Chapter 5

The essential economics of preferential liberalization

Chapter Contents

Introduction

This chapter begins our study of the microeconomics of European integration, focusing on the preferential (i.e. discriminatory) aspects. This is critical since discrimination (the nicer word is preferential) is the heart and soul of European economic integration. Over the past six decades, Europe has liberalized trade and factor markets – but not with everyone. By 1968, EU members charged zero tariffs on all imports from one another, while imposing significant tariffs on imports from the USA, Canada and Japan. Likewise, the Single Market Programme instituted the principle of mutual recognition of product standards on a discriminatory basis. In principle, goods made and sold in one EU nation could be sold in all EU nations, but this privilege did not extend to goods made in third nations. Discriminatory effects also played a central role in the political economy of European integration – especially the domino effects discussed in Chapter 1.

The main goal of this chapter is to provide a framework for analysing the essential economics of preferential liberalization. As usual, we start simple and add complexity as we go. For simplicity's sake, we continue with the previous chapter's simplifying assumptions of no imperfect competition and no increasing returns (NICNIR). While these assumptions are both monumentally unrealistic, they are pedagogically convenient. They allow us to study the main economic logic of discriminatory liberalization without having to invest a lot of time in learning new tools (that is postponed until the next chapter).

5.1 Analysis of unilateral discriminatory liberalization

The simplest form of preferential liberalization is a unilateral preferential liberalization, so we turn to this first. Specifically, this section looks at what happens when a nation removes its tariff on imports from only one of its trading partners. We postpone consideration of changes in partner tariffs until the next section. This two-step approach is useful for two distinct reasons:

1 While European economic integration almost always involves two-way integration (e.g. France and Germany lowered their tariffs against each other's exports at the same time during the 1960s), the analysis of a two-way (i.e. reciprocal) liberalization is basically an easy extension of the analysis of a one-way (i.e. unilateral) liberalization.

2 The EU extends unilateral preferences to almost every developing nation in the world; the analysis in this section is directly applicable to EU programmes such as 'Everything but Arms' (which removes tariffs and quotas on imports from the world's poorest nations) and the Generalized System of Preferences. (More on these in Chapter 12.)

5.1.1 The basic logic in words: Vinerian insights

Before turning to diagrams – which may strike some readers as complex – it is worth presenting the basic economic logic in words. This helps boost intuition for the diagrams. It may also be sufficient for readers in a hurry.

There are only three elemental effects we really need to understand in relation to preferential liberalization:

1 The first general point, namely, 'Smith's certitude', was made by Adam Smith in his famous book, *The Wealth of Nations*.

The economic logic behind Smith's certitude is straightforward and easily illustrated with an example of a world where firms from two nations – call them Partner and Rest-of-World (RoW) – are competing in a third nation – call it Home. Without preferences, Home charges the same tariff on imports from Partner and RoW. Now suppose Home unilaterally removes tariffs on imports from Partner but not from RoW. The fruits of this reduced import tax will – as usual with tax removals – be shared between consumers and producers. Home consumers will see lower prices and Partner exporters will see higher prices. The higher border price for Partner firms induces them to sell more to Home. Plainly, this is good for Partner – its firms sell more and obtain a higher price. In short, Smith's certitude stems from the fact that Partner firms enjoy a rise in both prices and sales to Home.

2 The second elemental effect was identified when Gottfried Haberler (1937) asserted that third nations – those excluded from the preferences – must lose; this is 'Haberler's spillover'.

Haberler's spillover can be illustrated with the same simple case. To remain competitive in the Home market while still paying the tariff, RoW firms must accept a lower pre-tariff price for their exports since their post-tariff price must match the competition's price. This pushes them down their export supply curve so RoW exports fall. Thus Haberler's spillover shows up as RoW exports suffer a drop in both prices and sales to Home. Or, to put it differently, what is preference to Partner (Smith's certitude) is discrimination to RoW (Haberler's spillover).

As we shall see in the next sections, Smith's certitude and Haberler's spillover are the linchpins of the political economy of the traditional view of regionalism.

**3** The third elemental effect is called Viner's ambiguity.

Jacob Viner (1950) demonstrated that preferential liberalization might harm the preference-giving nation; this is 'Viner's ambiguity'. Viner, who was blissfully ignorant of post-war mathematical economics, couched his argument in the enduring but imprecise concepts of 'trade diversion' and 'trade creation'. The basic economics nevertheless is clear from his terms.

Discriminatory liberalization is both 'liberalization' – which removes some price wedges and thus tends to improve economic efficiency and Home welfare – and 'discrimination' – which introduces new price wedges and thus tends to harm efficiency and welfare. Viner associated the liberalization part with 'trade creation' and the discriminatory part with 'trade diversion'. It is not possible to say a priori whether the sum of these effects is positive or negative, that is, its sign is ambiguous.

5.1.2 The RTA (regional trade arrangement) diagram

To get a deeper and clearer understanding of the economics of preferential liberalization, it is necessary to turn to diagrams. The diagrams, unfortunately, are more complex than those in the previous chapter for one simple reason – we need a minimum of three nations in the analysis (Home, Partner and RoW). Our first task is to extend the workhorse $MD–MS$ diagram from Chapter 4 to allow for two sources of imports. Figure 5.1 shows how.

Figure 5.1 The RTA diagram
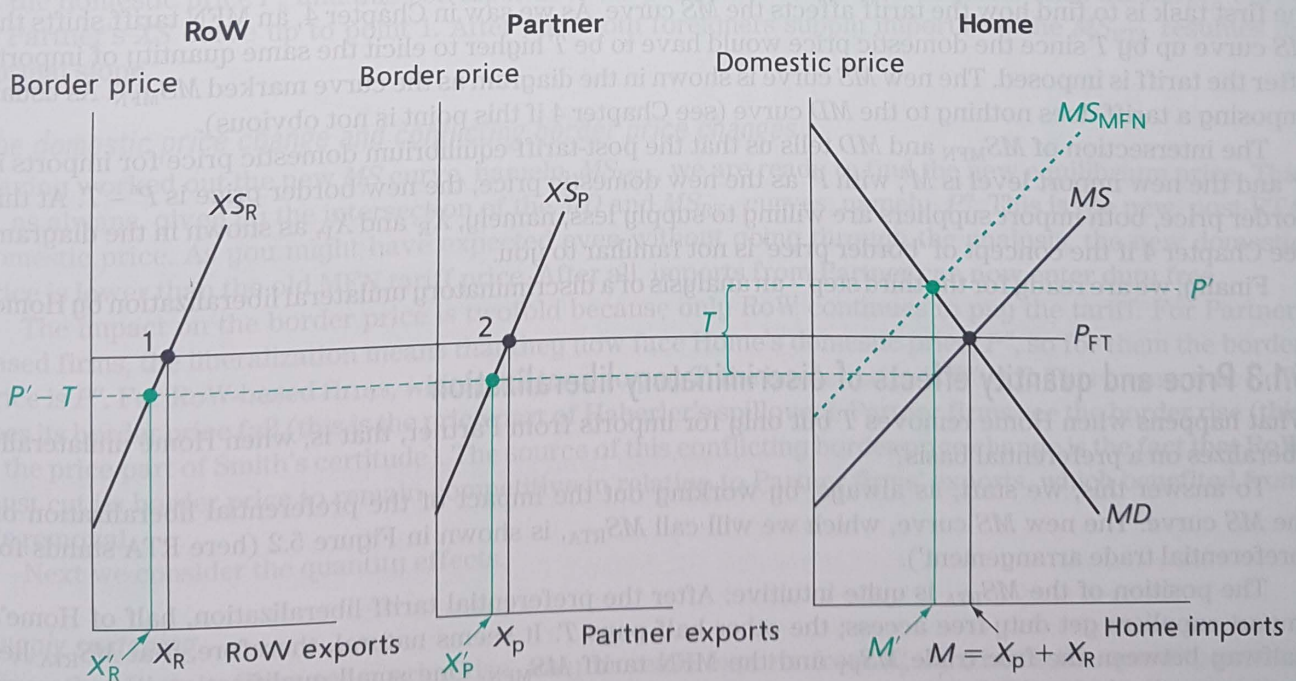
Note: Readers who find the diagrams in this section somewhat involved may benefit from the step-by-step explanations available in the interactive PowerPoint presentation on the Online Learning Centre.

Before starting, we note that the theory of preferential liberalization is often taught using an additional simplifying factor called the 'small economy' assumption. While this simplifies the analysis of Viner's ambiguity from the perspective of the Home country, it also assumes away the critical impact that preferential liberalization has on other nations (Smith's certitude and Haberler's spillover). Interested readers can find this case in the Annex at the end of the chapter.

Free trade equilibrium

We open our study of the RTA diagram by working out the free trade equilibrium. That is to say, we want to identify the equilibrium price and quantities when no tariff is imposed by Home. To find the free trade price, we need to find the intersection between the MD curve and the MS curve, as in Chapter 4. But what is the MS curve with two trade partners?

The two leftmost panels of Figure 5.1 show the export supply curves for two individual countries, which we call Partner and RoW. (To minimize complications, we assume that Partner and RoW are identical, so their XS curves are identical.) Because there are two suppliers of imports, we must aggregate them in the standard microeconomics way, namely, by forming the horizontal sum of the two export supply curves. This summed curve is shown as MS in the right-hand panel. Note that the MS curve is flatter than XS_P or XS_R since a given price increase will raise supply from both Partner and RoW.

With the MS curve in hand, we see that the free trade equilibrium price is P_{FT} (as before, FT stands for 'free trade'), that is, the point at which MS and MD intersect. The corresponding level of imports is M, as shown. As we shall be interested in changes to the imports coming from Partner and RoW, we identify the initial free imports. We do this by using each supplier's XS curve to see how much would be offered at the price P_{FT}. The answers are given by points 1 and 2 in the diagram, namely, X_R and X_P (the subscripts R and P stand for RoW and Partner, respectively).

MFN tariff with two import suppliers

Working out the free trade equilibrium was just the first step. Next we have to see what would happen to prices and quantities if Home applied a non-discriminatory tariff (i.e. an MFN tariff as described in Chapter 4). The reason we do this is to be able to have a baseline for comparison when we study – in the third step – what happens when Home removes the tariff but only on imports coming from Partner.

What happens when Home imposes a tariff equal to T on imports coming from both nations? As always, the first task is to find how the tariff affects the MS curve. As we saw in Chapter 4, an MFN tariff shifts the MS curve up by T since the domestic price would have to be T higher to elicit the same quantity of imports after the tariff is imposed. The new MS curve is shown in the diagram as the curve marked MS_{MFN}. As usual, imposing a tariff does nothing to the MD curve (see Chapter 4 if this point is not obvious).

The intersection of MS_{MFN} and MD tells us that the post-tariff equilibrium domestic price for imports is P' and the new import level is M'; with P' as the new domestic price, the new border price is $P' - T$. At this border price, both import suppliers are willing to supply less, namely, $X_{R'}$ and X_P, as shown in the diagram. See Chapter 4 if the concept of 'border price' is not familiar to you.

Finally, we are ready for the third step – an analysis of a discriminatory unilateral liberalization by Home.

## 5.1.3 Price and quantity effects of discriminatory liberalization

What happens when Home removes T but only for imports from Partner, that is, when Home unilaterally liberalizes on a preferential basis?

To answer this, we start, as always, by working out the impact of the preferential liberalization on the MS curve. The new MS curve, which we will call MS_{RTA}, is shown in Figure 5.2 (here RTA stands for 'preferential trade arrangement').

The position of the MS_{RTA} is quite intuitive. After the preferential tariff liberalization, half of Home's import suppliers get duty-free access; the other half pays T. It seems natural, therefore, that MS_{RTA} lies halfway between the free trade MS_{FT} and the MFN tariff MS_{MFN}. One small qualification is necessary, however; considering this helps us see how MS_{RTA} is constructed.

The tariff prevents RoW firms from exporting until the domestic price in Home rises above the price marked P_a in Figure 5.2. When Home's domestic price is below P_a, the border price faced by RoW exports

Figure 5.2 Price and quantity effects of unilateral, discriminatory tariff liberalization
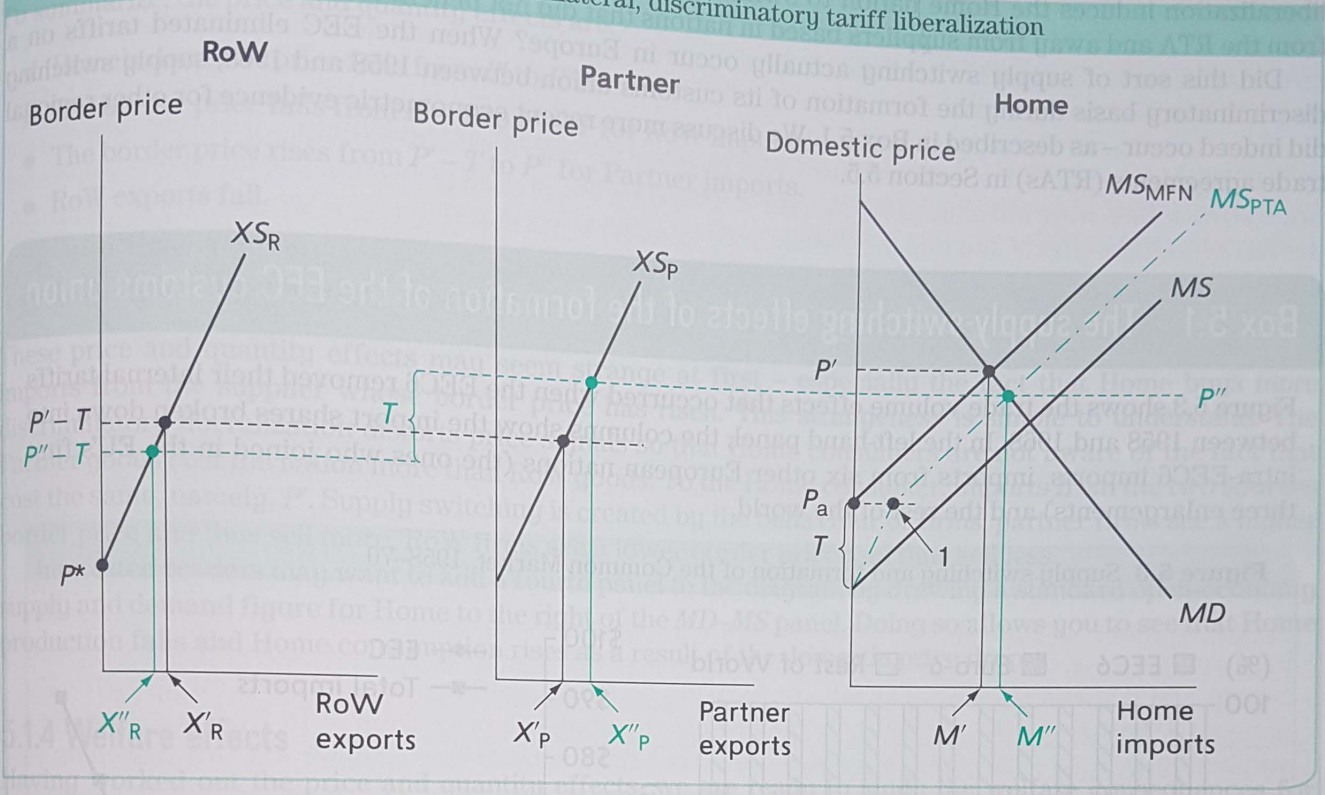
is below their zero-supply price (marked as P^* in the diagram). Partner-based firms, by contrast, would export when Home's domestic price is slightly below P_a since they face Home's domestic price (not the Home price minus the tariff). As a consequence, Partner firms – but only Partner firms – will supply imports at the domestic price P_a and this corresponds to the point marked 1 in the diagram. Thus the MS_{RTA} curve is Partner's XS curve up to point 1. After that, both foreigners supply imports, so the MS_{RTA} resumes its normal slope.

The domestic price change and conflicting border price changes

Having worked out the new MS curve, namely, MS_{RTA}, we are ready to find the new equilibrium price. This is, as always, given by the intersection of the MD and MS_{RTA} curves, namely, P''. This is the new, post-RTA domestic price. As you might have expected even without going through the analysis, the new domestic price is lower than the old MFN tariff price. After all, imports from Partner can now enter duty free.

The impact on the border price is twofold because only RoW continues to pay the tariff. For Partner-based firms, the liberalization means that they now face Home's domestic price, P'', so for them the border price is P''. For RoW-based firms, which still have to pay T, the border price is $P'' - T$. This means that RoW sees its border price fall (this is the price-part of Haberler's spillover). Partner firms see the border rise (this is the price-part of Smith's certitude). The source of this conflicting border price change is the fact that RoW must cut its border price to remain competitive in relation to Partner firms' exports, which benefited from T's removal.

Next we consider the quantity effects.

Supply switching

Given that Partner firms see a price rise, they increase exports from X'_p X''_p (this is the quantity-part of Smith's certitude). RoW exports fall from X'_R X''_R because their border price has fallen (this is the quantity-part of Haberler's spillover). This combination of higher Partner sales and lower RoW sales is known as 'supply switching' or 'trade diversion'. Defining it directly, supply switching occurs when a discriminatory

liberalization induces the Home nation to switch some of its purchases to import suppliers who benefit from the RTA and away from suppliers based in nations that did not benefit from the RTA.

Did this sort of supply switching actually occur in Europe? When the EEC eliminated tariffs on a discriminatory basis during the formation of its customs union between 1958 and 1968, supply switching did indeed occur – as described in Box 5.1. We discuss more recent econometric evidence for other regional trade agreements (RTAs) in Section 5.5.

Box 5.1   The supply-switching effects of the formation of the EEC customs union

Figure 5.3 shows the trade volume effects that occurred when the EEC6 removed their internal tariffs between 1958 and 1968. In the left-hand panel, the columns show the import shares broken down into intra-EEC6 imports, imports from six other European nations (the ones who joined in the EU's first three enlargements) and the rest of the world.

Figure 5.3 Supply switching and formation of the Common Market, 1958–70
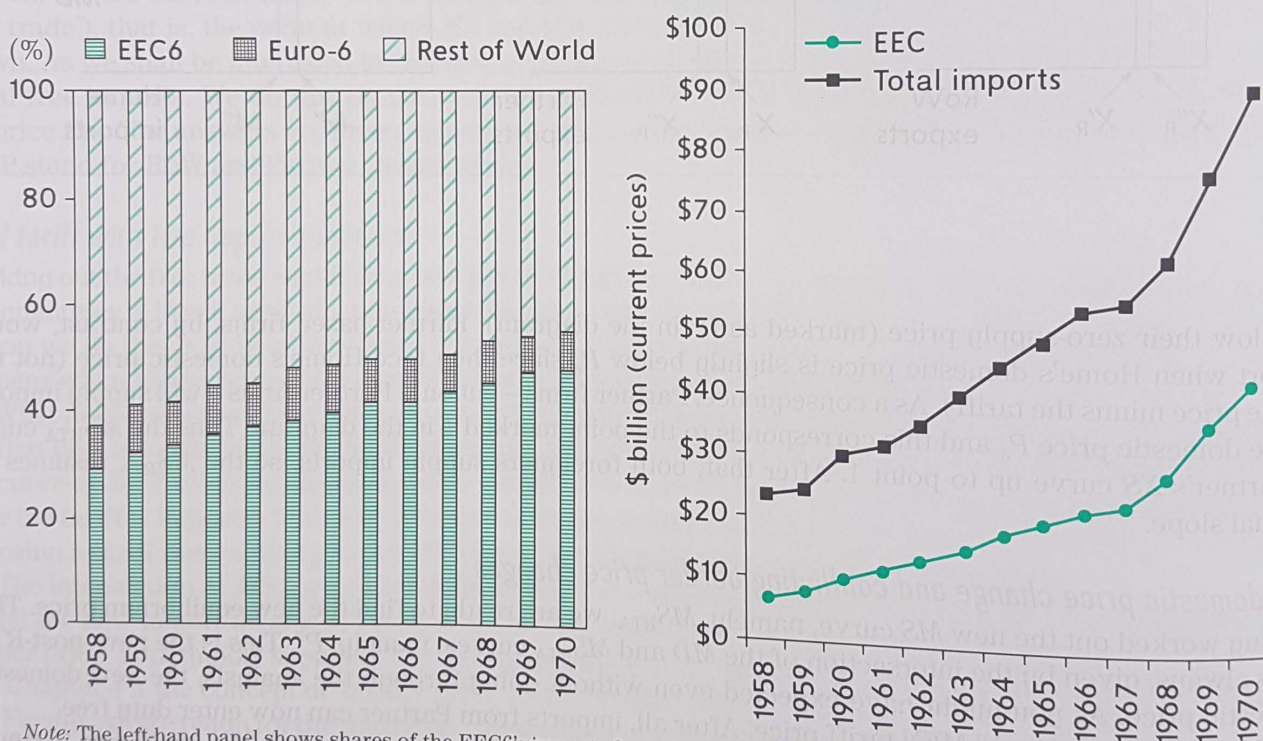
Note: The left-hand panel shows shares of the EEC6's imports from the three regions. The 'Euro-6' are the six countries that had joined the EU by the mid-1980s: the UK, Ireland, Denmark, Spain, Portugal and Greece.

Source: Based on data from http://epp.eurostat.ec.europa.eu/portal/page/portal/international_trade/introduction.

Note that, as the EEC6 share of exports to itself rose from about 30 per cent in 1958 to about 45 per cent in 1968, the share of EEC imports from other nations had to fall. Part of the displacement occurred with respect to imports from other non-EEC European nations. As the dark bars show, the import share from six other western European nations (the UK, Ireland, Portugal, Spain, Denmark and Greece) fell during this period by a small amount, from 8–9 per cent to 7 per cent. The main displacement came from the rest of the world, mainly imports from the USA. The right-hand panel, however, shows that imports from all sources were in fact growing rapidly. Thus we have to interpret the 'supply switching' as a relative thing. That is, if the customs union had not been formed, imports from non-EEC6 members would have risen even faster.

Summary: price and quantity effects

To summarize, the price and quantity effects are:

- Home's domestic price falls from P' to P''.
- The border price falls from $P' - T$ to $P'' - T$ for RoW imports.
- The border price rises from $P' - T$ to P'' for Partner imports.
- RoW exports fall.
- Partner exports rise.
- Total Home imports rise from M' to M''.

These price and quantity effects may seem strange at first – especially the fact that Home buys more imports from the supplier whose border price has risen. This strangeness is simple to understand. The discriminatory liberalization distorts price signals so that Home consumers are not aware of the fact that Partner goods cost the nation more than RoW goods. To the Home consumer, imports from the two sources cost the same, namely, P'. Supply switching is created by the behaviour of firms: partner firms see a higher border price and thus sell more; RoW firms see a lower border price and thus sell less.

Interested readers may want to add a fourth panel to the diagram by drawing a standard open-economy supply and demand figure for Home to the right of the MD–MS panel. Doing so allows you to see that Home production falls and Home consumption rises as a result of the domestic price drop.

5.1.4 Welfare effects

Having worked out the price and quantity effects, we are ready to study the welfare consequences for Home, Partner and RoW. As it turns out, showing the welfare implications in the same figure as the price and quantity effects would complicate the diagram too much. Thus Figure 5.4 reproduces the previous figure but omits unnecessary lines to reduce the 'clutter factor'. As we saw in Chapter 4, all welfare effects stem from price and quantity changes, so these are all that we really need to keep track of.

**Figure 5.4 Welfare effects of unilateral discriminatory liberalization**
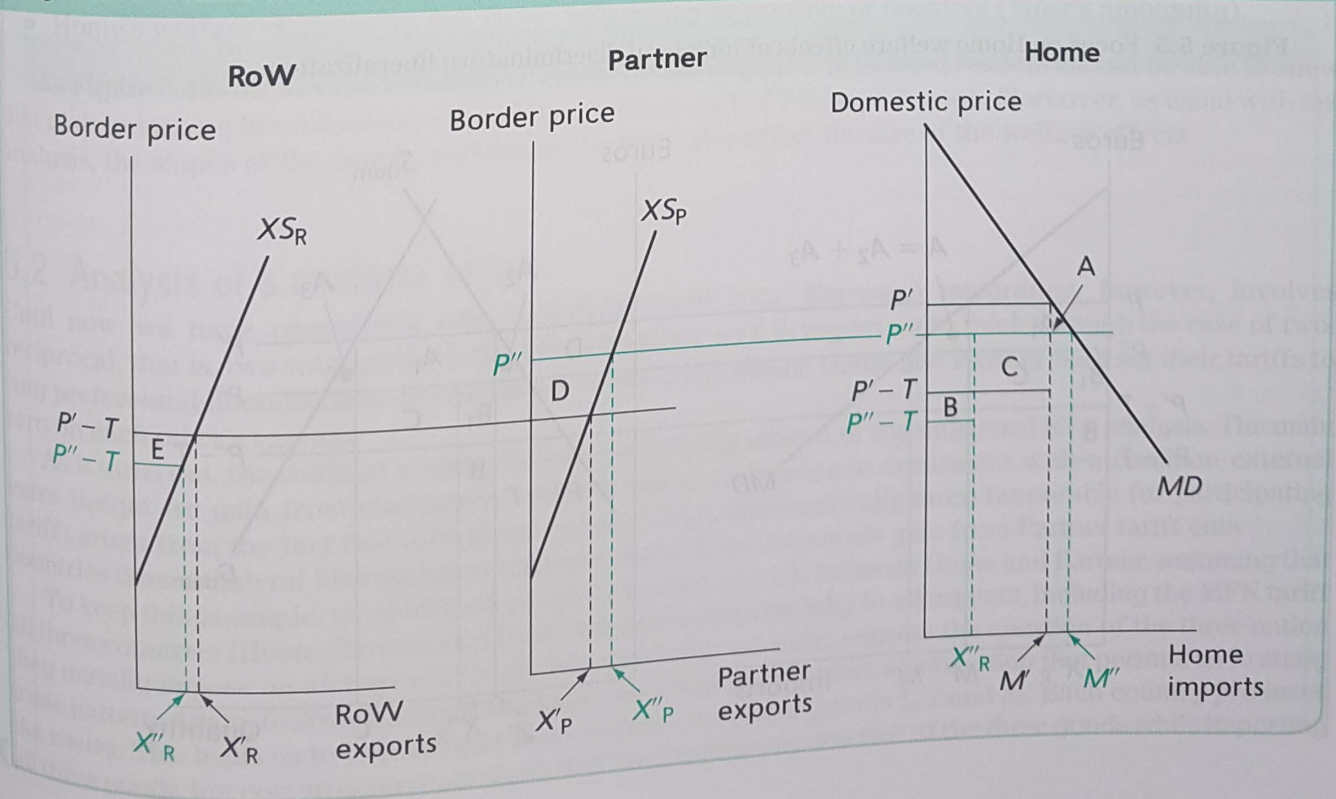
The welfare effects on foreigners are straightforward. Partner gains D since it gets a higher price and sells more. In other words, Partner experiences a positive border price effect and a positive trade volume effect (see Chapter 4 if you are not familiar with these terms). RoW's losses are E for the reverse reasons; it gets a lower price and sells less (a negative border price effect and a negative trade volume effect).

Home's welfare effects are slightly more complex due to the conflicting border price changes. The direct way of gauging Home's net welfare effect is to use the concepts of 'trade volume effects' and 'border price effects' that were introduced in Chapter 4. This direct approach is also the easiest way to remember the Home welfare effects and it is the easiest way to understand them, so this is what we do in Figure 5.4. Some readers, however, may benefit from working through the welfare impact using the indirect method of adding up the separate impacts on consumer surplus, producer surplus and tariff revenue (see Box 5.2). The two methods lead to the same answer.

Box 5.2 Home welfare effects of discriminatory tariff cutting in detail

Here, we consider the 'gross' welfare implications of the price and quantity changes derived in Figure 5.4. To see consumer and producer surplus separately, we put the rightmost panel from Figure 5.4 in the left-hand panel of Figure 5.5 and add to it a right-hand panel consisting of a standard open-economy supply and demand diagram. (As we are focusing on Home welfare, we shall drop the two Foreign panels.) Turn first to the right panel. The drop in the domestic price from P' to P'' raises consumer surplus by $D + A_2 + A_1 + A_3$, but lowers producer surplus by D (see Chapter 4 if this reasoning is unfamiliar). The net change in the private surplus (i.e. producer and consumer surplus combined) is $A_2 + A_1 + A_3$. The change in tariff revenue is slightly more involved than usual. Originally, the tariff revenue was $A_1 + B_1 + C$ (i.e. T times M'). After the RTA, the tariff revenue is $B_1 + B$ since T is charged only on X_R''. Thus, the change in tariff-revenue is $B - A_1 - C$. Adding the private surplus change and the net revenue change, we find that the net impact on Home is: $A_2 + A_1 + A_3 + B - A_1 - C$. Cancelling, this becomes $A_2 + A_3 + B - C$. In Chapter 4 we showed that $A_2 + A_3$ equals A in the left-hand panel, so the net effect is just $A + B - C$, as in Figure 5.4.

Figure 5.5 Focus on Home welfare effects of unilateral discriminatory liberalization
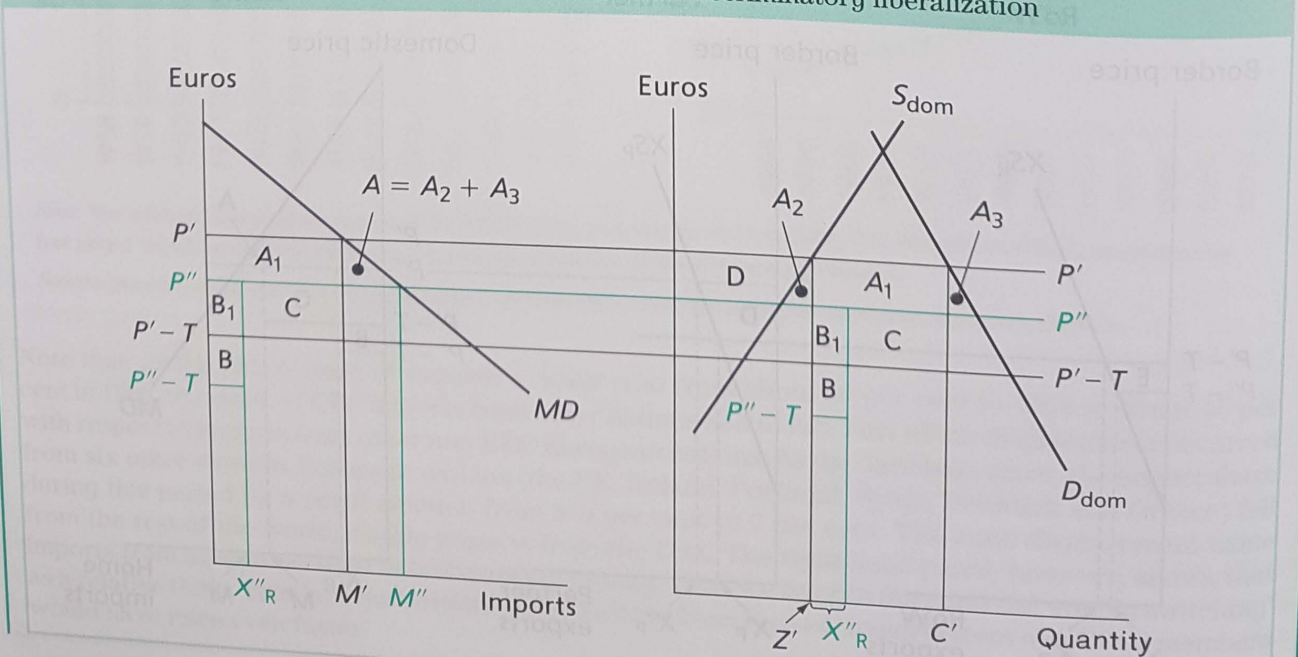
Following the direct analysis, we note that the preferential tariff liberalization has increased imports. By the usual reasoning (see Chapter 4), the increase in imports raises Home welfare, with the exact measure being the gap between the MD curve and P'' summed over all the extra units imported. This equals the area marked A in Figure 5.4.

Consider next the conflicting border price effects using these key facts: (1) Home imports amounted to M' before the RTA; (2) after the RTA, an amount equal to X_R'' comes from RoW; and (3) the rest of M', namely, $M' - X_R''$ comes from Partner. Next we line up these quantities with the relevant price changes:

- The goods coming from RoW have fallen in price, so Home gains on these. The exact size of the gain is just the amount of imports affected times the price drop; in the figure, this gain equals area B.

- The goods coming from Partner have risen in price, so Home experiences a loss. The size of the loss is again the amount of imports affected (namely, $M' - X_R''$) times the price rise, namely, the difference between $P' - T$ and P''. Graphically, this is area C.

What about the border price effect on the extra imports, $M'' - M'$? The border price effect does not apply to these units; since Home did not import them to begin with, it does not make sense to talk about how much more or less they cost post-liberalization. The welfare impact of the extra imports shows up in the trade volume effect, that is, area A.

Putting together the trade volume effect and the border price effects, Home's overall welfare change is equal to the areas A plus B minus area C. A key point to remember is that this welfare effect may be positive or negative (this is Viner's ambiguity).

Summary: welfare effects

To sum up:

- Partner gains area D (Smith's certitude).
- RoW loses area E (Haberler's spillover).
- Home's welfare changes by A + B − C, which may be positive or negative (Viner's ambiguity).

As Figure 5.4 is drawn, the net welfare impact looks negative. Interested readers should be able to show that discriminatory liberalization will lead to a welfare gain if T is large enough. Moreover, as usual with tax analysis, the slopes of the supply and demand curves also affect the size of the welfare effects.

## 5.2 Analysis of a customs union

Until now we have considered only unilateral tariff cuts. European integration, however, involves reciprocal, that is, two-way, preferential liberalizations, so it is important to think through the case of two-way preferential liberalization. In our simple model, that means Home and Partner both set their tariffs to zero on each other's exports.

As it turns out, the study of a customs union is an easy stretch of the unilateral RTA analysis. The main extra insight we gain from studying a customs union (a free-trade agreement with a common external tariff) arises from the fact that a customs union (CU) is systematically more favourable for participating countries than unilateral liberalization schemes since Home exporters gain from Partner tariff cuts.

To keep things simple, we shall look at the formation of a CU between Home and Partner, assuming that all three countries (Home, Partner and RoW) are symmetric initially in all aspects, including the MFN tariff they initially impose on all imports. To do this carefully, we must address the question of the three-nation trade pattern. Again, to streamline the analysis, we adopt the simplest combination that permits us to study the issues. This leads us to assume that three goods are traded (goods 1, 2 and 3). Each country produces all three goods, but cost structures are such that each nation exports two of the three goods while importing

the remaining one. The trade pattern, shown schematically in Figure 5.6, entails Home importing good 1 from Partner and RoW, and Partner importing good 2 from Home and RoW.

Figure 5.6 Three-nation trade pattern
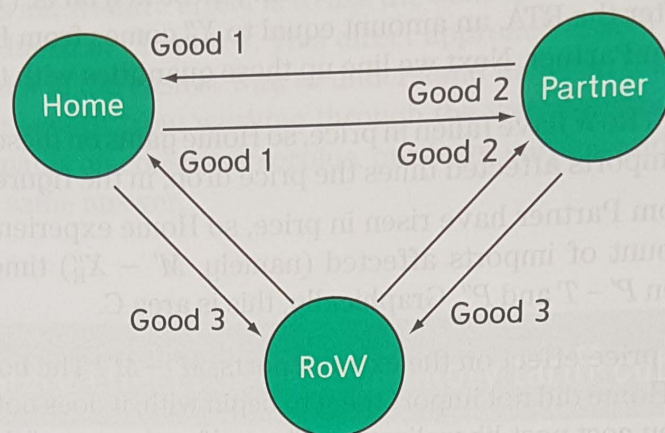
5.2.1 Price and quantity effects

A customs union is formed between Home and Partner when Home eliminates T on imports of good 1 from Partner, and Partner eliminates T on imports of good 2 from Home. The tariffs facing RoW exports are not changed, and since Home's and Partner's MFN tariffs were identical to start with, there is no need to harmonize their tariffs applied to RoW; T becomes the common external tariff.

We first address the price and quantity effects. Plainly, the impact of Home's discriminatory liberalization is exactly the same as the impact shown in Figure 5.2, so there is no need to repeat it here. The impact of Partner's discriminatory liberalization of imports of good 2 from Home can also be seen using the same diagram. Here is the key point.

A moment's reflection reveals that, given the assumed symmetry of nations, what happens to Home's exports when Partner lowers its barriers is exactly what happened to Partner's exports when Home lowered its barriers. We can, therefore, rely on analysis with which we are already familiar. More specifically, the price of good 2 in Partner falls from P' to P'' (see Figure 5.2) but the border price facing Home exporters when they sell good 2 to Partner rises – from $P' - T$ to P''. Nothing happens to domestic prices in RoW (since they did not liberalize), but RoW exporters face a lower border price for their exports to Partner. The trade volume effects are similarly simple. Partner imports rise from M' to M'' and Home exports to Partner rise; using the terminology from Figure 5.2, Home exports to Partner rise from X_F' to X_F''. RoW's exports to Partner fall, as in Figure 5.2.

5.2.2 Welfare effects

The welfare effects are also just a matter of adding up the effects illustrated above. On Home's import side (i.e. in the market for good 1), Home gains the usual $A + B - C$ in the right-hand panel of Figure 5.7. On Home's export market (good 2), Home's situation is shown in the left-hand panel, so it gains area D. The welfare effects on Partner are identical to this, as a result of the assumed symmetry of goods and nations.

It is useful to study the welfare effects a bit more closely, using Figure 5.8. This diagram shows only the two liberalizing nations, Home and Partner. To be concrete, suppose this is the market for good 1, which Home imports and Partner exports. The diagram is based on the two right-most panels of Figure 5.7 but we have added further detail to the areas. In particular, the trade price loss associated with area C is here split into two parts, C_1 and C_2, for a good reason.

Recall that Home loses $C_1 + C_2$ because the tariff cut raised the price it paid for imports from Partner (from $P' - T$ to P''). The first area, C_1, identifies how much it pays for the units it continues to import from Partner ($M' - X_P'$). Home's loss of C_1, however, is exactly matched by a gain to Partner of the same size; the

Figure 5.7 Welfare effects of a customs union

Figure 5.8 Welfare effects of a customs union in detail

higher price for the X'_P units transfers C_1 from Home to Partner. The key point is that, because C_1 is just a transfer between CU members, Home's loss of C_1 on its imports of good 1 will be offset by a gain of $D_1 = C_1$ on its exports of good 2 to Partner. After all, Partner also lowers its tariff against Home exports, so we know that Home will gain an area exactly equal to C_1 in its exports of good 2. In addition, Home will gain D_2 in its export market.

Area C_2 is quite different. It identifies the direct cost of the supply switching (trade diversion), so there is no offset gain on the export side. More specifically, recall that, from pre-CU symmetry, we know that RoW exports to Home pre-CU were equal to X'_{P*}. After the CU, RoW exports are X''_R so the difference, X'_R, X''_R, measures the amount of supply switching. This quantity is multiplied by the price change ($P' - T$ to P'') to get the welfare cost of the supply switching.

In summary, using the fact that $D_1 = C_1$, the net gain to Home is $+A + B + D_2 - C_2$. This net welfare effect may still be negative, but it is clear that the welfare change from a CU is more positive (or less negative) than the welfare change from a unilateral discriminatory liberalization with Partner.

The losses to RoW from the CU are twice the size of their losses shown in Figure 5.7, since they lose E both on the exports of good 1 to Home and on the exports of good 2 to Partner. Readers who find this reasoning a bit complex may benefit from the step-by-step explanations in the interactive PowerPoint presentations that can be freely downloaded from http://graduateinstitute.ch/home/research/centresandprogrammes/ctei/ctei_people/baldwin_home/economics-of-european-integratio.html.

General equilibrium effects: second-order terms of trade changes

Lastly, we must consider the indirect or second-round implications of the CU.

RoW experiences a reduction in the value of its exports, yet has not reduced the value of its imports from Home and Partner. While this sort of trade deficit may be sustainable in the short run, eventually RoW must turn the situation around. In the real world, this is usually accomplished by a real depreciation of its currency (or a terms of trade worsening if it is in a monetary union). This makes all RoW exports to Home and Partner cheaper and simultaneously makes imports from those two countries more expensive. Both changes have positive welfare implications for the Home and Partner countries; they earn more on their exports to RoW and pay less for their imports from RoW. This is a further negative trade price effect for RoW stemming from the general equilibrium effects of the CU between its trading partners. Such effects, however, are likely to be small.

5.2.3 Customs unions versus free trade agreements

The 1957 Treaty of Rome committed the six original EU members to eliminating all tariffs and quotas on trade among themselves but it also committed them to completely harmonizing their tariffs on imports from non-member nations. In reaction to this customs union, other western European nations formed another trade bloc – known as the European Free Trade Association (EFTA) – in 1960. This was not a customs union, only a free trade area since EFTA members did not adopt a common external tariff. (See Chapter 1 for details.)

What are the key differences between a customs union and a free trade area? Why did the EEC go for a customs union while EFTA went for an FTA? We address these questions in order, starting with the main economic differences.

Stopping tariff cheats: 'trade deflection' and 'rules of origin'

When tariffs between two nations are zero, yet they charge two different tariffs on imports from third nations, firms have an incentive to cheat on tariffs. Take our three-nation example. If all Home–Partner trade is duty free, yet Home charges a 10 per cent tariff on imports from RoW while Partner charges only a 5 per cent tariff on goods coming from RoW, Home-based buyers of RoW goods would be tempted to import the goods first into Partner (thus paying only a 5 per cent tariff) and then to import them duty free from Partner to Home. To thwart this practice – known as trade deflection – Home and Partner have two choices. They can eliminate the temptation by harmonizing their external tariffs (thus turning their FTA into a customs union), or they can stay with the FTA but restrict duty-free treatment to goods that are actually *made* in Home or Foreign. The set of rules that enforce the latter option are called 'rules of origin'.

One problem with rules of origin, and thus with FTAs, is that it can be difficult to know where a product is made in today's highly globalized markets. Personal computers made in, say, Switzerland will contain components from all over the world. The Swiss company may be doing little more than customized assembly of parts from the USA and Asia. In the extreme, it may be doing nothing more than opening the box of a US-made computer and putting in an instruction manual translated into, say, Norwegian. Should the full value of this computer be given duty-free treatment when it is exported to Norway? (Switzerland and Norway are both EFTA members.)

The costs of rules of origin

For manufactured goods, the EU's basic rule of origin is that some fixed percentage of the product's value-added – say 50 per cent – must be done in the exporting nation. For example, if Switzerland exports a specialized type of computer set-up to Germany but imports the monitors and computers from Asia, then the Swiss export will only qualify for zero-tariff treatment if the final price of the good is more than 50 per cent higher than the value of the imported components. For many products, the rules can be much more complex.

Because they can be very expensive to comply with, rules of origin can act as trade barriers, or as barriers that de facto nullify the benefits of a de jure trade agreement. A good example of this can be seen in the EU's unilateral preference schemes for developing nations. Brenton and Manchin (2003) show that only one-third of EU imports from developing countries that were – in principle – eligible for preferences actually entered the EU market with reduced duties. The reason is that the EU's rules of origin in developing nations' exports (e.g. textiles and clothing) are very difficult and expensive to comply with, so the developing nation exporters prefer to pay the EU's high common external tariff rather than comply with the rules of origin and pay zero tariff.

An additional problem with rules of origin is that they can end up as hidden protection. Since rules of origin are specified at the product level, they can be difficult for non-experts to evaluate – just as is the case with technical barriers to trade. As a consequence, rules of origin are usually written in consultation with domestic firms that have an incentive to shape the rules into protectionist devices.

One great advantage of a customs union like the EU is that firms do not have to demonstrate the origin of a product before it is allowed to cross an intra-EU border duty free. Any good that is physically in Germany was either made in Germany or paid the CET when it entered. In either case, the good deserves duty-free passage into France, or any other EU member, without any documentation at all.

5.2.4 Political integration and customs unions

Most preferential trade arrangements in the world are free trade agreements rather than customs unions, like the EU. The reason is simple – political integration. Getting a group of nations to agree on a common external tariff at the launch of a customs union is difficult, but the real problems begin as time passes. For instance, if one member nation believes its industry is being undercut by some non-member nation which is exporting its goods at a price that is below cost (so-called dumping), it may want to impose tariffs to offset the dumping. In a customs union, all nations must agree on every dumping duty since external tariffs must always remain constant. Likewise, nations typically reduce their tariffs in the context of GATT/WTO negotiations. For a customs union, this requires all members to agree on a common negotiating position on every single product.

In practice, keeping the Common External Tariff (CET) common requires some integration of decision making. In the EU, the Commission formally has the power to set tariffs on third-nation goods (even though it naturally consults with Member States before doing so), but very few groups of countries are willing to transfer that amount of national sovereignty. As a result, most trade blocs, including EFTA and the North American Free Trade Agreement, are free trade areas rather than customs unions.

Another way to 'solve' the decision-making problem is for the members to let one nation decide everything. This is the case in all the successful customs unions in the world apart from the EU. For example, South Africa is the dominant nation in the Southern African Customs Union and Switzerland is the dominant nation in the Swiss–Liechtenstein customs union.

5.3 Frictional barriers: the 1992 Programme

Heretofore we have dealt with tariff liberalization. This was an important part of early European economic integration, but after the free trade agreements between the EU and EFTA nations were signed in 1973, tariff liberalization was a minor part of intra-European economic integration (see Chapter 1 for details). Since the mid-1970s – and especially since the 1986 Single European Act – most of the economic integration in Europe has involved the removal of 'frictional' barriers to trade. As Chapter 4 explained, this type of barrier hinders trade without raising revenue. Frictional barriers often involve intricate differences

between national regulations, so a critical frictional-barrier-liberalizing element of the 1986–92 Single Market Programme was the mutual recognition principle that made it difficult for EU members to use health, safety and environmental regulations as subtle forms of trade barrier.

This section extends the basic Figure 5.4 reasoning in a way that allows us to study the impact of preferential frictional barriers liberalization. At a basic level, this is easy to do since frictional barriers can be conceptualized as tariffs where the tariff revenue is thrown away. As we shall see, for such barriers Smith's certitude and Haberler's spillover still hold, but Viner's ambiguity disappears.

5.3.1 Price and quantity effects

To keep things simple, we continue to work with the simplified reality of three nations, and we assume that they all initially impose a frictional barrier whose tariff equivalent is T. Note that the 'tariff equivalent' is a useful way of measuring the importance of a frictional barrier since it identifies the size of the tariff, T, that would drive an equivalent wedge between the border price and the Home price.

To be specific, we assume that Home and Partner fully remove the frictional barrier on each other with no change in the frictional barrier applied to RoW–Home or Partner–RoW trade. In this sense it is a preferential frictional barrier liberalization.

Not surprisingly, the price and quantity effects of the preferential liberalization are very similar to those discussed in Figure 5.2. After all, a frictional barrier can be thought of as a tariff where the tariff revenue is thrown away. The only change concerns the border price.

As discussed in Chapter 4, the importer's and exporter's border prices differ with a frictional barrier. In particular, the importer's border price (i.e. what the importing nation actually pays for the imports) is higher than that of the exporter's border price (i.e. what the exporter actually gets paid for the export). In particular, the difference is T and it reflects the real costs involved in overcoming the frictional barrier. Given this, frictional barrier liberalization lowers Home's border price while at the same time raising the border price faced by Partner's exporters.

Using the Figure 5.7 terms, the reciprocal, preferential frictional barrier liberalization:

- lowers Home's domestic price from P' to P'';
- lowers Home's border price from P' to P'';
- raises the price received by Partner exporters from $P'' - T$ to P'';
- lowers the price received by RoW exporters from $P' - T$ to $P'' - T$.

The quantity effects follow from the price changes. Namely:

- Home imports rise from M' to M''.
- Partner exports rise from X'_P to X''_P.
- RoW exports fall from X'_R to X''_R.

Combining the last two, we see that supply switching still occurs.

5.3.2 Welfare effects

The welfare effects on Home are simple. As with tariffs, the change in Home private surplus equals areas $F + A$ in Figure 5.9. This is not offset by a loss in tariff revenues, as was the case in Figure 5.4; this is why Viner's ambiguity fails in the frictional barrier case. Removing frictional barriers – even on a preferential basis – always lowers the price that the nation pays for its imports. Although both Partner and RoW exporters see changes in the prices they receive for exports to Home, and this leads to supply switching, this 'trade diversion' has no welfare consequences for Home.

Since we are looking at a reciprocal liberalization like the Single European Act, we have to also consider the changes that affect Home's and RoW's exporters to Partner (i.e. in the good-2 market using the Figure 5.6 labels). In this market, Home is an exporter to Partner, and the welfare effect is also positive. Home exporters get a higher price and sell more, so they gain the area D.

Figure 5.9 Welfare effects of preferential frictional barrier liberalization
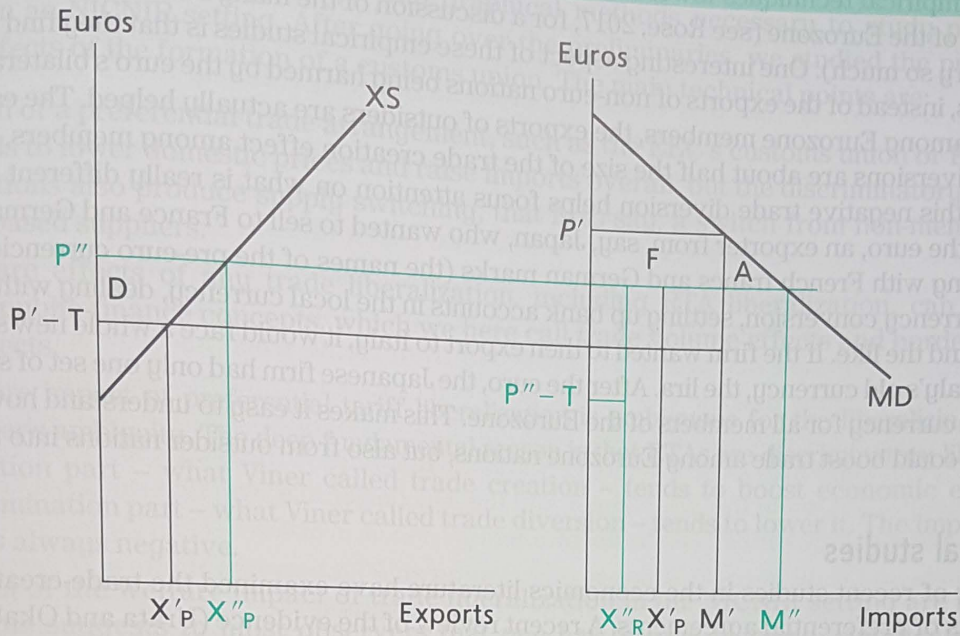
Thus the overall welfare effect of the reciprocal, preferential frictional barrier liberalization FTA is $+D + F + A$ for Home, and the same for Foreign by symmetry. RoW loses the equivalent of area E from Figure 5.4 twice (once on its exports to Home and once on its exports to Partner). A key point is that Viner's ambiguity has disappeared. With frictional barriers, any kind of liberalization will lead to positive border price effects and positive trade volume effects since the border price equals the domestic price with frictional barriers.

5.4 Deep regionalism, the Eurozone and 'soft preferences'

Apart from those on agricultural products, EU tariffs are very low, and indeed nations around the world have lowered tariffs substantially. Nevertheless, EU external trade liberalization is proceeding by focusing on 'beyond-tariff' issues – things that are very much related to the Single Market reforms discussed in Chapters 1 and 2.

Regional integration initiatives that go beyond mere tariff cutting are called 'deep' trade agreements. With so many non-EU nations signing deep agreements, new thinking has developed about the impact of these nominally 'preferential' trade agreements. One very recent example is the agreement signed between the EU and Canada. This is called the EU – Canada Comprehensive Economic and Trade Agreement, or CETA for short. The logic presented in the preceding chapters can be used to analyse the likely effects.

The key is to view the beyond-tariff liberalizations as if they were frictional barrier changes of the type studied in Figure 5.9, but with some new elements. As it turns out, intuition is best developed by considering a very different change – the introduction of the euro.

5.4.1 Trade effects of the euro

Introduction of the euro as an electronic currency in 1999 and a physical currency in 2002 can be thought of as a massive reduction in frictional barriers among euro-using nations. In one swoop, all the cost of converting currencies and hedging against exchange rate risk disappeared. The analysis of this change is just a straightforward application of the discussion above, so there is no need to repeat it. The euro's introduction, however, led to a great deal of research and so it provides a great opportunity to look at how large the trade effects are of frictional barrier reductions.

The earliest estimates of the euro's impact suggested that it had implausibly large effects on trade. Refinements in empirical techniques lowered these to a range of between 5 and 20 per cent increase in trade among members of the Eurozone (see Rose, 2017, for a discussion of the many studies of the euro's trade effect and why they vary so much). One interesting aspect of these empirical studies is that they find 'negative' trade diversion. That is, instead of the exports of non-euro nations being harmed by the euro's bilateral cost-lowering effects on trade among Eurozone members, the exports of outsiders are actually helped. The estimate of these negative trade diversions are about half the size of the trade creation effect among members.

The logic of this negative trade diversion helps focus attention on what is really different about frictional barriers. Before the euro, an exporter from, say, Japan, who wanted to sell to France and Germany would have to invest in dealing with French francs and German marks (the names of the pre-euro currencies). These costs could involve currency conversion, settling up bank accounts in the local currency, dealing with multi-currency account issues, and the like. If the firm wanted to then export to Italy, it would face a whole new set of such costs in dealing with Italy's old currency, the lira. After the euro, the Japanese firm had only one set of such costs, since there is only one currency for all members of the Eurozone. This makes it easy to understand how the formation of the Eurozone could boost trade among Eurozone nations, but also from outsider nations into the Eurozone.

5.4.2 Empirical studies

A large number of recent studies in the economics literature have examined the trade-creating and trade-diverting effects of preferential agreements. A recent review of the evidence (Urata and Okabe, 2014) notes that most studies find evidence of both trade creation and trade diversion when considering free trade agreements around the world. The trade creation effect, however, is much larger than the trade diversion effect for most industrial goods.

The impact of deep RTAs on trade is more recently examined in empirical work. The seminal paper here is that of Orefice and Rocha (2014), who show that deep RTAs tend to foster trade in production networks among their members, with the average effect being 12 percentage points. They also note that their findings (linking production sharing and deep RTAs) help to explain the seemingly paradoxical rise of deep integration while preference margins are shrinking. The idea is that partners are not primarily exchanging market access, they are eliminating beyond-tariff barriers to trade and investment.

5.5 WTO rules

The world trading system is governed by a set of rules overseen by the World Trade Organization (WTO). The most important guiding principle of the GATT/WTO is non-discrimination in trade policy, that is, the so-called most favoured nation principle, or MFN for short. This says that nations should, in principle, impose tariffs on a non-discriminatory basis. Of course, all of the preferential liberalization discussed above contradicts this principle – so why is it allowed? As it turns out, the GATT created an explicit loophole for FTAs and customs unions. Allowing this loophole was important for some of the early GATT members since they wished to maintain existing preferential arrangements (especially Britain's Commonwealth Preferences).

The loophole, formally known as Article 24, specifically allows preferential liberalization, subject to a few restrictions, the most important of which are:

- Free trade agreements and customs unions must completely eliminate tariffs on 'substantially all trade' among members.
- The phase-out of tariffs must take place within a reasonable period.

Although there are no hard definitions, 'substantially all trade' is usually taken to mean at least 80 per cent of all goods and a 'reasonable period' is taken to be 10 years or less.

For a customs union, there is the additional requirement that the common external tariff (CET) 'shall not on the whole be higher or more restrictive' than before the customs union. That is, when forming the customs union, the members cannot harmonize the CET to the highest level of any member. In the case of the EEC's customs union formation, external tariff harmonization generally involved a reduction in French and Italian tariffs, a rise in Benelux tariffs and little change in German tariffs.

5.6 Summary

This chapter introduced the verbal logic and graphical methods necessary to study preferential trade liberalization in an NICNIR setting. After going over the preliminaries, we studied the price and quantity and welfare effects of the formation of a customs union. The main technical points are:

- Formation of a preferential trade arrangement, such as the EEC's customs union or EFTA's free trade area, tends to lower domestic prices and raise imports overall, but the discriminatory aspects of these liberalizations also produce supply switching, that is to say, a switch from non-member suppliers to member-based suppliers.

- The welfare effects of any trade liberalization, including RTA liberalization, can be captured by standard public-finance concepts, which we here call trade volume effects and border price (or trade price) effects.

- The welfare impact of preferential tariff liberalization is ambiguous for the liberalizing nations; this is called Viner's ambiguity. The deep fundamental reason is that RTAs are discriminatory liberalizations; the liberalization part – what Viner called trade creation – tends to boost economic efficiency, while the discrimination part – what Viner called trade diversion – tends to lower it. The impact on excluded nations is always negative.

- Estimates of the welfare impact of trade liberalization in the NICNIR setting are inevitably very small. This suggests to most observers that one has to look to more complicated frameworks if one is to understand why trade liberalization in general, and European integration in particular, matter.

The bigger lessons from the chapter concern the way in which the economic analysis helps us to understand the big-think trends in European integration. The NICNIR framework helped us to study the impact of discriminatory liberalization on outsiders in an intellectually uncluttered setting. This helps us to understand why outsiders always reacted to the deepening and widening of EU integration. As we showed, preferential liberalization definitely harms excluded nations since it leads them to face lower prices for their exports to the customs union and lower export sales. It seems natural, therefore, that the outsiders would react either by forming their own preferential arrangements (as happened in the 1960s with EFTA), or by deepening the integration between outsiders and the EU (as outsiders did in the 1970s and again in the 1990s), or by joining the EU (as nine formerly outsider western European nations had done by 1994).

Self-assessment questions

The NICNIR was the backbone of 'customs union theory' for years, so quite a number of extensions and provisos were put forth in the NICNIR setting. Some of them are still insightful and the following exercises illustrate the basic points.

1. (Kemp–Wan theorem, 1976) Starting from a situation like that shown in Figure 5.1, where the three nations are symmetric in everything, including the initial MFN tariff T, suppose that Home and Partner form a customs union *and* lower their common tariff against RoW to the point where the new, post-liberalization border price facing RoW exporters is the same as it was before the liberalization, i.e. $P' - T$. Show that this 'Kemp–Wan' adjustment ensures that Home and Partner gain while RoW does not lose from this CU-with-CET-reduction scheme.

2. (Cooper–Massell, 1965, extended) We can think of a preferential unilateral liberalization in the following roundabout manner. Home lowers its tariffs to zero on an MFN basis, but then raises it back to T on imports only from RoW. Now suppose that Home faces a flat MS curve for imports from both Partner and RoW (this is the 'small country' case). Moreover, suppose that Partner's *MS* is somewhat above that of RoW's.
First work out the welfare effects on Home. (Hint: This is covered in the Annex.)

Second, show that Home would gain more from a unilateral MFN liberalization than it would from a unilateral preferential liberalization. (Historical note: Taking their NICNIR analysis as definitive, this result led Cooper and Massell to suggest that small countries must join customs unions for political reasons only. You can see that this is only a partial analysis by realizing that a customs union also lowers tariffs facing Home-based exporters.) Try to figure out how Home gains from Partner's tariff removal on Home-to-Partner exports. After doing this, see if you can say definitely whether Home gains more from unilateral free trade or from joining the customs union. You should also be able to show that the optimal policy for a small nation is to have unilateral free trade *and* join every FTA that it can.

3 (Large partner rule of thumb) Redo the FTA formation exercise from the text, assuming that RoW is initially a much smaller trading partner of Home and Partner in the sense that most of Home's imports are from Partner and most of Partner's imports are from Home when all three nations impose the initial MFN tariff, T. Show that the 'net border price effect' (area $B - C_1 - C_2$ in Figure 5.8) is smaller when RoW is initially a less important trade partner of Home and Partner nations. (Hint: Focus on the Home country and start with a diagram like Figure 5.1. Keep the vertical intersections of XS_P and XS_R at the same height, but make the XS_R steeper and the XS_P flatter in a way that does not change P''; our thanks to Jonathan Gage for help with this problem.)

4 (Growth effects and RoW impact) Suppose that signing an FTA between Home and Partner produces a growth effect that raises their income level and thus shifts their MD curves upwards. Use a diagram like Figure 5.4 to show how big the upward shift would have to be to ensure that RoW did not lose from the Home–Partner FTA. (In the 1970s, this was the informal explanation for why the EEC6 formation did not lead to trade diversion.) Can you show the welfare impact of this growth on Home?

5 (Hub-and-spoke bilateralism) Using RTA diagrams, show what the price, quantity and welfare effects would be of the unilateral imposition of tariffs by one nation, say the USA, and retaliation against that nation by all other nations. The would be hub-and-spoke protectionism (hub-and-spoke means that country 1 has tariffs on all of its imports and all of its exports, but nations 2 and 3 do not have tariffs on the trade between them). Assume that there are *only* tariff barriers in this world, that all import tariffs equal T. Be sure to look at the price, quantity and welfare impact on (i) a typical spoke economy (2 or 3) and (ii) the hub economy.

6 (Sapir, 1992) Consider a situation in which Home and Partner have formed a customs union but have not eliminated frictional barriers between them. Specifically, assume that all trade flows among Home, Partner and RoW are subject to frictional trade barriers equal to T' and additionally the tariff on trade between the CU and RoW is equal to T''. Show that eliminating frictional barriers inside the CU might harm welfare since it leads to a reduction in the amount of tariff revenue collected on imports from RoW.

7 Suppose Home has no trade barriers, except anti-dumping measures. These anti-dumping measures take the form of price undertakings, i.e. instead of Home imposing a tariff on RoW and Partner imports, Home requires Partner and RoW firms to charge a high price for their sales to Home. Show the price, quantity and welfare effects of imposing this import price floor (look at all three nations). Next, show the price, quantity and welfare effects of removing the price undertaking (i.e. allowing free trade) only for imports from Partner. Be sure to illustrate the impact on all three nations. (Hint: The price undertaking is a price floor, so it does not act just like a tariff; be very careful in constructing the MS_{RTA} for this situation.)

References and further reading

References

Brenton, P. and M. Manchin (2003) 'Making EU trade agreements work: the role of rules of origin', *The World Economy*, 26(5): 755–69.

Cooper, C. and D. Massell (1965) 'Towards a general theory of customs unions in developing countries', *Journal of Political Economy*, 73: 256–83.

Haberler, G. (1937) *The Theory of International Trade with its Applications to Commercial Policy*, Macmillan, New York.

Kemp, M. and H. Wan (1976) 'An elementary proposition concerning the formation of customs unions', *Economic Journal*, 6: 95–97.

Orefice, G. and N. Rocha (2014) 'Deep integration and production networks: an empirical analysis', *World Economy*, 37(1): 106–36.

Rose, A.K. (2017) 'Why do estimates of the EMU effect on trade vary so much?', *Open Economies Review*, 28(1): 1–18.

Sapir, A. (1992) 'Regional integration in Europe', *Economic Journal*, 102(415): 1491–506.

Urata, S. and M. Okabe (2014) 'Trade creation and diversion effects of regional trade agreements: a product-level analysis', *World Economy*, 37(2): 267–89.

Viner, J. (1950) *The Customs Union Issue*, Carnegie Endowment for International Peace, New York.

Further reading: the aficionado's corner

Acharya, R., J.-C. Crawford, M. Maliszewski and C. Renard (2011) 'Landscape', in J.-P. Chauffour and J.-C. Maur (eds) *Preferential Trade Agreement Policies for Development: A Handbook*, World Bank Publications, Washington, DC, Chapter 2.

Antràs, P. and C.F. Foley (2011) 'Poultry in motion: a study of international trade finances practices', NBER Working Papers 17091.

Baldwin, R. (2006) *In or Out: Does it Matter? An Evidence-based Analysis of the Trade Effects of the Euro*, Centre for Economic Policy Research, London.

Baldwin, R. (2014) 'The impact of mega-regionals: the economic impact', in *Mega-regional Trade Agreements: Game-changers or Costly Distractions for the World Trading System?*, World Economic Forum, July.

Bergstrand, J. (2008) 'How much has European economic integration actually increased members' trade?', VoxEU.org, 6 September, http://www.voxeu.org/article/european-economic-integration-and-trade-how-big-was-boost.

Carpenter, T. and A. Lendle (2010) 'How preferential is world trade?', CTEI Papers, No. 2010-32, http://graduateinstitute.ch/files/live/sites/iheid/files/sites/ctei/shared/CTEI/working_papers/CTEI-2010-32.pdf.

Frankel, J. (2008) 'The euro at ten: why do effects on trade between members appear smaller than historical estimates among smaller countries?', VoxEU.org, 24 December.

Freund, C. and E. Ornelas (2010) *Regional Trade Agreements*, Policy Research Working Paper Series 5314, World Bank.

Magee, C.S.P. (2008) 'New measures of trade creation and trade diversion', *Journal of International Economics*, 75(2): 340 –62.

Meade, J. (1955) *The Theory of Customs Unions*, Oxford University Press, London.

Panagariya, A. (1999) 'Preferential trade liberalization: the traditional theory and new developments', *Journal of Economic Literature*, 37: 287–331.

Pomfret, R. (1997) *The Economics of Regional Trading Arrangements*, Clarendon Press, London.

Smith, A. (1776). See this edition which is more accessible to modern readers: *The Wealth of Nations: A Translation into Modern English*, Industrial Systems Research, 2015.

Wilton Park (2014) 'Transatlantic Trade and Investment Partnership (TTIP)', Wilton Park Conference report, 17–18 February, WP No. 1307, https://www.wiltonpark.org.uk/conference/wp1307/.

The modern study of European economic integration began life under the name of 'customs union theory' with **Viner** (1950). Viner's seminal text triggered a flood of work. At the time, tariffs were the key trade barriers and theorists had few tools for dealing with imperfect competition, so the early literature focused on tariff removals in the NICNIR setting. For a highly readable survey of this literature, see:

Pomfret, R. (1986) 'The theory of preferential trading arrangements', *Weltwirtschaftliches Archiv*, 122: 439–64.

A review of pre-Vinerian literature is provided by:

O'Brien, D.P. (1975) 'Classical monetary theory', in *The Classical Economists*, Clarendon Press, Oxford, pp. 140–69.

Following Viner's theory, which associated welfare effects with changes in trade flows, early empirical studies focused on trade creation and diversion. Surveys of this literature include:

Mayes, D. (1978) 'The effects of economic integration on trade', *Journal of Common Market Studies*, XVII: 1–25.

Srinivasan, T.N., J. Whalley and I. Wooton (1993) 'Measuring the effects of regionalism on trade and welfare', in K. Anderson and R. Blackhurst (eds) *Regional Integration and the Global Trading System,* Harvester Wheatsheaf for the GATT Secretariat, London, pp. 52–79.

Winters, L.A. (1987) 'Britain in Europe: a survey of quantitative trade studies', *Journal of Common Market Studies,* 25: 315–35.

A more extensively graphic presentation of pre- and post-1958 trade flows in Europe can be found in:

Neal, L. and D. Berbezat (1998) *The Economics of the European Union and the Economics of Europe,* Oxford University Press, London.

See also:

Baldwin, R.E. and A. Venables (1995) 'Regional economic integration', in G. Grossman and K. Rogoff (eds) *Handbook of International Economics,* Volume III, North-Holland, Amsterdam.

Mankiw, G. (2000) *Principles of Economics,* Thomson Learning, New York.

Useful websites

While the EU's customs union has been completed for over three decades, some policy issues occasionally arise. See the Commission's website for details: http://europa.eu.int/comm/taxationcustoms/.

The history of EFTA's free trade area can be found at www.efta.int/.

Further information on WTO rules concerning preferential trade arrangements can be found at www.wto.org.

# Annex: Discriminatory liberalization: small country case

This Annex presents the classic analysis of unilateral preferential tariff liberalization for the so-called 'small country' case. Here 'small country' means nothing more than ignoring the price effects on all foreign nations – Partner and RoW alike. In particular, simplifying means that the import supply curve (MS) in Figure A5.1 is flat so the world price never changes. In this case, we do not need the MS–MD diagram discussed above.

Figure A5.1, which allows for two potential sources of imports (countries A and B), helps to organize the reasoning. To set the stage, suppose that Home initially imposes a tariff of T on imports from A and B. (Goods produced in the countries A, B and Home are perfect substitutes.) The Home nation is assumed to face a flat import supply curve from both countries. The idea behind this simplification is that Home is so small that it can buy as much or as little as it wants without affecting the price. Specifically, the import supply curves from A and B are the flat curves at the levels P_A and P_B. We can see that country A producers are more efficient since they can offer the goods at a lower price. That is, importing from A costs Home consumers $P_A + T$, while importing from B costs $P_B + T$. Plainly, all imports initially come from the cheaper supplier, namely, A.

Adding together the three sources of supply (Home, A and B), we find the pre-liberalization total supply curve to be TS_1. Because it is the horizontal sum of the Home supply curve and the two import supply curves, it follows the Home supply curve up to $P_A + T$ and, beyond that, it follows A's import supply curve. The equilibrium Home price (i.e. the price facing Home consumers and producers) is $P_A + T$, since this is where total supply meets demand. The border price, namely, the price that Home as a country pays for imports, is P_A.

Next, we ask what would happen if the tariff were removed on a discriminatory basis; that is to say, if it were removed on imports from only A or only B. Both cases must be considered. We turn now to the price, quantity and welfare effects of the two cases.

Figure A5.1 Price and quantity effects of discriminatory liberalization (small nation)
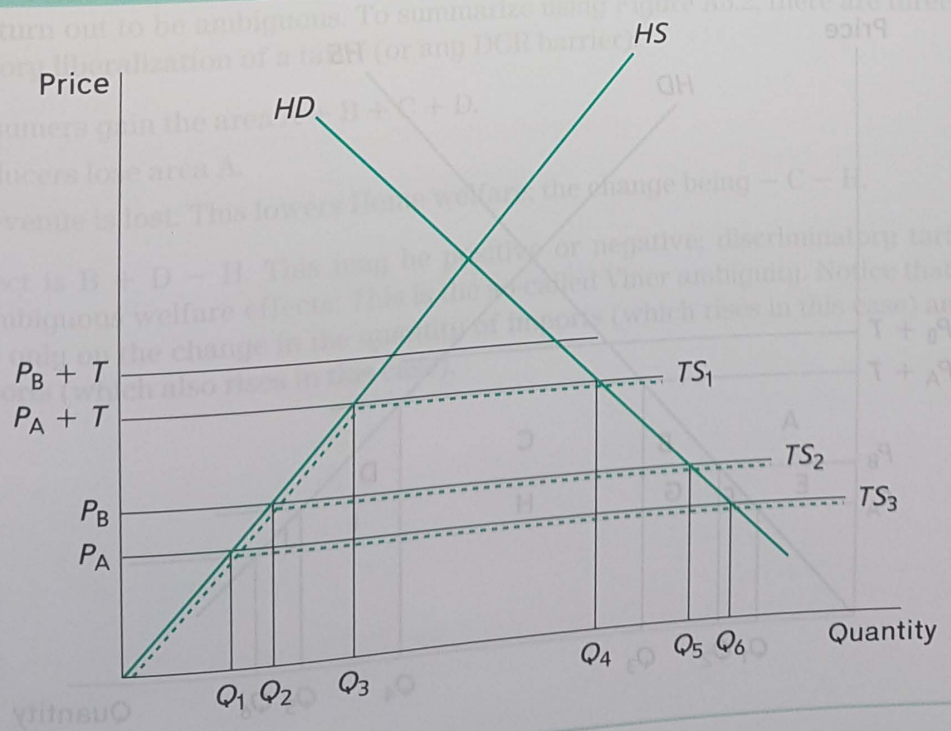
A5.1 Price and quantity analysis, liberalization with low-cost country

In the first case, the liberalization is applied to Home's current trading partner, namely, A. The total supply curve becomes TS_3, so the Home price falls to P_A. Home consumption rises, Home production falls, imports rise and nothing happens to the border price of imports. To summarize:

- The price in the Home market of both imports and Home import-competing goods falls to P_A.
- Home production falls from Q_3 to Q_1.
- Home consumption rises from Q_4 to Q_6.
- The import volume rises from the difference between Q_3 and Q_4 to the difference between Q_1 and Q_6.
- The border price (i.e. the price of imported goods before the imposition of the tax) remains unchanged at P_A.

With some thought, it is clear that discriminatory liberalization with the low-cost country has the same impact as an MFN liberalization. After all, both types of liberalization remove the tariff on all imports (the preferential tariff cut leaves the tariff on goods from B, but no imports come from B before or after the liberalization).

A5.2 Welfare analysis: liberalization with low-cost country

As with the price and quantity analysis, in this case the welfare analysis is identical to that of non-discriminatory liberalization. Home consumer surplus rises and Home producer surplus falls because of the liberalization. Since more units are consumed than produced domestically, the sum of consumer and producer surpluses rises. Part of this gain is offset by a loss in tariff revenue. Using Figure A5.2 to be more precise:

- Consumer surplus rises by the sum of all areas, A through J.
- Producer surplus falls by the area A + E.
- Government revenue falls by C + H.
- The net effect is unambiguously positive and equal to (B + F + G) and (D + I + J).

Figure A5.2 Small country welfare analysis
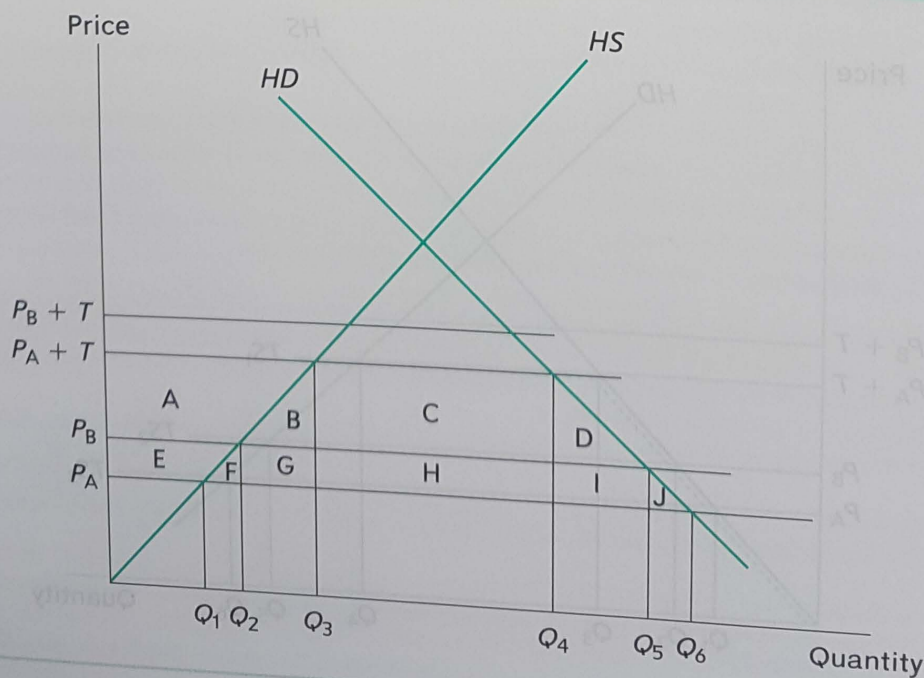
A5.3 Liberalization with high-cost country: supply switching

The analysis is only slightly trickier when the preferential trade arrangement is signed with the high-cost country.

Graphically, as shown in Figure A5.1, this results in a total supply curve of TS_2 and a Home price of P_B. Recall that since country B is the high-cost supplier (i.e. P_B is above P_A) nothing was imported from B initially. Granting duty-free access to goods from B artificially changes the relative competitiveness of goods from A and B – at least in the eyes of Home consumers. Goods from B cost P_B while goods from A cost $P_A + T$. Quite naturally, Home importers of goods will divert all their import demand from A towards B. We call this the 'supply-switching' effect of discriminatory liberalization; it is the first of two elements that arise with discriminatory liberalization but do not arise with non-discriminatory liberalization. Note, however, that discriminatory liberalization does not always lead to supply switching. It can only do so when it is done with the high-cost country.

The second novel aspect of discriminatory liberalization is the border price impact. That is, as consumers switch from the low-cost source to the high-cost source (country B), the Home border price rises. We call this the 'border price' effect, or the import-price-rising effect. The importance of this price change should be clear – such liberalization will raise the cost of imports to the country as a whole.

To summarize, there are six price and quantity effects:

1 The preferential liberalization increases competition from imports and thereby forces down the Home price of locally made and imported goods to P_B.

2 Consumption rises to Q_5.

3 Some high-cost Home production is replaced by lower-cost imports. This amount is equal to $Q_3 - Q_2$.

4 The new Home production level is Q_2.

5 Imports from A are entirely replaced by imports from B and the level of imports rises.

6 The border price rises. That is to say, Home now pays more for its imports (namely, P_B) than it did before (namely, P_A).

A5.4 Welfare analysis: liberalization with high-cost country

When the tariffs come down only on imports from the country that initially sells nothing to Home, the welfare effects turn out to be ambiguous. To summarize using Figure A5.2, there are three welfare effects of a discriminatory liberalization of a tariff (or any DCR barrier):

1 Home consumers gain the area A + B + C + D.

2 Home producers lose area A.

3 All tariff revenue is lost. This lowers Home welfare; the change being − C − H.

The net effect is B + D − H. This may be positive or negative; discriminatory tariff liberalization therefore has ambiguous welfare effects. This is the so-called Viner ambiguity. Notice that the net welfare impact depends only on the change in the quantity of imports (which rises in this case) and the change in the price of imports (which also rises in this case).