Database of Global Distortions to Agricultural Incentives, 1955 to 2007

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The World Bank's research project on "Distortions to Agricultural Incentives" has produced a core database of Nominal Rates of Assistance to producers, or NRAs, together with a set of Consumer Tax Equivalents, or CTEs, for farm products and a set of Relative Rates of Assistance, or RRAs, which capture the extent to which domestic prices faced by farmers relative to those for producers of non-farm tradable goods have been distorted away from prices at the country's border (Anderson and Valenzuela 2008).

The country case studies from which these key distortion estimates in the core database are compiled are available as Working Papers and associated national spreadsheets at the project's website at www.worldbank.org/agdistortions. Those working papers, minus their detailed appendixes, were subsequently revised and included as country chapters in a series of four regional books,[2] and as regional chapters in a global overview book (Anderson and Associates 2009) that also has chapters for high-income countries with comparable NRA, CTE and RRA indicators for those same 53 years.

Citation for the core database:

Kym Anderson and Ernesto Valenzuela, "*Estimates of Global Distortions to Agricultural Incentives, 1955 to 2007*", World Bank, Washington DC, October 2008, available at www.worldbank.org/agdistortions.

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[2] The project's regional books cover Africa (Anderson and Masters 2009), Asia (Anderson and Martin 2009), Latin America (Anderson and Valdés 2008), and Europe's transition economies (Anderson and Swinnen 2008). These books can be purchased as hard copies from the World Bank, and also can be freely downloaded as e-books from the project's website.

Coverage of the core database:

The extent of the coverage of the core database across countries and products is summarized in the tables below. That is followed by a detailed list of the variables in the database. The case studies involve a total of 75 countries that together account for 92 percent of the world's population and agricultural GDP and 95 percent of total GDP. They also account for more than 85 percent of farm production and employment in each of Africa, Asia, Latin America and the transition economies of Europe and Central Asia. The only countries not well represented in the sample are those in the Middle East and the many small ones that together account for less than 5 percent of the global economy.

Nominal rates of assistance and consumer tax equivalents are estimated for more than 70 different products, with an average of 11 per country. In aggregate the coverage represents around 70 percent of the gross value of agricultural production in the focus countries, and just under two-thirds of global farm production valued at undistorted prices over the period covered. Not all countries had data for all of the entire 1955-2007 period, but the average number of years covered is 41 per country.[3] Of the 30 most valuable agricultural products, our NRAs cover 77 percent of global output, ranging from two-thirds for livestock, three-quarters for oilseeds and tropical crops, and five-sixths for grains and tubers. Those covered products represent an even higher share (85 percent) of global agricultural exports.

The tables that follow provide further details of the above coverage statistics (tables B1-B7), the trade propensity of the different regions for the 30 major products (table B.8), the PPP per capita incomes of the study's 75 focus economies (table B.9), and a list of the key variables included in the core database (table B.10). Figure B.1 shows the number of countries for which NRA and CTE estimates are produced for each of the 30 key farm products, while Figure B.2 shows the share of global production of each of those 30 key farm products that is covered by NRA and CTE estimates.

The core database is the source of all the indicators of distortions to agricultural incentives in the project's four regional books that are summarized in Part III of the global overview book (Anderson and Associates 2009), as well as in the high-income country studies in Part II of that volume. Regional and global aggregate estimates of agricultural distortions reported in those books are available in a separate Excel file available on the database page of the project's website.

The core database also has been used to provide new estimates of distortions to producer and consumer prices of farm products for use by national and global sectoral or economy wide models (Valenzuela and Anderson 2008), one application of which is reported in Valenzuela, van der Mensbrugghe and Anderson (2009).

A supplementary database

The project's core database of NRAs and CTEs has been the crucial source for a supplementary database of partial equilibrium indicators of the trade and welfare reductions due to government interventions in agricultural markets in our 75 focus countries (Anderson and Croser 2009). The theory of those trade and welfare reduction indexes (see also Lloyd, Croser and Anderson 2009a,b), and a global summary of the indexes themselves is provided

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[3] By way of comparison, the seminal multi-country study of agricultural pricing policy by Krueger, Schiff and Valdes (1991) covered an average of 23 years to the mid-1980s for its 18 focus countries that accounted for 5-6 percent of global agricultural output; and the producer and consumer support estimates of the OECD (2008) cover 22 years for its 30 countries that account for just over one-quarter of the world's agricultural output valued at undistorted prices.

for countries in chapter 11 and for commodities in chapter 12 of Anderson and Associates (2009). A list of the key variables included in that supplementary database of agricultural trade and welfare reduction indexes is shown in table 11.

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World Bank (2008), *International Comparisons Project PPP Tables for 2005*, Washington DC: World Bank.

Figure 1: Number of countries for which NRA and CTE estimates are provided for 30 key farm products
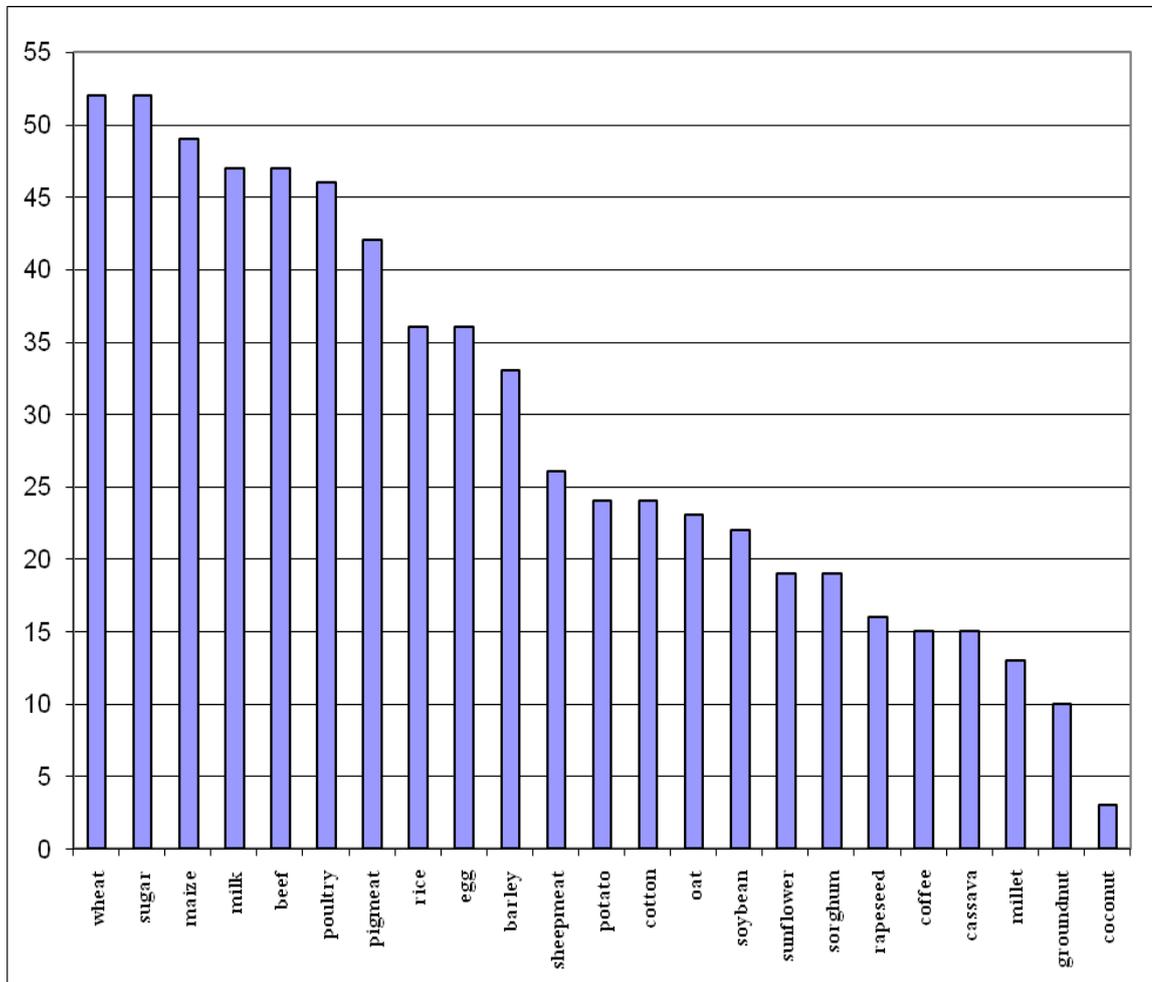
Source: Drawn from estimates in Anderson and Valenzuela (2008).

Figure 2: Shares of global production of 30 key farm products covered in NRA and CTE estimates

(percent)
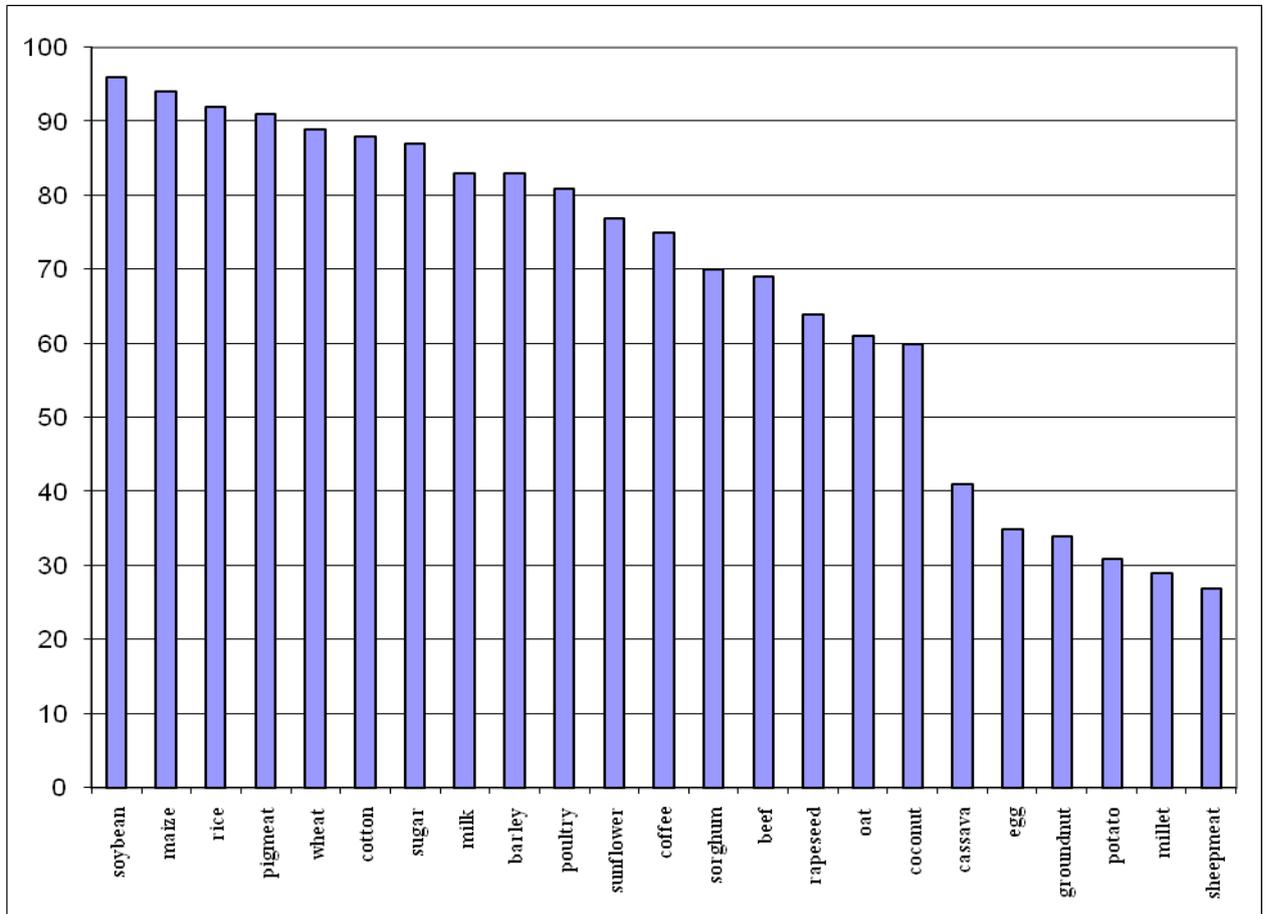
Source: Drawn from estimates in Anderson and Valenzuela (2008).

Table 1: Summary of NRA coverage statistics, World Bank agricultural distortions project

Number and size of countries	Number	2000-04 % of global:	
		Popn.	Ag GDP
Africa	21	11	7
Asia	12	51	37
Latin America	8	7	8
SUB-TOTAL, all DCs	41	69	52
European transition econs	14	7	7
High-income countries	20	14	33
TOTAL	75	92	92

Number of years covered	Maximum	Av. Per country
Africa	51	43
Asia	53	42
Latin America	51	39
SUB-TOTAL, all DCs	53	43
European transition econs	47	17
High-income countries	53	52
TOTAL	51	41

Number of products covered	Maximum	Av. Per country
Africa	44	8
Asia	35	8
Latin America	27	10
SUB-TOTAL, all DCs	59	9
European transition econs	25	12
High-income countries	39	15
TOTAL	74	11

Total number of NRA ests. (years and products)	Total	Av. Per country
Africa	7318	348
Asia	3546	296
Latin America	2881	360
SUB-TOTAL, focus DCs	13745	335
European transition econs	2847	203
High-income countries	13377	669
TOTAL, focus countries	29969	400

Share of global agric. Prod'n of 30 key covered products, 2000-04	%
Africa	5
Asia	28
Latin America	7
SUB-TOTAL, focus DCs	41
European transition econs	6
High-income countries	29
TOTAL, focus countries	77

Source: Anderson and Valenzuela (2008)

Table 2: Coverage of gross value of global agricultural production at undistorted prices, for 30 key products and four product groups, 2000-04

(percent)

	Coverage of product's global GVOP, %	Product's share of global GVOP of 30 key products, %
Grains and tubers	85	31.4
Rice	92	9.5
Wheat	89	8.0
Maize	94	7.2
Cassava	41	2.4
Barley	83	1.6
Sorghum	70	0.7
Yam	77	0.8
Millet	29	0.6
Oat	61	0.3
Oilseeds	78	8.1
Soybean	96	4.0
Groundnut	34	1.2
Palmoil	90	1.0
Rapeseed	64	1.0
Sunflower	77	0.6
Sesame	9	0.3
Tropical crops	74	7.6
Sugar	87	2.5
Cotton	88	1.9
Coconut	60	0.9
Coffee	75	0.7
Rubber	74	0.7
Tea	21	0.6
Cocoa	71	0.4
Chickpea	61	0.3
Livestock products	72	52.9
Pigmeat	91	12.4
Milk	83	12.0
Beef	69	10.5
Poultry	81	7.6
Egg	35	6.5
Sheepmeat	27	3.3
Wool	42	0.6
All above products	77	100.0

Note: Fruit and vegetables, which account for around 23 percent of global ag GVOP in 2001 (according to GTAP database – see Dimaranan 2006) are not included in this table, even though several fruits and vegetables for selected countries are included in the analysis.

Source: Authors' calculations from Agricultural Distortions Project database.

Table 3: Current project's coverage of national agricultural production in focus countries at undistorted prices, regional averages, 1980 to 2004

(percent)

	1980-84	1990-94	2000-04
Africa	67	66	68
Asia	75	73	66
Latin America	65	69	70
SUB-TOTAL, focus DCs	72	72	67
European transition econs	62	61	63
High-income countries	73	73	72
TOTAL, all focus countries	**72**	**71**	**68**

Source: Anderson and Valenzuela (2008)

Table 4: Derived shares of global agricultural production for 30 major covered products, Africa, Asia, Latin America, Europe's transition economies and high-income regions, 2000-04

	Regional shares (%) of global gross value of agric production (GVOP)						Residual	World	Product share (%) of global GVOP of 30 products
	Covered products in focus countries								
	Africa	Asia	LAC	ECA	HIC	All			
Grains+tubers	11	40	5	6	23	85	15	100	31
Rice	3	81	2	0	5	92	8	100	9
Wheat	6	32	4	14	33	89	11	100	8
Maize	11	26	13	5	40	94	6	100	7
Cassava	39	2	0	0	0	41	59	100	2
Barley	0	0	1	25	57	83	17	100	2
Sorghum	26	13	14	0	17	70	30	100	1
Yam	77	0	0	0	0	77	23	100	1
Millet	29	0	0	0	0	29	71	100	1
Oat	0	0	0	28	33	61	39	100	0
Oilseeds	4	22	20	4	28	78	22	100	8
Soybean	0	15	37	0	43	96	4	100	4
Groundnut	17	17	0	0	0	34	66	100	1
Palmoil	8	81	2	0	0	90	10	100	1
Rapeseed	0	12	0	4	47	64	36	100	1
Sunflower	3	5	16	39	14	77	23	100	1
Sesame	8	0	0	0	0	9	91	100	0
Trop. crops	10	36	12	5	11	74	26	100	8
Sugar	5	43	17	6	16	87	13	100	2
Cotton	17	30	5	14	22	88	12	100	2
Coconut	0	60	0	0	0	60	40	100	1
Coffee	11	12	52	0	0	75	25	100	1
Rubber	0	74	0	0	0	74	26	100	1
Tea	11	10	0	0	0	21	79	100	1
Cocoa	68	0	3	0	0	71	29	100	0
Chickpea	0	61	0	0	0	61	39	100	0
Livestock products	3	21	6	7	36	72	28	100	53
Pigmeat	0	49	3	6	34	91	9	100	12
Milk	3	21	4	12	43	83	17	100	12
Beef	6	1	16	5	41	69	31	100	10
Poultry	2	27	9	5	38	81	19	100	8
Egg	0	1	3	7	23	35	65	100	6
Sheepmeat	5	0	0	3	18	27	73	100	3
Wool	0	0	0	0	42	42	58	100	1
Total, 30 goods	6	28	7	6	29	77	23	100	100

Sources: Authors' calculations based on FAO commodity balance, to get volume of production data, and the Agricultural Distortions database to convert this to value of production at undistorted prices so we can add up across commodities.

Table 5: Share of regional agricultural production for 30 major covered products, Africa, Asia, Latin America, Europe's transition economies and high-income regions, 2000-04

	Covered product shares (%) of regional gross value of agricultural production of focus countries					
	Africa	Asia	LAC	ECA	HIC	All
Grains + tubers	37.3	21.8	14.3	16.8	15.2	19.6
Rice	2.8	13.6	1.9	0.1	1.0	6.3
Wheat	4.7	4.6	3.0	10.2	5.6	5.3
Maize	8.4	3.3	8.3	2.7	6.2	5.0
Cassava	9.8	0.1	0.0	na	na	0.7
Barley	na	0.0	0.2	3.2	2.0	1.0
Sorghum	2.5	0.2	0.9	na	0.3	0.4
Yam	7.0	na	na	na	na	0.5
Millet	2.1	na	na	na	na	0.1
Oat	na	na	na	0.6	0.2	0.1
Oilseeds	3.3	3.1	14.5	2.2	4.8	4.5
Soybean	0.0	1.1	13.3	0.0	3.6	2.8
Groundnut	2.0	0.4	0.0	na	na	0.3
Palmoil	0.9	1.4	0.1	na	na	0.6
Rapeseed	na	0.2	na	0.2	1.0	0.4
Sunflower	0.2	0.1	0.9	2.0	0.2	0.4
Sesame	0.2	na	0.0	na	na	0.0
Tropical crops	7.9	5.1	8.1	3.5	1.7	4.2
Sugar	1.2	1.9	3.8	1.3	0.8	1.6
Cotton	2.3	1.0	0.9	2.1	0.9	1.1
Coconut	na	0.8	na	na	na	0.3
Coffee	0.8	0.1	3.3	na	na	0.4
Rubber	na	0.9	na	na	na	0.4
Tea	0.7	0.1	na	na	na	0.1
Cocoa	3.0	0.0	0.1	na	na	0.2
Chickpea	na	0.3	na	na	na	0.1
Livestock products	13.7	19.0	29.9	30.5	40.4	27.9
Pigmeat	na	10.6	3.0	6.6	8.9	8.3
Milk	3.5	4.5	4.4	11.8	11.1	7.3
Beef	6.8	0.2	14.7	4.6	9.1	5.3
Poultry	1.6	3.6	5.9	2.9	6.2	4.5
Egg	na	0.1	1.9	3.7	3.2	1.7
Sheepmeat	1.8	na	na	0.9	1.3	0.7
Wool	na	na	na	na	0.6	0.2
Total of above 30	62.2	48.8	66.7	52.9	62.2	56.2
All covered	68.2	66.1	70.3	60.9	72.4	68.3
Non-covered	31.8	33.9	29.7	39.1	27.6	31.7
All agric	100.0	100.0	100.0	100.0	100.0	100.0

Source: Authors' calculations based on Agricultural Distortions database.

Table 6: Share of global agricultural and processed food exports for 30 major covered products, Africa, Asia, Latin America, Europe's transitions economies and high-income regions, 2000-03

	Share (%) of global ag & food exports for each region							Product's share (%) of global gross value of ag&food exports
	Focus countries							
	Africa	Asia	LAC	HIC	ECA	All focus	Residual	
Grains+ tubers	**0.9**	**16.0**	**7.4**	**60.4**	**5.2**	**89.9**	**10.1**	**8.0**
Rice	2.0	53.9	0.3	27.2	0.0	83.4	16.6	1.5
Wheat	0.3	3.2	8.1	75.9	7.5	95.0	5.0	3.4
Maize	1.4	12.6	14.7	66.5	3.0	98.3	1.7	2.2
Cassava	0.1	72.6	0.0			72.8	27.2	0.1
Barley		0.0	0.0	75.0	17.2	92.2	7.8	0.6
Sorghum	0.4	0.1	0.0	0.4		0.9	99.1	0.2
Yam	21.5					21.5	78.5	0.0
Millet	3.2					3.2	96.8	0.0
Oat				45.9	0.8	46.7	53.3	0.0
Oilseeds	**0.6**	**32.4**	**19.7**	**29.2**	**3.1**	**85.1**	**14.9**	**3.8**
Soybean	0.0	3.6	45.4	45.0	0.0	94.1	5.9	1.5
Groundnut	1.0	8.3	3.4			12.7	87.3	0.1
Palmoil	0.1	84.4	0.6			85.0	15.0	1.4
Rapeseed		0.1		87.5	3.4	91.0	9.0	0.4
Sunflower	0.5	0.1	21.8	22.9	33.9	79.1	20.9	0.3
Sesame	19.0		0.5			19.5	80.5	0.1
Trop. crops	**14.9**	**18.6**	**14.7**	**18.4**	**1.3**	**70.9**	**29.1**	**5.8**
Sugar	3.2	11.4	23.3	30.9	3.2	71.9	28.1	2.2
Cotton	23.6	4.2	1.7	46.7	0.8	76.9	23.1	0.8
Coconut		62.2				62.2	37.8	0.0
Coffee	9.8	14.4	34.5			58.7	41.3	0.9
Rubber		93.3				93.3	6.7	0.5
Tea	15.6	27.9				43.6	56.4	0.6
Cocoa	69.1	0.6	2.3			71.9	28.1	0.7
Chickpea		0.2				0.2	99.8	0.1
Livestock	**0.0**	**3.3**	**5.6**	**75.1**	**3.8**	**87.9**	**12.1**	**16.7**
Pigmeat		3.0	3.8	79.5	3.3	89.6	10.4	3.4
Milk	0.0	0.4	1.6	81.0	4.9	87.9	12.1	6.3
Beef	0.1	0.0	11.1	77.4	2.3	90.9	9.1	3.5
Poultry	0.1	16.6	13.0	54.6	5.0	89.3	10.7	2.5
Egg		0.0	0.1	0.3	5.1	5.5	94.5	0.2
Sheepmeat	0.0			89.8	0.2	90.0	10.0	0.5
Wool				79.6		79.6	20.4	0.2
Total of 30 products	**2.8**	**12.1**	**9.1**	**57.0**	**3.7**	**84.7**	**15.3**	**34.2**
All agric and food exports	**2.4**	**10.8**	**10.0**	**60.5**	**4.0**	**87.9**	**12.1**	**100.0**

Source: FAO Trade Data.

Table 7: Share of global agricultural and processed food imports for 30 major products, African, Asian, Latin American, Europe's transitions economies and high-income regions, 2000-03[a]

| | Share (%) of global ag & food imports for each region | | | | | | | Product's share (%) of global gross value of ag&food imports |
| | Focus countries | | | | | | | |
	Africa	Asia	LAC	HIC	ECA	All focus	Residual	
Grains+tubers	**6.9**	**7.4**	**8.9**	**21.3**	**2.9**	**47.4**	**52.6**	**9.0**
Rice	10.6	12.3	4.6	19.5	1.3	48.3	51.7	1.6
Wheat	7.8	6.8	9.5	24.9	3.4	52.5	47.5	3.8
Maize	6.2	7.6	10.3	19.6	3.4	47.0	53.0	2.5
Cassava	0.0	0.0	0.0			0.0	100.0	0.1
Barley		0.6	0.5	27.9	3.5	32.5	67.5	0.6
Sorghum	0.9		50.2	0.0		51.0	49.0	0.2
Yam						0.0	100.0	0.0
Millet	0.0					0.0	100.0	0.0
Oat				14.9	1.3	16.1	83.9	0.1
Oilseeds	**0.9**	**11.1**	**2.7**	**23.5**	**0.9**	**39.1**	**60.9**	**4.2**
Soybean	0.0	25.9	6.7	43.4	0.2	76.2	23.8	1.7
Groundnut	0.5	0.0	0.0			0.5	99.5	0.1
Palmoil	2.3	1.4	0.0			3.7	96.3	1.5
Rapeseed				28.0	0.3	28.3	71.7	0.5
Sunflower	1.1	3.2	0.2	40.3	10.9	55.7	44.3	0.3
Sesame	0.0		0.0			0.0	100.0	0.1
Trop. crops	**1.0**	**6.5**	**0.8**	**11.1**	**6.0**	**25.5**	**74.5**	**6.1**
Sugar	2.5	8.0	1.0	28.8	12.9	53.2	46.8	2.3
Cotton	0.4	16.2	3.1	0.7	8.0	28.4	71.6	0.8
Coconut		0.2				0.2	99.8	0.0
Coffee	0.0	0.1	0.2			0.3	99.7	0.9
Rubber		6.7				6.7	93.3	0.5
Tea	0.2	0.4				0.6	99.4	0.6
Cocoa	0.0	4.3	0.0			4.3	95.7	0.8
Chickpea		23.5				23.5	76.5	0.1
Livestock	**0.5**	**3.3**	**3.7**	**62.3**	**4.5**	**74.4**	**25.6**	**16.8**
Pigmeat		2.2	2.5	78.7	5.6	89.0	11.0	3.6
Milk	0.6	2.3	3.0	57.2	3.2	66.3	33.7	6.3
Beef	1.2	5.8	7.6	68.8	3.8	87.2	12.8	3.4
Poultry	0.4	5.7	3.0	55.9	8.7	73.6	26.4	2.4
Egg		0.1	2.1	0.4	4.2	6.8	93.2	0.2
Sheepmeat	0.5			52.8	0.0	53.3	46.7	0.6
Wool				1.3		1.3	98.7	0.2
Total of 30 products	**2.3**	**5.8**	**4.4**	**39.0**	**3.9**	**55.3**	**44.7**	**36.0**
All agric and food imports	**2.4**	**11.1**	**4.4**	**62.2**	**5.8**	**85.9**	**14.1**	**100.0**

[a] The overall coverage of imports is less than that of exports because a major food-importing region, the Middle East and North Africa, is represented in the project only by Turkey and Egypt.
Source: FAO Trade Data.

Table 8: Shares of production exported (100X/Q) and consumption imported (100M/C), by farm product and region, 2000-03 (percent)

		Africa	Asia	LAC	ECA	HIC	World
Grains	X/Q	2	7	11	13	29	16
	M/C	17	9	22	11	27	8
Rice	X/Q	6	6	1	2	32	7
	M/C	28	1	12	59	15	3
Wheat	X/Q	4	3	46	13	49	24
	M/C	44	4	51	6	27	15
Maize	X/Q	4	8	15	10	20	15
	M/C	14	5	14	9	5	7
Cassava	X/Q	0	75	1			16
	M/C	0	0	0			0
Barley	X/Q		1	0	13	29	23
	M/C		44	24	5	14	11
Sorghum	X/Q	0	0	0		45	15
	M/C	0	0	42		0	12
Millet	X/Q	0					0
	M/C	0					0
Oat	X/Q				0	17	9
	M/C				1	7	3
Oilseeds	X/Q	4	32	35	25	30	33
	M/C	2	51	27	6	62	23
Soybean	X/Q	10	2	32	15	38	31
	M/C	5	49	12	41	23	26
Groundnut	X/Q	0	3	87			2
	M/C	0	0	1			0
Palmoil	X/Q	1	85	18			80
	M/C	15	11	2			11
Sunflower	X/Q	0	0	6	17	18	13
	M/C	0	0	0	4	34	9
Sesame	X/Q	78		160			78
	M/C	0		0			0
Tropical	**X/Q**	**52**	**38**	**45**	**32**	**47**	**24**
crops	**M/C**	**13**	**18**	**12**	**42**	**42**	**13**
Sugar	X/Q	27	12	40	20	31	25
	M/C	20	9	4	46	25	18
Cotton[a]	X/Q	29	1	5	2	31	11
	M/C	2	4	9	21	3	5
Coconut	X/Q		9				9
	M/C		0				0
Coffee	X/Q	77	78	73			75
	M/C	2	3	5			4
Rubber	X/Q		96				96
	M/C		71				71
Tea	X/Q	88	78				82
	M/C	22	6				9
Cocoa	X/Q	88	448	87			94
	M/C	1	2434	14			49

Livestock	X/Q	1	4	10	7	20	7
	M/C	8	6	5	9	14	5
Pigmeat	X/Q		1	12	6	21	9
	M/C		2	8	12	20	9
Milk	X/Q	0	0	5	2	7	4
	M/C	1	1	5	1	3	2
Beef	X/Q	1	2	10	6	23	17
	M/C	9	48	5	14	20	15
Poultry	X/Q	1	10	16	7	19	15
	M/C	9	11	5	28	10	11
Egg	X/Q		0	0	1	6	4
	M/C		1	1	1	6	4
Sheepmeat	X/Q	2			2	35	26
	M/C	7			0	22	16
Wool	X/Q					43	43
	M/C					3	3
Total of	**X/Q**	**16**	**22**	**19**	**11**	**24**	
above 30	**M/C**	**13**	**14**	**12**	**11**	**19**	
products							

Source: FAO Commodity Balances data.

a. Excluding data for the 6 cotton countries of Benin, Burkino Faso, Chad, Mali and Togo.

Table 9: Per capita income, focus countries, 2005

(PPP US thousand dollars)

Africa		Europe's transition economies	
Benin	1.2	Bulgaria	9.3
Burkina Faso	1.1	Czech Rep.	20.3
Cameroon	2.0	Estonia	16.5
Chad	1.5	Hungary	17.0
Cote d'Ivoire	1.6	Kazakhstan	8.7
Egypt	4.6	Latvia	13.2
Ethiopia	0.6	Lithuania	14.1
Ghana	1.2	Poland	13.5
Kenya	1.4	Romania	9.4
Madagascar	0.8	Russia	11.9
Mali	1.0	Slovak Rep.	15.9
Mozambique	0.7	Slovenia	22.5
Nigeria	1.5	Turkey	7.8
Senegal	1.5	Ukraine	5.6
South Africa	22.5		
Sudan	1.7		
Tanzania	0.9		
Togo	0.7		
Uganda	0.8		
Zambia	1.2	High-income countries	
Zimbabwe	0.2	Australia	34.1
Asia		Austria	34.1
Bangladesh	1.1	Canada	35.0
China	4.1	Denmark	33.6
India	2.2	Finland	30.5
Indonesia	3.2	France	30.6
Korea, Rep.	21.3	Germany	30.4
Malaysia	11.7	Iceland	35.5
Pakistan	2.2	Ireland	37.9
Philippines	3.0	Italy	27.8
Sri Lanka	3.4	Japan	30.3
Taiwan	26.1	Netherlands	34.5
Thailand	7.1	New Zealand	24.6
Vietnam	2.1	Norway	47.5
Latin America		Portugal	20.0
Argentina	10.8	Spain	27.1
Brazil	8.5	Sweden	32.0
Chile	12.2	Switzerland	35.2
Colombia	5.9	United Kingdom	31.4
Dominican Rep.	n.a.	United States	41.8
Ecuador	6.7		
Mexico	11.4		
Nicaragua	n.a.		

Source: International Comparisons Project (World Bank 2008, table 1a).

Table 10: Variables in the Global Agricultural Distortions database, 1955 to 2007

Variable name	Description
ccode	country code
country	Country
year	Year
product	Product, the word "GENERAL' refers to aggregate information
trade_status	Product trade status
nra	NRA, Nominal Rate of Assistance, by product

$$NRA = NRA_{bms} + NRA_{dms} + NRA_{inputs}, \quad \text{where } NRAoutput = NRAbms + NRAdms$$

nra_o	NRAo, Nominal Rate of Assistance to output, by product
nra_i	NRAi, Nominal Rate of Assistance to input, by product
nra_bms	NRAbms, Nominal Rate of Assistance to output conferred by border market price support, by product
nra_bms_x	NRAbms (Exportable product), Nominal Rate of Assistance to output conferred by border market price support, by product
nra_bms_M	NRAbms (importable product), Nominal Rate of Assistance to output conferred by border market price support, by product
nra_dms	NRAdms, Nominal Rate of Assistance to output conferred by domestic price support, by product
nra_covt	NRA_covered_products, Value of production-weighted average of covered products

NRA to covered products can be decomposed into:

$$NRA\_COVT = NRA\_cov\_bms + NRA\_cov\_dms + NRA\_cov\_inputs, \quad \text{where } NRA\_covered\_output = NRA\_cov\_bms + NRA\_cov\_dms$$

Variable name	Description
nra_cov_i	NRA to inputs, value of production-weighted average of covered products
nra_cov_o	NRA to output, value of production-weighted average of covered products
nra_cov_dms	NRA to output conferred by domestic market price support, value of production-weighted average of covered products
nra_cov_bms	NRA to output conferred by border market price support, value of production-weighted average of covered products
nra_bms_covm	NRA to output conferred by border market price support, value of production-weighted average of covered products, only IMPORTABLES
nra_bms_covx	NRA to output conferred by border market price support, value of production-weighted average of covered products, only EXPORTABLES
nra_covh	NRA covered products, value of production-weighted average, Nontradables
nra_covm	NRA covered products, value of production-weighted average, Importables
nra_covx	NRA covered products, value of production-weighted average, Exportables
nra_covt_simpleave	NRA, Simple average of covered products

nra_ncm	NRA Non Covered products, Value of production-weighted average, Importables
nra_ncx	NRA Non Covered products, Value of production-weighted average, Exportables
nra_nch	NRA Non Covered products, Value of production-weighted average, Nontradables
nra_nct	NRA non-covered products (total), Value of production-weighted average
nps	Non-product-specific assistance (NPSA), in USD

Variable name	Description
NRA_TOTAL accounts for Covered and Non-Covered products	
nra_tott	NRA All (primary) Agriculture, TOTAL for covered and non-covered and NPSA, Value of production-weighted average.
nra_totp	NRA All (primary) Agriculture, TOTAL excluding NPSA
nra_totm	NRA All (primary) Agriculture, Value of production-weighted average, Importables
nra_totx	NRA All (primary) Agriculture, Value of production-weighted average, Exportables
nra_toth	NRA All (primary) Agriculture, Value of production-weighted average, Nontradables
nra_agtrad	NRA Tradables-only in (primary) Agriculture, Value of production-weighted average.
nra_nonagtrad	NRA Non-Agricultural Sectors, Tradables
rra	RRA, Relative Rate of Assistance
nra_totd	NRA Total Ag., ixcl. NPSA and decoupled payment (in HI countries)
nra_agtrad_decpay	NRA Ag Tradables, including decoupled support in HI countires
decpay	Decoupled paymets (% of total vop)
nps_input	Non Product Specific payments (only) to inputs, relevant to HI countries
rra_decpay	RRA with decoupled payments included, HI countries
er_econ	Exchange Rate, estimated equilibrium, used in calculations
q	Volume of Production, MT
Variable name	Description
pd	Domestic producer farmgate price, LC/MT
er_prod	(if available) product specific Exchange Rate
vop_prod	Value of production (at undistorted farm price), by product, USD
vop_covt	Value of production total COVERED products (at undistorted farm price), USD
vop_covh	Value of production COVERED products Non-tradables (at undistorted farm price), USD
vop_covm	Value of production COVERED products Importables (at undistorted farm price), USD

vop_covx	Value of production COVERED products Exportables (at undistorted farm price), USD
vop_nch	Value of production NON-COVERED products Non-tradables (at undistorted farm price), USD
vop_ncm	Value of production NON-COVERED products Importables (at undistorted farm price), USD
vop_ncx	Value of production NON-COVERED products Exportables (at undistorted farm price), USD
vop_nct	Value of production NON-COVERED products TOTAL (at undistorted farm price), USD
vop_tot	Value of production TOTAL Agriculture (at undistorted farm price), USD
cte	consumer tax equivalent in USD, by product
cte_covh	CTE , for all covered products , Value of consumption-weighted average, Non-Tradables
cte_covm	CTE , for all covered products , Value of consumption-weighted average, Importables.
cte_covx	CTE , for all covered products , Value of consumption-weighted average, Exportables
cte_covt	CTE , TOTAL for all covered products , Value of consumption-weighted average.
cte_covt_ave	CTE , TOTAL for all covered products , simple average
voc_prod	Value of consumption (at undistorted farm price), by product, USD
voc_covh	Value of consumption COVERED products Non-tradables (at undistorted farm price), USD
voc_covm	Value of consumption COVERED products Importables (at undistorted farm price), USD
voc_covx	Value of consumption COVERED products Exportables (at undistorted farm price), USD
voc_covt	Value of consumption total COVERED products (at undistorted farm price), USD
Derived variables to estimate trade flows	
ssr	Self Sufficiency ratio, from FAO (= Q/C (vol.)) or from OECD (= Q/C (value at undistorted prices))
shrimp	Share of imports in consumption, FAOSTAT
shrexp	Share of exports in production, FAOSTAT
ac_prod	Apparent consumption (volume)
pop_agreconact	Pop. total economically active in Agr (from FAOSTAT)
pop_agric	Pop. agricultural (FAOSTAT)
pop_nonagric	Pop. non-agricultural (FAOSTAT)
pop_rural	Pop. rural (FAOSTAT)
pop_total	Pop. total (FAOSTAT)
pop_urban	Pop. urban (FAOSTAT)
pop_toteconact	Pop. total economically active (FAOSTAT)

Source: Anderson and Valenzuela (2008)

Table 11: Variables in the Global Agricultural Trade and Welfare Reduction Indexes database, 1955 to 2007

Variable	Description
country	Country, including regional aggregates
ccode	Country code
year	Year, 1955 to 2007
period	Indicator for 5-year periods
prod2	Product, including product aggregates
trstat2	Trade status by product (X-exportable, M-import-competing)
nra	Nominal rate of assistance, percent
cte	Consumer tax equivalent, percent
vop_prod	Value of production, at undistorted prices in current $US
voc_prod	Value of consumption, at undistorted prices in current $US
tri_covt	Trade reduction index, country-level, all covered tradable products
tri_covm	Trade reduction index, country-level, covered import-competing products
tri_covx	Trade reduction index, country-level, covered exportable products
tri_p_covt	Trade reduction index, country-level, production-side of the economy, all covered tradable products
tri_c_covt	Trade reduction index, country-level, consumption-side of the economy, all covered tradable products
tri_p_covm	Trade reduction index, country-level, production-side of the economy, covered import-competing products
tri_c_covm	Trade reduction index, country-level, consumption-side of the economy, covered import-competing products
Variable name	Description
tri_p_covx	Trade reduction index, country-level, production-side of the economy, covered exportable products
tri_c_covx	Trade reduction index, country-level, consumption-side of the economy, covered exportable products
cc_to_TRI_ctry	Commodity-contribution to the country-specific TRI, percent
tri_comm_covt	Trade reduction index, commodity-specific, all covered tradable products
tri_comm_covm	Trade reduction index, commodity-specific, covered import-competing products
tri_comm_covx	Trade reduction index, commodity-specific, covered exportable products
tri_comm_p_covt	Trade reduction index, commodity-specific, production-side of the economy, all covered tradable products
tri_comm_c_covt	Trade reduction index, commodity-specific, consumption-side of the economy, all covered tradable products

tri_comm_p_covm	Trade reduction index, commodity-specific, production-side of the economy, covered import-competing products
tri_comm_c_covm	Trade reduction index, commodity-specific, consumption-side of the economy, covered import-competing products
tri_comm_p_covx	Trade reduction index, commodity-specific, production-side of the economy, covered exportable products
tri_comm_c_covx	Trade reduction index, commodity-specific, consumption-side of the economy, covered exportable products
cc_to_TRI_comm	Country-contribution to the commodity-specific TRI, percent
wri_covt	Welfare reduction index, country-level, all covered tradable products
wri_covm	Welfare reduction index, country-level, covered import-competing products
wri_covx	Welfare reduction index, country-level, covered exportable products
wri_p_covt	Welfare reduction index, country-level, production-side of the economy, all covered tradable products
wri_c_covt	Welfare reduction index, country-level, consumption-side of the economy, all covered tradable products
wri_p_covm	Welfare reduction index, country-level, production-side of the economy, covered import-competing products
Variable name	Description
wri_c_covm	Welfare reduction index, country-level, consumption-side of the economy, covered import-competing products
wri_p_covx	Welfare reduction index, country-level, production-side of the economy, covered exportable products
wri_c_covx	Welfare reduction index, country-level, consumption-side of the economy, covered exportable products
cc_to_WRI_ctry	Commodity-contribution to the country-specific WRI, percent
wri_comm_covt	Welfare reduction index, commodity-specific, all covered tradable products
wri_comm_covm	Welfare reduction index, commodity-specific, covered import-competing products
wri_comm_covx	Welfare reduction index, commodity-specific, covered exportable products
wri_comm_p_covt	Welfare reduction index, commodity-specific, production-side of the economy, all covered tradable products
wri_comm_c_covt	Welfare reduction index, commodity-specific, consumption-side of the economy, all covered tradable products
wri_comm_p_covm	Welfare reduction index, commodity-specific, production-side of the economy, covered import-competing products
wri_comm_c_covm	Welfare reduction index, commodity-specific, consumption-side of the economy, covered import-competing products
wri_comm_p_covx	Welfare reduction index, commodity-specific, production-side of the economy, covered exportable products
wri_comm_c_covx	Welfare reduction index, commodity-specific, consumption-side of the economy, covered exportable products
cc_to_WRI_comm	Country-contribution to the commodity-specific WRI, percent

Source: Anderson and Croser (2009)