

Ministry of Agriculture and Agrarian Reform



**POLICY BRIEF NO 28**

# **Agricultural support indicators**

(Producer Support Estimate – Total Support Estimate)

**Mouhamad Ali mouhamad**

NAPC Researcher

**August 2008**

With the support of  
Project GCP/SYR/006/ITA





# Introduction

Agricultural support is considered one of the most discussed subjects in organizations and institutes that research in agriculture and food because of its impacts which classified negatively in some cases (among countries) where agricultural support results in overproduction and causes dumping<sup>1</sup> in other countries markets. Agricultural support in developed countries leads to surpluses in production that lower world market price which affects farmers' income in developing country negatively to earn more from agricultural production and exports taking into account that agricultural support in developed countries is higher comparing with developing country although that agriculture share in Gross Domestic Product and labor force in developed countries is much less comparing with developing countries. According to Organization of Economic Cooperation and Development data, Producer Support Estimates in large economies such as United States accounted 16% and European Union accounted 32% in 2005 which is much higher comparing with many developing countries such as China 8% - Brazil 6% where agriculture plays a significant role in its economies. It is worth mentioning that the value of government support provided to farmers in OECD countries accounted US \$ 280 billion (table 1).

At the state level, negative impact of agricultural support comes from equity of distributing it where The biggest and richest 25% of farmers receive 90% of all support provided in the USA and 70% in the EU, while tens of thousands of small farm households benefit little from current farm policies<sup>2</sup>.

This policy brief discusses agricultural support indicators , mainly tow used by OECD to measure agricultural support (Producer Support Estimates & Total Support Estimates ) and talks about definition, indicator's component, and OECD data related to OECD in addition to USA and EU as the main two members. In addition, making a comparison with other developing countries that aren't OECD members.

## Defining and measuring agricultural support

OECD defines agricultural support as it is the annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures that support agriculture which increase farmers' incomes and reduce their production costs, regardless of their objectives and impacts on farm production and income, or consumption of farm products.

Agricultural support is measured by adding up two elements:

- The difference between domestic and world prices for commodities multiplied the produced amount.
- Budgetary payments may be granted to farmers which is based on a group of factors such as production, planted area,...etc

## Most important indicators used to estimate agriculture support

### *Producer Support Estimate (PSE)*

The Producer Support Estimate has been developed by the OECD as an indicator to monitor agricultural policy reform in some developed countries and some non-OECD countries.

---

<sup>1</sup> Dumping occurs when a product is sold at a lower price in an import market than it is sold in the domestic market of the producing country.

<sup>2</sup> OECD "The Doha Development Round of trade negotiations: understanding the issues"

PSE in addition to Total Support Estimate are considered as the two key indicators used by the OECD to measure agricultural support.

The main purpose of calculating PSE is to show support estimate every year and to make a comparison among countries aiming at monitoring and evaluating agricultural policy reforms in such countries where support estimates provides an important contribution to the dialogue related to agricultural policies and trade.

PSE by definition is the annual monetary value of all gross transfers from consumers (arising from policy that keeps domestic prices above world prices) and from taxpayers (arising from monetary policies) to producers measured at the farm and arising from policy measures that support agriculture regardless of their objectives and impacts on farm production and income.

PSE is expressed by absolute value (\$ billion) or as a percentage of farm receipts which make the estimates acceptable on large scale and useful to compare agricultural support among countries and by time, for example a PSE of 20% means that 80 cents of every dollar of farmer's gross receipts comes from sales at world market prices while the 20% shows the support received by farmer.

PSE consists of the following components (box 1)

Box 1. PSE components

Producer Support Estimate (sum of A to G)

A. support based on commodity output

A. 1 Market Price Support

A.2 Payments based on output

B. payments based on input use

B.1 Variable input use

B. 2 Fixed capital formation

B.3 On-farm services

C. payments based on current area / animal number/ receipts / income production required

C.1 of a single commodity

C.2 of a group of commodities

C.3 of all commodities

D. payments based on non- current area / animal number/ receipts / income production required

E. payments based on non- current area / animal number/ receipts / income production not required

E.1 Variable rates

E.2 Fixed rates

F. payments based on non-commodity criteria

F.1 Long-term resource retirement

F.2 Specific non-commodity output

F.3 other non-commodity criteria

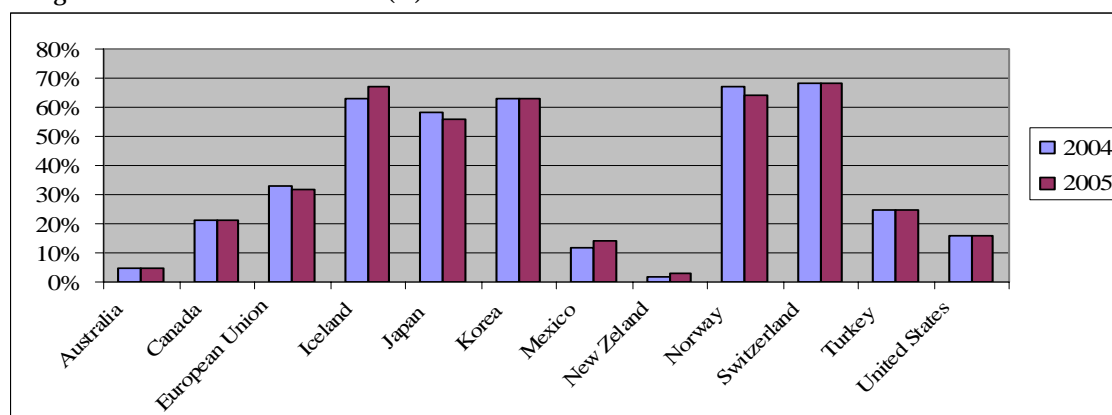
G. payments which is not classified under the appropriate categories because of a lack of information

Source: OECD database

Market Price Support is the largest component of the PSE and accounts about 70% of total support provided for commodity production. Market Price Support expresses the transfers from consumers and taxpayers to agricultural producers from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity measured at the farm gate level.

Government support varies widely across OECD countries. The PSE in the European Union was 32% of farm receipts in 2005, while in Australia only 5%. The largest proportions of government support are found in Switzerland, Iceland, Norway, and Korea, while the lowest are found in Australia and New Zealand (figure 1)

Figure 1- PSE in OED countries (%) 2004 – 2005



Source: OECD database

As for PSE values, it is shown in table 1 for OECD, EU, and USA

Table – 1 PSE in OECD – EU – USA 1996 – 2005 (% of farm receipts)

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
OECD	\$ billion	256	235	254	272	244	219	235	260	291	280
	%	29	29	33	35	33	29	32	31	30	29
EU	\$ billion	119	109	113	115	89	85	101	122	149	134
	%	33	34	37	40	34	32	37	37	36	33
USA	\$ billion	29	30	47	56	52	51	40	36	43	41
	%	13	14	22	26	24	22	18	15	16	16

Source: OECD database

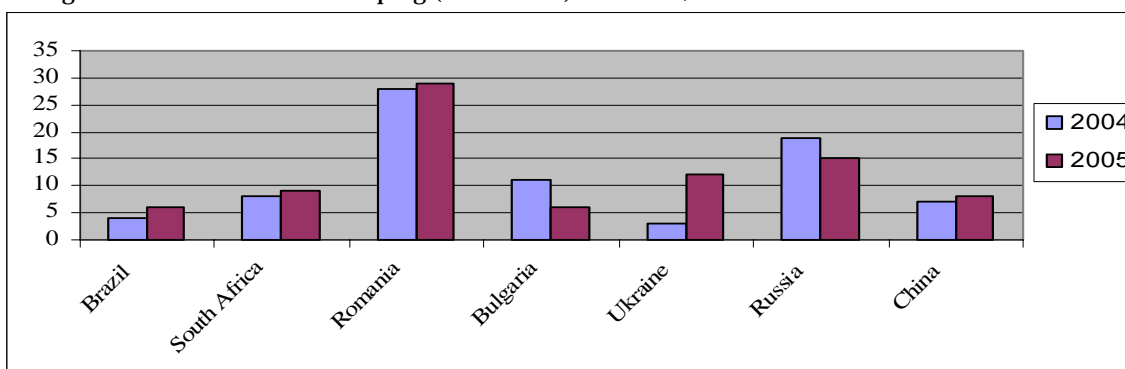
Table 1 shows the uneven direction to the agricultural policy reform impact on agricultural support in the mentioned countries where the value of government support provided to farmers was \$280 billion in 2005 while in 2001 (\$billion219) and in 1996 (\$billion256).

PSE as a percentage of farm receipts in OECD accounted for 29% of farm receipts in 2005. The proportion is marginally lower than the recorded in 2004, while it is the same as it was ten years ago.

Uneven direction can also be seen in data related to EU and USA which still have high levels of agricultural support which means policy reforms are not reducing protection but, in turn, are changing the forms of protection.

Agricultural support estimates also vary in some developing countries (non OECD members) but not so widely like the case in the developed countries. Figure 2 shows that PSE was the highest in Romania with is OECD average for PSE while the lowest PSE value was in Brazil.

Figure 2 – PSE in some developing (non-OECD) countries, 2004-2005



Source: OECD database

Both figures show a big paradox those developing countries, where agricultural communities are more numerous than in developed countries, do not protect<sup>3</sup> agriculture as much as developed countries do. Thus, percentage PSE in Brazil is 6% and in China is 8%, much lower than in the EU (32%) and in USA (16%). This is striking given the significant weight of agriculture in the GDPs of developing countries: 8% in Brazil, 13% in China, and 18% in India while the share of agriculture in total GDP in developed countries such as the EU and the USA does not exceed 3%.

As for support estimates provided to a given commodity OECD measured PSE for every commodity (in absolute and percent value) until 2005. After 2005 OECD adopted in categorizing PSE the Single Commodity Transfers (SCT) aiming at reflecting the flexibility given to farmers' production decisions within the various policy measures.

*Single Commodity Transfers (SCT):* the annual monetary value of gross transfers from policies linked to the production of a single commodity which means that producer must the designated commodity in order to receive the transfer. SCT is also expressed by percentages which show the share of total farm receipts for the Single Commodity.

<sup>3</sup> agricultural protection takes the three following types:

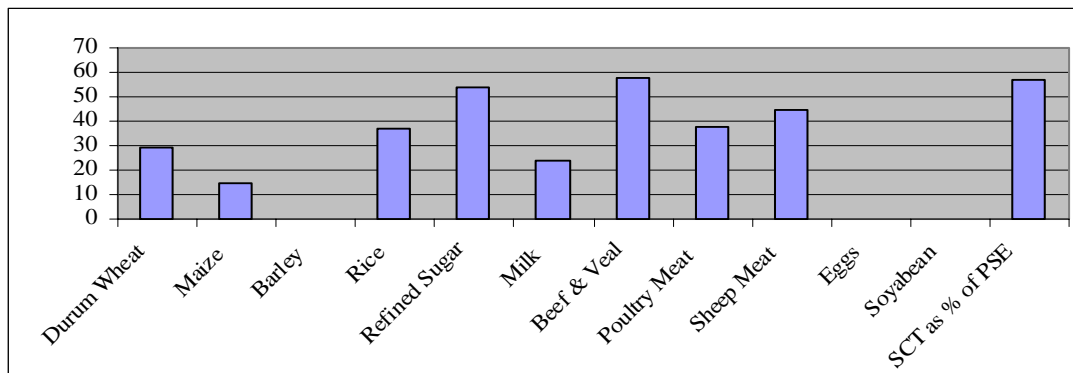
Export subsidies: financial benefits provided to exporters by government to encourage exports as opposed to domestic consumption. As a result, domestic consumer pay higher prices than foreign consumers for the same product. Export subsidies are considered the most trade distorting type.

Domestic support: includes price support and direct subsidies paid by the government to farmers, payments tied to production levels which encourage over production are considered the most trade – distorting payments.

Market access: include measures that protect domestic agriculture by restricting foreign imports through high tariffs or quotas which restrict quantity of imports for a particular product from a given country.

Single commodity transfers accounted in EU accounted 58% for beef and veal followed by refined sugar 54% and ranged between 15 – 45 % for maize – drum wheat – milk – poultry – sheep meat while it was zero for barely – eggs – soybean (figure 3)

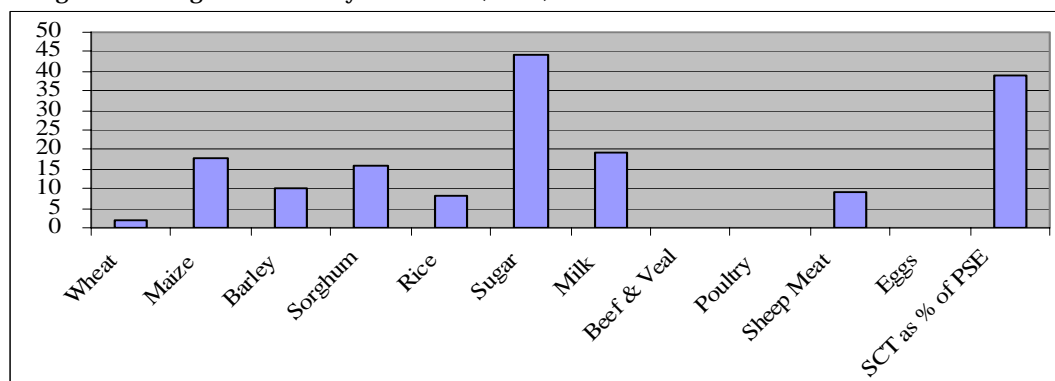
Figure 3- Single Commodity Transfers in EU (%) 2005



Source: OECD database

In USA, Single Commodity Transfers accounted 44% for sugar followed by milk – maize – sorghum (figure 4).

Figure 4 – Single Commodity Transfers (2005)



Source: OECD database

*Total Support Estimate (TSE):* annual monetary value of all gross transfers from consumers arising from policies support agriculture and includes transfers to producers and general services provided to agricultural sector. TSE expresses the total support as a percentage of Gross Domestic Product (box 2).

**Box 2: TSE components**

Total Support Estimate = Producer Support Estimate + General Services Support Estimates (GSSE) + transfers to consumers from taxpayers taking into account that General Services Support Estimates includes research and development + agricultural school + inspection services – infrastructure – marketing and promoting – others

Source: OECD database

Table 2 shows total support estimate values and percentage of Gross Domestic Product for OECD, EU, and USA.

Table .2 TSE in OECD, EU, and USA 1996 – 2005

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
OECD	\$ billion	374	325	340	354	322	298	318	351	388	382
	% of GDP	1.4	1.3	1.4	1.4	1.2	1.2	1.2	1.2	1.2	1.1
EU	\$ billion	134	126	127	129	100	97	114	137	167	153
	% of GDP	1.5	1.5	1.5	1.5	1.3	1.2	1.3	1.3	1.3	1.1
USA	\$ billion	76	76	90	99	95	97	90	90	102	105
	% of GDP	1.0	0.9	1.0	1.1	1.0	1.0	0.9	0.8	0.9	0.8

Source: OECD database

### Other indicators used to estimate agricultural support

OECD uses other indicators to measure agricultural support where PSE and TSE the two mentioned previously are widely used. Other indicators can be mentioned also:

- **Consumer Support Estimates:** annual monetary value of all gross transfers to consumers of agricultural commodity arising from policies that support agricultural regardless of their objectives and impacts on consumption of farm products.
- **General Service support estimates:** annual monetary transfers to agriculture not to individual producers which provide monetary expenditure for the provision of such services as research, development, training, inspection, marketing and promotion, and agricultural school.
- **Nominal Protection Coefficient:** is the ratio between producer and border prices for a given commodity.
- **Nominal Assistance Coefficient:** is the ratio between farm receipts (including support) and those generated in the market without support.

It is worth mentioning that World Trade Organization uses in estimating agricultural support the Aggregate Measure Support (AMS) which is defined in the agreement on agriculture. AMS includes budgetary outlays and revenue transfers from consumers to producers as a result of policies distort market prices represented in direct payments such as loan deficiency payments, input subsidies, market price support, and interest subsidies on commodity loan programs.

The AMS is close to PSE but there are some important differences as it summarized in box 3.

Box3: differences between AMS & PSE

Producer Support Estimates (PSE)	Aggregate Measure Support (AMS)
<p>The purpose of PSE is to monitor and evaluate progress in agricultural policy reform.</p> <p>PSE covers all transfers to farmers arising from agricultural policies whether it is direct or indirect transfers.</p>	<p>The AMS is the basis for legal commitment to reduce domestic support in WTO agreement on agriculture.</p> <p>AMS covers only domestic policies tied to the production and trade, it excludes trade policies related to market access, export subsidy disciplines, production – limiting policies with non or least trade distorting in addition to specified policies distort trade (e.g. input subsidies)</p>



Market price support in the PSE is measured at the farm gate level using actual producer and reference prices for commodities in a given year.	Market price support is measured by the difference between annual prices fixed by policy makers (administrated prices) and world prices in the base period 1986 - 1988
--	--

Source: agricultural support: how is it measured and what does it mean?

In other words, AMS differs from PSE by excluding benefits or costs to certain non-commodities policies such as research – environmental programs – inspection services by using particular resolutions defined in WTO for direct payments and market price support while PSE includes costs and payments for those programs supposed to provide benefits to agriculture.

### **Conclusion**

All arguments in favor of agricultural support adopted by governments can be summarized in food security and self sufficiency of countries which can be achieved by farmer who deserves support since he produces the main commodities needed for human life through his hard work within the special structure of rural communities that lack many services and facilities in many countries especially developing countries in addition to the risk of work in agricultural sector resulted from weather conditions which may negatively affect production and lead to fluctuations in revenues.

The most important argument opposes agricultural support is that one says agricultural support is against fair and free trade principals that help farmers to earn more from agricultural production and exports especially in developing countries. Another important argument is the correlation between agricultural support in developed countries and poverty in developing ones as indicated by some facts such as:

- Public support for farmers in OECD countries costs a family of four on average nearly US\$1000 per year in higher prices and taxes.
- More than 70% of farm support in OECD countries is provided in the form of trade distorting market price support and payments linked to production, all of which are inefficient in terms of bolstering farm incomes: according to the OECD, of every US\$1 in price support, only US\$0.25 ends up in the farmer's pocket as extra income. The rest is absorbed by higher land prices, fertilizer and feed costs and other factors.
- Dairy sub-sector in France, is supported by two dollars for every cow / day while 2 billion of world humans live under poverty line (2 \$ US/ day), one billion of them live on 1 \$US.

## References

- OECD (2004): agricultural support: how is it measured and what does it mean? 2004 – June – OECD, Paris.
- OECD (2007): developments in the producer support estimate and related indicators, OECD, Paris, 5 – 6 July, 2007.
- OECD, producer and consumer support estimate, OECD database 1986 – 2006, user's guide.
- OECD, The Doha Development Round of trade negotiations: understanding the issues, OECD, Paris.
- FAO, Food and agriculture state, Rome, 2002.
- FAO, committee on commodity problems, sixty – third sessions, Rome, 30 January – 2 February, 2001.
- Crystal, D, 7/5/2007, agricultural trade and poverty in developing world.
- OECD database, [www.oecd.com/dataoecd](http://www.oecd.com/dataoecd)
- Aljazeera channel website [www.aljazeera.net](http://www.aljazeera.net) /Counter point program/ 3/6/2008.