BRAZIL: ESTIMATES OF SUPPORT TO AGRICULTURE

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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 market price support is explicitly calculated in Tables 4.1 – 4.11.

Table 2. Breakdown of PSE by Commodity and Other Transfers provides a breakdown of the total PSE into four categories reflecting the flexibility in production choices given to producer receiving support. 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 Table 1 and Tables 3.1 – 3.12 where definitions are included.

Tables 3.1. – 3.12 Producer Single Commodity Transfers contain producer SCT by commodity, which are calculated for Brazil for the following commodite*s*: wheat, maize, rice, soybeans, sugar cane, cotton, coffee, milk, beef and veal, pig meat, and poultry. (Tables 3.1 – 3.11) provided that the value of production of that commodity exceeds 1% of the total value of agricultural production. In addition, SCT for "other commodities" is also calculated (Table 3.12), 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 4.1-4.11 where definitions are included.

Tables 4.1 – 4.11 contain **Market Price Support** (MPS) and **Consumer Single Commodity Transfers** (consumer SCT) by commodity, calculated for the same set of commodities as in **Tables 3.1 – 3.11.** 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 estimates, 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*) [http://www.oecd.org/tad/support/psecse].

TABLE 1. BRAZIL: 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 – 4.11) 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 – 4.11.

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 according to their share in the total value of agricultural production [(ΣMPS for MPS commodities listed in the rows bellow) / (I.1) x 100].

A.2. Payments based on output

Preferential interest subsidy on marketing loans (since 1995), including:

Transfer arising from reduced interest rate on marketing loans for primary agricultural commodities; calculated as the difference between the SELIC rate1 and the preferential loan rate in a given year. *Subject to zooning programme since 2008.* **[3, 5, 6]**

Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO.
Payments included in SCTs for wheat, maize, rice, soybeans, sugar cane, cotton, coffee, milk, beef and veal, pig meat, poultry and "other commodities".

Deficiency payments within the PEPRO programme (*Prêmio Equalizador Pago ao Produtor*) (since 2006). **[4, 6]**
Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO.
Payments included in SCTs for maize, soybeans, coffee, cotton, and "other commodities".

Compensation of coffee storage costs (since 2004). **[4, 6]**
Use of labels: Production limits: NO; Variable payment rates: NO; Input constraints: NO.
Payment included in SCT for coffee.

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[1]   SELIC rate is the reference rate for short-term government securities, and is commonly accepted as an average rate on loans between commercial banks (SELIC - Special System for Settlement and Custody (*Sistema Especial de Liquidação e de Custódia*).

Ethanol stocking programme - interest rate subsidy (2005). **[4, 6]**

Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO.
Payment included in SCT for sugar cane.

B. Payments based on input use

B.1. Payments based on variable input use

Preferential interest subsidy on working capital loans (since 1995):
Implicit transfer from reduced interest rate on *working capital loans* (*credito de custeio*) provided through the National System of Rural Credit (SNCR)[2], including under the Programme for Strengthening of Family Agriculture (PRONAF)[3]; calculated as the difference between the SELIC rate and the working capital loan rate (corresponding to various credit lines for working capital), in a given year. *Subject to zooning programme since 2008.* **[3, 5, 6].**

Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO.
Payments included in SCTs for wheat, maize, rice, soybeans, sugar cane, cotton, coffee, milk, beef and veal, pig meat, poultry and "other commodities".

Insurance subsidy under the government insurance programme PROAGRO (*Seguro da Agricultural Familiar*) (since 1995). *Subject to zooning programme since 2006.* **[4, 6]**
Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO.
Payment included in ACT.

Insurance subsidy under the Rural Insurance Premium programme (*Subvenção ao Prêmio do Seguro Rural*) (since 2005). *Subject to zooning programme since 2006.* **[4, 6]**
Use of labels: Production limits: NO; Variable payment rates: YES because it is an insurance subsidy; Input constraints: NO;
Payments included in SCTs for wheat, maize, rice, soybeans, sugar cane, cotton, coffee, milk, beef and veal, pig meat, poultry and "other commodities".

Sugar cane subsidy (1998-2001): compensation of variable input costs to sugar cane growers in the North East region. **[6]**
Use of labels: Production limits: NO; Variable payment rates: NO; Input constraints: NO;
Payment included in SCT for sugar cane.

Budgetary allocations for in-kind input grants to family agriculture (since 2005). **[4]**
Use of labels: Production limits: NO; Variable payment rates: NO; Input constraints: NO.
Payment included in ACT.

B.2 Payments based on fixed capital formation

Preferential interest subsidy on investment credit (*credito de investimento*): *General programme* (since 1998): provided through the National System of Rural Credit (SNCR) under the general investment credit

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[2]   The National System of Rural Credit (SNCR – *Sistema Nacional de Crédito Rural*) incorporates 298 federal, state and co-operative banks providing government-supported credit to agriculture. The system is controlled, co-ordinated and supervised by the Central Bank of Brazil.

[3]   PRONAF – *Programa Nacional de Fortalecimento da Agricultura Familiar*.

lines; this is an implicit transfer, calculated as the difference between the SELIC rate and the weighted average annual interest rate on various investment credit lines, in a given year. **[3, 4, 6]**

Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO.
Payment included in ACT.

Preferential interest subsidy on investment credit (*crédito de investimento*): *PRONAF* (since 1995): provided through the National System of Rural Credit (SNCR) under PRONAF programme; this is an implicit transfer, calculated as the difference between the SELIC rate and the weighted average annual interest rate on various PRONAF investment credit lines in a given year. *Subject to zooning programme since 2008.* **[3, 4, 6]**

Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO.
Payment included in ACT.

Preferential interest subsidy on investment credit: Land Bank programmes, (1995-2005) including:

a) implicit transfers from reduced interest rate on loans provided for land acquisition under the National Land Credit Programme (*Programa Nacional de Crédito Fundiário*) (since 2000); calculated as the difference between the annual SELIC rate and the annual interest rate set under the National Land Credit Programme, and multiplied by the estimated outstanding credit in a given year. **[4]**

b) implicit transfers from reduced interest rate on loans provided to Land Reform settlers for construction of basic infrastructure on settled lands (*Concessão de Crédito-Instalação aos Assentados*) from the Land Fund (*Fundo da Terra*) (since 2000): these loans are provided for both production (electricity networks, irrigation, cleaning, crop drying and storage, roads for transporting harvested crop, etc.) and community needs (construction of rural schools, health care points, local community centres, public telephone lines, etc); it is assumed that only 50% of total loan allocations under this facility are production-related and only this part is considered in the calculation of implicit transfer, which is calculated as the difference between the annual SELIC rate and the annual preferential interest rate on such credit, and multiplied by the estimated outstanding credit in a given year. **[4]**

c) implicit transfers from reduced interest rate on investment loans (*crédito de investimento*) provided through the National System of Rural Credit (SNCR) under PROCERA programme; calculated as the difference between the annual SELIC rate and annual preferential interest rate on PROCERA investment credit, and multiplied by estimated outstanding PROCERA investment credit in a given year. **[4]**

d) implicit transfer from reduced interest rate on loans provided to family agriculture for production and community infrastructure and services (*Apoio a Projetos Municipais de Infra-Estrutura e Serviços em Agricultura Familiar*); these loans are provided for both agricultural production and community development (e.g. housing construction); it is assumed that only 50% of total loan allocations under this facility are production-related and only this part is considered in the calculation of interest gain; the implicit transfer is calculated as the difference between the annual SELIC rate and the annual preferential interest rate on such credit, multiplied by the estimated outstanding credit in a given year. **[4]**

Since 2006: Only Banco de Terra and PROCERA: implicit transfers from reduced interest rate on loans provided for land acquisition calculated as the difference between the annual SELIC rate and the annual interest rate set under the Banco de Terra and PROCERA in a given year. **[3,4]**

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

Payment included in ACT. *Subject to zooning programme since 2008.*

Debt rescheduling: Rural Debt Securitisation and PESA schemes (since 1996), including:

a) implicit transfer from reduced interest and "good payer" rebates on loans restructured under the *Rural Debt Securitisation* scheme; calculated as the difference between the monthly SELIC rate and the monthly preferential rate (3% p.a.) for repayment of the restructured loan, multiplied by estimated outstanding monthly debt; the annual value is then aggregated for the period between January and December; and the value of "good payer" rebate, which is equal to 25% of the annual repayment of the principal debt covered by the Rural Debt Securitisation scheme. **[5]**

b) implicit transfer from the interest rate discount on loans restructured under the *Financial Assets Rehabilitation Programme (PESA)*; calculated by multiplying the interest rate discount by the estimated outstanding annual PESA debt; the discount was set at 2% p.a. between 1999 and 2001, and 5% p.a. from 2002 onwards. **[5]**

Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO;
Payment included in ACT. *Subject to zooning programme since 2008.*

Debt rescheduling: PROCERA and PRONAF loans (since 2002)*:* implicit transfer from interest rate discount and "good payer" rebates on restructured loans provided under the PRONAF, PROCERA[4], and PROGER[5] programmes. **[5]**

Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO.
Payment included in ACT. *Subject to zooning programme since 2008.*

B.3. Payments based on use of on-farm services

Budgetary allocations for rural extension services (since 1995).
50% of expenditures notified in the Green Box under (iv) extension and advisory services. In recent years, expenditures for the acquisition of equipments by municipalities for services in rural areas were excluded. The other 50% is included in GSSE H2b **[4]**
Use of labels: Production limits: NO; Variable payment rates: NO; Input constraints: NO;
Payment included in ACT.

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

Insurance subsidy under the Crop Guarantee programme (*Garantia-Safra*) (since 2003). **[4]**
Use of labels: Production limits: NO; Variable payment rates: YES; Input constraints: NO.
Payment included in GCT for arable crops. *Subject to zooning programme since 2006.*

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

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

F. Payments based on non-commodity criteria

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[4] PROCERA - Special Credit Programme for Agrarian Reform (*Programa Especial de Crédito para a Reforma Agrária).*

[5] PROGER Rural – Programme of Rural Employment and Income Generation *(Programa de Geração de Emprego e Renda Rural).*

F.1. Payments based on long-term resource retirement

F.2. Payments based on specific non-commodity output

F.3. Payments based on other non-commodity criteria

G. Miscellaneous payments

III.2 Percentage PSE [100 x (III.1) / ((I) + (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 - (III.2)) x 100]

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

H. Agricultural knowledge and innovation system

H1. Agricultural knowledge generation

Research and technological innovation (since 1995)*:* Budgetary allocations for agricultural research including general research, environmental projects and commodity-specific research. ASTI estimations, updated since 2014 using inflation rates **[19]**

H2. Agricultural knowledge transfer

H2a. Education

Agricultural education (since 1995)*:* Budgetary allocations for agricultural education and extension services. Expenditures notified to WTO in the Green Box under (iii) training services. Budgetary allocation to agricultural schools is estimated from 2010, using inflation rate, as the expenditure is no longer available from the national budget **[4, 6]**

H2b. Extension services

Budgetary allocations for rural extension services (since 1995)*.*
50% of expenditures notified to WTO in the Green Box under (iv) extension and advisory services. In recent years, expenditures for the acquisition of equipments by municipalities for services in rural areas were excluded. The other 50% is included in PSE B3 **[4]**
Use of labels: Production limits: NO; Variable payment rates: NO; Input constraints: NO;
Payment included in ACT.

I. Inspection and control

I1. Agricultural product safety and inspection

Inspection, grading, and standardisation (since 1995): Budgetary allocations for related services. Expenditures notified to WTO in the Green Box under (v) inspection services **[4, 6]**

I2. Pest and disease inspection and control

Pest and disease control (since 1995): Budgetary allocations for control and prevention of crop and animal diseases, animal product safety, sanitary control and education, and related miscellaneous activities. Expenditures notified to WTO in the Green Box under (ii) pest and disease control **[4, 6]**

I3. Input control

J. Development and maintenance of infrastructure

J1. Hydrological infrastructure

Irrigation, electrification, rural housing (since 1995): Budgetary allocations for construction and maintenance of rural electricity networks, water supply and road networks, irrigation, dams and drainage systems, development of port facilities and storage systems, and miscellaneous infrastructure works. Expenditures notified to WTO in the Green Box under (vii) infrastructural services - Support for irrigation programs **[4, 6]**

J2. Storage, marketing and other physical infrastructure

Market supply, storage and silage systems for agricultural products (since 2008, before 2008 this line was aggregated under J1): Budgetary allocations for infrastructural projects in rural areas. Expenditures notified to WTO in the Green Box under (vii) infrastructural services - Support for infrastructure projects in rural areas **[4, 6]**

J3. Institutional infrastructure

J4. Farm restructuring

Land reform and settlement (since 1995): Implementation of the agrarian reform – public funds allocated to the National Institute of Colonisation and Agrarian Reform (INCRA)[6] for acquisition of lands for agrarian reform; development of basic infrastructure on lands involved in agrarian reform; maintenance of rural cadastre; land demarcation and titling; information system for the agrarian reform; juridical support; and related miscellaneous activities. Expenditures notified to WTO in the Green Box under (viii) Agrarian organization **[4, 6]**

K. Marketing and promotion

K1. Collective schemes for processing and marketing

K2. Promotion of agricultural products

Marketing and Promotion (since 1997): Budgetary allocations for promotion of Brazilian agro-food products, organisation of fairs and exhibitions, information campaigns, and related miscellaneous activities. Expenditures notified to WTO in the Green Box under (vi) marketing and promotion services **[4, 6]**

L. Cost of public stockholding

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[6]   INCRA - *Instituto Nacional de Colonização e Reforma Agrária.*

Public stockholding (since 1995): Budgetary allocations to the National Food Supply Company (CONAB) to cover the cost of depreciation and disposal of public stock of agricultural products purchased under the Federal Government Purchase Programme (*Aquisição do Governo Federal*). Expenditures notified to WTO in the Green Box under 2) Public stockholding **[4, 6]**

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 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) x 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 Tables 4.1 to 4.11.

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) x 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 Tables 4.1 to 4.11.

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. The description of policies providing commodity specific transfers is provided below:

Premium to commercial buyers (PEP) (*Prêmio para Escoamento do Produto*) (since 1996): payment to commercial buyers of agricultural commodities, covering the difference between the minimum guaranteed price and the price the buyer is willing to pay; participants in the programme are those buyers who bid for the lowest premium at regional auctions organised by the National Food Supply Company (CONAB); receipt of the premium is contingent on a buyer paying the minimum guaranteed price to supplying producer. **[4, 6]**

Risk premium (PROP) (since 2005): a producer or an agricultural cooperative can conclude a Private Sell Option Contract (*PROP – Contrato Privado de Opção de Venda)*, which guarantees a future sale of an agricultural commodity at "execution price"; the risk premium is the government payment to those acting as "buyers" under this contract, representing a "premium" if the market price for an agricultural commodity falls below the option execution price. **[4, 6]**

Q.2. Non-commodity specific transfers to consumers: Sum of non-commodity specific transfers from taxpayers to consumers (farm gate level).

Meals for children in public schools (since 2006): Expenditures notified in the Green Box under 3) food aid. **[4, 6]**

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, 4.3 and 4.4).

V.2 Percentage CSE [100 x (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)) x 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. BRAZIL: Breakdown of PSE by commodity specificity and other transfers

All data sets in Table 2 come from Tables 1 and 3.1 – 3.12 where definitions are included.

Definitions:

I. Producer Single Commodity Transfers (producer SCT): the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm level, arising from policy measures directly linked to the production of a single commodity such that the producer must produce the designated commodity in order to receive the payment. This includes policies where payments are specified on a per-commodity basis [Sum of SCTs for individual commodities from Tables 3.1 – 3.12].

Percentage producer 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 3.1 – 3.12).

$\%SCT = 100* SCT / (\text{value of production}_{COM} + A.2_{COM} + B_{COM} + C_{COM} + D_{COM})$

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

II. Group commodity transfers (GCT): the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures whose payments are made on the basis that one or more of a designated list of commodities is produced. That is, a producer may produce from a set of allowable commodities and receive a transfer that does not vary with respect to this decision [$GCT = B_{GROUP} + C_{GROUP} + D_{GROUP}$].

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 and All livestock.

III. All commodity transfers (ACT): the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that place no restrictions on the commodity produced but require the recipient to produce some commodity of their choice [$ACT = C_{ALL} + B_{ALL} + D_{ALL}$].

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 (%): $OTP_{SHARE} = 100* OTP / PSE$

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

Percentage PSE: $\%PSE = 100*PSE / \text{Total Value of Production at farm gate} + A.2.+B+C+D+E+F+G)$

TABLE 3. BRAZIL: Producer Single Commodity Transfers (by commodity)

Tables 3.1 to 3.12, provide information on Producer Single Commodity Transfers (producer SCT) for the following commodities: wheat, maize, rice, soybeans, sugar cane, cotton, coffee, milk, beef, pig meat, poultry and "other commodities". All data sets in the calculation SCT by commodity come from Table 1 and Tables 4.1 – 4.11 where definitions are included.

Definitions:

I. Level of production: Data from respective commodity Tables 4.1 – 4.11 (Market Price Support tables)

II. Value of production (at farm gate): Data for respective commodity Tables 4.1 – 4.11 (Market Price Support tables)

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

A. Support based on commodity output

A1. Market Price Support [Data for respective commodity from Tables 4.1 – 4.11]

A2. Payments based on output

Payments based on output (A.2) provided to respective single commodity [Data from Table 1]

B. Payments based on input use, single commodity [$B.1_{COM}+B.2_{COM}+B.3_{COM}$]

B1. Payments based on variable input use

Payments based on variable input use ($B.1_{COM}$) provided to respective single commodity [Data from Table 1].

B2. Payments based on fixed capital formation

Payments based on fixed capital formation ($B.2_{COM}$) provided to respective single commodity [Data from Table 1].

B3. Payments based on on-farm services

Payments based on on-farm services ($B.3_{COM}$) provided to respective single commodity [Data from Table 1].

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

Payments based on current A/An/R/I (C_{COM}) provided to respective single commodity [Data from Table 1].

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

Payments based on non-current A/An/R/I (D_{COM}) provided to respective single commodity [Data from Table 1].

IV. Percentage producer SCT : $\%SCT =100*(III)/((II)+(A.2)+(B_{COM})+(C_{COM})+(D_{COM}))$

TABLE 4. BRAZIL: Market Price Support and Consumer Support Estimate

Tables 4.1 to 4.11, contain calculations of the Market Price Support (MPS) and Consumer Single Commodity Transfers (consumer SCT) for the following commodities wheat, maize, rice, soybeans, sugar cane, cotton, coffee, milk, beef, pig meat, poultry and "other commodities". The data sets used in calculations of the MPS and consumer SCT by commodity are described below.

I.   Level of production

Wheat, maize: Total domestic production. **[1,6]**

Soybeans: Total domestic production. **[1,6,7]**

Rice: Total domestic production in paddy rice equivalent. **[1,6,7]**

Sugar cane: Total domestic production in sugar cane equivalent. **[1,6]**

Cotton: Total domestic production in lint equivalent. **[1,6]**

Coffee: Total domestic production in green bean equivalent. **[10]**

Milk: Total production of milk from dairy cows. **[1,6,7]**

Beef and veal, pig meat and poultry: Gross indigenous production in carcass weight. **[1,6,7]**

II.   Producer prices (at farm gate)

Wheat: Annual average of monthly prices received by producers (all qualities) (36040). Since 2004 updated with data from Preços CEPEA, Parana. **[6, 11, 18]**.

Maize: Annual average of monthly prices received by producers (all qualities) (35273). From FGV database in recent years **[6, 11, 2]**.

Rice: Annual average of monthly prices of paddy rice received by producers (all qualities) (33211). From FGV database in recent years **[6, 11, 2]**.

Sugar cane: Annual average of monthly prices of sugar cane received by producers (all qualities) (33548) **[6, 11]**.

Soybeans: Annual average of monthly prices received by producers (all qualities) (35699). From FGV database in recent years **[6, 11, 2]**.

Cotton: Annual average of monthly prices received by producers (all qualities) for cotton in bolls, divided by annual conversion factor into lint equivalent price. From FGV database in recent years **[6, 11, 2].**

Coffee: Annual average of monthly prices received by producers (all qualities) for dry coffee cherries, divided by 0.5 for conversion into green bean equivalent price (33361) **[6,11].**

Milk: Annual average of monthly prices received by producers for cow milk (40269). **[6,11]**

Beef and Veal: Annual average of monthly prices received by producers for all categories of adult bovine animals for slaughter, carcass weight. Since 2011, annual average of monthly prices of live beef (boi gordo) at producer level, averaged over several markets (ES, GO, MG,   MS, MT, SP, TO) from CONAB, in carcass equivalent **[6, 9 ,11]**.

Pig meat: Annual average of monthly prices received by producers for all pigs for slaughter, divided by 0.7 for conversion into carcass equivalent price. Since 2011, producer price for live pigs in Sao Paolo from CONAB converted into carcass equivalent price **[6, 9, 11]**.

Poultry: Annual average of monthly prices received by producers for live chickens, divided by 0.77 for conversion into carcass equivalent price. IEA or FGV, or CONAB? **[6, 9, 11]**.

III.   Value of production (at farm gate) [(I)*(II)]

IV.   Level of consumption (at farm gate)

Wheat, maize, rice, and oilseeds (soybeans): Total domestic consumption (total production, plus import, minus export, plus change in stocks). **[1,6,7]**.

Sugar cane: Total domestic consumption (total production, plus import, minus export, plus change in stocks), of white sugar and ethanol converted into sugar cane equivalent. **[1,6,7]**.

Cotton: Total domestic consumption in lint equivalent (total production, plus import, minus export, plus change in stocks). **[6,9]**

Coffee: Total domestic consumption in green bean equivalent (total production, plus import, minus export, plus change in stocks). **[10]**

Milk: Total domestic use of cow milk in milk equivalent (total production, plus import, minus export, plus change in stocks). **[6, 7]**.

Beef and veal, pig meat and poultry: Total domestic use (total production, plus import, minus export, plus change in stocks), carcass weight. **[6, 7]**

V. Consumption prices (at farm gate)

Implicit prices corresponding to reference prices plus the unit value of market transfers.

VI. Value of consumption (at farm gate) [(IV)*(V)]

VII. Reference prices

Wheat: F.o.b. export unit values of Argentinean Trigo Pan. **[15]**

Maize: F.o.b. export unit values of Argentinean Rosario maize. **[14, 15]** From 2007, unit value of exports of maize other than seeds from Brazilian trade statistics (NMC 1005.90.90 - milho, exceto em grao) **[14]**

Rice: average Brazilian import unit values of rice in husk, paddy or rough (NCM 1006.10.92). **[14]**

Oilseeds (soybeans): average unit values of Brazilian exports of soybeans, whether or not broken (NMC 1201.00.90 or 1210.99.00) **[14]**, net of handling and transportation costs **[2, 14]**. The margin is

calculated as the difference between the wholesale price (annual average of soybeans daily wholesale prices in Parana published by CEPEA [11]) minus the producer price above.

Sugar cane: average unit values of Brazilian exports of cane sugar, refined, not containing added flavouring or coloured (NCM 1701.99.00) **[14]**, net of processing, handling and transportation costs, converted into sugar cane equivalent. The margin is calculated as the difference between the wholesale price (Annual average of monthly wholesale prices of cristal sugar in Sao Paolo, published by CEPEA, converted in sugar cane equivalent using a coefficient of 0.0941 **[12]**) minus the producer price.

Cotton: average unit values of Brazilian imports of cotton, not carded nor combed (NCM 5201.00.10, 5201.00.20, and 5201.00.90) **[14]**, net of ginning, handling and transportation costs. The margin is calculated as the difference between the wholesale price (Annual average of monthly wholesale prices of cotton in lint type 41.1 in Sao Paolo, published by CEPEA, converted in bolls equivalent price using the ratio of bolls-lint production [12]) minus the producer price.

Coffee: weighted average of ICO indicator prices for Brazilian Natural Arabica and Robusta coffee **[16 reported in 10]**, with weights representing the shares of Arabica and Robusta coffee in total Brazilian coffee production. This weighted average price is net of cleaning, handling and transportation costs. The margin is calculated as the difference between the wholesale price (Annual average of monthly wholesale prices of Arabica and Robusta coffee in Sao Paolo, published by CEPEA, converted in green equivalent using the coefficient 0.5 **[12]**) minus the producer price.

Milk: border price of milk is a calculated implicit value **[13, 17]**. The calculation method is based on two assumptions. First, world markets for tradable dairy commodities are competitive, which allows the formation of a single price for each of the solid components of raw milk, milk fat and protein, used to make dairy products. Secondly, each type of dairy product contains a unique and fixed amount of each of those solid components of milk. Under this method, the implicit price of milk at the border (Pb) is calculated from the prices of those components:

$$P_b = \left(\frac{a}{b}\right)P_{wb} + \left(\frac{c}{d}\right)P_{ws} \text{ where:}$$

a and *b* are milk fat contained in one ton of raw milk and butter respectively, *c* and *d* are non-fat-solids contained in one ton of milk and skimmed milk powder respectively, P_{wb} and P_{ws} are Brazilian unit import values of butter (NCM 0405.10.00) and skimmed milk powder (NCM 0402.10.10) respectively. The reference price of milk at farm gate (P_r) is the implicit milk border price net of processing costs (*C)*:

$$P_r = P_b - C$$

Beef and Veal: average unit values of Brazilian exports of meat of bovine animals, boneless, fresh and chilled (NCM 0201.30.00) and frozen (NCM 0202.30.00) **[14]**, converted into carcass equivalent price and net of processing, handling and transportation costs. The margin is calculated as the difference between the wholesale price (annual average of monthly prices of 3 types of refrigerated beef meat cuts: front with bones (38%), middle (14%), back with bones (48%), in carcass weight equivalent, published by IEA **[11]**) minus the producer price above.

Pig meat: average unit values of Brazilian exports of meat of swine, frozen (NCM 0203.29.00) **[14]**, converted into carcass equivalent price and net of processing, handling and transportation costs. The margin is calculated as the difference between the wholesale price (annual average of monthly prices of pig meat (half carcasses) in carcass weight, published by IEA [11]) minus the producer price above.

Poultry: average unit values of Brazilian exports of meat of chickens and roosters, not cut in pieces, frozen (NCM 0207.12.00) **[14]**, net of processing, handling and transportation costs. The margin is calculated as the difference between the wholesale price (annual average of monthly prices of refrigerated chicken published by IEA [11]) minus the producer price above.

Sources:

[1] Brazilian Institute of Geography and Statistics (IBGE).

[2] Getulio Vargas Foundation (FGV) database.

[3] Statistical Yearbook of Rural Credit, BACEN, various years.

[4] Integrated System of Financial Administration of the Federal Government (SIAFI).

[5] Information provided by the National Treasury of Brazil.

[6] Information directly provided by the Brazilian Ministry of Agriculture and Food (MAPA).

[7] OECD Aglink data base.

[8] FAO database – FAOSTAT.

[9] National Food Supply Company (CONAB).

[10] USDA – Economics and Statistics System: The Foreign Agricultural Service's Production, Supply and Distribution - PS&D.

[11] Institute of Agricultural Economics Research (IEA), agricultural wholesale prices data bank.

[12] ESALQ/BM&F database of agricultural wholesale prices and transportation tariffs.

[13] COMTRADE database.

[14] MDIC-ALICE data base, Ministry of Industrial Development and Trade.

[15] International Grains Council (IGC).

[16] International Coffee Organisation (ICO).

[17] OECD PSE/CSE database.

[18] Centre for Advances Studies on Applied Economics Centro de estudos avancados em economia aplicada (CEPEA).

[19] ASTI database www.asti.cgiar.org/