

JAPAN : 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, barley, rice, sugar, milk, beef and veal, pig meat, poultry meat, eggs, apples cabbage, cucumbers, grapes, mandarins, pears, spinach, strawberries and welsh onions. 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.

An [Explanatory Note](#) contains a brief description of the country data files and definitions of support indicators. The [PSE Manual](#) provides comprehensive explanation of concepts, calculation, interpretation and use of the Producer Support Estimate (PSE) and related indicators of agricultural support provided in the database. Both sources are available as PDF files on www.oecd.org/tad/support/psecse.

TABLE 1. JAPAN : 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:

Production promotion of sugar (1986-2006): payment per tonne of beet (cane) multiplied by quantity of sugar beet (cane) production. This transfer is included in the *sugar* SCT (Table 3.5).

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

Production promotion of cheese (1987-Present): payment per tonne of milk used to produce cheese. This transfer is included in the *milk* SCT (Table 3.6).

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

Deficiency payment for beef calf producers (1990-Present): payment per tonne calculated as the difference between the guaranteed standard price and average market price, multiplied by the quantity of beef calf production. This transfer is included in the *beef* SCT (Table 3.7).

Use of labels: Production and payment limits: NO; Variable payment rates: YES (Payments rate is variable depending on current price level); Input constraints: NO.

PSFE payment (1986-Present): payment per tonne under the Price Stabilisation Fund on **Eggs** to egg producers under contract, calculated as 90 per cent of the difference between standard price and average market price, multiplied by the quantity of egg production. This transfer is included in the *egg* SCT (Table 3.10).

Use of labels: Production and payment limits: NO; Variable payment rates: YES (Payments rate is variable depending on current price level); Input constraints: NO.

FVSSF payments (National (1986-Present) and Sub-national (from 2007)): payment per tonne under the **Fruits** and **Vegetables** Supply Stabilisation Fund to producers under contract, calculated as 90 per cent of the difference between standard price and average market price, multiplied by the quantity of production of specific fruit and vegetables. National and sub-national payments cover different fruits and vegetables (Table 3.11).

Use of labels: Production and payment limits: NO; Variable payment rates: YES (Payments rate is variable depending on price level); Input constraints: NO.

*Direct payment for **barley** (2000-2006)*: payment per tone for barley under barley and wheat management stabilization programme. This transfer is included in the *barley* SCT (Table 3.2).

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

*Direct payment for **wheat** (2000-2006)*: payment per tone for wheat under barley and wheat management stabilization programme. This transfer is included in the *wheat* SCT (Table 3.1).

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

Payment on rice (JRIS) (1986-Present): budgetary expenditure based on rice production. **Rice** Farming Income Stabilisation Program (JRIS) was introduced in 1998 and revised in 2004, to compensate voluntary marketed rice producers for part of the loss of income caused by a fall in the market price. Eligible producers have to fulfil the required diversion target of the year, enter into a contract with agricultural co-operatives and deposit certain amount of money as "limited withdrawal deposit" in the co-operatives. This transfer is included in the *rice* SCT (Table 3.4).

Use of labels: Production and payment limits: YES (Eligible producers have to fulfil the required diversion target of the year); Variable payment rates: YES (Payments rate is variable depending on current price level); Input constraints: NO.

*Direct payment for **soybeans** (1986-Present)*: payment based on the quantity of soybeans production within the production adjustments system decided by the government. Payments rate is fixed. This transfer is included in the *soybean* SCT (Table 3.3).

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

***Soybeans** producer management stabilization programme (2000-Present)*: payment based on the quantity of soybeans production under management stabilization programme. This transfer is included in the *soybean* SCT (Table 3.3).

Use of labels: Production and payment limits: NO; Variable payment rates: YES (Payments rate is variable depending on current price level); Input constraints: NO.

*Payments for **manufacturing milk** (1986-Present)*: budgetary expenditure under the new "Temporary Law for Compensation Prices for Producers of Milk for Manufacturing Purposes", introduced in 2001, to compensate dairy farmers for part of the loss of income caused by a fall in the market place for manufacturing milk. This transfer is included in the *milk* SCT (Table 3.6).

Use of labels: Production and payment limits: YES (Eligible producer has to comply with the production plan prepared by the producer's organization); Variable payment rates: NO; Input constraints: NO.

***Milk** producer management stabilization programme (2004-Present)*: payment based on the quantity of milk production under management stabilization programme. This transfer is included in the *milk* SCT (Table 3.6).

Use of labels: Production and payment limits: YES (Eligible producer has to comply with the production plan prepared by the producer's organization); Variable payment rates: YES (Payments rate is variable depending on current price level); Input constraints: NO.

Direct payments for core farmers (Wheat, Barley, Soybean, Sugar beet and Starch potato) (from 2007): output based component of the direct payments for core farmers under the "The law on farm income stabilization", came into effect on 1 April 2007. The payment rate is differentiated based on the product quality. These transfers are included in the *wheat, barley, soybean and Sugar SCTs* (Tables 3.1 to 3.3, 3.5 and 3.11).

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: YES (Voluntary, Producer has to respect the environmental farming principles).

Sugar cane farm income stabilization program (from 2007): payment based on the quantity of sugar cane production. The payment rate is differentiated based on the product quality. This transfer is included in the *sugar SCT* (Table 3.5). Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: YES (Voluntary, Producer has to respect the environmental farming principles).

Starch potato farm income stabilization program (from 2007): payment based on the quantity of sweet potato production for starch processing. The payment rate is differentiated based on the product quality. This transfer is included in the *sugar SCT* (Table 3.11). Use of labels:

Production and payment limits: NO; Variable payment rates: NO; Input constraints: YES (Voluntary, Producer has to respect the environmental farming principles).

B. Payments based on input use

B.1. Variable input use

Interest concessions (1986-Present): Budgetary expenditure on the Government and quasi-government loan programmes to provide low interest loans for purchasing variable inputs, estimated as half of total outstanding loans [the other half being for purchasing fixed inputs and included under B2]. This transfer is included in *ACT*.

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

Insurance (1986-Present): Budgetary expenditure on the part of the premium that farmers have to pay for agricultural insurance. The budget data by commodity is available. This transfer is included in *ACT*.

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

Fuel tax concession (2006-Present): A value of tax foregone fuel tax in agricultural use. Tax is imposed on oil selling company. The value is estimation made by Ministry of Agriculture, Forestry and Fisheries. This transfer is included in *ACT*.

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

B.2 Fixed capital formation

Infrastructure (National (1986-Present) and Sub-national (from 2007)): budgetary expenditure on the on-farm infrastructure improvement scheme, including irrigation and drainage facilities and readjustment of agricultural land. This transfer is included in *ACT*.

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

Disaster restoration (National (1986-Present) and Sub-national (from 2007)): budgetary expenditure on the on-farm basis disaster restoration program. This transfer is included in *ACT*.
Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: NO.

Interest concessions (2006-Present) : budgetary expenditure on the Government and quasi-government loan programs to provide low interest loans for purchasing fixed inputs, estimated as half of total outstanding loans [the other half being for purchasing variables inputs and included under B1]. This transfer is included in *ACT*.

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

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

Extension services (National (1986-Present) and Sub-national (from 2007)): budgetary expenditure on advisory services. This transfer is included in *ACT*.

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

Pest and disease control (1986-Present): budgetary expenditure on the animal health control scheme. This transfer is included in *GCT for all livestock*.

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

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

Direct payment for rice (2004-Present): payments based on area of forage rice production under rice production adjustments system. This transfer is included in the *rice SCT* (Table 3.1).

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

Rice farmer management support (2005-Present): payments for rice producer based on their productivity. This transfer is included in the *rice SCT* (Table 3.1).

Use of labels: Production and payment limits: YES (Eligible producer has to participate in diversion programme); Variable payment rates: YES (Payments rate is variable depending on current price level); Input constraints: NO.

Direct payment for wheat, barley and soybeans (2004-Present): payments based on area in order to support producing high quality wheat, barley and soybeans under rice production adjustments system. This transfer is included in the *GCT* (wheat, soybean and barley).

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

Direct payment for environmentally friendly farming (2007): payments based on area in order to support the group of farmers who adopt the environmentally friendly farming practice. This transfer is included in the *GCT* (farm crops)..

Use of labels: Production and payment limits: NO; Variable payment rates: NO; Input constraints: YES (voluntary, eligible producer has to be certified as eco-farmer, and reduce the application of chemical fertilizer and pesticide by half compared to the conventional farming practice in the region) ;

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

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

Payments to farmers in hilly and mountainous areas (2000-Present): payments per hectare to farmers who farm agricultural lands in certain naturally, economically and socially disadvantaged regions, designated by regional assistance laws and meeting certain objective criteria regarding the slope, shape or size. Although the prescribed land is intended for farming, producers are not obliged to produce any commodities.

Use of labels: Production and payment limit: YES (payment to individual cannot exceed JPY one million); Variable payment rates: NO; Input constraints: NO ; Production exemption: NO.

Diversion programs (1986-Present): payment made under various diversion programmes, replaced by the Production Adjustment Promotion Programme (PAPP) in 1998. The PAPP was revised to new diversion programme in 2004. The new programme is applied to the area of paddy field where other uses than rice production was implemented. The producers must use the paddy field complying with environmental programme fixed by the government.

Use of labels: Production and payment limit: NO; Variable payment rates: NO; Input constraints: NO; Production exemption: YES (rice production is exempted).

Direct payments for core farmers (2007): historical area component of the direct payments for core farmers under the "The law on farm income stabilization", came into effect on 1 April 2007.

Use of labels: Production and payment limit: NO; Variable payment rates: NO; Input constraints: YES (Voluntary, Producer has to respect the environmental farming principles); Production exemption: NO.

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 on research institutions.

I. Agricultural schools

Budgetary expenditure on agricultural schools. Sub-national payment is included from 2007.

J. Inspection services

Budgetary expenditure on inspection services.

K. Infrastructure

Infrastructure: budgetary expenditure under the off-farm infrastructure improvement scheme, including for irrigation and drainage facilities, natural disasters prevention measures, road construction, sewerage construction, public health and recreational facilities construction. Sub-national payment is included from 2007.

Disaster restoration: budgetary expenditure for the restorations of off-farm equipment under the disaster restoration programme. Sub-national payment is included from 2007.

Early retirement programme: budgetary expenditure for early retirement of farmers under the pension scheme.

L. Marketing and promotion

Budgetary expenditure on marketing and promotion of domestic production.

M. Public stockholding

Budgetary expenditure on public stockholding of rice, wheat, soybeans and feed grains.

N. Miscellaneous

Rural community support programme: budgetary payments to the community organization according to the targeted area of community activities to conserve the quality of common resources such as preservation of local bio-diversity, cleaning up irrigation canal, weeding of roads and improvement of rural landscape.

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:

School lunch scheme: budgetary expenditure under the programme for the promotion of rice and milk consumption in schools. The budget data by commodity is available.

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 $[(P)]$

Sources:

The Ministry of Agriculture, Forestry and Fisheries provided information. For budget expenditure, following documents are used:

-- MAFF, "Norinsuisan Yosan no Setsume" (Outline of MAFF Budget), various years (Jan.).

-- Norin tokei kyokai, "Nogyo hakusho fuzoku toukei hyo"(Statistics book attached to Annual report on Agriculture), various years (May).

TABLE 2. JAPAN: 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).

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

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

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 + 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 crops: includes policies directed at producers of any crops. This transfer includes direct payment for environment-friendly farming.

All livestock: This group includes policy directed at producers of livestock, including cattle, pigs, dairy and poultry. Animal disease control programme is an example.

Wheat, barley and soybeans: This group includes policy that is available to producers of wheat, barley and soybeans.

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 = C + 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]

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

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

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

TABLE 3. JAPAN : Producer Commodity Specific Transfers by commodity

Tables 3.1 to 3.11, provide information on Producer Single Commodity Transfers (PSCT) for the following commodities: wheat, barley, rice, sorghum, soybeans, sugar, milk, beef, pigmeat, poultry meat 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.

C. 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) 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. JAPAN : Market Price Support estimate by commodity

I. Level of production

Wheat: Total production of common wheat [1].

Barley: Total production of six-row barley, two-row barley and naked barley, including for beer use [1].

Rice: Total production of rice. Husked basis [1].

Sugar: Total production of beet sugar and cane sugar in refined equivalent. Productions of beet sugar and cane sugar in refined equivalent are calculated by multiplying production of sugar beet by 0.16 and raw cane sugar by 0.955, respectively [1].

Milk: Total production of drinking milk and fresh milk for processing. Fiscal year [2].

Beef and veal, pigmeat and poultry: Total production, carcass weight [3].

Eggs: Total production of eggs [4].

Apples: Value of production divided by production price [10 and 21].

Cabbage: Value of production divided by production price [10 and 21].

Cucumbers: Value of production divided by production price [10 and 21].

Grapes: Value of production divided by production price [10 and 21].

Mandarins: Value of production divided by production price [10 and 21].

Pears: Value of production divided by production price [10 and 21].

Spinach: Value of production divided by production price [10 and 21].

Strawberries: Value of production divided by production price [10 and 21].

Welsh onions: Value of production divided by production price [10 and 21].

II. Producer prices

Wheat: Government purchase price of the first grade for 1986, the first grade of new group II from 1987 to 1999, and weighted average of contract prices for all grades from 2000, excluding packing charge. Weighted average of Government sale prices for domestic wheat for food use and imported wheat for food and feed use, for calculating consumption price [5, 12].

Barley: Weighted average price for beer and other uses. Price for beer use is the Government notice price. Price for other uses is the Government purchase price of the first grade of group 2 in 1986 and the first grade of new group II from 1987 to 1999, weighted average of four grades including contract prices of three grades and price calculated by using agricultural price index for beer use barley from 2000, excluding packing charge. Weighted average of Government sale prices for domestic barley for food use and imported barley for food, feed and malt use (for others), for calculating consumption price [5, 6, and 12].

Rice: The average Government purchase price of the 1st and 2nd grade of the 1st to 5th group, including packing charge for 1986-1995, the average of the Government purchase price of domestic rice and the farm-gate price of voluntarily-marketed rice, weighted by the market quantity of each rice for 1996-2003 and the average of the Government purchase price of domestic rice and the farm-gate price of privately-marketed rice, weighted by the market quantity of each rice for 2004. For calculating consumption price, following prices are used: Government sale price of domestic rice for 1986-1993, weighted average of Government sale prices of domestic and import rice for 1993-1995, weighted average of Government sale prices for domestic and import rice and the farm-gate price of voluntarily-marketed rice for 1996-2003,

weighted average of Government sale prices for domestic and import rice and the farm-gate price of privately-marketed rice since 2004 [7, 15].

Sugar: Weighted average of minimum producer prices for sugar beet and sugar cane [1, 16].

Milk: Average producer price of raw milk [8].

Beef and veal: Value of production divided by level of production [3, 9].

Pigmeat: Value of production divided by level of production [3, 10].

Poultry: Average producer price estimated by MAFF [9].

Eggs: Average producer price [4].

Apples: Average price of 'Fuji' received by farmers [21].

Cabbage: Average price of cabbage received by farmers [21].

Cucumbers: Average price of Cucumbers received by farmers [21].

Grapes: Average price of 'Delaware' received by farmers [21].

Mandarins: Average price of 'Unshu' received by farmers [21].

Pears: Average price of 'Housui' received by farmers [21].

Spinach: Average price of spinach received by farmers [21].

Strawberries: Average price of strawberries received by farmers [21].

Welsh onions: Average price of welsh onions received by farmers [21].

IV. Level of consumption

Wheat: Total domestic consumption of wheat for food and feed use. Fiscal year [2].

Barley: Total domestic consumption of barley for food, feed and malt use. Fiscal year [2].

Rice: Total domestic consumption of rice. Husked basis. Fiscal year [2].

Sugar: Total domestic consumption of refined sugar. Fiscal year [2].

Milk: Total domestic consumption of milk. Fiscal year [2].

Beef and veal, pigmeat, poultry: Total domestic consumption of meat, carcass weight [3].

Eggs: Total domestic consumption of eggs. Fiscal year [2].

Apples: Level of production plus level of imports (or minus level of exports) [10, 11 and 21].

Cabbage: Level of production plus level of imports (or minus level of exports) [10, 11 and 21].

Cucumbers: Level of production plus level of imports (or minus level of exports) [10, 11 and 21].

Grapes: Level of production plus level of imports (or minus level of exports) [10, 11 and 21].

Mandarins: Level of production plus level of imports (or minus level of exports) [10, 11 and 21].

Pears: Level of production plus level of imports (or minus level of exports) [10, 11 and 21].

Spinach: Level of production plus level of imports (or minus level of exports) [10, 11 and 21].

Strawberries: Level of production plus level of imports (or minus level of exports) [10, 11 and 21].

Welsh onions: Level of production plus level of imports (or minus level of exports) [10, 11 and 21].

VII. Reference prices

Wheat: Weighted average of government purchase price of imported wheat for food use and imported wheat for feed use for 1986-2002. Weighted average of government purchase price of imported wheat for food use and the price of simultaneous buy and sell transaction of wheat for feed from 2003. [12].

Barley: Weighted average of average Government purchase price of "Australian two-row barley" for food use, feed use and other use (malt). For 1987-1990 the price of food use is estimated based on Australian barley FOB prices, since no data has been available. [11, 12, 13].

Rice:

-- For 1986-1995: import price estimated as follows: $P * C * E / Q$, where P = average Thai FOB price, C = transportation costs and the insurance adjustment coefficient (1.1), taken into account only when Japan is considered as an importer (1988-1991, 1993-1995), E = Exchange rate, Q = Quality adjustment coefficient (0.66) [14].

-- Since 1996: average import price of rice [15].

Sugar: Calculated by import price of refined sugar and a conversion rate. The conversion rate is a ratio between purchase price of refined sugar by Agriculture and Livestock Industries Corporation and minimum producer prices of cane and beet [1, 16].

Milk: Border prices of butter and skimmed milk powder converted into a milk equivalent border price using technical coefficients minus a processing margin, calendar year. The border prices of butter and skimmed milk powder are the average import prices (cif prices) of butter and skimmed milk powder [11]. The processing margin is calculated as a simple average of the processing margin for the four main exporting countries: Australia, EU, New Zealand and the United States.

Beef and veal:

-- 1986-91: Australian manufacturing cow price, Queensland, for manufacturing segment, and for the non-manufacturing segment, US price of choice steers 1100-1300 lb., Nebraska, estimated yield factor of 62 per cent [17, 18, 19].

-- Since 1992: Import price estimated by using the tariff rate [9].

Pigmeat: US wholesale price, carcass weight (1986-1994: Omaha, 1995-1997: Pork cut out No.2 and from 1998-2003: Barrows & Gilts, N base, i.e 2004-) plus the costs of transportations from US to Japan [20].

Poultry: Import price estimated by using the weighted average of tariff rates of "legs with bone" and "boneless and others" [9, 11].

Eggs: Import price estimated by using the tariff rate [9].

Apples: Import CIF price of HS 0808.10000 [11].

Cabbage: Import CIF prices of HS 0704.90000 (period 1986 - 93) and HS 0704.90090 (period 1994 -) [11].

Cucumbers: Import CIF price of HS 0707. 00000 [11].

Grapes: Import CIF price of HS 0806.10000 [11].

Mandarins: Import CIF price of HS 0805.20000 [11].

Pears: Import CIF price of HS 0808.20000 [11].

Spinach: Import CIF price of HS 0709.70000 [11].

Strawberries: Import CIF price of HS 0810.10000 [11].

Welsh onions: Import CIF price of HS 0703.90000 [11].

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