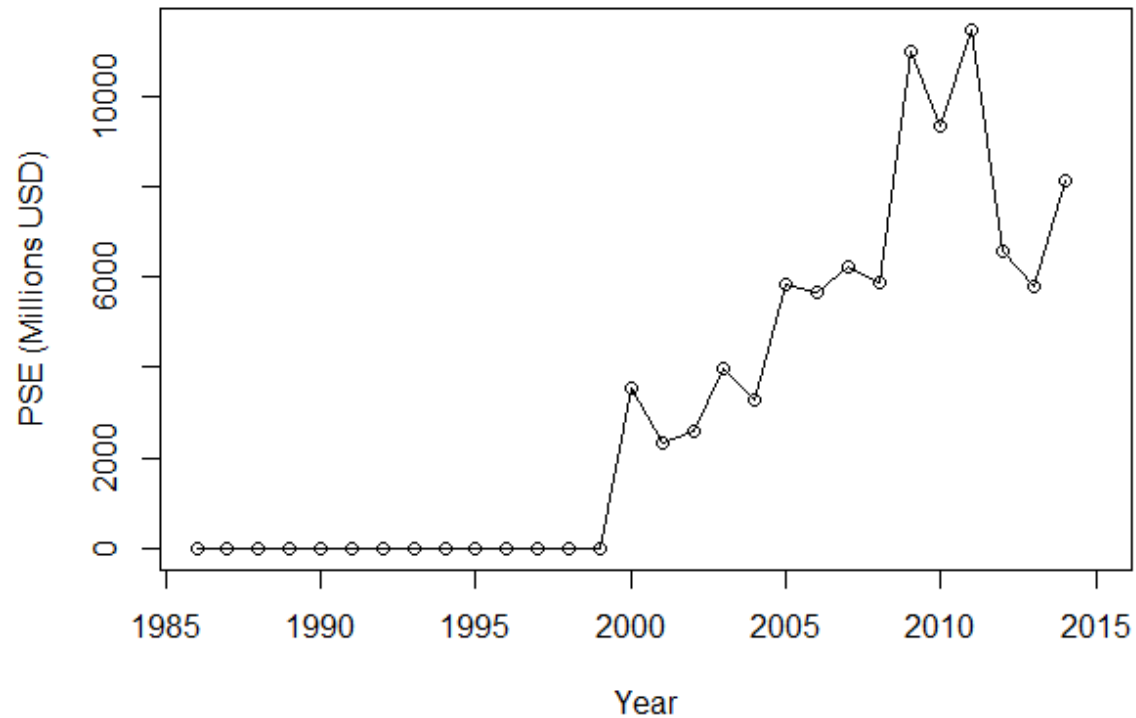
Trends in OECD's PSE data (1985-2014)

Turkey



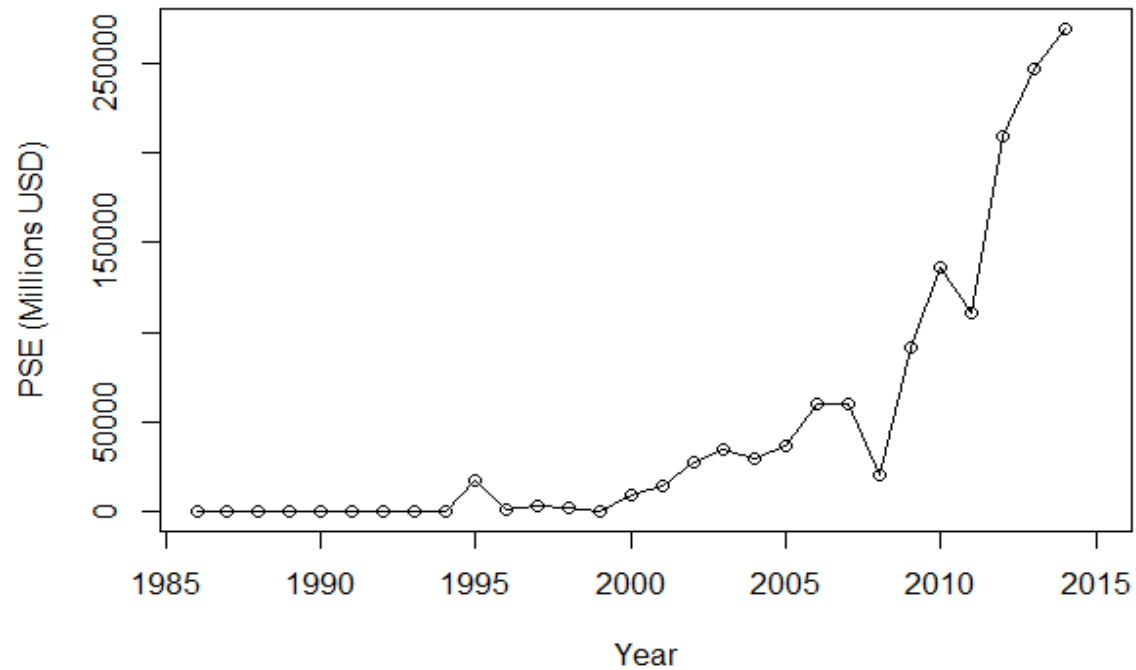
Trends in OECD's PSE

Brazil



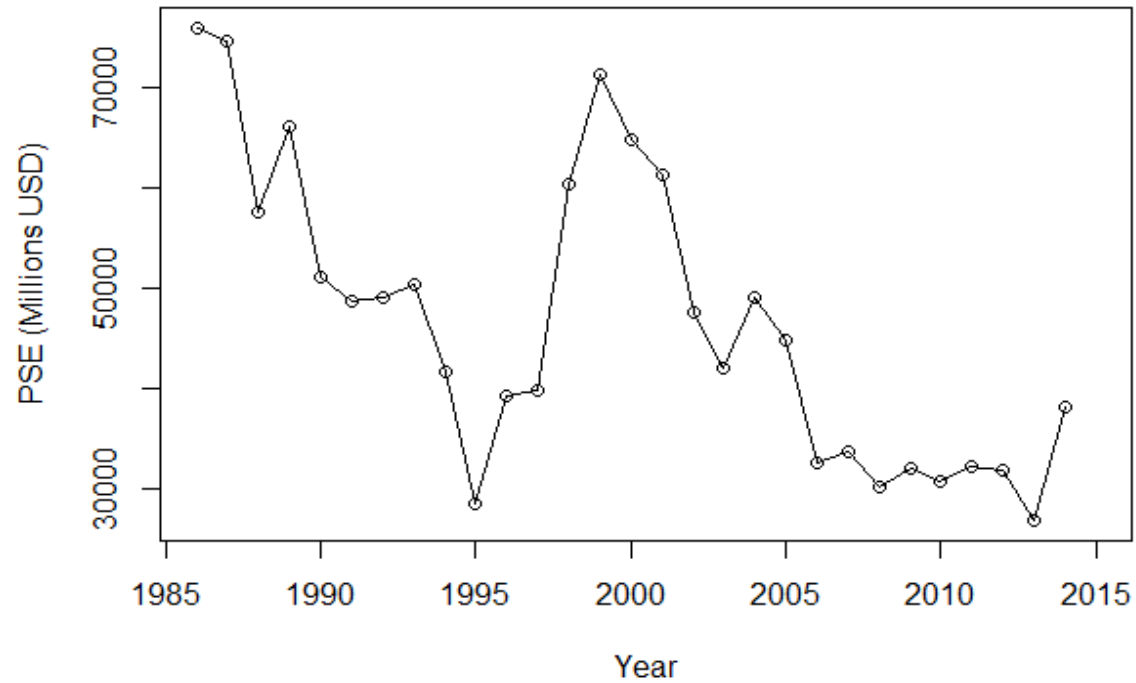
Trends in OECD's PSE

China



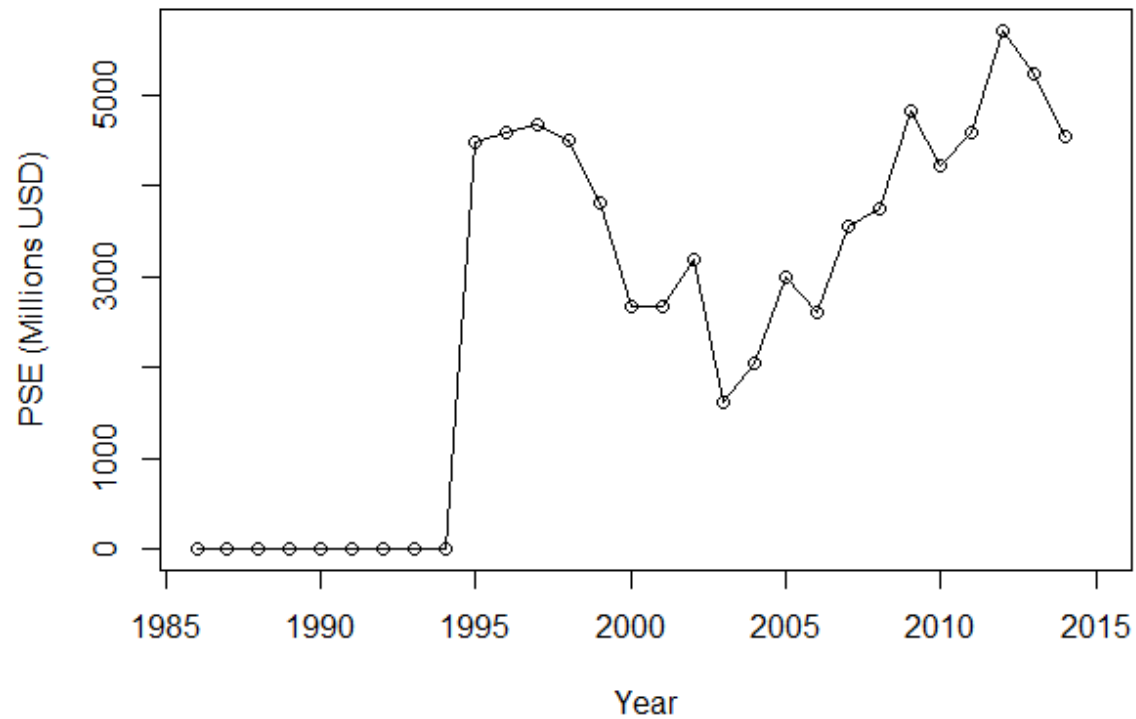
Trends in OECD's PSE

Israel



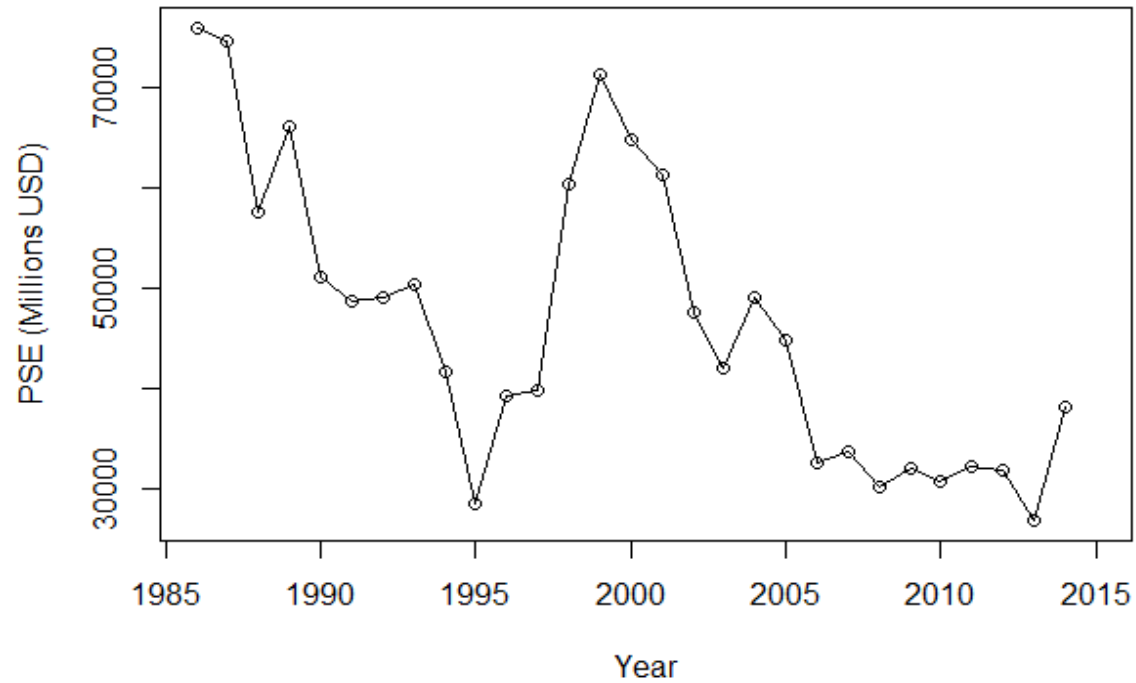
Trends in OECD's PSE

Colombia



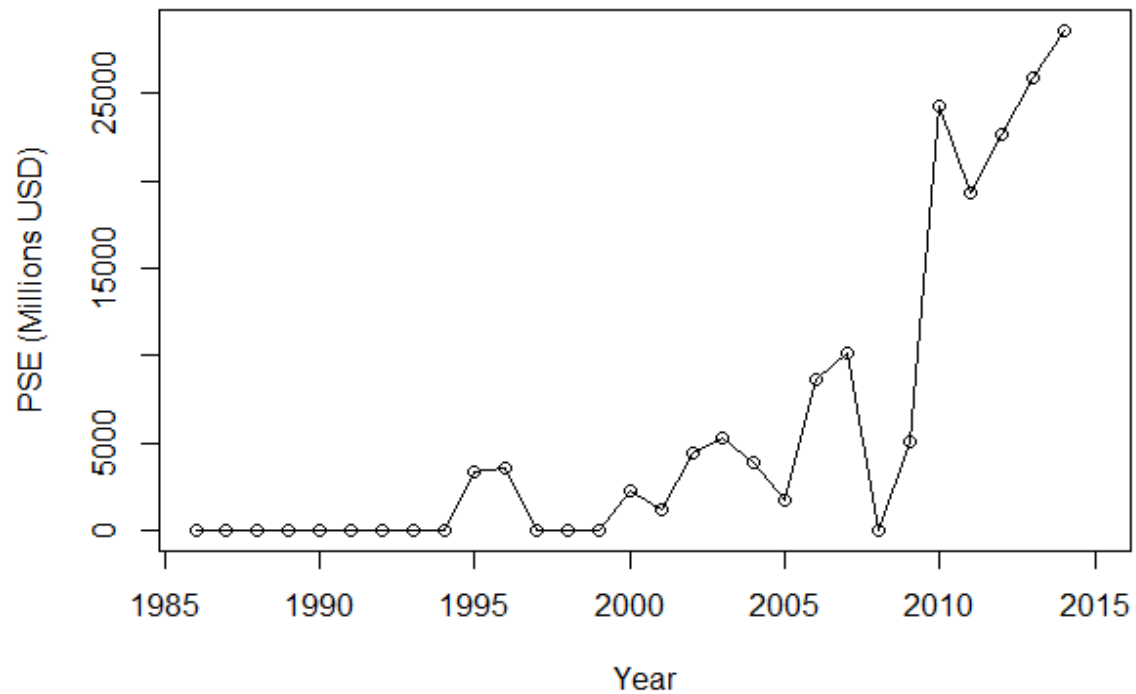
Trends in OECD's PSE

Mexico



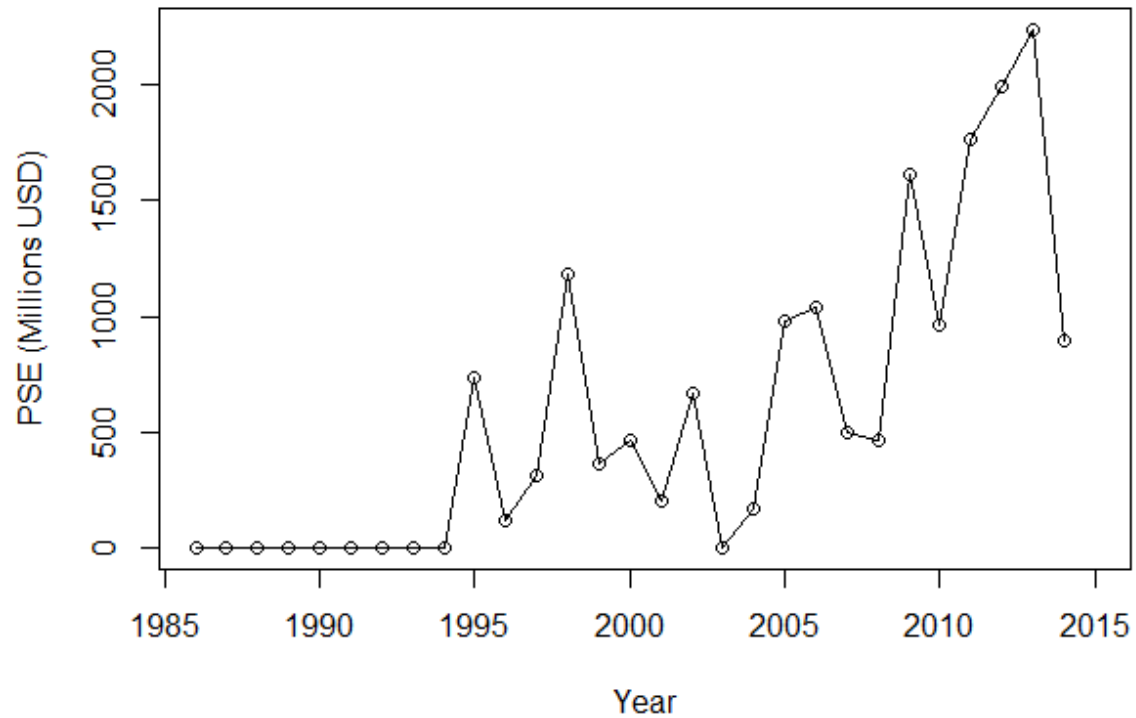
Trends in OECD's PSE

Indonesia



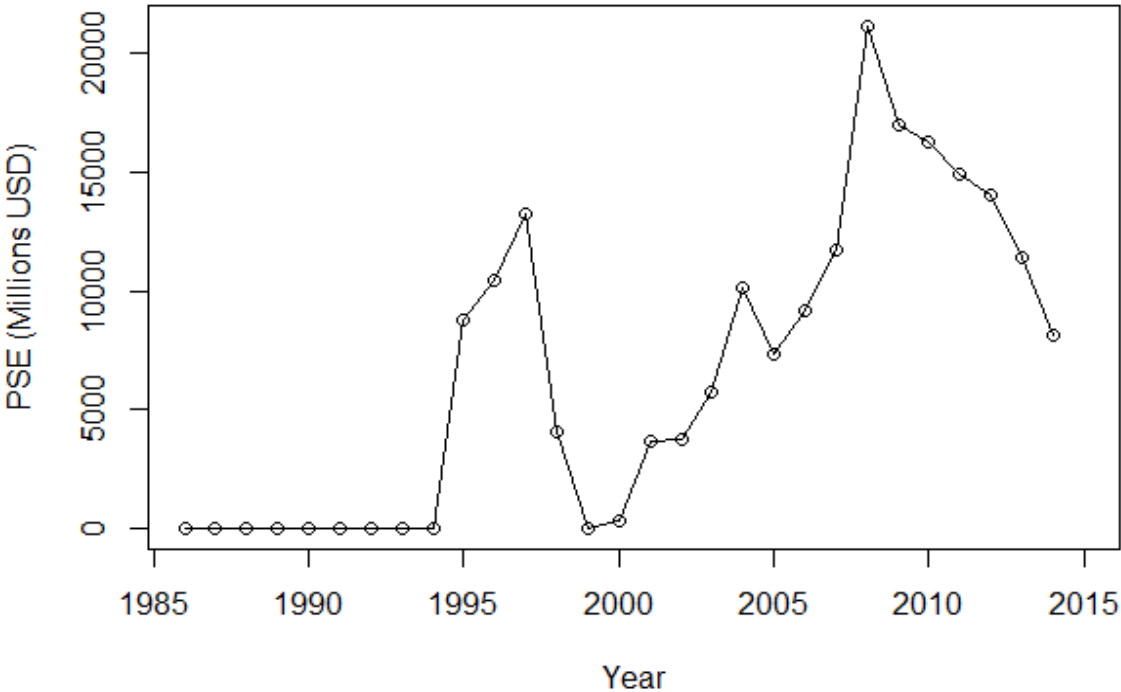
Trends in OECD's PSE

Kazakhstan



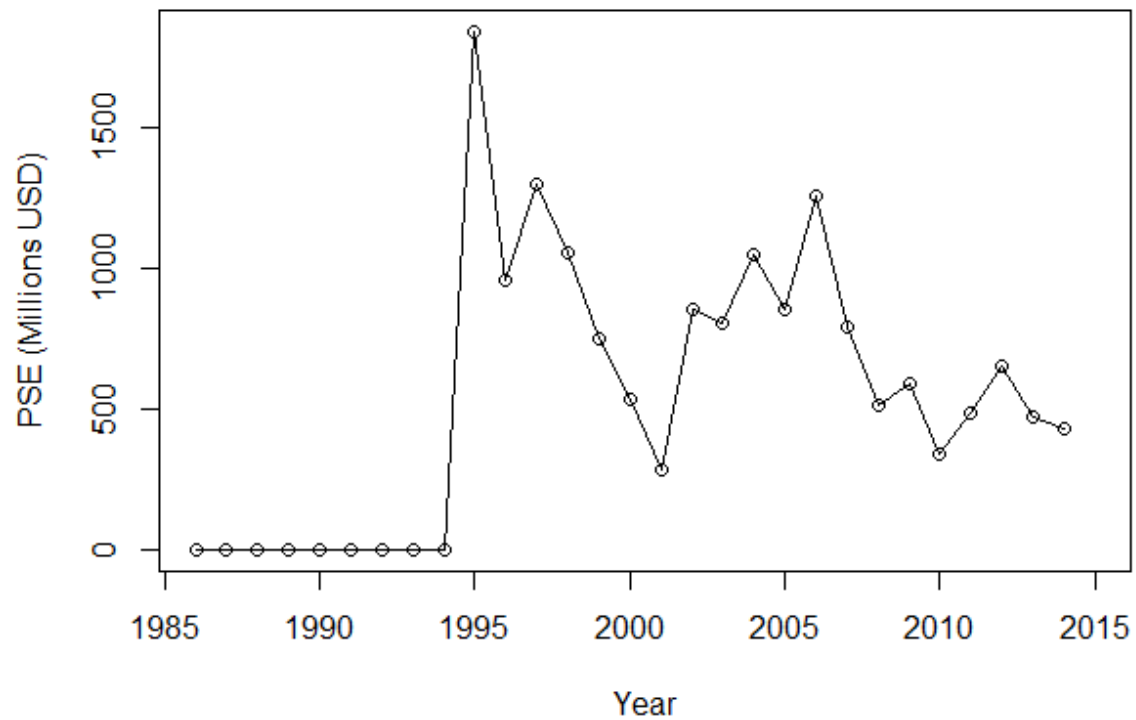
Trends in OECD's PSE

Russia



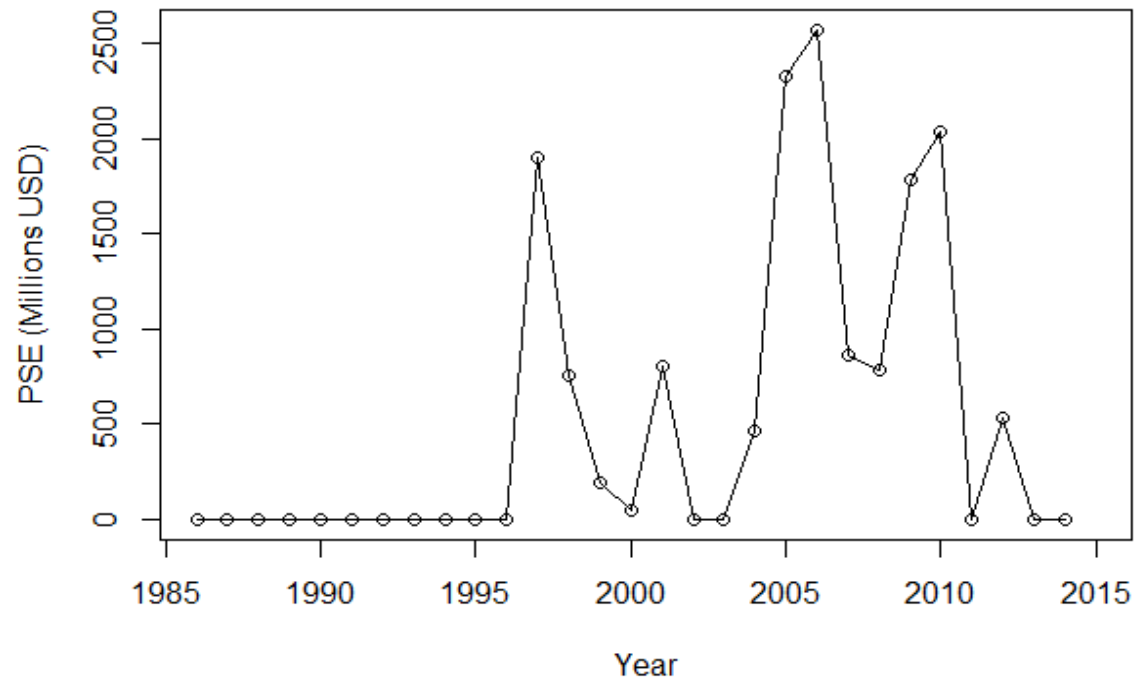
Trends in OECD's PSE

South Africa



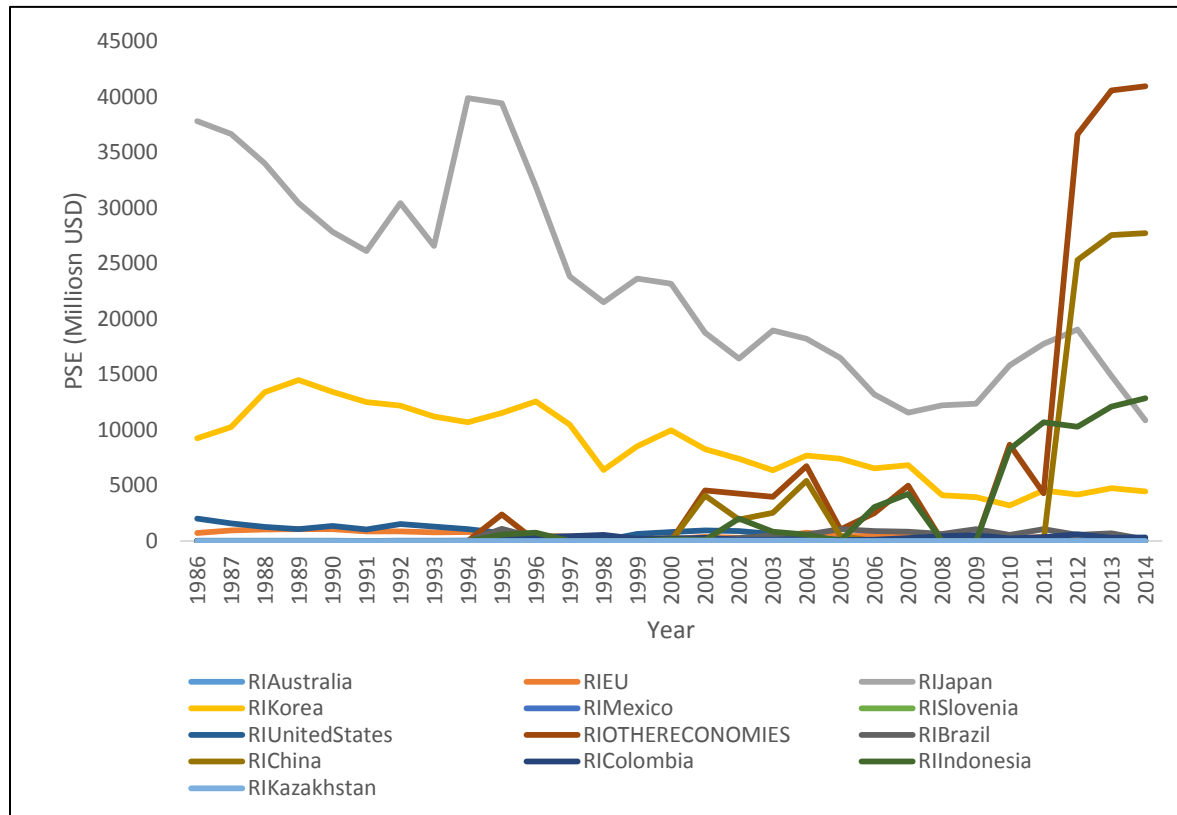
Trends in OECD's PSE

Ukraine



Trends in OECD's PSE

An example of single commodity transfers: Rice



Analyzing Domestic Support in India

- **Nominal Rates of Assistance (NRA) computed in the literature may be positive or negative, depending on whether India was a net exporter or net importer for a given period – as the reference prices change accordingly.**
- **Villoria and Mghenyi (2014), for example, estimates the NRA for wheat as 1% and NRA for rice as -27%, stable from 2003 to 2013.**
- **Minimum Support Prices for rice in 2015-16: INR 1410 (about \$200) per quintal – this is about 50 cents per pound of rice. The public distribution price for rice is about 20 cents per pound.**

Plan for further work

- **Further analysis and comparisons of domestic support payments across countries, both developing and developed, and across categories and levels of decoupling**
- **Estimation and analysis of domestic support in India**
- **CGE-based assessment of domestic support policy reforms in developing countries**

Preliminary Conclusions

- **Analyzing various components of PSE, as well as its sector-wise allocation is essential for policy analysis and modeling**
- **Trends of total domestic support payments vary across countries, but broadly they increase over the years for many major developing countries.**
- **This increasing trend is not seen in developed countries, wherein they are either stagnant or decreasing**

Preliminary Conclusions

- **Crop-specific payments, particularly for major crops like Rice, are on the rise in developing countries like China, while such payments have been falling in developed countries**
- **Estimating domestic support in developing countries in general and India in particular is challenging, mainly because: their policy priorities are different from the developed countries; India's net-trade position is volatile.**

Questions/Comments?

Thank you very much!

Acknowledgement:

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