

Estimating effects of price-distorting policies using alternative distortions databases

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The 2004 GTAP protection database is predominantly based on aggregated tariffs on imports in a past year. This paper raises two concerns: What about the other price-distorting policy instruments in the agricultural and food sectors? And how can the distortion estimates be adjusted to ensure the appropriate counterfactual in the year of concern (such as the current year, or a future year if a proposed reform would not be fully implemented for some time)?

This paper seeks to assess the significance of these concerns by using the World Bank's global economy-wide Linkage Model (van der Mensbrugghe 2005). It does so by first estimating the effects of goods trade-related policies as of 2004 using the standard Version 7 GTAP protection database. These are then compared with the effects using alternative protection databases. Since agricultural distortions have been estimated over recent years to contribute more than two-thirds of the global welfare cost of policy distortions to goods markets and to have severely limited trade in farm products (Anderson, Valenzuela and van der Mensbrugghe 2010), special attention is given to the effects on that sector.

The concern with other agricultural policy instruments

Historically, tariff measures have been the predominant form of negotiable distortions affecting manufacturing trade, but in agriculture there are many other instruments also employed that distort producer and consumer incentives. This has been dealt with in the GTAP protection database by making use of the OECD Secretariat's estimates of price distortions based on domestic-to-border price comparisons. Those estimates capture not only import restrictions but also production and export subsidies applied in high-income countries. Until recently there were no such comparable estimates for developing country agriculture, however, so the only significant interventions included in the GTAP database for the farm sector of those countries are applied import tariffs. That is unfortunate, because it thereby ignores not only their farm production and export subsidies but also, and potentially more importantly, any production or export taxes and consumption or import subsidies in place in developing countries.

However, a recent World Bank research project has generated a time series of ad valorem nominal rates of assistance to farmers and consumer tax equivalents to consumers over the past half century for 75 countries that together account for 92 percent of global agriculture (Anderson and Valenzuela 2008). The coverage involves an average of just 11 farm products per country, but those products cover around 70 percent of the value at undistorted prices of each country's agricultural production. Based on domestic-to-border price comparisons, the estimates are provided by policy instrument, thereby providing export and import taxes and subsidies as well as any additional domestic producer or consumer taxes and subsidies on farm products. Using those estimates, Valenzuela and Anderson (2008) provide for modelers an alternative set of estimates of agricultural price distortions in developing countries to those provided for 2004 in the GTAP 7 Data Base.

This allows us to evaluate the possible bias in not including non-tariff farm measures by comparing the price, trade and welfare effects of those 2004 trade-related policies with those generated by the Linkage Model using the standard GTAP protection database. It also allows a reassessment of an issue that became controversial in the early stages of the WTO's

Doha negotiations. It is the relative contribution of different farm policy instruments to the welfare and trade effects on high-income and developing countries. An earlier assessment of that by Anderson, Martin and Valenzuela (2006) was able to focus only on tariffs, domestic producer subsidies and export subsidies – and found import tariffs contributed 93 percent of the global welfare cost of those distortions. This new analysis will be able to look at the issue more comprehensively because of the broader range of instruments included.

The concern with the counterfactual

The fact that 2004 is the latest year for which a global production, trade and protection database is available is of concern because the world economy is continually growing and structurally adjusting and policies continue to change over time. One way of dealing with this is to first project the global economy forward to create a new baseline against which to compare alternative scenarios. An important issue in doing so is: what counterfactual policy regime is to be assumed for that projected baseline year? Typically analysts assume the status quo, that is, that policies as in the 2004 baseline will remain in place. Yet there is very clear evidence of systematic differences across countries with different per capita income levels and comparative advantages, as well as over time as countries grow, and especially so in the case of agriculture (Anderson 2010). That political econometric evidence will be drawn on to suggest an alternative counterfactual set of agricultural price distortions for 2030. The Linkage Model using the World Bank agricultural distortion estimates will be projected forward to 2030 first on the assumption of no policy changes from 2004, and then on the assumption that agricultural policies evolve according to that political econometric evidence (first checking that those alternative rates of distortion do not exceed countries' WTO-bound tariff and subsidy rates).

The final section of the paper will draw out the implications of that comparison of 2030 results for evaluating the importance of the WTO's Doha Development Agenda aimed at lowering bound tariffs and subsidies affecting agricultural markets.

References

- Anderson, K. (ed.) (2010), *The Political Economy of Agricultural Price Distortions*, Cambridge and New York: Cambridge University Press.
- Anderson, K., W. Martin and E. Valenzuela (2006), "The Relative Importance of Global Agricultural Subsidies and Market Access", *World Trade Review* 5(3): 357-76, November.
- Anderson K. and E. Valenzuela (2008), "Estimates of Global Distortions to Agricultural Incentives, 1955 to 2007", World Bank, Washington DC, October, available at www.worldbank.org/agdistortions.
- Anderson K., E. Valenzuela and D. van der Mensbrugge (2010), "Global Welfare and Poverty Effects Using the Linkage Model" Ch. 1 in *Agricultural Price Distortions, Inequality and Poverty*, edited by K. Anderson, J. Cockburn and W. Martin, Washington DC: World Bank.
- Valenzuela, E. and K. Anderson (2008), "Alternative Agricultural Price Distortions for CGE Analysis of Developing Countries, 2004 and 1980-84", *Research Memorandum* No. 13, Center for Global Trade Analysis, Purdue University, West Lafayette, December.
- van der Mensbrugge, D. (2005), "LINKAGE Technical Reference Document: Version 6.0", Unpublished, World Bank, Washington DC, January. Accessible at www.worldbank.org/prospects/linkagemodel