

TURKEY: ESTIMATES OF SUPPORT TO AGRICULTURE

Contact person: Shingo Kimura

Email: shingo.kimura@oecd.org

Tel : (33-1) 45 24 95 35 Fax : (33-1) 45 24 18 90

DEFINITIONS AND SOURCES

Table 1. Agricultural Support Estimates / Total Transfers contains country Total Support Estimate (TSE) and derived indicators, which cover all agricultural production, i.e. all agricultural commodities produced in the country. Definitions of basic data sets refer to the specific programmes applied in the country. For the Producer Support Estimate (PSE) and Consumer Support Estimate (CSE), each policy measure is classified according to implementation criteria, which include: the *transfer basis* of support (output, input, area/animal numbers/receipts/income, and non-commodity criteria); whether support is based on *current or non-current basis*; whether *production is required* or *not* to receive payment. Each policy measure is also assigned several “labels” indicating additional implementation criteria. “MPS commodities”, which vary across countries, are those for which the market price support is explicitly calculated in Tables 4.1 – 4.16.

Table 2. Breakdown of PSE by Commodity and Other Transfers provides a breakdown of the total PSE into four categories reflecting the flexibility given to farmers regarding which commodity to produce within the various policy measures. These categories are: Single Commodity Transfers (SCT); Group Commodity Transfers (GCT); All Commodity Transfers (ACT); and Other Transfers to Producers (OTP). All data sets in Table 2 come from Tables 1 and 3.1 – 3.17 where definitions are included.

Tables 3.1 – 3.17 Producer Single Commodity Transfers contain producer SCT by commodity, which are calculated for Turkey for the following commodities: wheat, maize, barley, sunflower, sugar, milk, beef and veal, poultry meat, sheep meat, eggs, cotton, tobacco, apples, potatoes and grapes provided that the value of production of that commodity exceeds 1% of the total value of production. In addition, SCT for “other commodities” is also calculated (Table 3.17), which covers transfers *to single commodities other than MPS commodities*. All data sets in the calculation of producer SCT by commodity come from Tables 1 and 4.1-4.17 where definitions are included.

Tables 4.1 – 4.17 contain **Market Price Support (MPS)** and **Consumer Single Commodity Transfers** (consumer SCT) by commodity, calculated for the same set of commodities as **Tables 3.1 to 3.17**. Definitions are provided only for basic data sets from which all the other data sets in this table are derived.

Definitions of the indicators, criteria for classification of policy transfers included in support estimation, and methods of calculation are contained in [the PSE Manual](#) (*OECD’s Producer Support Estimate and Related indicators of Agricultural Support: Concepts, Calculations, Interpretation and Use*).

Abbreviations:

ARIP: Agricultural Reform Implementation Project

MoD: Ministry of Development

CKS: Farmer Registration System

DSI: General Directorate of the State Hydraulic works

ESK: General Directory of Meat and Milk Board

EYYDB: DEPARTMENT OF TRAINING, EXTENSION AND PUBLICATIONS

GDRS: General Directorate for Rural Services

MFAL: Ministry of Food, Agriculture and Livestock

RUSF: Resource Utilisation Support Fund

SPSF: Support and Price Stabilisation Fund

TAPDK: Tobacco and Alcohol Market Regulatory Authority (former TEKEL)

TCZB: Turkish Bank of Agriculture or the "Agricultural Bank"(ZA)

TEKEL: General Directorate for Tobacco and Tobacco products (now TAPDK)

TIGEM: General Directorate for Agriculture Enterprises

TKK: Agricultural Credit and Co-operatives

TMO: Turkish Grain Board

TRY: Turkish Lira

TSFAS: Turkish Sugar Factories

TUBITAK: The Scientific and Technological Research Council of Turkey

ZB: Agricultural Bank

TABLE 1. TURKEY: Total Support Estimate

Definitions:

I. Total value of production (at farm gate): Total agricultural production valued at farm gate prices, i.e. value (at farm gate) of all agricultural commodities produced in the country [1].

I.1. Of which share of MPS commodities (%): Share of commodities for which MPS is explicitly calculated (in Tables 4.1-4-16) in the total value of agricultural production.

II. Total value of consumption (at farm gate): Consumption of all commodities domestically produced valued at farm gate prices, and estimated by increasing the value of consumption (at farm gate) of the MPS commodities according to their share in the total value of agricultural production [(II.1) / (I.1) x100].

II.1. Of which MPS commodities: Sum of the value of consumption (at farm gate prices) of the MPS commodities as indicated in Tables 4.1-4.16.

III.1 Producer Support Estimate (PSE): Associated with total agricultural production, i.e. for all commodities domestically produced [Sum of A to G; when negative, the amounts represent an implicit or explicit tax on producers]

A. Support based on commodity output

A.1. Market Price Support

On quantities domestically produced (excluding for on-farm feed use -- excess feed cost) of all agricultural commodities, estimated by increasing the MPS for the MPS commodities (sum of the MPS for the MPS commodities listed in the rows below) according to their share in the total value of agricultural production $[(\sum \text{MPS commodities}) / (I.1) \times 100]$.

A.2. Payments based on output

The deficiency payments ("premium payments") are designed to cover the difference between the target price and market price of the product. The target price is calculated based on production and marketing costs.

Cotton premium: Per tonne payments to cotton (using certified seeds) producers. Payments are not subject to input constraints and there are ~~not~~ current commodity production or payment limits. Payment rates are fixed and paid by per kg. Payments are included in SCT for cotton.

Milk incentive premium: Paid to farmers per litre of milk delivered to dairies to encourage the delivery of milk to certified dairies. Payments are not subject to input constraints and there are ~~not~~ current commodity production or payment limits. Payment rates are fixed. This policy is also presented in the commodity SCT table and the transfers are included in the *milk* SCT.

Beef: Meat incentive premium : Stock breeding cattle: Given to male cattles and buffalos which are registered under Animal Registration System (TURKVET), domestic born and at least 12 months old. 200 TRY (66 USD) is given per slaughtered head to minimum 1 to maximum 300 animals. Payments are not subject to input constraints. Payment rate is fixed. Payments are included in SCT for beef.

Sheep meat: Meat incentive premium: No deficiency payments are paid since 1997. Payments are included in SCT for refined sheep meat.

Poultry: Meat incentive premium: No deficiency payments are paid since 1995. Payments are included in SCT for poultry.

Tea leaf premium: Payments (per kg) paid to tea producers whose fields are licensed. Payments are not subject to input constraints and there are ~~not~~ current commodity production and payment limits. Payment rates are fixed. Payments are included in SCT for other commodities.

Soybean premiums: Per tonne payments to soybean (5% more if under contract production) producers. Payments are not subject to input constraints and there are ~~not~~ current commodity production or payment limits. Payment rates are fixed and paid by per kg. Payments are included in SCT for other commodities.

Sunflower, rapeseed, maize, wheat, barley, rye, oats, paddy, olive oil, mohair and silkworm premium: Per tonne payment to producers. Payments are not subject to input constraints and there are ~~not~~ current commodity production limits. Payment rates are fixed. Payments are included in SCT for sunflower, SCT for other commodities, SCT for maize, SCT for wheat, SCT for barley.

Apiculture premium: Per bee hive payments to producers of apiculture. Payments are not subject to input constraints and there are ~~not~~ current commodity production and payment limits. Payment rates are fixed. Payments are included in SCT for other commodities.

Tobacco premium: Per tonne payment to tobacco producers introduced in 1994 with the implementation of a production quota. The payment applied to the difference between the last three years average quantity of tobacco sold (to TEKEL and tobacco traders) and the production quota. Payments were not subject to input constraints, but there were current commodity production and payment limits. Payment rates were fixed. Tobacco premium payments are abolished in 2001. Payments are included in SCT for tobacco.

B. Payments based on input use

Payments in this category are not subject to input constraints and there are not current commodity production limits. Payment rates are fixed, except for interest concessions.

B.1. Variable input use

Concessional loans: Difference between commercial rates and rates applied to farmers multiplied by outstanding loans for the purchase of variable inputs, and including interest rates rebates. Value of interest rebates on loans to farmers includes the following programmes:

- 1) Obtaining an enterprise
Financing natural/legal entity whom obtains an already established enterprise (orchard, vineyard, farm, barn, greenhouse, sheep fold, poultry house) on plant production, animal production and aquaculture
- 2) Land purchasing
Financing of arable lands in order to earn agricultural lands for production and increase the scale of farms and make them profitable
- 3) Harvest and Marketing
Financing the need of cash during harvesting and marketing period of producers.
- 4) Instalment Loans for Support
Financing needs without tying them to harvest period or season. Longer and elastic payment options.
- 5) Transportation Vehicle
Financing transportation vehicles for agricultural inputs, products, animals, equipment and machinery, etc.
- 6) In Return for Turkish Grain Board Warehouse Receipt
Short-term financing for producers who sell their products to Turkish Grain Board and obtained a receipt
- 7) In Return for Electronic Product Receipt
Financing for the producers who delivered its product to licensed warehouses
- 8) Licensed Warehouse Investments
Financing for building licensed warehouse compatible with the products which are supported in the basin according to “Agricultural Basins Production and Support Model”
- 9) Contracted Production
Financing the operational or investment costs and expenses of contracted producers
- 10) Young Farmers
Financing the eligible “young farmers” who complies with the council of ministers’ decision numbered 2016/8540
- 11) Good Agricultural Practices
Financing good agricultural practices in terms of investment and working capital loans
- 12) Organic Agriculture
Financing organic agricultural goods producers or producing inputs for organic agriculture, collecting, processing, packing, marketing organic agricultural products
- 13) IPARD Programme
Financing investments under IPARD Programme of EU. The most utilised type of credit products are instalment loans for support, good agriculture practices and land purchasing.

Payments are not subject to production limits and input constraints, and rates are variable. Payments are included in ACT.

Feed subsidy: Payment to livestock producers per kilo of industrial feed purchased, paid by TCZB from 1985 to 1988. Since 1989, payments are made to industrial feed producers to compensate for a rebate of 20% on prices paid by farmers. There are no certain policies for feed subsidy but government can decide to pay after the occasions of effective earthquakes; in example, 1995 Afyon-Dinar province earthquake, 2003 Bingol province earthquake. Payments are included in GCT for livestock.

Fertiliser subsidy (abolished in 2001): Value of fertilisers provided free-of-charge and in kind to sugar beet growers. Payment to farmers per kilo of fertiliser purchased for crops other than sugar beet: corresponding to a 50% rebate on the purchase value of fertilisers paid by TCZB, funded by SPSF. Since 1998, payments are made to fertiliser producers, importers and distributors, compensating for a 20% rebate on the purchase price to farmers. Payments are determined according to fertiliser type (up to 40% of the fertiliser expenditure). Payments are included in GCT for crops.

Hybrid seed subsidy: Per kg seed (certificated seed of feed crops) payments to seed producers. Payments are not subject to input constraints and there are not current commodity production and payment limits. Payment rates are fixed, but shows difference according to the type. Payments are included in GCT for crops.

Pasture improvement: Public expenditure on sowing and fertilisation work of meadows and pastureland in 1991 and 1992 in the framework of pastureland reclamation project. No payments are made since 2006. Payments are included in GCT for milk, GCT for beef and GCT for sheep meat.

Pesticide subsidy (Treasury and sugar): Value of pesticides provided to sugar beet growers. Payments are included in SCT for refined sugar.

Seed loans: Value of interest free seed loans to farmers. Payments are being made under certified seed and seedling usage support since 2005. Payments are included in GCT for crops.

Sugar beet return (estimated=respse): Total value of sugar beet pulp returned by TSFAS free of charge to beet producers and used as feed. Payments are included in SCT for refined sugar.

Electricity subsidy (irrigation): Price rebate on electricity used for irrigation. Covers all farmers who use agricultural irrigation without unpaid debts. Payments are included in ACT.

Water subsidy (irrigation): Budgetary expenditure by DSI on operation and maintenance costs of irrigation structures net of farmers' fees. Payments are included in ACT.

B.2 Fixed capital formation

Capital grants: Budgetary expenditures on grants paid through the RUSF for livestock housing. No grants were given from 1996 onwards. Payments are included in GCT for livestock.

Livestock improvement: Budgetary expenditure to support the purchase by farmers of imported breeding stock to improve livestock. General Directorate of Livestock (MFAL) provides the data. Payments are included in GCT for milk, beef and sheep meat.

Livestock development project – Apiculture: Budgetary expenditure to support the purchase by farmers of bee hives (per number) and bumblebee (per colony). General Directorate of Livestock provides the data. Payments are included in SCT for other commodities.

Livestock replacement: Budgetary expenditure to support the purchase by farmers of imported breeding stock to replace animals injured following natural disasters. Payments are included in GCT for livestock.

On Farm development work: Budgetary expenditure on development of work such as field levelling, drainage, soil improvement, soil protection and land consolidation [GDRS was abolished in 2004 and its functions were transferred to Special Provincial Administrations][General Directorate of Agricultural Reform is also conducting land consolidation works under MFAL]. Data is provided by DSI. Payments are included in GCT for wheat, sugar, cotton, sunflower.

Disaster payments -- Crops: According to the law number 2090, farmers who suffered from natural disasters which are out of the context of 5363 number Agricultural Insurance Law (TARSIM) can benefit from these payments unreciprocated. Payments are included in GCT for crops.

Farmer registration system: Applied through 2000-2007. It was a part of Direct Income Support Project. It was used for employment of officials, distribution of computer system and software programmes which were necessary for the foundation of farmer registrations. Only farmers who were registered under this system could have received Direct Income Support. Therefore, government supported the farmers to use the farmer registration system via this project. Payments are included in ACT.

Interest concessions: Difference between commercial rates and rates applied to farmers multiplied by outstanding loans for investments in the below mentioned areas, and including interest rates rebates. Agricultural enterprises and farmers who invest in the following areas are entitled to benefit interest concessions: Good agriculture practises; Organic farming; Production of organic inputs; Production of certificated seed and nursery; Agricultural Research and Development; Breeding dairy cattle; Livestock production; Aquaculture production; Stock farming; Irrigation; Agricultural mechanization (except tractor and harvester); Greenhouse horticulture; Bulb production for export purposes; Production of medical crops; Livestock production in Specialized Industrial Zones based on agriculture; Milking unit and milk cooling tanks; and Dung hole. Payments are not subject to production limits and input constraints, and rates are fixed. Payments are included in ACT.

B.3. On-farm services

Artificial insemination: This is a payment for artificial insemination service. The amount of payment is fixed but the amount will be more for the farmers whose farms are located in "Development Priority Regions". General Directorate of Livestock (MFAL) provides the data. Payments are included in GCT for livestock.

Sugar: machinery services: Budgetary expenditure covering cost to TSFAS of machinery used for sugar beet cultivation. No payment made after 2000. Payments are included in SCT for refined sugar.

Veterinary pest and disease control: Budgetary expenditure on measures to control animal disease. General Directorate for Protection and Control (MFAL) is the responsible authority for these issues. Payments are included in GCT for livestock.

C. Payments based on current area /animal numbers/receipts/income, production required

Sugar, potatoes and tobacco compensation payments: Payments to compensate producers for the reduction of price support. They are based on current area and prices (i.e. current area x 1000 kg x

current price x 0.7). Payments are not subject to input constraints and for sugar there are current commodity production/payment limits. For potato production, the compensation payments are made because of potato wart disease. Payment rates are variable. Payments are included in SCT for refined sugar, SCT for potatoes and SCT for tobacco.

Tea pruning payments: Payments, based on the average yield, to compensate for 70% of each grower's average harvest loss over the previous two years due to trimming (pruning) of tea fields. Ministerial decree regarding this was published in the official gazette dated 23/08/2004. Payments are not subject to input constraints and there are ~~not~~ current commodity production/payment limits. The harvest loss is calculated as maximum 15 000 kg per hectare. Payment rates are fixed. Payments are included in SCT for other commodities.

Crops and livestock Agri. Insurance payments: The scheme, which was implemented in 2006, is open to all producers and covers hailstorm and frost for aquaculture, greenhouse and animal life, including poultry. The government reimburses 50% of the premium costs. Payments are not subject to input constraints and there are ~~not~~ current commodity production/payment limits. Payment rates are variable. Payments are included in GCT for crops and GCT for livestock.

Transition payments: A one-off payment to farmers granted under the Agricultural Reform Implementation Project (ARIP) to cover the costs to divert production from crops overproduced (namely hazelnut and tobacco) to other commodities. Payments are not subject to input constraints and there are ~~not~~ current commodity production/payment limits. Payment rates are fixed. Payments are included in GCT for hazelnut and tobacco.

Genetic resources payment: Per animal payment to farmer for the purpose of *in situ* protection of cattle and sheep or goat breeds. Farmers who have joined to the program initiated by MFAL for this aim are eligible to receive this payment. Payments are not subject to input constraints and there are not current commodity production limits. Payment rates are fixed. No data has been provided by MFAL since 2009. Payments are included in GCT for livestock.

Cattle breed registration payment: Per animal payment to farmers for registration and follow up of their cattle breeds. Farmers who are member of a cattle breeders union are eligible to receive this payment. Payments are not subject to input constraints and there are not current commodity production and payment limits. Payment rates are fixed. Payments are included in SCT for beef.

Feed crops premium: Per hectare payments to producers of feed crops (clover, trefoil, annual crops, crops for silage and maize for silage). For perennial feed crops payments are made for the first year of cultivation. Payments are not subject to input constraints and there are not current commodity production limits. Payment rates are fixed. Payments are included in GCT for grains.

Diesel payment: Per hectare payment to cover 35% of the country average of farmers' consumption of fuel (80 litre per hectare) to farmers who are eligible for *Direct Income Support (DIS)* payments. Payments are not subject to input constraints and there are not current commodity production/payment limits. Payment rates are fixed. Payments are included in GCT for crops.

Fertiliser payment: Per hectare payment to farmers who are eligible for *Direct Income Support (DIS)* payments. Payments are not subject to input constraints and there are not current commodity production/payment limits. Payment rates are fixed. In 2016, the diesel payment and fertiliser payment are combined and given as 110 TL (USD 36.4) per hectare. As of 2016, soil analysis

support, which was used as a precondition for diesel and fertiliser support, was cancelled, but it is planned to be given again with a different model in 2017. Payments are included in GCT for crops.

Land conservation: Per hectare payments, provided under the “Environmentally Based Agricultural Land Utilisation” (CATAK) sub-component of the amended ARIP, to protect environmentally fragile areas by setting aside agricultural areas formerly planted to crops in excess production or subject to severe erosion and replacing harmful agricultural farm practices with more environmentally friendly such as contour tillage, reduced flow irrigation, organic agriculture, production of fodder and adoption of pasture rehabilitation measures. It is implemented in 51 provinces.: Farmers in these areas receives payments under 3 different categories for 3 years:

1st category: Agricultural practices requiring minimum soil processing; 300 TRY/ha (99 USD/ha)

2nd category: Conserving soil and water and preventing erosion; 600 TRY/ha (198 USD/ha)

3rd category: Environmental friendly agricultural practices and cultural applications; 135 TRY/ha (44.6 USD/ha)

Payments are subject to input constraints and there are ~~no~~ current commodity production/payment limits. Payment rates are fixed. Payments are included in ACT.

Organic agriculture and good farming practices support: On 26 February 2009, with the official gazette numbered 27153, “Organic agriculture and Good Farming Practices Support Payment Notice” had been published. Afterwards, with several other notices, the support payment had been designed. All farmers must be registered to CKS and farming land and production should comply with the regulations. Support is divided into categories and given by per area. Payments are not subject to input constraints and there are no current commodity production and payment limits. Payment rates are fixed. Payments are included in GCT for crops.

Certified seed usage support: Within the framework of sustainability principle, following the priorities of quality, technology usage and environmental protection in plant production, when the certified seed usage is not sufficient enough for some species, support is given to farmers who use domestically produced certified seeds. Payments are given by per area of production. Support is given according to the seed used, such as, wheat, barley, oat, rye, paddy, pulses, sesame, canola, potato, soybeans, etc. Payments are not subject to input constraints and there are not current commodity production limits. Payment rates are fixed. Payments are included in GCT for arable crops.

Certified seedling usage support: In order to produce more qualified goods for the international and domestic markets, domestically produced certified seedling usage is supported. The area for production cannot be smaller than 0.5 hectare. Payments are not subject to input constraints and there are not current commodity production and payment limits. Payment rates are fixed. Payments are included in GCT for fruits and vegetable.

E. Payments based on non-current area planted/animal numbers/revenues/incomes – production not required

Direct Income Support (DIS): A uniform national annual payment granted under the ARIP to all farmers to cover the short-term losses associated with the removal of administrative prices and input based payments. Started in 2001, DIS was granted at a flat rate payment per hectare to all

farmers (about EUR 92/ha), unlinked to the production of any specific crop, with a ceiling of 50 hectares per farm. All land users (owners, tenants and share-croppers) were eligible to apply for DIS, as long as they could demonstrate that their land was legally cultivated and was registered in the land registry, or that they could provide a document from the village head that they were legal users of the land. Farmers who were eligible for DIS payments were also eligible for per hectare payment (to a maximum of 50 ha) to cover 35% of the country average of farmers' consumption of fuel (80 litre per hectare) -- "*Diesel payment*". Farmers also received an area-based payment for fertilisers. In 2009, the DIS was abolished due to its implementation problem.

Grubbing-up hazelnut payment: One-off payment granted under ARIP to farmers to help cover transitional cost for uprooting existing hazelnut trees and facilitate the transition to alternative crops such as oilseed, feed crops and maize.

III.2 Percentage PSE $[100 \times (\text{III.1}) / ((\text{I}) + (\text{Sum of A2 to G}))]$

III.3 Producer NPC: For all agricultural commodities the Producer NPC is estimated as a weighted average of the producer NPC calculated for the individual MPS commodities and shown in Table 4. For each commodity Producer NPC = [domestic price received by producers (at the farm gate) + unit payments based on output] / border price (also at the farm gate).

III. Producer NAC $[1 / (100 - (\text{III.2})) \times 100]$

IV. General Services Support Estimate (GSSE): total budgetary expenditure to support general services provided to agriculture [Sum of H to N].

H. Agricultural knowledge and innovation system

H.1. Agricultural knowledge generation:

H.1.a. Agricultural research

The amount of R&D expenditure covers agricultural R&D projects which are conducted by 49 Public Research Institutes under TAGEM (General Directorate of Agricultural Research), TUBITAK and public universities. Data is provided by MFAL but also can be found on Turkstat.gov.tr - Statistics by Theme -Research and Development Activities Survey – Statistical Tables – R&D Statistics - Government expenditure on R&D by socio-economic objectives and type of costs. The number should include current costs + capital costs according to the PSE manual pp. 87 (Treatment of policy administration costs).

H.1.b. Farm Accounting Data Network (FADN)

FADN is an online system where the farmers put their accounting data on statement of income and activities and allows making statistical evaluations. Farmers enrol to this system on voluntary basis and receive a support payment from the government for once only. The payment rate for 2016 was 425 TRY (140 USD) per farm.

H.2 Agricultural knowledge transfer:

H2.a. education

Agricultural Universities: Budgetary expenditure on professional schools on agriculture. Since 2006, no data has been provided by MFAL.

H2.b. extension services

Extension: Department of Training, Extension And Publications (EYYDB) is the responsible authority for conducting agricultural extension activities. In the past some research projects financed by foreign loans were implemented. The pilot project titled “1000 volunteers for 1000 villages” has been implemented successfully for three years period. For the project 1000 villages have been selected and 1000 agricultural engineers or veterinarians have been assigned to those villages. This project has been terminated on 31 December 2006. As of 01 January 2007, the project titled “Development of Agricultural Extension” was initiated. 2500 villages have been determined for the implementation of the project and 2500 agricultural, aquaculture engineer and veterinarians have been assigned to those villages. The costs of the project are covered by the National Budget.

I. Inspection and control

I.1. Agricultural product safety and inspection

I.2. Pest and disease Inspection and control

Inspection of agricultural products: Budgetary expenditures by MFAL, and TSFAS on inspection and control services.[No data available on other government and foreign expenditure, such as expenditure on imports inspection by the General Directorate for Protection and Control, and food inspection services: benefiting from an EC grant starting 1998 for improving existing laboratories, increasing the capacity of existing staff and establishing a computer network or the inspection of agricultural products for exports paid by the Under secretariat for Foreign trade under the Ministry of Economy.]

I.3. Input control

J. Development and maintenance of infrastructure

J.1. Hydrological infrastructure

Infrastructure: DSI’s budgetary expenditure on hydrological infrastructure is mainly on irrigation. This item includes irrigation expenditure under the program of regional development projects.

J.2. Storage, marketing and other physical infrastructure

Infrastructure: Budgetary expenditure on interest rate concessions on loans for agricultural villages development co-operatives provided by TCZB; for the improvement of infrastructures provided by TSFAS, TEKEL and ÇAYKUR; and for the construction, maintenance and repair of road, water and electricity mains and sewage facilities. No amount has been reported by MFAL since 2008.

J.3. Institutional infrastructure

J.4. Farm restructuring

K. Marketing and promotion

K.1. Collective schemes for processing and marketing

K.2. Promotion of agricultural products

Budgetary expenditure for covering losses of government agencies (TMO, TSFAS, TEKEL) associated with market intervention procedures plus debt write-off of loans of those agencies.

Duty loss (TMO, TSFAS, TEKEL, ASCUs, ESK)
Debt write-off (TMO, TSFAS, TEKEL, ÇAYKUR)
Equity injections from Treasury to TMO, TSFAS, TEKEL, ÇAYKUR
Transfer to ASCUs from support and price stabilisation fund
ASC/ASCU restructuring under the Agricultural Reform Implementation Project (ARIP, 2001-04).

L. Cost of Public stockholding

M. Miscellaneous

V.1 Consumer Support Estimate (CSE): Associated with agricultural production, i.e. for the quantities of commodities domestically produced, excluding the quantities used on-farm as feed -- excess feed cost. [Sum of N to Q; when negative, the amounts represent an implicit tax on consumers].

N. Transfers to producers from consumers: Associated with market price support on all domestically produced commodities, estimated by increasing the transfers calculated for the MPS commodities according to their share in the total value of production $[(N.1) / (I.1) \times 100]$.

N.1. Of which MPS commodities: Sum of the values of transfers from consumers to producers associated with market price support for the MPS commodities as calculated in Tables 4.1 to 4.16.

O. Other transfers from consumers: Transfers to the budget associated with market price support on the quantities imported of domestically produced commodities, estimated by increasing the transfers calculated for the MPS commodities according to their share in the total value of production $[(O.1) / (I.1) \times 100]$.

O.1. Of which MPS commodities: Sum of the transfers to the budget associated with market price support on the quantities imported of the MPS commodities as calculated in Tables 4.1 to 4.16.

P. Transfers to consumers from taxpayers

P.1. Commodity specific transfers to consumers: Sum of commodity specific transfers from taxpayers to consumers (farm gate level)

P.2. Non-commodity specific transfers to consumers: Sum of non-commodity specific transfers from taxpayers to consumers.

Q. Excess Feed Cost: Associated with market price support on quantities of domestically produced crops and used on-farm as feed as calculated (Sum of *Excess Feed Cost* in the MPS Tables 4.1, 4.2, 4.3A and 4.4A).

V.2 Percentage CSE $[100 \times (V.1) / ((II) + (P))]$

V.3 Consumer NPC: For all agricultural commodities the Consumer NPC is estimated as a weighted average of the consumer NPC calculated for the individual MPS commodities and shown in Table 4. For each commodity Consumer NPC = domestic price paid by consumers (at the farm gate)/ border price (also at the farm gate).).).

V.4 Consumer NAC $[(1 / (100 - (V.2))) \times 100]$

VI. Total Support Estimate $[(III.1) + (IV) + (P)]$ and $[(R) + (S) - (T)]$

R. Transfers from consumers $[(N) + (O)]$

S. Transfers from taxpayers [(III.1)-(N) + (IV)+(P)]

T. Budget revenues [(O)]

TABLE 2. TURKEY: Breakdown of PSE by Commodity Specificity and Other Transfers

All data sets in Table 2 to come from Tables 1 and 3.1 to 3.17 where definitions are included.

Definitions:

I. Single commodity transfers (SCT): the annual monetary value of gross transfers from policies linked to the production of a single commodity such that the producer must produce the designated commodity in order to receive the payment. This includes broader policies where payments are specified on a per-commodity basis. SCT is also available by commodity. [Sum of commodity SCTs from Tables 3.1-3.10].

Percentage SCT: is the commodity SCT expressed as a share of gross farm receipts for the specific commodities (including support in the denominator). This indicator can be expressed for the total SCT (Table 2), or for a specific commodity (Table 3).

$$\%SCT = 100 * SCT / (\text{value of production}_{COM} + A2_{COM} + B_{COM} + C_{COM} + D_{COM})$$

$$\text{Share in Total PSE (\%): } SCT_{SHARE} = 100 * SCT / PSE$$

II. Group commodity transfers (GCT): the annual monetary value of gross transfers from policies whose payments are made on the basis that one or more of a designated list of commodities is produced. That is, a producer can choose among a set of allowable commodities to produce and receive a payment that does not vary with respect to this decision. $[GCT = B_{GROUP} + C_{GROUP} + D_{GROUP}]$

$$\text{Share in Total PSE (\%): } GCT_{SHARE} = 100 * GCT / PSE$$

Transfers to specific groups of commodities: the GCT indicator is calculated for Turkey for eight different commodity groups. Of these, the following three are the most important:

- **All crops** This primarily includes support for input use, such as fertiliser subsidies, pesticide subsidies, hybrid seed subsidies, support for natural disasters, organic agriculture and good farming practices support.
- **All arable crops** This primarily includes support for certified seed usage support
- **Grain-** This primarily includes support for feed crops premium
- **All fruits and vegetables** This primarily includes support for certified seedling usage support
- **Livestock.** This entails transfers to livestock producers in the form of input support, such as support for feed, capital grants, livestock replacement and control of disease.
- **Milk, beef and sheep meat.** This group includes support to producers of cattle, dairy and sheep for animal replacement due to natural disasters through the *Livestock Replacement Programme* and for pasture improvement.
- **Wheat, sugar, cotton, sunflower -** This primarily includes support for on farm development.
- **Hazelnuts and tobacco:** includes payments under the Transition Programme.

III. All commodity transfers (ACT): the annual monetary value of gross transfers from policies that place no restrictions on the commodity produced but require the recipient to produce some commodity of their choice. $[ACT = C3 + B_{ALL} + D_{ALL}]$

$$\text{Share in Total PSE (\%): } ACT_{SHARE} = 100 * ACT / PSE$$

IV. Other Transfers to Producers (OTP): the annual monetary value of gross transfers made under policies that do not fall in the above three cases (SCT, GCT, ACT). That is, payments that do not require any commodity production at all. [OTP = E + F + G]

Share in Total PSE (%): $OTP_{\text{SHARE}} = 100 * OTP / PSE$

V. Total PSE: $PSE = A+B+C+D+E+F+G = SCT + GCT + ACT + OTP$

Percentage PSE: $\%PSE = 100 * PSE / \text{value of agr. production} + A.2. + B + C + D + E + F + G)$

TABLE 3. TURKEY : Producer Single Commodity Transfers

Tables 3.1 to 3.17, provide information on Producer Single Commodity Transfers (PSCT) for the following commodities: wheat, maize, barley, sunflower, sugar (refined equivalent), milk, beef and veal, poultry, sheep meat, eggs, cotton, tobacco, apple, tomato, potatoes, grape and “other commodities”. All data sets in the calculation SCT by commodity come from Tables 1 and 4.1 – 4.16 where definitions are included.

Definitions:

I. Level of production: Data from respective commodity Tables 4.1 – 4.16 (Market Price Support tables)

II. Value of production (at farm gate): Data for respective commodity Tables 4.1 – 4.16 (Market Price Support tables)

III. Producer Single Commodity Transfers: Sum of transfers to specific commodity in categories A, B, C and D.

A. Support based on commodity outputs

A1. Market Price Support [Data from Table 4]

A2. Payments based on output

Data from Table 1 – see the policies providing payments based on output (A.2) to the specific PSE commodity, in the definitions in Table 1.

B. Payments based on input use [B1+B2+B3]

B1. Variable input use

Data from Table 1 – see the policies providing payments based on variable input use (B.1) to the specific PSE commodity, in the definitions in Table 1.

B2. Fixed capital formation

Data from Table 1 – see the policies providing payments based on fixed capital formation (B.2) to the specific PSE commodity, in the definitions in Table 1.

B3. On-farm services

Data from Table 1 – see the policies providing payments based on on-farm services (B.3) to the specific PSE commodity, in the definitions in Table 1.

Payments based on current A/An/R/I, production required

Data from Table 1 – see the policies providing payments based on current A/An/R/I, single commodity to the specific PSE commodity, in the definitions in Table 1.

D. Payments based on non-current A/An/R/I, production required

Data from Table 1 – see the policies providing payments based on non-current A/An/R/I, production required (D) to the specific PSE commodity, in the definitions in Table 1.

IV. Percentage SCT : $\%SCT = 100 * (III) / ((II) + (A.2) + (B) + (C) + (D))$

TABLE 4. TURKEY: Market Price Support and Consumer Single Commodity Transfers

Tables 4.1 to 4.16, contain calculation of the Market Price Support (MPS) and Consumer Single Commodity Transfers (consumer SCT) for the following commodities: wheat, maize, barley, sunflower, sugar (refined equivalent), milk, beef and veal, poultry, sheep meat, eggs, cotton, tobacco, apple, tomato, potatoes, grape and “other commodities”. The data sets used in calculation of the MPS and consumer SCT by commodity are described below.

Tables 4.1 to 4.16 contain calculations of the Market Price Support (MPS) and Consumer Single Commodity Transfers (consumer SCT) for the following 12 commodities: rice, natural rubber, coffee (green), maize, cashew nuts (with shell), sugar cane, pepper, tea, beef and veal, pig meat, poultry and eggs, as well as for “other commodities”. The data sets used in calculations of the MPS and consumer SCT by commodity are described below.

Definitions:

I. Level of production

Cereals, sunflower, apples, tomatoes, potatoes and grapes: Volume of Production [1].

Sugar (white sugar): Volumes of sugar produced from sugar beet and processed by the TSFAS each year [4].

Cotton: Volume of production (lint) [1].

Tobacco: Volume of production (leaves) [1].

Milk: Total production of cow's milk, calendar year [2].

Beef and veal, poultry meat and sheep meat: Total production of meat, carcass weight, calendar year [2].

Eggs: Edible eggs produced by commercial farms plus edible eggs obtained from small, rural farms (0.055 kg per egg) [3].

II. Producer prices

Cereals: Average purchase price of TMO, all grades [5].

Sunflower and cotton: TSKB (ASCUs) average purchase prices [5].

Sugar: TSFAS average purchase prices for sugar beet [4].

Tobacco: TEKEL average purchase price [5].

Apples, tomatoes, potatoes and grapes: SIS unit value of production [5].

Milk: Average TSEK purchase prices for raw milk [3].

Meats: Average purchase prices of the ESK [6].

Eggs: Average prices used in the SIS Wholesale Price Index [3].

Calculations cover all agricultural holdings in Turkey. PRF (price received by farmers) are compiled monthly from Province and District Directorates of MFAL in which city markets are established. The prices for crop products includes wholesale price of producers to merchant and factory, for fruits and vegetables districts in which markets established every month first and second week, third and fourth week average market price (retail) and wholesale price of producers to market hall and merchant, for livestock, district animal bazaar, merchant and slaughterhouse cutting price and for animal products district market, merchant and factory buying prices.

Monthly quantity and values of agricultural products are compiled from, Fresh Vegetables and Fruits Marketplace, Commodity Exchanges and Producers Union.”¹

IV. Level of consumption

For all commodities:

Consumption = Production + imports - exports [- feed – seed + change in stocks]

Wheat

Imports: Turkish Foreign Trade statistics [8]. The Conversion factors used to calculate the wheat equivalent for foreign sales of the commodities are as follows:

Flour: x 100/70;

Pasta: x 100/84;

Cakes & biscuits: x 100/77

Stocks: The figures derived by subtracting total demand from total supply.

Feed: The figure used was double the amount of wheat used by the feed industry.

Seeds: It was estimated that 200 kg of seed are sown per hectare.

Exports: Turkish Foreign Trade statistics [8]. The conversion factors used in external purchases were used in the calculation of the wheat equivalents for the foreign sales of the commodity.

Sunflower: Seed equivalents for traded products are estimated by dividing the volume of sunflower oil by 0.40 [7].

Cotton: Volumes of imports and exports are calculated by adding the following shares of imports/exports of the cotton derived products: (lint cotton x 1.00) + (cotton thread x 0.85) + (cotton cloth x 0.95 x 0.85) + (velvet x 0.66 x 0.95 x 0.85) + (fiber’s knitted x 0.75 x 0.95 x 0.85) + (fiber’s textile x 0.5 x 0.95 x 0.85) + (home textile 0.05 x 0.95 x 0.85) [7].

Tobacco: Volumes of imports and exports are calculated by adding the following shares of imports/exports of the tobacco derived products: 1 cigarette = 1 gr. of tobacco and 1 cigar = 35 gr. of tobacco [7].

Apples: Volumes of imports and exports are calculated by adding the following shares of imports/exports of the apple derived products: (juice / 0.70) + (concentrated / 0.50) + (puree / 0.20) + (dried / 0.25) + (canned / 0.80) [7].

Tomatoes: Volumes of imports and exports are calculated by adding the following shares of imports/exports of the tomatoes derived products: (juice / 0.50) + (paste / 0.25) + (dried / 0.10) + (canned / 0.80) + (frozen / 0.70) + (ketchup / .040) [7].

Potatoes: Volumes of imports and exports are calculated by adding the following shares of imports/exports of the potatoes derived products: (flour / 0.15) + (starch / 0.15) + (dried / 0.25) + (canned / 0.70) + (frozen / 0.70) [7].

Grapes: Volumes of imports and exports are calculated by adding the following shares of imports/exports of the grapes derived products: (raising / 0.25) + (wine / 0.60) + (juice / 0.80) + (concentrated / 0.50) [7].

Beef and veal: The meat equivalent of non-breeding live cattle imports/exports is estimated by using a yield conversion factor of 55 per cent and adding the resulting number to the meat export/import figures [3].

Poultry: The meat equivalent of live, non-breeding chicken imports/exports is estimated by applying a yield conversion factor of 75 per cent and adding the resulting number to the meat import/export figures [3].

Sheep meat: Traded volumes include the sheep meat equivalent of non-breeding livestock. Each kilogramme of live animal is assumed to yield 550 grammes of meat on a carcass-weight equivalent basis [3].

¹ http://www.turkstat.gov.tr/PreTablo.do?alt_id=1004

VII. Reference prices

Wheat: Weighted average c.i.f. price of Turkish wheat imports (15% to hard wheat and 85% to soft wheat, for bread), adjusted for handling and marketing used for the European Union. [8, 9]

Maize: European Union's average import price of USA Yellow corn Nr 3 (c.i.f. Rotterdam), adjusted by a handling and marketing margin, using the same margin used for the European Union. [9]

Barley: European Union's barley export price (f.o.b. French ports), adjusted for handling and marketing margin used for the European Union.[9]

Sunflower: European Union's import price for sunflower seeds, c.i.f. [9].

Sugar: Paris Stock Exchange white sugar price, minus handling and marketing margin based on the ratio of the TSFAS's wholesale price for granulated sugar to its average purchase price for sugar beet. [4, 9]

Cotton, tobacco, apples, tomatoes, potatoes, and grapes: Unit value of Turkish exports [8].

Milk: Border prices of butter and SMP converted into a milk equivalent border price using technical coefficients minus a processing margin, calendar year. The border prices of butter and of SMP are the unit c.i.f. import values [8]. The processing margin is calculated as a simple average of the processing margins for the four main exporting countries: Australia, EU, New Zealand and the United States.

Beef and veal: Unit export value in extra-EU trade of meat of bovine animal, fresh and chilled (code 0111, SITC, Rev. 3), in carcass weight equivalent, calendar year [9].

Poultry meat: European Union's f.o.b. unit export price of poultry meat [9].

Sheep meat: Average Turkish sheep meat export price; adjusted for handling and marketing margin, obtained by the ratio between ESK's average sheep meat purchase prices and its sheep meat sales prices.[8]

Eggs: European Union's unit export value of poultry eggs in the shell, fresh or preserved, excluding eggs for hatching; adjusted for handling and marketing margin estimated by comparing the SIS's "Consumer Price Index" for eggs with the average of its "Wholesale Price Index" and index of "Prices Paid to Farmers" for eggs [9].

Sources:

[1] TURKSTAT - Crop Production Statistics Database (statistics by theme/agriculture/crop production statistics/statistical tables and dynamic search/crop production statistics)

[2] TURKSTAT – Livestock Production Statistics Database (statistics by theme/agriculture/livestock statistics/ statistical tables and dynamic search – choose the appropriate subject from livestock, red meat, poultry, milk)

[3] MFAL

[4] TSFAS

[5] TURKSTAT – Agricultural Price Statistics (statistics by theme/agriculture/agricultural prices and economic accounts/statistical tables and dynamic search/agricultural price statistics (M)

- [6] TURKSTAT - Prices of Animal Product (statistics by theme/agriculture/agricultural prices and economic accounts/statistical tables and dynamic search/Prices of Animal Product and Production Values)
- [7] TURKSTAT - Crop Products Balance Sheet (statistics by theme/agriculture/crop production statistics/statistical tables/crop products balance sheets – choose the appropriate product group such as cereals, vegetables or fruits)
- [8] TURKSTAT – Foreign Trade Statistics
- [9] EU PSE database