CHAPTER 2.

OVERVIEW OF THE OECD INDICATORS OF AGRICULTURAL SUPPORT

7. This chapter begins with a brief summary of why the OECD indicators of agricultural support ("the indicators") have been developed. The second section defines the indicators, and the final section outlines the underlying principles on which the indicators are established. Annex 2.1 reviews the historical development of the indicators.

2.1. Why measure agricultural support?

- The OECD indicators were developed in order to monitor and evaluate developments in agricultural policy, to establish a common base for policy dialogue among countries, and to provide economic data to assess the effectiveness and efficiency of policies.
- The indicators were mandated by OECD Ministers in 1987, and have since been calculated for OECD and an increasing number of non-OECD countries, and are widely referred to in the public domain.

8. The objectives and priorities of agricultural policies in OECD countries encompassed over time a wide range of issues – from overcoming food shortages or surpluses in the post-war period to securing food safety, environmental quality and preservation of rural livelihoods at present. Policy instruments have been equally varied, reflecting changes in domestic political and economic settings and, progressively, developments in the international economic arena. Despite this diversity, policy measures applied in a country within a certain period of time can be brought together and expressed in one or several simple numbers – called support indicators – which are comparable across time and between countries. The utility of doing this is three-fold.

9. First, support indicators can be used to ***monitor and evaluate developments of agricultural policies***.[2] This includes the extent of policy reform achieved by countries, both over time and through specific reform efforts (*e.g.* the US Farm Bills and various CAP reforms), as well as progress towards achieving the commitment agreed to at the 1982 OECD Ministerial Council of reforming agricultural policies. This commitment stated that "agricultural trade should be more fully integrated within the open and multilateral trading system", and it called for OECD countries to pursue "a gradual reduction in protection and a liberalisation of trade, in which a balance should be maintained as between countries and commodities." Ministers also requested the OECD to develop a method to measure the level of protection in order to monitor and evaluate progress.

2. As in the annual OECD *Monitoring and Evaluation* reports on agricultural policies, the term "policy evaluation" is understood in this manual to be the analysis of levels and composition of agricultural support with respect to the implementation of the policy reform agenda. This term is not used in this manual as the evaluation of the effectiveness or efficiency of policies, except in cases where the focus is specifically on that issue (*e.g.* in Chapter 12).

10. Closely related to this, the indicators establish a ***common base for policy dialogue*** by using a consistent and comparable method to evaluate the nature and incidence of agricultural policies. While the indicators were calculated initially for OECD countries, the analysis has gradually included also non-OECD countries, such as Brazil, Chile, China, Russia, South Africa and Ukraine. It currently includes 43 countries (27 EU members treated as a single entity), with estimates covering the period from 1986 to the present. The international comparability of the indicators and wide country coverage makes the indicators a useful tool for policy dialogue not only amongst OECD countries, but also with non-OECD countries, inter-governmental organisations (WTO, World Bank, IMF and FAO), farming and non-government organisations, as well as research institutions.

11. Finally, the indicator database is used in further research on policy impacts. The data serve as an ***input into modelling*** to assess the effectiveness and efficiency of policies in delivering the outcomes for which they were designed and to understand their effects on production, trade, income, the environment, etc. While the indicators cannot by themselves quantify these impacts, the economic information upon which they are based is an important building block for further analysis.

2.2. Overview of support indicators: key terms, definitions and distinctions

- "Support" is understood as gross transfers to agriculture from consumers and taxpayers, arising from governments' policies that support agriculture.
- In addition to budgetary expenditures, support includes other estimated transfers, which do not require actual monetary disbursements (*e.g.* credit concessions)
- The indicators reflect the provision of support, or the level of effort made by governments, as implied by their agricultural policies. As such, they are not intended to and do not measure policy impacts on production, farm incomes, consumption, trade or environment.
- The indicators represent different ways to analyse agricultural policy transfers and measure their levels in relation to various key economic variables. Together they provide a comprehensive picture of agricultural support.
- The indicators can be distinguished according to the recipient of the transfer, the unit of measurement in which they are expressed, and the type of aggregation.

12. Agricultural policies may provide direct payments to farmers. They may maintain domestic agricultural prices above those at the country's border, or grant tax and credit concessions to farmers. Support is not only comprised of budgetary payments that appear in government accounts, but also includes support of market prices, as well as other concessions that do not necessarily imply actual budgetary expenditure, such as tax concessions. The common element to all these policies is that they generate transfers to agriculture.

13. The concept of "transfer" presumes both a source of the transfer and the existence of a recipient. In the present methodology, agriculture is generally regarded as a supported sector and the main recipient of policy transfers. Consumers of agricultural commodities and taxpayers represent the two sources of transfers, *i.e.* the economic groups bearing the cost of agricultural support. The term "agriculture" designates primary agricultural producers as an economic group. Agricultural producers are viewed from two perspectives – as individual entrepreneurs, and collectively. These distinctions underlie the key dimensions in which agricultural support is measured and the basic structure of the indicators.

14. The terms "support" and "policy transfers" are broadly synonymous, but may be used in different contexts. The term "support" is predominantly used to mean a "policy measure" (that generates a policy transfer) and usually appears when identifying, scoping and classifying the relevant policies. The term "policy transfer" is used mainly with respect to calculations, *i.e.* the process of obtaining numerical expressions of policies.

15. More fundamental for understanding of the indicators, however, is the distinction between the notions of "provision of support" and the "impact of support" (*i.e.* impacts of policy transfers). The indicators are the various measures of gross policy transfers. As such, they reflect the *provision* of support, or the level of effort made by governments, as implied by their agricultural policies. The indicators do not account for the losses of that effort within the economic system, as experienced by the recipients of support. In fact, a proportion of the transfers will not end up as extra producer net income because support induces higher prices for agricultural inputs and factors, as well as generating deadweight loss of economic welfare. Moreover, the actual impact of policies on its recipients will depend on, among other things, the basis upon which support is provided (*e.g.* whether it is provided per tonne of output, per land unit, per farm, etc.), the level of support, and the responsiveness of farmers to changes in support. The indicators, therefore, are not intended to and do not measure *the impact* of policy effort on farm production, farm incomes, trade or environment. This explanation of the indicators as representing measures of policy effort is crucial for understanding them properly. Chapter 11 contains a detailed discussion of how the indicators should be used and interpreted, and concludes with examples of mistakes in interpretation that should be avoided.

16. The support indicators, which are introduced below, are different ways to analyse agricultural policy transfers and measure their levels in relation to various key economic variables. The names, abbreviations and definitions of the indicators are listed in Box 2.1. No single indicator can capture all aspects of agricultural support. Each serves a purpose, highlighting a dimension of the support framework. The indicators are interlinked and mutually reinforcing. When analysed together, they provide a comprehensive picture of the level and composition of support.

Box 2.1. Names and definitions of the OECD indicators of agricultural support

INDICATORS OF SUPPORT TO PRODUCERS

Producer Support Estimate (PSE): the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm-gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income.

Percentage PSE (%PSE): PSE as a share of gross farm receipts (including support).

Producer Nominal Assistance Coefficient (producer NAC): the ratio between the value of gross farm receipts (including support) and gross farm receipts valued at border prices (measured at farm gate).

Producer Nominal Protection Coefficient (producer NPC): the ratio between the average price received by producers at farm gate (including payments per tonne of current output), and the border price (measured at farm gate).

Producer Single Commodity Transfers (producer SCT): the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures directly linked to the production of a single commodity such that the producer must produce the designated commodity in order to receive the transfer.

Producer Percentage Single Commodity Transfers (producer %SCT): the commodity SCT as a share of gross farm receipts for the specific commodity.

Group Commodity Transfers (GCT): the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures whose payments are made on the basis that one or more of a designated list of commodities is produced, i.e. a producer may produce from a set of allowable commodities and receive a transfer that does not vary with respect to this decision.

(*continued*)

All Commodity Transfers (ACT): the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that place no restrictions on the commodity produced but require the recipient to produce some commodity of their choice.

Other Transfers to Producers (OTP): the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that do not require any commodity production at all.

INDICATORS OF SUPPORT TO GENERAL SERVICES FOR AGRICULTURE

General Services Support Estimate (GSSE): the annual monetary value of gross transfers to general services provided to agricultural producers collectively (such as research, development, training, inspection, marketing and promotion), arising from policy measures that support agriculture regardless of their nature, objectives and impacts on farm production, income, or consumption. The GSSE does not include any transfers to individual producers.

Percentage GSSE (%GSSE): GSSE as a share of Total Support Estimate (TSE).

INDICATORS OF SUPPORT TO CONSUMERS

Consumer Support Estimate (CSE): the annual monetary value of gross transfers from (to) consumers of agricultural commodities, measured at the farm gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on consumption of farm products.

Percentage CSE (%CSE): CSE as a share of consumption expenditure (measured at farm gate) net of taxpayer transfers to consumers.

Consumer Nominal Assistance Coefficient (consumer NAC): the ratio between the value of consumption expenditure on agricultural commodities (at farm gate) and that valued at border prices (measured at farm gate).

Consumer Nominal Protection Coefficient (consumer NPC): the ratio between the average price paid by consumers (at farm gate) and the border price (measured at farm gate).

Consumer Single Commodity Transfers (consumer SCT): the annual monetary value of gross transfers from (to) consumers of agricultural commodities, measured at the farm gate level, arising from policy measures directly linked to the production of a single commodity.

INDICATORS OF TOTAL SUPPORT TO AGRICULTURE

Total Support Estimate (TSE): the annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures that support agriculture, net of associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products.

Percentage TSE (%TSE): TSE as a share of GDP

17. Three distinctions can be made between the indicators (Table 2.1). The first one relates to the ***intended recipient*** of the transfer – producers individually, producers collectively, or consumers, although agriculture is always understood to be the economic sector supported by the policies (Section 3.1). For example, nine indicators measure support directed to producers individually, while two indicators measure support provided to producers collectively.

18. A second distinction can be made in relation to the ***unit of measurement***: nine indicators are expressed in *monetary* terms, and nine represent *percentages* or *ratios*. An advantage of monetary indicators is that they can be used to analyse the composition of support, *e.g.* to calculate the shares of PSE or GSSE by policy category, or the shares of TSE according to whether the transfers come from consumers or taxpayers. However, the monetary indicators are influenced by the size and structure of the country's agricultural sector, as well as the country's rate of inflation. Consequently, there are difficulties in using them to compare support levels between countries, to evaluate changes over time, or to assess the level of support provided within a country to different commodities. In contrast, percentage indicators and ratios, which relate policy transfers to some other monetary base, *e.g.* the value of agricultural production, allow such comparisons to be made.

19. Finally, the indicators can be distinguished according to the ***type of aggregation*** at which they can be derived — across commodities or geographically. While all the indicators can be calculated at the national and multi-country level, some can also be calculated for individual commodities or for groups of commodities.

Table 2.1. The OECD indicators of agricultural support

Intended recipient	Unit of measurement		Type of aggregation		
	Monetary	Percentage or ratio	Individual commodity or groups of commodities	Geographical	
				National[1] (aggregate)	Multi-country (*e.g.* OECD total)
Producers individually	PSE	%PSE and producer NAC	nc	*	*
	-	producer NPC	*	*	*
	producer SCT	producer %SCT	*	*	*
	GCT	nc	*	*	*
	ACT and OTP	nc	nc	*	*
Producers collectively	GSSE	%GSSE	nc	*	*
Consumers	CSE	%CSE and consumer NAC	nc	*	*
	-	consumer NPC	*	*	*
	consumer SCT	nc	*	*	*
All recipients	TSE	%TSE	nc	*	*

Symbols: "-" not applicable; "nc" not calculated; "*" calculated.

1. The European Union (EU) is treated as one country for the purpose of indicator calculations, given the common policy for agriculture applied throughout the Union, and specifically: the EU12 for 1986-94 including ex-GDR from 1990; EU15 for 1995-2003; and EU25 for 2004-06 and EU27 from 2007 onwards.

2.3. Basic principles of measuring support

- Several key principles determine the scope of policy measures to be considered in the estimation of agricultural support and the method for measuring support, such as:
  - A policy measure is included if it generates transfers to agricultural producers, regardless of the nature, objectives or impacts of the policy measure
  - Transfers are measured in gross terms, taking no account of adjustments which producers may make to receive the support, *e.g.* to meet compliance conditions
  - Transfers to individual producers are measured at the farm gate level.

20. A number of principles, or general rules, guide the measurement of agricultural support. Principles 1 to 3 determine the scope of policy measures to be considered in estimating agricultural support and provide criteria for identifying agricultural policies in a complex mix of government actions. Principles 4 and 6 help to define the method for measuring support and are important for interpreting the indicators.

21. *Principle 1: generation of transfers to agricultural producers as a key criterion for inclusion of policy in the measurement of support*. Policy measures generate explicit or implicit transfers to supported individuals or groups. A policy measure is considered for measurement if agricultural producers, individually or collectively, are the only, or the principal, intended recipients of economic transfers generated by it. This is sufficient criterion for inclusion of a policy measure in the estimation of agricultural support.

22. *Principle 2: there is no consideration of the nature, objectives or economic impacts of a policy measure* beyond an "accounting" for transfers. This principle complements principle 1, in that the stated objectives, or perceived economic impacts of a policy measure, are not used as alternative or additional criteria to determine the inclusion or exclusion of a policy measure in the estimation of agricultural support.

23. *Principle 3: general policy measures available throughout the entire economy are not considered in the estimation of agricultural support,* even if such measures create policy transfers to/from the agriculture. Thus, a situation of zero support to agriculture would occur when there are only general economy-wide policies in place with no policies specifically altering the economic conditions for agriculture.

24. *Principle 4: transfers generated by agricultural policies are measured in gross terms.* Policy transfers can be defined in gross or net terms, *i.e.* as revenue (gross receipts) or income (revenue less costs) generated by a policy measure. The phrase *gross transfers* in the definitions emphasises that no adjustment is made in the indicators for costs incurred by producers in order to receive the support, *e.g.* costs to meet compliance conditions attached to certain payments, or tax clawbacks.

25. *Principle 5: policy transfers to individual producers are measured at the farm gate level,* which follows from the objective to measure support only to primary producers of agricultural commodities. Consequently, the word "*consumer*" in the definitions and methodology is understood as a first-stage buyer of agricultural commodities.

26. *Principle 6: policy measures supporting individual producers are classified according to implementation criteria*, such as: (i) the basis upon which support is provided (a unit of output, an animal head, a land unit, etc.); (ii) whether support is based on current or non-current production parameters; and (iii) whether production is required to receive support or not; and other criteria. These policy characteristics affect producer behaviour, and distinguishing policies according to implementation criteria enables further analysis of policy impacts on production, trade, income, the environment, etc.

27. These are the general principles applied in estimating the indicators of support. Along with the more practical underpinnings of the methodology, they will be developed further in the following chapters.

Annex 2.1.

A Short History of the Indicators

28. The widespread policy goal from the late 1940s to produce more food led to increasing concern about the effects of agricultural policies on trade relations and on the cost of policies. Combined with rapid technical progress and structural changes, trade barriers and domestic production support measures led to surpluses of farm goods, which were stocked or exported with additional subsidies. World prices for temperate-zone commodities were driven down. The costs of stock-holding and export subsidies placed heavy burdens on government budgets, consumers in countries with protected markets faced higher food bills, and competitive producers in other countries were penalised by restrictions on access to those markets. By the beginning of the 1980s, a number of OECD countries realised that action was urgently needed.

29. At the 1982 OECD Ministerial Council (consisting of Ministers of Economics, Trade and Foreign Affairs, plus a few Agriculture Ministers), it was agreed "that agricultural trade should be more fully integrated within the open and multilateral trading system…(and) that the desirable adjustments in domestic policies can best take place if such moves are planned and co-ordinated within a concerted multilateral approach aimed at achieving a gradual reduction in protection and a liberalisation of trade, in which a balance should be maintained as between countries and commodities." Ministers also decided that the Secretariat should "study the various possible ways in which the above aims could be achieved as a contribution to progress in strengthening co-operation on agricultural trade issues and as a contribution to the development of practical multilateral and other solutions."

30. An integral part of this investigation was to develop an appropriate basis for measuring agricultural subsidies. After considering the options available, the Secretariat decided to use the Producer Subsidy Equivalent (PSE), initially defined as *the payment that would be required to compensate farmers for the loss of income resulting from the removal of a given policy measure* (OECD, 1987).[3] While the PSE was at first used for modelling the effects on world commodity prices of a small reduction in agricultural subsidies, it was also recognised as a very useful tool in its own right to establish a consistent and comparative method to evaluate agricultural policies between countries.

31. The notion of a "subsidy equivalent" derives from the economic theory of protection developed in the 1960s to evaluate the effects of tariffs (Corden, 1971). According to this theory, the *producer subsidy equivalent of a policy measure*, whether an import tariff, export subsidy, payment per tonne or per hectare, etc., is the payment per unit of output that a government would have to pay producers to generate the same impact on production as that policy measure.[4] In the early 1970s, Tim Josling had applied this concept to the empirical measurement of agricultural subsidies in work for the FAO, introducing the term PSE (Josling, 1973 and Josling, 1975).

3. The Consumer Subsidy Equivalent (CSE) was defined as "the implicit *tax* on consumption resulting from a given policy measure (market price support element of the PSE) and any subsidies on consumption."

4. Likewise, the *consumer tax equivalent of a policy measure* is the per unit tax that a government would have to impose to generate the same impact on consumption as that policy measure.

32. In 1987, a major OECD study entitled *National Policies and Agricultural Trade* offered an in-depth analysis of the agricultural policies of individual OECD countries based largely on the PSE and related indicators.[5] This study recognised the linkages between domestic and trade policies and concluded that in order to improve the trading environment actions were necessary on both trade barriers and domestic policies.

33. It was clear from the start that the "income compensation" definition did not match what was actually being measured by the OECD PSE. While policy measures providing the same amount of *monetary* transfers to producers have the same *revenue* subsidy equivalent, they may have different production and income subsidy equivalents which depend on the way the measures are implemented (per unit of output or per hectare of land producing the same output, for example). One of the first critiques in this regard noted, *inter alia*, that the PSE was a measurement of revenue transfer (Peters, 1988).

34. As a result, the PSE was redefined in 1990 as *the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm-gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impact on farm production or income*.[6]

35. Four major refinements were made in 1999:

- The PSE acronym was changed from meaning "Producer Subsidy Equivalent" to "Producer Support Estimate".[7] It was recognised that: (a) transfers associated with a wide range of diverse policies have different "subsidy equivalents"; and (b) that some of the transfers were given for the provision of services and positive externalities rather than to subsidise the production of agricultural commodities. The more neutral term "support" acknowledges that a monetary transfer is involved whatever the policy objective.

- Changes were made to the classification of policies within the PSE (Table A2.1). This was required because of the growing scope of support policies introduced since the mid-1980s. Previously, there were five PSE categories with policies classified according to the *type* of support measure. The 1999 refinements introduced seven types of support measures with policies classified according to how they were *implemented*.

- A closely related change involved the establishment of a separate indicator to measure support provided to producers collectively, the General Services Support Estimate (GSSE). Support for "General Services" had been previously included in the PSE. This was separated from the calculation of the PSE, which now measures only support received by producers individually.

5. PSEs and CSEs were initially calculated for a set of OECD countries comprising Australia, Austria, Canada, the EEC, Japan, New Zealand and the United States for the period 1979 to 1981, and later extended to include Sweden, Finland, Norway and Switzerland.

6. The CSE was also redefined as *the annual monetary value of gross transfers from (to) consumers of agricultural commodities, measured at the farm gate level, arising from policies that support agriculture, regardless of their nature, objectives or impacts on consumption of farm products.* If negative, the CSE measures the burden (implicit tax) on consumers, indicating that higher prices resulting from market price support more than offset consumer subsidies.

7. The CSE was changed from the "Consumer Subsidy Equivalent" to the "Consumer Support Estimate".

Consequently, the indicator and method for measuring the total cost to consumers and taxpayers of agricultural policies also changed, from the Total Transfers to Total Support Estimate (TSE).

- Finally, a new method for calculating the national (aggregate) PSE was introduced. Previously, this had been calculated by "extrapolating" the average %PSE for a common set of commodities to all agricultural production. A new method was introduced whereby only the average ratio of MPS to gross farm receipts for a set of commodities is extrapolated across to the rest of agricultural production (section 6.1.1), with all transfers from non-MPS policies included specifically within the PSE through classification in the appropriate categories.

36. Further changes were introduced in 2007 to enable the indicators to better capture recent policy developments, *e.g.* the move to "decouple" the provision of support from specific commodity production and "re-couple" the provision of support to other criteria. Three major changes were made:

- Although still based on implementation criteria, the PSE categories were substantially redefined (Table A2.1 and section 3.3.1).

- Labels were introduced, with the result that each policy, in addition to being classified into a PSE category, could also have up to six different labels attached to it so as to provide additional detail on implementation criteria; labels serve as shorthand for categories not included in the main presentation. For example, labels give additional information on whether a payment is with or without limit, or whether a payment implies any constraints on input use by the recipient, etc. (section 3.3.3).

- PSEs for individual commodities are no longer calculated. Instead, a country total PSE is divided into Single Commodity Transfers, Group Commodity Transfers, All Commodity Transfers; and Other Transfers to Producers (section 6.3). This change reflects the fact that as a result of policy reform, support in many OECD countries is less tied to an individual commodity. Support is being increasingly provided to groups of commodities or all commodities in general, or without obliging a recipient to engage in commodity production at all. In this situation the link between some support transfers and individual commodities becomes less apparent. This necessitated an alternative presentation of support transfers with respect to their commodity specificity.

Table A2.1. Development of PSE categories

Initial 1987 categories	1999 revision	2007 revision
A. Market Price Support B. Direct payments C. Reduction in input costs D. General Services E. Other	A. Market Price Support B. Payments based on output C. Payments based on area planted/animal numbers D. Payments based on historical entitlements E. Payments based on input use F. Payments based on input constraints G. Miscellaneous	A. Support based on commodity output (Market Price Support and Payments based on output) B. Payments based on input use C. Payments based on current A/An/R/I[1], production required D. Payments based on non-current A/AN/R/I, production required E. Payments based on non-current A/AN/R/I, production not required F. Payments based on non-commodity criteria G. Miscellaneous

1. The letters stand for Area (A), Animal Numbers (AN), Receipts (R) or Income (I).