

NEW ZEALAND : ESTIMATES OF SUPPORT TO AGRICULTURE

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DEFINITIONS AND SOURCES

Country Total Support Estimate (TSE) and derived indicators in **Table 1** 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 Estimates (PSE) and Consumer Support Estimates (CSE), where relevant the description of policy measures indicates where the policies are related to specific commodities. "MPS commodities", which vary across countries, are those for which market price support is explicitly calculated in Table 4.

Table 2 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 where definitions are included.

Producer Single Commodity Transfers (PSCT) by commodity in **Table 3** are calculated only for the commodities produced in the country within a common set of commodities (wheat, maize, barley, oats, rice, sorghum, soybeans, sunflower, rapeseed, sugar, milk, beef and veal, pigmeat, poultry meat, sheep meat, wool and eggs), provided that the value of production of that commodity exceeds 1% of the total value of production in the country concerned. All data sets in the calculation of PSCT by commodity come from Tables 1 and 4 where definitions are included.

Market Price Support (MPS) and Consumer Single Commodity Transfer (CSCT) by commodity in **Table 4** are calculated for the following commodities; wheat, maize, barley, milk, beef and veal, sheepmeat, wool, pigmeat, poultry and eggs. Definitions are provided only for basic data sets from which all the other data sets in this table are derived, following the formula indicated in each commodity table.

Definitions of the indicators, criteria of classification of programmes included, and methods of calculation can be seen in OECD, Methodology for the measurement of support and use in policy evaluation [<http://www.oecd.org/agr/policy>].

Conversion factors:

Milk tonnes = thousand litres / 1.031

Eggs tonnes = million dozen x 12 (eggs) x 58.5 (grams per egg)

Sheep tonnes = number exported live x 0.020

Wool cons. tonnes = clean wool consumed x 1.33

Crop years: 1 April 1986-31 March 1987 crop year is referred as "1986" and covers data denoted in the reference source as "1986/87". Note that, in contrast, when the New Zealand authorities use statistical year "1979", they are referring to "1978/79".

Marketing years: Vary according to **livestock products**. The following examples are referred to as "1986":

milk: 1 June 1986-31 May 1987;

beef and veal, pigmeat, poultrymeat, sheepmeat: 1 October 1986-30 September 1987;

wool: 1 July 1986-30 June 1987;

eggs: 1 April 1986-31 March 1987.

Abbreviations:

MAF New Zealand, Ministry of Agriculture and Forestry

MISA Meat Income Stabilization Account [no longer exist]

NZDS New Zealand Department of Statistics [now SNZ: Statistics New Zealand]

NZMPB New Zealand Meat Producers Board [no longer exists]

SONZA(F) Situation and Outlook for New Zealand Agriculture (and Forestry)

USDA United States Department of Agriculture

TABLE 1. New Zealand : 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 Table 4) 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 Table 4.

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 outputs

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:

Stabilisation loan write-off (up to 1986): One-off transitional payment; Payments of NZ\$ 25/tonne announced after the harvest and granted to all wheat sold for the 1986/87 harvest. These transfers are included in the wheat SCT (Table 3.1).

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

B. Payments based on input use

B.1. Variable input use

Fuel payment: (up to 1986) Value of the exemption on the proportion of the Motor Spirits Duty paid to the National Roads Fund. These transfers are included in the ACT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

Labour payment: (up to 1986) Budgetary expenditure covering part of wages for a maximum period of twenty-six weeks for workers employed under the Job Opportunity Scheme. These transfers are included in the sheepmeat, wool, beef and milk SCT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

Fertiliser payment: (up to 30th June 1986) Budgetary expenditure to the fertiliser industry to cover costs associated with reduced prices paid by farmers. These transfers are included in the sheepmeat, wool, beef and milk SCT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

B.2 Fixed capital formation

Capital grants: (up to 1993) Budgetary expenditure under the Livestock Incentive Scheme (LIS) and the Land Development and Encouragement Loan Scheme (LDELS) on payments to farmers as "an incentive to the improvement of reverted or under-utilized land". These transfers are included in the sheepmeat, wool, beef and milk SCT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

Rural Bank and Finance Corporation: interest concessions: (up to 1990/91) Provided by the Rural Banking and Finance Corporation, the Department of Maori Affairs and the Department of Lands and Survey. Total value calculated as the difference between the market rate and the subsidized rate paid by the farmers, multiplied by the value of outstanding loans to purchase fixed inputs. These transfers are included in the sheepmeat, wool, beef and milk SCT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

B.3. Based on use of on-farm services

Agricultural pest control: (up to 1992) Budgetary expenditures for rabbits control and grants to pest destruction boards for carrying out pest eradication as well as operating costs of the Agricultural Destruction Council. These transfers are included in the ACT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

Pest management: (From 1994) Budgetary expenditure allocated by MAF for control of tuberculosis vectors (primarily possums) and also by Regional Councils for control of animal and plant pests (to protect health and life of agricultural plants and livestock, plus native flora and fauna). These transfers are included in the ACT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

Animal health division (disease control): (up to 1989/90) Budgetary expenditure on programmes to safeguard the health of New Zealand's agricultural animal population, namely export quality assurance for live animals, promotion on animal health and the reduction of production limiting diseases, disease surveillance and disease eradication. These transfers are included in all livestock GCT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

Noxious weeds eradication: Budgetary expenditure on the control of noxious seeds, including payments for employment of Noxious Plants Officers, for the Nassella Tussock Boards, for the eradication of Australian Sedge and the noxious plant control scheme. The scheme was discontinued in February 1985 but payments continued to be made through 1991/92. These transfers are included in the ACT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

C. Payments based on current area planted/animal numbers/revenues/incomes

C. 1. Single commodities

C.2. Specific groups of commodities

C.3. All commodities

Income tax concessions: (up to 1990): Major tax concessions on farmer's income were given in 1986. These transfers are included in the ACT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

Climatic disaster relief scheme: Formerly budgetary expenditure on interest concessions by the Rural Banking and Finance Corporation (RBFC) on loans to farmers for restoring boundary fences and stock water supplies due to adverse climatic conditions and payments related to hail damage for horticultural crops. [The RBFC no longer exists.] Now budgetary expenditure through MAF to assist with recovery in the aftermath of large-scale climatic disasters that are beyond the ability of a region or community to manage. These transfers are included in the ACT.

Use of labels: Production limits: NO; Variable payment rates: YES (Payments rates vary according to the severity of damage by natural disasters) ; Input constraints: NO.

D. Payments based on non-current area planted/animal numbers/revenues/incomes – production required

Producer board debt write-off: Budgetary expenditure on debt write-off by sheepmeat and beef producer boards. [This scheme was removed in 1986.] These transfers are included in the sheepmeat, wool, beef and milk SCT.

Use of labels: Production limits: NO ; Variable payment rates: NO; Input constraints: NO.

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

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. Miscellaneous payments

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.4 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. Research and development

Budgetary expenditure by the Ministry of Agriculture and Fisheries, the Department of Scientific and Industrial Research and the Department of Lands and Survey up to 1988/89. From 1990 onward, budgetary expenditure provided through the Public Good Science Fund (PGSF), administered by the Foundation of Science, Research and Technology (FRST).

From 2001, Sustainable Farming Fund (SFF) has been provided in order to help rural communities in the sustainable use of land-based resources. Eligible projects are those of up to three years' duration that help with the transfer of the information and technology from experts into the hands of the wider community

Extension: Budgetary expenditure on the Advisory and Services Division of MAF allocated to all commodities according to their share in the total value of production. [These services were privatised in 1992.]

I. Agricultural schools

Budgetary expenditure on agricultural education by the Tertiary Education Commission (TEC) to Industry Training Organizations. [No data available up to 1995].

J. Inspection services

Meat and dairy inspection programme: Until mid-1990s, budgetary expenditure for the control of hygiene standards and grading; replaced, in 1990, by a Quality Assurance programme for inspection, laboratory analysis, audit and certification; plus costs of seed certification for wheat and coarse grains.

Regulatory system (primary processing): From mid-1990s, budgetary expenditure on regulatory programme for animal products, dairy products, agricultural compounds and veterinary medicines (includes standard setting, programme development, systems audit, verification, and enforcement).

Agricultural quarantine service: Until mid-1990s, budgetary expenditure on the control of agricultural products' entry into the country.

Regulatory system (biosecurity): From mid-1990s, budgetary expenditure on all aspects of the biosecurity system relevant to agricultural production (includes standard setting, operational systems, accreditation, official assurances, border clearances, surveillance programmes, and response activities).

K. Infrastructure

Community irrigation schemes: (since 1990/91) Budgetary expenditures under the community irrigation scheme covering the operation and maintenance of the Crown's existing irrigation schemes until they are sold to private buyers, the cost of the sale of irrigation assets.

Soil conservation: Since 1994, budgetary expenditures by Regional Councils on cost-share programmes to encourage best land management practices, e.g. prevention of erosion.

Flood control and land drainage: Since 1994, budgetary expenditures by Regional Councils to support initial construction of flood protection and land drainage schemes to reduce the effects of flooding on life and property.

East Coast Forestry Project: Since 1994, 50% of budgetary expenditures on grants and administration of the Project, which provides for erosion control treatments on the worst areas of severely eroding land within the East Coast District.

L. Marketing and promotion

M. Public stockholding

N. Miscellaneous

Sustainable Management Fund grants: Grants provided by the Ministry for the Environment for sustainable resource management (includes only those grants that have some potential to improve agricultural production).

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 O to R; when negative, the amounts represent an implicit tax on consumers].

O. 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 $[(O.1) / (I.1) \times 100]$.

O.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 Table 4.

P. 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 $[(P.1) / (I.1) \times 100]$.

P.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 Table 4.

Q. Transfers to consumers from taxpayers

Q.1. Commodity specific transfers to consumers: Sum of commodity specific transfers from taxpayers to consumers (farm gate level) from commodity MPS tables (Table 4). The descriptions of policies providing commodity specific transfers are provided below:

Q.2. Non-commodity specific transfers to consumers: Sum of non-commodity specific transfers from taxpayers to consumers (farm gate level). The descriptions of policies inducing non-commodity specific transfers are provided below:

R. Excess Feed Cost: Associated with market price support on quantities domestically produced and used on-farm as feed as calculated in Table 4. [Sum of excess feed costs in the MPS tables (Table 4) for feed crops.]

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

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 2. 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 $[(III.1) + (IV) + (Q)]$ and $[(S) + (T) - (U)]$

S. Transfers from consumers $[(O)+(P)]$

T. Transfers from taxpayers $[(III.1)-(O)+(IV)+(Q)]$

U. Budget revenues $[(P)]$

TABLE 2. New Zealand: Breakdown of PSE by commodity specificity and other transfers

All data sets in Table 2 come from Tables 1 and 3 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 Table 3]

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).

$$\%SCT = 100 * SCT / (\text{value of production}_{COM} + A2_{COM} + B_{COM} + C1_{COM} + D_{COM})$$

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

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} + C₂ + D_{GROUP}]

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

Transfers to specific groups of commodities: The GCT involves the following groups of commodities:

- **All livestock:** This category represents the payments on animal disease control programmes that seek to safeguard the health of the agricultural animal population. These programmes include export quality assurance for live animals, the reduction of production limiting diseases, disease surveillance and disease eradication. This payment represented 100% of GCT since 1993 when the payments for the other group (sheepmeat, wool, beef and milk) were completely stopped.
- **Sheepmeat, wool, beef and milk:** This category included policies directed at producers of sheep and cattle. The transfers in this category represent payments in seven programmes; labour subsidy programme, fertilizer price subsidy programme, livestock incentive scheme, land development and encouragement loan scheme, interest concession programme from the rural bank and finance corporation, debt discounting write-off programme from the rural bank and finance corporation, the debt write-off programme for producer boards. The payments for this category were completely stopped in 1992 as the reform of these sectors was accomplished.

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. New Zealand : Producer Commodity Specific Transfers by commodity

Tables 3.1 to 3.n, provide information on Producer Single Commodity Transfers (PSCT) for the following commodities: wheat, maize, barley, milk, beef and veal, sheepmeat, wool, pigmeat, poultry and eggs. All data sets in the calculation SCT by commodity come from Tables 1 and 4 where definitions are included.

Definitions:

I. Level of production: Data from Table 4 (Market price support table)

II. Value of production (at farm gate): Data from Table 4 (Market price support table)

III. Producer Single commodity transfers: Sum of transfers to specific commodity in categories A, B, C1 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.

C1. Payments based on current A/An/R/I, production required, single commodity"

Data from Table 1 – see the policies providing payments based on current A/An/R/I, single commodity (C.1) 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.1)+(D))

TABLE 4. New Zealand :Producer Support Estimate by commodity

I. Level of production

Cereals: Total production of all cultivators from all sources [1].

Milk: Milk production, calculated as the sum of town milk and manufacturing milk production [1].

Meats: Total production in carcass weight of slaughtering (including dairy cattle for beef, mutton and lamb for sheepmeat); canned meat production (for beef) and animals exported live (for sheep) (number exported multiplied by 0.020). Includes production from rural slaughterhouses, on-farm kill, and pet food factory kill [2].

Poultry: Commercial production in carcass weight of meat of chicken, roasting fowl, duck and turkey. Goose and pheasant meat is not included [2].

Wool: Total production of greasy and scoured wool in greasy equivalent weight; excluding slip wool and wool on sheepskins (which is exported).

Eggs: Commercial egg production, dozen converted to tonnes ($0.702 = 12 \text{ eggs} \times 58.5 \text{ grams per egg}$) [2].

II. Producer price

Cereals, poultry and eggs, milk, meats and wool: Implicit average farm-gate price calculated by dividing the value of production by the level of production. Since 1987, barley price refers only to feed barley.

IV. Level of consumption:

Cereals: Apparent consumption, i.e. production minus exports (in the following year) [3].

Milk: Apparent consumption of market fresh milk, plus consumption of milk products in milk equivalent [3].

Beef and veal: Local disappearance of beef and veal, including farm and rural slaughterhouse kill, carcass weight; and carcass weight equivalent of canned and miscellaneous processed beef and veal [3].

Pigmeat: Total apparent consumption (i.e. production minus net exports of pork, bacon and ham), carcass weight [3].

Poultrymeat: Assumed equal to production [3].

Sheepmeat: Total apparent consumption of mutton and lamb, carcass weight [3].

Wool: Consumption of wool, in greasy equivalent, obtained by multiplying consumption of clean wool by 1.33 [4].

Eggs: Assumed to be equal to production.

VII. Reference prices:

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 price of butter is the butter average export unit value, f.o.b., year ended 30 June [8], and the border price of SMP is Skim milk and buttermilk powder f.o.b. export price, year ended 30 June [8]. The processing margin is calculated as the difference between the domestic wholesale price (domestic wholesale prices of butter and SMP converted into milk equivalent price using technical coefficients) and the producer price. The domestic wholesale price of butter and SMP is assumed to be the same as the border prices of butter and SMP.

Pigmeat: Implicit import price obtained by applying the tariff rate to the wholesale price (estimated as the producer price plus processing margin estimated at 50 per cent of the producer price).

Poultrymeat: Weighted unit value of US producer farmgate prices of poultrymeat (broilers, chickens and turkeys). [6].

Eggs: Export unit value of eggs-in-shells exported by the European Community minus processing margin estimated as 5 per cent of the producer price [7].

Sources:

[1] New Zealand Department of Statistics (NZDS), *Situation and Outlook for New Zealand Agriculture and Forestry*, and data reported in various serials published by the Ministry of Agriculture and Forestry (MAF).

[2] 1986-1990: New Zealand Department of Statistics (data transmitted by MAF). 1991 onward: MAF estimate.

[3] MAF replies to the OECD Agricultural Directorate's "Medium-Term Market Developments and Policies Questionnaire"(AGLINK).

[4] New Zealand Wool Board, annual report -- year ended June; since 1991, OECD Secretariat estimates.

[5] MAF *NZ Agricultural Statistics*, various years, *New Zealand Dairy Board, Annual Report*, various years.

[6] USDA, *Poultry: Production and Value*, various years. OECD PSE/CSE database, US calculation.

[7] EUROSTAT, External trade-Exports, various years.

[8] OECD *Aglink Databases*.