
14 The quantitative effects of European post-war economic integration

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1 INTRODUCTION

The European Union (EU) is the most far reaching and successful integration project in history. Starting from a customs union, limited to steel and coal in the early 1950s, it evolved into a fully integrated single market, characterised by the free movement of goods, services, capital and labour, economic policy coordination in various fields, and a single European currency and centralised monetary policy in the Economic and Monetary Union (EMU). Since its inception in 1958 the then European Economic Community expanded steadily in size. Starting with six founding members it has since increased to 27 countries. Now called the European Union, it already exceeds the United States in size, whether measured by population or by GDP. It is also the major player in world trade, accounting for 16.4 per cent of total world merchandise exports in 2007 compared with China's share of 11.8 per cent and the US share of 11.3 per cent (Japan has 6.9 per cent). More importantly, more than two-thirds of EU27 total trade is done within its borders; only around one-third of total trade of EU member states is exposed to the trade barriers remaining after the GATT (General Agreement on Tariffs and Trade) Uruguay Round liberalisation agreements. Parallel to the deepening and expansion of economic integration in Europe, worldwide multilateral trade liberalisation has taken place within GATT in eight successful tariff rounds.

This chapter is structured as follows. Section 2 gives a brief history of European integration post-1945. In Section 3 we focus primarily on the quantification of the integration effects of the EU during the major steps of integration: the customs union in the 1960s, the single market at the outset of the 1990s and EMU at the brink of the millennium. In addition, we shall examine the effects of EU enlargement. In particular we report the results of studies dealing with the most recent, grand enlargements in 2004 and 2007. Section 4 concludes.

2 A BRIEF HISTORY OF EUROPEAN INTEGRATION POST-1945

The pioneers

Winston Churchill was the first to herald a far-reaching utopia for Europe. In his famous speech at the University of Zurich on 19 September 1946 he advocated the creation of the United States of Europe. As a first necessary step towards this goal he saw the partnership between France and Germany. Whereas the latter was the cornerstone for the post-war

European integration process, the first goal remained to be realised, although the majority of the European electorate feared this last step towards a 'European state'. Initiated by Jean Monnet on 9 May 1950, the then French foreign minister Robert Schuman presented the plan for merging the French and German coal and steel industries.¹ The Schuman declaration led to the formation of the European Coal and Steel Community (ECSC) by six founding member states: Belgium, France, Germany, Italy, Luxembourg and the Netherlands. The ECSC Treaty (establishing the European Coal and Steel Community or the 'Paris Treaty') was signed in Paris on 18 April 1951 and came into force on 23 July 1952.² Its goal was to create a common market for coal and steel.

EC6 (customs union)

On 25 March 1957 in Rome the six founding members of the ECSC (EC6) signed two 'Rome treaties': (i) the treaty establishing the European Atomic Energy Community (EAEC or Euratom) and (ii) the treaty establishing the European Economic Community (EEC). The EAEC Treaty aimed at the peaceful use of atomic energy in Europe. The EEC Treaty was the cornerstone of European economic integration. It came into effect on 1 January 1958. As a long-term objective, Article 2 of the EEC Treaty postulated the creation of a common market. In the medium term the formation of a customs union (CU) was envisaged. The CU was completed after reducing step by step the previously existing bilateral import tariffs between the EC6 member states (ranging from 9 to 24 per cent) to zero in July 1968 and establishing a common external tariff (CET) *vis-à-vis* third states of 16.8 per cent on average for manufactured goods (see Breuss, 1983, p. 77). With the 'Merger Treaty', signed in Brussels on 8 April 1965 common institutions for all three communities (ECSC + EEC + EAEC) were created and came into force on 1 July 1967. Since then one speaks of the European Community (EC) or European Communities.

EFTA7 (free trade area)

As a 'parallel action' in European integration history, the remaining European countries which worked together in the OEEC (Organisation for European Economic Cooperation; the OEEC was founded by 16 countries in Paris on 16 April 1948 with the goal of organising the Marshall Plan programme for Europe and starting trade liberalisation in Europe shortly after the Second World War) and not belonging to EC6, formed the European Free Trade Association (EFTA). The EFTA convention was signed in Stockholm on 4 January 1960 by seven countries (EFTA7): Austria, Denmark, Norway, Portugal, Sweden, Switzerland and the United Kingdom. The major objective was to create a free trade area (FTA) by eliminating bilateral import tariffs between member states (ranging from 9 to 20 per cent). The EFTA was completed in December 1966. In contrast to the CU of the EEC, each member state maintained its external import tariff (ranging from 3 to 12 per cent; see Breuss, 1983, p. 77).³

First EC enlargement 1973 (EC9)

On 1 January 1973, three countries (Denmark, Ireland and the United Kingdom) acceded to the EC, two of which were formerly EFTA members. Parallel to the EC

enlargement, a free trade agreement FTA between the member states of the EEC, the ECSC and those of the EFTA was signed in Brussels on 22 July 1972 and came into force on 1 January 1973. The target was the creation of a free trade area between the EC and the EFTA by eliminating the bilateral import tariffs for manufactured goods step by step. On 1 July 1977 the so-called European Free Trade Area between the EC and the EFTA was completed.

Second (EC10) and third (EC12) EC enlargements in the 1980s

On 1 January 1981 Greece became the tenth EC member. On 1 January 1986 Portugal and Spain entered the EC.

Single European Act – the first revision of the founding treaties

On 17–18 February 1986, in The Hague and Luxembourg, the 12 EC member states signed the Single European Act (SEA), which came into force on 1 July 1987. With this first revision of the three founding treaties (ECSC, EEC and EAEC), the original goal – the creation of a common market – was codified again with a detailed timetable and law enforcement process. This project was called the ‘single market programme’ (SMP). It was based on the European Commission’s 1985 White Paper ‘Completing the Internal Market’,⁴ a comprehensive blueprint for welding together the fragmented national markets to create a genuinely frontier-free single market by the end of 1992 (see European Commission, 1985).

European Union – single market in 1993

With the ‘Maastricht Treaty’ a second revision of the three founding treaties took place. It was signed in Maastricht on 7 February 1992 and came into force (after some turbulence surrounding the ratification process) on 1 November 1993. Since then there have been two further treaties: (i) the treaty establishing the European Community (ECT) and (ii) the treaty on European Union (TEU), dealing with the political dimension and ultimately the further development of the EU into a political union. The ECT is the revised version of the former EEC Treaty and has two major goals: (i) the completion of the single market (SM) and (ii) the creation of Economic and Monetary Union (EMU). The SM came into force on 1 January 1993 and EMU started on 1 January 1999.

The European Economic Area of EC and EFTA

In order to strengthen the bonds between the remaining EFTA countries and the EU member states, an agreement on the European Economic Area (EEA) was signed in Porto on 2 May 1992, coming into force (one year after the SM) on 1 January 1994. The EEA should create a quasi-single market requiring the takeover of three-quarters of the economic law of the EU’s *acquis communautaire* without forming a customs union and not integrating the EFTA countries into the Common Agricultural Policy (CAP). After the fourth enlargement of the EU, only four EFTA countries remained: Iceland, Liechtenstein, Norway and Switzerland. Only three out of these four became members

of the EEA agreement. Switzerland voted against participation in 1992, and subsequently this country developed special relations with the EU in two bilateral agreements (Bilateral I and II), which de facto recapitulate the legal arrangements of the original EEA.

Fourth (EU15) EU enlargement in 1995

On 1 January 1995, three former EFTA countries (Austria, Finland and Sweden) entered the EU. Norway was also offered (after 1972, for the second time) the opportunity to become an EU member but its electorate voted against EU accession. The EU15 reached its peak in terms of GDP per capita because the newcomers were all rich countries.

Economic and Monetary Union (EMU) in 1999

On 1 January 1999 the EMU started its third phase with 11 EU member states (Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain). In 2001 Greece joined the euro area. After the grand EU enlargement, in 2007 Slovenia was the first to adopt the euro; in 2008 Malta and Cyprus and in 2009 Slovakia also joined the euro area. Sixteen of the 27 EU member states are now members of the euro area, with the euro as legal tender (EUR16). The EMU works with a specific, asymmetric policy design: a centralised monetary policy, conducted by the European Central Bank (ECB) is complemented by a decentralised economic policy (primarily fiscal policy) in the competence of the member states. However, the economic policy is coordinated with a complex system of instruments, methods and processes. One of the most prominent is the Stability and Growth Pact (SGP) which aims at a balanced budget over the business cycle (see Breuss, 2007d). With the EMU, European economic integration has reached its highest level, following the CU in the 1960s and the Single Market at the beginning of the 1990s.

Fifth EU enlargement in two steps, 2004 and 2007 (EU27)

On 1 May 2004, 10 member states, primarily former communist countries (after transforming themselves from planned to market economies and establishing democratic regimes), entered the EU (Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Czech Republic, the Slovak Republic and Slovenia). On 1 January 2007, the fifth enlargement was completed with the accession of Bulgaria and Romania. The fifth enlargement was not only a great one because of the number of countries acceding at the same time, but it was also a grand enlargement step in political terms – it finally brought to an end the political separation as a consequence of the Second World War. Thus, the fifth enlargement is more important politically than economically.

In search of a constitutional treaty

After the Maastricht Treaty, further attempts were made to adopt the legal framework to the enlarging Union. The Amsterdam Treaty (third revision of the founding treaties) was signed in Amsterdam on 2 October 1997, and came into force on 1 May 1999.

Its intention was to establish a Common Foreign and Security Policy for the EU. An extra employment chapter was introduced into the ECT and the Schengen *aquis* was incorporated (with a protocol) into the primary law of the ECT and TEU, allowing EU-wide travelling without a passport. In view of the grand enlargement, the EU had to rule on the necessary provisions and adjustment of its institutions (Council, European Parliament and ruling by qualified majority) and policies (regional policy; CAP). This was achieved in the Nice Treaty, which was signed in Nice on 26 February 2001 and came into force on 1 February 2003. With this treaty, which is still the basis of the legal operations of the enlarged EU, the EU made its fourth revision of its founding treaties.

In a step to set up a Constitution for Europe, the European Convention finalised a Draft Treaty in July 2003 establishing a Constitution for Europe. After some revisions and adjustments by the member states the Treaty establishing a Constitution for Europe (TCE) was signed in Rome on 29 October 2004. It was planned that the TCE – after ratification – should come into force on 1 November 2006. After the no-votes by the electorates of France and the Netherlands in May and June 2005, the TCE was withdrawn. As a compromise, the Treaty of Lisbon (LT) was agreed upon and signed by the 27 EU member states in Lisbon on 13 December 2007. After many hurdles in the ratification process (for example, a second referendum in Ireland constitutional quarrels in the Czech Republic) the LT came into force on 1 December 2009.

The LT amends the current EU and EC treaties, without replacing them. It will provide the Union with the legal framework and tools necessary to meet future challenges and to respond to citizens' demands. Whereas the TCE would have comprised only one treaty, the LT again consists of two: (i) the Treaty on European Union (TEU), and (ii) the Treaty on the Functioning of the European Union (TFEU). The Charter of Fundamental Rights of the European Union, until recently only a declaration, is integrated into the TEU. A part from some institutional changes, the primary goals of the Union remain the same: (i) internal market, (ii) EMU, and (iii) the Union offers its citizens an area of freedom, security and justice without internal frontiers, in which the free movement of persons is ensured. The parties create a European Union, henceforth called the 'Union', which will replace and succeed the European Community as its legal successor. The Union has its own legal personality.

Multilateral trade liberalisation via GATT and the World Trade Organization (WTO)

Parallel to the economic integration process of the EEC, the EC and the EU (as well as that of EFTA) a multilateral process of trade liberalisation took place at the same time. Eight successful GATT rounds reduced the average import tariffs for manufactured products from 38 per cent in 1947 to 3.8 per cent after the Uruguay Round results were implemented in 1995, thereby stimulating world trade and growth (see Badinger, 2005). The Doha Round (with its Development Agenda), which was initiated at the Ministerial Meeting in Doha (Qatar) on 7–14 November 2001, is still pending with no visible result.

3 THE MAJOR STEPS OF EUROPEAN ECONOMIC INTEGRATION AND THEIR QUANTITATIVE EFFECTS

The customs union in the 1960s

The establishment of a CU in 1968 was the first major achievement in the process of European integration. Starting from their individual external tariffs in 1968, the EC6 abolished tariffs on trade within the European Community and harmonised their external tariff over the period from 1958 to 1968.⁵

According to the seminal paper by Viner (1950), forming a CU can affect international trade in two different ways. On the one hand, as a result of the abolition of tariffs on trade within the union, one would expect trade between the partner countries to increase, since member countries' domestic production is partly replaced by cheaper – now freely traded – products from other countries that belong to the CU. This positive welfare effect is referred to as 'trade creation'. On the other hand, as a result of the introduction of the CET, imports from third countries will be replaced by more expensive products from countries of the CU, redirecting trade from third countries to partner countries. This negative welfare effect is referred to as 'trade diversion'.⁶ Whether the net welfare effect, that is, the difference between trade creation and trade diversion, is positive or negative, cannot be answered from a purely theoretical perspective and remains to be determined empirically.⁷

Several empirical studies have tried to reach a quantitative *ex post* assessment of the effects implied by the CU, using various methodologies, ranging from simple calculations, assuming that the share of imports from EC members and third countries would have stayed constant without customs union, to more sophisticated constructions of an '*anti-monde*', using estimated import demand elasticities or projections of a simple gravity model. We shall not discuss the methodological issues involved, which are discussed in more detail in Hansen et al. (1992, p. 28ff.), but only summarise briefly the main quantitative results.

Despite the variety in the approaches, a common conclusion emerges: the trade creating effect dominates the trade diversion effect, which is negligibly small in most studies. On average, the CU appears to have raised intra-EU trade by some 20 per cent, whereas the trade diversion effect amounts to 3.8 per cent on average. Accounting for the fact that intra-EC trade made up roughly half of total EC6 trade by the end of the 1960s, the implied increase in terms of intra-EC trade made up some 40 per cent, with estimates ranging from 26 to 52 per cent.

The result that the overall trade diversion effect is fairly small and even negative in one of the studies is not too surprising in light of the fact that the harmonised external tariff was in line with the individual tariffs by Germany and France before the CU, and actually lower than the individual external tariff of Italy. Only for the Benelux countries (Belgium, the Netherlands, Luxembourg) was the adoption of the CET a step towards more protectionism (in absolute terms).

A more recent study by Badinger and Breuss (2004) uses static and dynamic panel data approaches to estimate the determinants of the growth of intra-EU trade over the period from 1960 to 2000, based on the gravity model by Baier and Bergstrand (2001). Their overall finding is that the major force was income growth, accounting for 70 per

Table 14.1 Trade creation versus trade diversions in the EC6: ex-post evidence

Study	Year	Trade creation		Trade diversion	
		US\$ bn	in % of total EC imports	US\$ bn	in % of extra-EC exports
Balassa (1975)	1970	11.3	13	0.3	1
Truman (1972)	1968	8.7	26	0.9(-1.6)	5(-6)
Kreinin (1972)	1967/68	4.3	13	1.8	10
Williamson and Bottrill (1971)	1969	11.2	25	0.0	0
Verdoorn and Schwartz (1972)	1969	11.1	25	1.1	5
Aitken (1973)	1967	9.2	14	0.6	2
Average		9.52	20.4	0.32	3.8

Sources: Hansen et al. (1992, p. 30), based on Balassa (1975, p. 104), and Ohly (1993, p. 17).

cent of intra-EU trade growth. European integration and GATT/WTO liberalisation, reflected in the reduction of tariffs, also played a substantial trade creating role, accounting for approximately one-quarter of the growth of intra-EU trade. The estimates by Badinger and Breuss (2004) of the effects of tariffs of intra-EU trade can also be used to calculate the implied trade creation effect of the CU. Using the degree of the reduction in the average tariff of the three large EC member states Germany, France and Italy, the projected trade creation effect amounts to some 53 per cent of intra-EC trade.⁸ This is in line with the average results of the studies reported in Table 14.1.

Finally, in spite of the relatively large trade effects, the welfare effects due to pure static relocation effects, calculated from the welfare triangles of the standard CU model, are fairly small, typically less than 1 per cent of GDP. Such a calculation, however, is likely to miss several important welfare-enhancing aspects of CUs such as the pro-competitive effects of trade, the elimination of X-inefficiencies, the gains from exploiting economies of scale and also the dynamic effects of an increase in trade (Pelkmans, 2001, p. 102).

More trade effects: the early EU enlargements and the European free trade area

The first enlargement of the EC took place in 1973 by Denmark, Ireland and the UK. As a consequence, tariffs between the EC6 (Benelux, France, Germany and Italy) and the three accession countries (and also the tariffs between the three accession countries) were eliminated; moreover, Denmark, Ireland and the UK adopted the CET over a five-year implementation period from 1973 to 1978.

At the same time the European free trade area was created by free trade agreements between the EC9 (EC6 plus Denmark, Ireland and the UK) and the six EFTA countries at that time (Austria, Switzerland, Iceland, Norway, Portugal and Sweden) as well as Finland. These free trade agreements came into force in 1973 and were implemented between period 1973 and 1977. Hence, tariffs on industrial goods were virtually eliminated between the EC and EFTA countries in the late 1970s. As a consequence, the trade effects – at least those associated with tariff reductions – due to the subsequent EU

Table 14.2 *Trade effects of EC enlargement in 1973 and the European free trade area*

		Trade effects in percent of total trade
(a) EC accession of DK, IE, UK		
Trade effects for	EC6	1.4
	Denmark	2.5
	Ireland	16.0
	UK	6.2
(b) European free trade area		
Trade effects for	EC6	1.3
	Austria	17.6
	Portugal	14.5
	Sweden	3.6
	Finland	7.0

Note: Trade effects calculated from estimates and data in Badinger and Breuss (2004).

enlargements up to 1995, that is, in 1981 by Greece, in 1986 by Spain and Portugal, and in 1995 by Austria, Finland and Sweden, are likely to be of relatively minor importance (at least as far as their trade effects are concerned) and thus are not considered here.

In order to get some impression of the magnitude of the implied trade effects of the progress in European integration in the 1970s, we use the estimates by Badinger and Breuss (2004) on the effects of tariffs on intra-EU trade, and the respective tariff levels and the trade shares in the early 1970s for a simple simulation exercise. Table 14.2 gives an overview of the implied trade effects of the EC accession of Denmark, Ireland and the UK on the EC6 and the new member states, and the trade effects of the European free trade area on the EC6 and (part of) the EFTA countries as well as Finland.⁹

The implied long-run trade effects are as expected: countries that previously had a relatively large tariff level and sizeable trade relationships with the EC6 and EFTA members (such as Austria) gained most. The effect on the EC6 is relatively small, which is not too surprising in light of the fact that the trade share of the accession and EFTA countries together made up less than 15 per cent in the early 1970s.

The EC enlargements and the European free trade area also offers a good test case for an interesting hypothesis regarding the distribution of the gains from the enlargement of a trade bloc among the existing member states, outlined in a new trade theory model by Casella (1996), which is based on the assumption of increasing returns to scale. The basic argument is simple and intuitively appealing: enlarging a trade bloc increases the size of the market that a firm can reach with relative ease. This increase will be more significant for firms located in small countries, whose own domestic market is small. This means that the increases in competitiveness are relatively larger for (firms in) small countries, so that the entry of new members in a trade bloc will favour particularly small countries. This conclusion is reached by Casella both analytically as well as in a number of numerical simulations.

The message of this model is fairly general. Under increasing returns, large countries may have a starting advantage. But any regime shift that induces an increase in market

size (or the size of the market that can be reached with relative ease) such as an increase economic integration, triggers a catching-up effect of the small countries, since their relative market expansion is larger.

Empirical tests of the ‘Casella hypothesis’ were carried out by Badinger and Breuss (2006) for the EC enlargements and the European free trade area, and by Badinger and Breuss (2009) for the introduction of the euro, to which a similar reasoning applies. Overall, there is mild support for the existence of a small country bonus and that country size is an important mechanism shaping economic performance. However, the transmission channel mentioned above, that is, an increase in relative competitiveness as a result of a market expansion, does not appear to be the only relevant one if there are increasing returns to scale, and mechanisms favouring large countries (such as group ties and network effects) are conceivable as well.

The EU Single Market – a major step in European integration

Creating a common market was already an objective in Article 2 of the EC Treaty of 1957. However, the goal was only realised – due to pressure from big business and the competitive pressure by US President Ronald Reagan’s ‘Strategic Defense Initiative’ (SDI) in the 1980s – in 1993 under the heading ‘single market’ (also called the internal market).¹⁰ The legal basis was the Maastricht Treaty. In 1993, the incumbent EU12 member states of stepped up the integration ladder from just a CU with some harmonised policy areas (for example, CAP, 1962; common commercial policy in connection with the CU, 1968; reformed regional and cohesion policy since 1988) to full market integration of the SMP. Since 1993, newly acceding countries not only entered into the EU’s CU but also into the SM. The SM aims to bring down all remaining non-tariff barriers (NTBs, for example, border controls), which had been existing under the CU since 1968. The cornerstones of the SM are often said to be the ‘four freedoms’ – the free movement of people, goods, services and capital. These freedoms are enshrined in the EC Treaty. A common competition law secures fairness as well as supporting policies aiming at combating illegal activities, fostering legitimate trade and protecting the interests of individuals and companies.

The SM is a far more complex integration step than just a CU. It concerns all aspects of economic integration, except tariffs, because these had already been eliminated in the CU of the 1960s. The elimination of border controls reduces transaction costs and hence enhances intra-EU trade. In addition, the SM influences firm and consumer behaviour in several other aspects. It also alludes to all topics of modern industrial and trade economics of imperfect competition. There is a huge literature on the empirical effects of the completion of the SM, derived from a variety of methods and models. Before surveying these studies, the following subsection discusses the theory of SM integration.

A ‘unified’ theory of SM integration

Whereas most of the worldwide existing RTAs can be analysed with reference either to Viner’s CU theory or to the theoretical extensions and generalisations of his followers (for example, Cordon, 1972; Lloyd, 1982; Kennan and Riezman, 1990), the evaluation of the economic integration effects of the EU’s SMP requires rather the ingredients of modern trade theory.

An SM integration theory must explain not only the trade aspects of abolishing border

controls and the impact of the four freedoms, but also the microeconomic changes due to full market integration (from imperfect to more competition; the implication of exploiting economies of scale in a larger and more integrated SM). We refer to (and interpret) the theory of regional economic integration in the case of a regional integration agreement (RIA¹¹) by Baldwin and Venables (1995) for the case of the SM.

Following Baldwin and Venables (1995, pp. 1616 ff.) suppose that the welfare of a representative consumer of an incumbent or a new EU member state can be represented by an indirect utility function $V(p + t, n, E)$, where p is the vector of border prices, t is a vector of trade costs including the tariff equivalent of import barriers (NTBs such as border controls), n is a vector of the number of product varieties available in each industry, and the scalar E is total spending on consumption. Expenditure of an EU member state is equal to the sum of factor income, profits and rent from trade barriers that accrues to domestic agents (including the government), minus investment and income out of the EU budget under the structural fund transfers: $E = wL + rK + X[(p + t) - a(w, r, x)] + \alpha tm - I + SF$. Total factor income is $wL + rK$, where L and K are the country's supply of labour and capital and w and r are factor prices. The third term on the right-hand side is total profit. It is the inner product of the economy's production vector X and the gap between domestic prices and average costs, $a(w, r, x)$, where average cost in each sector depends on factor prices and production per firm in that sector, x . Domestically accruing trade rents amount to αtm , where m is the net import vector (positive elements indicate imports) and α is a diagonal matrix that measures the proportion of the wedge t that creates income for domestic agents; $\alpha = 1$ for a tariff or other barrier with domestically captured rent (DCR) and $\alpha = 0$ for a barrier where no trade rent is captured domestically (non-DCR). For example, t may represent real trade costs or a quota or voluntary export restraint (VER) under which foreigners capture the quota rents or in the case of integrating into the SM the trade costs of border control. Finally, I denotes investment and SF net income from structural fund transfers out of the EU budget.

By totally differentiating $V(p + t, n, E)$ and dividing through by the marginal utility of expenditure V_E , Baldwin and Venables (1995, p. 1601 and Appendix A) derive an equation (here slightly extended) of welfare change for an incumbent or a new EU member state entering the SM¹²:

$$\begin{aligned} dV/V_E &= \alpha t dm - md(t - \alpha t) - m dp \\ &+ (p + t - a) dX - x a_x dx + (V_n/V_E) dn \\ &+ (\tilde{r}/\rho - 1) dI \\ &+ dSF. \end{aligned} \tag{14.1}$$

A 'unified' theory of SM integration should be able to explain at least three major integration effects of creating the SM: *allocation of resources* (static 'trade effects' due to the 'four freedoms' and the elimination of border controls; 'scale effects'), *accumulation or growth effects*; and *location effects* inclusive of factor movements:

1. *Trade effects* The first line of equation (14.1) includes static welfare effects of models with *perfect competition*. The first term is the 'trade volume' effect. The trade

volume changes subject to the wedge created by DCR trade barriers, αt . In the case of forming a CU, trade creation and trade diversion effects would be captured by this term. The second term is the ‘trade cost’ effect, measuring the change in costs generated by changes in the non-DCR elements of trade barriers. The third is the ‘terms of trade’ effect. The last effect occurs only if the country is a large country that can influence world trade prices. For a small country the third term would be zero.¹³ After EU accession the new member states enter the CU of the EU and participate in the EU’s SMP. That means, on the one hand, adjustments of the national external tariff to the EU’s CET and the abolition of border controls. Hence, the remaining trade costs are eliminated. Interpreted with equation (14.1), entering the CU requires an adjustment of import tariffs to the CET, either upwards or downwards, depending whether the new member state was a low- or high-tariff country. The abolition of border controls is captured by the second term of the first line of equation (14.1) and increases welfare.

2. *Scale effects* The three terms in the second line of equation (14.1) capture theoretical predictions of models with increasing returns to scale and *imperfect competition*. These effects encompass integration effects which by some authors are called ‘full SM integration’ effects (see Smith and Venables, 1988; Haaland and Norman, 1992; Haaland, 1993). The first term is the ‘output’ effect, arising if there is a change in output in industries where price differs from average cost. The second term is the ‘scale’ effect, which gives the value of changes in average costs induced by changes in firm scale. The third term gives ‘variety’ effects which may arise when the number of differentiated consumer products changes, such as in trade models with Dixit–Stiglitz type utility functions and ingredients of the theory of monopolistic competition (see Grossman and Helpman, 1991).
3. *Accumulation effects* The term in the third line captures what is also called the ‘growth’ effect of regional integration. It implies that a change in investment is instantaneously costly, but it also augments the capital stock with a social rate of return \tilde{r} . Discounting this at a social discount rate ρ gives the present value \tilde{r}/ρ , and a change in investment has a first-order welfare effect if this ratio differs from one.
4. *Net EU budget effects* The term of the fourth line indicates the welfare improvement or deterioration due to the position of an EU member state *vis-à-vis* the EU budget, either being a net receiver (primarily poor countries) or a net payer (mostly rich countries).
5. *Location or globalisation effects*¹⁴ A ‘unified’ theory of the SM should also capture effects of ‘globalisation’ or factor movements. Integration of rich and poor countries – such as in the case of the EU’s grand enlargement in 2004 and 2007 – under the conditions of the four freedoms rules of the SM might induce huge factor flows: foreign direct investment (FDI) from the old to the new EU member states because of expected higher rents in the ‘emerging markets’ of Eastern Europe and labour from the new to the old member states because of the huge wage differential in the order of up to 1:10. Such factor movements and its welfare implications are only indirectly captured in equation (14.1). FDI inflows in the acceding country may renew the capital stock and hence increase investment (third row). Labour emigration leads to a welfare loss (‘migration loss’) in the sender country and to a welfare gain (‘immigration surplus’) in the recipient country (the old EU member states).¹⁵

In the context of equation (14.1) labour migration could be interpreted only if one assumes wage differentials in the expenditure equation E , which would induce migration. In the special case of the EU enlargements in 2004 and 2007, it might well be that the factor movement effects dominate the trade effects.

SM effects in model simulations

The SMP attracted much research not only focusing on the effects within the EU but also within the EFTA,¹⁶ either as partner with the EU via the EEA¹⁷ agreement of 1994 or – as in the case of Switzerland¹⁸ – due to bilateral agreements (mapping the EEA agreement). The EEA was intended to tie in the EFTA countries not willing to become EU members to most of the content of the SM: at least part of the four freedoms (without being a member of the EU's CU) and the common competition policy.

Ex ante studies Most of the studies on the economic impact of the SMP were undertaken ahead of its completion. The methods applied to quantify the possible integration effects of the SM and/or that of EEA range from partial-analytical models with imperfect competition (pioneers were Smith and Venables, 1988) to computable general equilibrium (CGE) models either for one or more countries. In addition, macroeconomic models were also used, either for only one country or for a multitude of countries. In Table 14.3 the results of *ex ante* studies are summarised.

Ex post studies Very early after the completion of the SM, the European Commission (1996) published a study evaluating the SM effects so far. The major outcome was that intra-EU trade has increased. Allen et al. (1998) studied the impact of the SMP, distinguishing among its effect on patterns of production and trade and its effects on price–cost margins and industrial restructuring. The SMP was mainly trade creating: the domestic production share of demand has fallen by 5.4 percentage points on average while the shares of both intra- and extra-European trade have increased by 2.95 and 2.45 percentage points, respectively. With respect to the pro-competitive effect of the SM, they find that price–cost margins have fallen by 3.6 percentage points in the high- and medium-sensitive industries. A more comprehensive study on the pro-competitive effects of the SM by Badinger (2007) finds that this result appears to hold up for EU manufacturing industries on average, whereas price-cost margins in service industries have remained constant or even increased in the 1990s.

On the occasion of the 10th anniversary of the SMP in 2003, the European Commission in an internal evaluation via simulation with the QUEST II model came to the following conclusions: real GDP would have been 1.4 per cent lower (with a lower and upper bound of 0.8 and 2.1 per cent) in 2002 without the SMP. Small additional gains are to be expected in the next decades, with an additional GDP effect of 0.4 per cent until 2012 and 0.5 per cent in 2022 (see Roeger and Sekkat, 2002). These results are based on a positive total factor production (TFP) and a negative mark-up shock to the economies of the EU.¹⁹

Given the outcome of most studies, the integration effects due to the SM should have given rise to a considerable improvement in economic growth of the EU countries. However, compared with reference countries such as the United States, the growth performance in the EU since 1993 was disappointing. Even the additional initiative of the

Table 14.3 Results of studies on the economic impact of the SM

Author(s)	Year of study	Method	Results		Other remarks		
			Area covered	Variable		Impact	Period
Cecchini et al.	1988	Surveys, macro-model	EU12	Whole economy, several sectors	+4.3/6.4% (welfare increase in % of GDP)	Medium run	'Cecchini report' commissioned by the EC ('Cost of non-Europe')
Emerson et al.	1988	Micro and macro models	EU12	Whole economy, several sectors	+4.3/6.4% (welfare increase in % of GDP)	Medium run	Summary of the 'Cecchini report' + model simulations
Catinat et al.	1988	Macroeconomic model (Quest)	EU12	Whole economy	+4.5% GDP	6 yrs	With more expansionary fiscal policy + 7.5%
Bakhoven	1989	World macro model	EU12, Netherlands	Whole economy	Total effects are sum of: (i) elimination of border controls; (ii) liberalisation of public procurement; (iii) liberalisation of financial markets; (iv) supply-side effects (economies of scale – higher productivity) +2.3% GDP	6 yrs	Pessimistic as to the timely implementation of SM law
Smith and Venables	1988	PE model	Some EU12 countries	10 sectors	+0.6/1.8% welfare of base consumption	Steady state	Case study for electrical household appliances
					Cournot behaviour, 2 scenarios: (i) reduced trade barriers (LTC) by 2.5 of intra-EU trade (ii) integrated (SM) markets (FI) (product variety; higher firm concentration; less segmented market pricing); welfare of (i) is less (0.6%) than that of (ii) (1.8%)		

Table 14.3 (continued)

Author(s)	Year of study	Method	Results		Other remarks		
			Area covered	Variable		Impact	Period
Baldwin	1989, 1992, 1993, 1994	Growth theory	EU12	Whole economy	+3.3/11.7% GDP growth	Long-run steady state	'Baldwin multiplier': $\gamma = \frac{1}{1 - (\theta + \alpha)\omega},$
Mercenier	1992	GE (CGE) model	5 EU countries + ROW	Whole economy, 7 industries	$\gamma =$ GDP growth rate; $\omega =$ TFP growth rate; $\theta + \alpha =$ economies of scale; γ effects varies by country +0.2/1.1% welfare	Steady state	Alternative oligopolistic market structures (Cournot, Bertrand)
Gasiorek et la.	1992	GE (CGE) model	EU12	64 industries	0.7/17.6% long-run integrated market effects	Steady state	Methodology as in Smith-Venables (1988)
Haaland	1993, 1994	GE (CGE) model	EU12, EFTA, EEA (Norway)	Whole economy + some sectors	+0.2/1.3% EU (LTC) +0.1/2.1% EU (FI) -0.4/2.5% EFTA (LTC) -0.6/3.6% EFTA (FI) (welfare in % of consumption)	Steady state	Two integration scenarios: (i) EU integration (SM); (ii) EEA integration. In both cases LTC and FI integration effects
Norman	1989	GE (CGE) model	EU12, EFTA (Norway, Sweden)	Whole economy, 2 sectors	+0.1/3.8% (EU - LTC/FI - GE) +0.3/7.6% (EFTA - LTC/FI - GE)	Steady state	Comparison PE vs GE; for EFTA outside and inside EU

Breuss and Schebeck	1989, 1991	Macroeconomic model	Austria	Whole economy	+1.6/3.5% GDP (non-EU/EU member)	6 yrs	EEA scenario +2.3% GDP
Breuss et al.	1994	Macroeconomic model + input-output	Austria	Whole economy + 18 sectors	+2.8% GDP	6 yrs	Integration effect in addition to the passive EFTA and active EEA effect (in total +5% GDP)
Keuschnigg and Kohler	1996	Dynamic GE (CGE) model	Austria (Finland, Norway, Sweden, Switzerland)	Whole economy + 10 sectors	+1.2/1.9% welfare in % of GDP/GDP (FI scenario)	Steady state	Derived welfare effects for: Finland +1%, Norway +1.4%, Sweden +0.6%, Switzerland +1.3%
Antille et al.	1992, 1993	GE (CGE) model	Switzerland	Whole economy, 19 sectors	+2.2/2.7% welfare p.c./GDP (FI)	Steady state	4 scenarios: LTC, immigration, FI, LTC(EU)
Grether and Müller	2000	GE (CGE) model	Switzerland EU15, ROW,	Whole economy, 26 sectors	+2.9% GDP	Steady state	EU accession of Switzerland

Note: CGE = computable general equilibrium; PE = partial equilibrium; GE = general equilibrium; EC = European Commission; LTC = lower trade costs due to the abolition of border controls (2.5 per cent of value of trade goods); FI = LTC + full SM integration.

Lisbon Agenda of 2000²⁰ to boost growth and jobs in Europe, and additional integration steps such as EMU and the grand enlargements of 2004 and 2007 have not resulted in a growth bonus of the EU over the United States. This remains an integration puzzle to be solved (see Breuss, 2006b).

EMU – a project of world historic dimensions

Only six years after the creation of the EU Single Market in 1993, the introduction of the euro in 1999 marks the next milestone in European integration. Considerable research has been devoted both *ex ante* and *ex post* to assess the potential benefits and drawbacks of a single European currency. Research on the effects of the euro can be roughly grouped into two categories. A number of studies addressed the question whether the EU (or which subset of EU countries) constitutes an optimum currency area. The largest amount of research was attracted by the question concerning the trade effects of the euro. We briefly consider the results of these two groups of studies.²¹

Optimum currency areas: an old theory for a modern project

The issue of choosing a fixed or flexible exchange rate regime is one of the most fundamental and important questions of international economics. The mainstream view is that a flexible exchange rate regime is preferable, unless the group of countries constitutes an optimum currency area (OCA). The seminal analysis of the conditions under which a group of countries can be regarded as an OCA is due to Mundell (1961). Roughly speaking, it states that the welfare effects of a common currency exceed its costs, if the economies are ‘sufficiently’ prepared to adjust to asymmetric shocks through mechanisms other than a change in the exchange rate (which is no longer available under fixed exchange rates), labour mobility in particular. Hence, there is a trade-off between real divergence of economies and the functioning of adjustment mechanisms.

Several studies have extended and refined the seminal contribution by Mundell: McKinnon (1963) emphasises that a group of countries is more likely to form an OCA, the more integrated in international trade it is. The reason is that for very open economies, the nominal exchange rate is not a proper adjustment mechanism anyway, since changes in the exchange rate quickly pass through to domestic prices. Kenen (1969) argues that countries with a high degree of trade diversification and trade dissimilarity are less likely to experience asymmetric shocks and thus are more suited to introduce a single currency.²²

There is wide agreement among economists that the way the euro has been launched and introduced was a political rather than an economic project. First, the convergence criteria,²³ which define the legal requirements to be fulfilled by EU member states before introducing the euro and which remain applicable for future candidate countries, are poorly motivated from an economic perspective. Krugman (1994, p. 21) even referred to the Maastricht criteria as a ‘sheer nonsense’. Since the criteria for the adoption of the euro are entirely unrelated to OCA theory, it comes as no surprise that the group of 11 countries that adopted the euro in 1999 are typically not regarded as an OCA, in particular as far as the labour mobility criterion is concerned. (See Bayoumi and Eichengreen, 1997 for a quantitative analysis of the EU in terms of OCA theory.) This appears to be even more true for the present group of 16 euro area countries,

additionally including Greece (since 2001), Slovenia (2006), Cyprus and Malta (2008) and Slovakia (2009).

A more recent, alternative strand of theory, referred to as endogenous OCA theory (Mundell, 1973a, 1973b; Frankel and Rose, 1998), holds that the criteria for an optimum currency might be endogenous. This means that even if the countries do not constitute an OCA *ex ante*, the single currency and harmonisation of monetary policy might cause the economies, in particular their business cycles, to converge. As a consequence, the degree of real divergence decreases and the group of countries may constitute an OCA *ex post*. The empirical relevance of this argument is still unclear. For example, there is so far hardly any evidence for the emergence of a European business cycle after the introduction of the euro (Giannone et al., 2008), though it is clearly too early for a conclusive empirical assessment.

Trade effects of the euro

A large number of studies used a gravity equation approach to assess the effects of the euro on intra- and extra-EU trade. Baldwin (2006a, 2006b) provides an exhaustive in-depth survey of the literature, to which the reader is referred for a more detailed review of the numerous studies and the methodological issues. The main results can be summarised as follows (Baldwin, 2006a, p. 1).

First, compared with previous estimates of the trade effects of common currencies,²⁴ the trade effect of the euro is relatively small. The average stimulus to intra-euro area trade amounts to some 10 per cent, the estimates ranging from 5 to 15 per cent.

A second important finding is that the euro caused no trade diversion; in contrast, it appears to have boosted imports from outside the euro trade by some 7 per cent, which is not too different from the effect on intra-euro area trade. Some studies suggest that this might also hold for exports to non-euro area countries.

Third, there is considerable variation in the trade effects across the euro area countries. The largest winners have been Spain, the Benelux countries and Germany, with increases in intra-euro area trade up by more than 20 per cent. Table 14.4 gives an overview of some country-specific estimates.

Fourth, there is also considerable variation in the trade effects of the euro across industries; the largest gains appear to have occurred in scale-intensive industries and industries that require relatively much processing and are differentiated. Ignoring beverages and tobacco,²⁵ the largest gains appear to have occurred in machinery and equipment and chemicals. Table 14.5 shows the industry variation in the estimated trade effects.

Two further results are that the trade effects of the euro materialised rather quickly and occurred in 1999. However, despite the jump in trade flows there is hardly any evidence for price convergence following the introduction of the euro.

While most previous studies have been concerned with the estimation of the overall trade effect of the euro, more recent research is trying to identify the channels through which the trade effects have been triggered. The finding that many of the greatest winners of the euro are tightly integrated countries that had a relatively small exchange rate variability against the DM before the introduction of the euro suggests that the elimination of exchange rate fluctuations is not the driving force.

The traditional view sees the trade effects of the euro as mainly passing through the channel of a reduction in transaction costs.²⁶ An alternative view, the so-called 'new

Table 14.4 *Trade effects of the euro by country*

	Micco et al. (2003)		Faruquee (2004)	
	Intra-EU trade	Extra-EU trade	Intra-EU trade	Extra-EU trade
EMU	12.6	8.6	14.4	8.0
Austria	13.7	8.8	14.8	6.0
Belgium–Luxembourg	16.9	12.0	14.9	9.3
Finland	5.5	−0.7	6.1	−2.1
France	14.9	11.7	14.0	8.2
Germany	15.6	12.5	16.6	6.4
Greece	−2.4	2.1	–	–
Ireland	9.6	10.5	14.6	10.5
Italy	13.5	10.0	15.9	8.7
Netherlands	19.3	21.7	19.3	19.3
Portugal	3.0	−3.0	5.1	0.3
Spain	21.7	10.0	20.9	9.4

Note: Dependent variable is imports plus exports.

Table 14.5 *Trade effects of the euro by SITC group (in percent)*

		Intra-EU trade	Extra-EU trade
SITC 1–9	Aggregate	17.2	8.9
SITC 0	Food and live animals	1.4	4.7
SITC 1	Beverages and tobacco	35.2	12.9
SITC 2	Crude materials, inedible, except fuels	−3.3	−6.3
SITC 3	Mineral fuels, lubricants and related material	−19.6	−9.6
SITC 4	Animal and vegetable oils, fats and waxes	4.4	18.6
SITC 5	Chemicals and related products	6.9	7.8
SITC 6	Manufactured goods, classified chiefly by materials	12.4	0.2
SITC 7	Machinery and transport equipment	22.4	8.7
SITC 8	Miscellaneous manufactured articles	7.1	−0.2

Source: Flam and Nordstrom (2003, Table 8); dependent variable is exports.

goods' hypothesis, argues that a single currency reduces the fixed costs of market entry, allowing firms that had been just below the efficiency threshold before the introduction of the euro, to introduce new goods into euro area markets. Baldwin (2006a) advocates the view that the new-goods hypothesis is the most likely explanation for the trade effects of the euro, since it is consistent with the non-occurrence of price convergence and trade diversion.

As a final point we note that the large discrepancy between the estimated trade effects of the euro (of around 10 per cent) and the results of empirical studies on other currency unions (of some 200 per cent) is still subject to debate. Three prominent explanations considered by Frankel (2008) are: (i) the euro is still young and the full trade effects have

not yet been realised; (ii) compared with other studies, the euro area is made up by many relatively large countries; and (iii) previous estimates might be seriously biased due to the endogeneity of the decision to introduce a single currency. However, Frankel finds that none of these arguments can explain the large discrepancy between the estimated trade effects of the euro and the estimates for other currency unions.

Tourism effects of the euro

Most *ex post* studies on the trade effect of the euro focus on manufactured bilateral trade. Gil-Pareja et al. (2007) also use a gravity equation approach to study the effect of EMU on tourism. The number of tourist arrivals to country *i* from country *j* (for 12 Euro area countries) over the period from 1995 to 2002 is explained by the usual variables in gravity equations (population, real GDP per capita, distance, relative purchasing power parity (PPP), dummy variables on language, island, land border, FTA, exchange rate volatility and EMU). The tourist flow in the euro area (EUR12) increased by around 6 per cent on average. The largest winners were Greece (+23 per cent), Italy (+18 per cent), the Netherlands (+13 per cent) and Ireland, Finland and Spain (each +11 per cent). Austria (+6 per cent), Germany (+8 per cent) and Portugal (+2 per cent) realised only modest increases. Negative or insignificant effects were found for Belgium–Luxembourg and France.

Ten years of EMU – taking stock

The achievements and shortcomings after 10 years of EMU can be summarised as follows:²⁷

- the euro has contributed to price stability within the euro area;
- the euro has become an important reserve currency (25 per cent of total world reserves) besides the US dollar (65 per cent);²⁸
- the EMU is characterised by a specific asymmetric policy design: a central monetary policy for the whole euro area is matched with a decentralised but complicated coordinated fiscal policy;
- the trade-enhancing nature of the euro is confirmed by many gravity model studies; and
- the expected growth effects of EMU²⁹ have not (yet) materialised.

The grand EU enlargement 2004 and 2007

After the breakdown of communism and the Soviet Union in 1989 and 1991 there was a strong political movement towards Western Europe and in particular towards the EU. This applied to many former Eastern European states belonging either to the sphere of influence of the Soviet Union directly (for example, the Baltic states Estonia, Latvia and Lithuania) or indirectly by belonging to the Council of Mutual Economic Assistance (CMEA: Poland, the Czech and Slovak Republics, Hungary, Bulgaria and Romania) as well as the countries of the Western Balkans, formerly part of the Yugoslav Republic (for example, Croatia, Slovenia, Bosnia and Herzegovina, Montenegro, FRY Macedonia, Kosovo) and the isolated Albania.

In a generous move the EU offered these countries a the prospect of becoming a member.

The first step was the integration via trade liberalisation with the Europe Agreements and the second step was the direct offer to become an EU member if some specific criteria, the so-called ‘Copenhagen criteria’³⁰ are fulfilled. The enlargement process then lasted 10 years from the offer of the heads of state and governments in Copenhagen in June 1993 to the finalisation of the Accession Treaty, again in Copenhagen, in December 2002. The grand fifth enlargement effectively took place on 1 May 2004 with 10 new members, and it was completed with the accession of Bulgaria and Romania on 1 January 2007.³¹ With this grand enlargement, Europe ended the political east–west separation which had lasted throughout the Cold War period since shortly after the Second World War.

EU enlargement continues. According to Article 49 TEU each European country can apply for membership. Currently there are three candidate countries (Croatia, FRY Macedonia and Turkey); the EU has been negotiating with two of these (Croatia and Turkey) since October 2005. There are also five potential candidate countries in the Western Balkans (Albania, Bosnia and Herzegovina, Kosovo, Montenegro and Serbia).

The EU is also pursuing an alternative strategy to pure enlargement, namely the European Neighbourhood Policy (ENP³²) which has been negotiating closer political and economic links with 16 countries, ranging from Northern Africa, the Middle East and the Caucasus to the remaining Eastern European countries. In addition, the EU is trying to establish a special relationship with Russia.

The enlarged EU outperforms the United States in size

With the last, the fifth enlargement, the EU27 increased its population by 26 per cent to 494 million. Hence, the enlarged EU is already bigger than the United States (300 million) and Japan (128 million) but of course smaller than China (1,314 million). Also the EU27’s economic capacity has overtaken that of the United States: the absolute GDP of the EU increased with the 2004/07 enlargement by 16 per cent to 11,646 billion PPP compared to that of the United States (10,715 billion). However, with the integration of 12 poor countries, the average GDP per capita of the EU27 (23,588 at PPP) decreased by 11 per cent, increasing the gap to the United States (35,737; see Breuss, 2007c).

Expected economic effects of an enlarged EU

The theoretical foundation of the estimation of the integration effects of EU enlargement for the old and new member states is based on the ‘unified’ theoretical framework of the SM (see above). Besides the trade effects (the new member states enter the CU and the SM of the EU) and the SM effects (more competition, increased productivity, economies of scale, larger product variety), a major additional role is played by factor movements: FDI from the old to the new member states in Eastern Europe and labour movement from the new to the old member states. The reason is the huge income gap between both regions. The new member states started in 1989 as transformation countries and developed (are still developing) from planned to market economies. All the ingredients of poor countries were there in the early 1990s: low GDP per capita, low entrepreneurial knowledge, old and obsolete capital stock, poorly educated workforce, and institutions not yet fit for a functioning market economy.

The major outcome of the *ex ante* studies summarised in Table 14.6 is that the acceding countries will gain much more from EU enlargement than the incumbent old member states, sometimes in the ratio of 10:1 in the long run.

Table 14.6 Results of studies ahead of EU enlargement on its economic impact

Author	Year of study	Method	Area covered	Results		Other remarks	
				Variable	Impact		
Baldwin et al.	1997	GE (CGE) model	EU15	Whole economy	Real income +0.2%+1.5/18%	Steady state	Germany and Austria benefit more
			CEE7 (Czech Republic, Hungary, Poland, Slovakia, Bulgaria, Romania)	EU15	Public finance	€19 bn (0.2% of GDP)	1999
Barry	2004	Economic integration theory	Ireland	Trade FDI	Agricultural trade (beef, dairy products) is not threatened. No diversion (thanks to technology)	1999	Enlargement includes Czech Republic, Hungary, Poland, Slovenia, Slovakia
				Labour market	Skilled migrants beneficial for economy		Overall, Ireland should not fear enlargement
Breuss	2002	OEF world macroecon. model	13 of EU15, Hungary, Poland, Czech Republic	GDP	+0.5%+8/9% +5/6%	2005–10 2001–10	For Spain, Portugal and Denmark the costs outweigh the benefits
					New EU member states profit 10:1 more from enlargement than old EU member states: GDP growth p.a. 2004–10: Hungary, Poland, Czech Republic +1%; Austria +0.25%, Germany +0.15%, EU13 +0.10%; CEEC10: +0.5/0.75%		

Table 14.6 (continued)

Author	Year of study	Method	Area covered	Results		Other remarks	
				Variable	Impact		
Breuss	2007a	Macro model	Bulgaria, Romania, EU-new10, EU15	Overall economy	+0.5% +0.01% +0.02% +0.05%	2007–20 GDP growth p.a.	Integration effects: (i) trade (CU, SM); (ii) productivity (FDI, R&ED, structural funds), (iii) migration
European Commission	2001	Growth accounting analysis	Austria AC8 CEEC10 EU15	Whole economy, GDP growth	+1.3/2.1% +1/1.8%	1994–2009 Annual	Central/optimistic scenario; significant impact in EU10, modest in EU15
Grassini et al.	2001	Multisectoral model (INTIMO)	Italy	GDP growth GDP GFCF Imports Exports	+0.5/0.7% +0.5% +0.3% +0.6% +1.2%	Cumulative 2000–10	Specialisation scenario reported, spillovers double the impact
Hejdra et al.	2002	GE (CGE) model	EU15	Overall welfare	+0.3% of GDP	Steady state	Trade, budgetary costs and migration effects are considered
Kohler	2004	GE (CGE) model	Individual EU15 countries	Overall welfare, % of GDP	+2 (Austria)/–1.3 (Portugal)	Steady state	Smaller than real income effect which does not consider forgone consumption Besides Portugal, also a negative impact in Greece, Ireland and Spain.
Keuschnigg and Kohler	2002	GE (CGE) model	Austria	GDP Contribution to EU budget Exports Consumption Wage	+0.56% +1.75% of GDP +15.9% +0.7% +0.5%	Long-run scenario improves, despite higher net contribution to EU. Expected wage spread constant. Only immigration of unskilled may widen the wage spread	Fiscal position improves, despite higher net contribution to EU. Expected wage spread constant. Only immigration of unskilled may widen the wage spread

Keuschnigg et al.	1999	Calibrated dynamic GE (CGE) model	Germany	GDP Welfare neutral net contribution Exports Wage income Skilled and unskilled wage	+0.45% +1.08% of GDP +46.7% +0.5% +0.6%	Long-run membership scenario is reported. Expanded activity swells the tax base. Investment-led expansion. Some potential for adverse redistributive effects
Kristensen P and Rørnøse Jensen	2001	Structural, dynamic, large-scale macroeconomic model of the Danish economy (ADAM)	Denmark	GDP Exports Imports GDP Investment Employment Wage rate Welfare effects Overall economy +15 sectors	+0.45% +0.63% -0.6% +1.44% +1.27% +1.28% -0.81%	2000–10 2000–65 (scenario of neutralised budget effect) In the long run, positive effects from immigration and productivity outweigh short-term costs
Lejour et al.	2001	GE (CGE) model	EU15, CEEC7	Welfare effects Overall economy +15 sectors	+0.1/+0.6 +5.3/-1.8 +0.8/-2.2% +0.0/+0.7%	Long-run % of GDP 2025 Without/migration
Lejour and de Mooij	2005	GE (CGE) model (WorldScan)	Turkey NMS10 EU15	Overall economy +15 sectors	+1.0% +0.0% +0.0%	Export of Croatia +13.9%; biggest increase in textiles, wearing apparel Base scenario
Lejour et al.	2008	GE (CGE) model (WorldScan)	Croatia NMS12 EU27	Overall economy +15 sectors Welfare effects of trade liberalisation	+0.03 +7.0 +3.4	Long-run % of GDP
Maliszewska (CASE Poland)	2003	GE (CGE) model	EU15, Hungary, Poland	Overall economy	+2.5/5% +10% with FDI	Long-run GDP
Quaisser and Wood	2004	Survey, own estimates	Turkey EU15	Overall economy	Strongly positive	Increased trade and efficiency. Limited migration consequences
Read and Bradley	2001	Integration theory	Old and new member states	Overall economy		

Source: European Commission (2006, p. 25); OEF (2005).

The first years of the enlarged EU appear to be consistent with this prediction: the GDP growth of the new member states exceeded that of the old EU countries (see Breuss, 2007b, 2007c, 2010). For the next candidate countries (Croatia and Turkey) some model estimations of the economic impact are available, pointing to similar effects as in the case of the EU enlargements in 2004 and 2007 (see Table 14.6).

4 CONCLUSIONS

The different steps of European economic integration had different impacts on the respective member states of the EU. The customs union in the 1960s induced more trade creation than trade diversion effects. The many studies on the Single Market focused primarily on the complex effects on GDP growth and/or its welfare implications. Practically all studies pointed to positive growth and welfare effects for the incumbents of the EU but also for those entering the SM. Studies on EMU mainly point to positive effects on intra-euro-area trade; some also indicate an increase in GDP growth, employment and price stability. As to EU enlargements, the first four concerned only one or a small group of countries at once, whereas the fifth EU enlargement was a grand one: 10 countries acceded together, followed by a further two. This last enlargement gave rise to many studies, first because of its sheer size and second, because it involved two blocs of countries at different stages of development. Whereas in the former enlargements the EU has taken in only highly developed industrial countries with a long market economy tradition, the fifth EU enlargement consisted of primarily poor countries in transition from formerly planned to market economies with new developing democracies. Again most studies find that the last EU enlargement was a win-win game in which the newcomers, however, will gain much more than the incumbents on average. Some of the old EU member states could even lose.

Generally it is easier to conduct *ex ante* studies on economic integration than to analyse the outcome *ex post*. This is also documented by the much larger number of *ex ante* studies. Some of the rare *ex post* studies, in particular those on the SM, are somewhat disillusioning. The expected pro-competitive effects and the implied growth bonus from the SM appear to have not been fully realised so far. To some extent this also applies to EMU. More generally, the fact that the EU performed more weakly than reference countries such as the United States (in terms of GDP growth and employment), which did not experience such a run of integration processes as did the EU in the 1990s remains an 'integration puzzle' waiting to be solved in further studies.

SUMMARY

The European Union is the most far-reaching and successful integration project in history. Starting from a customs union, limited to steel and coal, in the early 1950s, it evolved into a fully integrated single market, characterised by the free movement of goods, services, capital and labour, economic policy coordination in various fields, and a single European currency and centralised monetary policy. As such, the process of European integration has offered an example par excellence to test theories on economic

integration; in fact it has attracted a considerable amount of research over the last decades. This chapter briefly reviews the major steps in European post-war integration and takes stock of what we have learned from empirical research on its quantitative effects.

Keywords

European integration, European Union, quantitative effects.

JEL classification

F13, F14, Q17, Q18.

NOTES

1. More about the history of the European Union can be found on: at http://europa.eu/abc/history/index_en.htm. The idea that the former enemies, France and Germany, should first work together economically in order to achieve a political partnership is often called the 'Méthode Monnet', named after its inventor, Jean Monnet.
2. The ESCE Treaty ended on 23 July 2002 after a 50 year term.
3. Regional trade agreements (RTAs) such as CUs – like the EEC – or FTAs – like the EFTA – are allowed under the GATT unless they fail to eliminate barriers on 'substantially all the trade' among members and, additionally, that external tariffs 'shall not on the whole be higher or more restrictive' than prior to the formation of the RTA. Sluggish or no progress in the Doha Development Round has accelerated further the rush to forge RTAs.
4. The European Commission uses the terms 'single market' and 'internal market' interchangeably; we use the term 'EU single market' in the following. See 'The EU single market' at: http://ec.europa.eu/internal_market/index_en.htm. The ECT, however uses the term 'internal market' (see Article 3).
5. The individual external tariffs in the 1950s before the establishment of the CU were: Belgium: 9 per cent, Germany: 16 per cent, France: 19 per cent, Italy: 24 per cent, and the Netherlands: 9 per cent (see Breuss, 1983; El-Agraa, 2001).
6. For the sake of brevity, the reader is referred to standard textbooks for a detailed analysis of the Viner model and its extensions (see, for example, Hansen et al., 1992, p. 13; Baldwin and Wyplosz, 2006, p. 124).
7. Corden (1972) expanded the Viner CU theory by studying the effects of economies of scale. Forming a CU increases the market and hence allows exploiting economies of scale. In the home country then, in addition to the trade creation effect, a cost reduction effect increases profits. Supplementing the trade diversion effect, a trade suppression effects comes into play. The partner country within the CU can also profit from economies of scale, which suppresses trade with third countries.
8. One can also use the reduction of the country-specific external tariffs to obtain country-specific effects. This mechanical calculation yields the largest gain for Italy (54 per cent), which had been most protectionist; France gained some 42 per cent, Germany some 35 per cent, and the Benelux countries, which had had a low external tariff of some 9 per cent, gained least (19 per cent).
9. Since the study by Badinger and Breuss (2004) includes only those EFTA members that joined the EU later, Norway, Switzerland and Iceland are excluded from the calculations.
10. Information about the history and the legal framework of the SM can be found on the European Commission homepage, see 'The EU single market' at: http://ec.europa.eu/internal_market/index_en.htm.
11. The total number of (at the WTO) notified preferential agreements (RIAs; also called regional trade agreements – RTAs) such as customs unions and free trade areas in force is currently 170, while a further considerable number are at the negotiation/proposal stage (see Crawford and Fiorentino, 2005, p. 1).
Pascal Lamy (see: http://www.wto.org/english/news_e/sppl_e/sppl53_e.htm), Director-General of the WTO, recently forecast that by 2010 about 400 such agreements could be active, increasing the complicated web of incoherent rules, coined by Bhagwati (1995) a 'spaghetti bowl' of twisted rules of origin. Whereas the trade purists condemn bilateral 'spaghetti bowls' as second- or third-best welfare solutions

to liberalising world trade, Baldwin (2006c) takes them as political facts and as ‘building blocs on the path to global free trade’. Accordingly, moving to global free trade requires the political will of WTO member states to multilateralisation of regionalism. By 2010, Baldwin sees the world as three more or less perfectly formed trade blocs – one in Europe, one in North America and one in East Asia. However, the blocs might be fuzzy since the proliferation of FTAs makes it impossible to draw sharp lines around the Big-3 trade blocs, and leaky since some FTAs create free trade ‘canals’ linking the Big-3 blocs.

The EU can be taken as a good example of how to tame the ‘spaghetti bowl syndrome’. First, by its continuing enlargements from originally six to 27 members it integrated most of the EFTA countries. Second, by pushing through the Pan-European Cumulation System (PECS) in 1997 (on the basis of the European Economic Area – EEA – agreement of 1994) it simplified the spaghetti muddle in Europe. With this the EU15, the EFTA4 (Iceland, Liechtenstein, Norway and Switzerland), and 10 of the then-applicant nations in Central Europe decided to amend their various FTAs by substituting a common set of rules of origin for those they originally contained. Value could thus be cumulated between different European countries without prejudicing the duty-free status of end products. PECS was extended to Turkey (with which the EU has formed a CU since 1996) in 1999. In 2005 the system was enlarged to the Faroe Islands and the Mediterranean countries, and hence is commonly referred to as the Pan-Euro-Mediterranean cumulation system (PEMCS; for more details (general overview, legal framework, specific provisions) on the PEMCS, see the homepage of the European Commission: http://ec.europa.eu/taxation_customs/customs/customs_duties/rules_origin/preferential/article_783_en.htm). The PEMCS comprises 42 countries and is applicable between the EC and Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Syria, Tunisia, West Bank and Gaza Strip, the EEA/EFTA countries (Iceland, Norway and Switzerland, including Liechtenstein), the Faroe Islands and Turkey. PEMCS members account for about 40 per cent of world trade. For a description of the EU’s spaghetti bowl, see Breuss (2007b, p. 649). For a detailed treatment, see the chapters in this Handbook by Fiorentino (Vol. I, ch. 1) and Baldwin (Vol. I, ch. 2).

12. Kohler (2004) derives a similar welfare equation for a single incumbent EU country, in particular for Germany in the case of EU enlargement.
13. Baldwin and Venables (1995, pp. 1604–5) discuss in the context of an RIA with ‘large’ countries the case of three countries, in which countries 1 and 2 form the RIA and country 3 remains outside. The members of the RIA can influence the terms of trade, and hence, the third term of equation (14.1) becomes relevant. The theoretical analysis of three-country problems (with three goods) becomes easily intractable or delivers ambiguous results (see Lloyd, 1982). The Kemp–Wan theorem (Kemp and Wan, 1976) gives a powerful and beautiful answer to the question what configuration of trade policy (towards non-members) would result in a necessarily welfare-improving CU: collect any subset of countries in a trading world; hold their net trade vector with the rest of the world fixed (at the pre-CU level) and treat it as an endowment; maintaining standard assumptions, direct application of the first welfare theorem suggests that the union’s welfare is improved when all internal barriers to trade are eliminated; the difference between external prices and prices within the CU (common to all CU countries) determined the CET of the CU; each country within the union could be made better off than before using a suitable scheme of lump-sum redistributions while the rest of the world is left no worse off. The Kemp–Wan theorem gained further attention in alternative interpretations (see Richardson, 1995) and extensions of free trade areas (see Bond et al., 2004; Ohyama, 2004).
14. Location effects are discussed by Baldwin and Venables (1995, pp. 1616 ff.) in the context of the insights of models of ‘economic geography’, pioneered by Krugman (1991). This model category also considers factor movements from one location to another, from the ‘periphery’ to the ‘centre’ or vice versa.
15. The 2004 EU enlargement, however, allowed transitional arrangements (until 2011), restricting the free movement of workers. For an impact study on East–West migration, see d’Auria et al. (2008).
16. For information about EFTA, its history, its remaining four member states (Iceland, Liechtenstein, Norway and Switzerland), see: <http://www.efta.int/>.
17. For a detailed description of the EEA project, see: http://ec.europa.eu/external_relations/eea/.
18. The special relations of Switzerland and the EU can be found at: <http://www.europa.admin.ch/index.html?lang=en>.
19. On the European Commission homepage ‘EU single market 10 years’ there is a compilation of studies on ‘The macroeconomic effects of the single market programme after 10 Years’, see http://ec.europa.eu/internal_market/10years/background_en.htm. Mongelli et al. (2005) investigate the link between economic integration and the overall institutional process over the last 50 years.
20. At the Lisbon Summit in March 2000, EU leaders set out a new strategy, based on a consensus among member states, to modernise Europe (‘to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion’). This became known as the ‘Lisbon Strategy’. After initially moderate results, the Lisbon Strategy was simplified and relaunched in 2005 under the heading ‘Growth and Jobs’ (see: http://ec.europa.eu/growthandjobs/index_en.htm).

21. A small number of studies have attempted to provide a more comprehensive (*ex ante*) assessment of the effects of the euro, using model simulations (for example, Breuss, 1997; IMF, 1997). These studies, however, do not consider the effects of the euro in isolation but the combined effects of EMU, including assumptions about its effects on competition, TFP, and structural reforms (such as labour market flexibility).
22. See De Grauwe (2005) for a more detailed treatment.
23. The convergence criteria were laid down in the Maastricht Treaty and mainly relate to the stability of prices and long-term interest rates as well as fiscal discipline in terms of the budget deficit and the level of government debt. (See Baldwin and Wyplosz, 2006, p. 381 or Breuss, 2006a, p. 410, for more details.)
24. The seminal paper is Rose (2000), who finds that currency unions roughly double trade among its member states. Many subsequent studies in the vein of the Rose study have obtained similarly large effects of currency unions on trade, typically exceeding 100 per cent.
25. Results for this industry might be driven by statistical artefacts, for example, value-added tax fraud (Baldwin, 2006a, p. 1).
26. Some indirect evidence for the relevance of this transmission channel is provided by Badinger and Breuss (2009), who find empirical support for the hypothesis that an enlargement of the market that can be reached with relative ease (through the reduction in transaction costs as a result of the euro) disproportionately favours small countries, since the market expansion is relatively larger for small countries (Casella, 1996).
27. See, for instance, De Grauwe (2009). There are many studies celebrating and analysing the first 10 years of EMU. *Empirica – The Journal of European Economics* 1/2009 devotes a special issue to this topic. See also ECB (2008), European Commission (2008) and OECD (2009). Additional material can be found on the European Commission homepage: http://ec.europa.eu/economy_finance/emu10/index_en.htm or on the homepage of the ECB: <http://www.ecb.eu/home/html/index.en.html>.
28. For simulations of a shift of foreign reserves to the euro by Asian countries so that the dollar and the euro make up 45 per cent of world total reserves with the QUEST III DSGE World Model, see Breuss et al. (2009).
29. See European Commission (1990) and Breuss (1997).
30. The accession criteria were formulated by the European Council in Copenhagen, 21–22 June 1993 (see Conclusions of the Presidency, p. 13): (i) political criteria (democracy the rule of law, human rights, respect for and protection of minority); (ii) economic criteria (functioning market economy, capacity to cope with competitive pressure and market forces within the Union); (iii) obligations of membership (*acquis communautaire*, aims of EU–EMU); and (iv) accessibility of the Union.
31. Information on the history and the actual status of the EU's enlargement policy can be found at: http://ec.europa.eu/enlargement/index_en.htm.
32. For more information on the ENP strategy, see: http://ec.europa.eu/world/enp/index_en.htm.

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