

## 2 Evaluating European Trading Arrangements

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At the heart of trade theory lies the simplest of models. We assume there are homogeneous commodities whose prices in the absence of protection would be set domestically at the world price. Consider such a commodity whose market is shown in Figure 2.1. A tariff or equivalent trade barrier,  $t$ , would raise its domestic price above the world price to  $P_W(1+t)$ . At this higher price domestic supply increases, domestic demand decreases, so imports fall; tariff revenue levied on the imports is the quadrilateral  $abcd$ , and foreign suppliers receive  $P_W$ .

In a customs union, where a group of countries levies the tariff and internal trade is free of protection, the country's supply and demand are the same, the difference is that either imports are supplied by customs union partners at the price  $P_W(1+t)$ , or if non-EU imports are still required, the tariff revenue is payable to the customs union not to the government, so the government receives no tariff revenue.<sup>1</sup>

We may note that for the price to rise to  $P_W(1+t)$ , it is necessary for the customs union either to be a net importer or if it is a net exporter, the customs union must also pay an export subsidy equal to the tariff. Under the terms of the Common Agricultural Policy export subsidies are payable as well as import tariffs so prices are

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<sup>1</sup>The government may receive a share of the customs union revenue, according to some formula. However, this revenue accrues to the EU and we treat the resultant effect on the national government as part of the country's net budget contribution – accounted for separately. Thus in our trade calculations no revenues are recorded. We should also note that if the tariff equivalent is achieved by the *threat* of anti-dumping, there is no revenue at all accruing to the EU because foreign producers raise their prices to avoid the duty.

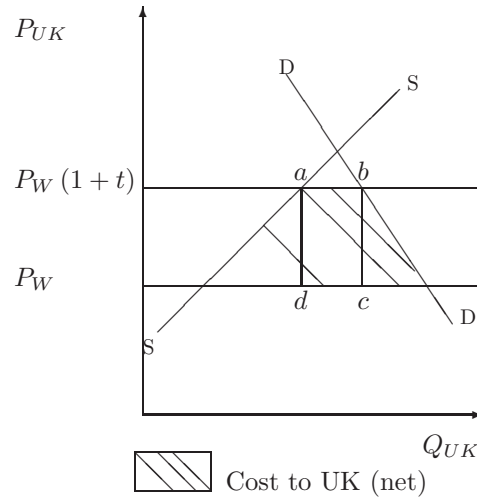


Figure 2.1: A customs union tariff on a commodity

held above world prices for all commodities covered by the CAP. In the case of manufactures no export subsidies are payable and therefore on goods where the EU has net exports prices would be at world price levels (because suppliers can only sell their output if they sell it on the world market and hence they must drop their prices to world levels). Prices only rise to  $P_W(1+t)$  (with protection thereby being effective) in cases where the EU is a net importer. In the case of traded services import protection is at the level of the nation-state and there is no customs union; again for the protection to be effective the services involved must be imported.

This model refers to one market alone, in the given commodity; the rest of the economy's prices are taken as given or else some other ad hoc decision is made about how they will vary as this industry expands. However the model can be extended to general equilibrium by specifying the rest of the economy's equations and calculating the market-clearing prices everywhere in it, and also in the rest of the world if the country is 'not small' – that is its behaviour affects world prices. The famous Heckscher-Ohlin-

Samuelson model is attractive to use for this extension because it brings in the ultimate determinants of comparative advantage, factor endowments, with a minimum of complication, by assuming perfect competition in all markets.<sup>2</sup>

Besides its clarity and simplicity, the model has the further advantage – given our lack of detailed data – that it needs few parameters and data points.

A final, decisive, advantage is that it appears realistic in the long run we are here interested in to assume competition. Nowadays there are many trade models based on various sorts of imperfect competition. In the short run this seems realistic; modern industry aims to produce innovative non-homogeneous products so that it can attain super-normal profits for some period. However we know that such profits attract entrants and imitation; the most redoubtable monopoly power is subject to eventual annihilation. Competition driving profits to normality from peers either in the same economy or from other ones around the world is what we observe over some period which varies in length between products and over time and place.

If this is so then the super-normal profits are captured by factors in fixed supply. In a world of mobile capital and raw materials, these factors are the various types of labour, summarised here as skilled and unskilled, and land. In effect competition proceeds until the domestic prices of these immobile factors is driven up to where cost equals price.

Our interest here is in the long-run shape and behaviour of economies, that is, after this process is complete, the ‘steady state’. Any actual economy will not be in this state of course, perhaps ever; but it is a benchmark that informs us about the eventual implication of its policies and factor structure.

Some authors have stressed ‘path-dependence’. Thus for example a country that captured the dominant share of a market by first-mover advantage might then acquire skills in its labour force that perpetuated such dominance. One thinks of Boeing in Seattle or the Californian Silicon Valley. We do not wish to deny the possibility of such things though we can see no well-supported model to incorporate it as a general process; we do not pretend

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<sup>2</sup>Also Cobb-Douglas production functions (that is, exhibiting constant returns to scale and a unit elasticity of substitution between factors of production).

fully to understand how countries acquire skilled labour of certain types – education, apprenticeship traditions, learning by doing, and much else no doubt contribute. A model must stop somewhere; our model treats the factor endowments as exogenous, the result of causes beyond. This of course leaves it open to others to argue that truly there is some feedback onto these, in justification of some proposed policies, perhaps of protection – along the lines of the ‘infant industry’ argument. We leave such arguments out in our analysis but they and the evidence for them can easily be considered at a later stage when evaluating policies. The model can in the presence of powerful ad hoc evidence be generalised for such feedback. The point is that we have a conceptual structure which can be used to analyse the problem whichever way the evidence points.

## 2.1 DEALING WITH FDI

Modern trade has now come to include goods and services delivered by foreign direct investment. Suppose that there is some tariff barrier; then this can apparently be circumvented by exporting capital, cooperating with some local factors of production to deliver the same product behind the tariff barrier. However note that in the HOS model capital is assumed to be mobile and tariffs cause immobile-factor rewards to capture the rents created by protection; thus a tariff changes relative prices and so the relative prices of immobile factors. Thus any excess returns to the mobile factor, capital, are eliminated.

We can think of FDI as being composed essentially of the movement of certain types of (usually skilled) labour and their associated technology which we assume can differ across countries – the capital from the world capital market simply flows in as required to accompany this movement. Thus we can think of FDI as consisting of migration of selected labour supplies and an accompanying rise in productivity. The migration of labour is motivated by differences of wages, that of technology by differences of productivity. If so one may then think of FDI as a process that is independent of tariffs. A tariff raises returns to an industry and this then raises immobile factor prices until marginal costs equal price. The overall incentive to transfer technology to the economy (which has a

certain general level of technology creating attractions to inward investors) is then left unchanged; the only difference is that this industry is now larger than other unprotected industries and so part of the new technology flow will be diverted from other industries to this one. As for the incentive to migrate one would assume that the general levels of wages of such broad factors of production as unskilled and skilled wages would not be sufficiently affected to make much impact on migration flows; the rents one would expect to be captured by more specific factors (for example, particular types of land or labour).

On this argument one may naturally regard FDI and the stock of inward investment as exogenous to the trade policy decisions with which we are concerned here. The HOS model we use regards the size of an economy as determined by its stock of immobile factors and its available technology; its capital stock is then set by the size of output and its foreign-owned capital stock by the difference between required capital stock and available home savings. The country's technology we treat as exogenous; but clearly it in turn is determined by the availability of better technology elsewhere and the incentive to transfer that inwards by FDI and other means. Similarly stocks of labour are treated as determined by supply incentives operating on a fixed labour force of available work potential; migration is one factor in turn operating on that but we treat the resultant as exogenous here.

## 2.2 BLOCS TO BE CONSIDERED – PARTIAL AND GENERAL EQUILIBRIUM ANALYSIS

We have set up a world economy consisting of four blocs – NAFTA, the UK, the rest of the European customs union, and the rest of the world. Our sectors are Primary, Basic Manufacturing ('manufacturing' for short), Complex (hi-tech) manufacturing and traded services ('services' for short) and non-traded goods and services ('home' for short). Our aim is to inject our estimates of different trade policy regimes into this world model, to obtain general equilibrium estimates of the welfare costs. However, we also consider the facts of protection by sector, together with partial equilibrium estimates of their effects; this treatment allows us to obtain an

initial benchmark on what we might expect at the general equilibrium level. GE estimates have the advantage of allowing for all simultaneous-feedback effects but the disadvantage that they are more aggregated; we hope to use the disaggregated material to ensure that the GE results are as good an average summary as possible of the disaggregated level. In our final GE results we can draw to some degree on other GE studies to compare and contrast.

### 2.3 ESTIMATES OF THE COSTS OF EU PROTECTION BY SECTOR

We now review the costs of EU protection in each sector, as if it alone were being protected and on the assumption that world prices remain unaffected. At a later stage we allow for a) the cross-effects of all protection on other sectors b) the effects on world prices. Furthermore, we make the assumption that the comparison is between the UK being in a protected EU market and having unilateral free trade outside a continuing EU trade barrier.

#### **Agriculture**

This sector has been well gone over in the past. The typical estimate of the costs of the EU's agricultural protection to the UK is generally set at about 0.5 per cent of GDP as a result of a tariff-equivalent typically of the order of 50 per cent. By withdrawing from this protective scheme therefore the UK would save this cost. There would be a loss to the REU of the tariff revenue it obtains on UK imports. If the UK left in this way there would be no sense from the REU's viewpoint in giving our farmers free preferential access to the REU market. This would simply mean that the REU's costs would be higher again by the transfer to UK farmers, made for no return favour.

There is often a misunderstanding of the effect of withdrawing from a customs union – an issue we consider at length in the Appendix. Thus one hears it said: we could leave and still maintain a trading arrangement giving us free access to the union market. However a moment's reflection shows this to be nonsense. A customs union reduces overall welfare compared with general

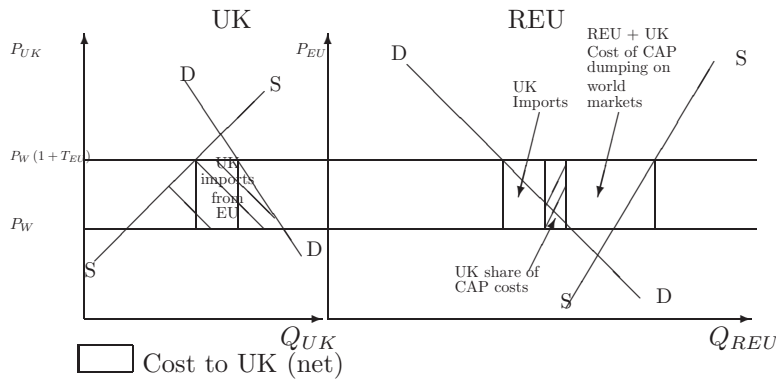


Figure 2.2: The CAP in outline

free trade but it gives producers in the joining countries extra net revenues at the expense of consumers across the union. Some countries' consumers pay more than others however so that one country (as in the case of the UK) pays a large share of the extra net revenues received by other countries' producers. Thus by withdrawing from this arrangement such a country is passing this cost to the other countries. They are hardly likely to reward this behaviour by offering still to transfer to the withdrawing country's producers the extra net revenues they previously received.

We can make the same point differently by asking: if the UK were to levy the same tariff as the REU, having withdrawn, and to offer REU producers free access to the UK market, would then the REU offer reciprocal free access? The answer is of course yes: because this would amount to exactly the same arrangement as the full customs union! In effect the UK would not be leaving; its domestic food prices would remain the same for both consumers and producers, while REU producers would obtain these prices for its exports to the UK. Thus if the UK relented and was willing to offer such an arrangement the REU would be very happy to carry on giving free access to UK producers.

One can make the same point about a diluted post-CAP situation. Suppose the UK had a modest tariff, one lower than the REU one, and offered the REU free access. Then the REU would gladly reciprocate because it would be like having a more modest customs union with the UK alone; not as good as the full one but

better than nothing. However correspondingly the UK would be worse off than full withdrawal.

What one notices in this customs union situation where one partner is, like the UK, a net importer, is that it does not pay this partner to remain in the union or furthermore to enter into any sort of diluted arrangement.

Hence it is important to realise that withdrawal from the customs union in food means precisely that: operating outside it, including facing the barriers of the union from the outside. (All that this means is that our food producers would obtain world prices, unless assisted, as discussed below; while our food consumers would pay only world prices.) In such circumstances the UK would be best off under unilateral free trade since that eliminates the burden on UK consumers. As for the losses suffered by UK farmers from withdrawal, these can cheaply be compensated via direct subsidy from the Treasury, as under the old 'deficiency payments' scheme. Such a transfer between UK citizens has a cost in terms of the excess burden of the taxation needed to pay for it; but this is a small cost relative to the large gain of repatriating the 0.5 per cent of GDP spent on the CAP of the EU.

### **Manufacturing**

While the cost to the UK of the customs union in food is well known, the same is not true of the customs union in manufacturing. No doubt when Britain joined the EU in the early 1970s the calculation of those in the Heath/Wilson governments that supported joining was that Britain was a great manufacturing nation which would benefit from the union by dint of being a major net exporter of manufactures. A union, though damaging to welfare in general relative to free trade, can be beneficial as we have seen in net terms to countries which are net exporters of the protected products.

Unfortunately for any such calculation, Britain has in the intervening period reduced massively the size of its manufacturing sector – a well-known trend, matched by a rise in its service sector. It is as a result a large net importer of manufactures.

At the same time the EU has proceeded to build up large protective barriers in manufacturing, responding to the demands of its manufacturing firms (such as Philips, Siemens and Renault, to



name but a few in a few subsectors). The method by which it has done so has partly been tariffs but mainly, as these have been reduced in a succession of world tariff rounds, through anti-dumping duties or the threat of them and by quotas. Suffice it to say that they appear collectively to raise manufacturing prices at the border (Free-on-board) level by some 30–80 per cent above world levels.

Because of the inroads of low-cost competition from emerging market countries, the EU too, like the UK, is a net importer of most manufacturing subsectors. Where it is not, there is less or no protection. In effect the EU protects against the subsectors where there is world competition threatening the EU home markets of older high-cost domestic producers – often these are consumer sectors, but they also include input sectors such as computer chips and computer parts generally.

The analysis of the customs union in manufacturing exactly follows that of the union in food. The only difference is in the size of the estimates. We find an approximate cost of 2–3 per cent of GDP; this is rather similar to the findings of a recent study by Scott C. Bradford and Robert Z. Lawrence for the Institute of International Economics in Washington (Bradford and Lawrence, 2004).

Again we obtain this gain precisely by withdrawing from the customs union with the implication that we face world prices and the union's barriers to our exports. Again it would make no sense for us to erect a barrier of our own and give the REU free preferential access; the REU meanwhile would not offer us free access since that would mean they were transferring to us and our producers a share of their GDP, for nothing in return.

However, it would be possible (and perhaps politically necessary) to compensate our manufacturing producers directly for the loss of the higher prices they now receive – the analogy with our farmers is complete. The difference is that whereas farming is an area of political sensitivity and farmers, partly encouraged by social policy, do not adjust easily to new circumstances, the same is not true of manufacturers; they can contract capacity and withdraw resources from these markets, allowing other sectors to expand. Hence were there to be taxpayer support direct to them it would logically be transitory, to cover them for a period of adjustment only.

## Services

Throughout the UK debate on the EU it has been implicitly assumed that somehow the UK would gain from the Single Market in services. We are after all large net exporters of services. It might therefore seem that we must benefit from a customs union in services where we are net exporters just as we lose from one in food and manufactures where we are net importers.

However there is little parallel between the arrangements in food and manufacturing on the one hand and services on the other. There is no EU customs union in the vast mass of service sectors. Instead there is a patchwork of national protectionism, with the UK having relatively free markets within it. The idea of the Single Market is to replace this patchwork with a free deregulated market across the EU; in principle this might be accompanied by some sort of barrier against non-EU service companies which could parallel the customs union in food and manufactures. However service markets within the EU are individually often penetrated by foreign (notably US) firms through FDI and other arrangements (especially in the UK which in practice has liberal access for US firms). Hence once there was EU-wide deregulation it would inevitably allow free access to foreign firms lodged in national markets which cannot be practically distinguished from their national counterparts, indeed in many cases have merged with them.

Moreover EU-wide deregulation would, independently of such penetration, unleash strong competition between a large swathe of European national firms. Such competition would be deliberately boosted by EU competition authorities whose aim would of course and rightly be to ensure that prices were pushed down to competitive levels. Indeed they would welcome any assistance in that regard from foreign competitors located in the EU.

Hence the prospects for services sectors would appear to consist of two main possibilities:

- a. The Single Market fails to make much progress at all in the face of strong producer vested interests in national markets; national protection thus remains as now.
- b. It is highly successful in the end and produces competitive price levels.

What of a third option where the EU established a customs union in services? Under this the Single Market would establish EU-wide regulative barriers which put EU-wide prices somewhere between the most liberal and the most restricted regimes currently in place – that is, typically somewhere between the restricted REU average and the current liberal UK regime. We find that such a service customs union would involve substantial transfers to the UK from the rest of the EU as UK service producers displaced REU home producers within the customs union. UK producers of services would receive higher than world prices, this amount on UK net exports being paid for by REU loss of tariff revenue. Such a transfer is unlikely to appeal to the REU majority within the EU's Council of Ministers. If protection is to fall, they would prefer it to fall without a customs union being formed.

Assessing the costs to the UK of these arrangements is rather easy in cases a) and b). Under both the UK's leaving would make no difference on the assumption the UK's regime is already liberal. Under a) the UK continues in its liberal regime if out just as when in; the REU too carry on as now. Under b) if the UK stays in it is part of a competitive market; but if it left it would also enjoy a competitive market – exactly the same situation for its consumers and producers. Thus contrary to the popular perception the UK faces no prospective gain from being within the EU Single Market in services; it would be as well off under free trade.

## 2.4 OVERALL EVALUATION OF THE UK COMMERCIAL INTEREST

What we have found can be put quite succinctly. The UK would gain from leaving the EU customs union in food and manufactures, to the tune of 2.5–3.5 per cent of GDP; it would also not lose from leaving the EU Single Market in services. In all cases if the UK left it would be on the basis of unilateral free trade. The reason for this is that it would not suit it to offer preference in food and manufactures, being a net importer of both; while it would not suit the REU to offer preference in services, being a net importer of these.

One can thus think of the overall EU commercial arrangements

as a package deal in which all parties agree, expecting to get some net benefit overall. Without the package as a whole such expectations are unlikely to occur; with it they may. However, for the UK at least this expectation is plainly disappointed; the package yields a substantial net cost. While the UK would like a sub-package consisting of a services customs union alone, such a sub-package is costly to the REU and not on offer. Thus it is in the UK's interests to abandon the whole package in favour of unilateral free trade.

The EU consists of many other things than this commercial package; and no doubt many accommodations can be reached on these non-commercial aspects for the simple reason that they do not involve serious amounts of money. They may be political agreements or to do with visas or mutual acceptance of nationals for work purposes or mutual recognition of property rights of other nationals; or a host of other detailed arrangements for mutual benefit of modest monetary proportions. However, the central agreements of the EU concern commercial arrangements of major monetary value. These, we conclude, are no longer in the UK's interests, on a fairly substantial scale. The UK should abandon them.

It is sometimes suggested (for example, the Cecchini report in the late 1980s for the EU on the Single Market) that there are gains from the Single Market – understood as the elimination of barriers to trade *within* the EU – because of economies of scale. Thus with common prices production could relocate to achieve maximum production runs. The argument applies only to manufacturing. Estimates of the gains to the EU from this process differ: as it is not clear how far existing operations are away from optimal-sized runs.

However, the UK's manufacturing sector has declined substantially as the UK has become a service-based economy. Furthermore, were the UK to enjoy free trade, the sector would decline very considerably further, indeed it would according to our estimates become largely extinct; so that this gain would disappear also. Thus the 'Cecchini dividend' only accrues to the UK if its economy is distorted by protection; it is of no consequence in an efficient UK economy. It does not therefore affect our comparison of the status quo economy (in which the dividend exists) with the free trade economy, because the difference takes the loss of dividend into account.

Our evaluation of gains and losses from UK participation in the

EU's trading arrangements including the Single Market suggests a substantial net loss compared with free trade.

## APPENDIX: MARKET ACCESS AND WELFARE ON LEAVING A CUSTOMS UNION

In popular discussion gains and losses in trade arrangements are often considered as to do with the extent of 'market access'. Thus it is assumed, for example, that it must be disastrous for a country to face a high trade barrier from the EU and therefore that this must be avoided at all costs.

However this is a misleading way to calculate trade gains and losses. Consider the situation of a trading country like the UK. It produces quantities of different goods and consumes certain quantities of them. Those goods of which it produces more than it consumes it exports the balance; those it consumes more than it produces it imports the balance. Two things concern us. The first is what are the (external) prices the UK faces for its exports and its imports: the 'terms of trade' is the ratio of the import prices to its export prices. Given the quantities available for export and required for import, the prices the UK gets and pays externally or internationally are crucial to its welfare.

The second matter of concern is the effect of available external prices and relevant trade barriers on the (internal) prices faced by UK producers and consumers and also the effects on the quantities produced and consumed by them. These quantities will affect the use of UK factors of production and, together with the prices charged, will affect the welfare of consumers and producers in the UK, and also government revenues.

With this information we can calculate UK welfare. Market access is merely one element in the determination of the prices the UK will face in international trade and internally.

Apply this now to the calculation of the effects of the UK withdrawing from the EU customs union in manufactures and adopting unilateral free trade. As we have seen the EU levies large external trade barriers on manufactures which raise its internal EU prices well above world prices. As the UK is a net importer of manufactures what happens is that EU exporters (within this trade wall) undercut other exporters within the UK market and thus all UK

imports will tend to come from the rest of the EU. Similarly its exports will tend to go to the EU where prices are above world markets.

As we have seen this situation is damaging to the UK compared with free trade for two reasons. The external prices for UK imports are higher; as the UK is a net importer of manufactures this more than offsets the higher prices it gets on its exports. The second reason is that internal UK prices are far above world prices causing a misallocation of resources in the UK; consumption is reduced and production is expanded, both inefficiently.

Therefore the UK is better off under free trade, outside the EU trade barrier. Notice this is so even though the EU does levy its full trade barrier against the UK now it is outside. What is happening is that the UK is selling its goods now on world markets at world prices; if perchance some of them go to the EU they only get world prices in the EU market, just as they would get anywhere else. As for imports the UK is getting them at world prices from the cheapest producers worldwide. The UK is better off because its prices for imports are lower and this lowering more than offsets the lower prices on its exports because it exports less than it imports. Also its consumption increases at these lower prices and its production falls, causing increases in the efficiency of the economy. But of course all this is happening while (indeed because) it is 'excluded' from the (high-price) EU market. It is not in fact excluded exactly. It can sell as much as it likes to the EU but it will now only get world prices; the EU will slap extra protective charges on it and so it will sell inside the EU at high EU prices. The point is that the UK is better off precisely because it is outside this restrictive arrangement, and even though it does not have 'free market access to the EU'.

People then are tempted to say: should we not be able *also* to have 'free market access' to the EU market? But this question stems from a misunderstanding of the economics of this situation. Were the EU to give the UK free entry into the protected EU market, this would enable our UK producers to obtain high EU prices for their exports to the EU – a premium over world prices. (In principle UK producers could switch all their sales into the EU to obtain these high prices. Yet EU producers could not obtain such prices within the UK.) Notice this premium would be a transfer from EU consumers to UK producers, who would be displacing EU

producers, previously receiving this transfer. Thus the EU would be transferring large amounts of money from EU producers to UK producers. Why should it do so when the UK has just withdrawn from the EU trading system (thus taking back the transfers the UK had been making to EU producers!)? Of course it would be a nice bonus for the UK to receive such access but it is hardly likely to please EU producers and therefore to obtain EU approval.

The important thing to realise is that the UK gains by moving to free trade even though this inevitably means that it will face the same trade barriers outside the EU as anyone else does. This comes about because of the effects on prices and quantities. It illustrates why market access is no guide to gains and losses from trade arrangements.