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AGRICULTURAL COMPETITIVENESS: MARKET FORCES AND POLICY CHOICE

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*Impacts of New Multilateral and Regional Integration
Agreements on Agricultural Competitiveness of Advanced Economies*

The process of economic growth is typically characterized by a relative decline in the agricultural sector and, after middle-income status is reached, by an absolute decline in the workforce on farms. The exact nature and speed of those domestic changes, and of alterations in the competitiveness of each nation in international markets for farm products, are affected also by government policies. In recent years there have been several fundamental policy changes affecting agriculture in the world economy. This paper seeks to examine the impacts on different groups of countries on the farm sector's competitiveness, both intersectorally and internationally, of five somewhat related policy shocks: the Uruguay Round agreements, regional integration initiatives, especially in Europe, the transformation from plan to market in former communist economies of Europe and of Asia, and unilateral trade liberalization in numerous developing countries. The paper suggests that the net effect of these changes will be to accelerate agriculture's relative decline in some industrial countries (but only slightly) and to slow (but rarely reverse) the decline in agriculture's share of GDP and employment in poorer countries. The tendency for countries to shed labour absolutely after upper middle-income status is reached will at most be delayed a little for the more land-abundant countries whose farmers benefit from those reforms. However, that may be sufficient for some of the latter countries to switch from being net importers to net exporters of farm products.

The paper begins with a brief review of the determinants of agriculture's competitiveness in attracting or retaining resources in a growing world economy. It then assesses how past trends in policy have distorted the pattern of production and prices, causing a reversal in the food self-sufficiency status of industrial and developing countries. The third section examines the ways in which the five above-mentioned policy reforms are altering those trends, and speculates on the extent and rate of change in those trends that can be expected over the next decade or so as a result of the policy shocks. A summary of the conclusions is provided in the final section.

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DETERMINANTS OF AGRICULTURAL COMPETITIVENESS

The competitiveness of a sector in attracting or retaining resources depends on the demand and supply conditions affecting its output compared with that of other sectors. Economic growth alters those conditions, as does market intervention by governments. Leaving the latter aside for a moment, it is easy to see the effect of economic growth in a two-sector closed economy. Because the demand for food is price- and income-inelastic, productivity growth that was equally rapid in the two sectors would cause the relative price of farm products to fall, stimulating resources to move to the non-farm sector. If total factor productivity growth was more rapid in agriculture than in other sectors, as it has been in numerous countries (see, for example, Jorgenson and Gollop, 1992, on the dramatic US experience), that would accentuate the relative price fall and resource outflow. Also the faster the production of sector-specific non-farm capital, the more that too would attract mobile resources out of agriculture.

Since the world is a closed economy, the above would lead us to expect the relative price of farm products in international markets to fall over time, and all the more so the faster is farm relative to non-farm productivity growth. Mobile resources would move out of agriculture on a global scale unless new agricultural sector-specific resources such as land became available to farmers (for example, because of deforestation) and even then the propensity to retain mobile resources in agriculture would be low because the inelasticity of demand for farm products ensures that more land in farming would result in lower food prices.

What would occur in a small open national economy which can trade at the international terms of trade? Conceivably, it could have sufficiently more rapid farm relative to non-farm productivity growth and/or growth in farm-specific factors (for example, through land clearing) than the rest of the world so as to expand the share of its resources in agriculture despite the sector's declining terms of trade. That, however, is unlikely, because a substantial share of a nation's non-farm goods and services are non-tradeable internationally and their demand tends to be income-elastic. Hence ever more resources are needed to produce those non-tradeables as economic growth proceeds. Thus, even for a small open economy with an exceptionally dynamic farm sector, retaining resources in agriculture over the long term is unlikely; in fact, they will tend to be retained only in economies that are accumulating mobile and non-farm resources relatively slowly and/or are suffering very slow productivity growth in their industrial sector (Anderson, 1987).

This is not to say that a nation's or region's self-sufficiency in farm products must fall, however. Whether an economy is more or less than fully self-sufficient in farm products, and how that position changes over time, depend on its relative factor endowments (the key determinant of agricultural comparative advantage) as well as on government policies at home and abroad.

Perhaps the most appropriate simple model for explaining agricultural comparative advantage in a growth setting is that developed by Krueger (1977) and explored further by Deardorff (1984). It is a model of two tradeable sectors, each using intersectorally mobile labour plus one specific factor (farm land or

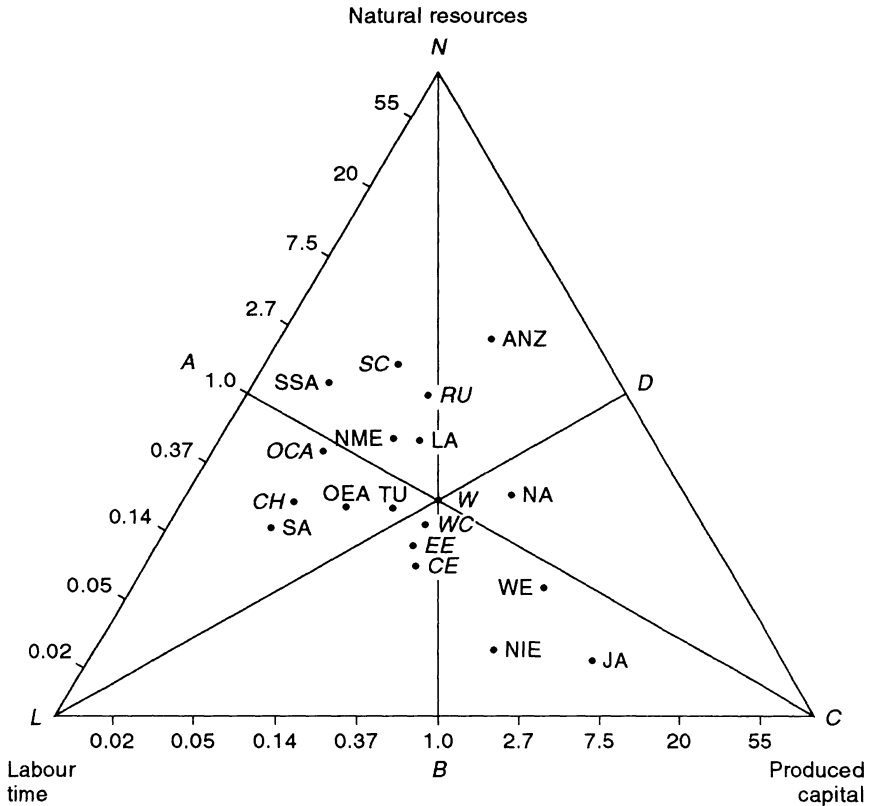


FIGURE 1 *Relative endowments of natural resources, labour and capital, various economies, 1991*

Notes: The distance along NL from N measures the population density as a ratio of the world average (0.40 people per hectare of land). The distance along LC from L measures gross national product per capita as a ratio of the world average (\$4040). Both scales are in logs. Along any ray from C to the NL line the population density is constant, and similarly for rays from the other two corners of the triangle. W is the world's endowment point. Countries are represented as follows: ANZ, Australia and New Zealand; CE, Czech, Hungary, Poland, Slovakia; CH, China; EE, Albania, Bulgaria, Romania, Yugoslavia; JA, Japan; LA, Latin America excluding Mexico; NA, North America including Mexico; NIE, Hong Kong, Singapore, South Korea, Taiwan; NME, North Africa and Middle East; OCA, Cambodia, Laos, Mongolia, Myanmar, North Korea, Vietnam; OEA, Brunei, Indonesia, Philippines, Malaysia, Thailand, Pacific Islands; RU, Russia; SA, South Asia; SC, Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan; SSA, Sub-Saharan Africa; TU, Turkey, Cyprus, Malta; WE, Western Europe; WC, Belarus, Estonia, Latvia, Lithuania, Moldova, Ukraine.

Source: Adapted from Leamer (1987) using data from the World Bank (1993).

industrial capital). Assuming labour exhibits diminishing marginal product in each sector (and assuming there are no other primary products, no services or non-tradeables and no policy distortions), then at a given set of international prices the real wage is determined by the overall endowment per worker of land and industrial capital. The commodity composition of a country's trade (that is, the extent to which a country is a net exporter of agricultural or industrial products) is determined by its endowment of farm land relative to industrial capital compared with that ratio for the rest of the world.

Leamer (1987) suggested using a triangle as a way of summarizing the relative resource endowment ratios of different countries. In Figure 1 the three factors of production are denoted as N for farm land, L for labour time and C for industrial capital (broadly defined to include technological knowledge, following Johnson, 1968). Rough proxies used here to represent the national ratios of farm land to labour and industrial capital to labour are total land per capita and national product per capita. (Crude those these proxies are, more sophisticated indexes are unlikely to change the relative positions of the country groups in Figure 1 very much.) These ratios are measured in logarithmic terms along the LN and LC sides of the triangle, respectively, the mid-point of each being the world average which is taken as the numeraire. Thus point W represents the global average endowment of all three factors in 1991, with countries above the AC line being likely to have a comparative advantage in farm products. On the assumption that the stock of farm land is fixed (or changes at the same rate in all countries), rapid growth in the labour force by one country relative to others (for example, because of increased labour force participation) would cause the country's location in Figure 1 to move towards point L , giving that country a stronger comparative advantage in unskilled labour-intensive products. On the other hand, relatively rapid growth in industrial capital (for example, because that is where investment funds were channelled) would cause the country's location to move towards point C , strengthening its comparative advantage in capital-intensive products. The more significant those countries are in the world economy, the more their expanded stock of a productive factor would boost the world average stock and thereby shift the location of slower-expanding economies away from L or C , that is, towards N . In other words, economies that were expanding their stock of non-farm capital relatively slowly would see their comparative advantage in primary products strengthen.

THE INFLUENCE OF PAST POLICY TRENDS

The international competitiveness of a nation's farmers is, of course, influenced not only by the above factors that affect comparative advantage but also by government policies. For centuries it has been the case that domestic incentives for agriculture have tended to be distorted against farmers in poorer and agricultural exporting countries (Bautista and Valdés, 1993) and in favour of farmers in richer and food-importing countries, with economies moving from the former to the latter policy regime as they develop.¹ This tendency has exacerbated the decline in the relative price of farm products in international

markets. In recent decades the growth of agricultural protection has been sufficient to cause advanced industrial countries to switch from being less to more than fully self-sufficient in an increasing number of farm products.² Eventually the surpluses in Western Europe could be disposed of only with the help of export subsidies. That, however, stimulated North America to defend its export markets by subsidizing its farm exports as well from the mid-1980s, a move that contributed (a) to international food prices falling by 1987 to their lowest level this century in real terms and (b) to a trebling over the 1980s in the annual global loss in real income associated with industrial country food policies (Tyers and Anderson, 1992). Little wonder that the idea of concluding the Uruguay Round without agreement to reduce agricultural supports was viewed as unacceptable.

EFFECTS OF RECENTLY ANNOUNCED POLICY REFORMS

The Uruguay Round

In the light of the long history of agricultural protection growth, even a policy standstill would have to be described as progress, not least because it would reduce the risk of newly industrializing countries following the more advanced ones down the agricultural protection path. But in fact more (although only a little more) than a standstill was agreed to in the Uruguay Round. The agreement on agricultural liberalization has four main components: reductions in farm export subsidies, increases in import market access, cuts in domestic producer subsidies, and less excessive use of sanitary and phytosanitary import barriers. The Appendix summarizes the extent of the agreed changes for industrial countries, to be implemented between 1995 and 2000. (For developing countries, the implementation period is longer and the extent of reform required is less, as part of the special and differential treatment those countries continue to receive in the GATT.) While it is too early to estimate precisely the overall effects of the agreement (because that depends on fine details and on the differing interpretations and reinstrumentations that will follow) preliminary empirical estimates are appearing and some broad comments are possible.

The fact that farm export subsidies are still to be tolerated continues to distinguish agricultural from industrial goods in the GATT, a distinction that stems from the 1950s when the United States insisted on a waiver for agriculture of the prohibition of export subsidies. Moreover, even by the turn of the century, farm export subsidies need be only about one fifth lower than they were in the late 1980s to comply with the agreement. True, the budgetary expenditure on export subsidies is to be lowered by 36 per cent, but it is only the agreed cut in the *volume* of subsidized exports (21 per cent) that is likely to bite, since international food prices are expected to be considerably higher in the implementation period than in the depressed 1986–8 base period.

A second distinguishing feature of the agricultural agreement is that it requires non-tariff import barriers to be converted to tariffs. Those tariffs are then to be reduced and bound. However, the extent of tariff reduction by the end of the century is even more modest than for export subsidies: the *unweighted*

average tariff cut must be 36 per cent, but it could be much less than one-sixth as a *weighted* average, since each tariff item need be reduced by only 15 per cent of the claimed 1986–8 tariff equivalents. Tangermann (1994) gives the example of a country with four items subject to tariffs, three sensitive ones with 100 per cent duty rates and one with a 4 per cent duty. Reducing the three high rates to 85 per cent (a 15 per cent cut) and eliminating the 4 per cent rate (a 100 per cent cut) would give an unweighted average cut of 36.25 per cent. This would meet the requirement for an unweighted average cut of 36 per cent and minimum cuts per item of 15 per cent, but would allow high protection on sensitive products to remain and would increase the dispersion of rates.

Moreover, the claimed tariff equivalents for the base period 1986–8, and hence the bound tariffs, are in many cases far higher than the actual tariff equivalents of the time. The European Union, for example, has set them at between 150 and 170 per cent for non-rice grains, at 290 per cent for milled rice, and between 220 and 340 per cent for dairy products, beef and sugar (Josling *et al.*, 1994). This has two consequences. One is that actual tariffs may provide no less protection by the turn of the century than the non-tariff import barriers of the late 1980s/early 1990s. The other consequence of binding tariffs at such a high level is that it allows countries to set the actual tariff below that, but to vary it so as to stabilize the domestic market in much the same way as the EC has done in the past with its system of variable import levies and export subsidies. This means there will be less than the hoped for reduction in fluctuations in international food markets that tariffication was expected to deliver.

It is true that some countries have agreed also to provide a minimum market access opportunity, such that the share of imports in domestic consumption for products subject to import restrictions rises to 5 per cent by the year 2000 under a tariff quota. But that access is subject to special safeguard provisions, so that it only offers potential rather than actual access (another form of contingent protection). Furthermore, it formally introduces scope for discriminating in the allocation between countries of these tariff quotas.

There are thus elements of quantitative management of both export and import trade in farm products now under the GATT, including scope for discriminatory limitations on trade, rather than just limitations on price distortions. This feature of the agricultural agreement is unfortunate, for it reduces the degree of flexibility of economies to adjust to changing market circumstances.

The third main component of the agreement is that the aggregate level of domestic support for farmers is to be reduced to four-fifths of its 1986–8 level by the turn of the century. That too will require only modest reform, because much of the decline in that measure of support has already occurred. Moreover, there are many forms of support that need not be included in the calculation of the aggregate measure of support (AMS), the most important being direct payments under production-limiting programmes of the sort adopted by the United States and EU (and likely to spread now to other countries and commodities as farm income support via trade measures becomes less of an option).

The fourth component of the agreement is the tightening of rules allowing import restrictions for sanitary and phytosanitary reasons. But that, like the other three components, still provides ample scope for disputes.

In short, the reforms agreed to in the Uruguay Round involve only very modest liberalization over the next six years in industrial countries, with plenty of room for disputes over compliance to the year 2000 and for further reductions in the new millennium. They will accelerate agriculture's relative decline and loss of farm workers in heavily protected industrial countries, but only slightly. They will also gradually boost the competitiveness of farmers in countries where the international price rises are transmitted to the domestic market for farm products, although again the improvements will be only slight. But at least agriculture is now in the mainstream of the GATT (which allowed the other agreements in the Uruguay Round to be concluded), there will be some gain in real incomes (Table 1),³ and it has been agreed to reopen agricultural negotiations in 1999 to continue the farm reform process. Moreover, the important need to convert non-tariff import barriers to tariffs and to quantify the AMS for each product in the interests of transparency, and to include domestic producer subsidies in the reform package, has been acknowledged and explicitly incorporated into this agreement. The new rules and obligations will constrain further farm protection growth in both industrial and developing countries, thereby introducing greater certainty and stability to international food markets and so encouraging countries with a natural comparative advantage in farm products to exploit the new market opportunities, not least through reducing their own policy discrimination against agriculture (discussed below).

TABLE 1 *Preliminary estimate of the effects of the Uruguay Round liberalizations on real incomes by 2005 (in constant 1992 US\$ billion per year, assuming 'moderate' agricultural reform)*

Western Europe	180
North America and Australasia	139
Japan	24
Developing and transition economies	134
Total	477

Source: Nordstrom, McDonald and Francois (1994).

The preparedness of the European Union (or EC as it was during the Uruguay Round negotiations) to accept the agricultural part of the Round agreements was partly because the extent of the required reform had been reduced greatly below the initial demands of the United States and the Cairns Group, to match the MacSharry proposal for CAP reform announced in mid-1992. Its implementation by the EU is likely to reflect the commodity bias in that proposal. In particular, grains and oilseeds policies are likely to be reformed most, meat policies only moderately, and dairy and sugar programmes least of all (despite the fact that the latter programmes involve the most protected commodities). The scope for that type of commodity bias in the agreement, together with the resolution in June 1993 of the United States' long-standing

dispute over EC assistance to oilseeds producers, helps explain the preparedness of the United States to accept this as a basis for a Uruguay Round agreement, for it means there need be relatively little pain for US dairy and sugar producers relative to the large gains for US producers of grains and soybean.

For the EU, too, the effective absence of discipline under the accord on its supply-constrained dairy and sugar programmes, and the much smaller degree of reduction required of border measures compared with the initial US demands, made it less difficult for politicians to sell an agreement on this basis within the EU, particularly once the MacSharry proposal for CAP reform had been widely accepted in most EU member countries.

There is also another set of reasons for the EU to find the agreement more acceptable as part of the Uruguay Round accord in 1994 than it would have two or three years earlier. It has to do partly with EU expansion and partly with Central and Eastern Europe's transformation away from planning.

Western European integration and CAP reform

The expected absorption from 1995 of some European Free Trade Area (EFTA) countries into the EU made it much easier politically for the EU-12 to agree to limit farm exports in the latter 1990s. This is because the joining EFTA members would be required to lower their domestic food prices from their current very high levels to CAP levels, which is likely to switch them from being a net food-exporting group to being net importers of food. The trade, budgetary and welfare effects of this can be seen from Figure 2, where ED_f and ES_e are the excess demand and excess supply of food curves for the EFTA countries planning to join the EU and for the EU-12, respectively. Prior to integration, the price of food in those EFTA countries, at P_f , is well above not only the international price P_w but also the EU's CAP price level P_e , and the quantities exported are O_fQ_f from those EFTA countries and O_eQ_e from EU-12. Subsequent to integration of these countries' food markets, if P_e becomes the common internal price level then excess demand by the new members from EFTA would increase by $Q_fQ'_f$ (raising the international price to P'_w) which would eliminate their subsidized exports and cause them to import $O_fQ'_f (=QQ_e)$ from the EU-12. Economic welfare in those EFTA countries would increase by $adefg$, made up of a gain to EFTA consumers net of the loss to EFTA farmers of $cde-abc$ plus the export subsidy that is no longer needed of $abfg$. Economic welfare in the EU-12 also would improve, by $stuvwx$. This is made up of two parts: the gain $stuy$ from diverting some exports (QQ_e) from the international market where they received only P_w to EFTA where they receive P_e ; and the gain vwx from selling the rest of the EU's surplus to the rest of the world at the higher international price P'_w .

How large those changes would be is an empirical question. If the common CAP prices were to be those resulting from the MacSharry proposals, a recent empirical study suggests that by the year 2000 if all EFTA countries were to join the EU then, as a group, they would switch from being net food exporters to become net food importers to the extent that they would absorb about one-

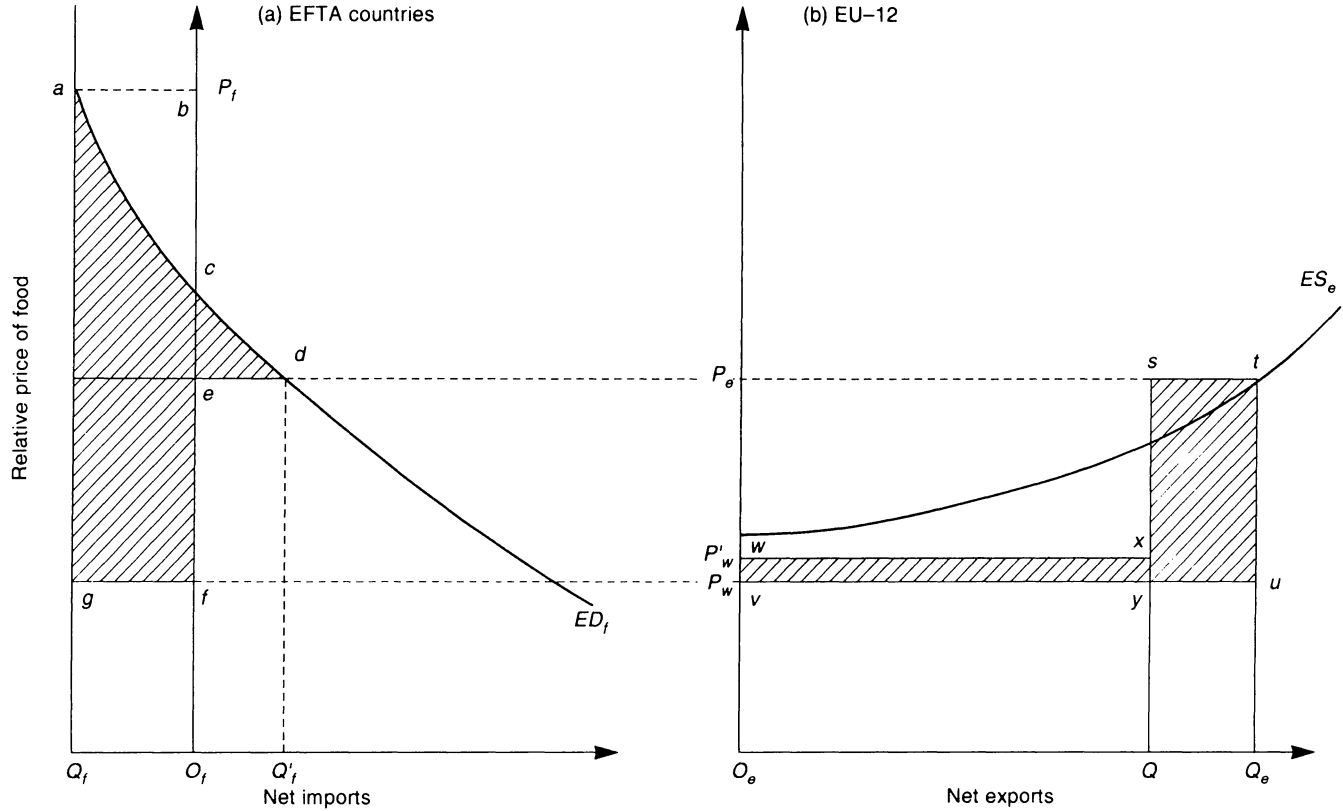


FIGURE 2 Effects on food markets of EFTA joining the EU

seventh of the volume (representing about one-quarter of the value at CAP prices) of EU-12 exports (Anderson and Tyers, 1994). That is, most of the adjustment that would be required of Western Europe by the Uruguay Round agreement would be undertaken anyway if the EC-12 implemented the MacSharry proposals and EFTA countries reduced their domestic food prices to those in the reformed EU as part of joining the EU. In other words, with an EU enlargement in the latter 1990s to include EFTA countries, the latter would, on behalf of all Western European countries, bear much of the brunt of the farm adjustment necessary to satisfy the Uruguay Round agreement.⁴

It is conceivable of course that the common CAP prices in an enlarged EU of 15 or more members would be higher than those suggested by the MacSharry proposal/Uruguay Round agreement, without contravening that accord, given the large reduction in protection required in any case of the EFTA countries joining the EU. The EU ministers might choose to set CAP price levels higher for a combination of several reasons. First, a considerable proportion of the EU-12's export surplus would be sold to the former EFTA countries at internal CAP prices instead of being sold on the open market at the ruling international prices. This would reduce substantially (by nearly one-third, according to Anderson and Tyers, 1994) the budgetary cost of the export subsidies necessary to dispose of the CAP-induced surpluses, and so would reduce opposition to the CAP in EU-12 countries. Second, the agricultural ministers of the former EFTA countries would be bringing to the EU's annual price-setting committee a more protectionist inclination on average than the EU-12 ministers. Third, since the high-income EFTA countries joining the EU would be required to make significant net contributions to the EU's budget, the current budgetary constraint on CAP spending would be eased even further. And fourth, the 'cheap-rider' problem in restraining CAP expenditure would worsen because of the additional number of EU member countries.⁵ Together, those changes will tend to cause the average level of agricultural protection in the enlarged EU to settle above what it otherwise would have been in an EU of just 12 member countries. That is, if the EU is treated as a single GATT contracting party, restrictions on the quantity and value of subsidized farm exports from Western Europe are insufficient to guarantee that at least EU-12 domestic farm prices and protection levels will not rise (even though for Western Europe as a whole they would be required to fall).

Central and Eastern Europe's transformation

EFTA countries are not alone in wanting to join the EU, of course. Many of the former communist countries of Central and Eastern Europe are among those lining up. While their full membership is unlikely until well into the next century, the most advanced of them (the Central European countries of the Czech Republic, Hungary, Poland and Slovakia) have already begun a form of associate membership involving some preferential access to EU markets. Since the usable industrial capital stock per worker in those countries is low relative to the stock of agricultural land and other farm capital per worker, their comparative advantages during the next decade or so are likely to be in pri-

many products and standard technology manufactures until new stocks of industrial capital accumulate (Hamilton and Winters, 1992; Anderson, 1992, 1993). So it is in these product areas that access to EU markets is most sought after. While to date the EU has been resisting, at the behest of its domestic interest groups, there are serious concerns about immigration from, and/or political upheavals in, the transforming economies should those economies not begin to prosper soon.

Completely free access for Central and Eastern European farmers to EU food markets seems unlikely in the foreseeable future, if only because of its impact on the CAP budget. According to a recent simulation exercise, if just the four Central European countries were given unrestricted access to EU markets by the turn of the century at CAP prices, this could cause the budgetary cost of the CAP in the year 2000 to be enlarged by as much as one-third, roughly offsetting the beneficial effect on the CAP budget of EFTA joining the EU (Anderson and Tyers, 1994). A more likely development is that Central European farmers will be given restricted but gradually more preferential access to West European markets over time (from the current very low base), perhaps just enough to make them prefer to support rather than oppose the EU's agricultural protection policy in international bodies such as the GATT, as has been the case for the African, Caribbean and Pacific island signatories to the Lomé Convention.

Even if Central and Eastern Europeans were completely denied access to EU food markets, that would not prevent developments in those transforming socialist economies from raising CAP expenditures in the medium term. This is because of their likely expansion in net exports of farm products which, along with similar expansions by the reforming developing countries of Latin America and elsewhere, would add to the downward trend in real international food prices. The magnitude of this effect on the EU's budget would be smaller than if Central European farmers were given access to EU markets, but it does mean that, whether the Central and East Europeans are given access to EU food markets or not, those economies will be imposing increasing budgetary pressure on the EU to reduce its domestic farm prices. That suggests the domestic political cost to EU member governments of CAP reform would be offset somewhat by the fact that such reform would lower the incentive for farmers in the transforming economies of Central and Eastern Europe to seek preferential access to Western Europe's food markets and/or for people in those countries to migrate westward.

In the longer term, if economic growth accelerates and industrial capital stocks build up for this country group, their location at *CE*, *EE* and *WC* in the Leamer triangle of Figure 1 will gradually move towards *C* below the *AC* line and their comparative advantage will switch from primary products to manufactures. That is, their net imports of food will increase, and more so the less domestic food prices are allowed to rise above international prices and toward CAP levels.

As for Russia and the former Soviet republics of Central Asia, their long-term comparative advantage in agriculture may be considered great because of their location close to *N* in Figure 1 (see the points *RU* and *SC*). One reason for that not being evident in the group's trade statistics is the current inefficiency

of their farm sector. However, their net imports of farm products could increase or decrease according to something not so far mentioned in the above discussion of the Leamer triangle of Figure 1, namely the productivity of their mining sectors. If one were to draw a pyramid instead of a triangle for Figure 1, with the fourth point being 'known mineral resources', then these economies would be seen to be also relatively very well endowed with minerals and energy raw materials per worker (as is Ukraine). But the exploitation of their mineral resource richness (particularly through direct foreign investment) is heavily dependent on establishing clear property rights in the mining sector. Since the reforms began in the early 1990s, that is something that has been as slow in coming as the privatization of farm land. During the next decade this group of economies could remain a net importer of farm products, on the one hand, or, on the other, could become a major net exporter of them: which state eventuates depends heavily on the extent to which the lack of clarity in property rights and the price and trade distortions adversely affecting each of these two primary sectors are removed, and the relative speed with which producers respond to the changes in incentives (Anderson, 1992, 1993; Tyers, 1994).

Asia's transforming socialist economies

China (*CH*), and other Asian communist countries (*OCA*) even more so, are of course much closer to the *NL* axis of the Leamer triangle of Figure 1 than Central and Eastern Europe or the CIS, indicating their lower industrial capital stocks per worker. Since China, and Vietnam some years later, began their reforms by raising agricultural prices and giving farm households greater management freedom and responsibility, it is not surprising that net exports of farm products rose initially for these transforming economies. But both are very poorly endowed with agricultural land per capita, so unless they follow the agricultural protectionist path of their Northeast Asian neighbours they can be expected to strengthen their export specialization in industrial products into the next century and become net agricultural importers. That will happen much later for Vietnam (and later still for less densely populated Laos and Cambodia) than for more affluent China, and more so for feedstuffs than for food staples and livestock products (which are more likely to enjoy price supports because of concerns about food security and rural out-migration). But, given the very rapid rate of economic growth of China and Vietnam, their location in the Leamer triangle is likely to move steadily towards the Central and Eastern European points. That is, their recent increase in agricultural competitiveness will not be long-lived, especially for China and particularly if agricultural protection is avoided.⁶

Reforms in other developing countries

The dramatic success of East Asia's newly industrialized economies in recent decades contrasts markedly with the generally lacklustre performances in Latin America, Africa and South Asia. It was therefore inevitable that eventually

countries in the latter group would see the need to shed their relatively inward-looking trade and industrial policies and anti-agricultural policies. The debt crisis of the 1980s, plus the prospect of a fairer trade deal to emerge from the Uruguay Round in agriculture and textiles, contributed to the decisions by many of these countries to reform sooner rather than later. How those changes will affect their own and other countries' agricultural competitiveness, and whether it will offset or amplify the effects of the Uruguay Round agreement, is an empirical question that cannot be answered *ex ante* with much certainty.

Nevertheless, several qualitative points are worth making. First, in so far as those reforms reduce the extent of agricultural taxation (as they have in not only China and Vietnam but also Argentina and Thailand, to mention just two large agricultural exporters), they will tend to offset the agricultural price-raising effect of the Uruguay Round in international markets. The reforming countries will become even more competitive in agricultural markets (agriculture's share of Chile's merchandise exports rose from 10 per cent in 1977 to nearly 40 per cent in 1992), but to some extent it will be at the expense of other farm-exporting countries.

Second, in so far as those unilateral reforms also apply to light manufactures, as they have in countries with policies that favoured only heavy or capital-intensive industry (including China and Central Europe), so exports of such items also will expand, and more so as the Multifibre Arrangement is phased out thanks to the Uruguay Round. The share of textiles and clothing in Thailand's exports trebled between the early 1970s and late 1980s to one-seventh, for example, and manufactures in total now account for two-thirds of the merchandise exports of this until recently agrarian economy.

Third, in so far as the opening up also extends to direct foreign investment, it could lead to mining booms in several countries that would reduce the competitiveness of those countries' farmers (as has happened because of petroleum in Indonesia and may happen in Vietnam), but strengthen the competitiveness of farmers in countries where agriculture continues to dominate primary product exports.

All three points above are about developing countries removing policy interventions that in the past have reduced the extent to which they exploited their comparative advantage. Since the Uruguay Round has also reduced impediments for countries to exploit their comparative advantage, it is possible to summarize crudely as follows: farmers in the relatively densely populated reforming developing countries (those in area *LWA* and closest to *L* in Figure 1) can expect to become somewhat less able to compete, while the opposite is true for those in lightly populated countries (those in area *NWA* and closest to *N*) except if their economy enjoys a mining boom.

CONCLUSIONS

Clearly, there is a great deal of change taking place in the world economy this decade as a consequence of major policy reforms. Those reforms ultimately will boost economic growth globally and especially in the countries taking an active part in them. The Uruguay Round agreements are to include agriculture

for the first time, which will help farmers in economies with below-average rates of agricultural protection, except in densely populated developing countries where the reductions in trade barriers to other products (most notably textiles and clothing) may boost light manufacturing more. The regionalism in Western Europe and elsewhere will also on balance probably boost regional economic growth, some of the benefits of which will spill over to other countries unless barriers to external trade are raised significantly. The expansion of the European Union to include the EFTA countries may not result in less agricultural protection in Western Europe than was being hoped for from the Uruguay Round, however. Rather, the new members' cuts in agricultural support will probably be partly offset by fewer cuts in support for farmers in the EU-12. The unilateral reforms of the former centrally planned economies could lead initially to increased agricultural competitiveness there, as happened in China and Vietnam, but it will depend very heavily on the extent and relative speed with which the lack of clarity in property rights and the price and trade distortions adversely affecting not just agriculture but also mining are removed.

For developing countries, their best option continues to be to make the most of their trading opportunities by removing remaining impediments to the optimal use of their own resources. Since most of the countries still have a considerable anti-agricultural bias in their policy regimes, such reforms are likely to improve the competitiveness of their farmers, and boost their GDP, more than any of the changes to their external environment discussed above. Moreover, such reforms would produce a larger number of agricultural exporting developing countries. That would allow more to join or support the Cairns Group, which would help to ensure that an even more substantial liberalization emerges from the next round of multilateral farm trade negotiations, to begin in 1999.

NOTES

¹On the political economy reasons for those distortion patterns, see, for example, Anderson and Hayami (1986) and Anderson (1994a).

²In the early 1960s, industrial market economies were 99 per cent self-sufficient in grains, livestock products and sugar, while developing countries were 103 per cent self-sufficient. But by the mid-1980s, those percentages were 113 and 98 per cent (with centrally planned Europe only 94 per cent self-sufficient, down from 99 per cent in the early 1960s). See Tyers and Anderson (1992, ch. 1).

³The boost to global income from the Uruguay Round as a whole will be uncertain for some time, but one preliminary set of estimates based on commitments made by April 1994 is available in Nordstrom *et al.* (1994), using the GTAP computable general equilibrium model. It suggests that after full implementation by 2005 the annual benefits will amount to about \$480 billion in 1992 US dollars, shared almost equally between Western Europe, other OECD countries and the rest of the world (developing countries and socialist economies in transition). The fact that developing countries are estimated to gain so much is significant because governments of many of them claimed they may lose from the Round.

⁴Presumably the USA and Cairns Group would raise this matter under Article XXIV of the GATT when the EU notifies the GATT Secretariat/World Trade Organization of its intention to expand EU membership. But the above still applies to the extent that the matter takes time to consider and only partial adjustments to obligations are made.

⁵Each EU member country would have more incentive to seek price increases for the products for which its excess supply is relatively large, and to cooperate less in policing farm supply constraints such as land set-asides in its own country.

⁶See Anderson (1990) and Garnaut and Ma (1992). On the trend toward switching from taxing to protecting agriculture in East Asia's economic development, see the survey of empirical studies in Anderson (1994b).

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APPENDIX: THE FOUR KEY ELEMENTS OF THE URUGUAY ROUND AGREEMENT ON AGRICULTURE

1 Agricultural export subsidies

Budget outlays of industrial countries to be cut by 36 per cent in value terms, and the volume of subsidized exports for each commodity to be cut by 21 per cent, over six years (1995–2000) from their 1986–90 base-period averages.

The volume reduction requirement is likely to be the more binding and the more important for most commodities, mainly because international prices are expected to be higher in the period of implementation than in the base period.

2 Agricultural import market access

Non-tariff barriers are to be converted to bound tariffs (based on the 1986–8 tariff equivalent of the existing barrier, but vaguely worded so there is ample room for dispute).

Tariffs are to be reduced by 36 per cent on average (unweighted) over 1995–2000, with each tariff item's rate being reduced by at least 15 per cent, but because many items have 'water' in their newly scheduled tariff, and because of the wide dispersion in those tariff rates, this may result in no more than a 15 per cent cut effectively and possibly no import liberalization at all, and import liberalization is further curtailed by special safeguard provisions whereby additional duties can be triggered by either a surge in the volume of imports or a drop in the international price to below a 1986–8 base price (which resembles the EC's variable levy but is worse, in that it is shipment-specific and therefore discriminatory).

Where the domestic selling price exceeds the border price, a tariff quota (with a tariff less than two-thirds the normal rate) allowing minimum access of 3 per cent of the volume of domestic consumption in 1986–8 for each commodity initially, rising to 5 per cent over the six years' implementation period, but since the commodity categories will involve some aggregation, there will again be ample scope for differing interpretations of compliance.

Access as of 1986–8 to be at least maintained.

3 Domestic subsidies to farmers

The total aggregate measure of support (AMS) is to be reduced by 20 per cent from the 1986–8 level on average, but the averaging provision makes that easy to meet, and an item of domestic support is not included in the calculation of the AMS if (a) it is in the form of direct payments under production-limiting programmes based on fixed areas or yields or number of livestock, or is made on no more than 85 per cent of the base production (a major and deliberate loophole), or (b) it is contributing less than 5 per cent of the value of production, or (c) it is one of the many exempt items listed in Annex 2 of the agreement.

4 Sanitary and phytosanitary import barriers affecting farm products

Claims that import restrictions are necessary for human, animal or plant health and safety have to be scientifically based.