



*Alternative Agricultural Price Distortions for CGE Analysis of
Developing Countries, 2004 and 1980-84*

By

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A recent World Bank research project has generated a time series of distortions to agricultural incentives over the past half century for 74 countries (Anderson and Valenzuela 2008).¹ This new dataset provides alternative estimates of agricultural price distortions in developing countries to those provided for 2004 in the GTAP 7 Data Base (see www.gtap.org). This resource is presented in a ViewHar format and contains ad valorem tax rate on output by region, ad valorem rate of export taxes by region, and ad valorem rate of import taxes by source.

As explained in the methodology paper for the World Bank project (Anderson et al. 2008a,b), these new estimates are based on actual price comparisons rather than applied tariff rates. They should not be seen as superior to the standard GTAP distortions data base, which in combination with detailed information on bound tariffs and agricultural subsidies is designed for analyzing such things as multilateral and preferential trade policy reforms. Rather, the new dataset provides an alternative for those wishing to focus on the fuller range of distortions to national markets for farm products, as needed for national agricultural and trade policy analysis.²

The Nominal Rate of Assistance (NRA) estimates for developing countries from the World Bank project are decomposed into trade instruments including import and export taxes or subsidies and farm output subsidies. The GTAP protection data base is modified by targeting

¹ In addition to the publicly available database, the project's website (www.worldbank.org/agdistortions) includes a lengthy series of background, methodology and working papers and underlying national spreadsheets. For the methodology, see Anderson et al. (2008a,b). The country case studies are appearing in a series of four regional books (Anderson and Martin 2009, Anderson and Masters 2009, Anderson and Swinnen 2008 and Anderson and Valdés 2008) as well as a global overview volume (Anderson 2009).

² Dependence on just applied tariffs for analyzing the impact of removing all distortions to agricultural incentives has several potential shortcomings. One is that there may be 'water' or unused protection in such tariffs (because the government chooses to or finds itself unable to collect duties at the border), in which case they overstate the extent of actual protection from import competition. It is also possible that nontariff import barriers exist to such an extent that an applied tariff understates the actual protection level. As well, production or export taxes or other export restrictions, or exchange rate distortions – generally not included in the GTAP protection data base for developing countries – may be in place. And value added taxes on agricultural products may be applied at the border on imported products but not (or not as fully) on domestically produced like products. In principle, careful domestic-to-border price comparisons, appropriately adjusted for marketing margins, quality differences, etc., can overcome these problems.

the estimated power of intervention in each of these measures of assistance (or taxation, as with some agricultural export taxes). This process is done using the GTAP's *altertax* procedure (Malcolm 1998). The preferential bilateral tariff structures originally included in the GTAP Version 7 Data Base are maintained by multiplying each bilateral tariff by the ratio of the aggregate import tariff equivalent measure from the World Bank project to the original GTAP aggregate tariff for each product.

In addition to the agricultural distortions estimates from the World Bank project, this compilation includes adjustments of the level of domestic support in cotton (in nominal terms, the rates are calibrated to be equivalent to 4 US billions in the United States and 1 US billion in the EU15) and inclusion of an export tax equivalent in Argentina of 30 percent for the defined sector "Other Primary".

The level of aggregation is 60 Regions and 23 Sectors (see Table 1 and Table 2). The differences between the distortion rates in the GTAP Version 7 Data Base and the alternative one are illustrated in Table 3.

As well as providing an alternative set of developing country price distortions for 18 agricultural sectors for 2004, we also provide a set of price distortions for all sectors of all countries for the period 1980-84. The changes between then and 2004 are evident in Table 4. Both sets have been used to analyze (using the World Bank's global Linkage Model) the effects on agricultural markets, farm incomes and economic welfare of policy reforms over that 25-year period. An early version of the results is provided by Valenzuela, van der Mensbrugge and Anderson (2009).

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Table 1. Concordance from the World Bank project to GTAP sectors

| World Bank project agricultural product | GTAP commodity |
|---|-----------------------|
| rice | pdr pcr |
| wheat | wht |
| barley, coarse-grains, maize, millet, oat, other- grains, rye, sorghum, teff, | gro |
| apple, banana, bean, cabbage, cashew, cassava, chickpea , coconut, cucumber, fruits, fruits&vegetables, hazelnut, garlic, grape, groundnut, mandarin, olive, onion, orange, otherroots&tubers, pear, peas, plantain, potato, pulse, spinach, strawberry, tomato, yam, vegetables, wine-grape, | v_f |
| oilseeds, palmoil, rapeseed, sesame, soybean, sunflower, | osd vol |
| sugar cane, sugar beet | c_b sgr |
| cotton | pfb |
| chat, chillies, clove, coffee, cocoa, gum- arabic, other-crops, pepper, pyrethrum, rubber, tea, tobacco, vanilla, | ocr |
| beef, camel, sheep | ctl cmt |
| chicken, egg, hides&skins, pig | oap omt |
| milk | rmk mil |
| wool | wol |

Table 2. Concordance of this database with GTAP Version 7, sectoral detail

| | | |
|----|-----|---|
| 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) |

Table 3. Concordance of this database with GTAP Version 7, regional detail

| | | |
|----|-----|--|
| 1 | aus | Australia |
| 2 | nzl | New Zealand |
| 3 | jpn | Japan |
| 4 | kor | Korea |
| 5 | twn | Taiwan |
| 6 | hyc | Hong Kong (hkg) |
| 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 | Norway (nor), 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) |

(continued)

Table 3 (continued). Concordance of this database with GTAP Version 7, regional detail

| | | |
|----|-----|---|
| 36 | uga | Uganda |
| 37 | tza | Tanzania |
| 38 | nga | Nigeria |
| 39 | sen | Senegal |
| 40 | xss | Rest of Sub-Saharan Africa Ethiopia (eth), 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 Lao (lao), Myanmar (mmr), Singapore (sgp), 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), Costa Rica (cri), Guatemala (gtm), Panama (pnm), Rest of South America (xsm), Rest of Central America (xca), Caribbean (xcb) |

Table 4. Protection structure^a in GTAP version 7 and in the implemented distortion rates drawn from the World Bank project, 2004

(percent)

| | GTAP version 7 | | | | Implemented estimates from the World Bank project | | | |
|------------------|-----------------|----------------|--------|--------|---|-------------------|------------|--------|
| | Agriculture and | | | | Agriculture and | | | |
| | Primary | Lightly | Other | | Primary | Lightly Processed | Other | |
| | Agriculture | Processed Food | goods | | Agriculture | Food | goods | |
| | Output | Export | Import | Import | Output | Export | Import tax | Import |
| | Subsidy | Subsidy | tariff | tariff | Subsidy | Subsidy | equivalent | tax |
| | | | | | | | | equiv. |
| Australia | 0.0 | 0.0 | 0.7 | 3.1 | 0.0 | 0.0 | 0.5 | 3.2 |
| New Zealand | 0.0 | -0.1 | 3.1 | 3.3 | 0.0 | -0.1 | 0.7 | 3.3 |
| EU15 | 1.2 | 0.3 | 5.6 | 0.8 | 1.8 | 2.1 | 5.7 | 0.8 |
| Rest West Europe | 2.4 | 4.7 | 27.9 | 2.1 | 2.5 | 4.7 | 41.0 | 2.1 |
| Russia | 1.6 | -0.3 | 6.8 | 6.7 | 1.6 | -0.5 | 16.3 | 6.5 |
| Kazakhstan | -1.6 | 0.0 | 3.1 | 1.9 | -0.9 | 0.0 | 3.4 | 2.0 |
| Kyrgyzstan | -1.0 | -0.1 | 3.0 | 4.6 | -1.0 | -0.1 | 3.7 | 4.5 |
| Turkey | 1.0 | 0.0 | 33.4 | 2.9 | 0.9 | 0.0 | 38.6 | 2.9 |
| RestECA | -1.1 | 0.0 | 9.8 | 5.0 | -1.1 | -0.5 | 10.0 | 5.0 |
| Bulgaria | 0.8 | 0.0 | 19.1 | 11.3 | 0.8 | 0.0 | 20.8 | 11.3 |
| CZE Republic | 0.4 | 0.5 | 2.0 | 0.5 | 0.4 | 2.9 | 2.0 | 0.5 |
| Estonia | 0.0 | 0.3 | 2.2 | 0.8 | 0.0 | 2.0 | 1.8 | 0.7 |
| Hungary | 1.7 | 0.8 | 7.0 | 0.5 | 1.7 | 3.2 | 6.6 | 0.5 |
| Latvia | 5.9 | 0.3 | 3.2 | 0.8 | 5.9 | 1.1 | 2.9 | 0.8 |
| Lithuania | 0.2 | 1.8 | 11.6 | 0.9 | 0.2 | 3.3 | 10.9 | 0.9 |
| Poland | 0.4 | 0.9 | 5.2 | 0.7 | 0.4 | 4.3 | 6.4 | 0.8 |
| Romania | 1.5 | 0.0 | 21.0 | 9.4 | 1.5 | 0.0 | 18.4 | 9.4 |
| Slovakia | 0.0 | 0.2 | 5.9 | 0.4 | 0.0 | 0.9 | 5.6 | 0.4 |
| Slovenia | 0.0 | 1.4 | 7.1 | 0.4 | 0.0 | 4.8 | 8.7 | 0.4 |
| USA | 2.5 | 0.6 | 7.4 | 1.4 | 4.6 | 0.5 | 7.7 | 1.3 |
| Canada | 0.0 | 1.6 | 24.8 | 1.3 | 1.3 | 1.9 | 21.9 | 1.3 |
| Japan | 3.8 | 0.0 | 118.6 | 1.8 | 1.7 | 0.0 | 126.3 | 1.9 |
| Korea | 0.0 | 0.0 | 158.8 | 5.9 | 0.0 | 0.0 | 301.7 | 5.8 |
| Taiwan | -0.4 | 0.0 | 78.1 | 3.9 | -0.4 | 0.0 | 84.8 | 3.9 |
| OthHYC | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| China | 0.0 | 0.0 | 9.3 | 7.1 | 0.0 | 0.1 | 6.5 | 7.0 |
| Indonesia | 0.0 | 0.0 | 6.4 | 4.6 | 0.0 | -0.9 | 7.3 | 4.6 |
| Malaysia | 0.0 | 0.0 | 2.3 | 5.5 | 0.0 | -0.1 | 4.8 | 5.6 |
| Philippines | 0.0 | 0.0 | 21.2 | 3.3 | -4.7 | -0.2 | 6.7 | 3.4 |
| Thailand | -0.1 | 0.0 | 23.0 | 12.3 | -0.1 | 0.0 | 26.7 | 12.3 |
| Vietnam | -3.9 | 0.0 | 16.0 | 16.7 | -4.2 | -0.6 | 23.0 | 16.4 |
| Bangladesh | -1.1 | 0.0 | 15.9 | 22.8 | -1.1 | 0.0 | 10.0 | 22.0 |
| India | 3.8 | 0.0 | 31.2 | 19.9 | 9.3 | 1.9 | 3.3 | 19.5 |
| Pakistan | 0.0 | 0.0 | 11.1 | 18.3 | 0.0 | -0.2 | 19.4 | 18.2 |
| Sri Lanka | 0.6 | 0.0 | 30.6 | 7.4 | 1.0 | -1.5 | 25.4 | 6.7 |
| Rest Sasia | -0.6 | 0.0 | 4.6 | 15.5 | -0.6 | 0.0 | 6.4 | 15.1 |
| Rest Easia | -0.7 | 0.0 | 2.6 | 2.2 | -0.7 | 0.0 | 3.0 | 2.2 |
| RestME | -2.1 | 0.0 | 9.3 | 4.6 | -12.6 | 0.0 | 7.5 | 4.6 |
| Egypt | 0.0 | 0.0 | 4.0 | 12.2 | 0.0 | 0.0 | 5.0 | 12.2 |

(continued)

Table 4 (continued). Protection structure^a in GTAP version 7 and in the distortion rates drawn from the World Bank project, 2004
(percent)

| | GTAP version 7 | | | | Implemented estimates from the World Bank project | | | |
|--------------|---------------------|--|----------------|---------------|---|--|----------------|----------------|
| | Primary Agriculture | Agriculture and Lightly Processed Food | | Other goods | Primary Agriculture | Agriculture and Lightly Processed Food | | Other goods |
| | | Output Subsidy | Export Subsidy | Import tariff | | Import tariff | Output Subsidy | Export Subsidy |
| Morocco | -0.1 | 0.0 | 52.0 | 19.9 | 0.0 | -0.1 | 43.7 | 19.9 |
| RestNAfrica | -3.9 | 0.4 | 24.4 | 11.3 | -3.9 | 0.4 | 30.7 | 11.4 |
| South Africa | 0.0 | 0.0 | 10.3 | 6.4 | 0.0 | 0.0 | 13.2 | 6.5 |
| Madagascar | 0.0 | 0.0 | 4.0 | 2.5 | 0.0 | -2.9 | 3.1 | 2.5 |
| Mozambique | 0.0 | 0.0 | 12.1 | 10.8 | 0.1 | 0.0 | 13.4 | 10.5 |
| Zambia | -0.8 | 0.0 | 6.0 | 9.1 | -0.8 | 0.0 | 7.0 | 9.0 |
| Zimbabwe | -3.5 | 0.0 | 13.8 | 15.0 | -3.5 | 0.0 | 8.4 | 14.9 |
| Uganda | 0.0 | 0.0 | 9.5 | 4.5 | 0.0 | -2.0 | 9.1 | 4.5 |
| Tanzania | -0.3 | 0.0 | 13.4 | 13.4 | -0.3 | 0.0 | 11.2 | 13.5 |
| Nigeria | 0.1 | 0.0 | 55.5 | 14.8 | 0.1 | 0.0 | 61.3 | 14.8 |
| Senegal | 0.0 | 0.0 | 8.4 | 8.8 | 0.0 | -0.9 | 6.2 | 8.8 |
| RestWCAfrica | -0.2 | 0.0 | 10.6 | 7.3 | -0.2 | 0.0 | 10.9 | 7.3 |
| RestAfrica | -0.4 | 0.0 | 9.6 | 11.2 | -0.4 | 0.0 | 10.0 | 11.5 |
| Argentina | -5.0 | 0.0 | 2.8 | 5.5 | 0.0 | -10.6 | 0.0 | 5.6 |
| Brazil | 0.0 | 0.0 | 4.6 | 8.6 | 0.0 | 0.0 | 4.8 | 8.6 |
| Chile | -1.7 | 0.0 | 1.3 | 1.8 | 0.0 | 0.0 | 2.4 | 1.8 |
| Colombia | 0.0 | 0.0 | 12.9 | 9.3 | 0.0 | 0.0 | 21.7 | 9.2 |
| Ecuador | 0.0 | 0.0 | 6.9 | 9.6 | 0.0 | 0.0 | 13.9 | 9.7 |
| Mexico | 1.0 | 0.0 | 7.8 | 3.0 | 1.2 | 0.0 | 7.0 | 3.0 |
| Nicaragua | 0.0 | 0.0 | 7.2 | 4.0 | 0.0 | -2.6 | 9.6 | 3.8 |
| RestLAC | -0.2 | 0.1 | 10.2 | 9.7 | -1.6 | 0.2 | 10.2 | 9.7 |

^a Using value of production at undistorted prices as weights.

Source: Authors' calculations from GTAP version 7 and own estimates drawn from Anderson and Valenzuela (2008).

Table 5. Structure of price distortions in goods markets drawn from the World Bank project,^a 1980-84 and 2004

(percent)

| | 1980-84 | | | | 2004 | | | |
|----------------------------------|------------------------|--|--------------------------|-------------------------|------------------------|--|--------------------------|-------------------------|
| | Primary Agriculture | Agriculture and Lightly Processed Food | | Other goods | Primary Agriculture | Agriculture and Lightly Processed Food | | Other goods |
| | | Export Subsidy | Import tax equivalent | Import tax equiv. | | Export Subsidy | Import tax equivalent | Import tax equiv. |
| Africa | -0.3 | -2.5 | 17.0 | 12.6 | -0.8 | 0.1 | 20.4 | 11.2 |
| Egypt | 0.4 | -6.6 | 5.8 | 22.5 | 0.0 | 0.0 | 5.0 | 13.5 |
| Madagascar | 0.0 | -4.4 | 3.4 | 13.9 | 0.0 | -4.4 | 3.4 | 2.7 |
| Mozambique | 0.2 | -53.8 | 5.5 | 29.7 | 0.2 | 0.0 | 14.5 | 10.9 |
| Nigeria | 2.6 | 22.5 | 22.2 | 0.1 | 0.1 | 0.0 | 76.1 | 17.2 |
| Senegal | 0.0 | -6.7 | 5.7 | 8.7 | 0.0 | -1.1 | 6.2 | 8.9 |
| South Africa | 0.0 | 5.6 | 18.1 | 5.8 | 0.0 | 0.0 | 10.2 | 6.5 |
| Uganda | -0.9 | -14.1 | 16.1 | 50.1 | 0.0 | -2.6 | 9.2 | 5.5 |
| Tanzania | 5.5 | -29.4 | 7.9 | 97.5 | -0.3 | 0.0 | 11.8 | 13.7 |
| Zambia | -0.8 | -21.4 | 6.0 | 26.0 | -0.8 | 0.0 | 7.0 | 9.0 |
| Zimbabwe | -4.1 | -31.0 | 7.0 | 49.0 | -3.2 | 0.0 | 8.9 | 15.4 |
| Rest of Africa | -1.2 | -4.2 | 19.0 | 13.4 | -1.2 | 0.3 | 19.0 | 13.4 |
| East and South Asia | -2.4 | -16.7 | 19.5 | 34.6 | 2.4 | 0.6 | 29.6 | 8.1 |
| China | -8.5 | -38.7 | 6.9 | 46.1 | 0.0 | 0.2 | 6.5 | 7.1 |
| Korea | 2.8 | 0.0 | 106.7 | 7.6 | 0.0 | 0.0 | 319.4 | 5.9 |
| Taiwan | -0.4 | 21.7 | 98.0 | 5.7 | -0.4 | 0.0 | 84.2 | 3.9 |
| Indonesia | 0.2 | -3.1 | 27.9 | 28.0 | 0.0 | -1.6 | 7.3 | 4.9 |
| Malaysia | 4.8 | -0.2 | 3.1 | 5.2 | 0.0 | -0.2 | 5.0 | 5.9 |
| Philippines | -4.7 | -0.1 | 18.3 | 14.0 | -4.7 | 0.0 | 7.1 | 3.4 |
| Thailand | -0.2 | -0.7 | 29.8 | 19.1 | -0.2 | 0.0 | 26.2 | 12.9 |
| Vietnam | -3.6 | -0.5 | 21.5 | 18.5 | -3.6 | -0.5 | 21.5 | 18.5 |
| Bangladesh | -1.0 | -2.2 | 10.6 | 26.7 | -1.0 | 0.0 | 9.9 | 22.5 |
| India | 4.9 | -8.8 | 8.9 | 86.2 | 10.1 | 2.5 | 2.9 | 20.8 |
| Pakistan | 0.7 | -2.7 | 15.0 | 53.3 | 0.0 | -0.2 | 19.4 | 18.5 |
| Sri Lanka | 1.1 | -14.1 | 22.1 | 53.1 | 0.6 | -0.3 | 23.8 | 5.8 |
| Rest of East and South Asia | -0.7 | 0.0 | 4.3 | 2.7 | -0.7 | 0.0 | 4.3 | 2.7 |
| Latin America | 3.8 | -9.6 | 9.8 | 15.7 | -0.2 | -1.4 | 7.2 | 6.7 |
| Argentina | 0.0 | -20.9 | 0.0 | 15.8 | 0.0 | -14.8 | 0.0 | 5.8 |
| Brazil | 5.0 | -17.1 | 3.2 | 33.4 | 0.0 | 0.0 | 4.8 | 8.9 |
| Chile | -3.0 | 0.0 | 4.8 | 6.2 | 0.0 | 0.0 | 2.4 | 1.8 |
| Colombia | -0.6 | 1.0 | 21.7 | 22.8 | 0.0 | 0.0 | 21.6 | 9.8 |
| Ecuador | 0.0 | -13.7 | 28.6 | 10.3 | 0.0 | 0.0 | 13.4 | 10.4 |
| Mexico | 14.3 | -9.6 | 19.1 | 6.8 | 1.2 | 0.0 | 6.2 | 3.4 |
| Nicaragua | 0.0 | -2.8 | 10.9 | 3.9 | 0.0 | -2.8 | 9.6 | 3.9 |
| RestLAC | -1.7 | 0.3 | 9.9 | 9.9 | -1.7 | 0.3 | 9.9 | 9.9 |
| Europe & Central Asia | 0.8 | -2.6 | 13.8 | 9.6 | 0.8 | -0.3 | 15.9 | 4.8 |
| Baltic States | 3.4 | 0.0 | 8.2 | 0.9 | 3.4 | 0.0 | 8.2 | 0.9 |
| Bulgaria | 0.6 | 0.0 | 14.8 | 11.5 | 0.6 | 0.0 | 14.8 | 11.5 |
| CZE Republic | 0.6 | 0.0 | 3.0 | 0.5 | 0.6 | 0.0 | 3.0 | 0.5 |
| Hungary | 3.1 | 0.0 | 6.2 | 0.5 | 3.1 | 0.0 | 6.2 | 0.5 |
| Poland | 0.4 | 0.0 | 6.2 | 0.8 | 0.4 | 0.0 | 6.2 | 0.8 |

(continued)

Table 5 (continued). Structure of price distortions in goods markets drawn from the World Bank project,^a 1980-84 and 2004

(percent)

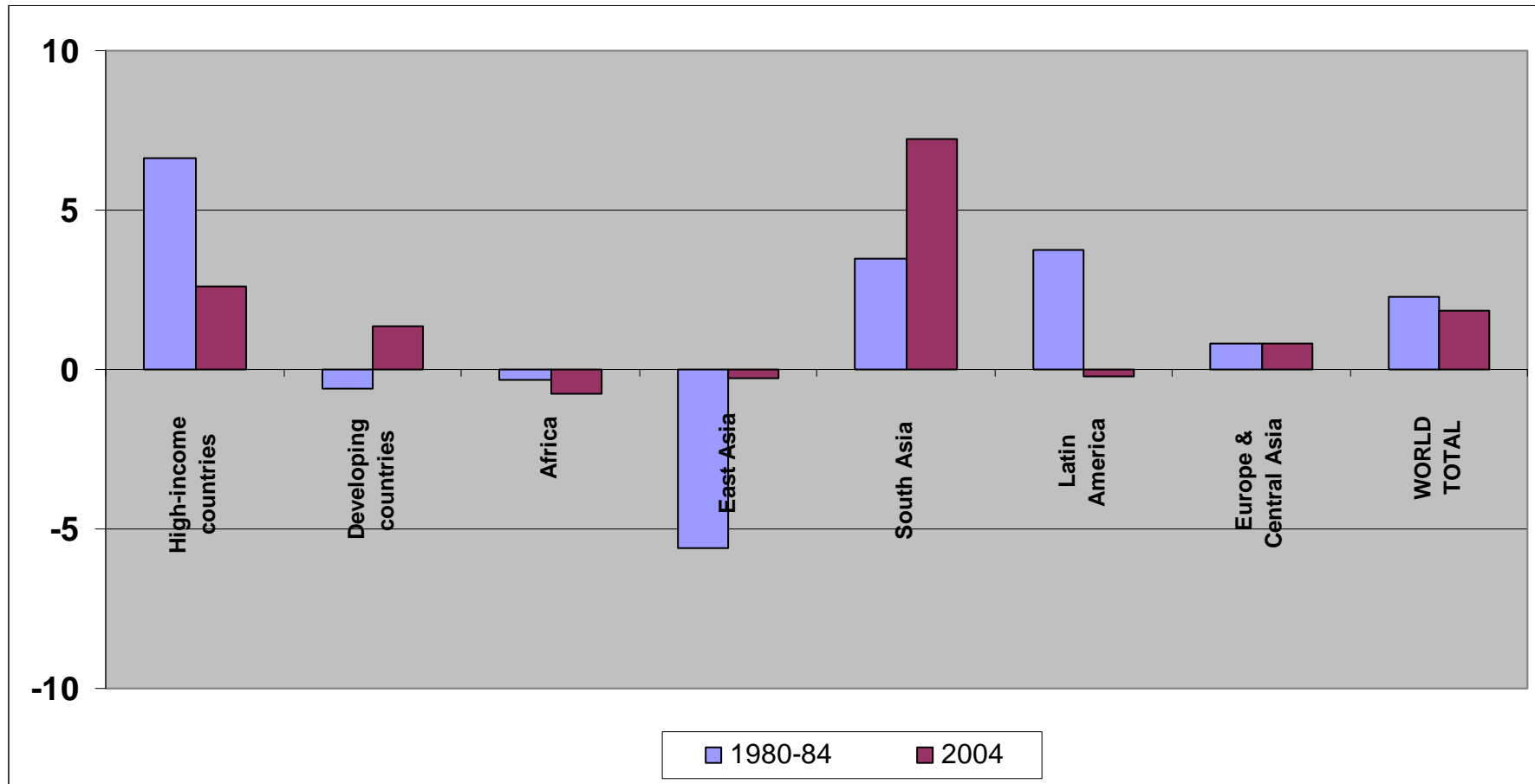
| | 1980-84 | | | | 2004 | | | |
|---|------------------------|--|--------------------------|-------------------------|------------------------|--|--------------------------|-------------------------|
| | Primary Agriculture | Agriculture and Lightly Processed Food | | Other goods | Primary Agriculture | Agriculture and Lightly Processed Food | | Other goods |
| | | Export Subsidy | Import tax equivalent | Import tax equiv. | | Export Subsidy | Import tax equivalent | Import tax equiv. |
| Romania | 1.3 | 0.0 | 18.0 | 9.8 | 1.3 | 0.0 | 18.0 | 9.8 |
| Slovakia | 0.0 | 0.0 | 5.2 | 0.4 | 0.0 | 0.0 | 5.2 | 0.4 |
| Slovenia | 0.0 | 0.0 | 7.8 | 0.4 | 0.0 | 0.0 | 7.8 | 0.4 |
| Russia | 1.7 | -0.9 | 18.9 | 7.4 | 1.7 | -0.9 | 18.9 | 7.4 |
| Kazakhstan | -0.9 | 0.0 | 3.4 | 2.7 | -0.9 | 0.0 | 3.4 | 2.7 |
| Turkey | 0.8 | -14.3 | 20.4 | 43.9 | 0.8 | 0.0 | 33.3 | 3.1 |
| RestECA | -1.1 | -0.9 | 9.7 | 5.7 | -1.1 | -0.9 | 9.7 | 5.7 |
| High-income countries | 6.6 | 20.9 | 24.0 | 2.4 | 2.6 | 7.2 | 22.3 | 1.2 |
| Australia | 0.5 | 7.0 | 6.7 | 8.9 | 0.0 | 0.0 | 0.5 | 3.3 |
| Canada | 3.0 | 7.0 | 42.6 | 5.1 | 1.6 | 3.6 | 18.9 | 1.4 |
| EU15 | 1.2 | 28.6 | 13.3 | 2.0 | 1.2 | 12.8 | 6.9 | 0.7 |
| Japan | 13.1 | 0.0 | 120.9 | 0.9 | 2.0 | 0.0 | 151.7 | 1.7 |
| New Zealand | -5.3 | 15.4 | 1.7 | 18.0 | 0.0 | -0.2 | 0.7 | 3.3 |
| Rest West Europe | 101.7 | 54.0 | 59.5 | 4.0 | 2.6 | 13.4 | 53.9 | 2.2 |
| USA | 3.3 | 14.1 | 6.5 | 2.9 | 5.2 | 0.6 | 6.1 | 1.3 |
| OthHYC | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Developing countries | -0.6 | -11.0 | 16.4 | 25.6 | 1.4 | 0.0 | 21.8 | 7.5 |
| Africa | -0.3 | -2.5 | 17.0 | 12.6 | -0.8 | 0.1 | 20.4 | 11.2 |
| SSAfrica (excl. N. & South Africa) | 0.5 | -5.8 | 12.1 | 14.4 | -0.2 | -0.2 | 21.0 | 12.2 |
| Asia | -2.4 | -16.7 | 19.5 | 34.6 | 2.4 | 0.6 | 29.6 | 8.1 |
| East Asia | -5.6 | -21.5 | 24.3 | 29.6 | -0.3 | 0.0 | 41.6 | 6.7 |
| South Asia | 3.5 | -7.1 | 10.7 | 72.6 | 7.2 | 1.7 | 6.9 | 20.2 |
| LAC | 3.8 | -9.6 | 9.8 | 15.7 | -0.2 | -1.4 | 7.2 | 6.7 |
| Middle East | -12.4 | 0.0 | 7.5 | 5.7 | -12.4 | 0.0 | 7.5 | 5.7 |
| ECA | 0.8 | -2.6 | 13.8 | 9.6 | 0.8 | -0.3 | 15.9 | 4.8 |
| HICs | 6.6 | 20.9 | 24.0 | 2.4 | 2.6 | 7.2 | 22.3 | 1.2 |
| HICs + ECA | 5.3 | 16.6 | 22.2 | 3.0 | 2.2 | 5.8 | 21.1 | 1.5 |
| WORLD TOTAL | 2.3 | 4.7 | 20.1 | 10.1 | 1.9 | 3.5 | 22.1 | 3.3 |

^a Using value of production at undistorted prices as weights.

^b Not including non-product specific subsidies and decoupled payments, estimates of which can be found in Anderson and Valenzuela (2008). A few of the 2004 values in this table differ slightly from those in the right-hand half of Table 4 because the former were generated with the P5 preliminary Version 7 of the GTAP data base. As well, in this table the EU15 does not include intra-EU flows, unlike in Table 4..

Source: Authors' calculations based on Anderson and Valenzuela (2008)

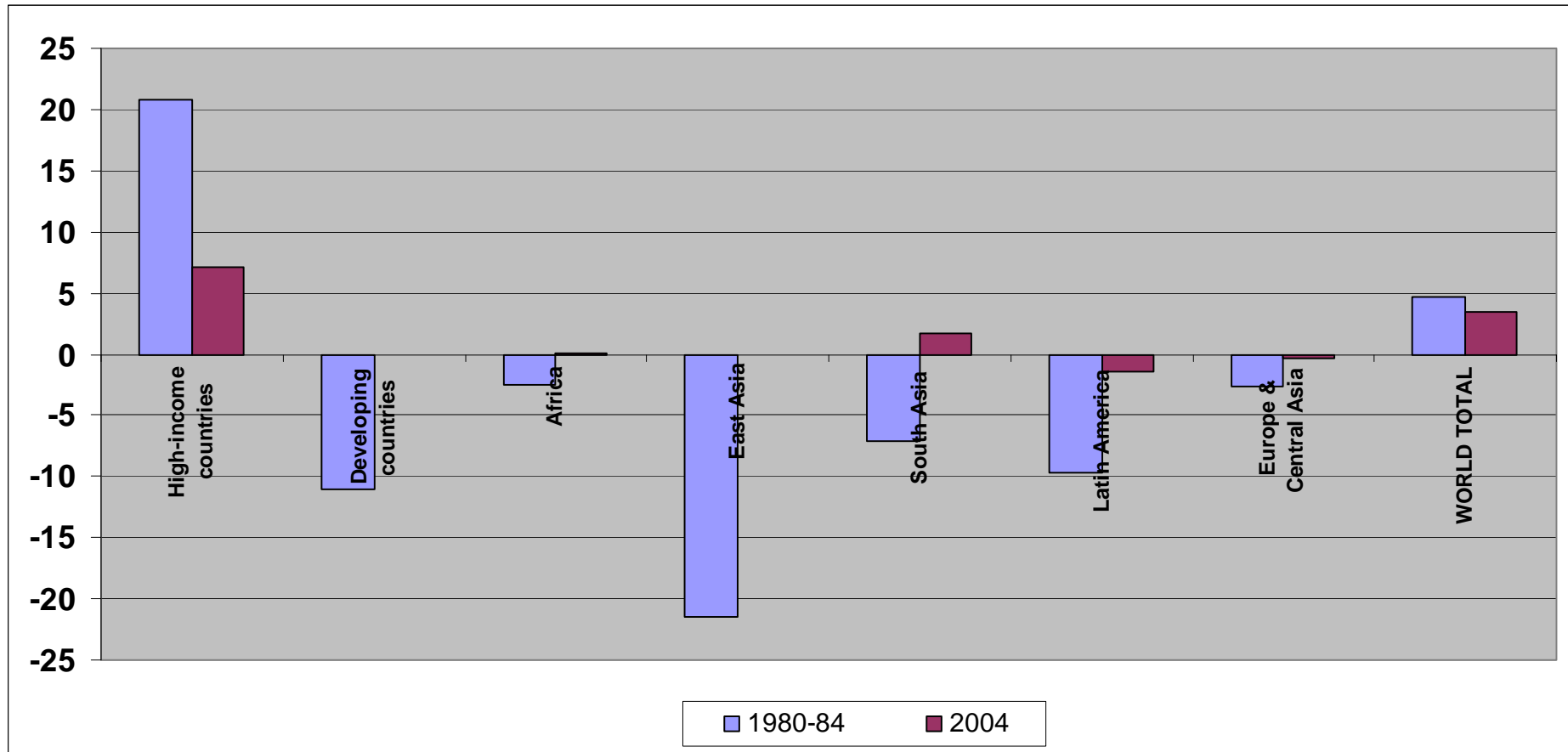
Figure 1. Domestic support to primary agriculture^a drawn from the World Bank project,^a 1980-84 and 2004 (percent)



Source: authors' estimates drawn from Anderson and Valenzuela (2008).

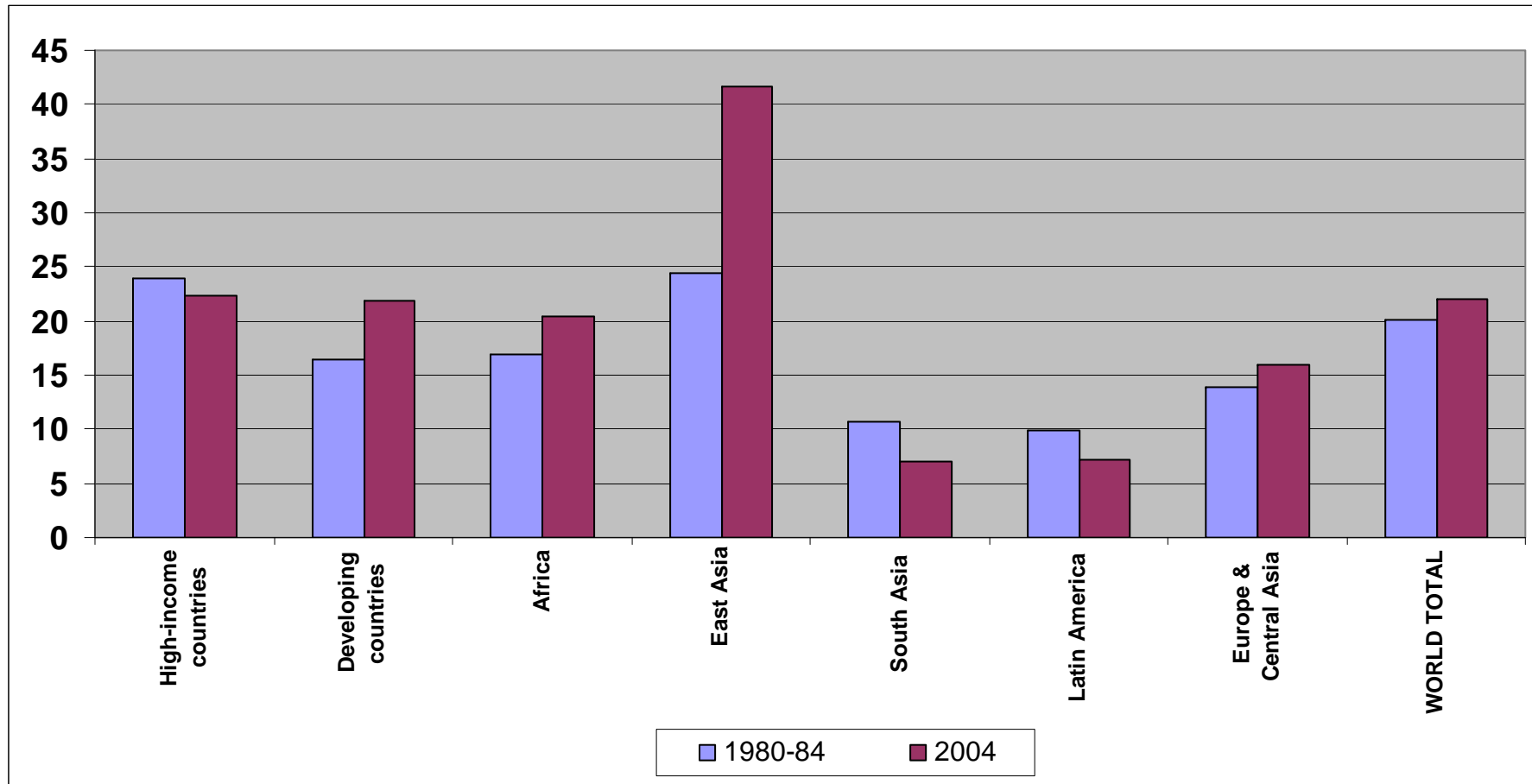
Figure 2. Export subsidies (taxes if negative) to primary agriculture and lightly processed food products^a drawn from the World Bank project,^a 1980-84 and 2004

(percent)



Source: authors' estimates drawn from Anderson and Valenzuela (2008).

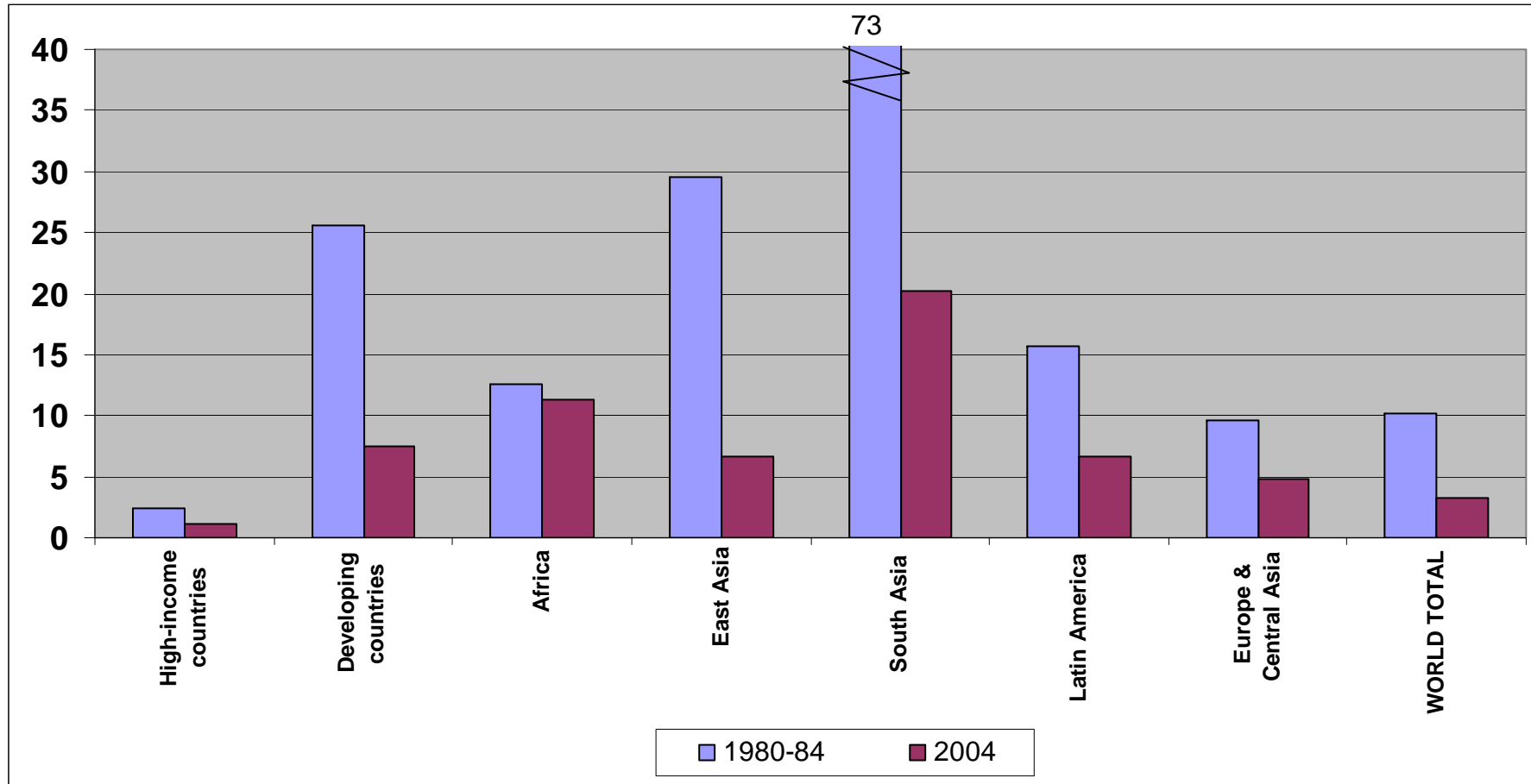
Figure 3. Import taxes to primary agriculture and lightly processed food products^a drawn from the World Bank project,^a 1980-84 and 2004 (percent)



Source: authors' estimates drawn from Anderson and Valenzuela (2008).

Figure 4. Import taxes to Other goods (Excluding primary agriculture and lightly processed food products) ^a drawn from the World Bank project,^a 1980-84 and 2004

(percent)



Source: authors' estimates drawn from Anderson and Valenzuela (2008).