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Economic Policy: protectionism as an elite strategy[1]

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The EU has pursued protectionist policies not merely in food but also in manufacturing at the customs union level. In services it has not dismantled much of the existing national protectionism. The economic costs are calculated here at some 3% of GDP for the UK and some 4% for the rest of the EU --- or much larger under liberal planning assumptions. Added to its social interventionism, these costs suggest that the EU has put political integration before economic efficiency. This policymaking pattern suggests that European elites believe their position would be threatened by the domestic effects of world competition.

JEL: F13, F14

Keywords: protectionism, manufactures, anti-dumping, tariff equivalent, customs union, competition.

[1] We are grateful for helpful comments to David Collie, Michele Fratianni, Andrew Gamble, Max Haller, Kim Huynh and other participants at the Indiana University 2006 conference in Fratianni's honour and at the Cambridge CRASSH seminar.

What would we say if the EU instead of being an engine of ever-widening free markets became a mechanism by which those of its members who could not reform their economies forced on other hitherto free market members a programme of protection? In a recent analysis, Minford et al argued that this indeed was what the EU had become.[i] Their conclusion was that if Britain could not, with whatever free market allies it could find, divert this process back onto the original free market agenda of the EU, then it would be forced to leave or incur massive and increasing net costs of membership. They also found that where they could calculate them the net costs to EU citizens other than Britain's was roughly as high in percent of GDP as ours.

Protection is a word that refers primarily to trade. But at the heart of the political economy of the current `sick men of Europe' (Germany, France and Italy) lies the fear of unemployment; so protection also extends to the labour market and to the welfare system designed to buy off the unemployed. In the labour market this protection covers limits on hours (designed to share work around), strong powers for unions, minimum wages, high unemployment benefits of potentially indefinite duration, workers' councils designed to stop job cuts, and much else. Because this protection is not enough to stop firms closing factories, if they could not be controlled somehow by local politicians, it has led to protection against take-over by foreign firms. It is now usual to hear worries about `economic nationalism' breaking up the single market.

Labour and product market interference by these EU governments is now so well-known and so widely attacked by commentators and international bodies such as the OECD, the IMF and even the EU Commission, that we spend no space here discussing it further. The focus of this paper will be instead trade where the extent of EU protectionism has yet either to be appreciated or evaluated. Again, as agricultural trade and the CAP have been well crawled over, we concentrate on trade in manufactures and in services. For manufactures we have updated previous estimates for 2002 and a wider group of countries. Our aim is to produce some estimates of the extent of protection and to evaluate the welfare costs of it. We conclude with some broader comments on the general protectionist disease of the EU, how it might relate to the role of elites in Europe, and whether it can be cured.

Protectionism in manufactures

It is usually assumed that since the various GATT and WTO rounds have brought manufactured trade tariffs down across the world including the EU, EU protection is light in this sector. However, in the wake of retreating tariffs governments have been given wide discretion to reach agreements on trade quotas, to impose anti-dumping duties or to threaten them and negotiate pre-emptive price rises by importers. Furthermore, these processes reinforce the power of cartels to be established and to survive[ii]; thus what starts as temporary protection against `dumping' ends as the equivalent of a permanent tariff. Tariffs are transparent; but these measures are hard to monitor. While we know how many duties have been imposed and what trade agreements have been made, we cannot easily find out what pre-emptive measures have been taken, nor can we tell whether agreements which have notionally lapsed have done so effectively (especially if a cartel of producers has been implicitly allowed to perpetuate it, as noted above). Calculating the tariff-equivalent has to be done by looking at the price-raising effect of all the various interventions.

Fortunately there is data on prices now on a wide scale owing to the purchasing power parity calculations being done by international organisations. A pioneering study by Bradford of the price differentials between major OECD countries and their least cost OECD supplier suggested that the EU was substantially more protectionist in impact than the USA even though the latter has resorted to a similar number of anti-dumping duties.[iii] Averaging across the EU countries studied (Germany, Netherlands, Belgium and the UK) Bradford's figures, which are adjusted for distribution margins, tax and transport costs, are 40% tariff-equivalent for the EU against 16% for the US. These percentages are not much

different if one looks at 1999 instead of his original 1993.
We have updated these figures to 2002 and extended the comparison more widely now that OECD membership has risen to include Korea in particular; we also cover all EU countries and have made an attempt to update the figures relative to China. The figures for the EU weighted average against lowest-cost non-EU trade partners are somewhat lower in 2002; the US, followed by Korea, is the lowest price alternatives --- the appendix gives details. For the EU as a whole the 2002 figure comes out at 21%, against 30-40% on the narrower basis for the 1990s. For the US, which has also embraced policies of non-tariff protection, the 2002 figure is 6.5%, against middle double digit percentages in the 1990s.
If one attempts to include China, possible in a crude way for 2002, the implied protection estimates become much larger: 68% for the EU and 48% for the US. These numbers should be treated cautiously because we do not have prices in separate commodity categories for China and indeed China as yet does not produce for export a whole range of advanced products competing with western countries. The estimates rely on the manufacturing wage cost comparisons made by the US Bureau of Labour Statistics (which estimates Chinese manufacturing wage costs per hour at 7% of Korea's); we also assume that unskilled labour represents 30% of total costs, a percentage deliberately put on the low, cautious side. Nevertheless even these crude estimates indicate just how China's products are being kept at bay by various means, at least in finished form. Even as protection may be coming down on the products of the more developed emerging market countries such as Korea, we can see that it is rising in response to the penetration of Chinese products.

	1990	1996	1999
Belgium	42	65	42
Germany	39	60	29
Italy	38	36	21
Netherlands	42	58	41
UK	41	41	50
US	16	14	15

Note: Data are expenditure-weighted average ratios of imputed producer prices to the landed prices of goods from the country with the lowest level of price in the sample.
Source:[iv]

Table 1: Estimates of tariff-equivalents on manufactured goods due to all trade barriers (%)

Protectionism in 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. Some survey-based measures of the extent of protectionism across countries and industries are presented in the tables below.
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:
1) 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.
2) It is highly successful in the end and produces competitive price levels.

The aim of the EU Commission (the latest services directive, currently being blocked by France and Germany) appears to be to move steadily towards the second by the progressive dismantling of national service barriers.
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 --- i.e. 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) and those between them. Under both of them 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.
On the other hand it is plain that other EU countries would gain considerably from the reduction of national protection of services since this would usher in competitive prices for consumers and either a rise of efficiency in service production or a displacement of resources out of services into other areas of greater productivity.

	1978	1988	1998
UK	4.3	3.5	1.0
REU	5.4	5.1	3.4
US	4.0	2.5	1.4
Australia	4.5	4.2	1.6
Canada	4.2	2.8	2.4
Japan	5.2	3.9	2.9
Switzerland	4.5	4.5	3.9

Note: Simple averages of indicators for seven industries --- gas, electricity, post, telecoms, air transport, railways and road freight. Depending on the industry the following dimensions have been included: barriers to entry, public ownership, market structure, vertical integration, price controls. For the Rest of the EU, simple averages of individual EU countries.

Source: [v]

Table 2: Survey indicators of service barriers (Scale 0-6 from least to most restrictive)

The Cost of EU Protection

In this section we use these estimates of protection to estimate their welfare implications for the UK and for the EU. For this, we use a CGE world model built by Minford et al. to generate estimates of changes in trade that result from this protection.[vi] We calculate from these changes the welfare effects in the normal manner: these consist of the terms of trade gains/losses of real income, the customs union transfers effected through trade-diversion of ROW sourcing to customs union partners, and the consumer surplus lost through higher internal prices.

We decided to use for our central estimates the usual calculations of consumer surplus, measured in equivalent income variation, but applied to the general equilibrium results of our 4-bloc world trade CGE model. For this purpose we disregarded all effects of increased output and income, solely counting the substitution effects of protection; the reason for this is the standard one that income effects are compensated or compensatable, whereas the substitution effects cause costs via misallocation. Such a standard calculation is illustrated in the well-known diagram of Figure customs union, where the supply and demand curves can be considered as the result of substitution effects in general equilibrium.

We did also consider a calculation using the CGE model alone as the basis and allowing full effects on all industries and land/labour use. We discuss this later.

The calculations fall into three parts for any given trade policy change:

1) The transfer effect of customs union protection whereby one partner pays more than the world price for imports from another partner.
2) The resource misallocation effect whereby output and demand is switched between sectors -- this is the usual `triangle' of lost consumer surplus. For this we use only the substitution effects predicted by the model.
3) The terms of trade effect whereby the changes brought about by the policy change in net world supplies alters world prices. For this calculation we use the full changes predicted by the model.

We look at the net gains/losses to the UK and to the EU from two basic sets of policy changes:

1) If the UK withdraws from the EU trade arrangements in favour of unilateral free trade.
2) If the EU also moves to unilateral free trade.

We are interested in knowing whether it would pay the UK and EU for the UK to withdraw from the EU's trade arrangements; and whether it would pay the EU to liberalise its trade arrangements. In all our calculations we take the status quo, existing trade arrangements, as the benchmark.

What we find is that it would indeed pay the EU to move to unilateral free trade in goods and services; the gain for the rest of the EU (REU) would be a substantial a few percent of REU GDP and for the UK much

the same --- these figures become greatly magnified to middle double digit percentages if one assumes liberal planning laws allowing land to be diverted from farming to service and non-traded industries. However, if we assume that because of the power of existing institutions and vested interests, the EU does not change from its existing protective set-up, then we find that the UK would still gain similar percentage of GDP from withdrawing alone to unilateral free trade, while there would be some essentially trivial loss to the REU.

In these two estimates resides a dilemma for UK policy: does it stay within the EU and fight on in the hope of EU trade liberalisation from which it would derive the same benefits as from unilateral free trade and without the trauma of leaving the EU or does it leave in the expectation of the same gains but more certainly and immediately? There is also an interesting choice for the rest of the EU: does it benefit its citizens generally by going to free trade or does it accept that this is impossible because of the way that EU politics is conducted? If it assumes this impossibility, then should it welcome the departure (at rather small cost) of a UK that is fundamentally at odds with it over both the costs of the trade arrangements and the moves to a more federal politics? We return to these policy issues in the conclusion.

We now consider each product category in turn and go through the detail of the figures.

Agriculture

According to Bradford whose tariff-equivalent estimates we follow for all goods trade, EU agricultural protection is on average 36 percent.[vii] The model, as we have implemented it, prevents agricultural land from responding to price change, in line with planning and CAP restrictions on planting. Also consumer spending on food is assumed to be highly inelastic. Hence we observe no effects on the terms of trade as net trade volumes are essentially unaffected. Thus the cost of the CAP consists purely of the transfer cost to the UK which is an equal gain of course to the rest of EU.

As UK net imports of food are some 0.8% of GDP this is 0.3% of UK GDP and 0.06% of EU GDP.

Other studies mostly allow for more trade volume effects; certainly our assumption stretches plausibility as undoubtedly farming interests have had ways of achieving acreage increases which must surely be partially reversed by a 26 percent (36/136) fall in prices. However, because agriculture is a very small part of GDP -- less than 1 percent in the UK -- even adding in more volume effects does not change the size of the estimate unduly as a fraction of GDP.

Basic manufacturing

Bradford's estimate here is of a 16% average tariff-equivalent; our latest estimates for 2002, without China are similar at 20%.[viii] Against China the figure exceeds 100% but at this stage of our research is unwilling to put too much weight on this figure. So we have stayed with Bradford's estimate. The spread of tariff-equivalents across products is very high. But the reason the average is low is that many of these products (such as textiles) have been subject to competition from cheap-labour sources for so long that the domestic industries in the West have largely disappeared as their capital has depreciated; the vested interests pushing for protection have accordingly little power.

Here the UK is twice as big a net importer as it is of food, at 1.7% of GDP. The model's estimated trade effect of the UK eliminating this tariff is that it would effectively eliminate this industry's production (14.4% of GDP). There would be no terms of trade effect however, given the small size of this effect in terms of the world market. Thus UK withdrawal would save the customs union transfer effect of 0.3% of GDP $(= 1.7 \times 0.16)$, which is worth 0.06% of GDP to the rest of EU; and also the consumer surplus burden of 1.1% of GDP $(= 14.4 \times 0.16 \times 0.5)$ -- a total saving of 1.4%.

Were the EU to liberalise, then its net exports would contract by 13.7% of GDP against the current GDP share of basic manufacturing at 17.6%. This is large in terms of the world market and induces a rise in world prices of basic manufactures by 4 percent. Since both the UK and the REU would be, after liberalisation, large net importers of these, the terms of trade cost would be 0.6% of GDP for the UK and 0.5% of GDP for the REU. However the consumer surplus gain to the REU would be 1.1% of GDP as for

the UK. For the REU liberalisation would thus bring a net gain of 0.5% of GDP $(= 1.1 - 0.5 - 0.06)$. For the UK the gain would be less than going to free trade on its own: because of the terms of trade effect, it would fall to 0.8% of GDP.

High-tech manufacturing

Bradford's estimate of protection for high-tech manufacturing (which includes the large transport equipment industry as well as electronics, both of them areas where emerging market countries in the far east and elsewhere have made recent penetration) is 58 percent.[ix] On the updated 2002 figures the figure we obtain is lower at 22% if we exclude China and higher at 77% using China as the comparable world price. Here we rely somewhat on the Chinese estimates since they are across a broad range of products and so again leave Bradford's estimate unchanged for the welfare calculations. The model estimate of the trade effect of the UK withdrawing from this protection is the effective elimination of the UK's existing modest-sized industry, currently 3.6% of GDP; of course with the decline of such industries as cars and computing equipment this has already contracted greatly. The consumer surplus gain to the UK from withdrawal would thus be 1.1% of GDP $(= 3.6 \times 0.58 \times 0.5)$. The UK would also gain from not paying the customs union transfer on its net imports for the REU; these net imports run at 0.8% of GDP hence the transfer is 0.5 percent (0.58×0.8). Therefore the total gain for the UK from leaving the customs union in high-tech manufactures would be 1.6% of GDP. For the REU the cost would be the loss of the UK's transfer, worth 0.1% of REU GDP.

For the REU high-tech manufacture output constitutes 7.9% of GDP, and net exports 1.5%. Plainly certain of these industries have strong comparative advantage and require no protection while others are weak and under attack from emerging market competition. This latter portion, the model indicates, would be wiped out by the elimination of the protection; we have no good figures for what this portion is but we assume it to be the existing industry minus net exports (6.3% of GDP). Thus the REU would make a consumer surplus gain of 1.8% of GDP $(6.3 \times 0.58 \times 0.5)$. However, it would lose the 0.1% customs union transfer it gets from the UK. Furthermore, the model suggests (after allowing for the capping of the output effect at 6.3% of GDP) that the prices of high-tech manufactures would rise by 4.2% as REU supplies were withdrawn from world markets. Since both the REU and the UK would have become net importers after liberalisation (the REU to the tune of 4.8%, the UK 4.4%, of GDP) the terms of trade cost would be 0.2% of GDP for both the REU and the UK. Thus for the REU the total net gain of moving to free trade would be 1.5% of GDP $(= 1.8 - 0.2 - 0.1)$.

Services

In this area our estimates of protection are particularly uncertain. The various pieces of evidence we looked at on service trade suggest that it is quite a lot higher in the REU than in the UK. This is supported by the net export figures. The UK's net exports are 3.4% of GDP and 12.4% of service production, suggesting that a large part of the industry must be competing on world markets and hence with no protection. The REU has a rough trade balance.

Available studies, though largely qualitative, suggest that REU protection is rather high --- we put it at 30 percent which seems to be in line with these estimates.[xxixii] On the other hand, given its very large rate of net exports, UK prices are likely to be driven by competition to supply world markets down to world price levels; thus we assume that protection in the UK is effectively nil, we also assume that the protection is carried out by states and not at the EU level; there has been very little penetration of common standards across the EU in services. In consequence the EU is assumed to have no customs union in services, with free trade inside the union; each country instead has the same barriers against all other countries including those in the REU.

Under these assumptions it is easy enough to work out the effect of the UK withdrawing from the EU

protective system. Since the EU has only state-level protection and the UK is assumed to have no protection in the first place, the effect is simply nil. (Were we to have assumed that the UK had some protection in place, we would have found an additional gain from higher consumer surplus, as this protection was eliminated. However of course eliminating protection that is not due to the EU does not require withdrawal from the EU; so again we would not attribute this gain to `withdrawal from the EU's protective system' as there is no such system in place.)

For the REU matters are different. Reducing each country's protection of 30 percent on services would theoretically reduce output of services substantially; according to the model were the REU to do this service output (20% of GDP) would fall to zero. However we must recall the assumption here that this policy is applied on its own; this is highly unlikely given that traded services are where most rich countries now think the future lies for their new industrial activity. Given this assumption however the estimate is not unreasonable, with internal prices falling by 23 percent (30/130) on this traded activity. On this assumption, the gain in consumer surplus is 2.3% of GDP $(= 20 \times 0.23 \times 0.5)$. However the prices of services would rise on world markets by 6% according to the model; with net imports now of 20% of GDP, the REU would lose 1.2% on the terms of trade, making its total gain 1.3% of GDP. The UK as a net exporter would gain 0.2% of GDP (3.4×0.06).

Gains and losses from separate acts of policy compared with the status quo

We can now use these calculations to draw up a table of gains and losses were the UK to withdraw from various parts of the EU's trade arrangements (see Table 3).

	UK	REU
Agriculture	+0.3	−0.06
Basic manufacturing	+1.4	−0.06
Hi-tech manufacturing	+1.6	−0.1
Traded services	–	–
Total	+3.3	−0.22

Table 3: Net gains to the UK and to the REU if the UK withdraws from status quo trade arrangements and adopts unilateral free trade (% of GDP)

This table is relevant to the decision of the UK to withdraw or not from individual parts of the trade treaties. We note that the UK has a strong incentive to withdraw. For the REU the UK's withdrawal creates marginally negative effects.

We can also ask whether the UK and REU have any incentive to liberalise EU markets and move to free trade, with the UK remaining a member of these common arrangements. For this we create Table 4 of net gains and losses for the UK and the REU, comparing a post-liberalisation situation with the assumed benchmark.

	UK	REU	REU *
Agriculture	+0.3	-0.03	--
Basic manufacturing	+0.8	+0.54	+0.6
Hi-tech manufacturing	+1.4	+1.5	+1.6
Traded services	+0.2	+1.3	+1.3
Total	+2.7	+3.3	+3.5

* REU if UK has already gone to free trade; this is column 2 plus transfer effects (these are already eliminated by UK liberalisation)

Table 4: Net gains to the UK and to the REU if the EU replaces status quo trade arrangements with unilateral free trade (% of GDP)

Here we can see that there is a strong incentive on welfare grounds for the REU to liberalise.

Examining policies as a group

Notice however that if we want to know what the sum total is of doing all these things together we have to re-examine the estimates under that precise assumption. In practice UK withdrawal would occur across all the areas of trade; to leave one area would probably not be negotiable. Essentially you must `leave or not leave'; having left, certain treaty areas might be restorable under a completely new relationship.

As for EU liberalisation it is difficult to know in what stages it might proceed. Currently service liberalisation is actively proceeding under the new services directives, though plainly progress differs greatly between industries. But there is no activity at all in the area of manufacturing; no official discussions yet entertain the possibility of dropping anti-dumping actions and of breaking down cartels in order to allow free entry at world prices by low-cost emerging market producers. Nor in agriculture is any change in CAP protection rates actively on the agenda. Hence in evaluating the possible gains of reform in the REU we assume two stages: first, a liberalisation of services, and second, a possible liberalisation of agriculture and manufacturing.

Thus in this section we examine the above policies as packages of reforms, substituting the full CGE model estimates coming from their joint implementation. To calculate these we have taken the CGE model's total predictions of sectoral change with the complete packages.

We now discuss more fully the meaning of this full CGE model simulation. It is carried out on the assumption that the market for land is like the markets for skilled and for unskilled labour: it has a price that sets supply of land (assumed to emerge from a process of owner supply as moderated by the planning process) equal to demand. Thus for example as agricultural protection falls the price of land falls with it, reducing the use of land overall; there is also a switching of land use from agriculture into services and nontraded industry.

The gain of welfare to the UK here is dramatically larger at 17 percent (this amount is not greatly affected by whether the REU simultaneously liberalises or not). What is going on is that with agricultural prices at home greatly lowered by the elimination of the CAP tariffs, land prices drop substantially (26%) as demand for land in agriculture contracts sharply, and land is switched into traded services and non-traded activity (with the implicit permission of the planning authorities). These latter two sectors are therefore able to expand considerably --- services by 35%, non-traded by 15%. Notice that both agricultural output and manufacturing fall by about a quarter. One may legitimately have doubts about the political feasibility of this solution, which is why we do not use it as our central estimate. However it does indicate that, in the presence of some planning flexibility, the central estimate we have used, based on partial substitution effects only, could be a significant underestimate --- how much so depending naturally on the extent of such planning flexibility.

	UK	REU	REU *
Sum of partial effects	+2.7%	+3.3%	+3.5%
CGE full estimate	+17%	+14%^	+14.2%

* REU if UK has already liberalised ^ does not include liberalisation of services

Table 5: UK and the REU simultaneously move to free trade

In this case of the EU as a whole, liberalising services alone in the first step we have not attempted to assess using our CGE model. The reason is that the outcome depends on a complex of factors, not merely the drop in general external protection but also the role of inward investment in services, reconstituting local suppliers with the help of external expertise. An example would be the effect of the liberalisation of airlines on airline provision by continental European airlines; this has resulted in a steep drop in prices but also a surge in domestic operators, drawing on the experience of low-cost airlines from outside the European continent such as Easyjet. Thus, based on such an example, one might expect liberalisation to strengthen local service providers through competition and expand the market. Our CGE model assumes that competition already exists, albeit at high prices, and that the industry's structure is given; both assumptions are unlikely to hold.

With the liberalisation of services EU protection then becomes identical with that of the UK, consisting entirely of the EU's external tariff-equivalents. We can now assess the effects of removing protection in an orthodox way. Thus turning to the liberalisation of trade in the EU the effects are naturally highly similar to those in the UK as is the rise in welfare at 14% (or 14.2% if the UK has already liberalised by leaving.) Again we find that there is the same large drop in land prices and a switch of land use into services (up by 35%) and non-traded industries (up by 10%). Politically, as in the UK, this raises questions of realism, in particular with planning consent. Planning is a highly complex phenomenon in the REU, differing both across countries and across regions within countries. On the other hand, given the huge pressures to create employment under the REU conditions of generally high unemployment, the popular pressure might be greater for liberalisation. The essential point we make here is not that the full simulation should be believed but that it reminds us that the central case calculation based on partial substitution effects alone is a minimum which could be added to depending on the extent of land liberalisation.

Assessing the overall economic costs and benefits of UK membership of the EU

In this final section we briefly consider the broader economic costs and benefits of membership of the EU. We do it from the UK's viewpoint because we have the relevant data for it. However, the argument can be generalised to other EU members with suitable data. There is every reason to believe that the EU as a whole is being damaged in particular by excessive social intervention, which has caused both unemployment and slow growth. In considering the economics of the EU, we interpret the thrust of future EU policy in the light of recent policy actions by the EU (for example the decision by France and Germany to scrap reform of the CAP) and of the general thrust (in favour of protectionism and social rights) of proposed new policies, such as those recently envisaged in the draft constitution and its successor the Lisbon Treaty.

Using the Liverpool Model of the UK economy we have examined what might be the effects of the social policies, which amount to the reversal of the reforms brought in by the UK government from 1979. On the assumption of rather moderate changes (a minimum wage raised to 50% of male median wages, union power restored to mid-1980s levels, social cost rises worth 20% of current wages), the model predicts that they would raise unemployment by 5.7% --- that is 1.8 million --- and cost 6.4% in reduced output. It could of course be either more or less depending on just how extensively this harmonisation

was pursued; but the draft constitution indicates clearly enough that what we have seen so far --- including the working time directive, the social chapter and the works council directives --- is just a beginning.

A further (`bail-out') cost comes from potentially insolvent state pensions on the continent. Extensive estimates were made of these pension deficits in an OECD study in the middle 1990s. Recent attempts to recompute these prospects suggest little change.[xiii] If we take these 1995 OECD projections as illustrative at least, the deficits projected are: for Germany 10% of GDP by 2030; for Italy about the same; and for France a little bit less. Add up these deficits as a percentage of UK GDP, which is of similar size to each of these countries, and you come to some 30 percent. If the UK were to pay a quarter of that, for example via some federal system of burden-sharing, then the bill would be some 7% of GDP. Again, like harmonisation, the extent of this is rather uncertain; it could be a lot more or a lot less, depending on both the extent of reforms undertaken by these countries and the extent to which the progress of federalism enables burden-sharing between countries. But this is certainly a burden the UK does not want to risk sharing, at even a modest level.

When one asks what the countervailing benefits are, one finds that they are hard to identify on the economic side. The Cecchini Report claimed that there would be large benefits in greater specialisation and exploitation of scale economies because of the Single Market: the logic was that lower barriers within the EU would encourage a better adjustment to market forces.[xiv] The evidence has not supported gains on the scale predicted by Cecchini; our CGE model by construction does not impute scale economies but it does include any gains (the majority according to studies of UK Cecchini-style effects) from greater competition within the Single Market, whatever in practice they may have been. Free trade with the whole world (facing whatever unilateral barriers each country chose to levy) would permit the UK to exploit the same processes but in a way consonant with its comparative advantage. The gains we have identified from leaving the EU relate to the UK's exploitation of its true comparative advantage in services essentially; most studies agreed that in services scale economies are unlikely.

The NIESR claimed that there are gains of foreign direct investment (FDI) from membership of the EU.[xv] FDI is related to technology transfer and where it occurs depends on the structure of the economy. As we have seen above, that structure changes dramatically if the UK leaves the EU. Whether FDI as a method of technology transfer is as needed when the economic structure shifts to its true comparative advantage, we simply do not know. But if it is, it will occur equally in the new structure. The essential point concerns whether the economy's technology is at its maximum in the new structure as compared with the old: given that all industries will be competing on a level with the best in the world, the pressure at least will be maximal. But of course we have no real way of measuring this matter in practice. Thus to summarise, the NIESR rightly observed that in the old structure there was a high FDI level, much of it in manufacturing; and it conjectured that there would be less FDI outside the EU and concluded that this would reduce productivity. However, as our argument indicates, this conclusion is a non-sequitur: less could occur because the technology level in the new structure is higher, in which case productivity too would still be higher.

European Elites and their role in protectionism

This paper has focused on the costs and benefits of EU policies to its citizens and to those of the UK in particular. However elites only care about these things if their own interests are aligned with them. It is a well-known result in political economy that minorities with much to lose generate much bigger pressure on governing elites because they are able to command substantial votes and cash budgets, than do ordinary citizens who each individually have little to lose, even if their total loss dominates that of the minorities by a large margin.[xvi] That is the situation here. Protection brings big gains to small groups such as the protected industries, and widespread costs across the citizenry that are relatively small for each. The situation is often aggravated by ignorance on the part of the general citizenry; indeed that ignorance

is individually rational since the costs of acquiring technical knowledge will greatly exceed the possible gains, especially net of the organisational efforts required to deploy it. Again that is true here; ignorance about the true costs of protection is general and indeed the use of non-transparent methods (such as anti-dumping and industry agreements) to produce protection aggravates the problem of discovery.

The problem of getting support for reform is further aggravated by the existence of short-term costs during the transition to the long-term improvement in industrial allocation. Existing industries that cannot compete long term must contract causing unemployment, while the new industries that will take their place may take time to grow and absorb the unemployed. There is a substantial net gain when these two are balanced off but this net gain is not easily seen, and requires popular education. Again, this is hard to achieve in the face of minorities that will vociferously argue that there is a net loss.

Inside a nation the political process can produce mechanisms to get around these problems. Think-tanks can explain problems and mobilise support for solutions, acting as middlemen between the technical issues and the public and politicians. Sometimes a coalition can be built around a reform policy that raises general living standards while causing damage to particular groups; the latter can in these policies be sufficiently compensated out of general taxation that they are willing to go along with the reforms or at least not to obstruct them. However this process is much more difficult at the EU level because while the EU has certain powers --- e.g. to set commercial policy --- it does not have others --- such as taxation --- that can be used to compensate losers. (True, it has some regional and social funds but these are tightly allocated to other uses than such ad hoc compensation.) Thus for example liberalising trade policies that cause national losers in certain industries are impossible for the EU to pursue without enlisting national support for those policies- which will in practice mean nations raising taxes to compensate the losers.

As it happens the current EU Commission is in favour of liberalisation of trade, as well as the deregulation of services. However it has proved powerless to get such policies enacted. They have been effectively vetoed by the nations whose principal industries would be damaged --- even if their citizens would benefit from the reforms by more in total. The same nations have been equally unable to reform domestic institutions to reduce unemployment for example. It is therefore no mystery in political economy why we observe the national elites in the EU finding protection to be in their interest.

Nor is it easy to see how the situation can be changed. One possibility would be to give the EU power to raise extra taxes ad hoc. But this would clearly be resisted by many member nations, if not all. Another possibility is to spread popular education in these issues more widely around EU citizens. Better information about the trade-offs would then begin to influence debates on domestic reform; these in turn could enable support to form for liberalisation at the EU level, with necessary compensation at the national level.

It is easier therefore to understand what is wrong than it is to see ways for solutions to be advanced with any speed. At best the EU seems condemned to suffer poor policies for a long time to come, with reforms arriving glacially if at all.

A final word about the attitude of the UK elite to the EU: in the face of considerable evidence that the UK would be better off under free trade and accompanying free market policies outside the EU why is there no agenda on the part of any of the three major UK political parties to leave the EU? Again the answer can be given in terms of the powerful groups ranged against such action --- both agricultural and manufacturing industry lobbies are strongly against it for obvious reasons, while the general citizenry is ignorant of the economic case. (There is a debate about political aspects of EU membership focusing on sovereignty; but UK public opinion is ambivalent on this.) The elites of none of the major UK parties show much willingness to engage against these lobbies, or indeed to press for much in the way of further free market reform within the EU. It is as if there is policy exhaustion after the massive reforms of the 1980s and 1990s.

Conclusions

In this paper we have attempted to estimate the costs, both to the UK and the Rest of the EU (REU), of the EU's protectionist trade policies in agriculture, manufacturing and services. Contrary to the popular impression that the EU is a mechanism for creating a `competitive single market', it turns out that the EU is levying costs in wasted resources of the order of 3% of GDP (or under favourable planning assumptions a large multiple of this) by protecting its industries from world competition. These costs apply to UK and REU citizens more or less alike and on a similar scale. The economic damage created by the EU does not however stop there: because of the widespread welfare lobbies within member countries on the continent, the majority coalition within the EU has pressed for social protection and spending to be `harmonised' at a fairly high level. It also faces a prospective pensions crisis, in the sense that it cannot be assumed necessary cuts in pensions promises or rises in the taxes to pay for them will be politically feasible. Thus those member states whose pension plans are affordable and whose social regulations are the least burdensome on business, face the prospect of a potentially severe burden from the pensions problems elsewhere in the EU and from the pressure of harmonisation. We have been able to quantify this potential cost for the UK; but it is also a real threat to many other members, such as those recently joining from the east.

We have discussed briefly how it is that European elites would find it in their interests to perpetuate this protectionist situation. Under the EU institutions minority groups have considerable power and incentive to block change and exercise this through their own national governments, as well as at the EU level. The EU commission has no tax resources with which it could buy them off in the interests of EU citizens in general; it relies on its member nations to do this since they have the taxation powers but even if one nation might to get enough support to do so, reform requires that many must have a pro-reform political consensus. Hence the prospects for change are dim in the short term. In the longer term they might very slowly improve if either the EU could raise its own resources for such ad hoc needs or there were a general move at the national level towards reform.

APPENDIX

Bradford presented new measures of final goods trade protections in eight developed countries.[xvii] He argued that the barriers to arbitrage between countries are barriers to trade. To measure the trade barriers, one needs to allow for unavoidable costs associated with shipping goods between countries. Once this is done, if there is a price gap for equivalent goods in two different countries, then the higher-price market is protected. To measure the protection barriers, one needs to use the factory prices of the good, not the retail prices. These factory/producer prices show which industries in which countries are most efficient.

DATA

The data is collected by the OECD in order to calculate purchasing-power parity (PPP) estimates. We use the basic-heading price data published for the year 2002. All prices were converted to U.S. dollars. The margins are calculated using the data from the latest national input-output tables, published for the year 2000. Given the list of prices of the goods and services in the OECD PPP data, we have to find the equivalent margins from the national input-output tables, but the two lists are not identical, so we have to find the best match by aggregating different products and services. For example, in the PPP list there are separate categories for engines and turbines, pumps and compressors, other general purpose machinery etc.; we aggregate them all to get the equivalent of manufacture of machinery except electrical in the input-output tables.

CALCULATING PROTECTION LEVELS

Bradford said that the price data obtained for the OECD countries are consumer prices, not producer

prices that one needs to measure how much an industry is insulated from the world markets.[xviii] He proposed to convert these consumer prices to producer prices using data on distribution margins, which include wholesale trade, retail trade and transportation costs. The method involves 3 steps.
First, given the consumer prices, one produces estimates of producer prices by peeling off the ad valorem margin, which is defined as the ratio of the value of output in consumer prices to the value of output in producer prices:

$$p_{ij}^{p} = \frac{p_{ij}^{c}}{1 + m_{ij}}$$

where
p_{ij}^{p} = producer price of good i in country j,
p_{ij}^{c} = consumer price of good i in country j, as taken from the OECD data,
m_{ij} = margin for good i in country j, as taken from the national input-output table.
Second, to insulate the market from foreign competition requires to take account of transport cost from one nation's market to another. The world price is derived using data on export margin and international transport cost. The idea is that to be sold in the domestic market, a foreign good must travel from the foreign factory to the foreign border and then to the domestic border. Bradford stated that the domestic producer price must be compared with the landed price of the foreign good (world price).[xix] Adding the export margins to the producer prices generates the export price for each good in each country,

$$p_{ij}^{e} = p_{ij}^{p}(1 + em_{ij}),$$

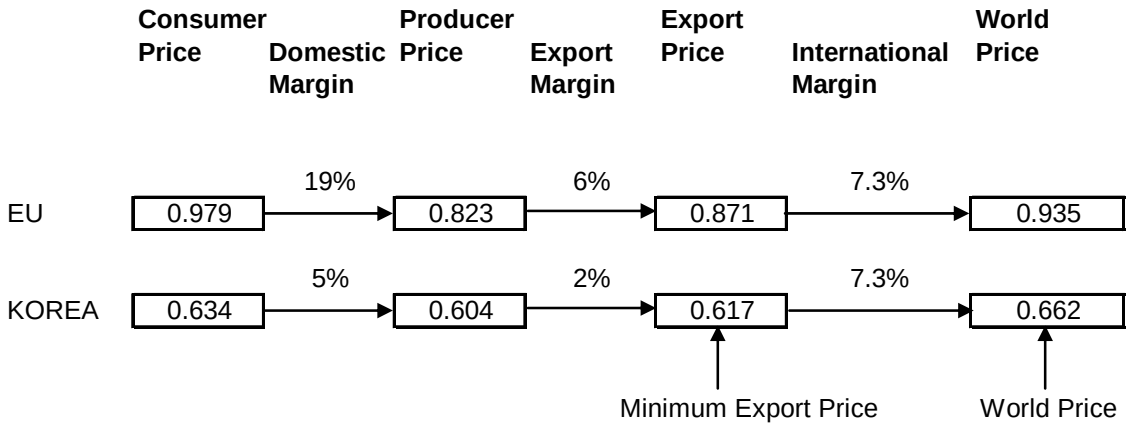
where
p_{ij}^{e} = export price of good i for country j,
em_{ij} = export margin of good i for country j.
The world price is found by adding the international transport cost to the lowest export price in the sample:

$$p_{i}^{w} = p_{iM}(1 + tm_{i}),$$

where
p_{i}^{w} = world price of good i,
$p_{iM} = \min(p_{i1}^{e}, \ldots, p_{in}^{e})$, the minimum of all export prices,
tm_{i} = the international transport margin for good i.
Finally, the ratio of each country's producer price to the world price indicates a preliminary measure of protection, ppr_{ij}

$$ppr_{ij} = \frac{p_{ij}^{p}}{p_{i}^{w}}.$$

Example: this example illustrates the above calculation procedure for the manufacture of cars and other road equipments in two countries.



To find the world price in the manufacture of cars and other road equipment across the countries, firstly for each country we turn the consumer price into producer price by dividing the consumer price by the domestic margin plus one, secondly recognising that goods must travel and be transported from one country to another, we use the export margin to calculate the export price of the goods (multiplying the producer price by the export margin plus one) and see which country has the lowest export price in the category, this price is then used in combination with the international transport margin to derive the world price of this manufacturing category. The protection measure of each country is then just the ratio of that country's producer price over the world price. In the example the protection measure for the manufacture of cars and other road equipments in the EU Area is $\frac{0.823}{0.662} = 1.243$ or 24.3% of protection We apply the above calculation into the manufacture sectors to compare the competitiveness between the EU Area, Korea and the USA. We report all the steps.

	AUT	BEL	FIN	FRA	GER	IRL	ITA	NLD	PRT	SPA	DK	SWE	UK	KOR	US	EU
Textiles	1.22	0.96	0.62	0.71	0.79	0.87	0.67	1.09	0.4	0.62	0.78	0.68	1.07	0.57	1	0.81
Printing, publishing and allied industries	1.03	1.03	0.83	1.54	0.66	0.97	1	1.08	0.95	0.93	0.86	0.82	0.78	0.95	1	0.97
Machinery except electrical	1.27	1.3	1.31	1.48	1.32	1.39	1.22	1.25	1.23	1.2	1.45	1.35	1.41	1.04	1	1.33
Electrical machinery apparatus, appliances and supplies	1.2	1.21	1.33	1.31	1.34	1.39	1.04	1.33	1.38	1.14	1.34	1.02	1.3	1.25	1	1.25
Medical, precision and optical instruments, watches and clocks	1.08	0.93	1.16	1.24	1.15	1.19	1.26	0.94	2.47	1.08	0.99	1.12	1.18	1.04	1	1.17
Transport equipment*	1	0.92	1.18	0.99	0.96	1.12	0.87	0.98	1.04	0.89	1.39	0.95	1.02	0.65	1	0.97
Furniture and other	1.39	1.33	1.33	1.55	1.6	1.36	1.55	1.33	1.46	1.18	1.05	1.21	1.47	0.6	1	1.47

*excluding Aircraft, helicopters, hovercraft and other aeronautical equipment due to unclear data; Food, Beverages and Tobacco is excluded from the calculation because we do not have the necessary data for New Zealand who is known as the most efficient producer of processed food.

Table 6: PPP's

	AUT	BEL	FIN	FRA	GER	IRL	ITA	NLD	PRT	SPA	DK	SWE	UK	KOR	US	EU
Textiles	1.54	1.19	1.59	1.26	1.45	1.24	1.23	1.28	1.19	1.28	1.41	1.55	1.48	1.31	1.38	1.36
Printing, publishing and allied industries	1.27	1.10	1.33	1.37	1.16	1.05	1.42	0.96	1.22	1.23	1.20	1.17	1.26	1.19	1.12	1.24
Machinery except electrical	1.21	1.21	1.11	1.18	1.14	1.05	1.16	1.24	1.25	1.18	1.30	1.02	1.17	1.07	1.28	1.17
Electrical machinery apparatus, appliances and supplies	1.13	1.17	1.09	1.15	1.13	1.04	1.17	0.88	1.16	1.15	1.22	1.09	1.27	1.07	1.29	1.15
Medical, precision and optical instruments, watches and clocks	1.44	1.22	1.22	1.22	1.27	1.03	1.27	1.52	1.34	1.24	1.29	1.19	1.21	1.17	1.19	1.26
Transport equipment*	1.18	1.15	1.45	1.15	1.10	1.37	1.25	1.33	1.27	1.13	1.60	1.15	1.21	1.05	1.20	1.19
Furniture and other	1.47	1.21	1.67	1.56	1.58	1.85	1.51	1.16	1.50	1.41	1.35	1.51	1.79	1.21	1.84	1.54

Source: National Input-Output tables; Domestic Margin is identified as the ratio of the total use at purchasers' prices in the use table and the total use at basic prices in the input-output table.

Table 7: Domestic Margins

	AUT	BEL	FIN	FRA	GER	IRL	ITA	NLD	PRT	SPA	DK	SWE	UK	KOR	US	EU
Textiles	0.80	0.81	0.39	0.56	0.55	0.70	0.54	0.85	0.33	0.48	0.56	0.44	0.72	0.44	0.72	0.60
Printing, publishing and allied industries	0.81	0.93	0.62	1.13	0.57	0.93	0.70	1.13	0.78	0.75	0.72	0.70	0.62	0.79	0.89	0.78
Machinery except electrical	1.05	1.08	1.18	1.25	1.16	1.33	1.04	1.01	0.98	1.02	1.11	1.32	1.21	0.98	0.78	1.14
Electrical machinery apparatus, appliances and supplies	1.06	1.04	1.23	1.14	1.18	1.33	0.88	1.51	1.19	0.98	1.11	0.93	1.02	1.17	0.78	1.09
Medical, precision and optical instruments, watches and clocks	0.75	0.76	0.95	1.01	0.90	1.16	1.00	0.62	1.84	0.87	0.77	0.94	0.98	0.89	0.84	0.93
Transport equipment*	0.85	0.80	0.81	0.86	0.88	0.82	0.70	0.74	0.81	0.79	0.86	0.82	0.84	0.61	0.83	0.82
Furniture and other	0.95	1.10	0.80	1.00	1.01	0.73	1.03	1.15	0.97	0.83	0.78	0.80	0.82	0.50	0.54	0.95

Producer price = PPP/Domestic Margin; Weighted by GDP

Table 8: Producer Prices

	AUT	BEL	FIN	FRA	GER	IRL	ITA	NLD	PRT	SPA	DK	SWE	UK	KOR	US	EU
Textiles	1.09	1.07	1.05	1.03	1.06	1.00	1.10	0.98	1.00	1.15	1.12	1.03	1.15	1.06	1.07	1.07
Printing, publishing and allied industries	1.04	1.06	0.82	1.06	1.02	1.00	1.10	0.83	1.00	1.17	1.03	1.01	1.12	1.06	1.05	1.05
Machinery except electrical	1.09	1.12	0.97	1.07	1.06	1.00	1.04	1.12	1.00	1.09	1.10	1.11	1.08	1.05	1.07	1.07
Electrical machinery apparatus, appliances and supplies	1.02	1.08	0.83	1.06	1.05	1.00	1.04	0.92	1.00	1.07	1.12	1.03	1.14	1.03	1.05	1.05
Medical, precision and optical instruments, watches and clocks	1.11	1.10	1.01	1.08	1.08	1.00	1.04	1.55	1.00	1.06	1.21	1.08	1.11	1.11	1.10	1.10
Transport equipment*	1.01	1.06	1.02	1.02	1.02	1.00	1.08	1.38	1.00	1.04	1.14	1.06	1.04	1.02	1.06	1.06
Furniture and other	1.06	1.08	1.04	1.12	1.06	1.01	1.10	1.05	1.00	1.07	1.07	1.09	1.10	1.10	1.08	1.08

Source: National Input-Output and Use tables; The export margins are available from national input-output tables-
the difference between exports at purchasers' prices in the use table and exports at basic prices by product in the input-output table;
The EU export margins are used for the US due to unreliable values obtained by using the available data .

Table 9: Export Margins

	AUT	BEL	FIN	FRA	GER	IRL	ITA	NLD	PRT	SPA	DK	SWE	UK	KOR	US	EU
Textiles	0.87	0.87	0.41	0.58	0.58	0.7	0.6	0.83	0.33	0.55	0.62	0.45	0.83	0.46	0.78	0.64
Printing, publishing and allied industries	0.84	0.99	0.51	1.2	0.59	0.93	0.77	0.94	0.78	0.88	0.75	0.71	0.69	0.84	0.94	0.82
Machinery except electrical	1.14	1.21	1.15	1.35	1.23	1.33	1.09	1.13	0.98	1.12	1.22	1.47	1.31	1.03	0.84	1.22
Electrical machinery apparatus, appliances and supplies	1.09	1.12	1.02	1.21	1.24	1.33	0.92	1.39	1.19	1.06	1.24	0.96	1.16	1.21	0.82	1.15
Medical, precision and optical instruments, watches and clocks	0.83	0.84	0.96	1.09	0.97	1.16	1.03	0.96	1.84	0.92	0.93	1.01	1.09	0.99	0.92	1.03
Transport equipment*	0.86	0.84	0.83	0.88	0.89	0.82	0.75	1.02	0.81	0.82	0.98	0.88	0.88	0.63	0.88	0.86
Furniture and other	1.01	1.19	0.82	1.11	1.07	0.74	1.14	1.2	0.97	0.89	0.83	0.87	0.91	0.55	0.59	1.03

Export Price = Producer Price * Export Margin

Table 10: Export Prices

	AUT	BEL	FIN	FRA	GER	IRL	ITA	NLD	PRT	SPA	DK	SWE	UK	KOR	US	EU
Textiles	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Printing, publishing and allied industries	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Machinery except electrical	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Electrical machinery apparatus, appliances and supplies	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Medical, precision and optical instruments, watches and clocks	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Transport equipment*	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Furniture and other	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13

Source: Transport Margin =US cif value of imports /US fob value of imports; The cif values are in the input-output table clearly, but the fob values are in the customs value/international merchadise data; The US transport margin is used as the internattional transport margin for all countries, where the transport margins in the four equipment manufacturing sectors is the average of international transport margins of machinery except electrical, electrical machinery and transport equipment sectors.

Table 11: Transport Margins

	AUT	BEL	FIN	FRA	GER	IRL	ITA	NLD	PRT	SPA	DK	SWE	UK	KOR	US	EU
Textiles	1.00	1.00	0.47	0.67	0.67	0.81	0.69	0.96	0.39	0.64	0.72	0.52	0.95	0.53+	0.90	0.74
Printing, publishing and allied industries	1.01	1.18	0.61	1.44	0.70	1.12	0.92	1.12	0.94	1.06	0.89	0.85	0.83	1.01	1.12	0.98+
Machinery except electrical	1.22	1.30	1.23	1.45	1.32	1.43	1.17	1.21	1.05	1.20	1.31	1.58	1.41	1.10	0.90+	1.31
Electrical machinery apparatus, appliances and supplies	1.17	1.21	1.09	1.30	1.33	1.43	0.99	1.49	1.28	1.14	1.33	1.04	1.25	1.30	0.88+	1.23
Medical, precision and optical instruments, watches and clocks	0.89	0.90	1.03	1.17	1.04	1.24	1.11	1.03	1.98	0.99	1.00	1.08	1.17	1.06	0.99+	1.10
Transport equipment*	0.92	0.90	0.89	0.94	0.96	0.88	0.81	1.09	0.87	0.88	1.05	0.94	0.95	0.89+	0.94	0.93
Furniture and other	1.14	1.35	0.93	1.26	1.21	0.84	1.29	1.36	1.10	1.01	0.94	0.99	1.02	0.62+	0.66	1.17

Producer Price after taking off all the Margins=Export Price∗International Transport Margin; World Price

Table 12: World Prices

	US	EU
Textiles	1.36	1.12
Printing, publishing and allied industries	1.00	1.00
Machinery except electrical	1.00	1.27
Electrical machinery apparatus, appliances and supplies	1.00	1.24
Medical, precision and optical instruments, watches and clocks	1.00	1.00
Transport equipment*	1.23	1.22
Furniture and other	1.00	1.54
Weighted	1.07	1.21

Protection =Domestic Producer Price / World Price

Table 13: Weighted average protection rates for the EU and the US

[i]Minford, P., V. Mahambare and E. Nowell (2005) *Should Britain leave the EU? An Economic Analysis of a Troubled Relationship*, Edward Elgar, London.

[ii]Messerlin, P. (1990) 'Anti-dumping regulations or pro-cartel law? The EC Chemical cases', *The World Economy*, 13(4), December 1990, pp 465-492.

[iii]Bradford S. C. (2003), `Paying the Price: Final Goods Protection in OECD Countries', *Review of Economics and Statistics*, **85**(1), pp. 24--37.

[iv]Bradford. S. and R. Z. Lawrence (2004), *Has Globalization Gone Far Enough? The Costs of Fragmented Markets*, Institute for International Economics, Washington D. C.

[v]Nicoletti, G. and S. Scarpetta (2001), `Interactions between Product and Labour Market Regulations: Do they Affect Employment? Evidence from OECD Countries', Paper presented at the Banco de Portugal Conference on `Labour Market Institutions and Economic Outcomes', 3--4 June, Cascais.

[vi]Minford, P., V. Mahambare and E. Nowell (ibid.)

[vii]Bradford S. C. (ibid.)

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