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EFFECTS OF THE EUROPEAN COMMUNITY'S AGRICULTURAL POLICY ON INTERNATIONAL TRADE IN GRAINS

by

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Trade in temperate zone agricultural products has largely remained outside the trend towards liberalization that has characterized international trade in the last thirty years. One of the most debated issues in this regard has been the European Community's Common Agricultural Policy (CAP) and its effects on world trade. While several studies have suggested that the adoption of the CAP has stimulated internal trade and slowed down third countries' farm exports to the EEC, their estimates were not derived from a model that takes account of supply, consumption and trade relationships (See Carney, Knox, Sorenson and Hathaway, Thorbecke and Pagoulatos).

It is the objective of this paper to evaluate the impact of the CAP on production, consumption and intra-EEC and world trade, based on an econometric model describing the operation of markets for grains in the European Community. The model contains thirty behavioral and five technical relationships and is based on annual data covering the 1953-72 period. The parameters of the structural relationships are simultaneously determined and are estimated by three-stage least squares.

We begin with a brief description of agricultural and trade policies in the EEC. Next we discuss the theoretical specification of the model and the statistically estimated equations. Finally we evaluate the model's forecasting ability within the sample period and an attempt is made to capture the effect of the adoption of the CAP on world trade.

E.E.C.'S AGRICULTURAL AND TRADE POLICIES FOR GRAINS

Protection of the European Community's market for agricultural commodities is based on the Common Agricultural Policy (CAP), which was adopted in 1962 and became fully operative by 1968.[1] The CAP was designed to assure the maintenance of high farm incomes through a variety of regulations that differ between

commodities. These regulations constitute the CAP's "market or price" policy and involve support prices fixed well above world market prices, variable levies on imported agricultural products from extra-EEC sources and the exporting of surplus production with the aid of export subsidies (or "restitutions"). The costs of financing this system are met through a Common Fund established from the proceeds of the import levies and contributions from the member governments.

Even though the market or price policies of the CAP differ from commodity to commodity, there are some common features which result in free trade between member states, a common system of protection against non-member countries and a common price and income policy internally. The common price policy relies, basically, on a "variable-levy" system of protection which is applied to all commodity groups included in this study.[2]

The calculation of the "variable levies" to be applied on imports from non-EEC countries involves three steps: (1) a target or indicative price is determined and is a theoretical price towards which the common market price should tend; (2) a threshold price is fixed at which imports from non-member countries can enter the EEC and which is lower than the target price by the transportation cost from the port of entry; and (3) the import levy is computed on a daily basis as the difference between the threshold price for a commodity and the world price.

Along with the variable levies, intervention prices are employed to ensure that a satisfactory level of prices is achieved in the EEC. The intervention price is between 90-95% of the target price and constitutes a guaranteed price at which government agencies will undertake support buying if the market price shows a tendency to fall below the intervention price. In conclusion, the CAP keeps market prices within two limits; the upper limit is the threshold price and the lower limit is the intervention price. If excess demand or rising costs in the market for an agricultural commodity tend to raise the market price above the threshold price,

then imports from extra-EEC sources enter the community to fill the gap in demand. If an excess supply causes the market price to fall below the intervention price, the EEC Commission will have to enter the market and support the price.

One effect of the adoption of the CAP has been to raise internal producer prices (threshold prices) above world market (or import) prices, which approximates the degree of import protection in the EEC. The degree of protection has been particularly high in the case of butter, milk, cheese, poultry meat, wheat, oats and rye (O.E.C.D. 1974, Pagoulatos, Sampson and Yeats). In addition to resulting in higher prices for farm products and a higher degree of protection, the adoption of the CAP has stimulated domestic production. As a result the overall degree of self-sufficiency has increased for most agricultural commodities and growing surpluses have accumulated for grains, dairy products and sugar. The increase in agricultural self-sufficiency, the rise in the degree of import protection and the removal of nearly all trade barriers between member nations has reduced net import requirements of temperate zone goods from non-members, while the growing surpluses of several commodities and the policy of export restitutions has stimulated agricultural exports.

A number of studies (Carney, Knox, Sorenson and Hathaway, Thorbecke and Pagoulatos) have suggested, on the basis of actual performance, that the adoption of the CAP--especially the "variable levy" system of protection--has stipulated intra-EEC trade and slowed down third countries' farm exports to the EEC. The quantitative estimates obtained in these studies did not derive from an econometric model that takes account of supply, consumption and trade relationships in the European Community. The remaining sections of this study estimate such a model and attempt an evaluation of the impact of the CAP on world trade.

GENERAL MODEL SPECIFICATION

The grain sector in the EEC can be disaggregated into several commodity groups for which sub-models are established. The estimated model includes five commodity groups selected on the basis of data availability, and the fact that all are covered by the variable-levy protection system.[3] Each commodity sub-model includes a domestic supply equation, a market demand equation, a change in stocks equation, an export to non-EEC countries equation, an intra-EEC import equation, an import from the U.S. equation and an equation for imports from the rest of the world. Specification of these relationships is explained below.

Domestic Production

The theory underlying the domestic supply side is the traditional agricultural response to price. The quantity of domestic production in a particular year is primarily the result of farmer's production decisions, weather conditions and available technology. Lack of data for the EEC on uniform weather-conditions and on some inputs (e.g. labor employed in each crop) prevented the use of the production function approach. Production out of domestic sources in period t is a function of the product price (P_t), acreage (A_t) and the amount of total fertilizer consumption (F_t). Thus, the supply function is specified as

$$(1) \quad Q_t = f_1 \ (P_t, \ A_t, \ F_t \ )$$

Prices of the various commodities are treated as exogenously determined, since they are fixed each year by decisions made by the EEC Commission.

Domestic Demand

Economic theory suggests that quantity demanded per capita is a function of the income level, the price of the commodity and the price of related commodities. Thus the per capita market demand equation is specificed as

$$(2) \quad PCC_t = f_2 \ (YP_t, \ p_t \ , PR_t)$$

where YP_t is the real EEC per capita GNP, P_t is the product price, and PR_t is the price of related products.

Change in Stocks

Changes in stocks are expected to be a function of current prices, and a general shift variable such as the level of commodity consumption. Consequently, the specification of the function of changes in stocks is

$$(3) \quad DST_t = f_3 \ (C_t, P_t)$$

where C_t is the level of demand at time t, and P_t is the price.

Foreign Trade

Imports represent an additional source of agricultural supply, while exports constitute another component of the demand for agricultural products. Consequently, exports are specified as a function of the product price (P_t), product output (OWQ_t) and per capita GNP (YD_t) in the rest of the world.

$$(4) \quad X_t = f_4 \ (OWQ_t, \ P_t \ , \ YD_t \ )$$

Imports from EEC sources are treated as a function of real per capita GNP (YP_t), EEC production (Q_t) and price (P_t)

$$(5) \quad ECM_t = f_5 \ (YP_t, \ Q_t, \ P_t \ )$$

The domestic product price is included in the import equations rather than an import price since the two are one and the same under the variable-levy protection system.[4]

Finally, import demand from the U.S. is specified as

$$(6) \quad USM_t = f_6 \ (Q_t, \ DST_t, \ YP_t, \ P_t, \ RP_t, \ QUS_t \ )$$

where QUS_t is the product output in the U.S.

An identity that defines imports from other non-EEC sources completes the model

$$(7) \quad M_t = PCC_t \times POP_t - Q_t + DST_t + X_t - ECM_t - USM_t$$

where POP_t is total population in the EEC.

The model specified above was estimated by three-stage least squares using annual data from 1953-72. The estimated equations, the identities and variable definitions are presented in Table 1.

MODEL VALIDATION AND PREDICTION

An extensive number of validation measures were calculated to evaluate the efficacy of the model as a predictive device within the sample period. Values for key validation measures are presented in Table 2. The comparatively low Root Mean Square Errors for all equations suggest that the model would reproduce sample data with a high degree of accuracy. The Theil coefficients were calculated based on changes in endogenous variables and were acceptable except for U.S. exports of rice and other grains. The correlations between actual and predicted values were high for all equations of the model predicting also a high proportion of turning points (except the equations for U.S. exports of wheat and other grains) over the 1953-72 period.

THE EFFECT OF THE CAP

In order to obtain an approximate order of magnitude of the quantitative effects of the CAP, the estimated model was used to derive for the years 1968-72 (the period when the single market state of the CAP was in operation), the value of imports from intra-EEC (ECM), from the U.S. (USM) and from other non-EEC sources (M) under free-trade conditions. The free-trade ideal situation was approximated by equating domestic prices in the Common Market to world prices (Table 3).

The results of Table 3 lead to the following tentative conclusions: (a) domestic production has been stimulated and consumption discouraged by the CAP especially for barley and corn; (b) trade diversion, where intra-EEC imports

increase due to a shift from low-cost producers outside the European Community to higher-cost producers within the Community, was the common experience of all commodity groups under consideration except barley; and (c) the extent of diversion of trade from non-EEC sources was particularly severe in the case of corn and barley, as recent estimates of the degree of CAP protection have suggested. (Sampson and Yeats).

The above evidence suggests that the adoption of the CAP has affected the pattern of farm trade flows between the Common Market and the rest of the world. A qualification that must be kept in mind is a crucial assumption of our methodology, that existing world prices would have prevailed even under free-trade conditions for agricultural products.

FOOTNOTES

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[1]Prior to the formation of the European Community, the six original members had engaged in different policies directed toward protection of the farm sector through price supports, subsidy measures and import controls. The adoption of the C.A.P. was largely an attempt to eliminate the diversity of pre-EEC farm support systems of the individual members and still preserve their protectionist nature. Furthermore, not all of the original six were equally protectionist. The Netherlands, for example, has traditionally had the least protected agriculture as compared to the other members.

[2]For a detailed discussion of the set of policy measures and the institutional arrangements of the CAP, see Hudson, Marsh and Ritson, and O.E.C.D. 1974.

[3]The individual products included in this study are: wheat, rice, barley corn, and other grains (rye, oats, sorghum and millet). Data sources are O.E.C.D., and U.N., F.A.O.

[4]The tariff equivalent of variable levy protection in the EEC is

$$TE_t = \frac{P_t}{WP_t} - 1$$, where WP_t is the world price of a good.

Since the import price is $MP_t = WP_t \ (1 + TE_t) = P_t$, it reduces to the domestic product price level.

REFERENCES

[1] Carney, M.K., "Agricultural Trade Intensity: The European Markets and the U.S.", *American Journal of Agricultural Economics*, 55 (November 1973): 637-640.

[2] Hudson, J.F., *The Common Agricultural Policy of the European Community*, Foreign Agricultural Service M-255, U.S.D.A., Washington, D.C.: November, 1973.

[3] Knox, D., *The Common Market and World Agriculture: Trade Patterns in Temperate Zone Foodstuffs*, New York: Praeger Publishers, 1972.

[4] Marsh, J. and C. Ritson, *Agricultural Policy and the Common Market*, London: P.E.P., Chatham House, 1971.

[5] O.E.C.D., *Food Consumption Statistics*, Paris: O.E.C.D. (various issues)

[6] O.E.C.D., *Agricultural Policy of the European Economic Community*, Paris: O.E.C.D., 1974.

[7] Pagoulatos, E., "The Effect of E.E.C.'s Common Agricultural Policy on United States Farm Exports: An Empirical Estimate", *Rivista Internationale di Scienze Economiche e Commerciali*, 24 (March 1977): 220=231.

[8] Sampson, G.P. and a.J. Yeats, "An Evaluation of the Common Agricultural Policy as a Barrier Facing Agricultural Exports to the European Economic Community", *American Journal of Agricultural Economics*, 59 (February, 1977): 99-106.

[9] Sorenson, V.L. and D. E. Hathaway, *The Grain-Livestock Economy and Trade Patterns of the EEC*, Michigan State University, Research Report No. 5, 1968.

[10] Thorbecke, E. and E. Pagoulatos, "The Effects of European Economic Integration on Agriculture" in Bela Balassa, (ed.) *European Economic Integration*, Amsterdam: North-Holland, 1975.

[11] U.N., F.A.O., *Monthly Bulletin of Agricultural Economics and Statistics*, Rome: F.A.O. (various issues).

Table 1. Three Stage Least Squares Estimates of the Common Market Grains Model - 1953 - 1972.[a]

I. Wheat

(I.1) $WQ_t = -32183.9 + 3.33WA_t + 2.39F_t + 690.05WP11_t$
(8975.0) (.580) (.173) (376.1)

(I.2) $PCWC_t = 758.01 - 14.76YP_t - 65.66WP11_t + 239.96BP1_t$
(465.1) (165.7) (63.6) (99.0)

(I.3) $DWST_t = 444.06 - .074WC_t + 169.89WP11_t$
(2947.9) (.067) (285.5)

(I.4) $WX_t = -1473.09 - .0154WOWQ_t - 88.95WP11_t + 2.90\ YD_t$
(2847.4) (.033) (264.4) (.875)

(I.5) $WECM_t = -3346.9 + 1844.09YP_t + 64.57WP11_t + .038WQ_t$
(1801.1) (923.0) (169.7) (.072)

(I.6) $WUSM_t = 2973.08 - .189WQ_t - .304DWST_t + 2916.7YP_t + 189.15WP11_t - 1.49WQUS_t$
(2743.3) (.058) (.409) (1106.9) (184.7) (1.40)
$-92.91BP3_t$
(187.5)

(I.7) $WM_t = PCWC_t \times POP_t - WQ_t + DWST_t + WX_t - WECM_t - WUSM_t$

II. Rice

(II.1) $RQ_t = 616.68 + 4.18\ RA_t - 50.05RP1_t$
(124.7) (.826) (9.31)

(II.2) $PCRC_t = 176.88 - 146.42YP_t + 2.16RP1_t + 7.24TIME$
(54.1) (63.6) (1.91) (3.61)

(II.3) $DRST_t = 256.84 - .180RC_t - 7.14RP1_t$
(74.4) (.057) (4.05)

(II.4) $RX_t = 424.19 - .0193ROWQ_t + 20.28RP1_t - .033YD_t$
(156.2) (.006) (18.21) (.081)

(II.5) $RECM_t = -269.14 - 5.86YP_t + 17.51RP1_t + .184RQ_t$
(85.0) (32.2) (5.08) (.081)

(II.6) $RUSM_t = 110.08 - .145RQ_t + .299DRST_t + 21.32YP_t - 12.19RP1_t + 2.66RQUS_t$
(135.9) (.128) (.346) (62.32) (8.33) (.847)

(II.7) $RM_t = PCRC_t \times POP_t - RQ_t + DRST_t + RX_t - RECM_t - RUSM_t$

Table 1. - continued.

III. Barley

(III.1) $BQ_t = -6798.3 + 2.78BA_t + .732F_t + 266.32BP1_t$
(1801.9) (.533)$_t$ (.251)$_t$ (305.8)$_t$

(III.2) $PCBC_t = 339.7 + 478.09YP_t - 33.80BP3_t + .498MP1_t$
(429.4) (109.4)$_t$ (43.1)$_t$ (29.0)$_t$

(III.3) $DBST_t = -2329.0 - .071BC_t + 341.4BP3_t$
(954.5) (.021) (107.3)

(III.4) $BX_t = -3817.37 - .134BOWQ_t + 209.7BP3_t + 3.88YD_t$
(1125.6) (.046) (138.2) (.815)

(III.5) $BECM_t = 627.33 + 1844.6YP_t - 280.5BP3_t + .011BQ_t$
(881.0) (818.7) (106.5)$_t$ (.074)$_t$

(III.6) $BUSM_t = -1400.4 + .134BQ_t - .153DBST_t - 2197.5YP_t + 241.7BP3_t + 5.43BQUS_t$
(1312.1) (.138)$_t$ (.629) (1475.9) (133.2) (1.54)
$- 92.51MP1_t$
(87.9)

(III.7) $BM_t = PCBC_t \times POP_t - BQ_t + BX_t - BECM_t - BUSM_t$

IV. Corn

(IV.1) $MQ_t = -11965.56 + 3.42MA1_t + .962F_t + 685.4MP2_t$
(1951.3) (1.17) (.177) (180.2)

(IV.2) $PCMC_t = -629.39 + 1012.97YP_t - 2.29MP1 - 6.53TIME$
(482.0) (602.4) (19.2) (34.5)

(IV.3) $DMST_t = 157.04 - .0104MC_t - 13.12MP1_t$
(406.1) (.010) (58.2)

(IV.4) $MX_t = -1424.05 - .005MOWQ_t - 21.01MP1_t + 1.37YD_t$
(365.08) (.005)$_t$ (60.6)$_t$ (.37)$_t$

(IV.5) $MECM_t = -1953.9 - 471.49YP_t + 119.95MP1_t + .330MQ_t$
(1335.9) (1049.9)$_t$ (145.7)$_t$ (.134)$_t$

(IV.6) $MUSM_t = -6904.5 - .481MQ_t - .111DMST_t + 9993.2YP_t - 16.6MP1_t - .185MQUS_t$
(4493.7) (.246)$_t$ (.929)$_t$ (2012.6)$_t$ (294.7)$_t$ (.663)$_t$
$- 10.7BP3_t$
(415.6)

(IV.7) $MM_t = PCMC_t \times POP_t - MQ_t + DMST_t + MX_t - MECM_t - MUSM_t$

Table 1. - continued.

V. Other Grains

(V.1) $GQ_t = -1112.67 + 2.11GA_t + .958F_t - 464.7GP5_t$
(3250.9) (.386)^t (.229)^t (149.7)$_t$

(V.2) $PCGC_t = 1107.4 - 264.8YP_t - 60.12GP5_t + 1.32TIME + 72.2BP1_t$
(319.8) (390.9) (15.23) (22.0) (21.2)

(V.3) $DGST_t = 4146.1 - .263GC_t - 49.20GP5_t$
(1348.1) (.064) (71.44)

(V.4) $GX_t = -66.46 - .0008GOWQ_t + 38.47GP5_t$
(370.1) (.006) (22.5)

(V.5) $GECM_t = -54.92 + 192.0YP_t + 24.39GP5_t - .015GQ_t$
(319.1) (66.8) (19.6) (.018)

(V.6) $GUSM_t = 5527.9 - .333GQ_t + .783DGST_t - 774.1YP_t - 408.46GP5_t + .367GQUS_t + 348.9BP3_t$
(4840.1) (.272) (1.32) (1273.8) (312.5) (1.64) (297.2)

(V.7) $GM_t = PCGC_t \times POP_t - GQ_t + DGST_t + GX_t - GECM_t - GUSM_t$

Where:

WQ = EEC wheat production at time t
PCWC = EEC wheat consumption per capita
DWST = change in wheat stocks
WX = wheat exports to non-EEC countries
WECM = intra-EEC wheat imports
WUSM = EEC wheat imports from the U.S.
WM = other extra-EEC imports
WA = EEC wheat acreage
F = EEC fertilizer consumption
WP11 = EEC producer wheat price
BP1 = EEC producer barley price
YP = real GNP per capita in the EEC
YD = real GNP per capita in other OECD countries (except EEC)
WOWQ = wheat production in other OECD
WQUS = wheat production in the U.S.
POP = EEC population
RQ = EEC rice production
PCRC = EEC rice consumption per capita
DRST = change in rice stocks
RX = rice exports to non-EEC countries
RECM = intra-EEC rice imports
RUSM = EEC rice imports from the U.S.
RM = other extra-EEC rice imports
RA = EEC rice acreage
TIME = t = (0,1,2, ..., n)
RP1 = EEC producer rice price
ROWQ = rice production in other OECD
RQUS = rice production in the U.S.

Table 1. - continued.

BQ = EEC barley production
PCBC = EEC barley consumption per capita
DBST = change in barley stocks
BX = barley exports to non-EEC countries
BECM = intra-EEC barley imports
BUSM = EEC barley imports from the U.S.
BM = other extra-EEC barley imports
BA = EEC barley acreage
MP1 = EEC consumer corn price
BOWQ = barley production in other OECD
BP3 = EEC wholesale barley price
BQUS = barley production in the U.S.
MQ = EEC corn production
PCMC = EEC corn consumption per capita
DMST = change in corn stocks
MX = corn exports to non-EEC countries
MECM = intra-EEC corn imports
MUSM = EEC corn imports from the U.S.
MM = other extra-EEC corn imports
MA1 = EEC corn acreage
MP2 = EEC producer corn price
MOWQ = corn production in other OECD
MQUS = corn production in the U.S.
GQ = EEC other grain production
PCGC = EEC other grain consumption per capita
DGST = change in other grain stocks
GX = other grain exports to non-EEC countries
GECM = intra-EEC other grain imports
GUSM = EEC other grain imports from the U.S.
GM = other extra-EEC other grain imports
GA = EEC other grain acreage
GP5 = EEC other grain producer price
GOWQ = other grain production in other OECD countries
GQUS = other grain production in the U.S.

[a]Standard errors are in parentheses.

Table 2.--Validation of Three Stage Least Squares Model

Equation Variable	Root Mean[a] Square Error	Correlation between Actual and Predicted	New Theil[b] Coefficient
WQ	1287.1	.96	.60
PCWC	.015	.65	.93
WECM	564.3	.82	.92
WUSM	434.3	.59	1.00
RQ	59.5	.81	.83
PCRC	.0007	.65	1.01
RECM	18.7	.79	1.19
RUSM	29.9	.78	1.49
BQ	842.8	.97	.77
PCBC	.0097	.85	.99
BECM	234.9	.93	.93
BUSM	205.9	.86	.79
MQ	775.0	.97	1.05
PCMC	.0057	.98	.89
MECM	422.9	.91	1.03
MUSM	3821.1	.86	1.08
GQ	555.7	.85	.75
PCGC	.0042	.92	.69
GECM	63.7	.84	.83
GUSM	568.7	.53	1.81

[a]The figures are expressed in 1000 metric tons except PCWC, PCRC, PCBC, PCMC, and PCGC which are in 1000 metric tons per person.

[b]Theil Coefficients are based on first differences, not actual variates.

TABLE 3: Estimates of Trade Diversion in the EEC as Compared to Free Trade (1000 metric tons)

Commodity	Year	Production		Consumption		Intra-EEC Imports			Imports from U.S.			Other non-EEC Imports		
		Q	$\hat{Q}$ [1]	C	$\hat{C}$	ECM	$\hat{ECM}$	ECM-$\hat{ECM}$	USM	$\hat{USM}$	USM-$\hat{USM}$	M	$\hat{M}$	M-$\hat{M}$
Wheat	68	32018	28153	33818	29961	1472	1428	44	1587	1457	130	2127	1666	461
	69	31368	29133	32620	28754	3187	1677	1510	1333	1774	-441	2463	0	2463
	70	29509	29650	31031	37867	2441	1843	598	1973	2067	-94	2262	6955	-4693
	71	34075	29923	41286	34417	2588	1948	640	1274	1770	-496	2497	3786	-1289
	72	35372	31460	38216	30925	3531	2167	1364	1600	1847	-247	2108	0	2108
Rice	68	730	822	918	929	87	64	23	168	186	-18	154	14	140
	69	769	873	949	728	80	70	10	146	160	-14	145	0	145
	70	735	850	746	673	70	71	-1	124	139	-15	191	0	191
	71	778	841	755	707	90	80	10	104	137	-33	229	0	229
	72	645	724	792	812	126	111	15	86	98	-12	235	203	32
Barley	68	15155	13982	17089	18558	1560	2471	-911	280	182	98	1209	1021	188
	69	15719	14695	17414	19938	2140	2822	-682	31	209	-178	1011	1394	-383
	70	13957	16277	15994	19540	1898	2418	-520	80	0	80	2038	1481	557
	71	15901	15366	18511	20645	1509	2721	-1212	469	12	457	1998	2622	-624
	72	17698	15620	18744	21727	1518	3001	-1483	103	263	-160	2309	2881	-572
Corn	68	9444	7662	19781	19678	808	478	330	6279	6242	37	4144	6207	-2063
	69	10634	7894	19222	21814	1409	430	979	4871	7200	-2329	3445	7252	-3807
	70	12843	10714	23049	23236	1513	1277	236	5377	6687	-1310	4219	5495	-1276
	71	14079	11625	25384	24266	3029	1795	1234	5515	6437	-922	3955	5318	-1363
	72	13978	11648	26003	25508	3883	1679	2204	5510	7039	-1529	2958	6339	-3381
Other Grains	68	12571	13154	14337	14786	273	201	72	453	405	48	1106	1290	-184
	69	12165	13356	13287	13849	348	228	120	131	327	-196	918	475	443
	70	10537	13428	11828	15650	363	282	81	502	958	-456	1191	1892	-701
	71	12366	13381	14362	14360	262	266	-4	475	170	305	1181	788	393
	72	11984	13370	12290	13146	542	288	254	90	221	-131	636	55	581

[1] $\hat{Q}$, $\hat{C}$, $\hat{ECM}$, $\hat{USM}$, $\hat{M}$ are figures estimated under world prices. Others are actual figures.