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Political Economy of Distortions to Agricultural Incentives: Introduction and Summary

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Abstract

During the 1960s and 1970s most developing countries imposed anti-agricultural policies, while many high-income countries restricted agricultural imports and subsidized their farmers. Both sets of policies inhibited economic growth and poverty alleviation in developing countries, while doing little to assist small farmers in high-income countries. Since the 1980s, however, many developing countries began to reduce the anti-agricultural bias of sectoral policies, and from the early 1990s the European Union began to move away from price supports to more-direct forms of farm income payments. This paper summarizes a forthcoming book that seeks to explain this evolving pattern of distortions to incentives conceptually and econometrically by making use of new political economy theory and a new globally comprehensive and consistent set of estimates of the changing extent of annual distortions over the past half-century. The distortion estimates involve more than 70 products that cover around 70 percent of the value of agricultural output in each of 75 countries that together account for over 90 percent of the global economy, and they expose the contribution of the various policy instruments (both farm and non-farm) to the net distortion to farmer incentives. Such a widespread coverage of countries, products, years and policy instruments has allowed this collection of studies to test a wide range of hypotheses suggested by the new political economy literature, including the importance of institutions. As a set it sheds much new light on the underlying forces that have affected incentives facing farmers in the course of national and global economic and political development, and hence on how those distortions might change in the future – or be changed by concerted actions to offset political pressures from traditionally powerful vested interests.

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Find out the cause of this effect,
Or rather say, the cause of this defect,
For this effect defective comes by cause.
Polonius, in Shakespeare's *Hamlet* (Act II, Scene 2)

Most of the world's poor still live in rural areas, a situation that is forecast to prevail for many decades to come if we continue with 'business as usual'. The absolute number of rural poor people living on $1 a day fell between 1993 and 2002 by 150 million, to 890 million globally, but if China is excluded there has been virtually no net decline over that period (Chen and Ravallion 2008, Ravallion, Chen and Sangraula 2007). As well, many urban poor are recent emigrants who, perceiving bleak prospects in agriculture, moved to the city in search of a higher income. Higher rewards to farming in developing countries could help reduce both urban and rural poverty.

In the past, earnings of farmers and agribusinesses in developing countries often have been depressed by pro-urban and anti-agricultural biases in own-country policies. While progress has been made over the past two or three decades by numerous countries in reducing those and associated anti-trade policy biases, many price distortions remain intersectorally as well as within the agricultural sector of low- and middle-income countries. Some governments provide explicit subsidies to selected food consumers, but often they are offset by implicit distortions to consumer prices via border measures such as taxes or quantitative restrictions on imports.

In addition to the impact of own-country policies, farm earnings in developing countries are depressed by agricultural protection measures in other (especially high-income) countries which lower real prices of food, feed and fiber in international markets. This issue has escalated in recent years because of the Doha Development Agenda of the World Trade Organization (WTO): agricultural exporting countries are demanding large cuts to farm subsidies and barriers to food imports in protective

countries, as well as the removal of non-reciprocal preferential market access arrangements for former colonies under the Cotonou Agreement.

Why this issue is important

These distortions to incentives, which have characterized world agricultural markets for a long time (Haberler 1958, Johnson 1973, Tyers and Anderson 1992), matter because they are wasteful of the world's resources and they exacerbate global inequality and poverty. They are wasteful of resources not only at any point in time (reducing the allocative efficiency of both producers and consumers) but also in the sense of slowing national and global economic growth. Growth is slowed in part because many of the distortionary policies restrict imports and in some cases exports, and so curtail the normal dynamic gains from trade. As well, the anti-trade bias in those policies has a particularly debilitating characteristic, which arises because those measures typically involve fluctuating trade restrictions that attempt to stabilize domestic food prices over time. Such market-insulating behavior of governments necessarily 'thins' international food markets and so makes them less stable, which in turn encourages other national governments to be market insulating also.

Agricultural policies which support farmers in high-income countries and tax them excessively in developing countries necessarily add to income inequality across countries. They also add to within-country inequality of income and wealth because they most commonly operate through altering the prices of outputs (and sometimes also purchased farm inputs), and hence benefit farm households in proportion to the marketed output of their farm. In the case of tenanted farms, most of those benefits will accrue, in the form of higher rent, to the landowner, who is usually wealthier than the tenant. And in the case of farm outputs sold under contract to processors or retailers, some of those benefits will be passed from the farmer along the value chain depending on the relative bargaining power of the processor or supermarket vis-a-vis the (typically much smaller and poorer) farmer.

In addition to being wasteful of resources and exacerbating inequality and poverty, trade-distorting agricultural policies impose another cost on the world economy, in the sense that they have greatly slowed progress in multilateral trade

negotiations. Since the signing of the General Agreement on Tariffs and Trade (GATT) in 1947, agricultural policies have been so contentious as to be left aside in the first seven rounds of multilateral trade negotiations. They were responsible too for the eighth (the Uruguay Round) taking a mammoth eight years to complete; and they are the main reason for the difficulties in concluding the current round (the WTO's Doha Development Agenda). That difficulty in turn has led to a proliferation of regional and other preferential trading agreements that may well have added to global distortions to agricultural incentives. It also means a delay in or foregoing of the prospective gains from reductions of barriers to trade in non-farm goods and services that the WTO might have delivered by now.

If distortions to agricultural markets are so pervasive, and the reform of farm protection measures so elusive, there must be strong political economy reasons for such widespread interventional by governments. Improving our understanding of the political economy forces at work is an important part of economic analysis because, as Stigler (1975, p. ix) says, "Until we understand *why* our society adopts its policies, we will be poorly equipped to give useful advice on how to change those policies." Greater understanding is also required if we are to provide more nuanced counterfactuals and hence more-reliable projections of the likely economic effects of remaining and prospective price and trade distortions, using forward-looking national and global sectoral and economy wide models.

Why focus on this issue now?

This area of political economy analysis was a focus of researcher attention in the 1980s, perhaps stimulated by the prospect of agricultural protectionism being taken more seriously in the Uruguay Round of GATT negotiations. As well, international financial institutions were concerned that agricultural and trade policies were inhibiting growth prospects in developing countries. Emerging political economy theories from the University of Chicago (Stigler 1971, Peltzman 1976, Becker 1983) and the influential work of Downs (1957), Buchanan and Tullock (1962) and Olson (1965) provided new conceptual frameworks for addressing this issue; and new time series estimates of price distortions, by Krueger, Schiff and Valdés (1988, 1991) for 18 developing countries and by Anderson, Hayami and Others

(1986) for a similar number of high-income and newly industrializing countries, induced a rich set of empirical studies in the 1980s and the first part of the 1990s (see the survey in de Gorter and Swinnen 2002, which is updated in chapter 3 of this volume by Swinnen 2010a). More estimates of the extent of agricultural price distortions in high-income countries have been generated each year since 1986 by the OECD (2008), but until recently there had been no comparable effort for monitoring developing country policies.

To generate a set of distortion estimates for non-OECD countries that are comparable to those for OECD countries requires careful domestic-to-border price comparisons for each product, so as to capture the effects on producer and consumer prices of such measures as export restrictions, non-tariff import barriers, exchange rate distortions, and exceptions to the applied import tariffs such as duty drawbacks or preferential arrangements with certain trading partners. And to get an indication of how distortions have changed over the course of economic and political development requires those price comparisons to go back in time.

A recent research project at the World Bank has addressed this lacuna (see www.worldbank.org/agdistortions) by developing a methodology for measuring the extent of distortions to agricultural incentives (Anderson et al. 2008) and applying it consistently to 75 countries spanning between 90 and 96 percent of the world's farmers, agricultural production, GDP and population. The resulting database (Anderson and Valenzuela 2008) includes annual nominal rate of assistance and consumer tax equivalent distortion indicators for more than 70 crop and livestock products (an average of 11 per country) that cover around 70 percent of agricultural output of each of the focus countries for as many years as data allow since the mid-1950s (an average of 41 years per country). The database thus comprises a large panel data set of around 30,000 NRA and CTE estimates. Moreover, it identifies several groups of policy instruments from which the price distortions arise (domestic farm output and input tax/subsidy equivalents, domestic consumer tax/subsidy equivalents, and import and export tax/subsidy equivalents including via exchange rate distortions), and it includes in the final aggregate national NRA any non-product-specific payments. As well, a separate line identifies so-called decoupled payments that have been provided increasingly to farmers in some OECD countries since the latter 1980s.

Since it is not possible to understand the characteristics of agricultural development with a sectoral view alone, the World Bank research project not only estimated consistent time series of the extent of direct agricultural policy measures on

farm prices, but it also generated estimates of distortions in non-agricultural tradable sectors for comparative evaluation (with both including the differential effect on exportables and import-competing products of distortions in the domestic market for foreign exchange). Specifically, it provides a production-weighted average NRA for nonagricultural tradables, for comparison with that for agricultural tradables via the calculation of a Relative Rate of Assistance (RRA), defined as the percentage by which the price of farm relative to nonfarm tradables is above what it would be if the national government had not distorted prices in those goods-producing sectors. This measure is useful in that if it is below (above) zero, it provides an internationally comparable indicator of the extent to which a country's sectoral policy regime has an anti- (pro-)agricultural bias.

Moreover, the creators of each country's database have used the NRAs and CTEs to write an analytical narrative of national economic and policy developments, and those are now published.[1] Also, the database has been used to generate a set of agricultural trade- and welfare-reduction indexes for that same time period (Anderson and Croser 2009; Lloyd, Croser and Anderson 2009a,b). The NRAs and CTEs also have been aggregated in a way that makes them usable to national and global economy-wide CGE modelers (Valenzuela and Anderson 2008) as a replacement to the tariff-only developing country distortion indicators in the GTAP global protection database; and that resource has been used already by modelers to analyze (a) market and welfare effects of reforms since the early 1980s and of remaining distortions globally (Valenzuela, van der Mensbrugghe and Anderson 2009), and (b) household income inequality and poverty consequences of recent distortions in various developing countries (Anderson, Cockburn and Martin 2010).

Meanwhile, in the past two decades huge strides have been made in developing political economy theories for government intervention in markets, and econometric techniques for testing empirically between them.[2] While that recent theoretical and empirical work has not focused on agriculture particularly, it is a rich

[1] The working paper versions of those narratives and the associated national spreadsheets can be found at www.worldbank.org/agdistortions. A global overview of the results is provided in Anderson (2009), and the detailed developing country case studies are reported in four regional volumes covering 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).

[2] See the survey in Swinnen (2010). Included in that literature are three new seminal studies of the long history of policy choices by government and the role of institutions and conflicts in affecting those choices, by Findlay and O'Rouke (2007), Acemoglu and Robinson (2007) and North, Wallis and Weingast (2009).

source of inspiration for developing hypotheses as to why the pattern of global distortions to agricultural incentives has developed in the ways exposed in the new World Bank agricultural distortions database. One of the points of emphasis in the new political economy theories is the importance of political institutions. Partly as a result, the World Bank has also been developing global time series databases on political institutions (Beck et al. 2001, 2008) and on governance as it affects business incentives (Kaufmann, Kraay and Mastruzzi 2008).[3]

The economics profession is thus in a far better position now than ever before to develop and empirically test competing and complementary hypotheses as to why governments have done what they have done to agricultural markets and farmer welfare leading up to and since the 1950s in different parts of the world. Given the on-going difficulty WTO members are having in being able to agree to multilateral reforms in agricultural and trade policies under the Doha Development Agenda, not to mention the continuing cost to national governments and most of their constituents of current farm policies, there is a potentially high social payoff from such research.

What this book seeks to achieve

The present volume is a first attempt to use the World Bank's new agricultural distortions database to re-visit the question of why governments intervene in the ways they do to distort incentives facing producers and consumers of farm products. It does so by making use of the new political economy theory which, in the light of the stylized facts that can be distilled from the new Database of Agricultural Distortions, provides a conceptual framework for better understanding the long history of agricultural protection growth and for suggesting numerous testable hypotheses. The final section of the book contains several political econometric studies that begin to exploit these new frameworks and data.

What still needs to be explained? Findings from the new database

[3] The World Bank has also prepared an annual report of 200-plus pages each year since 2004 on doing business in around 180 countries, which provides indicators of the changing degree of government regulation in each national economy, including of its trade with the rest of the world. See www.doingbusiness.org.

Chapter 2 provides a comprehensive summary of the evidence from the new estimates of price distortions, from which twenty stylized facts are presented (Anderson et al. 2010). Some of those are familiar, being unchanged from the findings of the earlier empirical work on this topic in the 1980s. An example is that poor countries tax farmers, rich countries protect them, and as countries become less agrarian in the course of their economic development their policies transition from the former to the latter, and to a greater extent and earlier the weaker a country's agricultural comparative advantage. The regimes thus also tend to have an anti-agricultural trade bias. Other stylized facts are new, either because previous, less-comprehensive databases were insufficiently detailed (e.g., in specifying contributions to assistance from different policy instruments) or because there are new policy developments requiring explanation (such as the slight reversal of agricultural protection growth in the European Union and the gradual increase in importance of decoupled payments to farm households).

Specifically, the additional stylized facts that political economists could seek to explain include the following:

- Within the agricultural sector of each country, whether developed or developing, there is a wide range of product NRAs. Despite the fall in average agricultural NRAs, the across-product standard deviation of NRAs around the national average each year is no less in the most recent decade or so than it was in previous decades for both developed and developing countries (see the national Box plots shown in Figure A.4 in the Appendix to this volume, Anderson and Croser 2010). Some product NRAs are positive and high in almost all countries (sugar, rice and milk), others are positive and high in developed economies but highly negative in developing countries (most noticeably cotton), and yet others are relatively low in all countries (feedgrains, soybean, pork, poultry).
- The anti-trade bias in farm products has declined over time for the developing country group, but mainly because of the decline in agricultural export taxation and in spite of growth in agricultural import protection, whereas for the high-income group the anti-agricultural trade bias has shown little trend

over time, mainly because the rise and then decline in agricultural export subsidies has been matched by a similar trajectory for import protection.

- Around the long-run trend for each country there is much fluctuation from year to year in individual product NRAs, and while this tendency has diminished since the mid-1980s for most key products it has increased for rice and wheat (see the national Box plots shown in Figure A.3 in the Appendix to this volume, Anderson and Croser 2010). Product NRAs tend to be negatively correlated with movements in international prices of the products in question and, on average over a sample of 12 key products, barely half of the change in the international price is transmitted to domestic markets within the first year.
- Even when decoupled payments are included in the measure of total support, trade policy instruments (export and import taxes, subsidies or quantitative restrictions plus dual exchange rates) account for no less than three-fifths of agricultural NRAs, and hence for an even larger share of their global welfare cost. Domestic subsidies to or taxes on farm output and food consumption have made only minor contributions. Subsidies to farm input use, and support for public agricultural research, have been common but have added little to overall farmer assistance in high-income countries and have done very little in the past to offset the effective taxation of farmers in developing countries.
- The fall in assistance to producers of non-farm tradables has contributed to more than half the rise since the mid-1980s in the RRA for developing countries, and as much as two-thirds of the RRA rise for high-income countries. This suggests much of the reduction in relative prices faced by farmers over the past two decades can be attributed to general trade liberalization rather than to specific farm policy reform.

The penultimate section of Chapter 2 examines econometrically the extent to which the cross-country variation in nominal and relative rates of assistance can be accounted for by the explanatory variables used in the 1980s. It finds that two variables alone – per capita income and a relative factor endowment indicator of agricultural comparative advantage – explain a little more than half of the variation in the full panel's NRAs and RRAs (adjusted R^2 of 0.55 and 0.59, respectively). When those panel data are separated by region, however, there is a considerable range in the extent to which those two variables account for the variation across countries. In the

case of RRAs, the adjusted R^2 is a high 0.72 for Asia, a moderate 0.33 and 0.42 for Latin America and high-income countries, respectively, but just 0.07 for Africa. Clearly there is a great deal more heterogeneity among countries to be explained outside of Asia, and especially in Africa.

The final question raised by the data summarized in chapter 2 is: Will more developing countries follow the example of earlier industrializers and increase assistance to their farmers as their economies and polities develop? One might have hoped the Uruguay Round Agreement on Agriculture would have brought that tendency to a halt, but in reality even newly acceding countries such as China, let alone earlier signatories to the GATT such as India, have bound their agricultural tariffs and subsidies at very much higher levels than currently applied rates. Moreover, there appears to be a strong reluctance on the part of most developing countries to sign on to a WTO agreement under the Doha Agenda that would tighten those bindings. Political economy analysis clearly is needed not only to address this question as to whether more developing countries will become more agricultural protectionist but also to suggest politically feasible ways of countering that tendency.

New conceptual frameworks

To begin the process of providing explanations for the half or so of the variation in NRAs and RRAs that is not due to differences in just income and comparative advantage, Chapter 3 provides a survey of findings from the political economy literature to date (Swinnen 2010a). First it covers the active period of analysis of agricultural policies up to the early 1990s, and then it reviews the important new developments in other parts of the economics profession that have yet to be applied extensively to agricultural distortions. One of the findings from the new literature is that political institutions and ideology matter. This suggests that analytical narratives, based on detailed knowledge of the countries involved and of their policies, remain important. Specifically, they can assist in deciding on specifications of the political economy model to be applied, they can provide a complementary set of insights to those generated from econometric model results, and they can be a guide to interpreting the results. Thankfully the providers of national NRAs and RRAs to the new Database of Agricultural Distortions each authored an analytical narrative that has since been published as chapters in a series of five books (see footnote 1 above),

so that resource increases the prospects for sound political economy analysis using this database.

With that literature review as background, chapter 4 provides a conceptual framework for moving forward (Rausser and Roland 2010). In seeking to explain public policy choices, it assumes vested interest groups are the units of analysis that compete by spending time, energy, and money on the production of pressure to influence both the design and the tactical implementation of policies. Thus both public and private sector agents are involved. Modern economics has compartmentalized the links between them into at least four analytical dimensions. The oldest and most common has focused on analyzing the incidence of existing policies and/or the consequences of alternative policy instruments. The second involves relaxing the perfect implementation assumption, allowing the application of mechanism design concepts while still maintaining no feedback effects from interest group or coalition formation, and a given governance structure. The third involves relaxing the assumption of no feedback effects from interest group or coalition formation, but typically still imposes a given governance structure. And the fourth focuses on governance structures that delineate the boundaries on the negotiations and bargaining that take place among public and private sector agents. That is, in its most general form, it relaxes the assumptions of perfect implementation, no feedback effects among interest group or coalition formation as well as given governance structures. It is then capable of analyzing how the distribution of political power leads to alternative governance structures.

In the context of this general framework, chapter 4 isolates three principal policy instruments: redistributive instruments, national public good expenditures, and local public good expenditures. In much of the work on agricultural distortions, only a general distinction between national public good policies intended to correct for institutional and market failures (e.g., agricultural research) and redistributive policies has been examined. What also needs to be recognized is that local public policies can be treated like redistributive policies as transfer mechanisms, with associated deadweight losses and wasteful political economic activities resulting from rent-seeking by private interest groups or policymaking authorities. All three principal policy instruments are influenced by political institutional structures, by the assigned authority for governmental decision-making, by market structures and other socioeconomic characteristics, and by sector mobility and asset diversification. The

distinction between presidential and parliamentary regimes, and between different electoral rules, also is potentially important, as is the degree of decentralization of decision-making. The rich conceptual framework of this chapter thus suggests numerous hypotheses that might be tested empirically.

Revisiting the long history of protection growth

Before moving on to formal political econometric analyses, it is helpful to reflect on the origins of agricultural protection. Detailed data are not available to do the same type of empirical analysis that is now possible with the new database for the past half century, but analytical narratives can be valuable nonetheless and the above conceptual frameworks provide fresh ways of revisiting that long history.

Not surprisingly, given the finding that assistance to farmers rises with per capita income, the first systematic emergence of farm protection policies is found in the first economies to industrialize, that is, in Britain, then in other parts of Western Europe, and then in Japan. Certainly there was much government intervention in agricultural trade before the industrial revolution, but it was aimed mainly at stabilizing domestic food prices and supplies and at raising revenue for those in authority. Prior to its industrial revolution – from the late 1100s to the 1660s – densely populated Britain used export taxes and licenses to prevent domestic food prices from rising excessively. But during 1660-90 a series of Acts gradually raised food import duties, making imports prohibitive under most circumstances; and export restrictions on grain were reduced. These provisions were made even more protective of British farmers by the Corn Laws of 1815. However, those laws were famously repealed in the mid-1840s. Schonhardt-Bailey (1991, 2006) attributes that reform in large part to the diversification of landowners' interests. Consistent with an idea stressed in chapter 4, as capital markets emerged landowners began to diversify their asset portfolios such that the share of their income from land rent declined relative to that from higher-yielding industrial capital.

That reform of the Corn Laws is often said to have heralded a period of relatively unrestricted food trade for Britain. However, chapter 5 challenges that view (Nye 2010). It suggests that protection for grain producers was retained for another generation, albeit indirectly via restrictions on imports of wine and spirits that provided assistance to domestic breweries and distilleries. According to Nye, it was

only after the passage of the 1860 Anglo-French Treaty of Commerce that Britain moved closer to freer trade than France, and that other European countries began to open up.

Agricultural trade reform was less difficult for countries such as Britain, with overseas territories that could provide the metropole with a ready supply of farm products, than it was for some of its continental neighbors. As explained in chapter 6 by Swinnen (2010b), the fall in the price of grain imports from America in the latter 1870s and 1880s provided a challenge for all, but the governments' responses varied. Denmark coped well by moving more into livestock production to take advantage of cheaper grain. Italians coped by sending many of their relatives to the New World. Farmers in France and Germany successfully sought protection from imports, however, and so began the post-industrial-revolution growth of agricultural protectionism in densely populated countries. Agricultural protection took a further jump in the 1930s and steadily increased over the next five decades. Indeed on the Continent the period of freer trade in the 19th century was quite short for some countries, and agricultural protection levels in those countries throughout the 20th century were somewhat higher on average than in Britain.

That is, the growth of agricultural protection was not linear, but rather there were substantial fluctuations over the ten decades prior to the implementation of the Common Agricultural Policy of what is now the European Union. Factors that appear to Swinnen (2010b) to have played an important role are the decline of income for farmers in comparison with incomes from the rest of the economy, the reduced share of consumer expenditures for food, the structure of farms, the political organization of farmers, the growth in government administrative capacity for regulating markets, the food shortages during the World Wars in Europe, and democratization. The impact of each of these factors was complex, and almost always interrelated with other factors. Periods of substantial increases in agricultural protection were characterized by a combination of three conditions: farmers had substantive political influence, strong political action by farmers was triggered by a crisis in agriculture or a growing income gap with the rest of the economy to influence governments, and the opposition to protection was sufficiently low. Such a combination of factors was present to some extent in the 1930s but especially in the 1950s, when protection grew strongly. Meanwhile, tariffs on West European imports of manufactures were progressively reduced after the GATT came into force in the late 1940s, thereby adding to the encouragement of agricultural relative to manufacturing production.

Japan provides an even more striking example of the tendency to switch from taxing to increasingly assisting agriculture relative to other industries. Its industrialization began later than in Europe, after the opening up of the economy following the Meiji Restoration in 1868. By 1900 Japan had switched from being a small net exporter of food to becoming increasingly dependent on imports of rice (its main staple food and responsible for more than half the value of domestic food production). This was followed by calls from farmers and their supporters for rice import controls. Their calls were matched by equally vigorous calls from manufacturing and commercial groups for unrestricted food trade, since the price of rice at that time was a major determinant of real wages in the nonfarm sector. The heated debates were not unlike those that led to the repeal of the Corn Laws in Britain six decades earlier. In Japan, however, the forces of protection triumphed, and a tariff was imposed on rice imports from 1904. That tariff then gradually rose over time, raising the domestic price of rice to more than 30 per cent above the import price during World War I. Even when there were food riots because of shortages and high rice prices just after that war, the Japanese government's response was not to reduce protection but instead to extend it to its colonies and to shift from a national to an imperial rice self-sufficiency policy. That involved accelerated investments in agricultural development in the colonies of Korea and Taiwan behind an ever-higher external tariff wall that by the latter 1930s had driven imperial rice prices to more than 60 per cent above those in international markets (Anderson and Tyers 1992). After the Pacific War ended and Japan lost its colonies, its agricultural protection growth resumed and spread from rice to an ever-wider range of farm products. That history is now well known (see, e.g., Anderson, Hayami and Others 1986) and so we do not include a chapter on it in this volume.

The other high-income countries were settled by Europeans relatively recently and are far less-densely populated. They therefore have had a strong comparative advantage in farm products for most of their history following Caucasian settlement, and so have felt less need to protect their farmers than Europe or Northeast Asia. Indeed Australia and New Zealand until the present decade– like developing countries – had adopted policies that discriminated against their farmers. Anderson et al. (2009) and Anderson, Lloyd and MacLaren (2007) explain that the unusual phenomenon of gradual removal of agricultural support there since the 1970s was tolerated by farmers because it was explicitly linked with manufacturing protection cuts that were bigger

than the cuts in farm subsidies and so their negative RRAs rose gradually to zero. By contrast, agricultural support has grown in the United States since the 1970s. Even since the Uruguay Round trade negotiations concluded in 1994 and established the WTO, the continued ability of the powerful farm lobby in the United States to elicit support in the political arena is evident from the analysis in chapter 7, by Orden, Blandford and Josling (2010). While there have been some changes in policy that have reduced their distortionary effects, they show there have also some setbacks to reform efforts. Prospective commitments under a new WTO agreement that might emerge from the struggling Doha Round could put further constraints on subsidies provided by some U.S. policy instruments, but Orden, Blandford and Josling expect the strong capabilities of the U.S. farm lobby to ensure support programs in that large agricultural exporting country endure through 2012 and beyond.

An important set of countries where there have been dramatic agricultural and trade policy reforms over the past quarter century is the former communist bloc. In chapter 8, Rozelle and Swinnen (2010) examine changes in distortions to agricultural incentives in the transition countries of East Asia (China and Vietnam), Central Asia (Kazakhstan, Kyrgyz Republic, etc), the rest of the former Soviet Union, and the Central and Eastern European countries (ten of which joined the European Union in 2004 or 2007). The policy changes were dramatic in all those regions, yet there were large differences between countries in their reform strategies and in the extent and the nature of their remaining distortions. If market reform leads to economic growth, why did leaders in many transition nations not choose to implement a comprehensive reform program? Why was it that leaders in China decided to implement their reforms gradually while those in Europe did so all at once? Why did leaders in Europe's transition countries undertake a broad spectrum of reforms while those in many nations of the former Soviet Union did not? Even more fundamentally, why is it that the policies were implemented by the leaders of some Communist regimes while in others it took a major political regime shift for policies to gain momentum? Rozelle and Swinnen provide several reasons for expecting these large differences between transition countries, including the change in political regimes (in China and Vietnam it occurred within the Communist party while in many other countries it occurred only when the Communist regime collapsed), the fact that in some countries but not others a broad approach to reforms was needed to introduce irreversible changes to the entire

political system, and the differing influences of various international agreements (including accession to the EU or WTO) on agricultural distortions.

Political econometrics: testing new hypotheses with new data

The remaining chapters of the book provide a set of quantitative studies that begin the process of exploiting both the new developments in general political economy theory and the new Database of Agricultural Distortions by applying modern econometric methods to test hypotheses using those panel data.

Chapter 9, by Masters and Garcia (2010), builds on the analysis at the end of chapter 2 by first showing not only that governments tend to tax agriculture in poorer countries and subsidize it in richer ones, tax both imports and exports more than nontradable farm products, and tax more/subsidize less where there is more land per capita, but also that there are differences across continents in these tendencies. That study then tests a variety of political-economy explanations. It finds that larger groups obtain more favorable policies, suggesting that positive group size effects can outweigh the negative influence from more free-ridership, and that demographically driven entry of new farmers is associated with less favorable farm policies. It also finds rent-seeking motives for trade policy, in that countries with fewer checks and balances on the exercise of political power have smaller distortions, and time-inconsistency motives, as perennials attract greater taxation than annual crops. They find there is support for a revenue motive for taxation for importables, but not for exportables. An incidental result is that governments achieve very little domestic price stabilization relative to benchmark international prices, and in the poorest countries governments appear to destabilize domestic prices of farm products: a given policy may achieve short-term stability, but on average these policies are not (or perhaps cannot be) sustained, leading to large price jumps when policies eventually have to adjust.

The point of departure in chapter 10, by Gawande and Hoekman (2010), is the dominant use of trade measures to either tax or subsidize agriculture. This study explores institutional reasons for that policy phenomenon. It finds, for example, that exports of a crop are more likely to be subsidized than taxed the stronger the electoral competition for the office of executive and the more comfortable the majority of the ruling party(-ies). Greater electoral competition also makes import protection more

likely; and the greater the proportion of land that is arable and of the population that is rural, the higher the probability that exports will be taxed.

In chapter11, by Dutt and Mitra (2010), both the political ideology of the government and the degree of income inequality are found to be important determinants of the relative rate of assistance to agricultural producers. In other words, even though government decision-making has some partisan elements, the concerns of the majority are also important. Thus both the political-support-function approach as well as the median-voter approach can be used in explaining the variation in agricultural assistance/taxation across countries and within countries over time. These results are consistent with the predictions of a model that assumes that labor is specialized and sector-specific in nature, and are inconsistent with a model in which labor is assumed to be a general, intersectorally mobile factor. Some aspects of protection also seem to be consistent with predictions of a lobbying model in that agricultural assistance is negatively related to agricultural employment and positively related to agricultural productivity. Public finance aspects of assistance and taxation also seem to be empirically important, particularly for developing countries.

The subsequent two chapters have a regional focus. In chapter 12, Bates and Block (2010) explore the pattern of distortions in Sub-Saharan Africa. Historically, African governments have discriminated heavily against agricultural producers in general (relative to producers in non-agricultural sectors), and against producers of export agriculture in particular. While more moderate in recent years, these patterns of discrimination persist even though farmers comprise a political majority. Bates and Block explore the impact of three factors: institutions, regional inequality, and the need to generate tax revenue. They find that, in the absence of electoral party competition, agricultural taxation increases with the share of the population that is rural. In the presence of party competition, on the other hand, the lobbying disadvantage of the rural majority turns into political advantage. They also find that privileged cash crop regions are particular targets for redistributive taxation, unless the country's president comes from a cash cropping region. One further finding is that governments of resource-rich African countries, while continuing to tax export producers, tend to tax their food consumers less than is the case in other African countries.

The region of focus in chapter 13 is Latin America, although the global sample of NRAs is used to test if Latin America is different from the rest of the world. The issue

addressed in that chapter, by Cadot, Olarreaga and Tschopp (2010), is the impact of trade agreements (regional but also multilateral) on the volatility of agricultural assistance rates. Policy volatility is important: it is likely to be welfare-reducing because the welfare costs of distortions rise with the square of the wedge between domestic and world prices, and because the policy uncertainty it generates harms investment and hence growth. And Latin America is worth focusing on because it is the region with the highest volatility in agricultural trade policy among developing countries, followed by Sub-Saharan Africa which has a degree of policy volatility that is 30 percent smaller. The authors find that participation in a regional trade agreement (RTA) significantly reduces the volatility of trade policy for agricultural goods, and the effect is quantitatively substantial (about 13 percent less volatility for each additional RTA) and is robust across a wide variety of model specifications. The WTO's agricultural agreement also contributed to reducing agricultural trade-policy volatility, in spite of the weak disciplines involved, but the effect is weaker than for RTAs. Among RTAs, those involving high-income country partners have more volatility-reducing effects, presumably because the latter have strong and stable domestic institutions which spill over to stronger RTA rules.

The final chapter, by Olper and Raimondi (2010), deals with the effect of constitutional rules on agricultural policy outcomes. It highlights the important role played by the form of democracy, and finds a transition to democracy tends to raise a country’s agricultural NRA. Furthermore, what matters are transitions to proportional as opposed to majoritarian democracies, as well as to permanent as opposed to temporary democracies. Moreover, while they do not detect significant differences across alternative forms of government (presidential *versus* parliamentary systems), they provide evidence that the effect of proportional systems is exacerbated under parliamentary regimes but dampened under presidential ones. They also find that different constitutional rules affect the dynamic adjustment of agricultural NRAs. Overall, these results support the notion that rules-based institutions do matter in affecting the adoption of sectoral policies.

Conclusion

The conceptual and econometric studies reported in this volume are but a beginning to the process of using both the new developments in general political economy theory and the new set of panel data on agricultural distortions to improve our understand of why governments intervene in agricultural markets in the ways they do in the course of national and global economic and political development. It is hoped that will stimulate further studies and that together they will shed light (a) on how distortions might change for various types of countries in the future under 'business as usual' and (b) even more importantly, on how that improved knowledge can be utilized to bring about pro-poor, welfare-improving and sustainable policy reforms.

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