Border Price and Export Demand Shocks for Developing Countries from Rest-of-World Trade Liberalization Using the Linkage Model

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The volume on *Agricultural Price Distortions, Inequality and Poverty* compiled by Anderson, Cockburn and Martin (2010) begins with a global study by Anderson, Valenzuela and van der Mensbrugghe (2010) that uses the World Bank's LINKAGE model to examine the economic impacts in various countries, regions and the world as a whole of agricultural and trade policies as of 2004. It does so by shocking that model with the removal of all agricultural price-distorting domestic and border policies with, and without, the removal of trade policies affecting all other goods. (The reason for the two shocks is to identify the relative contribution to various indicators of agricultural policies versus trade policies directed at other merchandise.) That pair of shocks is also employed in another global study in that volume to examine the inequality and poverty implications of those price-distorting policies for more than 100 countries (by Bussolo, De Hoyos and Medvedev (2010) using their GIDD microsimulation model). Then for ten national studies reported in that volume, the Linkage model again is used, but only to provide an exogenous set of shocks to the national economy wide model employed by the authors of each developing country case study.[1] The effects of that shock on a national economy are then compared with the effects of own-country liberalization using the same national model and the same agricultural protection rates for that country as in the global Linkage model.

[1] The ten national studies are for Argentina (Cicowiez, Diaz-Bonilla and Diaz-Bonilla (2010), Brazil (Bento de Souza and Horridge (2010), China (Zhai and Hertel 2010), Indonesia and Thailand (Warr 2010), Mozambique (Arndt and Thurlow 2010), Nicaragua (Sanchez and Vos 2010)Pakistan (Cororaton and Orden 2010), Philippines (Corong, Cororaton and Cockburn 2010), and South Africa (Herault and Thurlow (2010).

In this Appendix we describe the main assumptions adopted to generate the border price and export demand shocks from agricultural and trade policy reforms by the rest of the world, and how that is communicated to the national models.

We use the comparative static version of the World Bank's LINKAGE model (van der Mensbrugghe 2005, 2006) with a baseline (base year of 2004) calibrated to pre-release 5 of the beta Version of GTAP 7. The new database has somewhat greater regional coverage than Version 6 of GTAP, which was calibrated to a baseline of 2001 (Dimaranan 2007). The sectoral and regional aggregations and their concordances are shown in tables 1 and 2. We first amend the distortions in Version 7 of the GTAP global protection database (see Badri Narayanan and Walmsley 2008) by replacing its applied tariffs with distortion rates that reproduce those estimated by authors of the developing country case studies in the World Bank's recent Agricultural Distortion research project as presented for modelers, using the same sectors as in the GTAP database, by Valenzuela and Anderson (2008).[2]

Shocks at the border to single country models from the global Linkage Model

To ensure uniformity of the simulations used in the global and national modeling, the results communicated from Linkage to the single country models are 'rest-of-world' reforms, that is, global liberalization except without own-country liberalization. The shocks imposed are as follows:

- For the agricultural and lightly processed food (excluding highly processed food, beverages and tobacco):
    - removal of all trade (import and export) taxes and subsidies, plus
    - removal of all farm input and output taxes and subsidies
- For other non-agricultural sectors:

[2] That distortions database is documented fully in Anderson and Valenzuela (2008) and is based on the methodology summarized in Anderson et al. (2008a and 2008b).

- removal of all trade (import and export) taxes

Macro-closure in the Linkage Model

The macro-closure of the global Linkage model involves:

(1) Fixing the balance of trade
(2) Fixing regional investment
(3) Fixing real government spending, and
(4) Implementing a tax replacement to compensate for lost revenue from trade (and production if present) tax collection net of subsidies that would no longer be paid after the reform. Specifically, a tax on factors of production is implemented to ensure that the share of net tax receipts in net national income remains unchanged in the face of the elimination of distortions.

Implementing global results in single country models

As indicated in Horridge and Zhai (2006), the aim is to let the single country model determine export supply behavior, and to take changes in demand by the rest of the world from the global model. In determining the export demand curve, the numbers to take from the global model are the slope (approximately equal to the elasticity of substitution among imports) and shift (fp) of the world demand schedule,[3] where fp is calculated as

fp = p + q/Elasticity of substitution among imports

[3] This is pertinent to models in which exports and domestic goods are perfect substitutes, see Horridge and Zhai for details on models which assume imperfect substitution.

and p is the percentage change in export prices while q is the percentage change in export quantities.

On the import side, the import price shocks are taken directly from the global model. In global models such as Linkage, the import supply curves to a small country are very flat; and single country models the import demand curves are comparatively steep because they typically use the import-domestic elasticities suggested by Armington (1969). Hence vertical shifts in import supply are well proxied by exogenous price changes.[4]

Linkage Model

A key model specification of the LINKAGE model is that it contains three production technologies for agricultural activities: crops, livestock, and all else.[5] The first, crops, attempts to capture the trade-offs between intensive and extensive farming. The second, livestock, captures the trade-offs between extensive grazing and intensive ranch-fed farming, by having substitution between feed grains and land. The third is the more traditional capital/labor substitution (albeit with a special additional nesting for energy use).

Another key model specification is the treatment of land. In LINKAGE, land supply is variable with region-specific land supply elasticities. A listing of these and other key model elasticities is provided in table 3. For the purposes of the simulations in the present volume, LINKAGE's vintage capital structure elasticities are imposed in all production functions so that they emulate the long-run substitution possibilities.

All runs use the following closure rules:

- Fixed real government expenditures and fiscal balance. To meet *ex ante* changes to revenues (for example, a loss of tariff revenues), the rate of lump sum direct taxation on

[4] In this study the Linkage sectoral average trade volumes are derived using Divisia indexes. These are computed using weights that change over the course of the simulation. Effectively they are an average of before and after shares. Previous results from the Linkage Model were derived using the Paasche export price index (i.e. based on after-shock trade volumes).

[5] There is a special version of the GTAP model with an agricultural focus known as GTAP-AGR (Keeney and Hertel 2005).

the single representative household is endogenous. While perhaps unrealistic in some countries in the short-run, this specification has the advantage of not adding to existing distortions in the economy.

- Private savings are endogenous and determined by the extended linear expenditure system (or ELES) of demand. Investment is determined as the sum of all available savings: private, public (fixed in real terms), and foreign (fixed in real terms relative to the model numéraire). As all three savings are more or less invariant (in nominal terms), major changes to the volume of investment are largely driven by changes in the unit cost of investment (e.g., a reduction in tariffs on imported capital goods). In the comparative static model this has only minor impacts that can be attributed to the final composition of demand (as investment has no effect on the capital stock in the comparative static version of the model).

- The capital account, and hence the current account, is fixed. The real exchange rate adjusts to clear *ex ante* changes to the current account. A reduction in import tariffs, for example, leads to an increase in import demand. The demand for the additional imports needs to be financed through an increase in exports, most often generated by a fall in the real exchange rate, i.e. a depreciation.

Some of the other key features of the model include:

- The model's numéraire is defined as the export price index of manufactured exports from high-income countries. This is set to 1 in the base year and in subsequent shocks.

- Aggregate labor supply is fixed and fully mobile across all sectors. Note that in the version of the model used in the present study, no exogenous assumptions are imposed on the relative rural/urban wage ratio, and wages are assumed to be uniform across sectors. Assuming inter-sectoral wage differentials (with or without perfect mobility) can lead to different results depending on whether, in aggregate, demand in the high-wage sectors is

greater than demand in low-wage sectors.[6] Skilled labor is a substitute for unskilled labor and the composite labor bundle is substitutable with capital.

- Aggregate capital supply is fixed and fully mobile across all sectors.[7]

- Agricultural land supply is endogenous, with land specified as either scarce or abundant. Land is perfectly mobile across agricultural industries.

In terms of Linkage model results, the following should be noted:

- Changes in value added are computed with and without taxes/subsidies on the factors of production with the exception of wage taxes that are not used in this version of the model. The first definition reflects the total tax/subsidy inclusive cost of value added, the second reflects final payments to the owners of the factors of production. In the output provided to the authors, total value added at factor cost (i.e. tax/subsidy inclusive) is provided.

- Welfare is measured using the Hicksian equivalent variation in income. In the base year, the expenditure function is exactly equal to disposable income and reflects expenditures on goods and services and savings. After the shock, the expenditure function reflects the value of expenditures required to achieve the new level of utility at base year prices. It is very closely approximated by the value of nominal disposable income deflated by the consumer price index. In some countries, it may occur that the increase in the income (lump-sum) tax may not be fully compensated by a decline in consumer prices, taking into account changes into factor income as well.

[6] A discussion on this and other labor market specification issues is available in van der Mensbrugghe (2007).
[7] The fixed factor in the natural resource sectors is aggregated with capital.

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Table 1: Sectoral concordance of Linkage Model with GTAP Version 7

1	pdr	Paddy rice
2	wht	Wheat
3	gro	Other grains
4	osd	Oil seeds
5	c_b	Sugar cane and beet
6	pfb	Plant-based fibers
7	v_f	Vegetables and fruits
8	ocr	Other crops
9	ctl	Cattle sheep etc
10	oap	Other livestock
11	rmk	Raw milk
12	wol	Wool
13	cmt	Beef and sheep meat
14	omt	Other meat products
15	vol	Vegetable oils and fats
16	mil	Dairy products
17	pcr	Processed rice
18	sgr	Refined sugar
19	ofb	Other food, beverages and tobacco Food products n.e.s. (ofd), Beverages and tobacco products (b_t)
20	prm	Other primary products Forestry (frs), Fishing (fsh), Coal (coa), Oil (oil), Gas (gas), Minerals n.e.s. (omn)
21	twp	Textile and wearing apparel Textiles (tex), Wearing apparel (wap), Leather products (lea)
22	omx	Other manufacturing Wood products (lum), Paper products, publishing (ppp), Petroleum, coal products (p_c), Chemical, rubber, plastic products (crp), Mineral products n.e.s. (nmm), Ferrous metals (i_s), Metals n.e.s. (nfm), Metal products (fmp), Motor vehicles and parts (mvh), Transport equipment n.e.s. (otn), Electronic equipment (ele), Machinery and equipment n.e.s. (ome), Manufactures n.e.s. (omf)
23	srv	Services Electricity (ely), Gas manufacture, distribution (gdt), Water (wtr), Construction (cns), Trade (trd), Transport n.e.s. (otp), Sea transport (wtp), Air transport (atp), Communication (cmn), Financial services n.e.s. (ofi), Insurance (isr), Business services n.e.s. (obs), Recreation and other services (ros), Public administration and defence, education, health services (osg), Dwellings (dwe)

Source: van der Mensbrugghe (2005) and Badri Narayanan and Walmsley (2008).

Table 2: Regional concordance of Linkage Model with GTAP Version 7 database

1	aus	Australia
2	nzl	New Zealand
3	jpn	Japan
4	kor	Korea
5	twn	Taiwan
6	hyc	Hong Kong and Singapore Hong Kong (hkg), Singapore (sgp)
7	can	Canada
8	usa	United States
9	e15	EU 15 Austria (aut), Belgium (bel), Denmark (dnk), Finland (fin), France (fra), Germany (deu), Greece (grc), Ireland (irl), Italy (ita), Luxembourg (lux), Netherlands (nld), Portugal (prt), Spain (esp), Sweden (swe), United Kingdom (gbr)
10	xer	Rest of Western Europe Cyprus (cyp), Malta (mlt), Switzerland (che), Rest of EFTA (xef), Rest of Europe (xer)
11	bgr	Bulgaria
12	cze	Czech Republic
13	est	Estonia
14	hun	Hungary
15	lva	Latvia
16	ltu	Lithuania
17	kaz	Kazakhstan
18	kgz	Kyrgystan
19	pol	Poland
20	rom	Romania
21	svk	Slovakia
22	svn	Slovenia
23	rus	Russia
24	tur	Turkey
25	xca	Rest of ECA Albania (alb), Croatia (hrv), Ukraine (ukr), Rest of Eastern Europe (xee), Armenia (arm), Azerbaijan (aze), Geogia (geo), Rest of Former Soviet Union (xsu)
26	mde	Middle East Iran (irn), Rest of Western Asia (xws)
27	egy	Egypt
28	mar	Morocco
29	xnf	Rest of North Africa Tunisia (tun), Rest of North Africa (xnf)
30	zaf	South Africa
31	mdg	Madagascar
32	moz	Mozambique
33	zmb	Zambia
34	zwe	Zimbabwe
35	wcf	Rest of Western & Central Africa Rest of Western Africa (xwf), Central Africa (xcf), South-Central

		Africa (xac)
36	uga	Uganda
37	tza	Tanzania
38	nga	Nigeria
39	sen	Senegal
40	xss	Rest of Sub-Saharan Africa Malawi (mwi), Mauritius (mus), Rest of Eastern Africa (xec), Botswana (bwa), Rest of South African Customs Union (xsc)
41	chn	China
42	idn	Indonesia
43	mys	Malaysia
44	phl	Philippines
45	tha	Thailand
46	vnm	Vietnam
47	xea	Rest of East Asia Rest of Oceania (xoc), Rest of East Asia (xea), Cambodia (khm), Rest of Southeast Asia (xse)
48	bgd	Bangladesh
49	ind	India
50	pak	Pakistan
51	lka	Sri Lanka
52	xsa	Other South Asia
53	arg	Argentina
54	bra	Brazil
55	chl	Chile
56	col	Colombia
57	ecu	Ecuador
58	mex	Mexico
59	nic	Nicaragua
60	xlc	Rest of LAC Rest of North America (xna), Bolivia (bol), Paraguay (pry), Peru (per), Uruguay (ury), Venezuela (ven), Rest of South America (xsm), Rest of Central America (xca), Caribbean (xcb)

Source: van der Mensbrugghe (2005) and Badri Narayanan and Walmsley (2008).

Table 3: Key elasticities in the Linkage Model

(a) Production elasticities

	Long-run parameter
Elasticity across inputs (excl. sector-specific and energy inputs)	0.0
Elasticity between value added (including energy) and other inputs	0.0
Elasticity between capital+energy bundle and labor	1.0
Elasticity across labor inputs	0.5
Elasticity between capital and energy	0.8
Elasticity between capital and sector specific factors	0.0
Elasticity across fuel inputs	2.0
Elasticity between chemicals and land-capital input	0.5
Elasticity between feed and land	0.5
Elasticity across agricultural chemicals	0.5
Elasticity across feed in livestock	0.5

(b) Armington elasticities[a]

pdr	Paddy rice[b]	4.45
wht	Wheat	5.85
gro	Other grains	4.93
v_f	Vegetables and fruits	3.94
osd	Oil seeds	4.75
c_b	Sugar cane and beet	5.91
pfb	Plant-based fibers	3.94
ocr	Other crops	3.94
ctl	Cattle sheep etc	3.94
oap	Other livestock	3.94
rmk	Raw milk	3.94
wol	Wool	3.94
cmt	Beef and sheep meat	3.94
omt	Other meat products	3.94
vol	Vegetable oils and fats	3.94
mil	Dairy products	3.94
pcr	Processed rice[b]	4.45
sgr	Refined sugar	5.91
ofb	Other food, beverages and tobacco	3.94
prm	Other primary products	4.31
twp	Textile and wearing apparel	4.11
omx	Other manufacturing	4.09
srv	Services	2.08

Note: a. The elasticities in this table represent the top-level trade elasticities, i.e. the substitution between the aggregate domestic good and aggregate imports. The second level elasticity, i.e. the substitution across imports by region of origin is double the top-level using the so-called rule of 2.
b. For convergence reasons, the rice trade elasticities for Japan, Korea and Taiwan have been set to 1.5, 1 and 1.5 respectively for both levels of the elasticities and for both pdr and pcr.

Table 3 (continued): Key elasticities in the Linkage Model

(c) Land supply elasticities[b]

aus	Australia	1.00
nzl	New Zealand	1.00
jpn	Japan	0.25
kor	Korea	0.25
twn	Taiwan	0.25
hyc	Hong Kong and Singapore	0.25
can	Canada	1.00
usa	United States	1.00
e15	EU 15	0.25
xer	Rest of Western Europe	0.25
bgr	Bulgaria	0.25
cze	Czech Republic	0.25
est	Estonia	0.25
hun	Hungary	0.25
lva	Latvia	0.25
ltu	Lithuania	0.25
kaz	Kazakhstan	1.00
kgz	Kyrgystan	1.00
pol	Poland	0.25
rom	Romania	0.25
svk	Slovakia	0.25
svn	Slovenia	0.25
rus	Russia	1.00
tur	Turkey	1.00
xca	Rest of ECA	0.25
mde	Middle East	0.25
egy	Egypt	0.25
mar	Morocco	0.25
xnf	Rest of North Africa	0.25
zaf	South Africa	1.00
mdg	Madagascar	1.00
moz	Mozambique	1.00
zmb	Zambia	1.00
zwe	Zimbabwe	1.00
wcf	Rest of Western & Central Africa	1.00
uga	Uganda	1.00
tza	Tanzania	1.00
nga	Nigeria	1.00
sen	Senegal	1.00
xss	Rest of Sub-Saharan Africa	1.00
chn	China	0.25
idn	Indonesia	1.00
mys	Malaysia	1.00
phl	Philippines	1.00
tha	Thailand	1.00
vnm	Vietnam	1.00
xea	Rest of East Asia	1.00
bgd	Bangladesh	0.25
ind	India	0.25
pak	Pakistan	0.25
lka	Sri Lanka	0.25
xsa	Other South Asia	0.25
arg	Argentina	1.00
bra	Brazil	1.00
chl	Chile	1.00
col	Colombia	1.00
ecu	Ecuador	1.00
mex	Mexico	0.25
nic	Nicaragua	0.25
xlc	Rest of LAC	1.00

[b] Countries/regions are classified as either land abundant (with an elasticity of 1) or land scarce (with an elasticity of 0.25).

Source: van der Mensbrugghe (2005).

Table 4: Price distortion structure[a] in GTAP version 7p5 and in the distortion rates drawn from the World Bank project, 2004

(percent)

	GTAP version 7p5				Amended rates			
	Primary Agriculture	Agriculture and Lightly Processed Food		Other goods	Primary Agriculture	Agriculture and Lightly Processed Food		Other goods
	Domestic Support	Export Subsidy	Tariff	Tariff	Domestic Support	Export Subsidy	Tariff	Tariff
Australia	0.0	0.0	0.7	3.3	0.0	0.0	0.5	3.3
New Zealand	0.0	0.0	2.8	3.3	0.0	-0.2	0.7	3.3
EU15	1.0	10.8	7.1	0.7	1.2	12.8	6.9	0.7
Rest West Europe	2.6	8.6	52.9	2.2	2.6	13.4	53.9	2.2
Russia	1.7	-0.1	7.5	7.4	1.7	-0.9	18.9	7.4
Kazakhstan	-0.9	0.0	2.9	2.7	-0.9	0.0	3.4	2.7
Kyrgystan	-1.0	-0.1	3.1	5.0	-1.0	-0.1	3.8	5.0
Turkey	0.8	0.0	29.0	3.1	0.8	0.0	33.3	3.1
RestECA	-1.1	0.0	9.8	5.7	-1.1	-0.9	9.9	5.7
Bulgary	0.6	0.0	17.0	11.5	0.6	0.0	14.8	11.5
CZE Republic	0.6	10.2	3.1	0.5	0.6	0.0	3.0	0.5
Estonia	0.0	9.7	6.2	0.9	0.0	0.0	5.0	0.9
Hungary	3.1	9.7	6.6	0.5	3.1	0.0	6.2	0.5
Latvia	13.1	9.9	3.7	0.9	13.3	0.0	3.3	0.9
Lituania	0.5	9.4	13.1	1.0	0.5	0.0	12.1	1.0
Poland	0.4	8.3	6.1	0.8	0.4	0.0	6.2	0.8
Romania	1.3	0.0	19.8	9.8	1.3	0.0	18.0	9.8
Slovakia	0.0	10.4	5.5	0.4	0.0	0.0	5.2	0.4
Slovenia	0.0	10.5	6.3	0.4	0.0	0.0	7.8	0.4
USA	4.0	0.5	2.5	1.3	5.2	0.6	6.1	1.3
Canada	1.6	2.0	23.1	1.4	1.6	3.6	18.9	1.4
Japan	2.0	0.0	141.1	1.7	2.0	0.0	151.7	1.7
Korea	0.0	0.0	172.7	5.9	0.0	0.0	319.4	5.9
Taiwan	-0.4	0.0	77.4	3.9	-0.4	0.0	84.2	3.9
OthHYC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
China	0.0	0.0	12.6	7.1	0.0	0.2	6.5	7.1
Indonesia	0.0	0.0	6.4	4.9	0.0	-1.6	7.3	4.9
Malasya	0.0	0.0	2.4	5.9	0.0	-0.2	5.0	5.9
Philippines	-4.7	0.0	20.0	3.4	-4.7	0.0	7.1	3.4
Thailand	-0.2	0.0	22.1	12.9	-0.2	0.0	26.2	12.9
Vietnam	-3.6	0.0	15.5	18.5	-3.6	-0.5	21.5	18.5
Bangladesh	-1.0	0.0	16.3	22.5	-1.0	0.0	9.9	22.5
India	3.9	0.0	29.8	20.9	10.1	2.5	2.9	20.8
Pakistan	0.0	0.0	10.8	18.5	0.0	-0.2	19.4	18.5
Sri Lanka	0.6	0.2	24.3	5.8	0.6	-0.3	23.8	5.8
Rest Sasia	-0.5	0.0	5.0	15.6	-0.5	0.0	6.9	15.6
Rest Easia	-0.7	0.0	2.8	2.3	-0.7	0.0	3.2	2.3
RestME	-12.4	0.0	9.0	5.7	-12.4	0.0	7.5	5.7
Egypt	0.0	0.0	4.0	13.5	0.0	0.0	5.0	13.5

(continued)

Table 4 (continued): Price distortion structure[a] in GTAP version 7p5 and in the distortion rates drawn from the World Bank project, 2004

(percent)

	GTAP version 7p5				Amended rates			
	Primary Agriculture	Agriculture and Lightly Processed Food		Other goods	Primary Agriculture	Agriculture and Lightly Processed Food		Other goods
	Domestic Support	Export Subsidy	Tariff	Tariff	Domestic Support	Export Subsidy	Tariff	Tariff
Morocco	0.0	-0.3	33.3	20.0	0.0	-0.4	28.4	20.0
RestNAfrica	-3.9	0.5	24.9	13.1	-3.9	1.3	30.7	13.1
South Africa	0.0	0.0	9.7	6.5	0.0	0.0	10.2	6.5
Madagascar	0.0	0.0	3.9	2.7	0.0	-4.4	3.4	2.7
Mozambique	0.2	0.0	12.5	10.9	0.2	0.0	14.5	10.9
Zambia	-0.8	0.0	5.6	9.0	-0.8	0.0	7.0	9.0
Zimbabwe	-3.2	0.0	13.6	15.4	-3.2	0.0	8.9	15.4
Uganda	0.0	0.0	9.5	5.5	0.0	-2.6	9.2	5.5
Tanzania	-0.3	0.0	11.6	13.7	-0.3	0.0	11.8	13.7
Nigeria	0.1	0.0	74.0	17.2	0.1	0.0	76.1	17.2
Senegal	0.0	0.0	8.4	8.9	0.0	-1.1	6.2	8.9
RestWCAfrica	-0.2	0.0	10.5	8.9	-0.2	0.0	10.8	8.9
RestAfrica	-0.4	0.0	10.4	14.1	-0.4	0.0	10.6	14.1
Argentina	-4.9	0.0	2.9	5.7	0.0	-14.8	0.0	5.8
Brazil	0.0	0.0	4.5	8.9	0.0	0.0	4.8	8.9
Chile	-1.7	0.0	1.3	1.8	0.0	0.0	2.4	1.8
Colombia	0.0	0.0	12.9	9.8	0.0	0.0	21.6	9.8
Ecuador	0.0	0.0	6.8	10.4	0.0	0.0	13.4	10.4
Mexico	1.3	0.0	8.6	3.4	1.2	0.0	6.2	3.4
Nicaragua	0.0	0.0	8.0	3.9	0.0	-2.8	9.6	3.9
RestLAC	-1.7	0.6	9.8	9.9	-1.7	0.3	9.9	9.9

[a] Using value of production at undistorted prices as weights.

Source: GTAP version 7p5 rates (since amended to create the final Version 7 by Badri Narayanan and Walmsley 2008) and the new rates from the World Bank's Agricultural Distortions global database compiled by Valenzuela and Anderson (2008).

Table 5: Export price, import price and export demand shocks to national models from agricultural and trade policy reform by rest-of-world, selected developing countries

(percent deviation from baseline)

(a) Argentina (Global results excluding Argentina)

	Export price impact		**Export quantity impact**		**Import price impact**	
	All goods	***Agric only***	***All goods***	***Agric only***	***All goods***	***Agric only***
Paddy rice	4.8	5.6	-98.7	-98.8	..	..
Wheat	5.0	5.7	21.7	17.4	..	..
Other grains	4.7	5.5	30.8	33.6	4.8	6.5
Oil seeds	4.8	5.6	31.1	30.1	2.8	5.0
Sugar cane and beet	..	..	..	..	..	..
Plant-based fibers	4.0	4.9	30.9	36.3	7.8	9.2
Vegetables and fruits	5.1	5.9	-34.3	-31.9	6.4	7.7
Other crops	5.6	6.4	-24.3	-22.5	3.9	4.9
Cattle sheep etc	5.5	6.2	-36.2	-33.4	1.7	2.9
Other livestock	4.7	5.5	28.9	33.3	1.5	2.7
Raw milk	..	..	..	..	..	..
Wool	5.4	6.2	-34.1	-30.2	2.7	2.6
Beef and sheep meat	4.5	5.3	105.2	113.8	5.7	7.4
Other meat products	4.0	4.8	148.7	154.5	5.7	6.7
Vegetable oils and fats	4.2	5.0	-16.2	-15.9	0.4	1.6
Dairy products	3.8	4.7	426.9	439.4	7.1	9.2
Processed rice	4.1	4.9	-90.2	-91.5	-0.6	1.9
Refined sugar	3.9	4.7	67.4	86.3	..	..
Other food, beverages and tobacco	3.3	4.1	12.3	-26.5	3.5	2.1
Other primary products	3.0	3.8	-21.0	-19.0	2.1	2.9
Textile and wearing apparel	2.8	3.7	-2.4	-20.5	0.8	2.6
Other manufacturing	2.6	3.5	-25.8	-18.3	0.4	1.8
Services	3.0	3.8	-12.0	-13.4	-0.3	0.3
Agriculture and food	4.3	5.1	21.2	17.3	4.0	4.1
Agriculture	4.9	5.7	14.7	14.7	4.5	5.9
Processed foods	4.0	4.8	25.2	18.9	3.7	3.1
Other manufacturing	2.7	3.6	-22.7	-18.6	0.5	1.9
Nontradeables	3.0	3.8	-12.0	-13.4	-0.3	0.3
Total	3.6	4.4	-0.5	-0.9	0.4	1.6
Merchandise trade	3.7	4.5	1.1	0.9	0.6	1.9

Table 5 (continued): Export price, import price and export demand shocks to national models from agricultural and trade policy reform by rest-of-world, selected developing countries

(b) Brazil (Global results excluding Brazil)

	Export price impact		**Export quantity impact**		**Import price impact**	
	All goods	***Agric only***	***All goods***	***Agric only***	***All goods***	***Agric only***
Paddy rice	..	..	..	..	4.8	6.4
Wheat	7.1	7.2	19.6	33.7	-2.8	-3.5
Other grains	8.4	8.6	19.9	21.8	-3.3	-3.1
Oil seeds	8.1	8.3	-23.9	-21.8	1.5	3.2
Sugar cane and beet	..	..	..	..	..	..
Plant-based fibers	8.7	8.9	-2.4	1.0	14.4	16.7
Vegetables and fruits	8.6	8.9	-54.8	-51.7	7.1	7.2
Other crops	9.0	9.3	6.4	14.3	0.0	0.7
Cattle sheep etc	8.9	9.1	-51.9	-47.8	1.1	2.3
Other livestock	8.8	9.0	-41.5	-38.4	0.0	1.0
Raw milk	..	..	..	..	..	..
Wool	10.8	11.1	-55.5	-47.7	..	..
Beef and sheep meat	7.6	7.7	918.9	972.6	5.1	6.6
Other meat products	7.8	8.0	76.2	84.7	-3.4	-2.7
Vegetable oils and fats	6.8	6.9	-40.6	-40.8	-0.8	-0.3
Dairy products	7.0	7.1	572.8	626.0	10.5	11.1
Processed rice	6.7	6.8	-27.5	-28.0	4.0	5.3
Refined sugar	6.5	6.6	140.7	164.1	..	..
Other food, beverages and tobacco	6.1	6.1	84.5	-38.1	7.3	2.4
Other primary products	5.6	5.7	-30.5	-33.5	-2.6	1.4
Textile and wearing apparel	5.4	5.5	-27.6	-30.3	0.1	1.2
Other manufacturing	5.1	5.2	-32.4	-29.5	0.6	0.7
Services	5.9	5.9	-21.7	-20.5	-0.2	0.3
Agriculture and food	7.5	7.7	92.8	87.0	3.4	1.9
Agriculture	8.5	8.7	-12.7	-8.5	0.9	1.0
Processed foods	7.1	7.3	166.2	153.4	6.0	2.9
Other manufacturing	5.2	5.3	-31.8	-30.1	0.3	0.8
Nontradeables	5.9	5.9	-21.7	-20.5	-0.2	0.3
Total	6.1	6.3	2.2	1.9	0.3	0.7
Merchandise trade	6.1	6.3	4.9	4.4	0.5	0.8

Table 5 (continued): Export price, import price and export demand shocks to national models from agricultural and trade policy reform by rest-of-world, selected developing countries

(c) China (Global results excluding China)

	Export price impact		**Export quantity impact**		**Import price impact**	
	All goods	***Agric only***	***All goods***	***Agric only***	***All goods***	***Agric only***
Paddy rice	4.2	1.8	94.9	123.6	..	..
Wheat	3.5	1.4	15.5	45.8	2.9	3.6
Other grains	3.9	1.6	105.1	157.7	6.5	6.5
Oil seeds	4.0	1.7	10.3	42.9	-2.8	-2.3
Sugar cane and beet	..	..	..	..	..	..
Plant-based fibers	3.3	1.3	30.0	51.4	10.0	11.5
Vegetables and fruits	4.2	1.8	185.5	232.9	1.9	1.6
Other crops	4.5	2.0	-12.7	8.4	1.3	1.5
Cattle sheep etc	4.4	1.9	-18.6	-3.1	6.5	6.6
Other livestock	3.8	1.6	-20.8	-0.2	0.7	1.6
Raw milk	4.1	1.7	-48.3	-31.7	-1.8	-0.7
Wool	3.8	1.6	-13.1	10.1	4.9	4.9
Beef and sheep meat	3.4	1.3	-1.8	21.0	7.0	7.6
Other meat products	3.5	1.3	30.7	58.1	1.9	2.8
Vegetable oils and fats	1.8	0.3	-6.4	5.7	-0.2	-0.9
Dairy products	2.9	0.8	191.2	251.6	10.9	11.4
Processed rice	3.0	0.9	148.8	192.1	4.2	3.4
Refined sugar	3.0	0.8	410.2	560.4	1.4	2.0
Other food, bev. & tob.	2.9	0.8	66.4	-16.0	0.0	-1.0
Other primary product	2.7	0.6	-7.8	2.0	0.5	1.1
Textile and wearing apparel	2.6	0.8	13.7	-2.1	-0.2	0.4
Other manufacturing	2.2	0.5	-3.3	-1.6	0.7	0.3
Services	2.5	0.5	-10.5	-0.9	0.1	0.2
Agriculture and food	3.3	1.2	66.6	33.8	1.4	1.5
Agriculture	4.1	1.8	72.2	106.3	1.8	2.4
Processed foods	3.0	0.9	63.9	-0.4	0.9	0.3
Other manufacturing	2.3	0.5	0.6	-1.6	0.6	0.3
Nontradeables	2.5	0.5	-10.5	-0.9	0.1	0.2
Total	2.4	0.6	2.2	-0.3	0.6	0.4
Merchandise trade	2.4	0.6	3.2	-0.3	0.7	0.4

Table 5 (continued): Export price, import price and export demand shocks to national models from agricultural and trade policy reform by rest-of-world, selected developing countries

(d) Indonesia (Global results excluding Indonesia)

	Export price impact		**Export quantity impact**		**Import price impact**	
	All goods	***Agric only***	***All goods***	***Agric only***	***All goods***	***Agric only***
Paddy rice	..	..	..	..	4.3	2.7
Wheat	..	..	..	..	6.8	7.1
Other grains	3.1	1.4	50.8	69.4	-2.7	-2.8
Oil seeds	3.0	1.3	-13.6	7.6	-1.8	-1.3
Sugar cane and beet	..	..	..	..	..	..
Plant-based fibers	3.1	1.4	2.8	38.2	7.6	8.7
Vegetables and fruits	3.1	1.4	5.4	20.9	2.6	1.9
Other crops	3.0	1.3	-13.4	2.6	1.5	1.8
Cattle sheep etc	3.0	1.3	1.1	24.3	5.6	5.5
Other livestock	2.7	1.1	-18.3	-5.2	-1.9	-0.6
Raw milk	..	..	..	..	..	..
Wool	..	..	..	..	9.8	10.0
Beef and sheep meat	3.0	1.4	-61.2	-50.8	5.6	5.7
Other meat products	2.5	0.8	185.5	265.8	3.3	3.6
Vegetable oils and fats	2.5	0.9	8.9	22.5	0.4	1.1
Dairy products	2.7	1.1	419.3	514.3	8.6	8.8
Processed rice	3.0	1.3	-38.1	-28.7	3.7	2.8
Refined sugar	2.6	1.0	445.7	502.2	2.9	2.5
Other food, beverages and tobacco	2.4	0.9	106.0	-12.7	-0.8	-0.7
Other primary products	2.1	0.6	-8.6	2.3	1.3	0.8
Textile and wearing apparel	2.1	1.0	11.4	-3.9	-0.3	0.4
Other manufacturing	1.9	0.6	-4.3	-2.6	0.4	0.4
Services	2.1	0.6	-9.0	-1.4	-0.2	0.2
Agriculture and food	2.5	1.0	39.0	12.9	3.0	3.2
Agriculture	3.0	1.3	-11.2	4.4	4.1	4.5
Processed foods	2.5	0.9	51.4	15.0	1.7	1.8
Other manufacturing	2.0	0.6	-2.4	-2.0	0.4	0.4
Nontradeables	2.1	0.6	-9.0	-1.4	-0.2	0.2
Total	2.1	0.7	2.2	-0.1	0.5	0.6
Merchandise trade	2.1	0.7	3.1	0.0	0.7	0.8

Table 5 (continued): Export price, import price and export demand shocks to national models from agricultural and trade policy reform by rest-of-world, selected developing countries

(e) Mozambique (Global results excluding Mozambique)

	Export price impact		**Export quantity impact**		**Import price impact**	
	All goods	***Agric only***	***All goods***	***Agric only***	***All goods***	***Agric only***
Paddy rice	..	..	..	..	8.5	9.7
Wheat	..	..	..	..	-0.9	-0.8
Other grains	1.1	1.4	3.4	19.7	2.6	4.1
Oil seeds	0.6	0.9	496.8	567.8	-2.7	-1.5
Sugar cane and beet	..	..	..	..	..	..
Plant-based fibers	0.7	1.2	48.4	56.4	..	..
Vegetables and fruits	1.0	1.3	-9.7	-2.8	-1.2	0.1
Other crops	1.1	1.4	8.7	16.0	-0.7	0.3
Cattle sheep etc	..	..	..	..	..	..
Other livestock	..	..	..	..	-1.7	-0.1
Raw milk	..	..	..	..	..	..
Wool	..	..	..	..	..	..
Beef and sheep meat	..	..	..	..	-1.3	0.1
Other meat products	..	..	..	..	1.6	3.1
Vegetable oils and fats	0.3	0.7	13.1	10.8	-0.3	-0.8
Dairy products	..	..	..	..	-0.9	0.4
Processed rice	..	..	..	..	3.3	3.2
Refined sugar	0.4	0.9	-21.9	-11.9	-1.4	-0.1
Other food, beverages and tobacco	0.4	0.7	-5.8	-15.7	1.9	-0.3
Other primary products	0.8	1.1	38.4	-3.1	0.6	0.4
Textile and wearing apparel	0.3	0.8	22.3	-3.2	-1.3	0.6
Other manufacturing	0.2	0.7	-7.6	-5.1	-0.8	0.2
Services	0.3	0.7	1.7	1.0	-0.3	0.3
Agriculture and food	0.7	1.0	15.7	18.0	0.5	0.3
Agriculture	0.9	1.3	37.7	48.9	-0.5	0.0
Processed foods	0.4	0.7	-6.9	-13.6	1.1	0.5
Other manufacturing	0.2	0.7	-5.2	-5.0	-0.8	0.3
Nontradeables	0.3	0.7	1.7	1.0	-0.3	0.3
Total	0.3	0.7	-0.3	0.0	-0.5	0.3
Merchandise trade	0.3	0.8	-1.1	-0.5	-0.5	0.3

Table 5 (continued): Export price, import price and export demand shocks to national models from agricultural and trade policy reform by rest-of-world, selected developing countries

(f) Nicaragua (Global results excluding Nicaragua)

	Export price impact		**Export quantity impact**		**Import price impact**	
	All goods	***Agric only***	***All goods***	***Agric only***	***All goods***	***Agric only***
Paddy rice	..	..	..	..	8.5	9.7
Wheat	..	..	..	..	2.1	3.1
Other grains	..	..	..	..	16.4	17.6
Oil seeds	2.3	2.7	41.2	49.4	..	..
Sugar cane and beet	..	..	..	..	..	..
Plant-based fibers	..	..	..	..	..	..
Vegetables and fruits	2.4	2.8	-18.0	-15.2	2.6	4.6
Other crops	2.5	2.9	-18.2	-14.2	7.2	9.1
Cattle sheep etc	2.8	3.3	21.7	31.3	18.7	21.0
Other livestock	3.0	3.5	-30.5	-24.7	1.7	3.7
Raw milk	..	..	..	..	..	..
Wool	..	..	..	..	..	..
Beef and sheep meat	1.5	2.0	30.3	36.2	2.0	3.1
Other meat products	2.3	2.8	64.1	72.7	5.9	7.7
Vegetable oils and fats	1.8	2.1	-24.2	-22.5	-0.1	1.3
Dairy products	2.2	2.5	-8.7	-0.6	5.8	7.7
Processed rice	..	..	..	..	-0.1	1.1
Refined sugar	1.7	2.0	49.3	64.8	..	..
Other food, beverages and tobacco	1.8	2.1	8.5	-13.3	1.1	1.4
Other primary products	1.5	1.6	-27.5	-4.9	-0.5	2.1
Textile and wearing apparel	1.3	1.4	5.6	-4.8	0.2	0.6
Other manufacturing	1.1	1.4	-23.1	-7.1	0.0	1.0
Services	1.4	1.4	-6.2	-4.8	-0.4	0.2
Agriculture and food	2.0	2.4	9.4	8.9	2.4	3.3
Agriculture	2.5	2.9	-2.1	3.2	5.6	6.9
Processed foods	1.7	2.1	18.1	13.1	1.0	1.7
Other manufacturing	1.2	1.4	-2.6	-5.4	0.0	1.0
Nontradeables	1.4	1.4	-6.2	-4.8	-0.4	0.2
Total	1.5	1.8	1.2	-0.1	0.3	1.3
Merchandise trade	1.6	1.8	2.5	0.6	0.4	1.4

Table 5 (continued): Export price, import price and export demand shocks to national models from agricultural and trade policy reform by rest-of-world, selected developing countries

(g) Pakistan (Global results excluding Pakistan)

	Export price impact		**Export quantity impact**		**Import price impact**	
	All goods	***Agric only***	***All goods***	***Agric only***	***All goods***	***Agric only***
Paddy rice	1.4	1.0	117.4	138.0	..	..
Wheat	..	..	..	..	2.4	3.1
Other grains	..	..	..	..	13.6	14.6
Oil seeds	1.6	1.2	76.7	103.1	1.5	1.9
Sugar cane and beet	..	..	..	..	..	..
Plant-based fibers	1.3	1.0	57.8	59.2	4.4	6.7
Vegetables and fruits	1.4	1.0	-20.9	-13.7	-2.9	-2.6
Other crops	1.5	1.1	-17.7	-1.6	-1.9	0.0
Cattle sheep etc	1.4	1.0	-42.1	-28.1	..	..
Other livestock	1.4	1.0	-20.5	-9.1	-8.0	-6.8
Raw milk	1.4	1.0	-36.5	-27.6	..	..
Wool	..	..	..	..	-10.5	-8.8
Beef and sheep meat	1.1	0.6	-39.4	-31.0	2.2	3.2
Other meat products	..	..	..	..	0.2	1.4
Vegetable oils and fats	1.1	0.7	-28.0	-26.7	1.8	0.4
Dairy products	1.2	0.7	22.0	49.6	16.8	17.8
Processed rice	1.2	0.7	25.8	34.0	8.2	10.2
Refined sugar	1.1	0.6	-26.3	-5.3	1.6	3.4
Other food, beverages and tobacco	1.1	0.6	3.6	-14.0	0.0	-1.7
Other primary products	1.0	0.4	20.0	1.8	-0.1	0.8
Textile and wearing apparel	1.0	0.7	3.1	-2.1	-0.7	0.5
Other manufacturing	0.7	0.5	-2.4	-1.9	-0.4	0.4
Services	0.9	0.5	-4.5	-0.6	-0.2	0.2
Agriculture and food	1.2	0.8	10.8	15.0	1.6	2.0
Agriculture	1.4	1.0	15.7	25.6	1.5	3.0
Processed foods	1.1	0.7	9.1	11.4	1.7	0.5
Other manufacturing	0.9	0.7	2.3	-2.0	-0.4	0.4
Nontradeables	0.9	0.5	-4.5	-0.6	-0.2	0.2
Total	1.0	0.6	2.0	-0.2	-0.1	0.5
Merchandise trade	1.0	0.7	3.3	-0.1	-0.1	0.6

Table 5 (continued): Export price, import price and export demand shocks to national models from agricultural and trade policy reform by rest-of-world, selected developing countries

(h) Philippines (Global results excluding Philippines)

	Export price impact		**Export quantity impact**		**Import price impact**	
	All goods	***Agric only***	***All goods***	***Agric only***	***All goods***	***Agric only***
Paddy rice	..	..	..	..	..	..
Wheat	..	..	..	..	3.0	3.9
Other grains	..	..	..	..	6.1	5.7
Oil seeds	..	..	..	..	-0.8	-0.5
Sugar cane and beet	..	..	..	..	..	..
Plant-based fibers	5.5	3.7	4.0	32.7	13.8	15.6
Vegetables and fruits	5.7	3.8	35.8	51.0	2.4	1.7
Other crops	5.9	3.9	-30.3	-10.6	1.3	1.4
Cattle sheep etc	..	..	..	..	5.6	5.5
Other livestock	5.6	3.6	-30.0	-12.2	-1.0	0.1
Raw milk	..	..	..	..	..	..
Wool	..	..	..	..	..	..
Beef and sheep meat	3.7	2.0	-95.3	-94.0	2.8	4.5
Other meat products	4.7	2.7	14.0	42.0	-0.2	0.3
Vegetable oils and fats	2.6	0.9	-10.3	5.9	-1.1	-1.7
Dairy products	4.9	4.2	13.0	19.6	7.0	7.4
Processed rice	5.3	3.3	-65.7	-59.7	4.3	1.6
Refined sugar	3.9	2.0	885.2	1238.4	2.1	0.8
Other food, beverages and tobacco	3.6	2.0	73.0	-20.0	1.6	-0.4
Other primary products	2.8	1.0	12.6	-1.9	0.6	0.9
Textile and wearing apparel	2.0	1.1	12.4	-4.0	-0.2	0.4
Other manufacturing	2.1	0.7	-5.1	-3.7	1.5	0.3
Services	2.9	1.1	-11.9	-3.6	-0.1	0.2
Agriculture and food	4.3	2.5	64.2	46.6	2.5	1.7
Agriculture	5.7	3.8	32.6	48.1	2.6	3.0
Processed foods	3.5	1.8	82.6	45.7	2.4	1.3
Other manufacturing	2.1	0.7	-3.8	-3.7	1.3	0.3
Nontradeables	2.9	1.1	-11.9	-3.6	-0.1	0.2
Total	2.3	0.9	-0.4	-0.9	1.3	0.4
Merchandise trade	2.3	0.9	0.3	-0.7	1.4	0.5

Table 5 (continued): Export price, import price and export demand shocks to national models from agricultural and trade policy reform by rest-of-world, selected developing countries

(i) South Africa (Global results excluding South Africa)

	Export price impact		**Export quantity impact**		**Import price impact**	
	All goods	***Agric only***	***All goods***	***Agric only***	***All goods***	***Agric only***
Paddy rice	..	..	..	..	..	..
Wheat	0.5	0.4	21.6	-15.9	0.7	0.7
Other grains	0.5	0.3	48.6	59.3	-5.5	-5.5
Oil seeds	0.5	0.3	-25.5	-13.7	-2.3	-2.0
Sugar cane and beet	..	..	..	..	..	..
Plant-based fibers	0.4	0.3	53.2	52.9	-1.2	-0.1
Vegetables and fruits	0.5	0.3	-38.6	-33.7	-0.9	-0.4
Other crops	0.5	0.3	7.0	10.9	1.9	2.8
Cattle sheep etc	0.5	0.3	5.7	17.1	-2.2	-0.4
Other livestock	0.6	0.3	-10.5	-1.2	0.7	1.4
Raw milk	0.5	0.3	-32.0	-23.8	..	..
Wool	0.4	0.4	4.1	11.0	19.5	19.8
Beef and sheep meat	0.5	0.4	443.5	489.9	5.1	5.8
Other meat products	0.6	0.4	-11.4	-1.9	3.7	4.8
Vegetable oils and fats	0.3	0.1	-1.1	0.7	-1.8	-2.5
Dairy products	0.6	0.5	405.9	447.6	16.6	17.5
Processed rice	0.6	0.5	-47.2	-41.5	5.0	4.6
Refined sugar	0.5	0.4	147.2	173.5	1.2	2.1
Other food, beverages and tobacco	0.5	0.4	58.3	-10.4	5.0	-0.4
Other primary products	0.5	0.4	0.3	1.0	0.2	0.7
Textile and wearing apparel	0.3	0.4	-21.2	-0.1	-0.9	0.5
Other manufacturing	0.4	0.4	-2.3	-1.2	-0.3	0.2
Services	0.6	0.4	-2.7	-0.6	-0.1	0.3
Agriculture and food	0.5	0.4	31.3	7.7	2.2	0.6
Agriculture	0.5	0.3	-23.7	-18.6	-0.3	0.3
Processed foods	0.5	0.4	80.2	31.0	3.4	0.8
Other manufacturing	0.5	0.4	-2.4	-0.8	-0.3	0.3
Nontradeables	0.6	0.4	-2.7	-0.6	-0.1	0.3
Total	0.5	0.4	0.8	0.1	-0.2	0.3
Merchandise trade	0.5	0.4	1.3	0.2	-0.2	0.3

Table 5 (continued): Export price, import price and export demand shocks to national models from agricultural and trade policy reform by rest-of-world, selected developing countries

(j) Thailand (Global results excluding Thailand)

	Export price impact		**Export quantity impact**		**Import price impact**	
	All goods	***Agric only***	***All goods***	***Agric only***	***All goods***	***Agric only***
Paddy rice	7.3	5.7	82.5	118.1	..	..
Wheat	..	..	..	..	3.3	4.0
Other grains	6.4	4.8	30.1	48.7	4.9	4.5
Oil seeds	6.0	4.7	-30.9	-18.4	-6.0	-5.6
Sugar cane and beet	..	..	..	..	..	..
Plant-based fibers	6.8	5.2	7.2	13.5	6.4	7.9
Vegetables and fruits	7.2	5.6	5.3	11.9	1.8	1.1
Other crops	7.3	5.8	-33.4	-21.5	1.7	1.6
Cattle sheep etc	6.2	4.6	-17.2	-3.8	3.6	2.8
Other livestock	5.4	3.7	-25.0	-12.2	0.6	1.1
Raw milk	..	..	..	..	..	..
Wool	..	..	..	..	5.5	5.3
Beef and sheep meat	4.1	2.2	-91.7	-89.2	10.0	10.1
Other meat products	4.5	2.7	48.9	79.7	1.6	2.5
Vegetable oils and fats	2.6	0.9	5.6	20.1	0.7	1.2
Dairy products	4.4	2.6	70.3	93.1	12.2	12.5
Processed rice	6.6	4.9	48.9	64.4	1.4	0.5
Refined sugar	4.6	2.7	506.3	563.6	..	..
Other food, beverages and tobacco	3.5	1.7	47.6	-17.2	0.9	-1.4
Other primary products	3.3	1.2	-10.5	-5.1	0.5	0.8
Textile and wearing apparel	3.2	1.4	-0.9	-7.6	-0.4	0.5
Other manufacturing	2.9	1.1	-8.1	-6.9	1.3	0.3
Services	3.3	1.2	-13.0	-3.7	-0.2	0.2
Agriculture and food	4.6	3.0	70.3	45.6	1.7	0.9
Agriculture	7.0	5.5	5.9	17.4	1.1	1.6
Processed foods	4.3	2.7	80.0	49.8	2.1	0.5
Other manufacturing	3.0	1.2	-7.4	-7.0	1.1	0.3
Nontradeables	3.3	1.2	-13.0	-3.7	-0.2	0.2
Total	3.3	1.4	1.0	-0.4	1.0	0.4
Merchandise trade	3.3	1.5	3.1	0.1	1.2	0.4

Source: Authors' World Bank LINKAGE model simulations