FOUR FUTURES OF EUROPE

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Preface

In 1992 CPB published the study “Scanning the Future”. It offered four long-term scenarios for the world economy, based on a thorough assessment of current trends, strengths and weaknesses. A number of follow-up studies used these scenarios as a tool for analysis of particular policies with long-term implications.

The underlying study develops four new scenarios. Again, the aim is to use them in subsequent studies. Moreover, the current study elaborates on policy challenges that the European Union and the member states will be facing during the coming decades in light of a number of trends.

The study focuses particularly on Europe. The next enlargement of the European Union in 2004 marks a new era for European integration. It has triggered a renewed debate on Europe’s future. At the same time, European leaders have an ambitious agenda to combine strong economic growth with social cohesion, more employment and a clean environment. How can European societies best deal with these challenges in the coming decades? What role should the European Union play?

The current study addresses questions of this kind. Part I focuses on the process of internationalisation and the role of international organisations therein. Part II deals with social-economic trends within European countries. These have important implications for the public sectors in Europe and render reform of institutions necessary. In part III, uncertain trends and policy responses are combined to develop a set of scenarios for the future of Europe.

The study was written by Ruud de Mooij and Paul Tang. A number of other CPB economist have provided useful contributions and comments on various parts, including Maarten Cornet, Sjef Ederveen, Joeri Gorter, Henri de Groot, Pierre Koning, Nico van Leeuwen, Arjan Lejour, Ton Manders, Richard Nahuis, Maarten 't Riet, Herman Stolwijk and Henry van der Wiel. We thank Ton Brouwer and Simone Pailer for support in the final stages of the project. When developing the scenarios, we held interviews with a number of experts in international affairs and the European Union. We thank in particular Frans Andriessen, Marko Bos, Lans Bovenberg, Tom de Bruyn, George Gelauff, Ben Geurts, Glen Harisson, Alexander Italianer, Andre de Jong, Jacques Pelkmans, Rick van der Ploeg, Bart van Riel and Paul Schnabel. Members of the Rijksbreed Strategieberaad, the Central Planning Committee of CPB, the Commissie Sociaal Economische Deskundigen of the SER, and participants of workshops at the CPB, the Ministries of Finance, Social Affairs and Employment and Economic Affairs, and the RIVM are acknowledged for useful discussions.

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Executive summary

Europe is at a crossroads. The enlargement with ten new members forces the European Union to reform its process of decision making and to reconsider sensitive issues such as the common agricultural policy and cohesion policy. At the same time, some EU-member states – especially larger countries like France, Germany and Italy – hesitate to reform their welfare state arrangements, including pensions, even though unemployment rates are persistently high and the burden of ageing will only grow further.

It is hard to predict how the European Union and its members states will look like ten years from now, let alone twenty or thirty years ahead. Yet, policy makers must take decisions today that have long-lasting consequences, for example about infrastructure projects, welfare state reforms, and a transfer of control to international organisations. How should policy makers deal with the uncertainty about the (distant) future when taking such strategically important decisions? Here, scenarios are useful instruments; they provide different backgrounds against which policy makers can consider and reconsider decisions and their implications.

Scenarios bring together various uncertain developments. This study identifies two groups of the "key uncertainties". The first concerns *international cooperation*: to what extent are nation states willing and able to cooperate within international organisations like the WTO and the European Union? The second key uncertainty concerns *national institutions:* to what extent will the mix of public and private responsibilities change? Combining the two key uncertainties leads to four different scenarios in part III of the study. The preceding analysis of international cooperation and national institutions, in part I and II respectively, not only elucidates the relevant uncertainties, but also gives broad ideas for policy agendas.

International cooperation: living apart or together?

The benefits of further economic integration are still not exhausted. However, international cooperation, necessary for economic integration, will not be easy in the coming years. In some areas, such as global climate change, capital flight to tax havens, AIDS and poverty, cooperation is weak or even non-existent. In relatively successful areas, organisations such as the WTO and the European Union are nowadays under pressure. In particular, these organisations face three problems.

1. Increasing heterogeneity
   When membership of the WTO and the European Union increased, their heterogeneity increased as well. Within the WTO, the views of developing and developed countries are often different; within the European Union, there are different perspectives between, for instance net-contributors and net-receivers of EU funds, and small and large countries. Increasing the size

and heterogeneity of the organisations will undoubtedly further complicate decision making in the future.

2. Increasing scope
   The WTO and the European Union have started as single-issue clubs. But negotiations about multilateral trade liberalisation no longer concern just manufacturing, but also extend to agriculture and services. Moreover, some parties want to extend the negotiations to labour standards, investment rules and environmental policies. The competences of the European Union have already expanded enormously over the years. A broader range of issues is a mixed blessing for decision making. On the one hand, it can make it easier to reach agreements if losses in one area can be compensated by gains in another area. On the other hand, package deals run the danger that negotiations become extremely complex and time-consuming, especially when more and more countries get involved.

3. Lacking legitimacy
   Popular support for the WTO and the European Union is not always strong: the protests at trade summits or the low turn-out at European elections are signs of that. A prominent reason is that decision making is complex and intransparent. Besides, the accountability of decision makers is poor. Even in the European Union, the democratic control is often indirect. Legitimacy of the international organisations is often questioned.

The first key uncertainty in the scenarios is to what extent international organizations succeed in overcoming these problems during the coming decades.

Policy agenda

To reap further gains from economic integration and accommodate international coordination problems, effective and legitimate international organisations are essential. These organisations should focus on an appropriate scope of issues, both globally and in the European Union.

- Global cooperation
  Effective frameworks for international cooperation are global ‘public goods’. They are currently undersupplied, for instance in the case of global climate change, cross-border diseases such as AIDS, and poverty alleviation. At the same time, the globalization of economies has increased the need for them. Effective cooperation in these areas is therefore desirable.

- European integration
  For the European Union, the situation is different. Its competences have expanded over the years. The subsidiarity principle, however, is not applied consistently. For instance, this study

argues that the case for harmonisation of corporate taxes, in some form, is stronger than the case for Social Europe. Yet, corporate taxation is still almost the exclusive domain of the member states, while the European Union is involved in a number of areas of social policy. Moreover, the question is not only in what area the European Union has a role to play, but also how it plays that role. The Stability Pact is an example: uniform limits on government deficits take no account of the heterogeneity across countries. Perhaps other forms of cooperation involve lower costs and still adequately deal with possible coordination failures.

A more consistent application of the subsidiarity principle – indeed one of the aims of the Convention – may help the European Union to overcome some of its problems. It can build trust with the public as well as with policy makers, that the European Union is more than just another layer of bureaucracy. This will add to the credibility of European institutions.

National institutions: retreat or reform?

In the late nineties, the US economy combined fast productivity growth with low unemployment rates. The contrast with Europe was strong. Europe's Lisbon agenda seeks to change this. The aim is to increase productivity growth, while maintaining social cohesion. This will not be easy. Many policy instruments give rise to a trade-off: increasing efficiency is often bought with less equity. Four developments make the agenda even more difficult to realise, as they put the public sector under growing pressure.

1. Ageing
   Ageing populations raise public expenditures on old-age pensions and health care. Besides, relatively slow productivity growth and high income elasticities will lead to extra demand for publicly provided services. Without changes, for example in pensions system, the tax burden on the young, working generations will rise significantly in the future. For some countries, the projected increase in the tax burden exceeds 5% of GDP. This will hurt economic efficiency by increasing equilibrium unemployment and reducing the incentives for labour supply, investment and human capital formation.

2. A division between low-skilled and high-skilled workers
   The position of high-skilled workers on labour markets is steadily improving relative to low-skilled workers. That the income differences between the two groups have not grown (fast) in the recent past is a result of an increase in the supply of high-skilled workers. When this levels off, as is expected for the coming decades, the income differences may grow. For the Netherlands, calculations suggest that the growth differential between low-skilled and high-skilled wages can easily be more than 2% per year. Redistribution at a larger scale is then needed

to maintain the same, current degree of after-tax income inequality. By increasing the tax burden, more redistribution will further reduce economic efficiency.

3. Increasing social heterogeneity
   Society has become more heterogeneous due to individualisation and immigration. More heterogeneity makes redistributive policies less effective: income transfers not only benefit those who need support, but also those with high incomes. Moreover, heterogeneity raises the demand for diversity, which the public sector often fails to deliver.

4. Increasing costs of taxation
   Part-time work and flexible contracts have expanded the choice set of individuals in supplying labour. This increased the labour response to income taxes and income transfers, thereby amplifying the distortionary consequences of taxation. Adding to this is the increasing mobility of capital and firms. With further integration of capital and good markets, this mobility will only increase in the future. This adds to the welfare costs of taxation.

The second key uncertainty in the scenarios is how European governments will respond to these trends, given their ambition to increase productivity and maintain social cohesion.

Policy agenda

The four developments all point in the same direction: they put the public sector in EU countries under growing pressure. Expenditures increase but become less effective and more costly to finance. This hurts both efficiency and equity. Governments can follow two routes to prevent this: retreat or reform.

- Retreat
  Governments can scale back the public sector and give private initiative more leeway, in line with social preferences for individual freedom and diversity. A lower tax burden and stronger incentives increase efficiency. It comes, however, at the expense of equity.

  When retreating, governments need to find a new demarcation between public and private responsibilities. In this connection, it is important to note that the welfare state not only redistributes income, but also provides an insurance against several risks. This enhances economic efficiency since it allows individuals to undertake risky but profitable investments. The free market cannot deliver all forms of insurance. Regulation can be required to ensure that retreat will indeed improve efficiency.

- Reform
  To achieve better combinations of efficiency and equity, policy innovations are required. These may involve a partial retreat of public responsibilities. The key to policy innovations is more information about individual characteristics. Governments need to target redistributive instruments better to those in need of income support, such as individuals with little skills and talent. At the same time, active labour market policies may be helpful to reduce the poverty trap. Abolishing redistribution among the rich could substantially reduce the collective burden. For those with more skills and talent, stronger incentives are necessary to avoid moral hazard and improve efficiency. Governments should also provide stronger incentives in the public sector for efficient production. Again, this requires more or sometimes a different type of information, namely about (relative) performance of public organisations.

  Using more information about individual characteristics will make policy instruments more complex. This puts a strain on the implementation by governments. Furthermore, it raises serious concerns regarding individual privacy and equal treatment. These concerns limit the opportunities for policy innovation and may block the route of reform.

In addition to a better targeting, governments can adopt three other types of measures to enhance efficiency, without reducing equity. First, they can broaden the tax base – including a more consistent application of the benefit principle in taxation. Second, they may encourage innovation. Finally, they may succeed in reducing the burden of ageing on working generations. These three measures could be part of both the route of retreat of public responsibilities and the route of reform.

Four futures for Europe

Even more uncertain than long-run developments in, for instance, demography, ICT and individualisation, are the responses to them by societies. Both at an international and at a national level, institutions are under pressure. International organisations must find ways to improve their decision making. Whether they succeed depends on both the ability and the willingness of member countries to cooperate, which renders the outcome uncertain. National governments can maintain strong public responsibilities or move towards more private initiatives. It is uncertain which choices countries will make and whether they are able to avoid potential pitfalls along each of these routes.

Four scenarios

The figure below, showing Europe's crossroads, combines the two key uncertainties. The vertical axis ranges from successful international cooperation at the top, to an emphasis on national sovereignty at the bottom; the horizontal axis ranges from a strong role for the public sector at

the left, to private responsibility at the right. The combination of the two key uncertainties yields four scenarios for Europe and its countries.

- *Strong Europe*
  In the first scenario, reforming the process of EU decision-making lays the foundation for a successful, strong European Union. The enlargement is a success and integration proceeds further, both geographically, economically and politically. Europe is the driving force behind broad international cooperation – not only in the area of trade, but also in other areas such as climate change and poverty reduction.

  European countries maintain social cohesion through public institutions, accepting that this course limits the possibilities of improving economic efficiency. Nevertheless, they cannot prevent that some groups in society lose (in relative terms). The reason is that governments respond to the growing pressure on the public sector by undertaking selective reforms in the labour market, social security and public production. Combined with early measures to accommodate the effects of ageing, this policy helps to maintain a stable and growing economy.

- *Global Economy*
  Economic integration in the second scenario is broad and global. As countries find it in their mutual interest, the new WTO round succeeds and economic integration in an enlarging European Union intensifies. Closer cooperation in non-trade areas is not feasible; international organisations in these areas cannot overcome the problem of conflicting interests and free-riding. The problem of climate change intensifies.

National institutions become increasingly based on private initiatives and market-based solutions. European governments concentrate on their core tasks, such as the provision of pure public goods and the protection of property rights. They engage less in income redistribution (not only between rich and poor but also between young and old) and public insurance. Incomes become more unequal, but grow relatively fast on average. Besides, social-economic mobility is high.

- *Transatlantic Market*
  In Transatlantic Market, countries are reluctant to give up their sovereignty. Reforms of EU decision making fail. Instead, the European Union redirects her attention to the United States; they agree upon transatlantic economic integration. This yields welfare gains on both sides of the Atlantic. This, however, sharpens the distinction between the club of rich countries and the group of developing countries.

  Following social preferences for individual freedom and diversity, European countries limit the role of the state and rely more on market exchange. This boosts technology-driven growth. At the same time, it increases inequality. The heritage of a large public sector in European countries is not easily dissolved. New markets – e.g. for education and social insurance – lack transparency and competition. The elderly dominate political markets. In this scenario, they effectively oppose comprehensive reforms of the pay-as-you-go systems in continental Europe.

- *Regional Communities*
  In the last scenario, the European Union cannot adequately cope with the Eastern enlargement and fails to reform her institutions. As an alternative, a core of rich European countries emerges. More generally, the world is fragmented into a number of trade blocks, and multilateral cooperation is modest.

  European countries rely on collective arrangements to maintain an equitable distribution of welfare and to control local environmental problems. At the same time, governments in this scenario are unsuccessful in modernizing welfare-state arrangements. A strong lobby of vested interests blocks reforms in various areas. Together with an expanding public sector, this development puts a severe strain on European economies.

The scenarios serve two purposes. First, they provide a structure for discussing the uncertain future of Europe in a comprehensive framework. In this way, the scenario's may yield early warnings to policy makers about particular challenges in the future, e.g. with respect to necessary reforms of the public sector and the need for effective international cooperation. Second, the scenarios serve as a tool for policy analyses with a long-term character. Examples are environmental policy, infrastructure, energy, spatial issues and ageing. In particular, one can make a cost-benefit analysis of particular policy measures by thinking through its implications

in each of the four scenarios. As the scenarios provide a broad range of possible outcomes for economies, the desirable policies may be quite different among them. Specific questions are left for future studies. For instance, follow-up studies at CPB are planned with respect to the economy and its physical surroundings and ageing. Policy makers are challenged to think through their strategic policies in order to get a grip on the uncertain world in the future.

1 Introduction

Europe's future is uncertain. Globalization, international migration and technological breakthroughs will continue to change the economic and social setting. Moreover, the next enlargement, ageing of the populations and individualisation will impose new challenges on national and supranational institutions within Europe. Attaching probabilities to different events and uncertain trends becomes too complex, especially when the time horizon is more than a few years.

How can policy makers most effectively deal with uncertainty about the long-term effects of their decisions? One way is to develop and use a set of alternative scenarios. Scenarios are feasible and consistent views on the world in the near and distant future. The set of scenarios provides a background against which policy makers can consider their strategic, long-term decisions. In 1992, CPB published its first comprehensive scenario study on the world economy, called "Scanning the Future". The present study fits into this tradition and focuses on four scenarios for Europe.

This study serves two main purposes. The first objective is to contribute to the discussion about the future policy challenges for the European Union and its member states. Taken in isolation, most of these challenges are probably well known to policy makers. By combining various developments, this study aims to provide a more comprehensive view on these challenges. In particular, different developments tend to reinforce each other, thereby increasing the pressure on public sectors to reform. The second objective is to provide input for a range of studies that will subsequently be conducted by CPB. These studies will deal with strategic policies in the Netherlands, in the areas of energy, infrastructure, environmental and spatial planning.

The underlying study consists of three main parts. Part III describes the four scenarios. Parts I and II provide the necessary ingredients, elaborating in particular, on two key uncertainties that are vital for the future of Europe. Part I deals with (the degree of) international cooperation. This uncertainty originates in the unknown ability and unknown willingness of countries to deal with the challenges facing international organisations such as the World Trade Organisation and the European Union. Part II emphasizes the pressure on public sectors in Europe. It discusses a number of trends in European countries that make it more difficult for societies to combine an efficient economy with an equitable income distribution. The key uncertainty is how governments will respond to this. The scenarios in part III combine the two key uncertainties to develop four different perspectives on the future of Europe.

Parts I and II each serve a second purpose as well. Apart from raising challenges for European governments, they offer a framework for analysis on how to deal with these challenges. In particular, chapter 7 in part I discusses an adequate allocation of responsibilities between national governments and international organisations. It illustrates this by means of

three examples: Social Europe, fiscal coordination and corporate tax harmonisation. Chapter 14 in part II assesses the options for policy innovations in order to combine equity and efficiency more effectively. It emphasises the role of information and incentives in developing more efficient public policies, using the case of disability insurance as an illustration.

Part I - International Cooperation

The events surrounding September 11 2001 illustrate how fast international cooperation can change. Take the relationship between the United States and Europe. Although their political, economic and cultural settings have strong similarities, they do not always act jointly in the international arena. With the end of the Cold War, political and military cooperation has become less self-evident. The war against terrorism after September 11th has done nothing to restore that cooperation: it is probably more an American than a western war. In fact, the current American administration seems to follow a unilateral course in which American interests come first: it did not sign the non-proliferation treaty, withdrew from the Kyoto Protocol, installed high tariffs on steel imports and set its own course in the war against Iraq. The unilateral course could be temporary – a trademark, for example, a trademark of the Bush administration. But it could also reflect a tendency for the United States and Europe to set their own courses in international affairs. The future cooperation between the European Union and the United States is thus uncertain.

Uncertainty with respect to international cooperation is more general, however. It holds also for multilateral cooperation, e.g. within the WTO or the European Union. Part I of this study argues that especially three issues complicate international cooperation in the coming decades: increased size and heterogeneity, a broader scope of issues, and problems with legitimacy. In these three respects, there is an important parallel between the WTO (discussed in chapter 3) and the European Union (discussed in chapter 4). Both organisations face similar problems, which renders the future of international cooperation between members uncertain. Chapter 5 elaborates on areas in which appropriate international organisations are lacking and international cooperation is weak.

International cooperation is one of the two key uncertainties that provide the basis for our scenarios in part III of this study. At the end of part I, chapter 7 provides an analytical framework to assess the issue of the scope of international organisations. Thereby, subsidiarity is taken as the guiding principle for the delegation of powers between nations and international organisations. We assess the current degree of global coordination and the cooperation between member states in the European Union in various fields.

2 Internationalisation: an ongoing process?

Rapid technological change has reduced transport costs and other natural barriers to the international movement of goods, services, capital and people. At the same time, cooperation between governments has removed policy-induced trade barriers, thereby stimulating the integration and liberalisation of markets in Europe and globally. Yet, future economic integration is not self-evident. International cooperation has become more difficult because international organisations are increasingly heterogeneous in character, have to deal with an expanding set of policy issues, and suffer from a lack of legitimacy. This renders the future of internationalisation uncertain.

2.1 Trends in economic integration

In August 1999, José Bové drove a tractor into a McDonalds restaurant that, at the time, was still under construction. The protest was triggered by a high import tariff on Roquefort that the United States had introduced to retaliate against a ban on hormone beef in the European Union. The wider aim of the protest, however, was to oppose the assault on local culture and tradition. The golden arches of McDonalds are often seen as the symbols of globalization. Measured by the number of restaurants, the process of globalization takes place at a breath-taking pace. Table 2.1 shows the growth in different areas of the world in five years' time. Whereas in the United States, and in some other countries such as Canada and Australia, opportunities to expand are exhausted and growth is modest, outside the United States growth is often remarkable.

Table 2.1 Number of McDonalds restaurants and Dutch flower exports 1996-2001
Cumulative growth rate (in %)

	McDonalds	Dutch flowers
United States	8	107
Canada/Australia/New Zealand	21	131
European Union	68	29
Japan	91	12
Latin America	126	95
Asia (excl Japan)	144	79
Europe (excl EU)	146	72

Source: McDonalds, Dutch Central Bureau for Statistics

McDonalds is only one, well-known corporation that has expanded on a global scale. But also the numerous, unknown Dutch flower farmers and traders have expanded. The growth in their exports is no less impressive and shows a similar geographical pattern (i.e. the growth in distant markets is larger than in nearby markets).

The growth in McDonalds restaurants and Dutch flower exports reflects better opportunities to trade and produce internationally. Opportunities have expanded for two reasons. First, technical

improvements have led to significantly lower transport and communication costs. Second, successive multilateral agreements have significantly brought down barriers to trade. While in 1930 the average ad-valorem import tariff for manufacturing was 21% in Germany, 30% in France and 48% in the United States, after the Uruguay Round in 1994 it fell to 4.8% for the European countries and to 3.0% for the United States (Bordo et al., 1999, table 3). For these two reasons, world exports have consistently outpaced world production after the Second World War (see figure 2.1). In 1820, world exports represented only 1% of world production. This measure for openness increased to 9% in 1913 and to 17.2% in 1998. Clearly, countries have become more integrated in the world economy over the centuries. But this has not been a continuous process. With the Great Depression in the 1930s came an era of protectionism in which countries raised import tariffs and economies became less, rather than more integrated.

Figure 2.1 Openness has increased drastically

Source: Maddison (2001)

European integration has contributed to the internationalisation of European economies. In 1952, a group of six European countries founded the European Coal and Steel Community with the aim of preventing another war. Subsequently, the Treaty of Rome in 1957 marked the start of a broader economic integration among the club of member states in the European Economic Community. Since the Treaty of Rome, Europe has gradually deepened its economic integration, widened its competences, and expanded its membership to a club of 15. The main achievements

were recorded in the Single European Act of 1985, which paved the way for the internal European market, and the Maastricht Treaty of 1991, which launched the EMU.[1]

The achievements of European integration can be illustrated by intra-EC trade and investment flows. Table 2.2 reveals that the share of intra-EC trade as a percentage of all EC trade (measured by exports) grew from 37% in 1958 to 56% in 1980 and to 61% in 1998. This reveals a substantial integration of EU product markets. The share of intra-EU foreign direct investment (FDI) flows in terms of total FDI almost doubled during the past two decades, which illustrates the substantial integration of European businesses.

Table 2.2 Intra-EC exports and FDI 1958 - 1998, % of total EC-exports and FDI

Year	Exports	FDI
1958	37	n.a.
1980	56	30
1990	61	55
1998	61	57

Source: Sapir (1992); IMF Direction of Trade Statistics; OECD International Direct Investment Statistics Yearbook
The EC does not include Austria, Finland and Sweden.

2.2 The welfare gains of economic integration

In theory, economic integration yields various benefits. Lowering trade barriers allows countries to specialise according to comparative advantage, allows firms to exploit economies of scale and offers consumers a wider variety of products. Economic integration may also offer dynamic benefits such as higher productivity (growth). One reason is that the exchange of goods and services helps the exchange of ideas and knowledge. A relatively open economy is better able to learn and adapt foreign, state-of-the-art technologies than a relatively closed economy. The empirical support for this idea is strong (see Coe and Helpman, 1995; and Keller, 2001).

Also regional economic integration in Europe yields substantial welfare gains. In terms of the Balassa stages of economic integration, the EMU involves a much deeper form of economic

[1] Note that the European Union has remained a rather closed trade block. For instance, the European Union exports less than 10% of its GDP to countries outside the European Union, with only 2% to the United States. The export share of the United States is also modest at around 10% of GDP.

integration than many other regional trade agreements, such as EFTA, NAFTA or Mercusor.[2] The welfare implications of this economic integration were analysed in the Cecchini Report of 1988. The European Commission undertook a major effort to assess the economic impact of the Single Market Program that was to be completed in 1992. The report concluded that the internal European market would increase trade intensity in the European Union and cause welfare gains associated with the exploitation of increasing returns to scale and rising investment. Overall, the report predicts an increase in European GDP by around 6.5% as a result of the Single Market Program. Ex-post analyses are consistent with this prediction. For instance, the 38 studies for the European Commission lead to the conclusion that the creation of the internal market has resulted in more intense competition in Europe, thereby reducing price-cost margins and X-inefficiencies.[3]

As demonstrated by the large-scale protests in Seattle in 2000 and more recently in Cancun, not everyone shares the view of many economists that economic integration yields welfare gains. The discontent about globalization is not confined to a small number of outspoken activists. Also the eminent English writer Julian Barnes complains that the World Trade Organisation (WTO), the European Union and other international institutions are "*creating an ever bigger pool of docile consumers for transnational corporations*" (J. Barnes, 2000). Not only is there a McDonalds restaurant almost everywhere, but also almost everyone seems to prefer that over the local caterer.

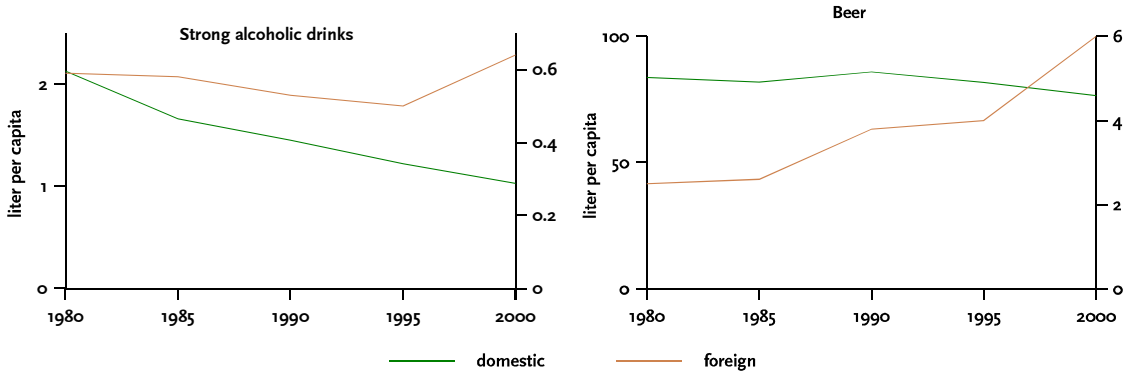
The discontent does not always find strong support in the facts, however. For instance, international integration has significantly increased the variety of choice. Although global, often American, products like McDonalds, Coca Cola and Nike have displaced some local varieties, other local products have seen their popularity increase and have gone global. For example, consumption of Dutch jenever, a strong alcoholic beverage, has declined dramatically during the past decades. At the same time, consumption of Scottish whiskey and Russian vodka has grown spectacularly (figure 2.2). Similarly, Belgian beers have partly replaced Dutch lager (figure 2.2). Hence, although some local varieties have disappeared, the range of *available* varieties to consumers has expanded. Keynes highlighted this aspect when he described the heyday of

[2] Balassa (1961) distinguishes the following successive phases in international economic integration: (i) Free trade area: removal of bilateral tariffs and quota; (ii) Customs union: free trade area in which common external tariffs are applied; (iii) Internal market: customs union with the free movement of goods, services, labour and capital; (iv) Economic union: internal market where some competences are centralised, e.g. competition policy; (v) Monetary (political) union: economic union where monetary (political) decision making is centralised

[3] Apart from trade creation, regional economic integration also causes trade diversion. In particular, the rise in intra-EC trade during the past decades has to some extent come at the expense of trade with non-EU countries. Nevertheless, the studies for the European Commission (1996) suggest that, although the share of intra-EU imports increased, imports from the rest of the world increased in absolute terms as well.

globalization in the 19th century: *"The inhabitant of London could order by telephone, sipping his morning tea in bed, the various products of the whole earth, in such quantity as he might see fit, and reasonably expect their early delivery upon his doorstep; (. . .). Most important of all, he regarded this state of affairs as normal, certain, and permanent, except in the direction of further improvement."*

Figure 2.2 More variety at the expense of local products
Dutch alcohol consumption according to origin



Source: Productschap voor gedestilleerde dranken

2.3 Prospects for further integration

The WTO has succeeded in removing a number of major trade barriers in manufacturing, while the Single Market Programme in the European Union has gone beyond that by removing technical barriers to trade. This does not imply that integration cannot proceed much further. Perhaps somewhat unexpectedly, national borders still exert a large impact on trade. McCallum (1995) was the first to report this. He found that trade within Canada was a factor 20 larger than trade between Canada and the United States, even if controlled for other factors affecting trade such as GDP and distance. Brewer et al. (2001) finds similar results for Europe. He calculates the impact of EU internal borders on trade flows and finds that trade between two regions within countries is around 80 times more intense than is trade between two European regions in different countries (controlling for other factors affecting trade). The creation of a single currency in the European Union may help to make borders less important as a barrier to trade – an effect that has not yet fully materialised.[4]

The impact of national borders is consistent with other facts of international trade. Bilateral trade flows halve when distance doubles, and decrease by roughly 80% if the main language of

[4] Frankel and Rose (2002) are optimistic about this effect. They find that EMU will involve a tripling of trade flows between the participating countries.

the two countries is different.[5] This indicates that transaction costs are still important barriers to international trade. It also suggests that the process of international economic integration has further prospects.

Integration is on the agenda of today's international organisations. In Doha, at the end of 2001, a new round of trade talks was agreed upon in the WTO. This should lead to trade liberalisation in services and agriculture. In Europe, the deepening of the internal market is high on the agenda. As part of the Lisbon strategy to become the most dynamic and competitive economy in the world in 2010, the European Union has an ambitious agenda for the internal market in various fields. New directives and actions are suggested in energy markets (gas and electricity), postal services, transport (rail and the Single European Sky), and government procurement. The integration of the market for financial services should be completed in 2005 and is estimated to raise economic growth in Europe by around 1% annually during the next ten years (Gianetti et al., 2002). Next to liberalisation, the European Union aims to reap productivity gains by developing a European patent and through measures to encourage international technology spillovers. Finally, the European Union aims at abolishing the institutional barriers to cross-border labour mobility in order to stimulate the integration of its labour markets.

2.4 Issues in international cooperation

The WTO and the European Union started as single-issue clubs with a limited and relatively homogeneous membership. The two have been successful in their respective missions to guide international cooperation and encourage economic integration. One could even argue that the organisations have become victims of their own success. Their ability to provide a framework for successful international cooperation is now under pressure. We discuss three reasons behind these problems: increasing heterogeneity, increasing scope of issues, and problems associated with legitimacy and effectiveness in decision making.[6]

Heterogeneity

Many new members have joined the WTO over recent years, including a number of developing countries. This has increased not only the size of the organisation, but also the heterogeneity of its members in terms of history, culture, institutions and economic structure – thus further complicating the already complex negotiations. For instance, in the recent Doha summit of 2001, developing countries flexed their muscle, turning the new trade round into a "developing

[5] The numbers are derived from gravity equations presented in Hummels (1999).

[6] Note that an important difference is that the European Union is a form of political cooperation, based on the community approach. This differs from the WTO, which involves intergovernmental cooperation to remove the barriers to economic integration.

round". Moreover, the ministerial meeting in Cancun ended in failure because developing countries were unhappy with (among other things) the support to American cotton farmers. A similar story applies to the European Union. Since the foundation of the Union, the number of member states has increased from six to fifteen. After the next enlargement with ten new member states, the European Union will consider the accession of another three candidate members and perhaps even more thereafter. The enlargement increases the heterogeneity of the European Union. This raises the question of how to ensure that the decision-making process in Europe remains effective in the future. In general, it becomes more difficult to find shared interests in a more heterogeneous club of countries. Hence, there typically seems to be a trade-off between expansion of membership and expansion of competences.

Scope

In a more open world – which is partly the success of the WTO and the European Union in the first place – policy issues become more intertwined. As a result, the WTO faces a discussion on whether it can remain a single-issue club. There is great pressure to link trade liberalisation to international environmental problems and to labour standards.

The European Union is already involved in multiple issues. Internationalisation of markets and increasing mobility of production factors can make the centralisation of powers in new areas attractive – for instance, to the extent that international spillovers of national policies increase. Moreover, debates about justice and home affairs, as well as foreign and security policy, are high on the political agenda.

With a broader range of issues discussed in one international organisation, it can be easier to reach agreements about cooperation. For instance, by linking various issues, expected losses for a country in one area of the cooperation can be offset by expected gains in another area. Indeed, package deals may increase the opportunities to reach an overall agreement on cooperation. However, package deals run into the danger that negotiations become extremely complex and time-consuming. Already, multiple-issue clubs suffer from a lack of accountability, transparency and legitimacy. Moreover, a broader range of issues in a larger club of countries could stall progress in achieving tighter integration.

Legitimacy and effectiveness

The protests in Seattle in 1999, the violent clashes between protestors and the police at the tops of the G7 and the IMF, the low turnout in European elections; they are all signs that international institutions face opposition and that they do not always carry popular, widespread support. This is partly because the organisations suffer from a lack of legitimacy. Decision making in the European Union, for instance, is overly complex, is not transparent and suffers from a democratic deficit. Accountability of the WTO is lacking, and this institution is blamed

for the lack of international cooperation on issues that are outside its own competences. This undermines the credibility of these institutions.
Whether the WTO and the European Union will succeed in embodying further international cooperation depends on a number of other issues: trust between countries, adequate commitment mechanisms in the cooperation agreements, the legal power of the international institution to enforce the cooperation, possibilities for free-riding, the reputation of the international institution and the countries participating therein. This renders the future of these organisations uncertain.

2.5 Internationalisation: a key uncertainty for the future

Economic integration during the past decades, both in Europe and globally, has contributed to substantial growth in the economies of the developed world. Still, there is room for further internationalisation in light of the various barriers to integrated markets. A key uncertainty is whether international organisations will succeed in stimulating and accommodating further integration. These organisations are currently under pressure due to the increasingly heterogeneous membership, the call for an expansion of policy issues with which they must deal, and the lack of legitimacy and effectiveness of decision making. The next two chapters elaborate on these issues for the WTO and the European Union, respectively. Chapter 5 deals with non-trade issues, where international cooperation is relatively weak today.

3 Global trade liberalisation through the WTO

The General Agreement on Tariffs and Trade (GATT) – the predecessor of the WTO – was successful in removing trade barriers between participating countries. It served as a vital mediator in guiding the internationalisation process. A new round of trade talks, which was agreed upon at the end of 2001 in Doha, seems more complex than previous ones. Membership of the WTO is now more heterogeneous and the scope of issues is broader than in the past. This calls for an effective institutional framework, which also carries legitimacy. Will the WTO succeed in its mission?

3.1 Increased heterogeneity: east-west and north-south

Before it has even started, the next trade round in the WTO is already burdened with a number of trade conflicts between member countries. Not only do the new, less developed member countries have interests different from those of the old, more developed members, but also the developed world faces a series of disputes.

Conflicts between the European Union and the United States

The list of trade conflicts between the United States and the European Union is expanding: from bananas and genetically modified soybeans to tax relief for exporters and anti-dumping duties on steel. These conflicts do not give the impression that the different perspectives of the European Union and the United States will be easily reconciled, or that the countries will work towards a successful conclusion of the Doha round.

Yet, it is not true that the European Union and the United States have very different perspectives on free trade in general. Hufbauer and Neumann (2002) drew up a list of trade conflicts and conclude that the majority of disputes are not between the United States and the European Union. Sapir (2001) reports a rise in the number of EU-US conflicts that are brought before the arbitrage committee of the WTO, but this is part of a general rise: in relative terms the European Union and the United States are not more involved in arbitrage cases than they used to be. Broadly speaking, the trade conflicts between the two economic superpowers are largely confined to agriculture and steel. These are the sectors that have political clout at both sides of the Atlantic but contribute less than 5% to overall production. Moreover, as also Hubauer and Neumann put forward, the European Union and the United States have much to gain from trade with each other. This provides a good incentive for these developed countries to resolve their disputes.

Conflicts between rich and poor

The disagreements between developed and developing countries may jeopardise the new trade round. A number of developing countries were disappointed in the Uruguay Round. The

countries had the feeling, for example, that they were often excluded from crucial deliberations and that they lacked resources and expertise to influence the rather complex negotiations. For that reason, developing countries have now been promised technical assistance during the negotiations in the Doha round. Another reason for disappointment is due to the perception that developing countries have lost from the Uruguay round. For instance, many believe that markets did not open for products that would most benefit poor countries. Using a CGE model, Harrison, et al. (1997) indeed find that some of the poorest countries in Sub-Saharan Africa have experienced terms-of-trade losses due to reciprocal tariff reductions.

Wobbly Washington consensus

Both are eminent, well-known economists: Joe Stiglitz is a Nobel Prize Winner and former chief economist of the World Bank; Kenneth Rogoff has done outstanding research in international economics and is Director of Research at the International Monetary Fund (IMF). The two are in conflict about the policies of the IMF.

"*Food and fuel subsidies for the poor in Indonesia were drastically cut back, and riots exploded the next day. (...) It was not just that IMF policy might be regarded by softheaded liberals as inhumane. Even if one cared little for those who faced starvation, or the children whose growth would be stunted by malnutrition, it was simply bad economics. Riots do not restore business confidence.*" Joe Stiglitz on page 119 in his book 'Globalisation and its discontents'

"*In the middle of a global wave of speculative attacks, that you yourself labelled a crisis of confidence, you fuelled the panic by undermining confidence in the very institutions you were working for. Did it ever occur to you for a moment that your actions might have hurt the poor and indigent people in Asia that you care about so deeply*?" Kenneth Rogoff in his opening remarks at a discussion meeting about Stiglitz's book

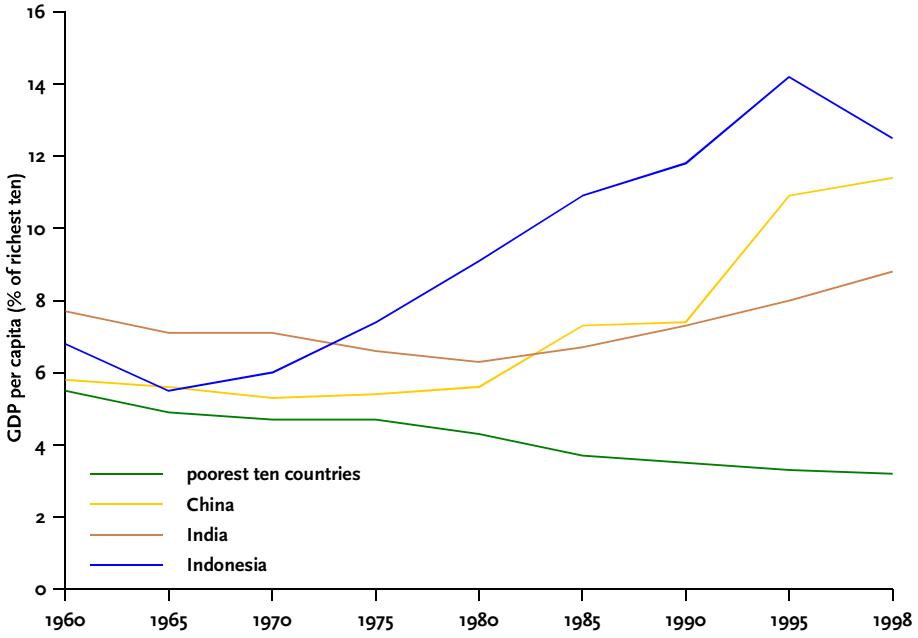
The aggressive tones make it hard to hear the important debate about economic policies in developing countries. When a country is temporarily in distress, it can turn to the IMF. However, a country must fulfil several conditions to receive funds. In this way, the IMF has a big impact on the development in poor countries that receive funds. Joe Stiglitz has criticised these conditions. His main point is that the IMF has too eagerly promoted the liberalisation of capital markets. This liberalisation was believed to bring gains since funds will flow towards investment projects with the highest rates of return. However, this argument may not hold for developing countries. Capital markets are prone to speculation. Strict regulation may be necessary to avoid the self-fulfilling expectation that financial institutions will not withstand a speculative outflow of capital. Large outflows may wreak havoc on the economy of a developing country.

Yet, Joe Stiglitz does not disagree with every aspect of the IMF. He supports trade liberalisation, but adds that the ensuing job destruction is not automatically followed by job creation. In an environment of high interest rates and low investment rates, trade liberalisation may lead to unemployment. Broadly speaking, Stiglitz' main concern is the combination of policy measures: capital market liberalisation should be accompanied by a proper regulatory framework; and trade liberalisation should come along with good conditions for job creation.

For the new Doha round, 'development' has been placed explicitly on the agenda. The 'development' round should thus bring developing countries, especially the poorest among them, better access to the large markets in developed countries. Already in Doha, developing countries were successful in their fight against pharmaceutical companies that charged high prices for medicines against HIV/AIDS. The countries were allowed to produce their own, cheap versions of patented treatments, rather than having to buy the Western-produced, expensive originals. In Cancun a group of developing countries, including Brazil, China and India, clashed with the European Union and the United States. The ministerial meeting consequently failed to produce an agreement of some sort.

The general feeling in developing countries is that trade liberalisation is not in their own interest, but rather in the interest of the developed world and their big multinationals. This feeling contrasts with the view that openness is essential for growth and development. This latter view is part of the Washington Consensus among the IMF, World Bank and the American Treasury. It receives strong support from a large group of economists, in which Bhaghwati is one of leading voices. He consistently argues that trade liberalisation, unilateral if not multilateral, is in the interest of developing countries. However, this relationship between openness and growth is not undisputed among economists. Recently, Joe Stiglitz (2002) launched a book in which he attacks the Washington Consensus (see box *Wobbly Washington consensus*).

Figure 3.1 Per capita income in developed countries relative to the 10 richest countries 1960 - 1998



Source: own calculations based on Heston, et al. (2002)

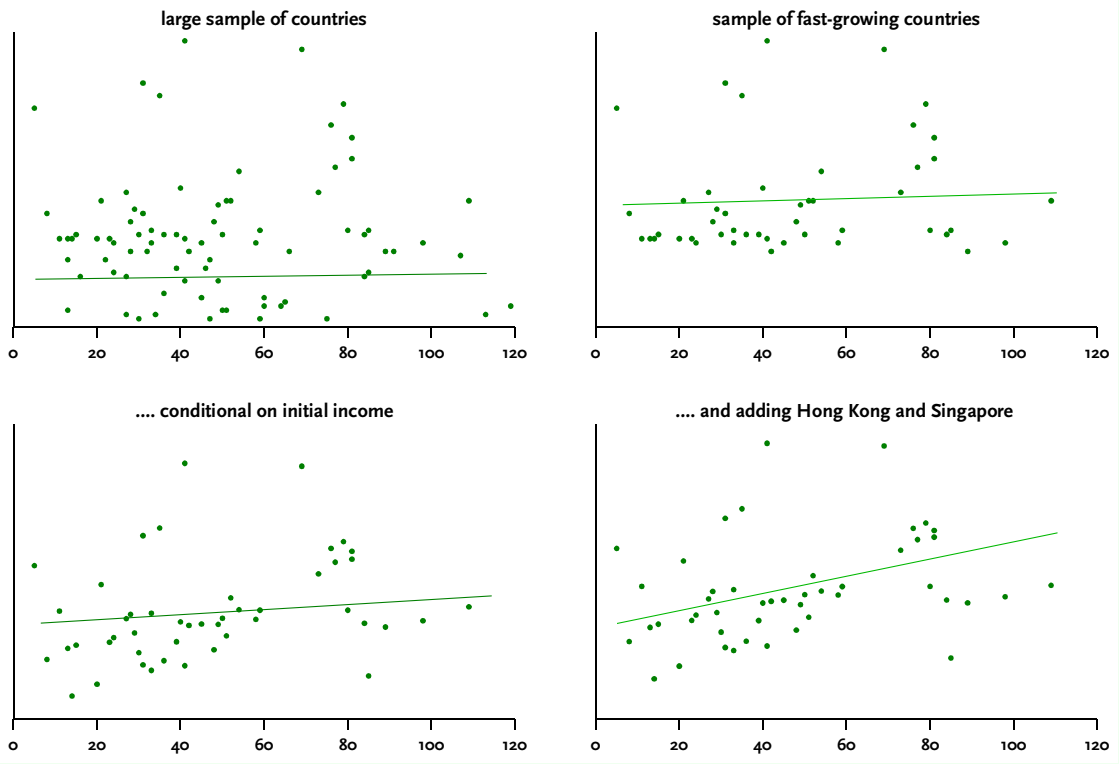
The discrepancies in views may arise from the somewhat conflicting, unclear evidence on trade and growth. Over the years, economies across the globe have become more integrated and more open. However, globalization has not spurred economic growth equally across countries. In fact, the income per capita in the poorest ten countries in the world as a percentage of that in the richest ten countries has declined from 5.5% in 1960 to 3.2% in 1998 (see figure 3.1). Anecdotal evidence reinforces this view. Especially in Africa, where AIDS is wreaking havoc, a number of countries have seen their standards of living deteriorate rather badly. This leaves the impression that globalization has not brought the benefits that have sometimes been promised.

Yet, there are also grounds for optimism. A number of countries seem to have found the path of development and have been able to sustain a high pace of growth over a long period. Figure 3.1 shows that income per capita in China, India and Indonesia, relative to the income of the richest ten countries, has risen. The increase is largest for Indonesia, from 6.8% to 12.5%, and smallest for India, from 7.7% to 8.8%. There are strong indications that the exchange of goods and services facilitates the exchange of ideas and technologies. The potential to learn about new technologies is particularly large for developing countries. Moreover, there are indications that freer international trade improves governance. For example, Bonaglia et al. (2001) find that import openness diminishes corruption. The reason is that a consistent policy of free trade eliminates the incentive for domestic producers to lobby for higher protection. Nevertheless, the evidence on the relationship between openness and growth is inconclusive and contradictory. Perhaps this should not come as a surprise. Trade theory does not predict that every country will gain from free trade in goods and services. However, it does predict aggregate gains. Hence, the winners should, in principle, be able to compensate the losers. In reality, however, such compensation never occurs. The consequence is that some countries may lose rather than gain.

Cross-country evidence on growth and openness

Cross-country analyses generate ambiguous results on the relationship between openness and growth. To illustrate this, we take a sample of 114 countries and exclude the small trading nations Hong Kong and Singapore for their exceptional degree of openness. By simply regressing growth to openness (measured by the share of imports and exports to GDP), we do not find a significant correlation between initial openness and average per capita growth over the period 1960-1998 (upper left panel). This result does not change when the sample is restricted to those 50 countries with the highest growth rates in the sample (upper right panel). Once we include initial per capita income in the regression as a control variable, we arrive at a positive relationship (bottom left panel). This becomes even stronger when Hong Kong and Singapore are included in the sample (bottom right panel). The last regression suggests that increasing openness by 10 percentage points implies an increase in the growth rate of 1.5%. Our thumbnail sketch of openness and growth illustrates the problem with cross-country evidence. In particular, the results are not robust as they differ between samples and specifications. This is in line with Rodrick and Rodriquez (1999), who evaluate existing empirical work and conclude that the relation between openness and growth is not robust for changes in various definitions.

Growth and openness: four simple regressions



Source: own calculations based on Heston et al. (2002)

3.2 Increased scope: new issues on the WTO agenda

Up to now, multilateral trade liberalisation has concentrated on industrial products. Successive rounds have reduced tariffs considerably. According to the WTO (2001), tariffs in industrial countries have fallen by at least 33 percentage points on average in each of the last three rounds. With the exception of textiles and steel, tariffs are now close to zero and cannot be reduced further. Liberalisation must therefore concentrate on other sectors:

- agriculture, where vested interests are well organised and government interference is strong;
- services, where non-tariff barriers are important. These are much harder to measure and to negotiate over.

Trade in agriculture

The Uruguay Round already accomplished a milestone in agricultural trade. First, it reduced trade-distorting measures. For example, developed countries reduced import tariffs by 36% on average, with a minimum cut per product of 21%.[7] A second achievement of the Uruguay round was a framework for agricultural support that allowed existing agricultural policies to be embedded in the WTO. The framework distinguished three types of policy instruments, the so-called boxes:

- *amber box* - distorting measures such as guaranteed prices, export subsidies and import levies
- *blue box* - less distorting measures such as income support
- *green box* - measures with hardly any distortion such as agricultural education subsidies

The Doha Round should be the next step in the liberalisation of trade in agriculture. There are certainly a number of disagreements between countries on what distortions should be reduced. Despite these disagreements, the general feeling is that the gains from liberalising agricultural policies can be large. For instance, CPB (2003a) discusses five different simulation studies on the welfare implications of full liberalisation in agriculture. The results suggest a wide range of estimates of the welfare gains, somewhere between 31 and 586 billion US dollars. Three conclusions from these studies are especially worth noting. These points are all illustrated by table 3.1, which presents model outcomes of Anderson (1999). First of all, the studies show that the welfare gains for the high-income countries exceed those for the low-income countries.

[7] The impact of these and other reductions was, however, modest because the reductions in trade distortions were vis-à-vis reference period with high protection rates. The Uruguay agreement also provided for special and differential treatment for developing countries. Reduction percentages agreed upon for developing countries were about one third smaller than for developed countries; the least-developed countries did not have to reduce tariffs and subsidies at all.

Second, the welfare gains from trade liberalisation in agriculture probably exceeds the gains of liberalising trade in manufacturing goods. The reason is that current trade and production patterns in agriculture are more distorted than in manufacturing. Finally, the economic gains from trade liberalisation in agriculture mainly accrue to the region that actually pursues the liberalisation. Hence, developing countries would gain most substantially if they would liberalise themselves. The impact of trade liberalisation in the developed countries for the welfare in the developing countries is estimated somewhere between 3 and 99 billion US dollars, i.e. between 0.04% and 1.56% of their national income.

Table 3.1 **Effects of removing all formal trade barriers: results from model simulations for 2015**
In billions of 1995 US$

		Agriculture & Food	Textiles & Clothing	Others	Total
Liberalising region	High Income				
Benefiting region	High Income	111	–6	–8	97
	Low Income	11	9	22	43
Liberalising region	Low Income				
Benefiting region	High Income	11	11	28	50
	Low Income	31	4	30	65
	total	165	17	73	255

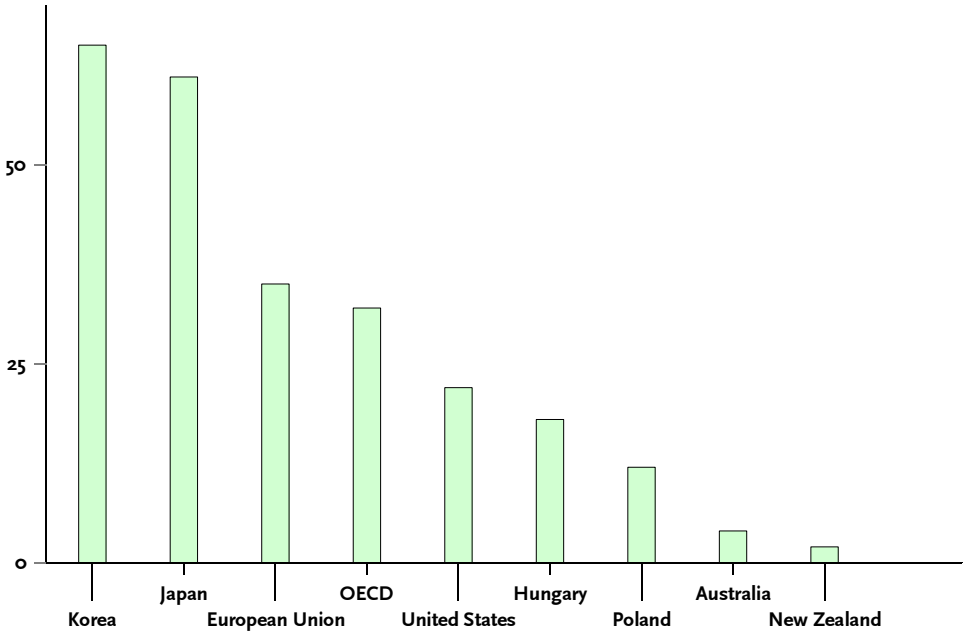
Source: Anderson(1999)

Although liberalising and reforming agricultural policy in developing countries may bring gains, this does not ensure it will meet broad support. The main problem is that farmers in developed countries receive substantial support from their governments. This is illustrated in figure 3.2, which shows an aggregate measure for producer support to farmers in a number of countries.[8] It reveals that agricultural support in Japan, the European Union and the United States constitutes a significant part of the income of farmers. This explains their resistance to any plan of reform. Besides, farmers are well organised and have different ways to affect political choices. They are always determined to fight policy changes and their protests could easily disrupt political and social life. All these factors make it difficult to reform and liberalise agriculture in developed countries. In fact, most developed countries have, until now, hardly opened their domestic markets for agricultural products. Imports from developing countries are often tropical

[8] The aggregate measure in figure 3.2 hides widely different percentages for different crops and animal products. In general, support to arable crops and (dairy) cattle and sheep is much higher than support to horticulture and the pigs and poultry sectors.

products which hardly compete with domestic products. High import tariffs and export subsidies remain and invoke criticism.

Figure 3.2 Producer support to farmers in developed countries
% of gross farm receipts, average for the period 1999-2001



Source: OECD (2001a)

For many developing countries, matters are complicated. Notwithstanding the relative importance of the agricultural sector, many of these countries are net food importers. Sub-Saharan Africa is good example. Although agriculture contributes about 35% to the region's GDP, only three out of the 47 countries in Sub-Saharan Africa (South Africa, Uganda and Zimbabwe) have been self-sufficient in grain in recent years. This means that, *ceteris paribus*, higher world market prices for grain will raise their food bill. For two other reasons developing countries may lose rather than gain from reforming agriculture in developed countries. First, food aid programmes become more expensive and are possibly more difficult to sustain. Many countries in Sub-Saharan Africa rely on food aid to meet at least 20 percent of their grain imports. After reforming agriculture, rich countries will no longer have food surpluses. Food aid has to be bought on the world market then, at higher prices. Second, the poorest countries will see the benefits of preferential access to the European market erode. Not only will they lose the advantage of high prices in the European Union for some of their products, but they will also face competition from exporters who, at present, do not enjoy preferential access. For this reason the poorest developing countries ask for compensation in WTO negotiations.

From this discussion, one should not infer that free trade will not improve welfare in developing countries. Many studies have shown otherwise. Many poor countries will in the longer term probably benefit from a more open trading system. However, in order to reap these benefits, it is not enough to simply abolish agricultural trade distortions in the developed world. Liberalisation will become an instrument for development only if it is accompanied by an alleviation of distortions on domestic markets in developing countries and reforms of institutions that are necessary for a properly functioning market economy.

Non-tariff barriers

Various trade restrictions fall under the heading of non-tariff barriers (NTB), such as anti-dumping and countervailing actions, non-automatic licensing and (voluntary) export restraints. The Uruguay round was aimed at reducing these barriers in manufacturing and was fairly successful. WTO (2001) shows that the share of all goods affected by NTBs has been reduced from 22.1% to 13% in the European Union and from 23% to 16.7% in the United States. Most of the NTBs apply to food processing, beverages and tobacco, and textiles and apparel.

The definition of NTBs could be extended to include intentional and unintentional restrictions on international trade that stem from regulating product characteristics and production methods. Concerns for health, safety, environment and consumer protection are legitimate grounds for member states to restrict imports from other member states. These obstacles to trade are often referred to as technical barriers.[9]

In the European Union, a number of product standards and regulations have been harmonised in order to remove technical barriers to trade. More recently, the European Union adopted the principle of mutual recognition to achieve this goal. Further attempts to liberalise trade in manufacturing through the WTO could rely on these forms of technical harmonisation or mutual recognition. However, not every country may have the capacity to deal with a variety of standards or the capacity to implement and guarantee a common standard. The possibility arises that developed countries will liberalise their mutual trade by reducing technical barriers, while developing countries are excluded. This would violate the most favoured nation principle of the WTO and could be dangerous for the WTO itself and the success of future trade rounds.

In services, import tariffs have never been important. Trade in services, however, is hampered by three other types of barriers (Hoekman et al., 1997). The first is quotas and prohibitions. For instance, landing rights for aeroplanes. Secondly, price regulations form an

[9] Baldwin (2000) gives the example of the Swedish standard for wipers on car headlights. This product standard is a safety precaution, since Swedish roads are often rather dusty and visibility in traffic is essential. Swedish car makers have integrated the installation of wipers into the production process. Foreign car makers have not, since Sweden is only a small market. As a result, the installation of wipers is relatively expensive for foreign car makers, thus raising the price of imported cars. Alternatively, foreign car makers offer only luxury models on the Swedish market for which headlight wipers are already an option.

impediment to trade(airport and tourist taxes, for example, reduce the demand for tourist services). Finally, there is sometimes discriminatory access to distribution networks. This not only hampers trade, but also reduces competition. With respect to network sectors such as electricity and railways, Nicoletti (2001) argues that competition in Europe is indeed weak and markets are dominated by incumbents. There are, however, changes in some sectors. For instance, in 1990 the market for fixed telephony was highly regulated in about 80% of the OECD countries. In 1998, this was reduced to 20%. For mobile telephony, regulation is even more liberal.

Summing up: future trade liberalisation refers to agriculture and services and the elimination of non-trade barriers. These forms of trade liberalisation are more difficult to pursue than the removal of tariff barriers in manufacturing in the past. The future of global trade liberalisation is therefore difficult to foresee.

3.3 Legitimacy and effectiveness: how to deal with non-trade issues?

The recent trade summits in Seattle and Doha on a new WTO round were the focal points of protests against (some of) the consequences that may arise from liberalisation and globalization. The protests came from an alliance of diverse groups, ranging from environmental action groups to trade unions, and from non-governmental organisations to French farmers. These protest actions stem from the broad concern that free trade is not the same as fair trade.

A major concern is that trade and non-trade issues have grown interdependent. For instance, liberal trade means that market participants have the freedom to exploit comparative advantages, even if they stem from lax regulations in particular countries. Trade liberalisation has therefore come along with concern for environmental policy, labour standards and the like. In particular, if one country has lower environmental or labour standards than its trading partners, it will, for the sake of competitiveness, resorts to so-called 'ecological dumping' or 'social dumping': it supplies goods at too low, unfair prices. This warrants tariffs as anti-dumping measures.

However, ecological or social dumping are not always compelling arguments against free trade. Differences in standards usually reflect differences in social preferences and initial conditions. A rich country may want to tax labour to support a social security system, restrict working hours, and impose tough environmental regulation. A poor country is likely to make different choices. Robert Lawrence et al. thus conclude that 'if national tastes or conditions lead to different laws, the playing field of international competition will not, and should not, be level' (Lawrence et al., 1996).

Globalization of markets nevertheless calls for regulation at a global level. Trade liberalisation requires a strong international organisation that maintains incentive-compatible agreements, i.e. agreements that countries do not want to deviate from. Ideally, international

organisations should also deal with other coordination failures, i.e. outside the field of trade. The problem is that effective global organisations do not exist. Accordingly, the WTO is 'burdened' with these issues. For more about cooperation in non-trade issues, we refer to chapter 5.

3.4 Key uncertainties in globalization

The next WTO round is scheduled to conclude at the beginning of 2005. But this seems unlikely. In fact, earlier rounds took far longer than three years to complete: the Tokyo round lasted six years, and the Uruguay round took even one year longer.

At the meeting in Doha, countries agreed upon an agenda, but that seems to be about the only thing that they could agree upon. The ministerial meeting in Cancun should have resolved the impasse in negotiations, but did not. At this stage of the negotiations, countries do not have to agree. But the current round seems more complex and more daunting than previous ones. This is especially because of the more heterogeneous membership of the WTO, which leads to a wider variety of interests. Moreover, the agenda contains more difficult areas such as agriculture and services while, at the same time, the agenda on free trade is linked to non-trade issues. Clearly, one of the uncertainties for the future is whether the WTO negotiations will eventually come to a successful conclusion.

4 European integration and enlargement

European integration has brought political stability and economic growth to the member states of the European Union. The next enlargement will probably yield additional benefits to Europe. But it also puts a strain on the progress in the integration process. Moreover, the integration process faces a number of new issues on which member states maintain different views. Fundamental reforms in EU institutions and EU policies seem necessary to keep the European Union manageable and to improve its legitimacy. Will Europe succeed?

4.1 The economic impact of the next enlargement

In 2004, the European Union will expand from a club of 15 countries to a club of 25. Enlargement will take place with eight Central and Eastern European Countries (CEECs) and two island states, Cyprus and Malta. The EU population will increase by 20% to almost 450 million. The accession countries are much poorer than the current member states. As table 4.1 shows, production per capita in the accession countries is only US$3 600, which falls far below the European average of US$22 400. Consequently, the contribution of enlargement to GDP in the European Union is modest: it rises by only 4%. These averages hide important differences among accession countries, though. Whereas production per capita in Slovenia , Malta and Cyprus is almost at par with Greece and Portugal, the Baltics and Slovakia lag far behind.

After 2004, Bulgaria and Romania are likely to be the next entrants to the European Union. Currently, the European Union is negotiating with these two countries on the terms of accession. Table 4.1 reveals that the level of welfare in Bulgaria and Romania is below the average of the countries that accede to the European Union in 2004. In the somewhat longer term, say after 2010, the European Union may enlarge even further. For instance, Norway, Liechtenstein, Switzerland and Iceland may decide to apply for membership; the countries of former Yugoslavia and Albania may join the European Union; and Turkey may accede.

Especially Turkey is an important candidate, both because of its geographical location, with borders to the Middle East and the former Soviet Union, and because of its large population (see table 4.1). If Turkey were to enter the European Union now, the population would rise by another 17% and GDP by 2.2%. The Turkish population will, moreover, rapidly grow during the coming decades. According to demographic projections, Turkey could even become the largest country of the European Union in 2020 – exceeding 80 million. Whether and when Turkey will accede is difficult to predict. In 2004, the European Union will decide on the basis of political criteria whether a starting date for negotiations with Turkey will be given. If the political, economic and institutional developments in Turkey are judged to be inadequate and the European Union is unwilling to negotiate with Turkey, the country might alternatively shift its attention towards eastern regions, rather than the European Union.

Table 4.1 Key economic indicators for 13 accession countries in 2000

	Population (millions)	GDP (billions US$)	GDP per capita (1000 US$)	Labour in agriculture (% of total labour)
Poland	38.6	157	4.1	18.8
Hungary	10.0	47	4.7	6.5
Czech Republic	10.2	52	5.1	5.1
Slovakia	5.4	20	3.7	6.7
Slovenia	2.0	20	10.0	9.9
Latvia	2.4	6	2.5	13.5
Estonia	1.4	5	3.6	7.4
Lithuania	3.7	10	2.7	19.6
Cyprus	0.8	9	11.3	9.2
Malta	0.4	4	10.0	1.9
10 accession countries	74.9	330		
Bulgaria	8.2	12	1.5	8.3
Romania	22.4	33	1.5	42.8
Turkey	65.3	187	2.9	34.9
all accession countries	170.8	562	3.6	14.2
EU-15	371.0	8325	22.4	4.9

Source: Worldbank World development indicators; European Commission DG for Agriculture

The possibility of Turkish accession has also sparked a debate about a European identity. The Chairman of the European Convention Giscard d'Estaing expressed the clear opinion that "Turkey has a different culture, a different approach, a different way of life" and "its capital is not in Europe, 95% of its population is outside Europe". Do geographical, political and cultural differences put a boundary on a further expansion of the European Union or not? A similar discussion arises with respect to the new border regions of the enlarged European Union in Eastern Europe, the Middle East and Northern Africa. Around 500 million people live in these regions. They earn an average per capita income of about one-fifth of that in the enlarged European Union (see table 4.2). Economic integration with a number of countries in these regions (especially around the Mediterranean) is foreseen in the form of bilateral association agreements, which imply free trade by 2010. But could these countries ever become members of the European Union? At the very least, the political relationship with these regions is important, especially since a number of countries are not stable democracies.

Table 4.2 Population and income per capita in border regions of the enlarged European Union in 1999

	Population in millions	Income per capita[a]
Eastern borders		
Russian Federation	146	32
Belarus	10	32
Ukraine	50	16
Moldavia	4	10
Croatia	4	34
Albania	3	15
Southern borders		
Algeria	30	22
Morocco	28	15
Tunisia	9	26

[a] Measured in purchasing power parities, in terms of EU average
Source: Worldbank World development indicators

Below, we elaborate on three aspects. First, we discuss the benefits of further integration and the prospects for income convergence between new and current members. Second, we analyse the consequences of enlargement for the sectoral structure of the economies of new and old members. Finally, we elaborate on the possible migration flows towards Western Europe.

Integration and convergence

A number of studies have explored the economic implications of the next enlargement with twelve candidate countries (i.e. including Bulgaria and Romania, but excluding Turkey). They reveal that a substantial part of the economic gains have already been obtained through the Europe Agreements that have been effective since the early 1990s and which provide for the removal of formal trade barriers on manufactured goods. As a result, trade between the European Union and the transition countries has already shown forceful growth over the last decade. To illustrate, the value of exports from the CEECs to the European Union has quadrupled between 1988 and 1998, compared to a doubling of the value of exports within the European Union during the same period.

Yet, a number of other effects of EU enlargement are still to be realised. For instance, accession to the European Union implies that candidate countries will have to conform to the common external tariffs. Moreover, the new countries will have to conform to the standards and regulations of the internal market. This will eliminate the costs arising from customs formalities and will remove technical barriers to trade. Various studies have analysed the economic implications of these further steps in the integration with the CEECs. Table 4.3 presents the results from a representative selection of studies. It suggests that current member states may expect small economic gains, while the new member states will gain much more. Note, however,

that the immaterial gains in terms of increased safety and stability in the European continent are not captured in these figures and could very well exceed the economic benefits.[10]

Table 4.3 Long-run effects of EU enlargement on GDP per capita (in %) according to a selection of studies

	Effect on EU	Effect on CEECs
Baldwin et al. (1997)	0.2	1.5
Brown et al. (1997)	0.1	3.8
European Commission (2001a)[a]	0.2 - 0.4	n.a.
Lejour et al. (2001)	0.1	7.8
Breuss (2001)[a]	0.2	7.2

[a] Excluding the impact of migration on GDP per capita

The estimated benefits of integration are not nearly enough to close the income gap between the new and current members of the European Union in the coming decades. Table 4.4 shows for various countries income per capita in terms of the current average within the European Union. Most of the entrants do not earn half the average income, and the poorest among them less than one-third. Even if GDP in the accession countries were to increase by 8%, as predicted by some of the studies in table 4.3, the income gap with the rest of Europe would remain large.

Within the club of 15 EU countries, income differences are also significant. Table 4.4 shows that income per capita in Europe ranges from 72% of the average in Portugal and Greece to 116% in Belgium and Denmark. However, these income disparities have gradually become smaller over time. To show this, figure 4.1 plots GDP per capita in 1977 (measured in purchasing power parities) against its growth rate between 1977 and 1996 for twelve countries. It reveals a clear pattern of catching-up: countries with initially lower income levels have grown faster than richer countries. The rate of this so-called beta-convergence is 2.1% per year. It implies that it takes about 33 years to cover half the initial gap between a poor and a rich country. This rate of convergence of two percent per year is consistent with the findings in the empirical literature (Sala-i-Martin, 1996). A plausible explanation for convergence is that backward countries feature a high marginal product of capital and can copy new, advanced technologies. This allows them to improve their productivity relatively easy and quickly. Catching up may also occur in the candidate countries.

[10] Moreover, the studies in table 4.3 concentrate on the implications of intenser trade relations. The effects of EU accession via more efficient domestic institutions, technology spillovers, or more stable macroeconomic policies are typically not included. Hence, growth in the accession countries may well be larger than suggested by these studies, although not all these growth effects can directly be attributed to the accession to the EU.

Table 4.4 Income disparities in Europe in 2000 and 2030 in the presence of 2% beta-convergence[a]

	2000	2030		2000	2030
Austria	111	105	Bulgaria	23	62
Belgium	116	108	Czech Republic	58	79
Denmark	116	107	Estonia	37	69
Finland	102	101	Hungary	50	75
France	104	102	Latvia	28	65
Germany	107	103	Lithuania	29	65
Greece	72	86	Poland	38	69
Ireland	102	100	Romania	27	64
Italy	100	99	Slovak Republic	47	74
Netherlands	111	105	Slovenia	73	86
Portugal	72	86			
Spain	81	90			
Sweden	100	100			
United Kingdom	101	100			
Mean	100	100		38	71

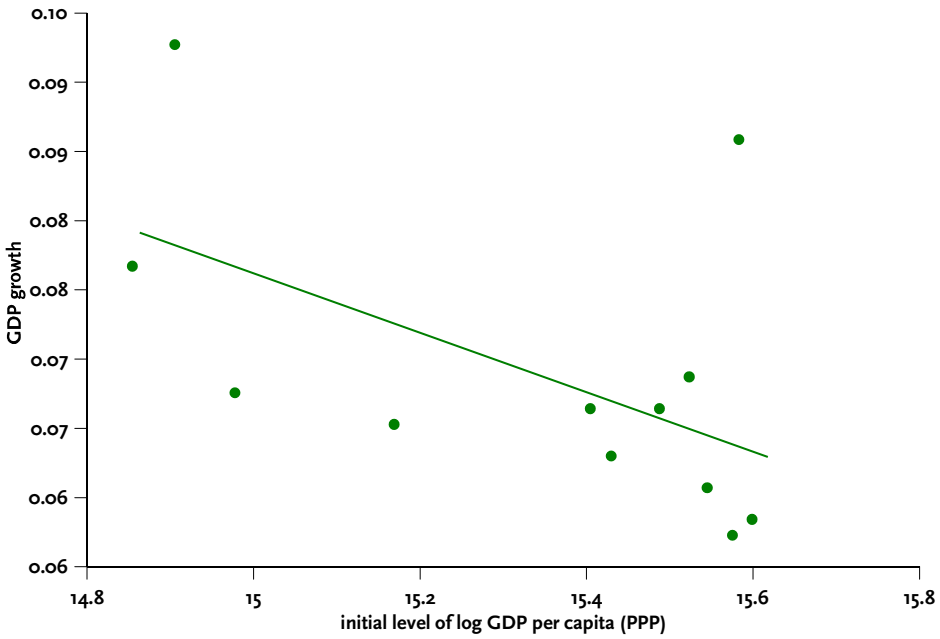
[a] Income measured by GNP per capita (in purchasing power parities) in % of EU average

To give an indication what catching up would imply for the accession countries, table 4.4 presents the income levels in Europe in 2030 in the presence of 2% (unconditional) beta-convergence during the entire period. We see that the poorest countries, Portugal and Greece, would arrive at 86% of the average income in the current EU-15, compared to 72% today. In the CEECs, today's income per capita is only 38%, but this would rise in 2030 to 71%. This is almost similar to today's level of income in Portugal. Of course, the improvement from 38% to 71% is considerable, but the income difference remains significant, even up to 2030.

Although the aggregate economic impact of European integration is positive, the benefits may not accrue equally to regions. Some benefit more than others, and a few may even lose from integration. To maintain public support for further integration in Europe, it is necessary to prevent large or increasing income disparities among regions. The European Union therefore explicitly aims at economic and social cohesion among regions.

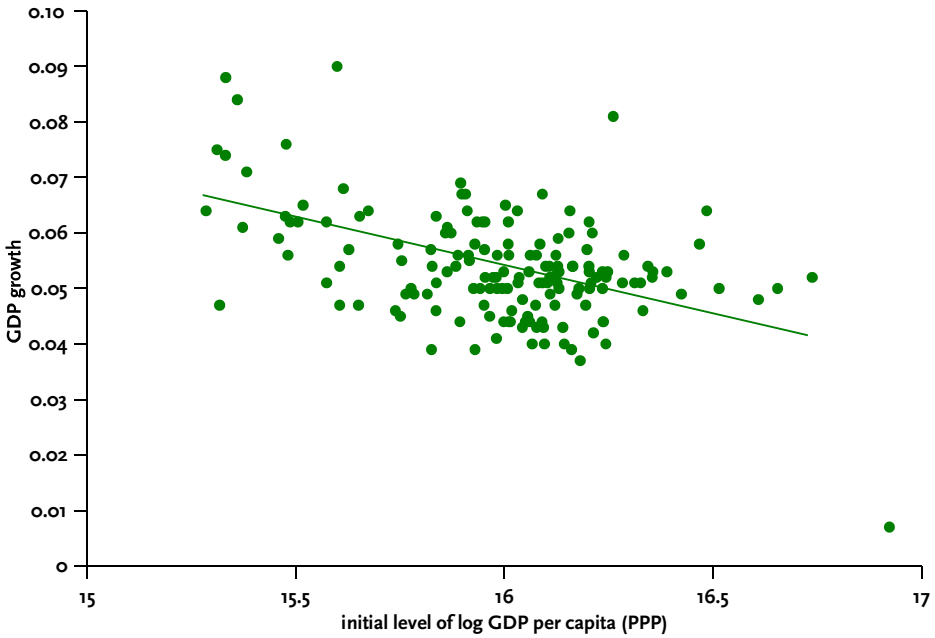
From this perspective, it is reassuring that the pattern of income converge applies not only to countries but also to regions. Figure 4.2 depicts the same scatter as in figure 4.1, but now for 160 regions in the European Union. Specifically, it explores the relationship between the 1984 level of GDP per capita and its growth rate between 1984 and 1996. Again, it reveals a negative relationship with a similar degree of convergence. Hence, the income levels among regions tend to converge, as they do among countries.

Figure 4.1 Convergence among EU countries 1977-1996



Source: Ederveen et al. (2002)

Figure 4.2 Convergence among 160 European (NUTS 2) regions 1984-1996



Source: Ederveen et al. (2002)

That regions (on average) catch-up to the mean level of income, does not imply that they all do. For instance, figure 4.2 shows that some of the backward regions have not experienced an above average growth rate. This can be explained by less efficient institutions in some of these regions or by poor economic policies. An alternative explanation is that integration strengthens the forces of agglomeration. The box *Agglomeration economics* gives a more detailed explanation of this. Braunerhjelm et al. (2000) argue that agglomeration economies can indeed polarise Europe into advanced core regions with high income and low unemployment, and depressed peripheral regions with low income and high unemployment. This is especially likely if labour is immobile across regions, which is typically the case in Europe. Hence, if only the core regions reap the benefits of agglomeration, immobile unskilled labour gets trapped in a depressed periphery.

Agglomeration economies

Agglomeration economies are positive spillover effects between agents that locate close to each other. What comes readily to mind are knowledge spillovers, reduced search efforts on pooled labour markets, and the emergence of specialised markets for intermediate goods. The influential 'new economic geography' literature (Fujita et al., 1999) highlights the benefit for firms from geographical proximity because, in addition to having access to pooled markets for labour and final products, they save on transport costs in local markets for intermediate goods.

A salient quality of agglomeration economies is that they are reinforcing. If a firm decides to locate close to other firms it becomes more attractive for the next firm to do so as well. A snowball effect arises, which may lead to different production structures of initially similar regions.

Localisation economies (or MAR economies after Marshall, Arrow and Romer) are agglomeration economies that are confined to firms of the same industry. It implies that although it pays off for banks to locate close to each other, there is no reason for textile plants to also be where these banks are. On the contrary, centrifugal forces such as congestion and high living expenses give an incentive to locate elsewhere. Thus, localisation economies drive the European economy towards a possibly large set of economically significant regions, each hosting a limited range of industries.

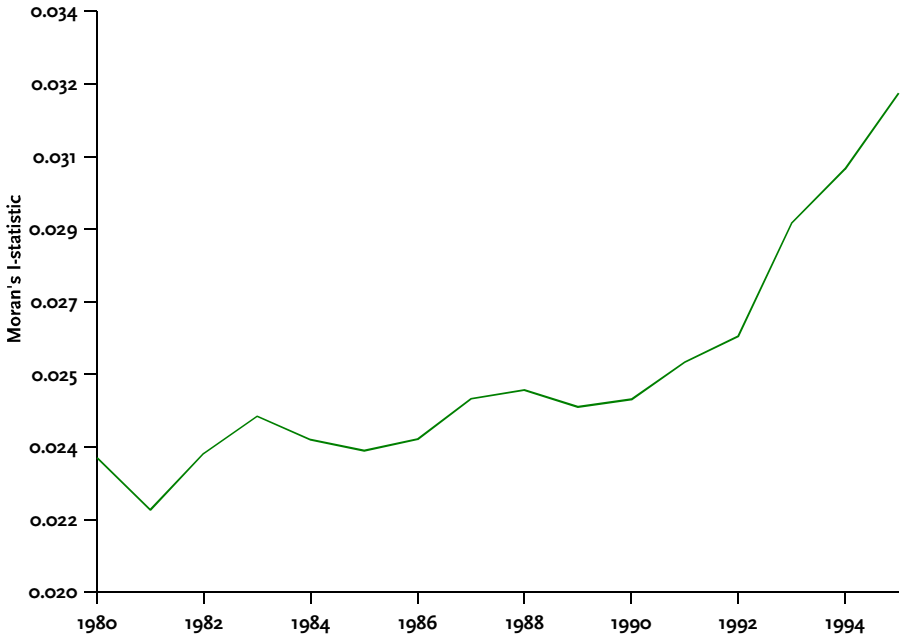
Urbanisation economies (or Jacobs economies) extend to firms from different industries. This implies that it pays off for a variety of firms to locate close to each other. Thus, urbanisation economies drive the European economy towards a situation in which core regions attract business activity at the cost of the periphery. To the extent that urbanisation refers to regions, it can be seen as a large scale variant of a drift to the city.

Figure 4.3 shows the trend between 1980 and 1995 in an index that captures the core-periphery pattern of economic activities, referred to as urbanisation.[11] The figure suggests that industries indeed drift towards a few growth poles. This sharpens the contrast in the density of economic activity between clusters of core regions and peripherical ones. Note that there is a temporal

[11] It is referred to as Moran's I-statistic, a spatial correlation coefficient. A higher value of the index suggests that regions with a high (low) value-added per square kilometre are located more closely to one another. See Gorter (2002) for more details.

contiguity between an acceleration of urbanisation and the implementation of the Internal Market through the Single European Act of 1986 and the Maastricht Treaty of 1992. This acceleration suggests that regional income convergence is not self-evident and that further integration may not contribute to it.

Figure 4.3 Urbanisation in Europe



Source: Gorter (2002)

Whether lagging regions will indeed catch up with richer ones depends – apart from urbanisation economies – on numerous other factors, including the regional developments in institutions, education, and so on. Also European cohesion policy could play a role in reducing regional income disparities in Europe. The evidence, however, does not support the claim that cohesion policy has played a significant role in reducing regional disparities in Europe, as the box *How effective is cohesion policy?* reveals.

How effective is cohesion policy?

The economic literature suggests that cohesion policy is potentially a powerful instrument to reduce the welfare differences between regions in Europe. For instance, Ederveen et al. (2002) review the literature on the impact of cohesion policy on regional growth. Model simulations, which report the effects of funds that are properly spent on public investment projects, show on average that 1% of GDP cohesion support stimulates growth in a region by 0.18%. This is, however, in sharp contrast to the evidence from econometric studies. The latter can be interpreted as evidence on the actual impact of cohesion support on growth. This evidence is mixed at best: some studies report a positive, some insignificant, and some even negative effects of cohesion support on growth. On average, econometric analyses report no significant impact. Ederveen et al. (2002) explore the factors that may explain the difference between the potential effectiveness of cohesion support and its actual effectiveness. They conclude that rent seeking, moral hazard and crowding out render cohesion policy ineffective in practice. This challenges European policy makers in their discussion about reform of cohesion policy.

A more effective cohesion policy indeed calls for reform. First, it requires that support is better targeted to the poorest member states. More than half of today's cohesion support is allocated to countries with a GDP per capita that exceeds the EU average. Especially in light of the next enlargement with substantially poorer member states, targeting of cohesion support becomes increasingly important. An effective targeting to poor regions also requires that the administrative costs for local governments are reduced. Indeed, with today's administrative requirements, poor regions tend to have severe problems to absorb support that is allocated for them. Second, cohesion policy may gain effectiveness if there were better incentives for local governments to spend funds on projects with a high rate of return. The current rules allocate funds to regions first, and then the regions absorb these funds according to strict rules. This procedure runs the risk that regions select low-productive projects which just meet the criteria of the European Commission but which are not primarily focussed on promoting regional growth. A system where regional governments of the poor regions compete for funds on the basis of project proposals may yield better incentives for regional governments to develop projects that yield a high rate of return (Ederveen et al., 2002).

Sectoral restructuring: who fears enlargement?

Newspapers put it on their front page when a Western company moves to Poland to benefit from lower wages or laxer regulations. Such headlines fuel anxiety in Western Europe about economic integration in general and EU enlargement in particular. Inevitably, enlargement will cause industrial restructuring, especially in sectors that employ low-skilled workers such as agriculture and textiles. This could – at least in the short term – hurt particular groups of workers. This section considers the impact of enlargement on the (re)location of European industries. The experience of Spain and Portugal is used as an example to sketch possible developments.

Using an indicator for the degree of specialisation, table 4.5 shows that Spain and Portugal are more specialised than other European countries in agriculture and textiles.[12] Between 1980 and 1995, the agricultural sector lost ground in both countries. In Spain, also textiles contracted. The textile sector flourished, however, in Portugal after accession: while the size of this industry in the economy was almost three times as large as the EU average before accession, it increased to a factor four after accession.

These Spanish and Portugese experiences demonstrate that accession may induce different developments in specialisation. It raises the question what the impact will be of the next enlargement on the industrial structure in Europe. Is the Spanish or the Portugese experience more relevant? To give an indication of the degree of specialisation in the agricultural and textile sectors, the lower part of table 4.5 shows the value-added of these sectors in Hungary and Poland (as a fraction of the European average). It appears that, similar to Portugal and Spain before their accession, the two candidate members are relatively specialised in agriculture and textiles.

Lejour et al. (2001) use a CGE model for the world economy to explore the sectoral implications of the accession of the CEECs to the internal market. Their results imply that accession will cause a decline in the share of agricultural production in terms of total value added in Hungary and Poland. Accordingly, the indicator in table 4.5 drops by 0.11% and 0.12%, respectively.[13] The share of the textile sector in total value added relative to the EU average expands from 2.2% to 2.75% in Hungary and from 1.9% to 2.65% in Poland. This resembles the experience of Portugal after their accession. The expansion of the textiles sector in the CEECs comes at the expense of that in Southern Europe. The index in table 4.5 therefore falls for Spain and Portugal.

[12] We have divided gross value added of two sectors 'Agricultural, forestry, and fishery products,' and 'Textiles and clothing, leather and footwear' in Spain and Portugal between 1980 and 1995 by total value added, and expressed them in the corresponding average shares in Europe. Since the value of this indicator exceeds unity, the industries are over-represented in Spain and Portugal, i.e. these countries were relatively specialised in both sectors.

[13] These predictions are consistent with recent trends in the CEECs. In particular, agricultural production fell substantially during the last decade and is currently still below the pre-transition level of 1989. See CPB (2002) for more details.

Table 4.5 Relative importance of two industries in Spain and Portugal, Hungary and Poland

	1980[a]	1995[a]	simulation 2020
Spain			
Agricultural, forestry, and fishery products	1.66	1.22	1.21
Textiles and clothing, leather and footwear	1.23	1.12	1.09
Portugal			
Agricultural, forestry, and fishery products	2.53	1.73	1.72
Textiles and clothing, leather and footwear	2.92	4.00	3.90
		1997	simulation 2020
Hungary			
Agricultural, forestry, and fishery products		1.84	1.73
Textiles and clothing, leather and footwear		1.69	2.12
Poland			
Agricultural, forestry, and fishery products		2.11	1.99
Textiles and clothing, leather and footwear		1.46	2.06

[a] Share of the industry of gross value added divided by the share of the industry of European gross value added.
[b] Difference between quotient of shares in 1995 and 1980.

Migration from accession countries

Accession to the European Union implies free movement of people between the current and new member states. It is sometimes believed that this will bring about substantial flows of immigrants to the richer parts of Europe. Can we really expect a large inflow of immigrants after enlargement?

When Greece, Portugal and Spain acceded to the European Union, similar fears with respect to immigration were put forward in Northern EU countries. After the accession, however, migration flows remained surprisingly small (Straubhaar, 1988).

The experience with the Iberian countries, however, cannot be readily applied to the CEECs for two main reasons. First, unlike the CEECs, migration from the Iberian countries was already unrestricted in the period before the accession. Hence, the majority of immigrants arrived long before these countries acceded to the European Union, particularly in the 1960s. Secondly, measured in purchasing power parities, income per capita in the Iberian countries was between 55% and 70% of the EU average. This is higher than the corresponding figures for the CEECs, as we saw in table 4.4. Migration pressure might thus be larger after the accession of the CEECs.

Although forecasting the migration effect of EU enlargement is difficult, a number of researchers have made an attempt. These studies estimate the effect of income disparities (and other explanatory variables such as unemployment or distance) on international migration from previous experiences. These estimates are then applied to the income differentials between the

EU and the CEECs to derive an estimate of the migration effect of EU enlargement. We have collected twelve such studies, the results of which are summarised in table 4.6. The table shows the long-term stock of migrants from the CEECs to the current EU countries, where the long-term is interpreted as the migration effect after 15 years.[14]

Table 4.6 Summary estimates of migration after EU enlargement on the basis of 12 studies

	Millions of people
Mean	3.8
Median	2.9
Standard deviation	3.1
Highest estimate	13.6
Lowest estimate	0.6

Source: De Mooij and Nahuis (2003)

The median of the sample suggests that 2.9 million migrants will move towards the European Union in the long term. There is, however, quite some variation among the studies. The highest estimate predicts more than 13 million immigrants while the lowest estimate is less than 1 million. The majority of estimates, however, are somewhere between 1 and 4 million. This corresponds to a long-term migration effect between 1% and 4% of the total population in the CEECs or, equivalently, between 0.25% and 1% of the EU population.

If Turkey were to accede to the European Union, a further flow of immigration may occur. Up to now, however, there are no estimates available on the migration effect of the Turkish accession to the European Union. For an educated guess, we used the implicit elasticity from the studies in table 4.6 to make such an assessment. In particular, Turkish GNP per capita measured in purchasing power parities in 1999 is 31% of the EU average, which is somewhat below the average of the CEECs. Applying the implicit wage elasticity of migration to the income differential with Turkey yields an estimate of the migration potential from Turkey to the European Union. Thereby, we take account of the demographic development in Turkey. In particular, the Turkish population is expected to increase from 65 million inhabitants in 2000 to more than 83 million people in 2020 and more than 100 million in 2040. Taking the Turkish population size in 2020, we obtain an expected migration from Turkey to the European Union of 2.7 million immigrants. Applying the Turkish population of 2040, the central estimate increases to 3.4 million.

[14] The figures refer to permanent migration. The estimates of the various studies cannot be directly compared, as they differ in the selection of the source and destination countries, and in whether they predict annual flows or long-term stock of immigrants. To construct table 4.6, we derive comparable estimates by using the migration shares for individual CEECs and EU countries from Boeri et al. (2000) and their time-structure of immigration flows. See De Mooij and Nahuis (2003) for more details about the underlying studies.

The destination of migrants from the CEECs and Turkey is not expected to be equally distributed across the European Union. In particular, the migration literature reveals that the destination of migrants primarily depends on network effects, i.e. new migrants go to places where previous migrants have settled.[15] Table 4.7 presents the destination of migrants based on the current distribution of immigrants from the CEECs and Turkey in the European Union. Around 65% of all CEEC-migrants have settled in Germany, while more than 12% reside in Austria. The remaining 23% is spread across the other EU countries. The destination of Turkish migrants in Europe is different. A large share of Turkish migrants resides in Germany (76.5%), but France (7.5%) and the Netherlands (3.8%) also host a relatively large share of Turkish immigrants. Based on this distribution, one may expect that Germany will receive 1.8 million CEEC migrants and a similar number from Turkey. Almost 350 thousand CEEC migrants would reside in Austria and only 31 thousand in the Netherlands. France may expect 214 thousand Turkish migrants, Austria another 112 thousand, and the Netherlands some 104 thousand.

Table 4.7 Expected destination of EU immigrants based on stocks in EU countries in 1999

	CEECs	Turkey
	thousands	
Total	2878	2752
- France	74	214
- Germany	1871	2105
- Netherlands	31	104
- United Kingdom	132	44
- Austria	348	112

Source: Trends in international migration, OECD, SOPEMI 2001 for data on current destination; own calculations for expected destination of migrants from CEECs and Turkey

4.2 New political challenges for the European Union

The achievements of fifty years of European integration are spectacular. The development of the internal market, the monetary union, and political cooperation between nations have brought peace and stability in Europe and contributed to economic growth. For the future, a number of new areas of cooperation appear on the agenda of the European Union. This involves reforms of existing policies in the European Union, a possible expansion of competences, and various forms of policy coordination among members. Among current EU member states, there exists a

[15] Differences in job opportunities between countries or possible transitional periods with respect to the free movement of labour, as for instance agreed upon in the negotiations between the European Commission and some of the CEECs, can redirect the destination of immigrants in the European Union.

variety of views on many of these issues. Enlargement may add even more views, thereby further complicating integration and cooperation. This section elaborates on some of the issues that will remain on the EU agenda in the coming decades.

Reforming EU policies

In the future, European funds will probably flow towards the relatively poor new member states. Cohesion support should help them to converge towards the average level of income in the European Union. Support from the common agricultural policy (CAP) should contribute to the restructuring of the agricultural sector. Among the current members of the European Union, however, net contributors resist increases in the European budget. At the same time, net beneficiaries resist lower funds. This spells conflict on future negotiations on the size and the distribution of the EU budget.

The reform of the CAP already started in the 1990s with the McSharry reforms and Agenda 2000. It was triggered by the criticism from third countries regarding the trade-distorting character of the CAP, as well as the internal criticism on the growing budget claims. With the reforms, price support was transformed into less distortionary forms of direct income support and export subsidies were cut by nearly 80%.

Further reforms of the CAP are now underway. In discussions on a new WTO agreement, criticism has been levelled at direct income support to European farmers, which keeps too many production factors artificially tied to the agricultural sector. Therefore, reforms have been proposed to reduce gradually direct income support and to decouple it from production. Part of the budget could then be allocated to rural development measures, as is also suggested in the recent proposals of the European Commission. In that case, however, questions about the role of the European Union become even more important. Some have argued that it would be more appropriate to re-nationalise the CAP.

The accession of the CEECs to the European Union makes reforms of the CAP even more urgent. In particular, applying the current CAP to the new member states implies that the financial costs of the CAP would increase. This has induced member states to agree upon an upper bound on the CAP-budget: until 2013 the expansion of the budget in nominal terms is limited to 1% per year. With an inflation rate above 1%, the CAP will thus decline in real terms. This budgetary restriction can only be achieved if the CAP is reformed further.

Cohesion policy attempts to reduce differences in welfare between European regions by subsidising a wide range of programmes to develop infrastructure, restructure industries, or modernise education. Most of these programmes are geared towards regions that lag behind in economic development. As GDP per capita in the CEECs is currently about one-third of the present EU average, enlargement will involve a net transfer of funds towards the candidate countries. These funds seem particularly important in the light of the substantial costs for the CEECs to comply with the acquis communautaire, i.e. the set of rules and regulations that comprise the first pillar of the European Union.

Cohesion support to the CEECs will cause either an expansion of the EU budget, or a reallocation of existing funds towards the new member states, or both. The question dominating the current debate about cohesion policy is who will pay for the cohesion support to the new member states. Southern EU countries firmly argue that they want to maintain cohesion support for their lagging regions in the future; Northern EU countries argue that they want to keep the overall budget limited. This sets the stage for a conflict during the negotiation round in 2006 when the allocation of funds for the new financial planning period 2007-2013 will be decided upon.

To resolve the political deadlock, one option is to move towards a system of net fiscal transfers in the European Union from rich to poor countries. This would minimise the costs of administration and compliance and also would help to avoid problems with crowding out, moral hazard, rent seeking and the difficulty for poor regions to absorb funds. The cohesion budget would thus serve as a transparent instrument in the political negotiations about the net fiscal position of countries with respect to the European Union.

Scope of the European Union

The Maastricht Treaty introduced the term subsidiarity as the guiding principle for assigning policy prerogatives in Europe among national and supranational authorities. The principle suggests that powers should be decentralised unless there are good reasons for coordination. Chapter 7 elaborates in more detail on the costs and benefits of (de)centralisation. Assessing these costs and benefits involves an important political component since preferences play an important role. Countries may, for instance, assign a high or low value to their national sovereignty in specific areas. Harmonisation of EU policies is then to some degree a matter of willingness of the individual governments to transfer powers to a supranational level. In this respect, fundamentally different views exist on the competences of the European Union, both across countries and across policy issues. With respect to foreign and security policy (second pillar) and justice and home affairs (third pillar), for instance, some countries favour a development towards a political union with supranational powers. They believe that this is in the interest of the member states in bringing peace and stability in Europe and in encouraging social cohesion among countries. Others, however, maintain that cooperation in these areas

should be based on intergovernmental deliberation. They regard the European Union as an economic (and monetary) union, not as a political union.

Also with respect to economic policies, such as fiscal policy, labour-market policy, and policies regarding the functioning of product and capital markets, countries have different views on the role of the European Union. Some argue in favour of stronger coordination of these policies in order to complement the common monetary policy of the ECB. Others maintain that such coordination is unwelcome since it would reduce the flexibility of individual countries in dealing with local developments and circumstances. There are, however, different forms of coordination (see Italianer, 1999). Countries have recently created non-binding forms of policy coordination under the heading of the broad economic policy guidelines. This type of coordination does not require the transfer of powers to the central level: it involves information exchange, discussion of best practices, policy dialogue, peer review and policy experimentation. In Lisbon 2000 the European Council added the open method of coordination, which involves defining common EU-wide goals, translating these into national policies and evaluating them on the basis of indicators and benchmarks. The question is how effective these non-binding forms of coordination will be in the future. On the one hand, the guidelines may create a mutual learning process that induces governments to change particular institutions or policies. It may create a natural bottom-up process of convergence of institutions in the European Union, without having to force harmonisation top-down. On the other hand, the non-binding character may involve too little commitment for governments to reform policies.

Enlargement increases the heterogeneity of the union, thereby making it more difficult for members to agree upon common standards and policies. Hence, there is typically a trade-off between enlargement of the number of EU members and expansion of the number of EU competences, although it may be sharper in one policy area than in another. It is difficult to predict where the European Union will be assigned powers in about twenty years from now. Will there be intensified cooperation in areas such as direct taxation, social policy and immigration and asylum policy? And how will countries cooperate in areas of the second and third pillars of the European Union?

4.3 Legitimacy and effectiveness: the need for institutional reform

Since the six founding fathers created the European Economic Community (EEC), the institutional framework of the European Union has not been fundamentally altered. Many commentators argue that this institutional framework is overly complex, not transparent and insufficiently democratic. They fear that enlargement of the European Union will make the framework even less effective, less accountable and more costly to administer. Therefore, EU leaders concluded at the Cologne summit in June 1999 that EU institutions need to be reformed so that the EU can work efficiently after enlargement. A new Treaty in Nice in December 2000

intended to make the EU ready for enlargement (i.e. to improve its democratic legitimacy and its ability to act). There are, however, a number of issues that have been only partially resolved, or were reformed in the opposite direction (see box).

Nice leftovers

Nice did not succeed in resolving some of the problems it tackled. First of all, EU leaders have recognized that a European Commission of more than 30 members is destined to become ineffective. Nice limits each member to one Commissioner after 2005. This includes the larger countries that currently have two Commissioners. However, the tough question whether some member states should be left without a Commissioner has been postponed until the 27th member joins the European Union.

Secondly, the larger and more heterogeneous the union is, the more difficult it is to unanimously agree upon policy changes. Therefore, Nice was supposed to move a number of issues from unanimous voting to qualified majority voting (QMV). Out of 75 provisions under unanimity, 27 were indeed transformed into QMV. These include areas of trade in services and commercial aspects of intellectual property. Cohesion policy was shifted to QMV, but only after 2007 when the new financial budget is determined until 2013. A veto was kept for a number of important policy issues such as taxation, social policy and the major elements of the policy on asylum and immigration.

A third issue addressed in Nice was EU decision making by QMV. This should be legitimate, transparent and effective. Before Nice, passing a proposal required a majority of 71% of all votes in the European Council. Small countries are given a large weight, relative to their population. This aims to prevent a too dominant position of a few large member states. The European Union, however, is a union of states and a union of people. To improve legitimacy, Nice added two requirements for proposals to be passed: it must represent at least 50% of all member states; and it should represent at least 62% of the population. Furthermore, Nice changed the weights in the Council in favour of bigger nations. The new voting scheme, which should take effect in 2005, has three disadvantages. First, it is less transparent than the current system, despite the aim to reduce complexity. Second, it actually diminishes the ability to act in the enlarged European Union, contrary to what was intended. Indeed, Baldwin et al. (2001) have shown that Nice increases the number of blocking minorities in the enlarged European Union compared to the current rules. Finally, Nice shifts power from small to large nations, despite the requirement of at least 50% of all member states votes. In particular, the latter requirement is typically overshadowed by the vote-share criterion that was changed in favour of large nations. More specifically, Baldwin et al. show that the five largest EU countries (Germany, UK, France, Italy and Spain) gain power at expense of the 10 smaller countries in the European Union.

The general impression after Nice is that it does not ensure that EU institutions can work efficiently after enlargement and that legitimacy and transparency are insufficiently improved. Hence, further reforms are necessary. A continuation of the reform process was announced after Nice when European leaders agreed upon a new IGC in 2004. To prepare for this, the European Council in Laken launched a Convention in 2001. On June 18th of this year, this Convention launched a draft constitutional Treaty for the European Union, containing several proposals for reform. For instance, the draft proposes a simpler rule for qualitative majority voting: for a winning coalition, one should have at least 50% of the member states, and represent at least 60% of the population. Compared to the Nice proposal, the weighted majority

criterion has thus been abolished. This has two major implications (see Baldwin et al., 2003). First, the European Union's ability to act improves considerably as it becomes much easier to form a winning coalition of countries. Second, the proposal shifts substantial power towards large countries, especially Germany with its large population.

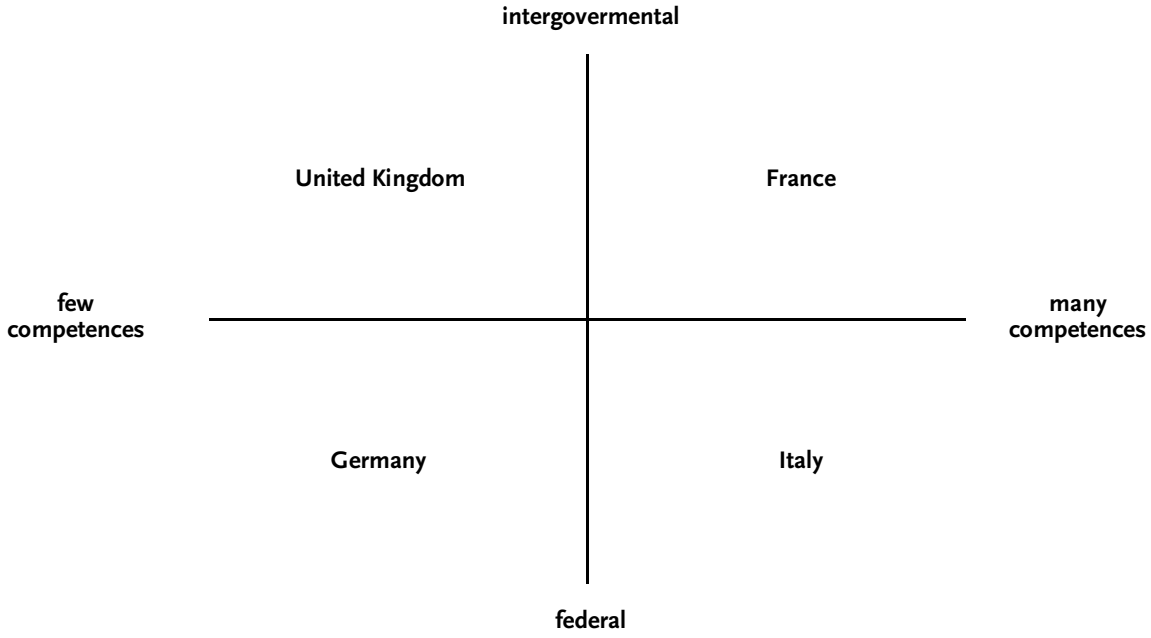
The draft of the Convention is a compromise between people with different views and different interests. One important dispute runs between large and small member states. This is largely parallel to the distinction between an intergovernmental and a community approach. The small member states fear domination of the large member states. To avoid this, small countries are over represented (as measured in terms of population), the votes in the European Council are weighted in favour of the small members states, the presidency rotates on an equal basis bi-annually, and each country takes at least one seat in the European Commission. For the small member states, the European Commission is especially important in preventing domination by the larger member states. It has a somewhat apolitical, technocratic role, and provides a counterweight to the political machinations in the European Council. The small countries want to maintain the position of the European Commission or perhaps even expand its powers. They receive support from Germany (which aims at a federal structure of Europe in accordance with the German federation), the European Commission and many members of the European Parliament. The large member states (such as France, Spain and the United Kingdom), aiming to preserve the primacy of intergovernmental decision making, want to strengthen the position of the Council. The Convention has now proposed that the European Council will elect a Chairman who takes office for two and a half years, with a possibility for re-election.

Another important dispute is the scope of the European Union. In one view, it is more or less limited to the economic domain: the European Union is first and foremost an instrument to achieve economic integration. Therefore, the European Union should not play a leading role in the political domain: a common foreign and defence policy would be a step too far. In another view, the European Union should play a leading role in the social and political domain. It should be an economic as well as political superpower, next to the United States. This should evolve from, as well as contribute to, an European identity that is clearly different from that of America. The European Union could have a say in global affairs and could for example help to realise a world in which the environment is better protected and world income is more equally distributed.

The two disputes give rise to four different combinations. They reflect four different perspectives on the future of Europe, all reflected in views of different countries. Figure 4.4 illustrates these views. The vertical axis runs from intergovernmental decision making on the top, to a federal structure at the bottom. The horizontal axis runs from few European competences at the left, to many at the right. We put the UK perspective at the bottom left quadrant, favouring intergovernmental structures but few European competences. The French view is also characterised by intergovernmental decision making, but is typically in favour of

more European competences than the UK view. Germany usually favour a federal structure with few European competences. The combination of federalism with many European competences is found in Italy, for example.

Figure 4.4 Four perspectives on the future of Europe



The question is whether European leaders will be able to come to an agreement about the new Constitution. Will they take over the draft from the Convention, which is already a compromise among the different views? Or will the discussion about a new Constitution start all over again? In any case, reform of the European institutions seems vital for the future of Europe. It will determine the legitimacy of the union, its ability to act, and the scope for future integration. If Europe does not succeed, perhaps the only way for further integration would be through enhanced cooperation (see the box *A way out: enhanced cooperation*).

A way out: enhanced cooperation

A successful and important reform that was agreed upon in Nice is the increased opportunity for enhanced cooperation arrangements. In a larger and more heterogeneous union, deeper economic integration and broader policy coordination among all members is more difficult to achieve. With enhanced cooperation, a subgroup of members may push ahead with the integration. This may create the conditions for other members to join at a later stage. Enhanced cooperation may become a powerful method of integration in an enlarged and increasingly diverse union. It may also relax the problems imposed by the complex and confusing institutional framework. The Nice treaty relaxes the conditions under which enhanced cooperation agreements can be concluded. In particular, members no longer have a veto over the creation of an enhanced cooperation agreement, both in internal market issues (first pillar) and in justice and home affairs (third pillar).

Enhanced cooperation has two potential pitfalls, however. First, it may lead to a *divided Europe*, consisting of a core group of members that deepens and broadens the economic and political integration, and a peripheral group of members that lags behind. If this division into frontrunners and laggards is maintained for a longer period of time, Europe may become politically fragmented and fail to achieve its objectives. A second risk associated with enhanced cooperation is that it leads to a *Europe a la Carte*, i.e. a Union of diverse and variable coalitions of countries. This will probably erode the consistency of integration and perhaps even the economic benefits of an economic union. As long as these pitfalls can be prevented, however, enhanced cooperation can be a successful engine for further integration.

4.4 Key uncertainties on the future of Europe

European integration has brought about significant welfare gains during the past decades. Whether the next decades will bring similar gains depends on several factors, including reform of EU institutions and policies. The Convention is supposed to provide the ingredients for a new Treaty that should bring the necessary reforms. The increased heterogeneity after enlargement will severely complicate future integration. Furthermore, the future agenda contains a number of challenges on which member states have very different opinions. These are hard to reconcile. How future integration and cooperation will evolve is therefore unpredictable. Different scenarios can be thought of, as we will discuss in part III of this study.

5 Emerging global issues

Policy cooperation with respect to international non-trade issues has advanced less than it has in trade, at least in global issues. Cooperation can nevertheless be desirable – in the case of cross-border pollution, poverty reduction or financial markets, for example. A framework for effective international cooperation is, however, difficult to establish.

5.1 The link between trade and non-trade issues

The WTO and the European Union have been successful in tearing down barriers to international economic integration. At the same time, better communication and transport technologies have made national communities part of 'one global village'. The globalisation of economies and societies increased the need for international coordination and cooperation in non-trade areas. For example, controlling cross-border diseases such as AIDS or SARS calls for a coordinated action; grappling with cross-border pollution requires coordinated environmental policies; fighting international crime can be done more effectively through joint action; minimizing the threat of computer viruses via the Internet can be done effectively only when there is appropriate international framework for cooperation. With regard to these aspects, the current framework for global cooperation and coordination is woefully inadequate. Indeed, there exists no commonly agreed-upon framework within which globalization can evolve.

A reason for the lack of international cooperation in non-trade areas is that individual countries do not always perceive a multilateral approach to be in their own national interest. In general, the more the benefits of international cooperation have a global public good character, and the more disjoint national interests are, the harder it is to accomplish a multilateral agreement. This is because the benefits of a global public good accrue to all countries alike, while the costs are borne entirely by the participating countries. In the absence of a powerful global organisation that is able to enforce common rules, global public goods will be under provided. Especially free-rider behaviour forms a serious impediment to the provision of global public goods. To illustrate, the United States do not want to ratify the Kyoto Protocol, which hampers effective global policies to save the global environment. Switzerland wants to maintain its banking secrecy, which limits the opportunities of other countries to tax capital income.

Free-rider behaviour thus impedes forms effective international cooperation in non-trade areas. The key to the WTO's success is that free rider behaviour is not a problem. Although trade liberalisation imposes a cost on members (at least in terms of less national sovereignty), it also delivers clear economic benefits that accrue directly to the individual countries. WTO membership is therefore perceived to yield a net gain for every member. As a result, countries come forward to apply for membership, while none of its members decides to withdraw. Hence, the WTO is a successful multilateral framework, exactly because tariff barriers on imports are powerful instruments to discipline countries. Authorised, punitive tariffs threaten to partly

exclude countries from the multilateral trading system and have been effective in forcing countries to obey the rules of the trading system. Thanks to its success, the WTO can play a constructive role in pursuing non-trade objectives, without seriously compromising its main objective of free trade. For example, it could support systems for certification (monitoring multinational companies to see whether they follow particular codes of conduct) and labelling (allowing consumers to differentiate between goods: for example, dolphin-unfriendly tuna).

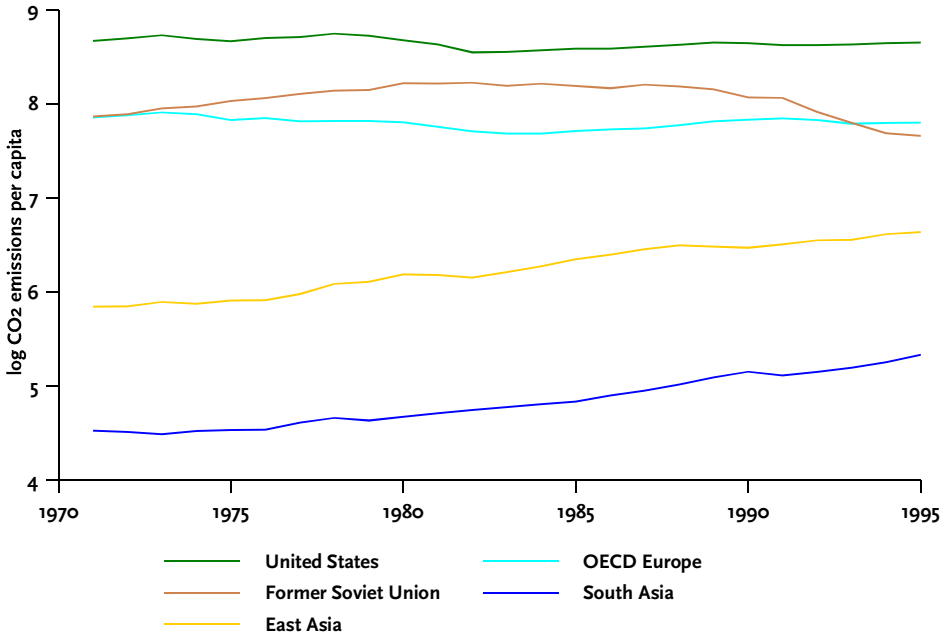
5.2 Kyoto and other non-trade issues

Below, we elaborate on three broad themes where global policy coordination could be attractive but where this cooperation has not advanced: the environment, regulation of international financial markets, and poverty.

Kyoto

The process of development and growth that started with the Industrial Revolution has raised standards of living, increased life expectancy and contributed to the well-being of many people. Not all aspects of life have improved, however. One major concern is the atmospheric concentrations of greenhouse gasses. Since the Industrial Revolution, carbon dioxide concentrations have increased nearly 30%, methane concentrations have more than doubled, and nitrous oxide concentrations have risen by about 15%. These gasses have the property to trap heat. How this will affect the earth's climate is not entirely certain, but it is likely that the temperature on earth will rise. Precipitation will then increase and sea levels will rise. Global warming also raises the probability of catastrophic events, ranging from hurricanes to floods.

Figure 5.1 Carbon emissions per capita in 5 world regions, 1971-1995

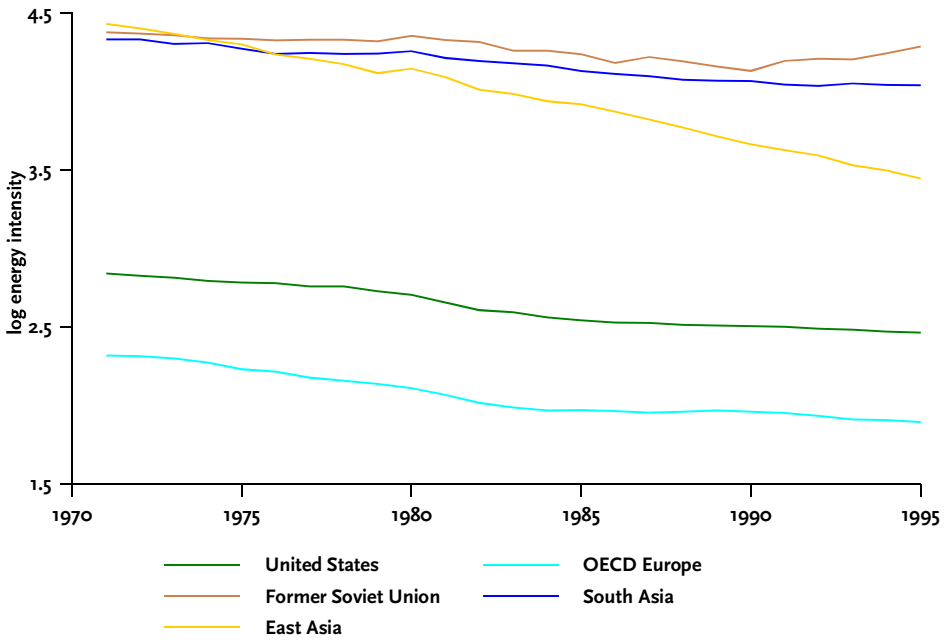


Source: RIVM (2001)

Without intervention, further economic growth will lead to even more emissions of greenhouse gasses and higher concentrations in the future – especially in developing countries, as they are catching up rapidly with industrialised countries and experience high economic growth. The concern is that this will increase the use of natural resources, especially fossil fuels, which can put a severe strain on the climate. Figure 5.1 illustrates this concern. It shows (the logarithm of) carbon emissions per capita between 1970 and 1995 in a number of regions. The emissions in Europe and the United States are far higher than in East Asia (which includes China) and South Asia (which includes India). There is, however, a tendency of convergence. While the emissions per capita in the richer regions were roughly constant over the period, the Asian regions experienced an increase by around 3.5% per year.

Carbon emissions per capita in Europe and the United States did not grow between 1970 and 1995, despite an increase in per capita income. This suggests that production does not feature a one-to-one relationship with emissions. Production, in particular, tends to become more energy efficient over time. Figure 5.2 shows that the (logarithm of) energy intensity of production is steadily decreasing in Europe and the United States due to energy-saving technical change. This process does not occur in other regions, however. This is worrying since strong economic growth is predicted for the future in these regions. However, developing regions often use outdated, inefficient technologies so that the scope for improvement in energy efficiency is huge.

Figure 5.2 Energy intensity of production in 5 world regions, 1971-1995



Source: RIVM (2001)
Energy intensity is measured in Giga Joule per constant dollars of 1995.

In the nineties important initiatives were taken to reach a global agreement to limit the emissions of greenhouse gasses. In 1997 in Kyoto, the industrialised countries agreed upon the specific goal to bring back their emissions below the level of 1990. In successive climate conferences, the details of this deal have been worked out, and an infrastructure has been developed to enable countries to agree on more ambitious goals in the future. This is especially important as the Kyoto targets are still not nearly enough to stabilise concentrations at safe levels. To achieve a stabilisation of the concentrations of greenhouse gasses, countries should create more incentives to save on energy use. That incentives matter is illustrated by figure 5.2. Europe already pursues policies to curb energy use, such as excise duties on fuels, and is more efficient than the United States where such policies are absent.

The American government has decided not to ratify the Kyoto Protocol, which leaves one of the largest emitters in the world outside the 'global' agreement. Moreover, there is a difference in responsibilities between developing countries and developed countries. Developed countries have a larger responsibility for the problem of global warming and therefore have stricter and binding targets for their carbon emissions. Eventually, however, developing countries must participate as well. Without them, the goal of stabilising global concentrations will not be obtained. Moreover, measures to reduce emissions in developing countries are much cheaper than they are in developed countries, which makes the participation of developing countries even more important.

The position of the United States and the developing countries illustrates the fact that global climate change policies are complicated by the free-rider problem: there is an economic incentive for countries not to participate. The reason is that preventing climate change is a public good: all countries benefit from efforts to stop climate change, even if they do not themselves impose measures. The costs, in contrast, are borne by the countries that join the cooperative effort. An effective mechanism to overcome the free-rider problem does currently not exist.

Financial markets

Today, huge flows of money move across the globe and react to even the smallest differences in profitability. Although not every country has access to international capital markets and arbitrage is generally still imperfect, the international mobility of financial capital is indeed fairly high. This gives rise to two issues. First, capital owners (especially those with large portfolios) in developed countries evade taxes by allocating a significant amount of their funds in tax havens, such as the Bahamas and the Cayman Islands. Even within the European Union, an agreement on information exchange and/or a source tax on interest income has long been blocked by countries such as Austria and Luxembourg, which aim to maintain their banking secrecy. Reaching such an agreement with a broader coalition of countries is even more difficult, as a world tax organisation simply does not exist. International cooperation with respect to taxes on financial capital returns is especially difficult since tax havens act as free riders and thus refuse to join any coalition.

A second issue is that the flows of short-term capital can suddenly change direction and lead to wild fluctuations in exchange rates. Recent years have shown a number of prominent examples: Mexico in 1994/1995, Asia in 1997/1998, Russia in 1998, and Argentina as well as Turkey in 2001. Apparently, the International Monetary Fund (IMF) has been unable to find a cure for debt-ridden countries and collapsing currencies, which fuels the critique on its legitimacy.

Labour and poverty

Global income and wealth are unequally distributed across populations. In 1998, roughly one-quarter of the world population was estimated to live on less than one dollar a day. The United Nations have formulated the Millennium Development Goals according to which this number must be reduced to 14.5% in 2015. Whether this goal is realistic or not depends on the economic growth in developing countries and on development aid from developed countries. The World Bank is responsible for a number of programs to help developing countries in their development.

Poverty is a concern in itself. But it goes beyond that: in a more integrated world economy, poverty in developing countries has direct economic consequences for rich countries. First, an

unequal distribution gives rise to migration flows. Without exception, rich countries want to fend off economic refugees. Their concern is that, with falling prices of communication and transportation and with lasting income differences, the pressure to migrate from developing countries will continue to grow. Second, poverty complicates the campaign against epidemic diseases. The prime example in this context is AIDS. Hence, one could argue that global spending on AIDS research is too low because of an international coordination failure.

5.3 Conclusions

International cooperation should not be restricted to the area of trade liberalisation and economic integration, but could be desirable in a number of non-trade areas. In particular, global externalities appear in the case of unstable international capital markets and poverty in developing countries. The global environment constitutes a global public good that is threatened by pollution across the globe. These non-trade issues call for joint action. International cooperation in these areas is lacking, however, or is not sufficiently effective. Developing an appropriate framework for effective international cooperation is difficult due to potential free rider problems. Perhaps linking issues may be a way out: package deals may render effective cooperation more likely. Linking issues puts a strain, however, on areas of international cooperation that have been successful, such as the WTO and the European Union and tends to reduce the transparency and the legitimacy of these organisations.

6 International cooperation: a key uncertainty for the future

The development of international cooperation at various levels is a key uncertainty for the coming decades. How will the negotiations under the umbrella of the WTO evolve? What will be the scope and institutional structure of the European Union? How will cooperation in non-trade areas develop? The answers depend on both the willingness and the ability of countries to cooperate internationally.

International cooperation involves costs and benefits for participating countries. The costs refer to, for instance, the loss of national sovereignty, painful restructuring of national economies, or direct costs to comply with an agreement. The benefits from international cooperation can be either material or immaterial. For example, trade liberalisation is expected to raise income, while more stable political relations are immaterial.

Whatever the character of the costs and benefits of international cooperation, a net aggregate surplus is not sufficient in order for countries to agree upon cooperation. Also the distribution of the surplus is vital for reaching an agreement. If the benefits accrue to a subset of countries, then countries outside this group are unlikely to join. A condition for international cooperation is that all participating countries have an interest in the agreement. The political opinion must prevail that it is in their national interest to give up part of their national sovereignty.

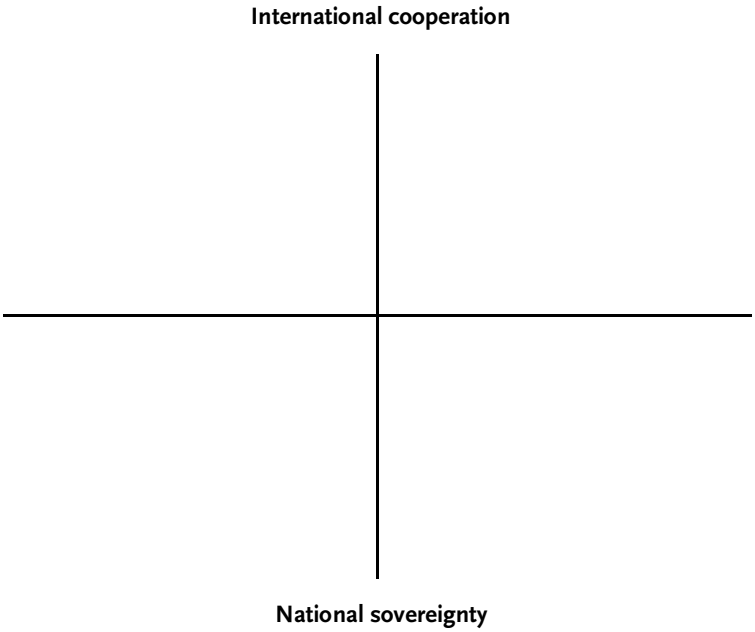
The *willingness* of countries is still not a sufficient condition for international cooperation to be effective. This also requires that appropriate mechanisms can be designed to make the cooperation work. It is not clear that such mechanisms exist. For instance, can credible compensation schemes be developed to compensate countries that lose from an agreement? And can free rider behaviour be prevented by designing incentive-compatible schemes?

If countries are both *willing* to sacrifice national sovereignty, and *able* to develop the appropriate institutions to enforce agreements, then international cooperation can materialise. Increasing heterogeneity in the group of participating countries, however, may put a strain on ability. It makes it more difficult to reach an agreement since some members may not find it in their interest to join. This could be resolved by linking various coordination issues in one organisation, such as in the European Union. Package deals may increase the scope for reaching an agreement that is in the interest of all member states. The problem is, however, that this tends to reduce the transparency of the decision making process and increase complexity. The problems in the institutional framework of the European Union illustrate this problem.

How international cooperation evolves during the coming decades is a key uncertainty. In the extreme, we could arrive in a world in which international cooperation flourishes in various fields: trade liberalisation, the provision of global public goods (such as the environment), European policy coordination, and so on. Although such an extreme situation is difficult to imagine, it serves as a useful benchmark. The extreme situation is ranked at the top of figure

6.1, which presents the outcomes for international cooperation in the future on a one-dimensional scale.

Figure 6.1 The scope for international cooperation



In another extreme, we arrive at a situation reflected at the bottom of the one-dimensional scale in figure 6.1. In this extreme, either international organisations fail entirely to agree upon international cooperation, or countries are simply unwilling to cooperate. For instance, countries can be unwilling because they assign a high value to their national sovereignty or because they focus on national issues alone.

Between the two extreme cases in figure 6.1, more subtle forms of international cooperation may occur. For instance, there can be international cooperation between smaller (and more homogeneous) groups of countries; cooperation may involve fewer issues; or cooperation in Europe may flourish while global cooperation lags behind. The scenarios in part III of this study incorporate some of these possibilities.

7 Policy options: how much coordination is desirable?

We apply the principle of subsidiarity to discuss to what extent countries should strive to cooperate. There appears to be a need for more global coordination among countries. The European Union, in contrast, seems to coordinate too much in certain areas.

7.1 In need of policy coordination?

As argued in chapter 2, increasing heterogeneity, problematic legitimacy and expanding scope further complicates international cooperation. The expansion of membership in international organisations is a fact. They can, on the other hand, address the problem of legitimacy, mainly through changes in institutional structure. This applies in particular to the European Union. There are several ideas to improve the bond between Europe and its citizens, ranging from an elected president to more competences for European parliament. We prefer not to discuss these ideas for political reform here, but rather focus on the scope of international cooperation. Does cooperation occur in areas of social-economic policy where it should or where it should not? This question is about the need for cooperation. At the same time, answering this question may to help to improve the legitimacy of international institutions. Legitimacy not only derives from the political process to reach decisions, but also from the effects of these decisions. For example, a central bank may have widespread popular support when inflation is modest and under control, even though the democratic control on it is only very indirect. However, supranational powers in areas where the case for cooperation is weak, inevitably lead to doubts about the legitimacy of these powers.

Subsidiarity

The European Union explicitly endorses the autonomy of national governments; it has adopted the principle of subsidiarity according to which powers are decentralised unless good reasons for centralised decision-making prevail. The predominance of decentralisation is motivated by several arguments. Policy makers at the decentralised level have better access to information about local preferences, circumstances and developments; they can more easily be held accountable for local policies or local public goods; decentralised decision-making also allows for experimentation and stimulates a mutual learning process. And last but not least, policy competition among decentralised governments provides a mechanism to discipline bureaucrats. Lack of accountability and strong lobby groups may otherwise lead to inefficient policies. Although there are some differences, there is an analogy with the demarcation between market and state. The market is often considered more efficient than the state, except when market failures apply that exceed government failures. Similarly, competing decentralised administrations are considered more efficient than a central authority, except in the case of

coordination failures. Only in the presence of such coordination failures will intervention by a supranational authority be desirable.

One type of coordination failure is related to scale economies. For instance, a central policy is efficient in the presence of high fixed costs (e.g. in the case of defence). Scale may also be important if a common policy saves on transaction costs. To illustrate, harmonisation of product standards reduces technical barriers to trade, thereby improving the functioning of the single European market.

A second type of coordination failure follows from international spillovers of national policies. If the allocation of productive factors is responsive to differences in policies, governments may compete with their institutions and policies in order to attract these mobile factors. By attracting mobile factors, however, they may accidentally reduce economic welfare in neighbouring countries. Since individual governments do not take account of this adverse effect of their actions on neighbours, policy competition then entails an externality. Coordination could raise welfare as it enables the internalisation of the international spillovers.

Subsidiarity thus imposes a necessary condition on policy coordination. In particular, there should be failures of decentralised decision making, either in the form of economies of scale or in the form of international spillovers. This condition is not sufficient, however. For coordination to be justified, the gains of alleviating the failures of decentralisation should outweigh the costs. These are reflected in the benefits from decentralisation (i.e. more heterogeneity and accountability). Hence, there exists a trade-off which takes the following form:

Failures of decentralisation	↔	*Benefits of decentralisation*
• *International spillovers*		• *Heterogeneity*
• *Economies of scale*		• *Accountability*

If countries are heterogeneous in their preferences or circumstances and coordination failures are small, competences should be at decentralised levels of government. If coordination failures in the form of externalities or scale economies are large relative to the benefits of decentralisation, European responsibilities become attractive. Ultimately, the trade-off requires a political assessment because it depends on preferences.

In assessing the trade-off, one must consider alternative options for coordination. Apart from centralisation or harmonisation, one can also think of minimum requirements or targets, a ban on some types of (harmful) policy competition, or non-binding agreements. In general, coordination should be proportional to the coordination failure. In this way, it keeps as much diversity as possible while the benefits of policy competition are maintained. In light of this, one could draw an analogy to the market. Competition is usually believed to be an efficient allocation mechanism as long as there are adequate rules of the game and appropriate regulations imposed by the government. Similarly, policy competition is an efficient mechanism to develop policies

as long as there are adequate rules of the game and regulations enforced by a supranational authority. Whereas market failures do not necessarily call for public production or supply, coordination failures do not necessarily call for centralisation or harmonisation of policy. In fact, policy competition that is embedded in a common set of appropriate rules and regulations is conducive to efficient policies.

Chapter 5 argued that global rules and regulations are largely absent. Institutions to enforce these are absent. Policy competition can take place, but there are no rules and regulations that determine the boundaries within which this can take place. Examples of a lack of rules are found in financial markets and international environmental problems.

The European Union is involved in substantial policy coordination, harmonisation and centralisation. How does this fit with the principle of subsidiarity? Alesina et al. (2001a) elaborate on this question in more detail. They develop indicators for the number of legal and other non-binding acts emanating from the European Union in various fields. They put them to the test of subsidiarity. Their conclusion is that Europe does too little in some areas, but too much in others. In particular, responsibilities seem properly allocated at the EU level in areas of international trade, the common market, competition policy and state-aid regulations. EU involvement is justifiably limited in education, research, culture, and sectoral policies. In some areas, EU involvement seems too limited. To illustrate, in international relations there are clear arguments for further centralisation of powers due to economies of scale and specialisation, e.g. in defence and diplomacy. In other areas, EU intervention is typically too strong. For instance, agriculture absorbs the lion's share of EU financial resources without a clear justification on the basis of externalities or scale economies. A recent High-Level group chaired by Sapir arrives at a similar conclusion (Sapir et al., 2003). It proposes, among other things, a radical shift in the EU budget away from traditional areas such as agriculture and rural development towards new areas such as innovation, growth, and convergence.

Below, we assess the principle of subsidiarity in two other policy areas in the European Union that have received much attention in recent policy debates: social policy and budgetary policy. Is Europe going too far in these fields?

7.2 Social Europe

The Treaty of Rome of 1957 already expressed the aim of European member states to harmonise social policy. The underlying reason was the fear for social dumping as a result of increasing economic integration. But only in the 1970s did this lead to the first Social Action Programme. EU directives were introduced dealing with safety and health regulations and equal treatment between men and women. In the eighties, when the European Union enlarged with a number of Southern European countries, fears for social dumping intensified. In the eighties and nineties, further directives were imposed, including regulations on employment protection, a maximum weekly working time (48 hours), a minimum paid annual leave (4 weeks), minimum daily and weekly rest periods and the like. In Amsterdam in 1997, social policy was finally included in the Treaty of the European Union. The Social Chapter includes directives for the role of social partners, employment protection, labour regulations, parental leave, and equal treatment of part-time and full-time work. The Treaty of Maastricht, however, underscores that subsidiarity also prevails in the European Union with regard to social policy. The unanimity rule with respect to many aspects of social policy ensures that they largely remain a matter for the nation states.

In 2000, the Treaty of Nice reaffirmed the social dimension of Europe, as a complement to the Lisbon agenda. Since then, the open method of coordination applies to social policy. In particular, the aim is to develop comparable indicators about social policies and outcomes. These will be evaluated on a regular basis, so that benchmarking, peer pressure, and policy experimentation may contribute to more effective and efficient social policies in the European Union. Moreover, countries define common objectives with respect to social indicators, which include financial poverty, income inequality, regional variation in unemployment, life expectancy and health. The European Union does not, however, prescribe how countries should achieve these objectives. Instead, member states are supposed to implement two-year national action plans in which they show how they will fight poverty and social exclusion.

Social Europe thus comprises binding directives on labour standards as well as the open coordination method with respect to social policies that have remained the responsibility of each nation. It is an open question whether the latter form of coordination will be effective in guiding social policies in Europe. Potentially, it may serve as an effective backstop to the possible competitive downsizing of social protection. However, the lack of binding agreements may also render coordination of social policy ineffective. In that case, fears for social dumping may again lead to calls for harmonisation. Would that be justified on the basis of the subsidiarity test?

International spillovers

Non-wage labour costs associated with social security premiums, sickness payments and other costs of labour market regulations comprise around 40% of the total labour costs in Europe on average (Chen and Funke, 2003). Differences in these costs can affect the location decisions of

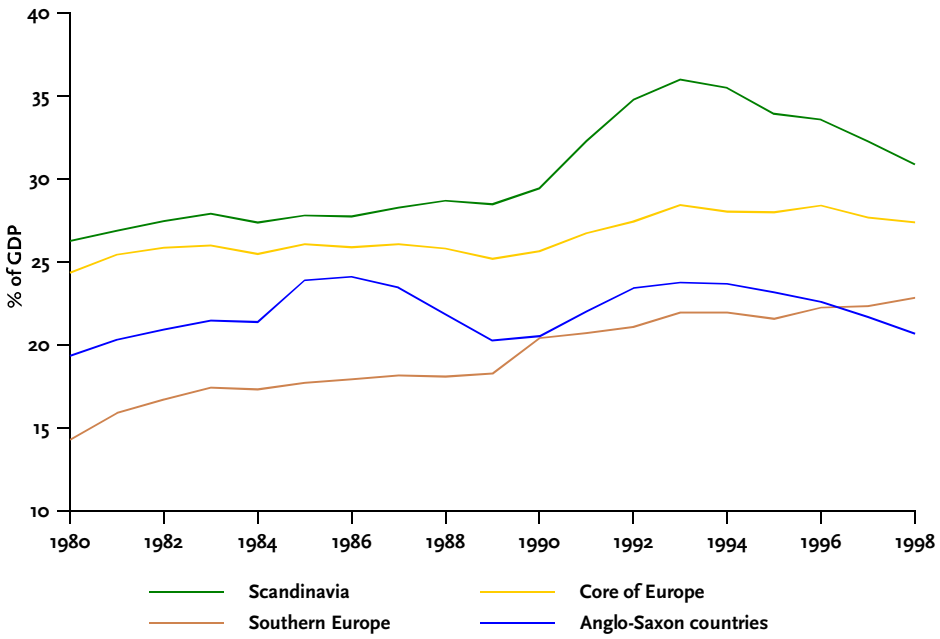
firms. Moreover, talented workers who feature few labour-market risks may be encouraged to look for jurisdictions with small non-wage labour costs as this allows for higher after-tax wages.

Governments thus face an incentive to cut back social policies. Accordingly, they could reduce the non-wage labour costs, in an attempt to attract mobile production factors. When governments start competing intensively with each other, they may end up in a process of social dumping. This involves an externality, since individual governments do not take account of the implications of their policies on neighbouring countries. To solve this coordination problem, harmonisation may yield a better outcome for all countries.

Social dumping can be measured by the decline in social spending in the European Union. Figure 7.1 illustrates the development of social spending as a percentage of GDP in Europe between 1980 and 1998 in four groups of countries: Scandinavia, Southern Europe , the Anglo-Saxon countries and the countries in the core of Europe. We observe that social spending has gradually increased from 20.1% of GDP in 1980 to 23.8% in 1998, on average. Especially the Mediterranean countries have seen their social expenditures increase: from 13.8% to 21.4% of GDP. Only the late 1990s shows a modest decline in social expenditure in the Anglo-Saxon and Scandinavian countries. This primarily reflects the economic boom during that period, which reduced unemployment levels.[16] Figure 7.1 does not provide support for a process of social dumping. One could infer that the externalities in social policies are small. The reason is twofold. First, social policies involve not only a cost for mobile factors, but also a benefit. For instance, De Grauwe and Polan (2003) empirically explore the impact of social expenditures in OECD countries on indicators for competitiveness. They find no significant effect, suggesting that social expenditures may well be reconciled with a good competitive position of countries. A second reason for small externalities is that production factors are less mobile than is often believed. European labour mobility is on average rather low across borders. Also firms may be less mobile than is often thought, because agglomeration benefits and other location-specific rents lock firms in at particular locations.

[16] The correlation coefficient between social expenditures and unemployment is 0.7.

Figure 7.1 Social expenditures (% of GDP), 1980 - 1998



Source: OECD Social Expenditure Database
Scandinavia includes Denmark, Finland and Sweden, Southern Europe comprises Greece, Italy, Portugal and Spain, theAnglo-Saxon countries are Ireland and the United Kingdom and Austria, Belgium, France, Germany, Luxembourg and Netherlands are the core of Europe.

Economies of scale

Economies of scale in enforcement or administration of social policy seem absent (CPB/SCP, 2003). They are perhaps more important for insurance of macro-economic risks. For instance, individual countries may be subject to national macro-economic shocks. Capital markets and monetary policies may not be able to absorb these shocks. In the EMU, the ECB takes account of the European-wide developments, rather than nation-specific shocks. The European Union could provide insurance against such risks by means of a European stabilisation fund. This fund could be linked to the unemployment rate, which is closely linked to the business cycle. In particular, in a European unemployment insurance scheme, countries that suffer from a negative shock and see their unemployment rise will receive transfers. These are paid in the form of unemployment benefits by countries that do not suffer from this shock. As with all insurance, however, such a stabilisation fund will suffer from moral hazard problems. Moreover, problems with the implementation may arise in such a system (see e.g. Beetsma and Oudshoorn, 1999). The benefits of fiscal insurance may also become smaller in EMU, to the extent that idiosyncratic shocks lose importance in EMU (Frankel and Rose, 1999).

Heterogeneity

The case for diversity in social policy is strong. Esping-Andersen (1999) divides Europe into four groups of countries, which feature very different types of welfare state. He suggests that heterogeneity of preferences is important among member states. With a large degree of heterogeneity, the case for harmonisation is weak. There is, however, a tendency of convergence in social policies over time. The coefficient of variation in the social expenditure share in GDP among countries declined from 0.26 in 1980 to 0.19 in 1998. Although heterogeneity has thus declined somewhat, important differences remain in both social expenditure levels and their composition.

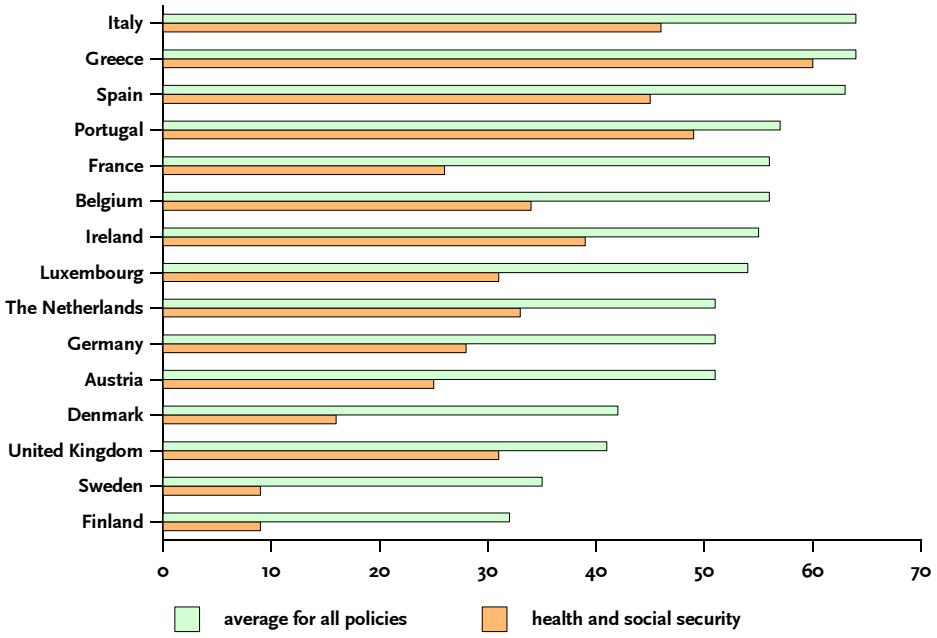
The enlargement of the European Union will further increase heterogeneity. The Central and Eastern European countries are much poorer than the current member states and thus have different preferences for social policies. The countries will have severe problems in complying with harmonised rules and regulations of the European Union. By allowing for lower social and labour standards, these countries would be able to keep labour costs low. They would then be better able to catch up with the richer countries. Current member states may also benefit from this, via trade and specialisation. Once convergence has materialised, the new member states will be able to develop a mature welfare state, if this fits with their preferences.

Assessing the trade-off: do we need a Social Europe?

Subsidiarity calls for an assessment of the costs and benefits of harmonisation. We have argued that the coordination failures in social policy are weak: externalities seem unimportant while economies of scale are largely absent. Only with respect to fiscal stabilisation, can one make a case for European responsibilities – although such a scheme also meets serious drawbacks. At the same time, heterogeneity in social policy is important and will only grow once new member states enter the European Union in 2004. Based on the subsidiarity test, the case for harmonisation of social policy is therefore weak.

This assessment is consistent with the preferences of European citizens on the role of Europe in social security. Figure 7.2 shows the scores of the Eurobarometer on the question whether people believe that the European Union should decide about policies regarding “Health and social security”. It is compared to the average score for seventeen policy areas. The latter gives information about the general view of a country with respect to European responsibilities. We find that Europeans have on average a strong preference for national social security, rather than a European responsibility. Especially countries with the largest welfare states, such as in Scandinavia, favour national systems. Countries with smaller welfare states such as the Southern European ones, feature the highest preferences for a European social security system. Still, Greece is the only country in which the majority of the people are in favour of a European social security system. Compared to other policies, the preference for European responsibilities in social security is much weaker.

Figure 7.2 No majority among Europeans for a European social security system
Percentage of people in 15 member states in favour of European responsibility



Source: Eurobarometer 58.1 (October-November 2002)

7.3 Fiscal policy

The monetary unification in Europe was felt to require stronger fiscal coordination. This led to the Stability and Growth Pact. The fear was that fiscal profligacy of individual states would undermine stability and the strength of the common currency. The Pact therefore stipulated, among other things, that members of the euro-zone were not allowed to run a fiscal deficit of more than 3% of GDP (for three successive years), or to have a government debt of more than 60% of GDP.

But truth is stranger than fiction. Four years after the introduction of the euro, it is Germany, the most fervent proponent of the Pact, that fails to meet its obligations. Faced with an economic downturn and full of plans for welfare state reforms and tax reductions, the German government is unable to, or does not want to, bring the budget closer to balance. The critique on the Stability Pact is harsh. It has in fact been growing ever since the introduction of the euro. Even the president of the European Commission, Romano Prodi, called the Pact 'stupid'. Now that Germany and other countries such as France and Portugal are not able to comply with the Pact, it is in serious trouble. There are many ideas for reform but also pleas to abolish it all together.

Either way, the key question is what the rationale for fiscal coordination is: are there important spillovers of budgetary policies among EMU-members? Or are there important economies of scale? This section considers these reasons for cooperation on the basis of the principle of subsidiarity.

International spillovers

Fiscal policy plays a role in the *stabilisation* of the economy. Typically governments run a deficit during an economic downturn and (should) have a smaller deficit or even a surplus in an upturn. In this way, (public) consumption remains more stable and does not aggravate swings in economic activity. This is partly automatic: government revenues react stronger to the business cycle than government expenditures. But it can also be a choice to run an anti-cyclical fiscal policy: governments have the discretionary power to give an extra boost to the economy in a recession by cutting taxes or raising expenditure.[17]

In a setting with a national central bank, a government deficit may lead to an increase in the interest rate, which tends to offset the initial expansionary effect of the deficit. The fiscal authority should take this increase into account when deciding to give the economy an extra boost. The increase in the interest rate could reflect worries among investors about a higher deficit and rising debt – increasing the risk premium – or could follow from a response of the national central bank that chooses to tighten the money supply in order to maintain price stability. [18]

In a monetary union, with a supranational bank, the link between fiscal and monetary policy becomes blurred. The European Central Bank does not respond to a situation in one specific country, but to the average economic condition in the euro zone. A weakened link gives the national fiscal authorities a stronger incentive for the discretionary use of the budget deficit. The EMU may then end up with bloated deficits and a higher interest rate. The fundamental reason is that the national authorities overlook the negative effect of their budgetary policy - through its effect on the common interest rate on other countries. This is exactly the effect that the Stability Pact seeks to address (see for example Beetsma and Uhlig, 1999). The empirical evidence for a negative effect of national budgetary policy on the interest rate is not very strong though (see Eichengreen and Wyplosz, 1998). The reason is that Europe is fully integrated in the world financial markets, so that a single country's borrowing hardly affects international interest rates. The sign and the size of the external effect is not clear though. Expansionary fiscal policy in one country also has the effect of raising (export) demand in other countries. The other countries may benefit from this. In fact, the monetary union is likely to have increased the demand

[17] Discretionary fiscal policy to stabilise the business cycle has a number of drawbacks, see e.g. Zalm (1999).

[18] Alesina et al. (2001b) give a more thorough account of the interaction between fiscal and monetary authorities.

linkages among its members; Frankel and Rose (2002) find a strong effect of a common currency on the bilateral trade flows.

Probably, the externalities of fiscal stabilisation policies would not attract much attention if the interest rates were generally low and government deficits were modest. The serious concern is, however, that governments may not be able to control their deficits and debts, especially since the ageing of their populations requires them to take early and unpopular measures to keep tax rates on the working generations from rising too quickly. The discussions among the member states in the euro zone are focussing more and more on fiscal *sustainability*.

If one member state goes to the brink of default, the repercussions for the other member states are not entirely clear. At least two scenarios seem possible. In the first, the ECB could come under pressure to pursue an accommodating monetary policy. A hike in the interest rate (e.g. as part of the everyday job of the ECB to keep the inflation in the euro zone low and on target) would push this one member state over the brink. In the second scenario, a member state has no alternative but to repudiate its public debt. In the other member states, this could bring banks into trouble and trigger a catastrophic chain of events in their banking systems. In both scenarios, fiscal profligacy in one member state has clear repercussion on other member states. Fiscal coordination could help to prevent this from happening.[19]

Economies of scale

Fiscal coordination aims to prevent a member state from imposing costs on other member states when pursuing an unsustainable fiscal policy. It does not, however, address the reason(s) behind a country's path of rapidly accumulating debt. For many, the fundamental reason is an imperfection on the political market: politicians seek re-election every four or five years and in the process tend to spend too much public money. This imperfection is compounded by the problem of an ageing population. This may require higher taxes on the working generations to pay for their pensions. Even politicians without interest in re-election may find it hard to sell this to the electorate.

A European framework of rules for fiscal policy may help national politicians to stick to a policy of sustainable debt and automatic stabilisers. If this framework has acquired a good reputation (i.e. it is believed to work now and later), it can include other, new countries without much cost. In a sense, there are economies of scale in building and maintaining a reputation.

[19] See Uhlig (2002) for a more detailed discussion of the second scenario. Note that a more direct instrument to reduce this problem is stricter bank supervision. This can prevent risky public debt from being overrepresented in the portfolios of banks.

Heterogeneity

National sovereignty in budgetary policy is valuable to the extent that countries need heterogeneity. First, individual countries may want to use their budgetary policy in the presence of asymmetric shocks. With a common fiscal policy on top of a common monetary policy, countries have no macroeconomic tool left to stabilise their economy, either automatically or on a discretionary basis. A second reason to allow for diversity is that national budget deficits and debts reflect preferences of countries regarding the distribution of income across generations. Countries can in various ways deal with the problem of ageing and ensure sustainability of the government budget . As these preferences differ across countries, this calls for diversity in fiscal policy. The Stability Pact with the uniform rule for the budget deficit and government debt does not do justice to the differences in economic circumstances and social preferences.

Assessing the trade-off

The advantage of externalities and scale must be set against the advantage of flexibility and heterogeneity. The Stability and Growth Pact seeks to combine the two. One may question though, whether the rules laid down in the Stability and Growth Pact are the preferable safeguard against a lack of fiscal discipline. Clearly, there are costs involved with the Pact. National rules for fiscal policy would be preferable as they are more legitimate than international rules enforced by an international organisation. Hence, such rules run the risk of weakening the legitimacy of the European Union.

Fiscal discipline is primarily in the self-interest of member states. Therefore, national frameworks to ensure that politicians stick to a policy of sustainable public finances should be feasible. Still, coordination may be necessary to avoid potentially dangerous international spillovers and to maintain confidence in the EMU. Alternatives for the Stability and Growth Pact should allow for more flexibility. They can perhaps be found in rules for the structural deficit or for the level of debt. Such rules, however, raise new problems with respect to their practical implementation (e.g. how to measure them).

7.4 Corporate taxation

The debate on harmonisation of company taxes has a long history in the European Union. Already in 1962 there was a proposal to harmonise company taxes with differential rates for retained profits and dividends. In 1975 this was followed by the suggestion to introduce a band for the statutory corporate income tax rate in EU members of 45% and 55%. The so-called Ruding report made a more elaborate proposal in 1992 to both harmonise the tax base and introduce a minimum statutory tax rate of 30%. None of these proposals ever left the drawing table.

Today, the European Union plays a minor role in company taxation. There exist two directives, one on mergers and one on the removal of international double taxation. More recently, the European Union has taken a different route towards coordination. It agreed to a non-binding code of conduct with respect to harmful tax practices. This code attempts to curb marginal administrative practices intended to attract particular kinds of business activity. More specifically, the code defines harmful tax practices as measures that (1) "affect, or may affect, in a significant way the location of business activity in the Community", and (2) "provide for a significantly lower effective level of taxation, including zero taxation, than those levels which generally apply in the Member State in question". The code adds that "Member States commit themselves not to introduce new harmful tax practices, and to re-examining their established practices" (European Commission, 1998). In order to promote peer pressure, a code of conduct working group blacklisted 66 harmful tax practices in 1999. There are signs that peer pressure is successful. The Netherlands, for example, took the edge off their advance ruling system, while Ireland scrapped the reduced corporate income tax rate for manufacturing companies.

Still, counties have substantial freedom to shape their own national tax systems. This has led to a variety of tax structures on companies in the EU. The European Commission (2001), for instance, shows that the difference in statutory and effective tax rates in the EU runs up to over 30%-points. This may create severe distortions in the internal market, as the allocation of capital is driven by differences in tax rates, rather than by differences in productivity levels. It has triggered a renewed debate in Europe whether or not to harmonise company tax systems. In particular, the European Commission (2001b) launched an extensive report in which it explores several options for company tax harmonisation in the European Union. Does tax harmonisation agree with the subsidiarity principle?

International spillovers

If high-tax counties see capital move to locations with low tax rates, the governments in these countries may cut their rates in order to avoid a further capital flight. If low-tax countries respond by further reducing tax rates, tax competition may cause leapfrogging, which ends up in a race to the bottom. Reductions in tax rates ultimately force countries to either cut public spending or to raise taxes elsewhere. This process of tax competition involves fiscal externalities: countries do not take into account the adverse effects of a lower tax rate on the welfare in neighbouring countries. This fiscal externality may justify tax coordination.
Do recent developments suggest that tax competition in Europe indeed leads to lower tax rates? As argued by Devereux et al. (2003), statutory rates have been declining in both Europe and other OECD countries. While the average rate in sixteen OECD countries was 48% in 1982, it fell to 35% in 2001. In recent years, a number of EU countries have further reduced their rates.

Despite this fall in statutory corporate tax rates in EU countries, the effective tax rates on companies have declined to a much smaller degree. In fact, average tax rates declined only

moderately during the 1980s, and remained remarkably stable during the 1990s. Devereux et al. (2003) report a small decline in average tax rates in recent years.

These observations can be understood by a combination of lower statutory tax rates and a broadening of the tax base. Many countries have indeed financed lower statutory tax rates by less generous fiscal depreciation rules, thereby maintaining the overall effective tax rate. Such a process of *rate cutting cum base broadening* can be explained by competition for paper profits. Multinational companies are able to shift their profits between affiliates at different locations (e.g. through manipulating transfer prices or through debt contracts). Statutory tax rates determine the tax liability in each of these locations. Therefore, low statutory tax rates may attract substantial profits from multinationals and thus broaden the tax base. This provides incentives for governments to compete with their statutory rates. With the increasing importance of multinational companies, a rising share of intangible investment and developments in ICT, this competition for paper profits may have intensified during the past decades.

Yet, locational decisions of firms are driven by effective tax rates. The minor reduction in these rates suggests that tax competition for real investment has only been moderate. Apparently, the responsiveness of capital to tax rates has not increased substantially. The absence of a strong declining trend in effective tax rates does not imply, however, that tax competition is absent. Competition may have led to a lower tax burden on internationally operating firms and higher tax burden on firms with a domestic orientation. Indeed, Devereux et al. (2002) and Altshuler and Goodspeed (2002) find that countries do respond to each others' effective tax rate. This is consistent with tax competition. The recent decline in effective tax rates may suggest that the process of the tax race to the bottom is just taking off. Especially if capital mobility rises in the near future and tax competition intensifies in light of the enlargement of the European Union, a gradual decline in effective tax rates in Europe cannot be ruled out.

Economies of scale

Firms and governments face substantial administrative and compliance costs of corporate income taxation. To illustrate, under separate accounting, multinationals have discretion over the international allocation of joint costs such as research expenditures, advertising, and general management. Tax authorities attempt to gain a foothold by closely examining transfer prices. The result is a game of cat and mouse between multinationals and tax authorities: the former engage in expensive tax planning in order to let paper profits precipitate in low-tax countries without breaking the transfer pricing rules; the latter engage in expensive monitoring of multinationals' accounting behaviour in order to enforce these rules and to receive a fair share of the tax base. The cost of compliance is also high for businesses, which face a complex set of tax rules and regulations that vary country by country. For instance, countries adopt different accounting principles, use different definitions of income and expenses, and adopt different

methods to determine transfer prices. These administrative and compliance costs may be reduced by harmonising company tax systems in Europe. In a sense, the European Union may reap scale effects by imposing a common tax base and perhaps by a common European tax administration. Proposals of the European Commission (2001) and the European employers organisation UNICE (2000) therefore aim at harmonising company taxes for multinational firms in order to reduce compliance costs.

Heterogeneity

Tax diversity refers to distinct elements of taxation, including the rates, the definition of tax bases, and tax administration. Even in mature federations, such as Canada, the United States and Switzerland, we observe tax diversity across local jurisdictions. Differences in (effective) tax rates may reflect heterogeneity in preferences for public consumption, partly financed from corporate taxes. They may also reflect attempts to tax location-specific rents, which are related to geographical positions, public investments in infrastructure and human capital and other location factors. In any case, governments assign a high value to their tax sovereignty. In Europe, this is reflected in the unanimity rule with respect to tax matters.

Assessing the trade-off

Tax diversity distorts the international allocation of resources, creates fiscal externalities, and entails high administrative and compliance costs. Hence, there are substantial costs involved with tax diversity. An appropriate application of the subsidiarity principle would seek the optimal trade-off between these costs and the benefits of tax diversity.

Compared to social policy, the assessment of this trade-off suggests a much stronger case for harmonisation of company tax systems: both externalities and economies scale appear to be important. Yet, one should take account of the benefits of tax diversity. Therefore, a common European corporate income tax is probably a bridge too far. More moderate forms may strike a better balance between the costs and benefits of tax coordination (see Gorter and De Mooij, 2001).

7.5 Do we need more policy coordination?

Competition between firms typically yields an efficient allocation, except when there are market failures. Government intervention is then justified if market failures exceed potential government failures. In analogy to this, policy competition among governments will typically yield an efficient policy, unless there are coordination failures. Delegation of powers to a supranational authority can be desirable to address these failures. Delegation should be proportional to the underlying coordination failure. In fact, competition among governments

usually remains desirable, but only if it is embedded in an appropriate set of common regulations that form the rules of the game.
On a global scale, coordination failures are not always properly addressed by a supranational organisation. There seems to be room for intenser cooperation within an effective international organisation (e.g. in the field of international environmental problems, international financial markets and poverty reduction).

In the European Union, countries have already delegated substantial powers to Brussels. The subsidiarity principle, however, is not applied consistently. For instance, this chapter argues that the case for harmonisation of corporate taxes, in some form, is stronger than the case for Social Europe. In the last case, the need for policy coordination is weak as decentralisation failures are small. At the same time, the decentralisation benefits are large, since heterogeneity of preferences is important. The opposite holds true for the case of tax harmonisation. Yet, corporate taxation is still almost the exclusive domain of the member states, while the European Union is involved in a number of areas of social policy. A related question is how the European Union should plays its role. With the Stability Pact, for example, uniform limits on government deficits take no account of the heterogeneity across countries. Perhaps other forms of cooperation involve lower costs and still adequately deal with the possible coordination failures.

A more consistent application of the subsidiarity principle – indeed one of the aims of the Convention – may help the European Union to overcome some of its problems. It will build the trust with the public as well as with policy makers, that the European Union is more than just another layer of bureaucracy. This will add to the credibility of European institutions.

Part II - Pressure on Public Sectors in Europe

European leaders have expressed the ambition at the Lisbon summit of March 2000 "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". The question is, however, whether this ambition is feasible. In particular, is it possible to reconcile an efficient and competitive economy with ecological sustainability and social cohesion?

Various developments in European societies make the Lisbon ambitions more difficult to realise. Some of these developments push up public expenditures, such as ageing, a rising demand for publicly provided services, and increasing wage inequality between high-skilled and low-skilled workers. Further growth in public expenditures is problematic for at least two reasons. First, increasing factor mobility and individual flexibility increase the social costs of taxation, making it more difficult for governments to raise revenues. Second, societies are becoming increasingly heterogeneous, which is at odds with the uniform character of many public arrangements and calls for more diversity in the supply of goods and services.

The developments put therefore pressure on the public sector. They typically make it more difficult to reconcile equity and efficiency. Does this force Europe to move towards an Anglo-Saxon type of institutions with fewer public responsibilities? Or can Europe develop institutions that improve the trade-off between equity and efficiency? The response in the form of policy and institutional changes is a key uncertainty, and forms the second dimension of our scenarios in part III of this study.

At the end of part II, we discuss opportunities for innovations in policies and institutions so as to improve the trade-off between equity and efficiency. Our conjecture is that information is the key to innovation in the public sector. In particular, governments may better exploit information to develop more targeted policies, provide better private incentives and provide services more efficiently.

8 Lisbon: The American dream of Europe?

European leaders want to raise productivity and employment to an American level while maintaining social cohesion. But these twin goals of efficiency and equality are typically in conflict with each other. In looking for ways to escape the trade-off between efficiency and equity, the experiences in Europe are more interesting than Anglo-Saxon experiences.

8.1 Competing models: Europe versus America

"*France had the seventeenth century, Britain the nineteenth, and America the twentieth. It will also have the twenty-first.*" This was predicted by Mortimer B. Zuckerman (1998). He was jubilant about the American economic performance and saw a happy marriage of the new economy and the older American culture. Indeed, in the second half of the nineties the US productivity growth accelerated and employment expanded. The contrast with Europe was sharp. Most European countries saw sluggish growth in productivity and struggled with high unemployment rates.

This led to calls for reform in Europe. In Lisbon, European leaders drew up an agenda to make their economy the most competitive and dynamic in the world in 2010.[20] Nobel Prize winner Gary Becker sees a watershed in European economic policies: "*Until recent years, most continental European politicians and intellectuals dismissed what they derisively called the British and American "Anglo-Saxon" model of competition and price flexibility. Yet a quiet but enormous change may be taking place in European attitudes toward competition in labour and other markets*" (Becker, 2002).

The emphasis on the Anglo-Saxon model has raised the concern that Europe will not only become more 'competitive' and richer but also more unequal. Indeed, introducing competition and flexibility through deregulation and privatisation could introduce an Anglo-Saxon society in which the winners are well-off but the losers pay a high price. The European Union acknowledges this concern. The Lisbon agenda includes social cohesion as a complementary goal.

But raising competitiveness while maintaining social cohesion may neglect a fundamental trade-off between efficiency and equity. Reconciling the two objectives may turn out to be difficult, so that Europe faces a dilemma: either maintaining equity via the welfare state, or encouraging competitiveness and participation.

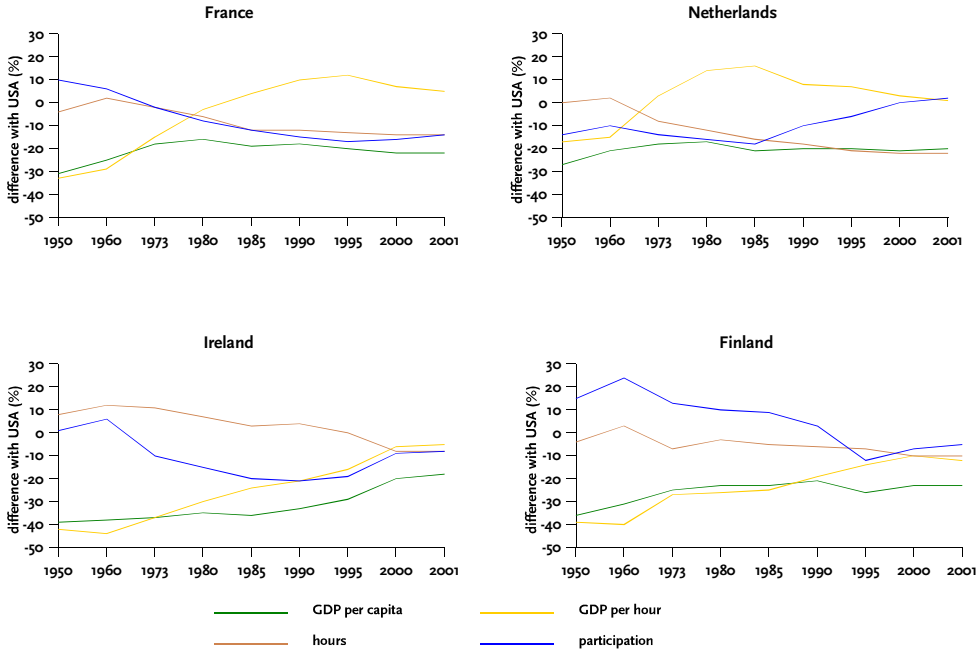
[20] Competitiveness is a somewhat elusive concept. Here 'more competitive' is taken to mean more productive and a higher income per capita.

This chapter briefly compares the United States and the European Union and describes the trade-off between efficiency and equity.[21]

8.2 The income gap between America and Europe

The United States is by far the richest economy in the world. Its production and income per capita are unrivalled. For this advantage are various explanations. One is that the United States has both a superior production technology, based on investment in R&D and ICT, and a better skilled labour force than other countries. Another explanation is that Americans work with many (number of persons) and longer (number of hours). To see to what extent each of these explanations holds ground, we have decomposed for various countries the development in production per capita into three factors: production per hour worked, the number of hours per worker, and the number of workers relative to the total population. Figure 8.1 shows for four European countries – France, the Netherlands, Ireland and Finland – how these factors contribute to the difference in GDP per head relative to the United States.

Figure 8.1 The income gap of four European countries explained, 1950-2001
percentage difference with the United States



Source: GGDC Total Economy Database, July 2003

[21] De Groot, Nahuis and Tang (2003) provide a more detailed analysis of topics in this chapter. See also CPB/SCP (2003).

Figure 8.1 reveals that, in 1950, the gap in production per capita between the European Union and the United States was a difference in productivity per hour. For each of the four countries, hours worked and participation did not deviate much from the United States. Hence, it was not the effective size of the labour force but its productivity which made the United States much richer than any of the four European countries. The reason is that Europe had just started its reconstruction, which required huge investments in private and public capital, while the United States had already made the change toward mass production.

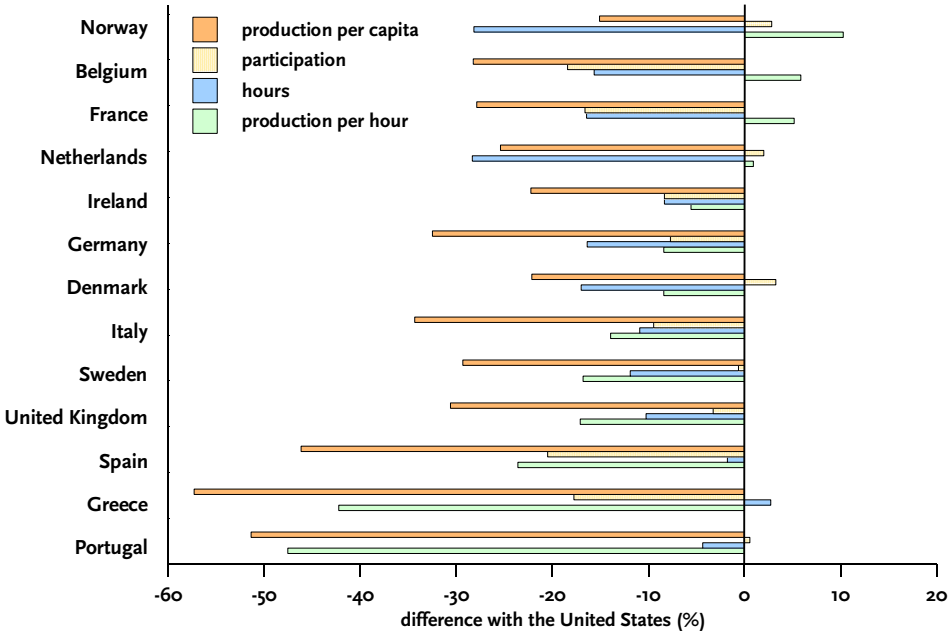
From the sixties onwards, productivity in Europe caught up quickly. Countries invested on a large scale and had the advantage that they could learn to apply the new production techniques that had been developed in the United States. As a result, the four countries outpaced the United States in growth of productivity per hour, although not to the same degree. Catching up in Ireland and Finland has continued up to now, while in France and the Netherlands it stopped in the early nineties. Since the second half of the nineties, the latter two countries saw their productivity per hour decline relative to the United States.

Despite the acceleration in productivity per hour, the gap in production per capita did not close. The reason was that the rate of participation and the number of hours worked started to fall relative to the United States. With the exception of France, the downward trend in participation was reversed later on.

In the late nineties, the Netherlands, Ireland and Finland were among the fastest growing countries in the European Union. Measured by production per capita, they kept up with the growth performance of the United States. This was, however, for different reasons. The Netherlands was able to improve participation on the labour market; Finland saw its productivity per hour increase; and in Ireland both factors contributed to a fast growth in production per capita.

The conclusion from figure 8.1 is that European workers are often (almost) as productive as their American colleagues, but that Americans are richer because they work more in terms of persons and hours. Figure 8.2 illustrates this for a broader sample of European countries. It decomposes the income gap with the United States in 2001 into the same components as in figure 8.1 (i.e. production per hour, hours worked and participation). The countries are ranked from left to right according to their relative productivity per hour. With the exception of Norway, the difference in production per capita with the United States exceeds 20%. Figure 8.2 reveals that a low level of productivity per hour still explains the income gap between America and the Southern European countries. The first eight countries on the left, however, feature a productivity per hour that is less than 10% smaller than in the United States. For them, it is primarily the number of hours worked that is lower than in the United States. For some countries, also a low participation rate contributes to this, although Norway, the Netherlands and Denmark feature an even higher rate of participation than the United States.

Figure 8.2 The income gap of various European countries explained, 2001
percentage difference with the United States



Source: GGDC Total Economy Database, July 2003

8.3 Different ways to close the income gap

The contrast between the two economic superpowers has led to a call for reform in Europe. Barriers to competition – the result of too many and too different regulations – in goods, capital and labour markets are thought to stifle growth and to be one of the reasons behind the persistent problem of unemployment. The European Council has backed this call for reform. In 2000, it drew up in Lisbon an agenda for reform that should make the European economy in 2010 the most competitive in the world. If the European Union has the ambition to become the most competitive economy in the world and to close the income gap with the United States, on what should it focus? We discuss three ways: increasing the number of hours worked, increasing participation and raising productivity per hour.

Increasing the number of hours worked

For the richest members of the European Union, the income gap with the United States originates in a lower number of hours worked per employee. Increasing this number could contribute to a catching up with the American level of income. Doing so, however, has two drawbacks. First, an increase in the number of hours worked may decrease productivity per hour. Indeed, it is an empirical regularity, sometimes dubbed Verdoorn's Law, that an extra

hour spent working is less than an hour effectively worked (i.e. the marginal productivity of an extra hour is relatively low). A second drawback is that more hours worked does not unequivocally improve overall welfare because it reduces leisure. Indeed, arguing that an extra hour of work is socially more valuable than an extra hour of leisure requires that the individual choice between consumption and leisure is distorted. This is true, as taxes (including indirect taxes) drive a wedge between the before-tax and after-tax income. Accordingly, individuals base their consumption/leisure choice on the after-tax financial revenue of extra work, while the social value of an additional hour worked is reflected in extra production, the value of which is measured by the before-tax wage. Hence, the social value of an extra hour worked exceeds the social costs due to the tax wedge. The welfare gain of an extra hour worked is, however, smaller than the production statistics suggest, as these do not take account of the social costs of foregone leisure.

Increase participation

Many European countries face high unemployment rates and low rates of participation, especially among the low skilled and the elderly. This is another reason for the difference in welfare level with the United States. True, when low-productive workers would be employed, this would reduce the average labour productivity per hour. However, stronger than with the choice between consumption and leisure, one can argue that unemployment is an important distortion in European economies. Indeed, unemployment is typically involuntary and causes social exclusion, with adverse consequences for the well-being of people. Reducing unemployment would kill two birds with one stone: it increases production per capita and it reduces (before-tax) inequality. Also, the participation of workers older than 55 is strikingly low in many European countries. The reason lies primarily in schemes for early retirement, which give little incentive to keep working. People who retire early hardly experience an income loss, while the close link between the last earned wage and old-age benefits makes elderly workers reluctant to accept lower wages when getting older – even though they are not as productive as they used to be.

Increase productivity

A third way to raise income and production per capita is to increase the production per hour worked. Figures 8.1 and 8.2 reveal that a number of European countries do not lag (far) behind the United States in terms of productivity: the gap in skills and technology seems to be small. European workers are usually well-trained and firm-specific training is typically more advanced than in the United States. Many European firms operate at the technological frontier. Only Southern-European countries like Greece and Portugal, and *a fortiori* the accession countries from Eastern Europe can still improve their productivity by learning to adapt existing technologies from abroad. Despite the small gap in the level of technology and skills between

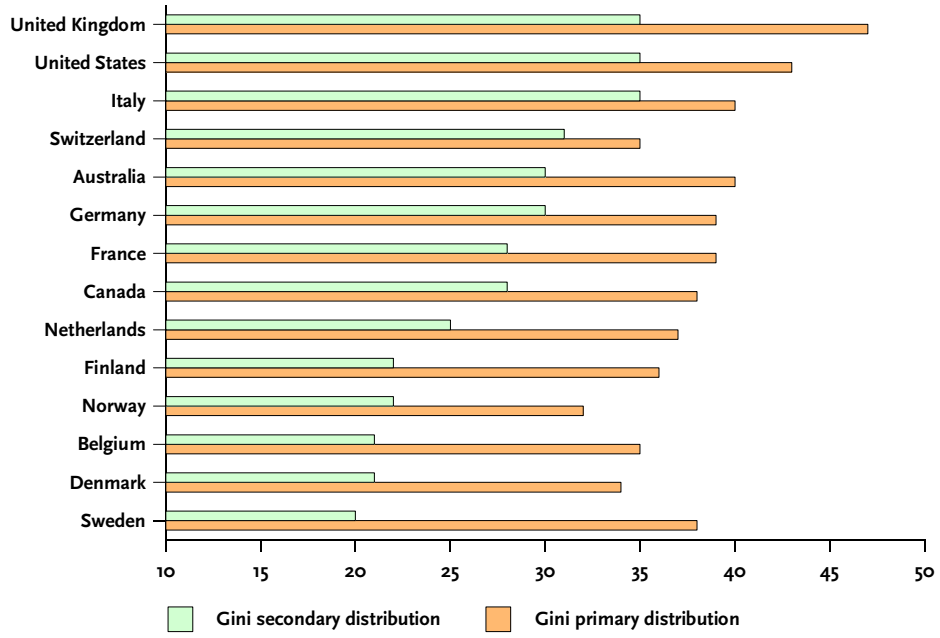
many European countries and the United States, Europe can catch up in the field of information and communication technologies (ICT). As we will show in section 11.4, Europe is especially lagging in the application of ICT in (domestic) service sectors.

8.4 Innovation, participation and concern for equity

To close the income gap with the United States, Europe should increase the rate of participation and invest in new technologies and skills. However, with the emphasis on competitiveness and with the references to the Anglo-Saxon model comes the concern that Europe will also become more unequal. The income differences in the United States and the United Kingdom are generally greater than in continental Europe. This is illustrated in figure 8.3, which shows the relative income difference between the ninth and the first decile of the income distribution in 1995 for a number of countries. At one end of the spectrum, we see Sweden; at the other end of the spectrum are the United States and United Kingdom. The relatively large inequality in the Anglo-Saxon countries does not fit well with European traditions. The European Union has therefore stressed in the Lisbon agreement that competitiveness should come along with social cohesion, which includes limited income differentials in society.[22] The twin goals of raising competitiveness (and thus income) and maintaining social cohesion is noble as well as perhaps somewhat naive. It neglects the fact that a fundamental trade-off between efficiency and equality may exist. For instance, to encourage participation of low-productive workers, one could trim the social security systems (restricting eligibility, limiting the duration or reducing the level of benefits), but this comes at the expense of larger income differentials. Similarly, encouraging ICT could raise the relative wages of high-skilled workers because these technologies are skill-biassed. Thus, the twin goals may be hard to reconcile. Let us see what the evidence reveals about the trade-off.

[22] A third component of the Lisbon agenda concerns sustainable development, referring to the quality of the environment. We do not explore the trade-off between a clean environment and economic growth.

Figure 8.3 Country ranking according to after-tax income inequality in mid-nineties
Gini-coefficients for primary and secondary income distribution



Source: Bradley et al. (2001)

Innovation and equality

Table 8.1 provides a starting point for discussing the trade-off between innovation and equality. It shows for a cross-section of countries a matrix of simple correlations. In the columns are two measures for the distribution of net disposable income: the Gini-coefficient and the income ratio between the ninth and the first deciles.[23] For both measures, a higher value means more inequality. In the rows are measures for investment in, or the level of, technology: the number of patents per capita, the ratio of R&D expenditure to gross domestic product, average productivity per hour worked, and that same measure for productivity corrected for cross-country differences in participation.[24]

[23] The Gini-coefficient is a measure for income inequality. It is 100 when income is equally distributed, and zero when all income accrues to just one person. See for example Deininger and Squire (1996).

[24] The reason for the correction is that participation may affect both productivity per hour (-) and inequality (+).

Table 8.1 Correlations with inequality for a cross-section of 12 countries, 1989-1994

	Gini-coefficient	Income ratio of 9th and 1st deciles
Number of patents per capita	-0.70	-0.60
R&D expenditure as fraction of GDP	-0.23	-0.06
Productivity per hour	0.14	0.05
Productivity per hour, corrected for participation	0.08	0.10

More details can be found in De Groot, Nahuis and Tang (2003).

If there would be a trade-off between innovation and equality, countries that innovate should display a more unequal distribution of income (i.e. there should be a positive coefficient in table 8.1). The correlations in table 8.1 do not support this claim, however. There is no strong relationship between inequality and the level of productivity, while the inequality measures are even negatively correlated with the R&D variable and the number of patents. Although one should interpret these results with caution, they suggest that a negative relationship between innovation and inequality is not self-evident, let alone robust.[25] The results are consistent with empirical literature on the relationship between economic growth and personal income distribution. Aghion et al. (1999) provide an overview of the literature, which tends to suggest that an equal distribution is conducive to economic growth. [26] This raises doubts about a trade-off between productivity and equality.

Participation and equality

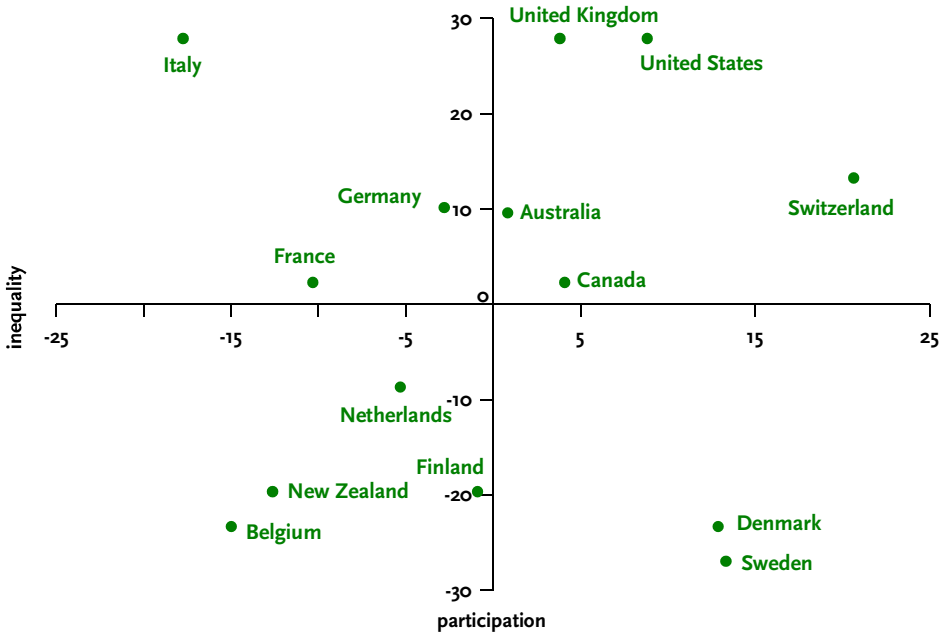
The trade-off between participation and equality would seem obvious when we simply compare the participation rates in continental Europe with those in the Anglo-Saxon countries. The run-of-the-mill explanation is that social benefits and minimum wages in Europe compress the income distribution by putting a floor on wages. At the same time, this raises unemployment among low-skilled workers and reduces the incentives for participation. Yet, the trade-off is less clear-cut than often believed. Figure 8.4 illustrates this. It plots for 12 countries the Gini-coefficient for the distribution of disposable income against the rate of participation in the mid-nineties. For both variables, we present the percentage deviation from the sample mean.

[25] Since other factors are disregarded, the impact of inequality on innovation may be obscured. Besides, cross-country comparisons suffer from problems related to differences in definitions and survey methods.

[26] Later work casts doubt on this finding. Lundberg and Squire (2003) find that different estimation techniques lead to different outcomes. More importantly they argue that economic growth and the distribution of income are interdependent. This implies that any causal link from inequality to growth or the other way around is potentially misleading. Moreover, empirical results are typically derived from observations on a very heterogenous group of countries; the relation between growth and inequality is likely to depend on the phase of development and to be different for developing and developed countries.

Whereas Belgium and the Netherlands combine a below average rate of participation with a below average degree of inequality, the United Kingdom and the United States match high participation with high income inequality. This would suggest a trade-off. However, three large European countries, France, Italy and Germany, combine a relatively low participation with a relatively high degree of inequality. In contrast, Denmark and Sweden demonstrate that it is possible to have a relatively equal income distribution and at the same time a high participation rate.[27] Hence, increasing the participation rate in European countries does not necessarily require a move towards Anglo-Saxon type institutions. Again, the trade-off is not clear cut.

Figure 8.4 Participation versus income inequality in 12 countries, mid-nineties



Source: Bradley at al. (2001); GGDC Total Economy Database, July 2003
The Gini-coefficient measures income inequality, whereas participation is equal to ratio of employed persons to the total population.

[27] The data in figure 8.4 for approximately 1994 may not adequately characterise the situation today, especially for the Netherlands and Finland, which have seen increases in the participation rates in the late nineties (see figure 8.1).

8.5 The role of European labour market institutions

A trade-off between equality and innovation or between equality and participation does not appear from a cursory inspection of the data. It could become apparent from a more specific, detailed analysis of institutions. This section focuses on labour market institutions, since these are usually thought to have an important impact on participation and inequality. High unemployment rates and/or low participation rates in Europe are, for example, often ascribed to high replacement rates (the benefit level as a ratio of the wage rate), long benefit duration, tight employment protection legislation and a strong role of trade unions. But these are the same institutions that are thought to bring about an equitable distribution of income.

We analyse whether such a trade-off exists by regressing the participation rate, the unemployment rate and the degree of primary income inequality to various institutional characteristics of national labour markets.[28] We use data for 18 OECD countries and use averages for 7 five-year periods, starting in 1960.

A complication in the regressions is multicollinearity. We therefore first include variables for which the mutual correlation is relatively low: namely, the replacement rate, benefit duration, a measure for employment protection and a measure for active labour market policies. In a second regression, we also include variables that are highly correlated to these variables: namely, union coverage (measuring the strength of unions' bargaining position) and the level at which wage bargaining takes place (measuring whether employees internalise the adverse effect of higher wages on total unemployment and production).

Table 8.2 reports the estimation results. The first step confirms the common expectation that the poor performance of European labour markets follows from generous social protection. The benefit duration and employment protection have a statistically significant large and negative effect on participation (first column), whereas the replacement rate and benefit duration contribute to unemployment (third column).[29] Intuitively, a high replacement rate and long benefit duration impose a poverty trap: they increase the reservation wage and discourage people from accepting a job offer. Moreover, they improve the bargaining position of workers and thus raise the wage rate, thereby reducing employment. The latter argument also holds for employment protection.

The estimation results point to trade-off, however. A high replacement rate, long benefit duration and employment protection produce also a more equitable distribution of income (column 5). Apparently they do not raise wages indiscriminately, but at the bottom end of the

[28] This approach extends work of Nickell and Layard (1999).

[29] The effect of the replacement rate on participation is not statistically significant and small in the first regression. Nickell (1997) gives the explanation that a higher replacement not only raises unemployment but may also provide better insurance against income risks, thereby increasing the incentive to participate.

income distribution. Interestingly, active labour market policies escape the trade-off, at least to some extent. These policies comprise, among other things, assistance with job search and schooling of unemployed and (temporarily or partially) disabled workers. They boost participation rates, reduce unemployment rates and concurrently mitigate income inequality. Active labour market policies thus seem effective instruments, particularly in the Scandinavian countries, to maintain a relatively generous level of social security and a relatively high level of participation at the same time.

Table 8.2 The effect of different labour market characteristics on participation, unemployment and inequality

	Participation rate		Unemployment rate		Inequality (gini-coefficient)	
Replacement rate	0.029	0.031	1.230*	1.319**	-0.074**	-0.089***
	0.460	0.510	1.930	2.160	-2.220	-2.660
Benefit duration	-0.102***	-0.115***	0.495*	0.397	-0.032*	0.009
	-4.560	-4.210	1.940	1.390	-1.760	0.340
Employment protection	-0.048***	-0.057***	-0.072	-0.039	-0.016	0.002
	-2.800	-2.960	-0.380	-0.180	-1.350	0.130
Active labour market policies	0.003***	0.003***	-0.018***	-0.018***	-0.003***	-0.002***
	3.580	2.980	-2.830	-2.850	-6.920	-4.020
Union - coverage		0.010		0.197*		-0.034***
		0.670		1.780		-3.280
Union - level of bargaining		0.009		-0.257***		-0.001
		0.640		-2.250		-0.110
Time trend	0.001	0.001	0.053***	0.053***	0.003***	0.003***
	-0.510	0.620	6.860	6.670	5.300	5.180
number of observations	126	126	95	95	126	126
R^2	0.43	0.66	0.08	0.68	0.74	0.88

The coefficients are in the first row, White's t-statistics in the second row. *, ** and *** indicate statical significance of 1%, 5% and 10% respectively.
More details can be found in de Groot, Nahuis and Tang (2003).

In the second step, two union variables, coverage and coordination, are introduced. A stronger position of unions leads to both more unemployment and less inequality (columns 4 and 6). Again a trade-off emerges. Centralised unions, on the other hand, lead to less unemployment, probably because they incorporate the effect of their demands on the entire economy. Note that including these two variables also changes other coefficients. Most notably, benefit duration and employment protection still have a clear, negative effect on participation, but no longer on income differentials.

Summing up, to increase the participation rate (for example through a reduction in unemployment and keeping more elderly people employed), governments face a trade-off. Most institutions in table 8.2 indeed confirm the trade-off between participation and equality. Not surprisingly, reforming these institutions often meets fierce social and political resistance. They fuel the fear for an American-style society in which everyone works but where social-economic distinctions are sharp.

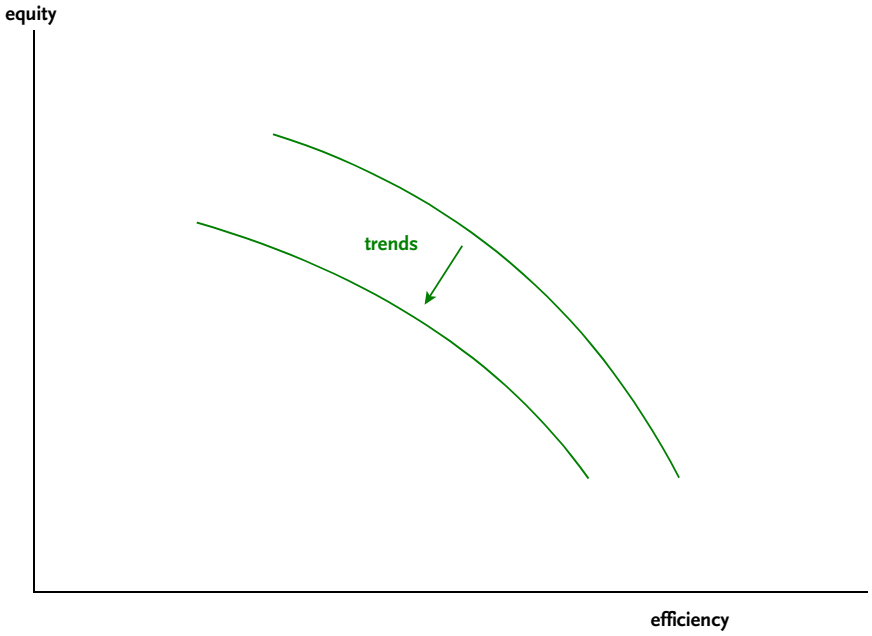
8.6 A key uncertainty: how European governments respond

The United States has a higher income per capita and is ahead in the application of ICT (more on that in chapter 10). Yet, the productivity difference between America and Europe is smaller than the data on income per capita suggest. More important is the difference in the number of hours worked. To put it simply: the American is overworked whereas the European has plenty of time to pursue leisure activities. The prediction that America will 'have' the twenty-first century as was claimed by Mortimer B. Zuckerman thus seems somewhat haphazard, especially since he based it on the ideas that "*accounting systems in the United States strive for clear corporate information*" and that "*the United States is enjoying a [budget] surplus that looks likely to continue as fas as the eye can see*".

High labour market participation in the United States is accompanied by large (after-tax) income disparities. With regard to equality, Europe scores on average much better, but at the expense of lower participation. This suggests a trade-off between efficiency and equality, which is illustrated in figure 8.5. Interestingly, however, some countries that successful in combining a high level of productivity, high participation and an equitable income distribution. These countries are found in Europe. This suggests that it is possible to improve the trade-off between equity and efficiency. This is exactly the ambition of the Lisbon agenda.

Future trends will probably complicate the reconciliation of objectives regarding equity and efficiency, however. Indeed, the next four chapters will discuss four trends – aging, a deeper divide between skills, increasing cost of taxation and increased social heterogeneity – that all point in the same direction: the trade-off between equity and efficiency is likely to worsen in the coming decades. Figure 8.5 illustrates this, demonstrating that the trade-off between equity and efficiency will be shifted towards the origin. This will put pressure on the public sector and collective arrangements. The response of governments is a key uncertainty. Part III of this study discusses alternative scenarios.

Figure 8.5 Trends move the trade-off between equity and efficiency



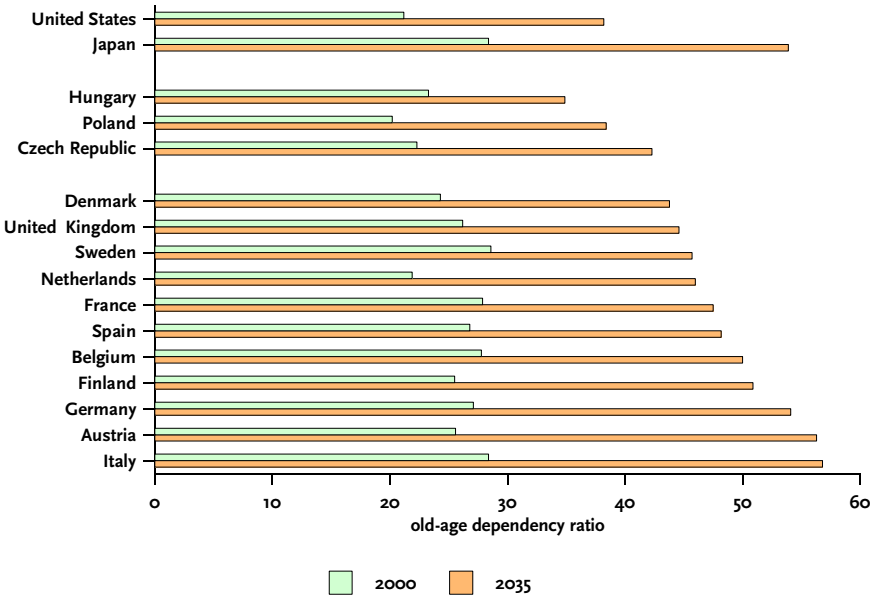
9 A conflict between generations

Ageing will increase public expenditures on health care and old-age pensions, especially for European countries with largely publicly financed old-age benefits. This raises two problems. First, this hurts efficiency since financing additional public expenditures via higher taxes will exacerbate preexisting distortions on the labour market. Second, it puts a strain on the solidarity between older and younger generations because the higher tax burden will fall disproportionately on the young. To cope with these problems, European countries have to invest more in physical and human capital.

9.1 Rising dependency ratios

Ageing is related to the temporary hiccup in European birth rates after the Second World War and a structural decline in fertility rates thereafter. When the baby boom generation retires in the next ten to twenty years, the share of the population above the age of 65 will be much higher than it is today. Figure 9.1 shows this with the old-age dependency ratio (i.e. the ratio between the size of the old, inactive generation and that of the young, working generation) for both 2000 and 2035. The figure reveals that this ratio is expected to increase in all industrialised countries. In particular, whereas for every pensioner there are roughly four workers in 2000, there are only two workers in 2035. Hence, the old-age dependency ratio will more or less double in this period.

Figure 9.1 Old-age dependency ratio in 2000 and 2035 for various OECD countries

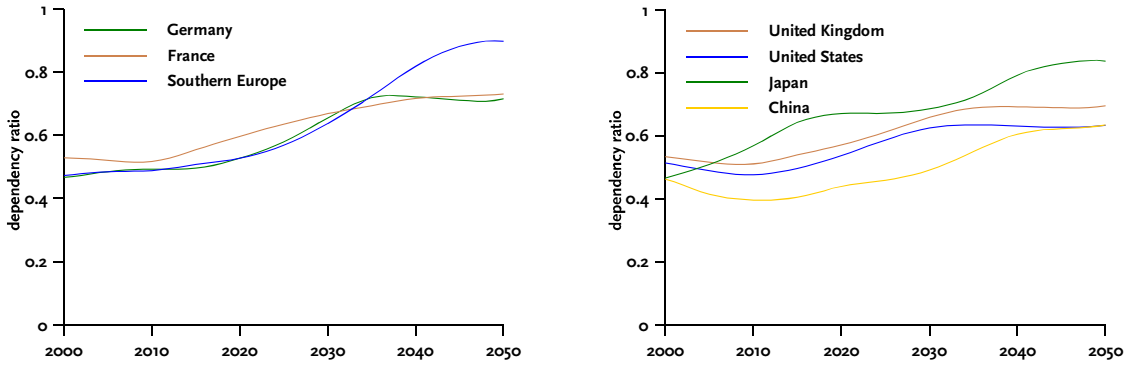


Source: OECD (2001b)

The old-age dependency ratio is defined as the population aged 65 or over as a percentage of the population between 20 and 64.

Even though it occurs in all rich countries, there are significant differences in pace and degree of ageing. Figure 9.2 shows for various countries the development in the overall dependency ratio (i.e. the number of the young (0-15) and the elderly (65 and older) relative to the working force (15-65)). It covers a period until 2050. The first panel of figure 9.2 shows that Southern Europe (Italy, Spain, Portugal and Greece) will age faster and ends up with a higher dependency ratio in 2050 than France and Germany. In the latter countries the dependency ratio stabilises around 2035. For Southern Europe, this takes ten years longer. The second panel of figure 9.2 shows that the dependency ratio in other regions in the world increases as well. In Japan, it rises rapidly and to a relatively high level. In the United States, fertility rates are projected to fall less than in other developed countries. Accordingly, the dependency ratio rises less sharply than elsewhere, especially after 2030. In China, the dependency ratio falls initially and reaches its lowest level by around 2010. Between 2020 and 2040, there is a sharp increase. In 2050, the dependency ratio will have caught up with other regions.

Figure 9.2 Dependency ratios in various countries from 2000 to 2050
ratio of the young (15-65) and the elderly (65 and over) to the working force (15-65)



Source: CPB based on Eurostat-projections
Note: Southern Europe comprises Greece, Italy, Portugal and Spain

9.2 Towards an intergenerational conflict

In a society where being young is a value in itself, it should not come as a surprise that ageing is seen as problematic. Even The Economist, which has a rather old tradition and does not really aim at a young audience, does not hide that it sees ageing as a problem: 'A younger population is likely to mean lower labour costs (...) and, most likely, a more entrepreneurial culture.' For this reason it predicts that the United States may become more powerful: '... demography will offer a fine basis for future growth, and strength.' [30]

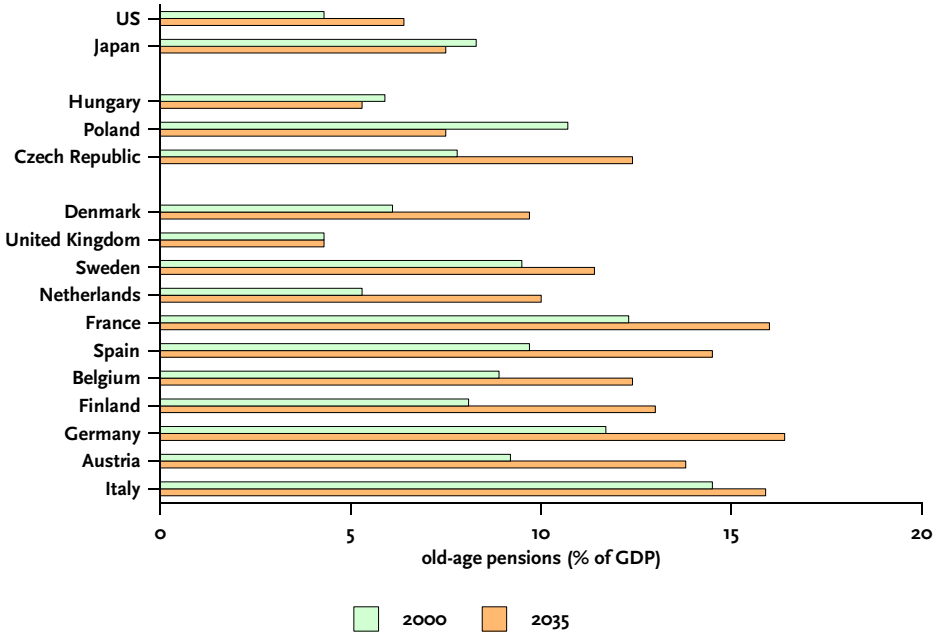
[30] The Economist, 'A tale of two bellies', August 24th 2002, page 11.

But for an economist, ageing is first and foremost a problem of distribution, namely between young and old generations. It has arisen with the introduction of Pay-As-You-Go systems (PAYG). In such a system the working generations pay taxes to finance the old-age benefits of the retired generations. The PAYG systems were introduced in many countries to give older generations a decent income. It was part of a broader programme to provide assistance to those who saw their income decline and to provide insurance against labour market risks such as disability and unemployment. Public pension systems can also be seen as a form of insurance, namely against longevity. In particular, the period during which elderly people are retired (and are presumably unable to work) is uncertain. Pensions ensure the income stream of people who run the risk of becoming old.

A PAYG system is a social contract between young and old generations: the young generations support the old generations in the expectation that once they retire themselves, they will also receive income support. If the age structure of the population were stable, neither party would have an incentive to break the social contract. The root of the problem is, however, that the age structure of the population does change during the coming decades. The baby boom, fewer children, and longevity will raise the dependency ratios and put the social contract between generations under pressure: the tax burden on young working generations will rise, sometimes dramatically. To illustrate, figure 9.3 shows the expected increase in the expenditures on old-age pensions in a number of countries. It reveals that the increase is significant for the majority of countries and falls in the range of 3 to 5% of GDP. There are substantial differences between countries, however. In the Netherlands, Denmark and Finland, expenditures increase substantially. In Japan and Poland, they actually decline as a share of GDP, in part because old-age pensions are not indexed to wages.[31]

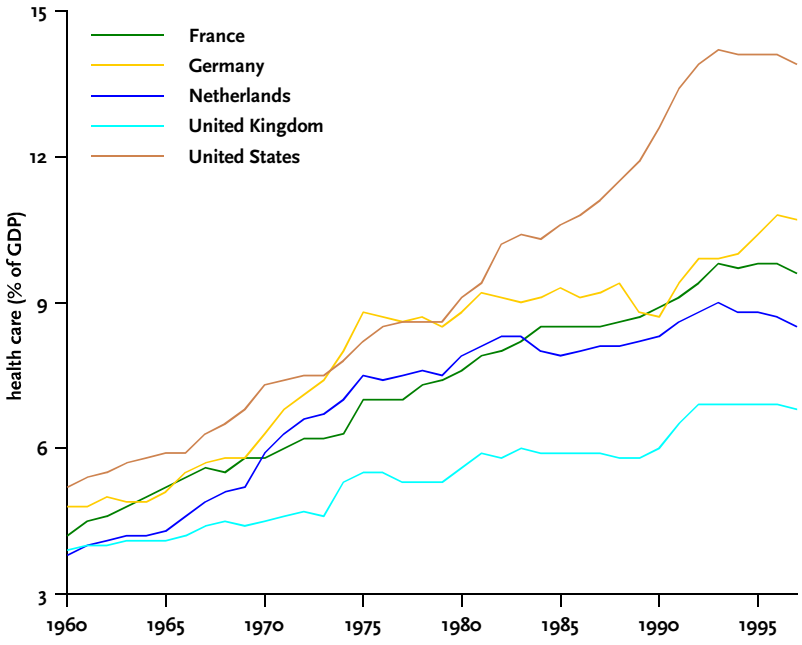
[31] The differences originate partly in different assumptions in the projections. For instance, Spain assumes that its unemployment rate falls from 14% in 2000 to 4% in 2035. Italy assumes an increase in the participation rate of women from 55% in 2000 to 77% in 2050. Whether such assumptions are plausible is somewhat doubtful. It typically calls for reforms to reduce unemployment or increase participation. It is not clear whether countries are able to do that.

Figure 9.3 Public expenditure on old-age pensions in 2000 and 2035 for various OECD countries



Source: OECD (2001b)

Figure 9.4 Health care expenditure in five OECD countries, 1960-1997



Source: OECD, taken from CPB Memorandum, Uitgavenontwikkeling in de gezondheidszorg, July 2001

Baumol' s 'disease' and the size of the public sector

Every economist knows that rising prices go along with falling demand. But is that always so? Baumol (1967) observed that consumers spend ever-larger shares of their income on services, but the amount of services they receive in return has stayed constant. Baumol's famous example concerns the Mozart string quartet. In 1793, it took four musicians, four stringed instruments and about thirty minutes to perform this piece, just as in 1893, 1993 and probably also in 2093. The tickets have become more expensive, however, even in real terms.

While the economic relevance of this example is limited, its conclusion also pertains to some very large sectors such as the health care sector and personal services in general. In these sectors, the so-called 'stagnant services', productivity has not increased, and will not increase. A common feature is the handicraft or the personal nature of the services, so that they are impervious to standardisation. Labour productivity therefore cannot increase considerably in these sectors.

However, if present-day musicians are to make a living, the relative costs of their services will have to be much greater than in Mozart's era. As productivity in other sectors has increased – and hence the wages in these sectors – the wages in the stagnant services also have to rise, even if not accompanied by an increase in productivity. Moreover, the demand for many of these services appears to be rather insensitive to the price or even rises owing to shifts in preferences.

Baumol shows that a growing share of the population will be employed in the stagnant services and that these sectors constitute an increasing share of GDP. The macroeconomic effects of this more than proportionate growth of the service sectors are considerable. The structural economic growth declines since a growing share of the labour force is employed in sectors with few prospects for advancement.

In addition, there is also a more social and political side to Baumol's 'disease'. Rising costs consume an ever-growing part of public and private spending. Especially in the case of essential public goods such as education and health care, this is alarming: can we afford to preserve public provision of health care and education?

Fortunately, there is some ground for optimism. First of all, in some of the 'stagnant' sectors the quality of the services steadily improves, but this is poorly captured in national accounts. Secondly, productivity growth in other sectors can result in some productivity growth in the stagnant services. When performing his quartet in 1790, Mozart had to travel six days from Vienna to Frankfurt. Nowadays, this takes only a few hours. This means that the number of hours of labour to produce this service has effectively been reduced. Especially developments in information and communication technologies offer new possibilities. Finally, as productivity does rise in other sectors in the economy, we can afford more of everything, including these expensive services.

However, problems and solutions seem to be very specific. What is problematic in the health care sector, might not be a problem at all for restaurants; conversely, the solutions are never panaceas. Especially the strong growth in the public sector expenditures is worrisome. Baumol's 'disease' might not be lethal, but a doctor's attention is warranted.

This problem of an increasing tax burden on young generations is reinforced by another effect of ageing: namely, increasing public expenditures on health care. Historical data, presented in figure 9.4, shows that health care expenditures have increased significantly during the past decades. The pattern is, however, again diverse. Between 1960 and 1995, health care expenditures in the United States increased from 5% to 14% of GDP, in the Netherlands from 4% to 8% and in the United Kingdom from 4% to 6%.

Demographic changes in this period just explain part of the historical increase in health care expenditures. Baumol's law is at work as well. This law says that a sector with relatively slow productivity growth must raise its relative price and will see its share in income and production rise (when price elasticities are low). For a further explanation, refer to the text box *Baumol's disease and the size of the public sector*.

The upward trend in health care expenditure is not likely to reverse, if only because the populations are ageing. The OECD (2001b) has collected projections for a number of countries. Between 2000 and 2035 the increase in expenditures as a result of ageing only is predicted to lie between roughly 1% of GDP for the Czech Republic, Denmark and Finland, to more than 4% of GDP in Australia, New Zealand and the Netherlands.

The increasing public expenditures on old-age benefits and health care put pressure on society. First, the increasing tax burden on workers puts a strain on the social contract between young and old generations. Second, the higher tax burden on the young exacerbates distortions in the economy. Indeed, taxes induce behavioural responses because private agents will try to avoid them, e.g. by working fewer hours, investing less and consuming untaxed products. These responses erode the tax base, thereby reducing tax revenue. To avoid efficiency losses and an intergenerational conflict, reforms are necessary.

9.3 Options for reform

Most countries have anticipated the consequences of ageing. They are considering measures to arrive at a 'fair' distribution that is acceptable for young and old and to avoid a too high tax burden. We discuss three options to prevent an increase in the tax burden on younger generations: lower benefits, more investment in human capital, or more investment in physical capital.

Lower old-age benefits

A straightforward manner to reduce the tax burden on younger generations is by reducing the net income support to retired generations. Engineering a relative decline in (real) old-age benefits does not always involve a drastic action or decision. To the extent that old-age pensions are not indexed to wages, the average old-age benefit grows slower than the wage rate. The tax burden will then increase less than the old-age dependency ratio.

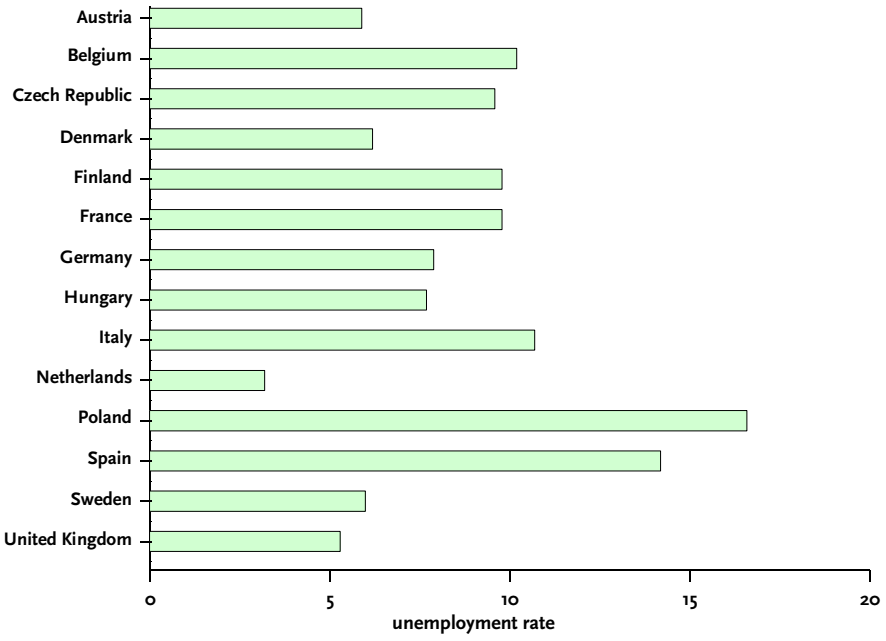
Investment in human capital

The problems arising from ageing are partly the result of longevity. When people grow older and the retirement age does not change, a falling share of workers needs to carry the financial burden of a rising share of retired people. The most straightforward response to this would be

an increase in the retirement age. Sweden, Norway and the United States have already made steps in this direction: the retirement age in these countries is or will be increased to 67. Thus, the financial burden of longevity is shared between younger and older generations. Since the number of healthy years has increased and will increase further, sharing the risk is not impossible or unreasonable. It may be imposed gradually (e.g. by linking the official retirement age to life expectancy).

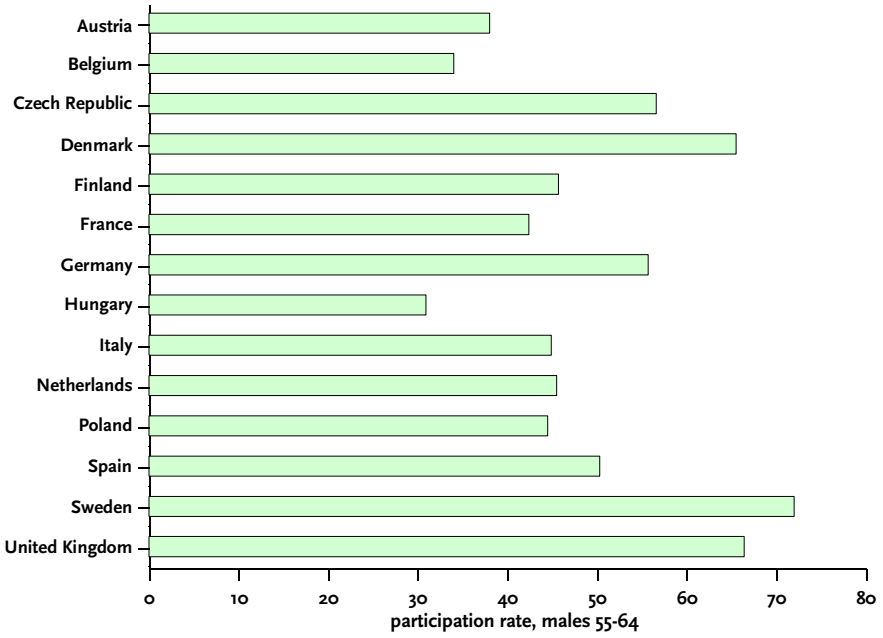
An alternative investment in human capital is increasing the participation rate of those younger than 65. In Europe, there seem ample opportunities for this. First, some European countries such as Belgium, Poland, Italy and Spain feature high unemployment rates (figure 9.5). Secondly, the participation of older workers is low in most countries. For instance, in Austria, Belgium and Hungary less than one-third of the male population between the ages of 55 - 64 are working (figure 9.6). Finally, the female participation rate is below the male participation rate in all European countries. On average, this difference amounts to 15 percentage points. Female participation is high in Scandinavian countries, but particularly low compared to males in Italy, the Netherlands and Spain (figure 9.7).

Figure 9.5 Standardised unemployment rates in 2000 for various countries



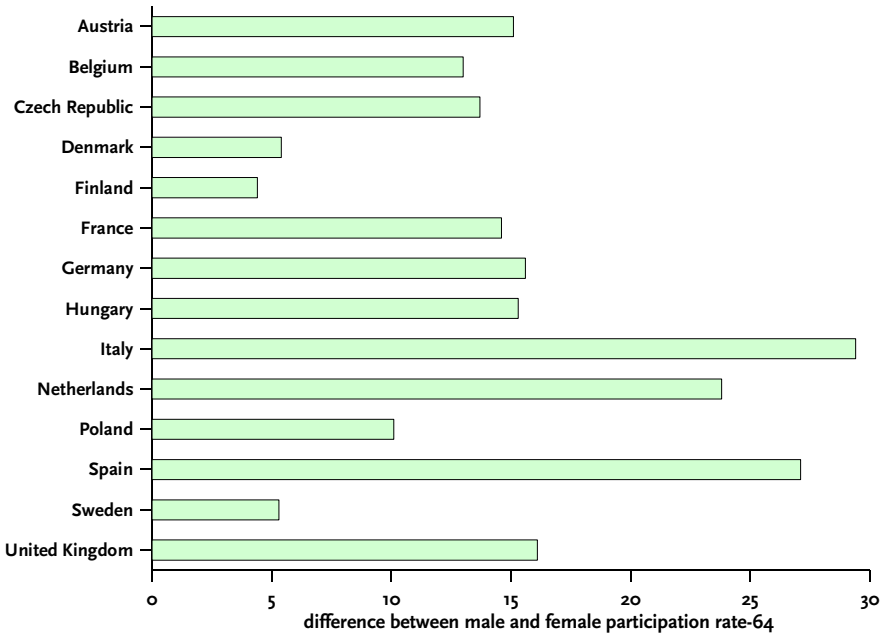
Source: OECD (2002)

Figure 9.6 Male participation rates in the age 55-64 in 2000 for various countries



Source: OECD (2002)

Figure 9.7 Difference between male and female participation rates in 2000 for various countries



Source: OECD (2002)

An alternative way to broaden the tax base is to let more immigrants enter. This assumes that immigrants will make a net contribution to public finances. A number of studies suggests, however, that the fiscal impact of immigration is not necessarily positive (see for example Roodenburg et al., 2003). Even if the net contribution would be positive, very high levels of immigration are necessary for immigration to make a difference. This would make it unlikely that such a policy finds broad political support.

Investing in physical capital

The problem of ageing is partly temporary: it is associated with a large income redistribution from the future young generation to the baby-boom generation. To relax this problem, the baby-boomers could share the temporary burden with future generations and partly pay for their own old-age pensions.[32] The government can encourage financial investments by the baby-boom generation in two ways. First, it can create a budget surplus so as to reduce public debt (e.g. by raising current taxes or cutting current public spending). Alternatively, it can switch from a PAYG system towards a funded system. In the latter system individuals invest in funds now from which they draw their old-age income later. A regime switch is, however, difficult to accomplish. This is because current generations tend to lose since they have to pay twice: for the currently old (via the PAYG system) and for themselves (via the funded system).

9.4 Uncertainties of investment in human and physical capital

Moving towards a funded system is sometimes defended on efficiency grounds. The main advantage is that the returns on contributions in a funded system are generally higher than the returns in a PAYG system. In particular, the rate of return in a funded system is equal to the real interest rate (on government bonds) and perhaps the excess return on investment if capital is invested in equity. In a PAYG system the rate of return depends on the real growth rate of labour income, which equals the sum of employment and productivity growth. Table 9.1 shows the real rates of return on both funded and PAYG systems during the second half of the twentieth century. It reveals that the return to funded systems exceeds the return to PAYG

[32] Referring to intergenerational fairness, Hans Werner Sinn (2000) points out that the baby-boom generations have failed to invest in 'human capital'. They have chosen to spend less time and effort in raising children. Families have become smaller, and some people have opted for lives without children. In Europe, fertility rates fell in the second half of the 20th century, and are often below 2.1, the value that is needed for mere reproduction. This has put the PAYG-system under pressure. Sinn finds it fair that these generations invest in real capital to save for their own old-age pensions. This argument also implies that current tax rates for households without children should rise more than tax rates for households with children.

systems, at least for investment in equity. Hence, switching from a PAYG scheme to a funded scheme will increase the rate of return. [33]

Table 9.1 reveals also that the rate of return on physical capital is more volatile than the rate of return on human capital. This may even hold for long periods. During the sixties and seventies, the return on investment was close to zero or even negative. The eighties and nineties brought investors large gains. These huge swings warn us that the rate of return in a funded pension system is not always higher than in a PAYG scheme.

Table 9.1 Real rates of return for the Dutch economy 1950-2000

	Return on stock	Return on government bonds	Labour productivity growth
1951-1960	14.7	-2.4	3.6
1961-1970	2.0	-2.8	4.0
1971-1980	0.3	-1.3	2.8
1981-1990	13.8	6.5	1.6
1991-2000	19.0	6.5	1.2
average 1950-2000	9.7	1.2	2.6

Source: CBS, Eichholz, et al. (2000)

Moreover, if a group of rich countries move towards funded pension systems, saving rates would rise. Accordingly, pension funds may run into the problem that real interest rates fall in response. Hence, the policy strategy to jointly move towards a funded system may backfire. Individual pension funds are already concerned about the risk of a falling return on their portfolio investments. Their worst-case scenario is that, once they try to liquidate their assets to pay the old-age pensions, the price of their assets will fall dramatically. Such a scenario does not seem to be far-fetched or implausible.

[33] Another advantage of funded systems derives from distortionary effects of taxation. Taxes change the behaviour of economic agents and impose costs on society. These costs vary more than proportionally with the rate of taxation. Therefore, it is efficient to smooth the rate of taxation over time; with a constant rate, the costs of taxation are minimised. Of course, smoothing over time affects the distribution of income across generations.

9.5 Policy responses to ageing

Ageing increases the size of the public sector. The associated rise in the tax burden on young generations exacerbates preexisting tax distortions and harms welfare. This reinforces the conflict between generations. To avoid it, governments can reduce old-age benefits or stimulate investments in human or physical capital. Investment in human capital can take the form of increasing the effective retirement age (so that human capital lasts longer) and stimulating participation of younger generations (so that the utilisation of human capital increases). Investment in physical capital can take the form of a decline in public debt or a move towards a funded pension system. The latter runs the risk that the returns on investment turn out to be disappointingly low. This risk becomes more real when a number of countries move simultaneously towards a funded system.

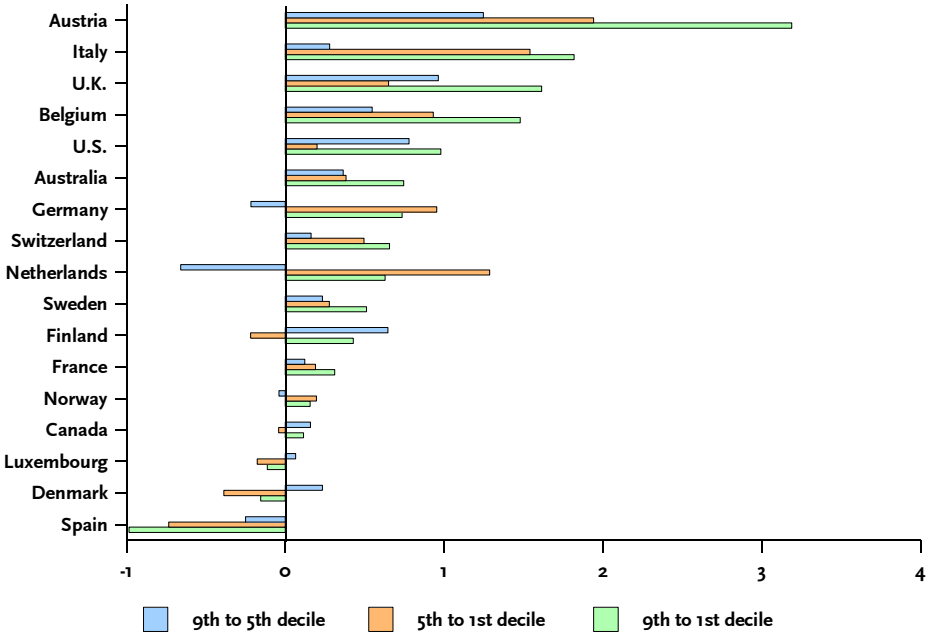
10 Technology and opening wage gaps

During recent decades low-skilled wages have lagged behind high-skilled wages in a number of countries, while the unemployment rate among the low-skilled has risen more sharply. This divide between skill levels may intensify in the coming decades. Changes in technology – especially the widespread application of ICT – could raise the demand for skilled workers while the supply of skills will be flattening. Together, this would raise the skill premium, thereby increasing income inequality.

10.1 Rising inequality

During the 1980s and 1990s, the United Kingdom and the United States experienced a notable increase in income inequality. One could see this as a typical phenomenon of the Anglo-Saxon culture, where a relatively large divide between rich and poor is socially accepted. However, not only in these two countries do we observe that high-income groups saw their income increase faster than low-income groups.

Figure 10.1 Inequality 1980 - 1995 for various countries: average yearly change in income ratios



Source: Luxembourg Income Study (www.lisproject.org)

Figure 10.1 shows the annual change in the after-tax income ratio between the ninth and the first deciles (green bars), between the ninth and the fifth deciles (blue bars) and between the

fifth and the first deciles (orange bars) of the income distribution between 1980 and 1995.[34] In many countries the income ratios increased. The ratio between the ninth and first decile typically increased more substantially (i.e. the green bars are broader than the other bars), implying that the highest income groups experienced the fastest income growth.[35] The middle income groups also saw a larger growth in their incomes than the lowest income groups (orange bars are broader than the blue bars). Income inequality did not increase in every European country. For Luxemburg, Denmark and most notably Spain, figure 10.1 shows that the ratio of the ninth and first deciles actually decreased.

Inequality dynamics

The income distribution provides a static view on inequality. It thus ignores the social-economic dynamics related to the changing positions of individuals in the income distribution over their life cycles. The pattern of social-economic changes is often hard to capture in a single number. Still, it is vital for one's view on inequality. To understand this, consider the following society. People earn 5,000 euro per year in the first half of their life and 30.000 euro in the second half. When considering the static income distribution, society might be viewed as very unequal. However, lifetime earnings are the same for all individuals. If it is possible to borrow against future earnings, the level of consumption would be same as well and the society would be completely egalitarian.

The distinction between a static and a dynamic view is not just a theoretical quirk, but is also practically important. Using individual data for Italy and the United States, Flinn (2002) finds that the cross-sectional wage distribution for young Italian males is more compressed than for their American counterparts. However, he also estimates a dynamic model, which reveals that the distribution of lifetime income is not more dispersed in the United States than in Italy. The explanation is that the relatively high frequency of movements between different labour market states (e.g. employed or unemployed) in the United States leads to a relatively equitable distribution of lifetime income. In Europe, where job finding probabilities for large groups of individuals is low, income dispersion is much more persistent.

One important factor behind the changes in income inequality is the skill premium.[36] Over the years, the average time spent on education has increased substantially and the labour force has become much better skilled. As a result, the supply of high-skilled workers shows a secular increase relative to the supply of low-skilled workers. Table 10.1 illustrates this for the United States and the Netherlands.[37] In both countries, the relative supply of high-skilled workers has

[34] Static pictures of the income distribution do not tell the whole story of inequality, however. The box *Inequality dynamics* explains this.

[35] Davis (1992) also finds for a number of countries that, within groups of similar age and educational attainment, income inequality has increased. This suggest that income inequality, and more specifically increases therein, are fractal in nature: at whatever level of detail one looks, income inequality increases.

[36] Nahuis and de Groot (2003) give a more detailed analysis of demand and supply trends.

[37] Even though the definition of high-skilled and low-skilled workers is different for the two countries, the pattern is similar.

risen at a rather brisk pace. One expects that this would have improved the position of low-skilled workers. Plumbers, mechanics, waiters, cleaners and so on become scarcer, which should drive up their wages. At the same time, one would expect a relative deterioration of the position of high-skilled workers. This, however, we do not observe. In the Netherlands, the relative wage rate of skilled workers has fallen only slightly, whereas in the United States it increased in four out of six decades. An explanation for this is that the demand for high-skilled workers has increased as well. Indeed, while a higher supply of skills has pushed wages downward, higher demand has pulled the relative wage of the high-skilled upward. The increase in the relative wage for low-skilled workers in the United States in table 10.1 suggests that the demand effect has even dominated the supply effect.

Table 10.1 **Annual change in relative wage and supply of high-skilled workers, United States and the Netherlands**[a]

	United States			Netherlands		
	Relative wage	Relative supply	Wage with constant supply[b]	Relative wage	Relative supply	Wage with constant supply[b]
1940-1949	-1.9	1.5	-0.8			
1950-1959	0.8	2.9	2.9			
1960-1969	0.7	2.7	2.6			
1970-1979	-0.7	4.3	2.3	-0.5	5.5	3.4
1980-1989	1.5	2.5	3.3	-1.5	4.0	1.4
1990-1996	0.4	2.4	2.1	-0.4	3.5	2.1

[a] Source Autor et al (1998) for the US and Jacobs (2004) for the Netherlands. For US the data represent college graduates (those with sixteen or more years of schooling) and high school graduates (those with exactly twelve years of schooling). For the Netherlands the high-skilled are workers with higher education (HBO/WO) and the low-skilled are the other workers.
[b] The wage with a constant relative supply is not observed but is derived under the assumption that elasticity of substitution is constant and is equal to 1.4.

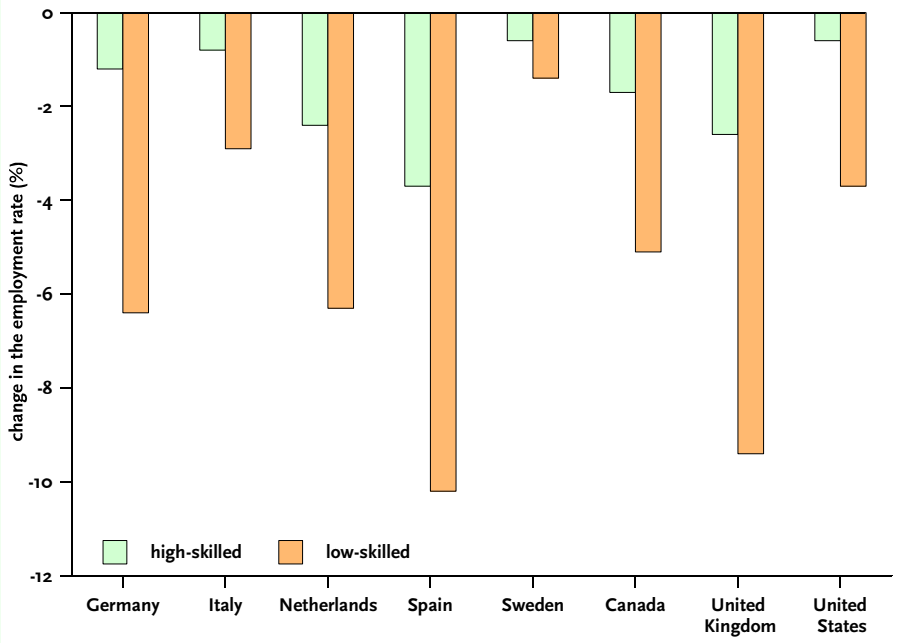
Wage inequality could have been even worse if the supply of low-skilled and high-skilled workers had remained constant during the past decades. Table 10.1 shows the counterfactual change in the relative wage rate, assuming that the relative supply had remained constant. The elasticity of substitution between the two types of workers is assumed to be 1.4. Without the increase in the supply of high-skilled workers, we see that their wages would have grown by roughly two percentage points faster than wages of low-skilled workers, even in the Netherlands.[38]

[38] That the relative position of low-skilled workers has been deteriorating is also illustrated by their unemployment record. The box *Unemployment and skill level* discusses this further.

Unemployment and skill level

The poor social-economic position of the low skilled is also reflected in the relatively high unemployment rate among them. Among low-skilled workers, this rate by far exceeds that of high-skilled workers. The figure below compares for the two groups the average employment rate (not the unemployment rate) in the period 1983-1993 with that in the period 1971-1982. It shows that job opportunities for the low-skilled have declined faster than for the high-skilled in all countries. This confirms the deteriorating position of the low-skilled. It not only holds for European countries, where various labour market institutions (minimum wages, trade unions, generous social security) are often held responsible for the high unemployment rate among the low skilled, but also applies to the Anglo-Saxon countries. In the United Kingdom, the employment rate for low-skilled workers fell from 92.5% in the first period to 83.8% in the second period, whereas the employment rate for high-skilled workers fell from 97.6% to 95.1%.

Change in employment rate for high skilled and low skilled, 1971-1982 versus 1983-1993



10.2 Understanding the increasing demand for skill

What explains the increasing demand for high-skilled workers during the past decades? Two broad arguments have been put forward in the economic literature: internationalisation and skill-biassed technical change.

International economic integration has led to increasing flows of goods, capital and labour across the globe. This allows developing countries, which are relatively abundant in low-skilled

labour, to specialise in industries where manual labour is the dominant factor of production. Developed regions, in contrast, are relatively abundant in skill and capital so that they specialise more in skill- and capital-intensive industries. When specialisation occurs, the demand for low-skilled labour in developed regions declines, while it increases in developing countries.[39] Although intuitively appealing, in the economic literature the consensus has emerged that international trade is not a convincing explanation for increasing wage inequality in developed countries (and decreasing inequality in developing countries). The empirical evidence suggests that trade has only a mild impact on wage inequality. Moreover, in some developing countries the skill premium has actually increased. The empirical results may be understood by the small size of the trade flows between developing and developed countries: international trade takes place mainly among developed countries. Moreover, large economies like the European Union and United States are relatively closed: domestic trade is far more important than international trade.

A second explanation for the increasing demand for high-skilled workers is skill-biassed technical change. The basic idea is that skills are essential for learning and adapting new production techniques. This makes it attractive for firms to employ more high-skilled workers. The fast introduction of information and communication technologies (ICT) and, more generally, the development towards a knowledge-based economy give this idea credibility. Besides, the same techniques often make low-skilled jobs redundant. The automation and computerisation of production processes destroy low-skilled jobs, not only in manufacturing but also in services.

Direct empirical evidence to support the idea of skill-biassed technical changes is still rather scarce. Two studies find that the wage premium for working with computers indeed exists and has increased during the 1984-1993 period (Krueger, 1993; Autor, et al., 1998). Others report that a positive correlation exists between the rate of skill upgrading in many sectors and indicators for technology intensity like computer usage, computer investment and R&D investment (Berman et al., 1994; Autor et al., 1998; Machin and Van Reenen, 1998).

The literature on skill-biassed technical change does not explain why technical change is biassed in favour of high-skilled workers. One view is that a major technological breakthrough – the invention of microprocessors – temporarily accelerated the demand for skills in order to learn and to adapt the new technology (see Bartel and Lichtenberg, 1987 and Bartel and Sicherman, 1999). An alternative view is that the bias is not inherent in technical change, but follows from incentives to create it. Technology is subject to important economies of scale: once a technology is developed, it can be applied with no or little additional cost. The larger the scale

[39] In a sense, migration of low-skilled workers from developing countries towards developed countries has the same effect on the low-skilled wage rate. In particular, it increases the supply of low-skilled labour in developed countries, thereby depressing low-skilled wages relative to high-skilled wages. Empirical evidence tends to support this claim, see chapter 11.

at which a technology is applied, the more the fixed costs of development are spread and the cheaper a technology becomes. Accordingly, the large increase in the supply of skilled workers may have stimulated the development of technologies that are complementary to skills. According to this view it is not surprising to see a strong bias in technical change since demand is not independent of supply (see Acemoglu, 1998; Nahuis and Smulders, 2002).

The evidence on skill-biassed technical change also does not explain what type of investment is actually driving the increasing demand for high-skilled workers. It is sometimes argued that it is investment in general that increases the demand for skill, since skills and capital are complements in production (whereas raw labour and capital are substitutes).[40] For instance, Krussel et al. (2000) show that observable factors such as the capital price and the relative supply of skilled and unskilled workers explain the entire skill premium in the United States for the last 30 years. The findings by Arranz (2001), however, suggest that only 44% is explained by capital-skill complementarity, while 56% of the increasing demand for high-skilled labour is explained by skill-biassed technological change. Although the evidence is mixed, it nevertheless seems plausible that especially developments in ICT are behind increasing inequality. Skills are essential to master the new techniques and to find ways to make them productive. We therefore take a closer look at the recent developments in ICT and the prospects for the future.

10.3 The prospects for ICT in Europe

In the second half of the nineties the economy of the United States showed a prolonged boom. Growth in labour productivity was historically high, unemployment was low and inflation remained modest, although share and housing prices shot through the roof. The prolonged boom gave rise to visions about a so-called “new economy”. In this new economy, ICT would transform economic and social life drastically: the trade-off between unemployment and inflation would disappear and the traditional cycle of boom and bust seemed to have come to an end. This was symbolised when a young new-economy firm, America Online, took over a traditional old-economy firm, Time Warner.

At the same time, the distribution of income and wealth became more uneven. Young entrepreneurs became millionaires almost overnight, with Bill Gates as the most prominent example. ICT seemed to have changed the rules of game: the winner takes all. The reason is that knowledge as marketable product is characterised by important economies of scale: the development costs are high, but marginal costs of reproduction are low. A (slightly) superior product may take almost entire markets, national and international, and deliver high profits. To further develop and apply new techniques requires skills, leading to higher demand for high-

[40] This would imply that an increase in the capital-labour ratio (perhaps as the result of ageing) could further increase the demand for high-skilled labour relative to low-skilled labour in the future.

skilled workers. This makes ICT a logical (although not undisputed) explanation for the rising skill premium.[41]

When Wall Street and NASDAQ took a severe dive and American unemployment crept up again, the visions of a new economy faded away. Yet, the spurt in productivity was real. In this respect, the United States outperformed the European Union. This had not gone unnoticed in Brussels and other European capitals. With the formulation of the Lisbon Agenda, especially the 'transition toward a knowledge-based society' was given priority. But to what extent can the differences in ICT between Europe and the United States explain the different developments in labour productivity (growth)? Potentially, ICT augments overall labour productivity in the economy through the following three channels:

A higher productivity in the domestic ICT sector

Productivity growth in the ICT sector, which includes both hardware and software, will contribute to overall productivity growth, depending on the relative size of the ICT-producing sector.[42] Van Ark et al. (2000) estimate the share of the ICT sector in 2000 at 5.8% in European Union and 8.0% in the United States. The differences among the European countries are rather large, ranging from 4.7% in Denmark to 10.1% in Finland.

Lower prices of ICT products as inputs in the production process

Higher efficiency in the ICT sector normally leads to lower prices of their goods and services. Lower prices stimulate users to invest in ICT. This means capital deepening and thus higher productivity. In this view, ICT is just an ordinary investment good among many others. This channel does not require a domestic ICT-producing sector, since the goods and services from this sector are tradeable and can be imported.

Technological spillovers

Using ICT could generate increases in productivity elsewhere in the economy that are not taken into account by firms in ICT-producing and/or ICT-using sectors. These technological spillovers include network externalities. When one investor buys communication equipment or software (a mobile phone or an email programme), other investors benefit as well. ICT can also reduce search cost in the economy. This could make markets more transparent, foster competition, stimulate innovation and raise productivity. Especially this last channel has been subject to much speculation, often leading to high expectations about the ICT revolution.

[41] One reason for doubt is that the rise in the skill premium predates the introduction of the personal computer.

[42] For a definition of the ICT sector, see Nahuis and Van der Wiel (2003). Different sectoral definitions in national statistics make the comparison across countries somewhat problematic.

Table 10.2 Labour productivity growth according to industries, 1991-2000

	European Union		United States	
	1991-1995	1996-2000	1991-1995	1996-2000
	annual percentage changes			
ICT-producing sectors	6.0	8.5	7.0	7.0
manufacturing	7.8	14.0	13.5	20.3
services	5.3	6.0	3.8	0.8
ICT-using sectors	1.9	1.3	1.3	4.2
manufacturing	3.3	2.0	0.5	2.1
services	1.7	1.1	1.6	4.6
Non-ICT sectors	2.4	1.0	0.4	0.4
manufacturing	3.7	1.2	3.0	1.3
services	1.6	0.7	–0.2	0.3
others	3.6	1.6	0.1	0.4

Source: Van Ark et al. (2002)

Table 10.2 shows the productivity growth in the ICT-producing sector for the periods 1991-1995 and 1996-2000 in both the European Union and the United States. The annual growth rates are high compared to other sectors, especially in the manufacturing part. The breakdown between manufacturing (computer hardware, communication equipment) and services (software, communication services) unveils an important difference between the European Union and the United States: European countries have seen a surge in (telecommunication) services, whereas America has seen a surge in (computer and communication) equipment.

Table 10.2 also presents separate data for sectors that use ICT intensively and sectors that do not. The ICT-intensive sectors do not clearly show a higher productivity growth than the sectors that are not intensive ICT users. However, when we split these sectors into manufacturing and services, we arrive at an interesting pattern. While using ICT does not deliver higher productivity growth for manufacturing firms, it does so for services. Indeed, both in the European Union and in the United States, productivity growth in services is higher when expenditures on ICT are higher. The difference is, however, much larger in the American economy, especially in the second half of the nineties. This points to an important difference between the United States and Europe. The United States have advanced much further than the European Union in applying ICT in services industries.[43]

[43] The information in table 10.2 does not tell us anything about the distinction between benefits of lower ICT prices (the second channel) and the benefits of technological spillovers (the third channel). Evidence on this is rather scarce and circumstantial.

ICT has penetrated economic and social life in the United States more than it has in Europe. Several key indicators in Table 10.3 confirm this observation. In Germany, France and Italy access to a personal computer and Internet was in 2000 (much) lower than in the United States. The differences in Europe were large, as the case of Sweden illustrates.[44] The number of secure servers is an indication of the scale of commercial transactions through the Internet. These were much more common in the United States than in any of the other European countries.

Table 10.3 The penetration of ICT in several OECD countries

	Access to home computer	Access to internet	Secure servers
	% of households, 2000	% of households, 2000	per mln of inhabitants, 2001
Sweden	69	49	144
United States	51	42	313
Germany	47	16	79
Italy	29	19	25
France	27	12	42

Source: OECD (2003b)

Observations on the diffusion of ICT suggest that there are still ample opportunities for the European economy to benefit from further productivity growth through the adoption of the ICT, especially in the services sectors. The question is whether this will also increase the demand for high-skilled labour and thus drive up the skill premium in Europe.

10.4 Towards a deep divide?

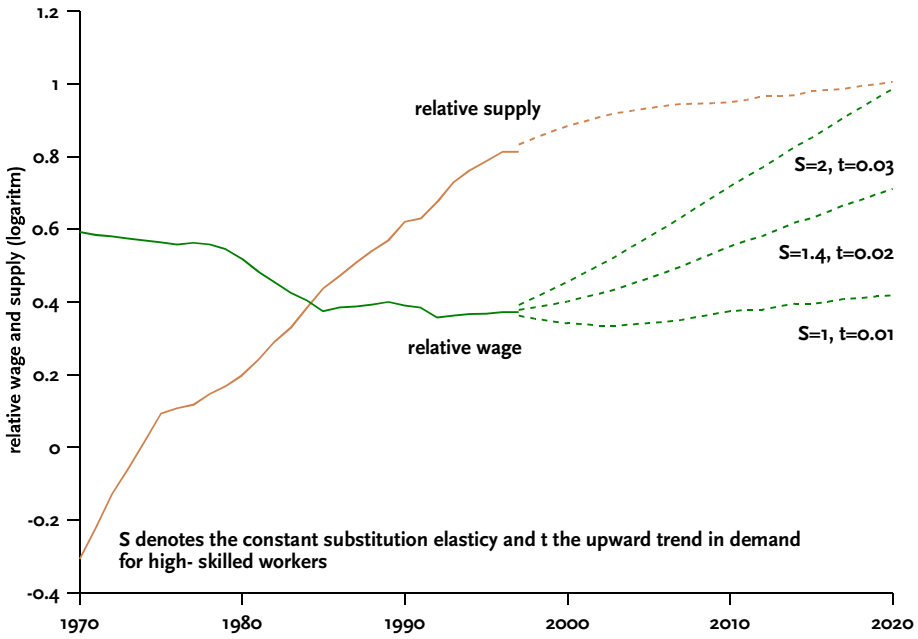
Since our understanding of skill-biassed technical change is only limited, it is hazardous to extrapolate the trend of a rising relative demand for high-skilled workers to the future. What is clear, though, is that if the relative demand for high-skilled workers does continue to rise, the consequences for wage inequality will become more apparent than in the past. The reason is that the supply of skilled labour is not likely to keep growing in the coming decades as it did in the recent past. A few decades ago, social class or parental income were serious obstacles for children to take part in higher education. Since these barriers have been broken down, the number of years in schooling has risen sharply. Indeed, figure 10.2 shows that the supply of high-skilled workers relative to low-skilled workers in the Netherlands between 1970 and 2000

[44] Not shown is that home access to internet is very different for different income groups. In the United States in the 25% richest households 77% had internet access at home in 2000, where the comparable figure for the 25% poorest households was 14%.

has increased enormously. For the next 20 years, however, the growth rate of the supply of high-skilled labour is expected to fall. The simple reason is that there are boundaries in the ability to learn. Many individuals find that it makes no sense to follow a prolonged educational programme since they are better off working with their hands. This eventually puts an upper bound on the relative supply of high-skilled workers; it will grow at a slower rate than in the past. Combining the slower growth in the supply for high-skilled workers with continued growth in their relative demand, the danger of a deep divide appears. Paraphrasing Jan Tinbergen (1975), education will lose the race with technological development. Figure 10.2 illustrates this for the Netherlands, showing three different projections for the wage ratio between high-skilled and low-skilled labour between 2000 - 2020.[45] The baseline projection (with a substitution elasticity of 1.4 and trend increase in the demand for high-skilled labour of 2 percentage points per year) suggests that the wage of high-skilled workers will grow by roughly 30% more than the wage of low-skilled workers over the period 2000-2020. If the substitution elasticity between low and high-skilled labour is set at a lower rate, the wage differentials become more compressed. Therefore, the combination of a low substitution elasticity and a smaller increase in the demand for high-skilled labour implies that the wage ratio changes substantially less. In contrast, a combination of a higher substitution elasticity and a larger increase in the demand for high-skilled labour leads to an explosion of the wage differences.

[45] We need to make assumptions about the trends in relative demand and the elasticity of substitution between the two types of workers. For an explanation, see Jacobs (2004).

Figure 10.2 The relative wage and supply in the Netherlands: historical data and projections



Source: Jacobs (2004)

Note: A person is classified as high skilled when he or she has followed higher education (HBO or university). The relative supply has been rescaled to fit the graph.

10.5 Policy response to opening wage gaps

How technology will affect the demand for high-skilled labour in the future is uncertain. However, the possibility that the demand for skills will continue to rise is real. If it does, then inequality will grow significantly because possibilities for further increases in the supply of high-skilled workers become exhausted. Hence, skill-biassed technical change could materialise in increasing wage inequality and, thereby, rising inequality in society. Only by engaging in more redistribution via the tax-benefit system could the government prevent this from happening.

11 A more heterogeneous society

European society is becoming more heterogeneous. Individualisation leads to a greater variety in life styles and household types; differences in labour contracts grow; and immigration of non-western people makes society more diverse in terms of culture, habits and preferences. More heterogeneity increases the demand for diversity in supply of goods and services, including those that are publicly provided. Moreover, heterogeneity makes it more difficult for governments to apply uniform criteria to welfare state provisions.

11.1 More need for diversity

At the end of nineteenth and the beginning of the twentieth century, workers became better organised in trade unions. They fought for better wages, for better working conditions and against 'capitalists'. The power of trade unions grew; they became accepted bargaining parties and were incorporated in formal bargaining structures, especially after the Second World War and in Europe.

Where the twentieth century saw the rise of trade unions, will the twenty-first century see their demise? The social-economic role of trade unions is changing, if not eroding. One reason is that firms press for more flexibility and diversity in labour contracts.
Firms have become increasingly complex organisations that operate on more markets and demand more heterogeneous labour skills than before. They want labour contracts to reflect heterogeneity in local conditions and individual characteristics. During the past few decades, this has led to a gradual decentralisation in wage formation in Europe. For the coming years, the forces behind decentralisation remain strong (Visser, 2002). Another reason is individualisation. Class struggle no longer defines societies. Workers have become autonomous individuals. They still belong to groups, but by their own choice. They are more concerned with their individual interests and less with a collective interest. The result is that union membership in Europe has declined, from an average of 51% of total employment in 1980 to 44% in 1994. In an effort to reverse this trend, trade unions shift their emphasis from collective action towards individual representation.

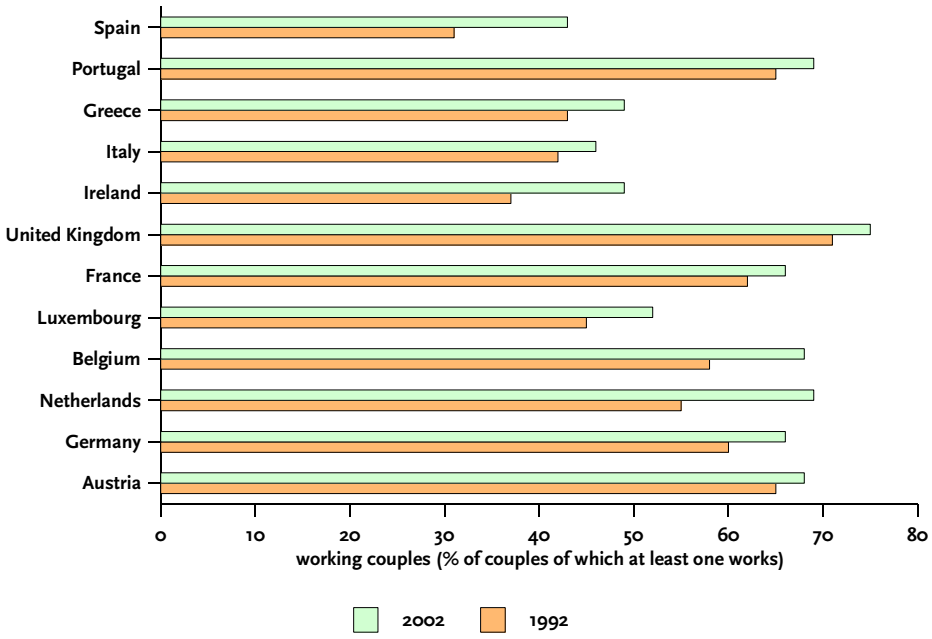
Individualisation and migration have led to more heterogeneity in society. Not only trade unions feel the implications of this, but also organisations in the public sector. How does this challenge these organisations? Do they have to make a similar transition as trade unions?

11.2 Individualisation

Today, individuals depend to a lesser degree on their social-economic background than they did in the past. They have more freedom in making choices about the course of their life, their life style and their personal relationships. With the process of individualisation, the traditional

family model – a married couple with children in which the female partner is dependent on the income of the male breadwinner – has become less prevalent. In the Netherlands the share of singles in the total number of households has risen from almost 30% in 1990 to 34% in 2000, and is projected to rise further to 39% in 2020. Figure 11.1 shows, furthermore, that European countries have without exception seen a relative increase in couples of which both partners work.

Figure 11.1 Growing number of working couples, 1992 versus 2000



Source: Eurostat (2002)

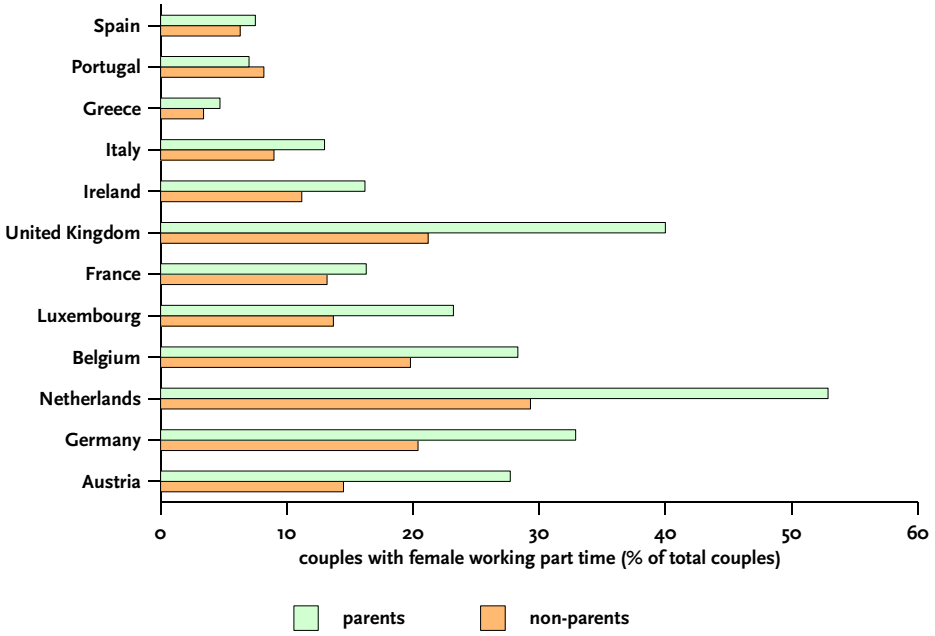
Female participation and life-cycle patterns

The developments in the composition and size of households largely reflect changes in the social and economic position of women. The participation rate of women in the formal labour market has increased throughout Europe. The process of emancipation is not yet complete. The aim of the European Union is, for example, to increase the female participation rate from 54.1% in 2000 to 60% in 2010.

The increase in female participation has led sometimes difficult choices for couples, namely between work and other activities. Especially couples with children face a dilemma between work and care for children. To reconcile these conflicting demands for time, women more often decide to work part time. Figure 11.2 shows this, and reveals that females are more likely to work in a part-time job when they have children.

In addition to the increasing demand for part-time work, people increasingly feel the need to take temporary (unpaid) leave from their job (e.g. to care for ill relatives or to follow an education). An increasing number of labour contracts provide the opportunity to combine job obligations with more flexibility in the number of hours worked, periods for sabbatical leave, care for relatives, and education.

Figure 11.2 Females working part-time in 2000: parents versus non-parents



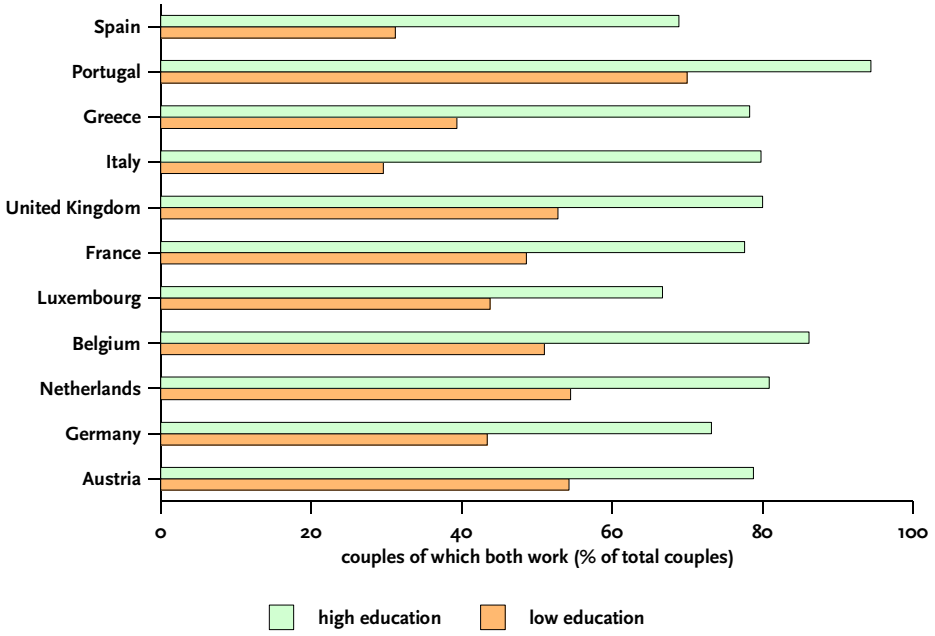
Source: Eurostat (2002)

Governments may want to contribute to the growing need for flexibility. For instance, a government may see a role for itself in the provision or subsidisation of child care. Alternatively, it may provide special tax credits for particular forms of leisure activities, such as care for relatives or education. Such proposals are, however, complicated by the increasing heterogeneity in society. Indeed, these measures require that governments are able to make an objective distinction between those eligible for subsidies or tax credits and those that are not Heterogeneity complicates differentiation of policies according to personal characteristics that are difficult to verify. These policies become more vulnerable to improper use and fraud. Moreover, it complicates other public objectives, e.g. income redistribution and female participation. In particular, subsidies for child care may end up primarily with the rich. Figure 11.3 makes this clear, showing that participation of female partners depends strongly on their

level of education. Hence, subsidising child care tends to benefit primarily highly educated parents with a high level of income[46].

A similar dilemma appears in other policies to encourage female participation. For example, tax incentives aimed at stimulating labour-market participation of partners tend to increase the income differentials between rich and poor households, because poorly educated partners usually do not work. Public policy thus faces a trade-off between facilitating developments that are in themselves desirable, and targeting subsidies to groups that are in need of public support.

Figure 11.3 Working couples according to educational attainment of female partner, 2000



Source: Eurostat (2002)

Public provision of private goods: equal opportunities versus differentiation

Individualisation manifests itself also in other ways. People feel more responsible for their own lives, which may call for less public responsibility. Besides, more heterogeneity creates a demand for more diversity in private goods that are currently provided publicly. To illustrate, working couples that are able pool their labour market risks may need less income insurance. White-collar workers are perhaps more inclined and better able to work at a high age than blue-collar

[46] A similar dilemma appears in policies to encourage female participation. For example, tax incentives aimed to stimulate the labour-market participation of partners tend to increase the income differentials between rich and poor households, because poorly educated partners usually do not work.

workers, requiring differentiated pension schemes. The box *Public provision of private goods* goes into more detail on the trade-off between private and public production.

An important motive for providing private goods publicly is to give everyone equal opportunities, independent of social-economic background. This motive is relevant for, among others, education, health care and social insurance. Universal access has, however, a strong effect on demand: it tends to cause overconsumption. Rationing devices are not always easy to implement, or may meet strong resistance. This makes it difficult to control public expenditure on these goods. A typical example is disability insurance. In many OECD countries the inflow into disability schemes is rising steadily whereas the outflow is low see OECD, 2003a). Tightening eligibility criteria or lowering the benefit level across the board would probably be effective in reducing the inflow. However, it comes at the expense of low-skilled workers, older workers and the severely disabled, for which the disability benefit is often the only possible source of income. Clearly, heterogeneity within the group of disabled workers is a complicating factor when trying to reform disability schemes. Targeting measures at specific groups may attenuate this problem, to some extent.

Public provision of private goods

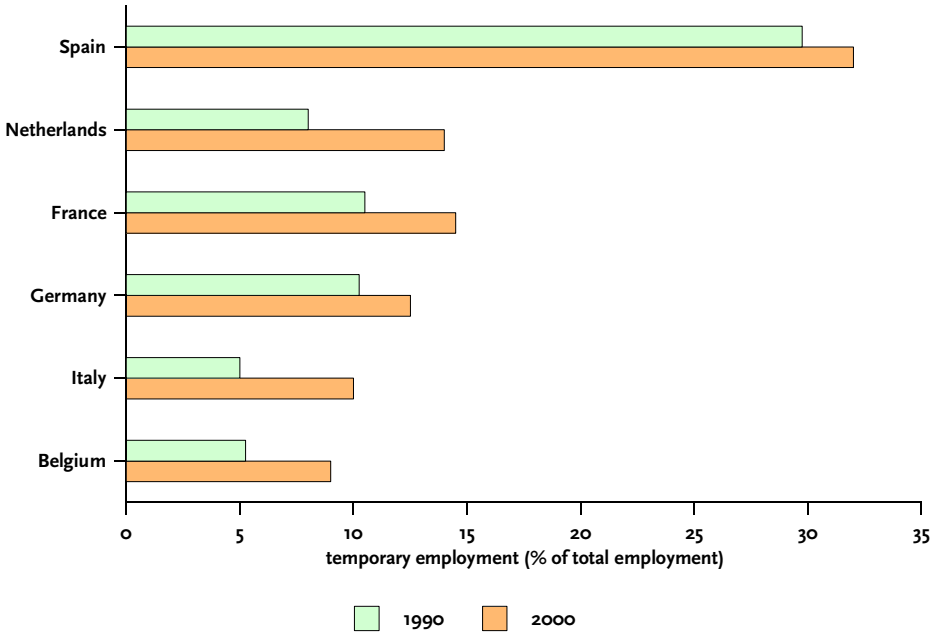
A number of private goods and services in our society are supplied publicly, such as education, health care services, pensions, insurance against labour-income risk, utilities or transport. The public provision of these private goods and services has some distinct advantages. First of all, it often serves distributional objectives. For instance, public education ensures that young people all have the same opportunities on the labour market, independent of the income and wealth of their parents. Similarly, publicly provided health care services prevent an unacceptable distinction in access and quality between the rich and the poor. Second, public provision is a response to market failures. For example, the market cannot provide every form of insurance, because individual risks are correlated (unemployment insurance) or because a process of self-selection would lead to prohibitive insurance premiums for some groups (disability insurance). Finally, the production of some goods involves natural monopolies (e.g. water distribution, train infrastructure and electricity network). Public provision is then a way to avoid excessive monopoly power to the detriment of consumers.

Yet, the public provision of private goods and services also has a number of drawbacks. First of all, public production is often less cost-efficient than private production. Several factors are responsible: weak, unclear or even perverse incentives, a dominance of political concerns, soft budget constraints or a combination of these factors. In light of this, many European countries have started to privatise production that used to be in the public domain, such as energy supply, public transport and telecommunications. To keep an eye on the public interest, a regulator is usually created. Another drawback of public provision is that the supply of goods and services is typically homogeneous: we usually have a uniform provision of pension schemes, public health insurance, insurance against labour-income risks, and so on. Thus, public supply usually does not deliver diversity. This disadvantage becomes more important in a more heterogeneous society.

A more heterogeneous labour market

With the process of individualisation, internationalisation, and technical change, labour markets have become more heterogeneous. For instance, the increase in part-time work applies not only to women, but also to men. In Germany and Spain the share of male part-timers (in total employment) doubled between 1990 and 2000, to 4.8% and 2.7% respectively. In the Netherlands it is already approximately 13%. Another trend is the increasing importance of temporary labour contracts, often via temporary work agencies. Figure 11.4 shows that the share of temporary employment in a number of EU countries has doubled between 1990 and 2000. This reflects a growing taste for diversity and flexibility. Especially young workers, often high-skilled, like job-hopping at some stage of their career, thereby gaining experience in a variety of jobs and so broadening their general skills. It also gives them the opportunity to take longer breaks between jobs and to enjoy leisure or follow education. Moreover, temporary work is also a response to the rigidities in European labour markets. Indeed, to obtain flexibility in hiring and firing, firms prefer to hire workers temporarily rather than permanently so as to escape different labour-market regulations. Often these workers are low skilled, and their only alternative for a temporary job is unemployment.

Figure 11.4 Temporary employment



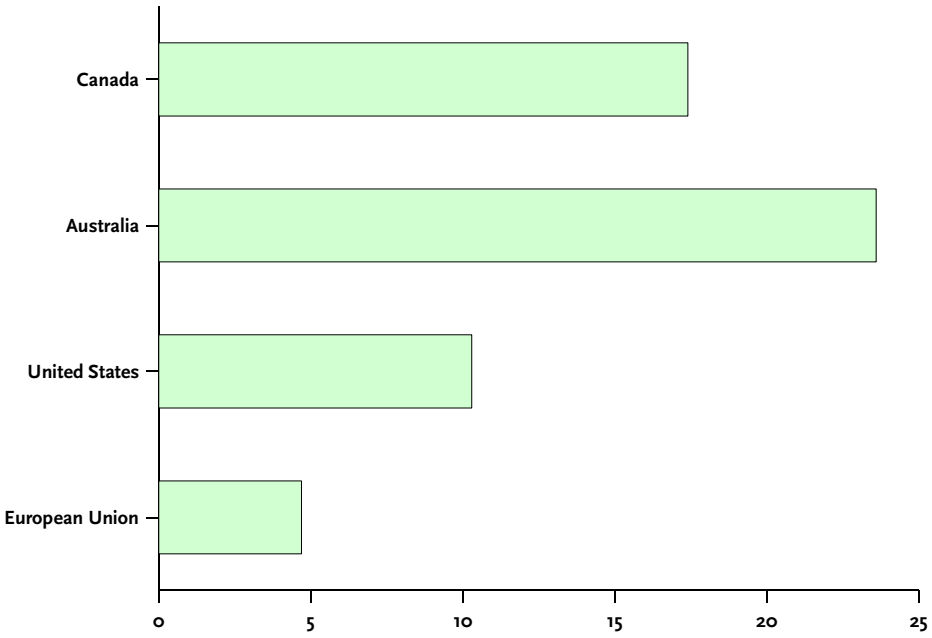
Source: OECD (2002)

Governments may strive to allay the difference between similar workers with well-paid, permanent jobs and with low-paid, temporary jobs. However, heterogeneity makes this more difficult to achieve. Indeed, simply putting restrictions on temporary jobs will not only increase unemployment among low-skilled workers, but will also hinder workers that voluntarily choose these temporary jobs. Heterogeneity therefore makes it difficult for governments to develop effective, uniform rules.

11.3 Immigration

Europe is not a continent of immigrants. The stock of foreign population in EU countries in 1999 was around 18 million, i.e. 4.7% of the EU population. This share is small when compared to other industrialised countries. Figure 11.5 shows that Australia, Canada and the United States host much higher shares of foreign-born populations.[47]

Figure 11.5 Stock of immigrants in various countries (% of population)



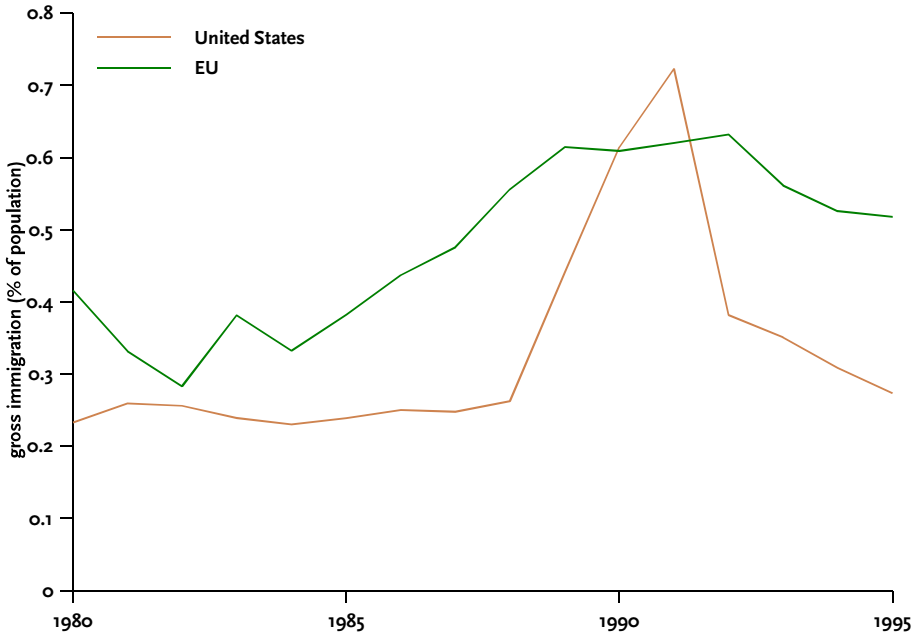
Source: Trends in international migration, OECD, Sopemi 2002

Yet, during the past decades, the share of foreigners in the EU population has been rising steadily. In the sixties, a number of European countries such as Belgium, France, Germany and the Netherlands allowed an influx of guest workers in order to relax tensions on their labour

[47] The stock of *foreign-born* population is typically larger than that of the *foreign* population because the former includes neutralised citizens.

markets. These countries attracted some ten million workers from Southern European countries, Turkey, Morocco and Tunisia. During the 1970s and 1980s, the flow of guest workers dried up. Immigration continued, however, primarily because family reunion became an important motive and the number of asylum seekers increased. In the late 1980s and early 1990s, immigration peaked with the fall of the iron curtain and the ethnic conflicts in the Balkan. Figure 11.6 shows that immigration declined somewhat in the late 1990s. In 1999 around 1.5 million foreigners entered the European Union, amounting to 0.4% of the EU population. This share is larger than that for the United States and of similar magnitude as in Australia.[48]

Figure 11.6 Immigration 1980 - 1995 in the European Union and the United States (% of population)



Source: Trends in international migration, OECD, SOPEMI 2002

Immigration and its effects on European economies

Natives do not always applaud the arrival of new immigrants. Opposition to immigration, extending sometimes into outright xenophobia, has various reasons. Some of these reasons are economic: the fear of losing a job to an immigrant and the fear for the erosion of public sector services. To explore whether these economic reasons have a firm empirical basis, we briefly review the main findings in the economic literature on immigration (see also Roodenburg et al., 2003).

[48] Note that net immigration in Europe is smaller than these gross figures due to substantial outflows.

The immigration literature, which has extensively analysed the characteristics of immigrants that have entered the industrialised countries in the past decades, yields a number of robust findings (Borjas, 1999; Bauer and Zimmermann, 1999). For example, the level of education exhibits a positive correlation with the probability of migration. Indeed, the educational attainment is high according to the standards in the country of origin. It is, at the same time, low according to the standards in countries of destination. Table 11.1 shows that the educational attainment of foreign workers in some European countries is on average lower than that of natives. This provides a starting point for understanding the effects of immigration on labour markets in the countries of destination.[49]

Table 11.1 Educational level of non-EU immigrants versus nationals in selected EU countries, 1999

	Lower secondary		Upper secondary		Tertiary	
	Foreigners	Natives	Foreigners	Natives	Foreigners	Natives
Netherlands	50.2	33.8	28.2	42.3	21.6	23.9
France	66.4	36.2	19.7	42.0	13.9	21.8
Germany	49.4	16.5	35.4	59.3	15.2	24.2
United Kingdom	30.3	19.4	30.5	53.3	39.3	27.3

Source: Coppel et al. (2001)

The empirical evidence provides little support for any relationship between immigration and general levels of wages or unemployment (Leibfritz et al., 2002). A more robust finding in the literature is, however, that immigration reduces low-skilled wages relative to high-skilled wages. Immigrants primarily compete for low-skilled jobs in the countries of destination.

The skill level of immigrants also explains partly their relatively poor position on the labour market in the countries of destination. Table 11.2 shows that the participation rate of foreign men and women in the Netherlands and the United Kingdom is substantially lower than for natives. In France and Germany, foreign women exhibit a lower participation rate, compared to natives. Similarly, the unemployment record for foreigners in the European Union is substantially worse than for the native population, especially in France and Germany.

[49] It also matters for the countries of origin. Migration amounts for these countries to a so-called brain drain, i.e. relatively skilled workers move abroad, with possibly negative consequences for the workers that stay behind. The adverse effects of a brain drain remain limited in the case of temporary migration or as the result of remittances.

Table 11.2 Participation and unemployment rates of foreigners in selected EU countries, 1999

	Participation rate				Unemployment rate			
	Men		Women		Men		Women	
	Natives	Foreigners	Natives	Foreigners	Natives	Foreigners	Natives	Foreigners
France	75.6	76.4	63.5	48.5	8.7	19.7	12.5	25.7
Germany	80.1	77.9	64.8	49.9	7.3	14.9	8.4	13.2
Netherlands	84.8	67.2	66.4	44.6	2.2	7.7	3.9	10.5
United Kingdom	84.9	76.2	69.2	56.0	6.3	10.9	4.9	8.3

Source: Coppel et al. (2001)

The poor labour-market position of foreigners is only partly explained by their lower educational attainment, however. OECD (2001d) indicates that, even if one controls for the lower average education of immigrants, foreign nationality exerts a positive impact on the probability of being unemployed. These relatively poor prospects for immigrants on finding a job are probably related to the labour-market institutions in European countries, such as tight employment protection and the strong position of trade unions. These institutions tend to protect the position of insiders at the expense of the opportunities for outsiders, including immigrants. Indeed, when the counterparts in Canada and the United States, where there are less institutionalised and more flexible labour markets, immigrants in Europe are worse off.

Figure 11.7 shows that in many European countries in the mid-nineties, the unemployment rate for immigrants is a factor two or more higher than the total rate. In fact, the relatively high incidence of unemployment among non-EU immigrants is strongly correlated with the generosity of unemployment benefits. One of the explanations offered by Sapir (2000) is that countries with generous welfare states attract more family members of guest workers than countries with less generous benefits. Whereas unemployment rates among guest workers are not necessarily higher than the unemployment rates among native workers, the prospects for a job for these family members are worse than average.

Figure 11.7 Generosity of unemployment benefits and unemployment among non-EU foreigners

Source: Sapir (2000)

The weak position on the labour market implies that immigration is often found to have a negative effect on the fiscal balance of European countries (see e.g. Roodenburg et al., 2003).[50] This implies that immigration is unlikely to be a solution to the ageing problem. This negative effect contrasts with the findings for countries that select immigrants on the basis of various characteristics. For instance, Australia, Canada and New Zealand adopt point systems to select immigrants. Applicants receive points for various qualifications and only those who reach the minimum number of points are admitted. The United States uses priority lists, admitting applicants with the highest qualifications in the ranking of desirable skills. Studies for these countries typically suggest that an average immigrant contributes positively to the government budget (Leibfritz et al., 2002).

The economic literature thus provides some economic grounds for natives to fear immigration. For low-skilled workers, immigration does not necessarily raise the probability of unemployment, but tends to reduce their wages relative to skilled wages. Besides, immigrants are likely to weaken the financial position of the public sector. These effects are probably not large. They add, however, to negative existing social-political sentiments about immigration. The latter originate in the different social-economic characteristics (including skills) between natives and immigrants. For instance, immigrants are among the main beneficiaries of the welfare

[50] This does not necessarily imply that the welfare effect of immigrants is negative, since immigration may create a so-called immigration surplus.

state, which may diminish the political support for the European-style welfare systems. Indeed, Alesina et al. (2001c) conclude: 'Racial fragmentation (...) and the disproportionate representation of minorities among the poor has clearly played a major role in stopping rich-poor redistribution in the United States ...'. To avoid this, social-economic opportunities for the foreign-born population must improve in Europe. There are various options to achieve that. This section explained that selection on the basis of appropriate criteria and more flexibility on the labour market are among these options. They would make it more likely that immigration has a positive impact on the government budget and that the labour-market position of immigrants improves.

11.4 How will institutions respond?

Individuals have become more independent from their social background: the single-earner household has lost ground, part-time and temporary labour contacts have gained importance, and a growing number of non-western immigrants populates Europe. These developments increase the demand for diversity. This also applies to publicly provided goods and services and government regulations. Indeed, it affects almost every area of the public sector: education, health care, pension schemes, child care, housing, labour-market regulation, and so on. The demand for diversity may call for a different approach from governments, allowing more flexibility, and perhaps even a less prominent role for the government in the economy.

Society faces trade-offs when trying to fulfill the demand for diversity. In particular, the uniform public provision of private goods contributes to the equal access for individuals, irrespective of background or income. This protects those who could not afford to buy these private goods if provided on the market. But uniform provision by the state introduces a distortion since it does not satisfy the different needs of different people. More heterogeneity implies more distortion, and calls for a more diverse supply.

The question is whether government are able and willing to provide a more heterogeneous, individualised provision of various private goods, such as education, labour-market insurance, pensions and health care. And, if they are, does more variety in supply crowd out solidarity, or can the government maintain this through supplementary, targeted policies?

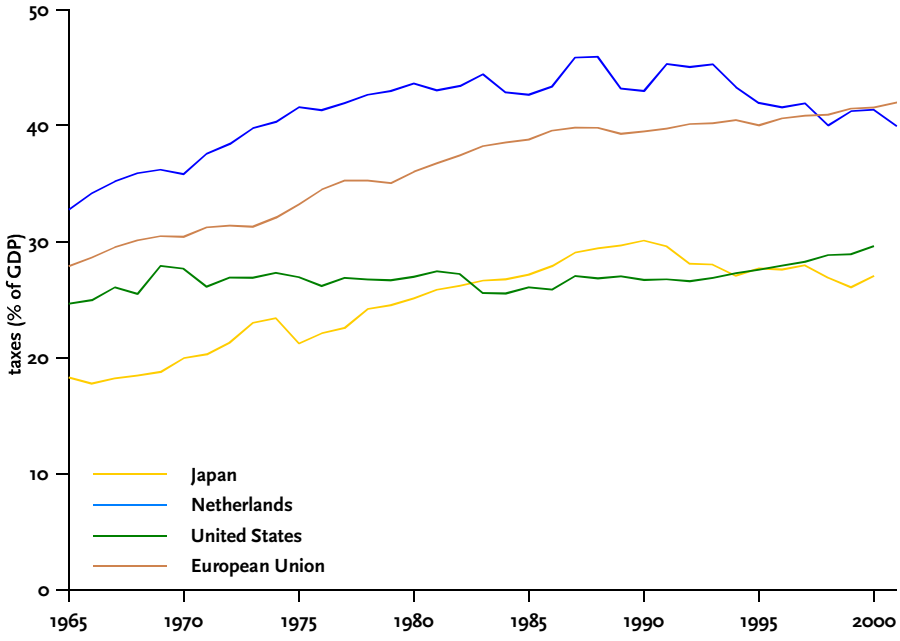
12 Increasing social costs of taxation

Increasing factor mobility raises the social costs of taxation. Capital is indeed becoming increasingly mobile internationally, although impediments to cross-border capital movements remain. Labour mobility is low in Europe and there are no immediate signs that point to a substantial increase. The expanding choice set of individuals nevertheless increases the individual response to income taxes and transfers, thereby adding to the increasing social cost of taxation. This puts a strain on public sectors in Europe.

12.1 Rising tax burdens

The size of the public sector in European countries has been growing ever since the 1960s. This has induced a steady increase in the overall tax burden. Figure 12.1 illustrates that in 1965 the average tax-to-GDP ratio in the European Union was below 28%. Subsequently, it increased sharply to 40% in the mid eighties, reflecting the expansion of the welfare states in Europe. In 2000, the tax burden increased further to around 42% of GDP on average. This development contrasts sharply with the United States where the tax-to-GDP ratio rose only mildly from 25% in the sixties to 29% at the end of the century.

Figure 12.1 Increasing tax burdens in Europe



Source: OECD Revenue Statistics

Rising tax burdens may be accompanied by substantial welfare costs. In particular, taxes usually not only involve a transfer of funds from the private to the public sector; they also change behaviour. Indeed, by changing relative prices, taxes induce people to escape taxes by altering their consumption, labour supply or saving decisions. In this way, taxes distort the allocation of goods and factors. The costs of taxation for the private sector therefore exceed the revenue that accrues to the government. This is the so-called deadweight loss of distortionary taxes. It measures the net welfare costs for society. An increase in these costs raises ceteris paribus the required return on public goods; these goods should compensate the private sector not only for their income loss, but also for the deadweight loss.

The deadweight loss increases in three variables: the tax rate, the elasticity of demand and the elasticity of supply. The elasticities measure the behavioural response to taxes. Hence, they determine by how much an increase in the tax rate erodes the tax base. A large elasticity implies a substantial erosion of the tax base and, therefore, a relatively small tax revenue and a high deadweight loss. The tax rate measures by how much a given erosion of the tax base reduces tax revenue. At a certain rate of tax, higher rates may even reduce overall revenue because the eroding tax base reduces tax revenue by more than the higher tax rate increases it. Important here is the fact that the deadweight loss rises more than proportionally (namely quadratically) in the tax rate. Hence, the increasing tax burden over the last decades has considerably pushed up the deadweight loss (or social costs) of taxation.

This section concentrates on developments in the supply elasticities of capital and labour. These supply elasticities, being components of the deadweight loss of taxation, are closely related to the international mobility of capital and labour. In particular, the easier it is for suppliers to allocate their capital or labour across borders, the higher is their supply response to a higher tax rate. As factor mobility may be increasing in light of the internationalisation of markets and the process of European integration, supply elasticities may increase as well. By increasing the social costs of taxation, this makes it more difficult for countries to raise revenue and, therefore, to maintain a high level of public expenditures. Especially public expenditures that benefit immobile factors (such as low-skilled workers) come under pressure. The reason is that increasing factor mobility provides an incentive for governments to reduce taxes on them in order not to lose these factors to other countries. Tax competition will therefore benefit mobile factors (capital and skilled labour) and comes at the expense of immobile factors.

12.2 An increasing elasticity of capital?

In principle, capital mobility is attractive for the economy. It leads to an efficient allocation of funds across space and across time. Funds flow to those places where investment yields the highest rate of return; and countries can borrow or lend to absorb transitory changes in income so as to avoid abrupt changes in consumption. Capital mobility, moreover, allows investors to diversify portfolios and to share risks.

At the same time, however, capital mobility increases the social costs of taxation. Indeed, the international mobility of capital determines the responsiveness of capital supply to taxes. Perfect capital mobility, for instance, corresponds to an infinite elasticity of supply. By raising the social costs of taxation, capital mobility tends to reduce the possibilities for income redistribution.

The European Union is committed to factor mobility according to the Single European Act of 1986, which ensures the free movement of capital. During the past decades, capital controls have been abolished, and the EMU has been completed. These and other steps, in combination with new (information) technologies, have led to a surge in capital flows. For example, worldwide foreign direct investment has increased from 47 billion US$ in 1982 to 1.2 trillion in 2000 (in current prices). To put this into perspective: in 1982 FDI constituted a mere 0.4 percent of worldwide production; in 2000 it has increased to 3.8 percent.

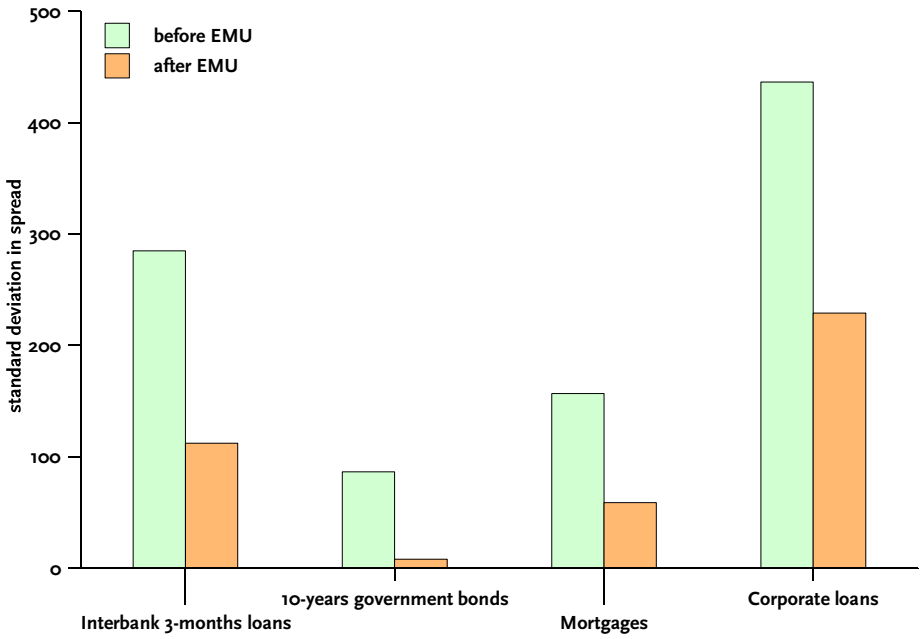
But is this sufficient to conclude that capital is highly mobile? What is the scope for further increases in capital mobility? This section addresses these questions by reviewing the empirical evidence on the basis of several indicators.

How mobile is capital today?

The EMU is generally believed to facilitate the mobility of capital in Europe, especially since it eliminates exchange rate uncertainty. An indicator to assess the impact of EMU is the gap between rates of return on similar assets in different countries. The more mobile capital is, the more investors take advantage of arbitrage opportunities, and the smaller this gap should be. Its limit is zero as mobility goes to infinity. Figure 12.2 displays the standard deviation of four rates of return in the European Union, both before and after 1999, i.e. the pre- and post- EMU period.[51] We see that the variation of interest rates is substantially lower across the board in the post-EMU period. This hints at an increased degree of capital mobility after 1999. In fact, the standard deviation for government bonds is close to zero, implying that governments borrow more or less at the same rate. The standard deviations for the other assets are substantially higher. This partly reflects exchange rate risk, since not every country in the sample has joined the EMU (yet). For example, within the EMU-area the rate for interbank 3-month loans is the same.

[51] The underlying interest rates are mean differentials calculated for the periods 1995 - 1999 and 2000 - 2001.

Figure 12.2 Spread in rate of return for four assets between several European countries and Germany



Source: Adam et al. (2001)

The high standard deviations in figure 12.1 for some assets may partly reflect that arbitrage opportunities are not fully exploited and that impediments to capital mobility have remained important. This is consistent with direct evidence. For instance, the standard deviation of charges for cross-border bank credit transfers, and – equally important – the standard deviation of the delays in these transfers have remained high in the post-EMU period. In an integrated capital market, one would expect that these charges and delays should fall. But, charges have remained on persistently high levels of around €17 on average, and the delays remained at around three days on average.

Feldstein and Horioka (1980, p. 317) provide further evidence for the imperfect mobility of capital. They write: "With perfect capital mobility, there should be no relation between domestic saving and domestic investment: saving in each country corresponds to the worldwide opportunities for investment while investment in that country is financed by the worldwide pool of capital. Conversely, if incremental saving tends to be invested in the country of origin, differences among countries in investment rates should correspond closely to differences in saving rates." They estimate the correlation between national savings and national investment and find a value of 0.90. This suggests that real capital is highly immobile across countries. As Feldstein and Horioka use rather old data from 1960 - 1974, Obstfeld and Rogoff (2000) run a similar regression by using more recent data from 1990 - 1997. Their results imply a coefficient

of 0.64, which is much lower than that found by Feldstein and Horioka. This suggests that capital markets have become more integrated during the past decades. It also indicates, however, that international capital mobility is still far from perfect and that the allocation of capital across space and time is still suboptimal.

Another indicator for capital mobility utilises the idea of international risk-sharing. Internationally diversifying a portfolio brings the advantage that the return on this portfolio becomes less volatile: the total risk becomes lower because unexpected gains and losses cancel out. With mobility of assets, one would expect that investors in different countries hold portfolios that are more or less similar in their composition. This would imply that changes in capital incomes are similar across countries, so that the correlation of consumption would be stronger than the correlation of production. Table 12.1 shows the average coefficient of correlation between the United States and 20 other rich countries for the growth rates of gross domestic product (GDP) and consumption per capita for three 15-year periods. The table reveals that the coefficient for GDP in the last period is substantially higher than in the first period. This might reflect a better integration and more synchronisation of economies.[52] The correlation coefficient for consumption per capita has hardly increased, however. Moreover, the correlation of consumption per capita is smaller than that of GDP, in both the second and third periods. This suggests that international capital markets perform the function of risk sharing rather poorly.

Table 12.1 Risk sharing? Average coefficients of correlation between the United States and 20 other OECD countries

	Gross Domestic Production	Consumption per capita
1956-1970	0.24	0.30
	(0.25)	(0.25)
1971-1985	0.44	0.05
	(0.25)	(0.27)
1986-2000	0.41	0.31
	(0.34)	(0.33)

[1] The results are based on two-year averages of annual growth rates. Between brackets is the standard deviation around the mean.
Source: own calculations based on Heston, et al. (2002)

[52] Note that the correlation coefficient is the highest in the second 15-year period, when countries faced important common supply and demand shocks (the oil crises in 1973 and 1979 and the tight monetary policies in the early eighties).

This latter finding is consistent with the observation that portfolios of investors still show a strong 'home bias' (i.e. an overrepresentation of national assets relative to foreign assets). This home bias has decreased somewhat since the start of the EMU. For example, pension funds as well as insurance companies hold a higher percentage of foreign equity in virtually all member states since the late 1990s. Yet, the home bias in asset portfolios is still important (see Adam et al., 2002).

Why is capital so immobile?

One explanation for imperfect capital mobility is asymmetric information between domestic and foreign investors (Gordon and Bovenberg, 1996). Indeed, although some information in capital markets can be transmitted digitally, a lot still requires face-to-face contact. To illustrate this, Table 12.2 shows some estimates presented in CEPR (2002) on the impact of distance on economic interactions in capital markets. The estimates express equity flows and foreign direct investment at different distances, relative to the flows at a distance of 1000 km. We see that distance substantially reduces equity transactions and, to a lesser extend, FDI. Apparently, distance matters for capital mobility.

Table 12.2 The impact of distance on cross-border capital flows

	Equity flows	Foreign direct investment
1000 km	1.00	1.00
2000 km	0.55	0.75
4000 km	0.31	0.56
8000 km	0.17	0.42

Source: CEPR (2002)

Another explanation for limited capital mobility is imperfect substitutability of assets. Gordon and Varian (1989) argue that investors will allocate their funds in various countries in order to diversify the risk in their portfolio. This is especially important if countries are highly specialised, which exposes them to different risks. Hence, increasing specialisation may actually reduce the substitutability of assets from different regions and thus reduce the mobility of capital.

Obstfeld and Rogoff (2000) put forward yet another explanation. Instead of focussing on frictions in international asset markets, they claim that transaction costs in international goods markets explain both the Feldstein-Horiaka puzzle and the home bias in portfolios. In particular, OECD countries do not show large fluctuations in current account surpluses (or deficits), even though the international trade in financial assets is relatively free. The reason is that high transport and transaction costs limit the potential increases in exports or imports. As a

result, the mobility of (real) capital depends on barriers to international trade in goods and services.

Prospects for the future

That capital mobility is still imperfect is partly the result of frictions in asset markets and of transport and transaction costs in goods markets. It implies, however, that there is a potential for capital mobility to increase further in the future. The European Union has the ambition to obtain that. For instance, the persistently high charges and delays in international bank transfers have attracted the attention of the European Commissioner Frits Bolkestein, who has urged banks to bring rates more in line with costs. Moreover, the European Commission has launched an action plan to stimulate the integration of European capital markets by removing technical and regulatory barriers to financial trade.

The potential for increasing capital mobility in the European Union also emerges from studies measuring the responsiveness of capital flows to tax rate differentials. Altshuler et al. (1998) take two snapshots of this responsiveness for United States outward investment. They find that a 1%-point increase in the effective tax rate in a foreign location causes a decline in FDI of 1.5% in 1984 and 2.7% in 1992. As they note, this is consistent with increasing capital mobility. De Mooij and Ederveen (2003) explore a similar question in a meta-analysis on the tax rate elasticity of FDI. They find that the responsiveness of FDI to taxes is indeed higher for studies using more recent data. Moreover, the study reveals that there is substantial scope for higher capital mobility in the European Union. In particular, studies dealing exclusively with the location of investment in US states report elasticities that are more than three times higher than studies that focus on international locations, including locations in EU states.

12.3 An increasing elasticity of labour supply?

As with capital, the elasticity of labour supply depends on the international mobility of labour. A high elasticity is associated with high welfare costs of taxation and, therefore, less redistribution. However, the free movement of workers may be attractive. It contributes to an efficient allocation of labour across regions and countries. Within and among (European) countries are important wage differences. If workers were to exploit these differences, this would increase flexibility and, more generally, add considerably to economic efficiency. Moreover, migrating workers may contribute to the economic dynamics of innovation and technical change since they bring new skills, ideas and contacts. Moving to a different town or country also entails costs. These are less visible than the economic gains of higher income and increased productivity. Leaving friends and family and adapting to a new environment are not taken lightly by everyone.

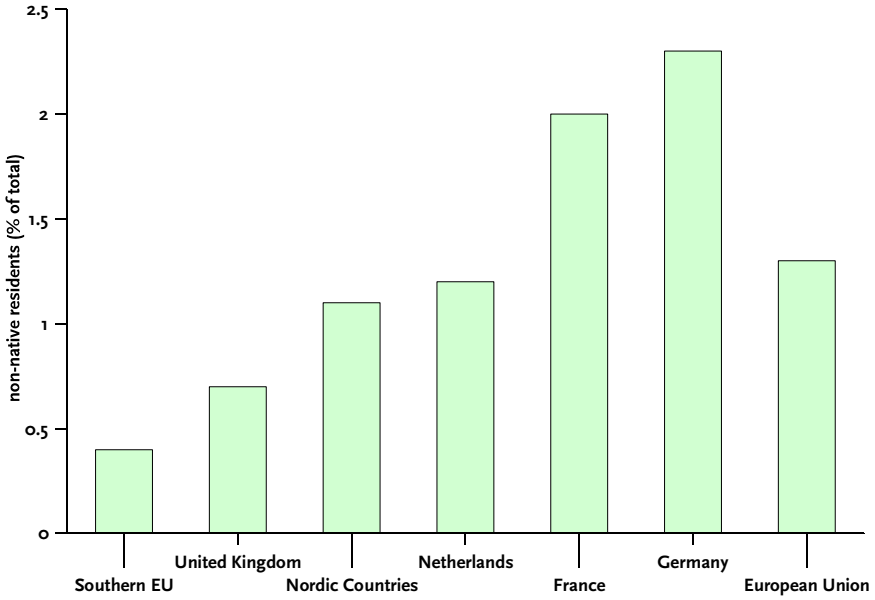
How mobile is labour in the European Union?

In 1999 some 2.5 million European citizens resided in a foreign EU member state. This is around 1.7% of the working population. Each year, 0.2% of the working population moves towards another country within the Union. These figures are low compared to other industrial countries. For instance, migration across US regions of similar size is more than five times greater than in the European Union (European Commission, 1997). Also compared to previous periods, labour mobility in Europe is low. For instance, during the 1950s and 1960s more than 12 million people moved from Southern Europe to Northern European countries.

Not only international labour flows across the member states of the European Union, but also regional migration flows within the member states are lower than in the United States. Indeed, whereas migration across similarly sized American states accounts for about 4% of the population, interregional migration within the five largest EU members is only 1%. This is of the same order of magnitude as international migration in the European Union.

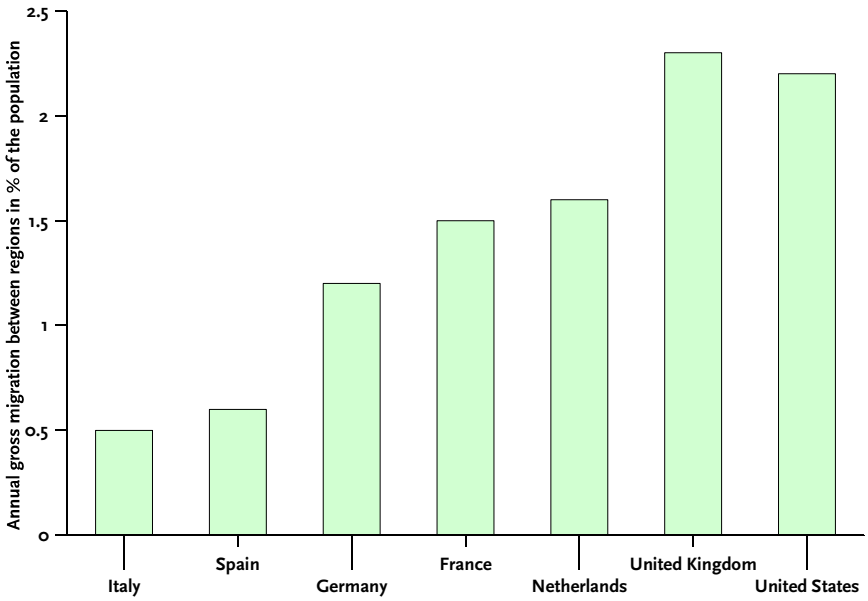
Immigration rates differ markedly, however, among European member states. This is illustrated in figures 12.3 and 12.4. Figure 12.3 shows the total number of non-native residents in a country as a percentage of the total population in 1998. It reveals that the number of immigrants from other EU countries is especially low in the Southern member states, while it is relatively large in France and Germany. Figure 12.4 shows that interregional immigration in Southern countries (Italy, Spain) is less than half as large as in Northern countries (Germany, France, Netherlands, United Kingdom).

Figure 12.3 Non-native EU citizens in various countries in 1998



Source: Trends in international migration, OECD, SOPEMI 2002

Figure 12.4 Interregional labour mobility in a selection of EU countries in 1999



Source: Trends in international migration, OECD, SOPEMI 2002

Modern theory of migration explains flows of labour between regions from the difference in expected income between the home region and the destination region. Accordingly, a measure for labour mobility is the elasticity of labour flows with respect to wage and unemployment differentials in Europe. Numerous empirical studies have estimated these elasticities. Ederveen and Bardsley (2002) reviewed these studies and performed a meta analysis using 23 of them. They find that the majority of studies report positive but small migration elasticities for wage differentials. The median elasticity is 0.33; that is a 1% higher wage in the receiving country compared to the sending country raises gross migration by 0.33%. Most studies report negative but small elasticities for unemployment differentials. Ederveen and Bardsley report a median elasticity of -0.09; that is, a 10% higher unemployment rate (e.g. from 10% to 11%) in the receiving country compared to the sending country reduces gross migration by 0.9%. These findings confirm that the responsiveness of labour in the European Union to economic incentives is low, compared, for example, to the United States. To illustrate, the elasticity of immigration with respect to wage differentials in Eichengreen (1993) is about 25 times larger in the United States than it is in the United Kingdom, and even more compared to Italy. With respect to unemployment differentials, Bentivogli and Pagano (1999) report that US immigration is more than ten times as responsive as European immigration.

Why is labour so immobile?

Low labour mobility may originate in declining incentives to migrate (i.e. smaller wage and unemployment differentials). The data, however, reveal that unemployment differentials are highly persistent across regions while regional income disparities have only fallen to a small extent. Hence, declining incentives seem to offer an insufficient explanation for the low migration rates.

An alternative explanation for low labour mobility is the cultural and linguistic difference between European countries. Again, this is not entirely convincing. It does not explain why labour mobility is much lower than it was during the 1960s. Furthermore, the study by Ederveen and Bardsley (2002) shows that interregional labour mobility in Europe is not significantly more responsive to wage and unemployment differentials than is international labour mobility. Hence, borders do not provide a satisfactory answer to the question either.

Braunerhjelm et al. (2000) point to three other possible explanations for the low mobility of labour in the European Union. First, it may be due to policy differences, especially in regional, housing and labour market policies. For instance, unemployment protection legislation in Southern European countries may prevent a worker from moving into another job in a different region. Similarly, high transaction costs in housing may prevent people from moving to another place of residence (Van Ommeren and Van Leuvenstein, 2002). A second explanation for low labour mobility is high unemployment *levels*. Indeed, some empirical studies find that the high and persistent levels of aggregate unemployment in many European countries have reduced the willingness of Europeans to look for jobs elsewhere. A final explanation for the low mobility of labour in Europe has to do with the preference for home amenities. Indeed, migration involves substantial non-monetary costs. When deciding about migration, people trade off the expected monetary benefits of migration against the monetary and non-monetary costs of moving. The non-monetary costs of moving may have gained importance, since the overall level of welfare has increased. Hence, the home country's amenities can be seen as a luxury good: its demand increases with income. If migration in the European Union is low because of preferences, the prospects for increasing mobility are small.

Prospects for the future

Low labour mobility in Europe is of great concern to European policy makers for a number of reasons. First, increasing labour mobility would contribute to declining regional income disparities, which is an important objective of the European Union. Second, free labour movements would imply a more efficient allocation of labour across space, with associated welfare gains. Indeed, labour mobility could be part of the solution to reduce the persistently high unemployment level in the European Union, and especially the concentration of unemployment in some regions. Finally, inspired by Mundell's theory on optimal currency areas, the completion of EMU has put labour mobility high on Europe's agenda. In the EMU,

countries can no longer absorb asymmetric shocks by means of decentralised monetary policy. Mundell therefore argues that labour mobility should substitute for this as an alternative adjustment mechanism. Decressin and Fatas (1995) have shown, however, that labour mobility does not function as such in the European Union: an adverse labour-market shock in EU countries is typically not absorbed through emigration of people to other regions, as it is in the United States, but through a decline in participation. Thus, asymmetric shocks in Europe have adverse consequences for EMU countries.

For these reasons, the European Union aims to increase labour mobility across countries. This will be a difficult task. A necessary (but not sufficient) condition for labour mobility to rise seems a policy of three components. First, an elimination of the barriers to cross-border labour mobility (e.g. in pension systems, mutual recognition of qualifications, and the like (see SER, 2001)). Second, national institutions that form impediments to mobility should be reformed (e.g. in housing, regional policy and the labour-market institutions). Finally, a policy to reduce the overall unemployment rate is likely to encourage labour mobility.

A boost for migration follows from the next enlargement of the European Union. Regional income disparities will increase substantially in the enlarged European Union. This will induce an inflow of immigrants to Western European countries. Furthermore, it is conceivable that an international market for higher education may emerge, which could provide an impetus for the migration of high-skilled workers.

Other effects on the elasticity of labour supply

The elasticity of labour supply depends on more than international labour mobility; also other social-economic factors are important. In particular, the growing importance of part-time work, temporary contracts, and more flexibility regarding labour relations has increased the choice set of workers. Indeed, their choice is no longer between inactivity and a permanent full-time job. Instead, workers can decide to work shorter or longer hours, opt for a sequence of temporary jobs with different employers, or take temporary leave. Accordingly, the number of hours worked by individuals is becoming more responsive to after-tax rewards and, therefore, to marginal tax rates. This holds especially for (low-skilled) females. Labour supply has thus become more sensitive to income tax rates, increasing the costs of taxation. Similarly, income transfers may have larger effect on individuals than before. A common trend in OECD countries is, for example, that an increasing share of disability benefits goes to young females. Understandably, a disability benefit is a better option for them than it was and is for a male breadwinner. Individualisation may thus have raised the costs of income taxes and income transfers. This makes it harder for governments to levy income taxes and give income transfers to support the relatively poor.

12.4 How will governments respond?

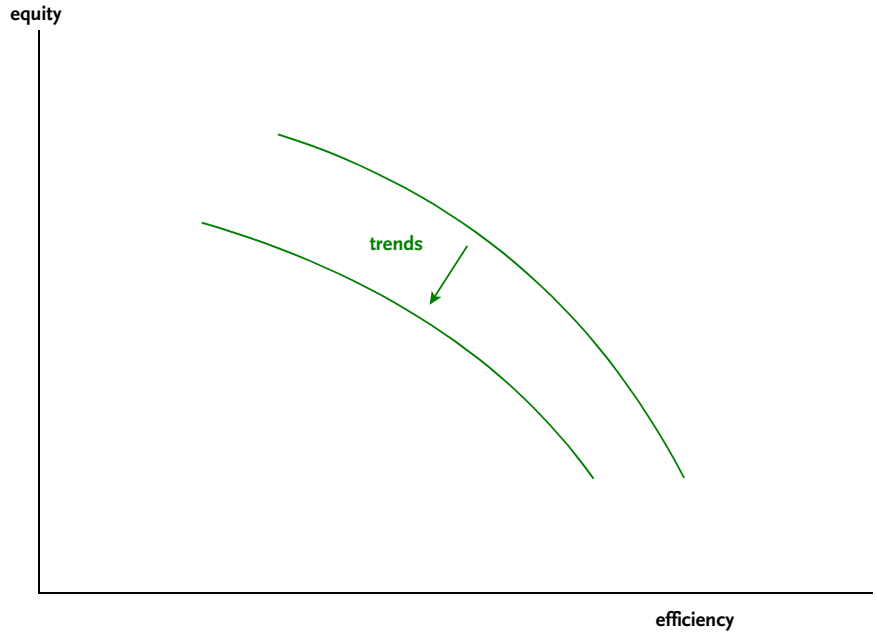
For capital mobility to increase, barriers to trade in assets and good markets must be torn down further. An increase in labour mobility also requires that cross-border barriers fall. The impact of this on the mobility of labour is probably small, however. Low migration flows in Europe largely reflect strong preferences for home amenities. Even though little is known about the mobility of high-skilled workers (versus low-skilled workers), it seems likely that in a more integrated world these workers will become more mobile, especially when an international market for higher education emerges. Higher mobility of capital and perhaps (high-skilled) workers will increase the social costs of taxation. This reinforces the increase in the cost of taxation that results from individualisation as well as increasing tax rates associated with higher public spending. Higher costs of taxation make it more difficult for governments to provide income support to those that are relatively poor and immobile.

13 Public sectors in Europe: a key uncertainty for the future

In response to the growing pressure on the public sector, governments may take alternative routes. The choices will depend on social preferences and the functioning of alternative institutional frameworks. Governments are challenged to develop institutions that yield the best combination of equity and efficiency. Whether they will obtain this remains a key uncertainty.

The four trends, that have partly materialised already, will put pressure on public sectors in the coming decades. Ageing and Baumol's law will increase public expenditures. This is reinforced by the deeper divide between skills if society will not accept increasing inequality. At the same time, increasing factor mobility and labour supply flexibility will make it more difficult for governments to raise enough revenue to finance these expenditures. Moreover, increased social heterogeneity exacerbates the mismatch between supply and demand for publicly provided goods. Figure 13.1 illustrates the increasing difficulty for governments by means of a shift in the equity-efficiency trade-off. As a result of this, governments face a difficult choice: retreat or reform.

Figure 13.1 Four trends shift the trade-off between equity and efficiency inwards

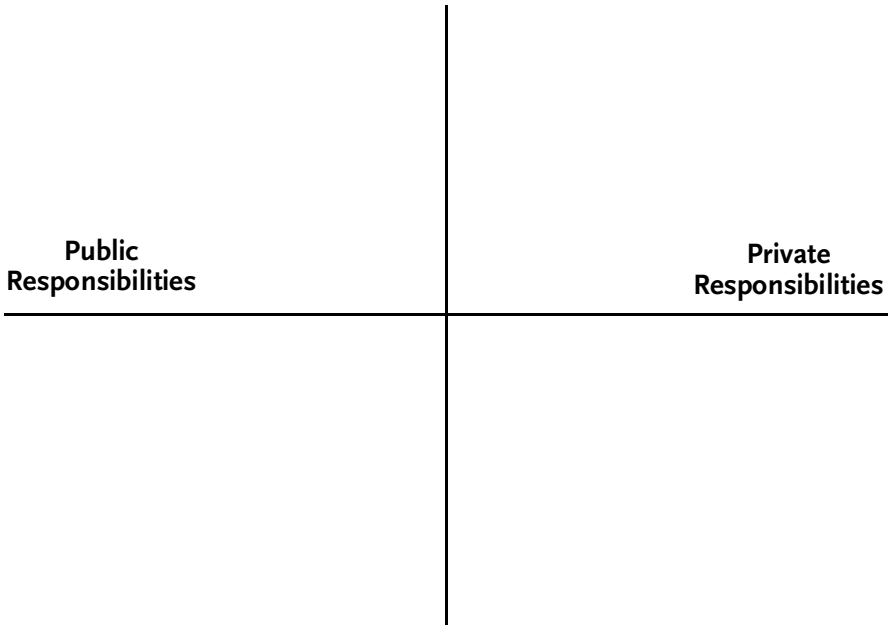


Moving along the trade-off: uncertainty in preferences

How do governments deal with this increasingly difficult dilemma? Future preferences with respect to equity and efficiency are hard to predict and form a key uncertainty for our scenarios. Figure 13.2 illustrates two extreme positions. On the left-hand side are societies that aim to

maintain an equitable distribution of resources, with an important role for public sector. The inevitable rise in the level of public expenditures to maintain equality comes at the expense of less efficiency. On the right-hand side are societies that put a strong emphasis on individual autonomy and delegate many responsibilities to the private sector. By trimming the public sector, such a society tends to reduce social cohesion.

Figure 13.2 Choosing between public intervention and private incentives



Moving the trade-off: uncertainty with respect to institutions

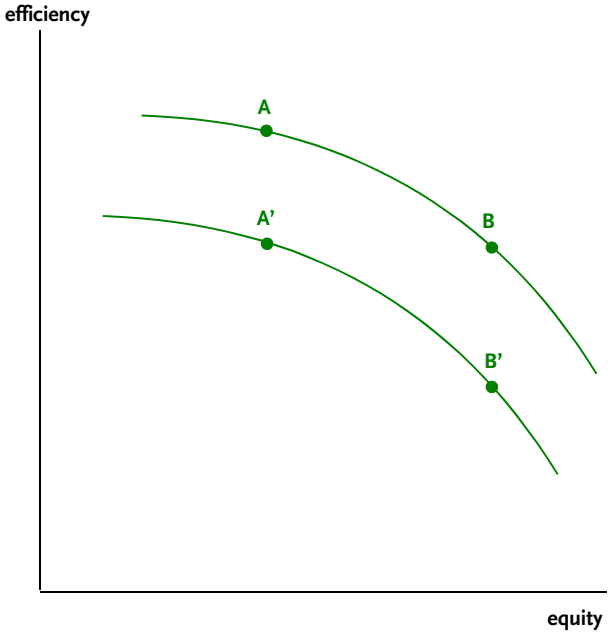
The choice between public intervention and private initiatives is not sufficient to assess, however, the combinations of equity and efficiency. There is also genuine uncertainty about the performance of different institutional designs. Indeed, both markets and governments fail. Assessing the optimal mix between private and public responsibilities is a difficult task and depends on the uncertain magnitude of the market failures and government failures, respectively.

Figure 13.3 illustrates this uncertainty. It reveals that the trade-off between equity and efficiency can have different positions. A society that assigns a high value to equity may leave many responsibilities with the government. This tends to hurt efficiency, especially if government failures are large. However, different public policies have different costs in terms of efficiency. Some welfare state provisions provide important economic functions, e.g. coping with market failures in insurance markets, alleviating hold-up problems, and removing

distortions in capital markets (see e.g. CPB, 1997a). Other policies are less efficient in their aim to reduce inequality, but nevertheless are difficult to reform due to vested interests. Hence, the same level of equality may be achieved at different costs in terms of efficiency (compare points A and A' in figure 13.3). The challenge for societies is to arrive at point A.

Similarly, if the government retreats, then society is likely to become less equitable. But the absence of appropriate government intervention (e.g. in insurance markets or education) may hurt welfare due to market failures. With more public responsibility, the same level of equality can be combined with a higher level of efficiency (compare points B and B' in figure 13.3).

Figure 13.3 The performance of institutions



How will European governments respond to the growing pressure on the public sector and succeed in achieving their ambition of Lisbon? Will they be able to improve the trade-off by increasing the effectiveness of public policies and raising the productivity of the public sector (i.e. arrive at the frontier on the line AB)? Or will they respond by moving along the trade-off, from equity towards efficiency (i.e. move from A or A' towards B or B')? Part III discusses alternative scenarios in which alternative routes are explored.

14 Policy options: retreat or reform?

The pressure on the public sector will grow. Governments must choose: just a retreat or an innovative reform. An orderly retreat is not easy; a fundamental reform is difficult as well. What are the options for reform? We discuss a number of alternatives. A case study on disability insurance makes the ideas more concrete.

14.1 Retreat

Retreat of the government typically involves a move along the existing trade-off between equity and efficiency. For instance, a lower tax burden calls for lower public expenditures, which are often (but not always) intended to help the poor, especially when they refer to welfare state provisions. Hence, cutting expenditures is likely to raise income inequality. Similarly, increasing labour market participation among younger and older generations can be obtained through reforms of labour market institutions. Such reforms, however, face a trade-off between equality and participation, as we illustrated in chapter 8.

Retreat not only will entail more income inequality, but also runs the risk of reducing economic efficiency. One reason is that the system of social security plays a role in insuring income risks that cannot be provided by the market. It allows people to undertake risky investments with a potentially high rate of return, such as education, starting a business, or buying a house. If the government would only retreat, the development of private markets will not always materialise or will suffer from market failures. Therefore, governments that choose to retreat should think about a different role to deal with market failures and maintain an eye on the public interest. For example, regulations may be necessary to avoid the misuse of excessive market power, to remove entry barriers, or to increase transparency for consumers. It may not always be easy to master this new role and adequately deal with market failures when leaving supply of services to the market.

Hence, a simple retreat by the government is probably not only difficult to achieve in light of equity concerns, but may also hurt efficiency by exacerbating market failures. Therefore, more challenging is probably to think of reforming institutions that combine equity and efficiency. Thereby, partial retreat of government responsibilities may be part of a reform.

14.2 Reform

Improving the trade-off between equity and efficiency requires innovative policy reforms. Below, we give a non-exhaustive list of reforms that may relieve the burden on the public sector, without reducing equality. In many cases, there is a key role for information (see the Box *The crucial role of information in economic policies*); governments need to refine their current

instruments. In discussing the options for reform, we remain brief and refer, where possible, to other research for more in-depth analysis.

The crucial role of information in economic policies

A strong feature of markets is their efficient information-revealing mechanism. By their market behaviour, producers and consumers reveal information about their marginal rates of transformation and marginal rates of substitution. Markets are thus able to produce prices that reflect relative scarcities in the economy. This information-revealing mechanism is the key to the efficiency of markets.

When governments intervene in a market (e.g. to correct for market failures or out of concern for equity), they have to obtain information themselves. This can be problematic as private agents may lack an incentive to provide necessary and adequate information.

Information problems are behind many problems with public sector involvement in the economy. Take distortionary taxation. A non-distortionary tax would be a tax on talent, which is exogenous to individual. The problem for the government is that it does not observe talent. Therefore, it is forced to use a proxy for that, such as current income. But income is not exogenous, but endogenous: individuals can decide not to participate or reduce the number of hours worked. From this derives the distortionary effect of income taxes and income transfers (see Mirrlees, 1971).

Information is also at the heart of principal-agent problems, which often render public administrations inefficient. Governments are unable to get the necessary information about production efficiency. Bankruptcy is usually impossible for public organisations, even if they produce inefficiently. Governments thus need to find other, non-price measures, often proxies, to judge the efficiency of organisations in the public sector.

Governments try to limit the informational deficit by using various sources of information. Collecting information is costly, however. For instance, to collect and use information more effectively, governments may have to delegate responsibilities to decentralised levels of the administration, that are closer to the clients, or independent, specialised public bodies. However, agents at decentralised levels may have few incentives to perform their tasks efficiently, especially in light of the information asymmetries with their principals. In addition, collecting information may meet opposition. This may originate from concerns for privacy, which will inevitably be impaired (see also Bovenberg and Teulings, 1996).

Efficient tax systems

Taxes become more distortionary. There are two directions for policy reform that may reduce the distortionary impact of the tax system. The first way is tax coordination. This may help to avoid the downward pressure on taxes from competition among governments. In particular, increasing capital mobility may intensify tax competition, thereby putting pressure on governments to reduce corporate income taxes. Tax harmonisation, perhaps through a minimum rate, would be an effective way to avoid downward pressure on corporate taxes. Similarly, exchange of information among countries may help to tax the return on capital at the level of the receiver of this capital income. In this way, the European Union could support the efficiency of tax systems in its member states (see also chapter 7).

A second way to improve the efficiency of taxation is by broadening the tax base. Leaving part of income untaxed or taxed at a relatively low rate is one reason for the distortionary effects of taxation. For example, pension savings and investments in owner-occupied housing are often implicitly subsidised, which distorts the composition of savings as well as the decision to invest in either physical or human capital. Similarly, the deductibility of interest expenses by corporations distorts the financial structure of companies and erodes the base of the corporate income tax. In broadening the tax base, governments can also rely more on the benefit principle of taxation, which entails that the prices for public services reflect their relative scarcity. An appropriate application of the benefit principle is desirable from an efficiency point of view because it does not impose distortions in the economy. Road pricing is one viable option, where the benefit principle has not yet been applied. Its implementation is nowadays technically feasible. Also, opportunities to tax rents can be exploited better. For instance, when governments regulate a particular industry, e.g. because of environmental concerns, this tends to create scarcity rents. Without taxation, these scarcity rents are left in the private sector. It would be more efficient to tax away these scarcity rents and reduce taxes elsewhere. In this sense, revenue-raising instruments to regulate industries yield important benefits compared to non-revenue-raising instruments (Goulder et al., 1997).

Alleviating the burden of ageing

Redistribution from young to old, as part of a pay-as-you-go system, may crowd out redistribution between rich and poor. Without policy changes, ageing is expected to raise the tax burden on the young generations, thereby exacerbating already existing tax distortions. Chapter 9 discussed some options. One is to encourage savings. For instance, countries can move away from public pay-as-you-go systems towards funded systems, or governments may create a prolonged surplus on their budget. Another option is to exploit human capital better by increasing labour-market participation of the elderly. For example, countries may raise the retirement age. This would increase contributions and decrease expenditures on old-age pensions, thereby relieving the burden on the young.

In most options, people who retire see their income decline. They have to contribute more to (their own) old-age pensions. One can argue that this is fair for two reasons. First, the burden associated with the temporary ageing of the population is better shared across generations, rather than primarily borne by the young. Second, after the Second World War public systems were introduced to support the elderly, who most often lacked resources for a secure and decent old-age. Hence, age used to be a good indicator for poverty. Nowadays, being old is no longer the same as being poor. Governments can thus try to increase contributions from rich (soon to be) retirees so as to maintain support for elderly with low incomes.

Targeted policies and stronger private incentives

One system for income redistribution would be to provide a basic income to all individuals above a certain age, without any supplementary provisions. A flat tax on each euro earned could be used to finance the basic income. This system has a certain appeal: it is simple and avoids all the informational problems for the government. Indeed, it makes no distinction among people when providing income support.

A basic income, however, has one major problem: if it maintains high enough to sustain the income level of current benefit recipients, it is extremely expensive. The marginal tax rate on every euro earned should therefore be high in order to finance a basic income (Gelauff and Graafland, 1994). Therefore, governments *have to* rely on more targeted measures to provide income support. They require information on verifiable indicators which reflect the need for income support. Examples are current income, the position on the labour market, the living conditions, and the number of children. Targeting income support to those in need substantially reduces the costs and thus allows for lower taxes.

Governments do not always exploit information fully to target their policies. With health care, education, pensions and many areas of social security, governments often deliberately do not differentiate among individuals. The reason is that they aim for equal access to public services, irrespective of individual characteristics. Thereby, governments run the risk of a bloated level of public expenditures and, accordingly, a high tax burden. The equity-efficiency trade-off thus takes the form of a dilemma between equal access and a low tax burden. More targeted policies in combination with more private incentives may allow for better combinations of equity and efficiency. Introducing prices to regulate demand for scarce public services helps to improve efficiency, whereas targeting policies to those in need for support helps to maintain equity.[53] To reconcile conflicting objectives, governments must extend their set of instruments. Particularly, stronger private incentives and targeted income support – in one form or another – allow a reduction in public expenditure without reducing real income of the poor and needy.

Let us consider a few examples. Housing policy in the Netherlands aims to supply housing to people with low incomes at an acceptable price. To that end, the Dutch government regulates housing rents. These rents are substantially below market prices (Ter Rele and Van Steen, 2001). A number of subsidised houses are, however, occupied by people who earn a medium or high income. Hence, the regulation of housing rents is a poorly targeted instrument to meet the public goal of providing housing support to people with low incomes.

By extending own-risk in social insurance (for some groups), the government could increase private incentives to reduce moral hazard. To illustrate, unemployment insurance may partly rely on individual compulsory saving accounts, based on a funded system, rather than rely on near-full insurance. An individual saving account (which can be linked to old-age pensions)

[53] This point is closely linked to and extends the earlier discussion of the benefit principle in taxation.

introduces more incentives for unemployed individuals to search for a new job. Solidarity in the system can be maintained with those who become long-term unemployed and who do not have a positive account on which to rely.[54] A system with individual accounts would make lifetime income, instead of annual income, the relevant indicator for determining the need for public support.

In the same spirit, subsidies for higher education can be replaced by insured loans (CPB, 2003b). The primary aim of these loans is to alleviate the problems with capital-market imperfections, not with the low income of students at a young age. Subsidies to higher education can be limited to those individuals who are unable to benefit from their education in terms of higher future income. Such a system would better correspond to the idea of targeting support to those with a low lifetime income. Loans are primarily used to solve capital-market imperfections.

Targeted income support combined with activating policies

When considering more targeted income support in order to prevent too high a tax burden, one should care about exacerbating the problem of the poverty trap. The existing cumulation of measures targeted at low incomes already imposes a high marginal tax rate on work for many people with low incomes. Hence, they have few incentives to escape from their current position. More targeted income support can make things worse by further contributing to the poverty trap. High marginal tax burdens on low incomes appear in most European countries.

Combining targeted income support with active labour-market policies (for those with poor labour market perspectives) may confine the poverty trap at the lower end of the income distribution. Also here, the government needs to extend the set of instruments. Active labour-market policies, such as efforts to reintegrate the unemployed into the labour market via job search assistance and schooling, are found to raise participation without introducing more inequality (see chapter 8). Since not every type of active labour market policy is effective, this calls for careful design and systematic evaluation.[55]

Incentives in the public sector

The government (being the principal) often relies on decentralised public administrations (being the agents) to implement its policies. For instance, local governments generally implement policies in social assistance or housing subsidies. Separate public institutions are usually involved in the implementation of social insurance. Decentralisation is important because it allows for a better use of information about diverse local needs and circumstances.

[54] For those with good labour market perspectives own-risk is extended, but not for those with poor perspectives.

[55] See also OECD (2001d). They conclude from the few available evaluations that some inexpensive policies, like job-search assistance, are among the most cost-effective for a substantial number of unemployed.

In implementing its policy, the central government often prescribes various rules and interferes with the decentralised administrations. Still, decentralised administrations have considerable discretion in fulfilling their tasks. The central government often suffers from a lack of information to adequately monitor these administrations. Thus, some public organisations can produce inefficiently or engage in activities that lie outside their core business. To better monitor public administrations, the government may adopt certain alternative instruments.

First, instead of interfering with the administrations' implementation, it could shift (financial) responsibilities towards them. Accordingly, it could steer on the basis of output performance indicators. By making the budget of administrations dependent on their output performance, public bodies gain better incentives to perform well. Vollaard (2003) for instance discusses the ins and outs of using performance indicators in case of the police services in the Netherlands.

An alternative is to use benchmark studies to monitor the performance of administrations. By using the best-performing organisation as an example for the others, the central government may improve the incentives for administrations to work efficiently. The government may engage in naming and shaming when performance is good or bad, may fine a bad-performing public administration, or may invoke some sort of penalty on its management.

A third option to improve the efficiency of public bodies is to introduce competition. In education, for example, the government may provide vouchers to parents instead of directly financing schools. Parents can use the vouchers to select the school they prefer. Schools then have to compete for children, which provides incentives to perform according to demand. Competition may also be introduced by switching from public production towards outsourcing of public tasks to private companies. For instance, public transport, waste disposal, energy supply and so on, can be provided by private companies. Competition or potential competition can provide incentives for these companies to perform efficiently. The government should remain responsible, however, to safeguard the public interest.

Note that improving the efficiency of public organisations will not always reduce the budget. It can alternatively raise output at the same or an even higher budget. The public, however, will get more value for its money.

Support innovation

Compared to the United States, the member states in the European Union lag behind in the application of ICT in services sectors (see chapter 10). Hence, the potential to improve productivity is available. Unleashing this potential would not only raise overall economic growth, but could also help to reduce the pressure on the public sector, especially in public services. In fact, productivity in private and public services has progressed rather slowly in recent decades. For some of these services, applying ICT could potentially change that and break with Baumol's law. Productivity increases give governments the possibility to reduce the number of workers in

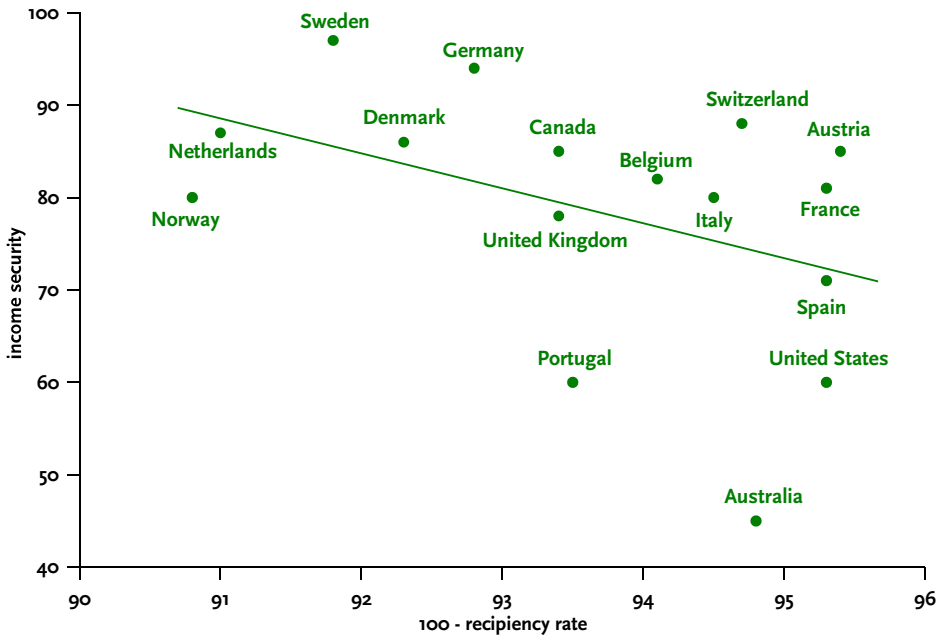
(parts of) the public sector, while maintaining the quality and quantity of publicly produced services. There is a role for public policies to support innovation to the extent that it creates positive externalities.

14.3 Reform: A case study on disability insurance

In many OECD countries, expenditure on disability benefits as a fraction of GDP rose in the nineties. In all countries, it is a factor two or more larger than expenditure on unemployment benefits. The increase in expenditures is related to developments that have been discussed in previous chapters. *Ageing* is a contributor, since older workers are more likely to become (partially or fully) disabled than younger workers. Moreover, more claims on the disability insurance involve mental and psychological problems, while the inflow rates for women under the age of 45 are significantly higher than for men in the same age group. Finally, the incidence of disability is relatively high among low-skilled workers. This reflects partly the nature of their work and their position on the labour market, which tends to deteriorate as a result of *technical change*.

Disability schemes have two objectives. First, they aim to ensure that the disabled take part in social and economic life. Accordingly, disabled people should be encouraged to participate on the labour market, if possible, with or without income support. Second, they aim to provide income security to those that have no capacity to work. Reconciling these two objectives is not easy. Figure 14.1 shows for various OECD countries the combination of income security and participation, where the latter is defined as the share of the labour force that does *not* receive a disability benefit. Figure 14.1 suggests a specific form of the trade-off between equity and efficiency. Countries that offer a relatively high income security tend to pay relatively more disability benefits and have relatively low rates of participation. Hence, high disability benefits go hand in hand with a high number of beneficiaries. Figure 14.1 also shows important differences across countries. The Netherlands, Denmark, Switzerland and Austria offer a similar degree of income security but differ significantly in the benefit recipient rates. Figure 14.2 shows that countries with a generous disability scheme also feature high spending. Indeed, Norway, the Netherlands, Sweden and Denmark spend more than 3% of GDP on disability benefits, whereas countries like Australia, the United States, France and Portugal spend 1.5% or less.

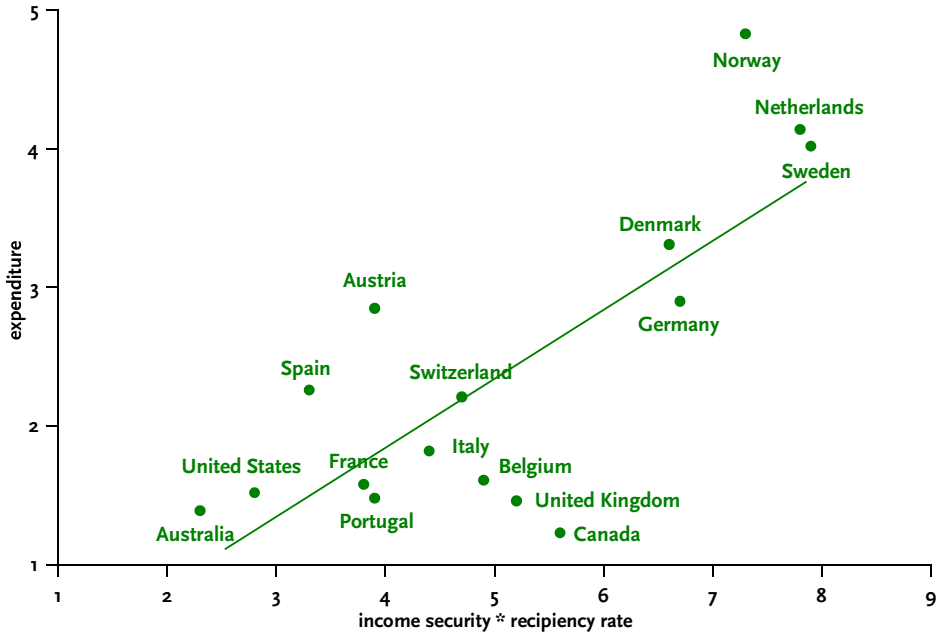
Figure 14.1 Disability insurance: Income security versus participation on the labour market



Source: OECD (2003a)

Income security is measured by the relative personal income of disabled over non-disabled. The recipiency rate is the number of people that receive a disability benefit relative the potential labour force.

Figure 14.2 Disability insurance: generosity and expenditure



Source: OECD (2003a)

Expenditures include disability benefits, sickness cash benefits and work injury benefits.

Expenditure on disability can be kept under control by means of an across-the-board reduction in disability benefits. This, however, effectively eliminates insurance against the risk of becoming disabled. Is there an alternative, more innovative policy to reduce expenditure on disability benefits, without abolishing the insurance altogether.

Better targeting ....

Every insurance has to deal the problem of moral hazard. The better income losses are insured, the higher is the probability that losses (are claimed to) occur. More specifically, one form of moral hazard derives from the fact that employers and employees can affect the probability of becoming disabled. When the income loss of disability is fully insured, both employers and employees will act more carelessly; their *efforts* to minimise the probability of becoming disabled are not optimal. Another form of moral hazard is that *claims* are awarded that should not have been. With disability insurance this is an important concern; survey data shows that one in three benefit recipients does not classify himself as disabled (OECD, 2003a).

A standard response to moral hazard is to introduce own-risk. In that case, the government insures only part of the income loss. This gives employers and employees a direct incentive to control the probability on disability, e.g. by improving safety and health conditions at work. Besides, it reduces the incentive to file dubious claims. Only if more, better information about claims and efforts becomes available, can governments reduce the problem of moral hazard and, thus, recipient rates without diminishing income security.

.... on observable characteristics

One way to reduce moral hazard is to differentiate contributions between employers. If working at a firm or in a sector has an above average probability of becoming disabled, contributions should be higher. This removes cross-subsidisation from low-risk firms to high-risk firms, thereby enhancing the efficient allocation of goods and factors. Moreover, it gives employers a more direct incentive to invest in working conditions. When differences in probabilities across jobs are not known to public insurers, experience rating is an option. In that case, premiums are linked to the actual rather than to the expected incidence of disability. A potential problem is that it gives firms an incentive to screen workers before they are hired.

Another way to reduce moral hazard is to distinguish among (medical) reasons for disability. Some reasons are easier to verify than others: a hart disease is easier to diagnose than a mental problem. Differentiation would imply that disability insurance would be limited to those cases in which the reason for disability is verifiable.[56] This would leave those with non-verifiable reasons for disability worse off, although they may be eligible for alternative public funds, such as social

[56] Differentiation according to medical reason does not work, however, when persons with identical medical problems have different capabilities to work.

assistance. Such an approach does allow, however, for better insurance of verifiable sources of disability and a higher benefit level for those eligible on the basis of these criteria. Differentiation according to medical reasons seems therefore preferable to an across-the-broad reduction of benefit levels.

.... or on unobservable characteristics

Government do not always have to obtain more, better information; they can also use information that is hidden for them but not for employers and employees. An information-revealing mechanism is a waiting period before verification. It may reduce the problem of dubious claims. During this period, applicants receive a minimum benefit and are not allowed to work. This contrasts with a situation in which sickness benefits are (almost) equal to the last earned wage. A waiting period provides a form of self-selection, as applying for a benefit becomes an investment on which the expected return is higher for those with a genuine claim.

An different mechanism is a system of an individual welfare account. In that case, individuals are obliged to draw partly from a personal account when they become disabled (or unemployed). Individuals who end up with a positive welfare account at the end of their working life, receive an extra old-age pension.[57] Hence, the individual welfare account gives an incentive for people who are temporarily disabled to quickly find a new job. This helps to distinguish between temporary and permanent disabilities.

Incentives for public administrations

In most European countries disability insurance is mandatory and organised as a public monopoly. This ensures coverage of all disability risks, as well as solidarity between people with low risks and high risks. Public administration, however, may exacerbate the problem of moral hazard. Given a coverage against a broad set of medical contingencies, there is a potentially sizeable amount of screening error in disability assessments. Two types of errors may occur: erroneous denials and erroneous admissions. A balanced disability benefit scheme minimises the (weighted) sum of these two, mutually exclusive, types of error. Public monopoly insurance probably minimises exclusion because its incentives to limit the use of disability insurance are weak. These weak incentives for the public administration refer to both eligibility assessment and vocational rehabilitation and reintegration. The government must monitor the public administration on these activities: but how?

The public administration – in particular the gatekeepers of disability insurance – has considerable discretion in fulfilling its tasks. Eligibility is formalised in a number of rules, but there remains ample room for discretion. The optimal route to reintegration is even harder to

[57] A system of welfare accounts has to be an integral part of the pension system.

capture in rules. Often, this decision is handed over to individual case managers. This has important implications for the role of government: it cannot rely on rules, but must steer on the basis of outcomes. Hence, the government has to judge the public administrators on their performance and, in particular, on their success in preventing erroneous admissions.

Steering on the basis of outcomes involves a different role, requiring competence and creativity in several respects. First, it needs useful reference indicators for a sound evaluation and/or assessment by external experts. This calls for the use of more information. Benchmark studies – for example between regional administration offices – can be helpful in this respect. Second, the government must judge administrators on the basis of the output indicators, particularly with respect to the assessment of new claimants. A bad score must have consequences in order to offer appropriate incentives. For instance, the government may rely on naming and shaming when performance is below par, may fine a bad-performing public administration, or may invoke some sort of penalty on its management. Finally, the government will have to accept that it has less power to decide. In its new role, the government has to set goals and evaluate the public administration over longer periods of time; it cannot set new goals or interfere with the administration midstream. These steps towards steering on output indicators would break with the way in which governments are used to operate. But it may be a reform that delivers higher participation, while it maintains income security for those who are really unable to work. Thus, it potentially improves the trade-off between equity and efficiency.

Part III - Scenarios

This section develops four scenarios on the future of Europe. The scenarios are consistent, plausible descriptions of the future, which provide a background for policy makers to consider alternative strategic policy options under uncertainty. They are built along the two key uncertainties, discussed in parts I and II of this study. Part I concludes that it is uncertain whether countries will succeed in *international cooperation* in the future. This conclusion takes into account the difficulties to reform current international organisations such as the European Union and the WTO. Increasing size, expanding scope and problems with legitimacy render such reforms necessary, but make future cooperation particularly uncertain. Part II deals with the response by European governments to increasing pressure on the *public sectors*. Ageing, increasing divisions between skills of workers, the rising cost of taxation, and individualisation all point in same direction: governments will have more difficulty combining an equitable income distribution with economic efficiency. Together with the ambition of European governments to improve their performance with respect to productivity, labour market participation and social cohesion, it is clear that national governments cannot continue on the old footing. It is uncertain, however, how they will respond. Will they retreat? Or will they be able to reform successfully? The future of national institutions in Europe is thus uncertain.

The scenarios combine the two key uncertainties. STRONG EUROPE is a world with strong international organisations and important public institutions. REGIONAL COMMUNITIES combines a focus on public responsibility with a patchwork of regional associations. TRANSATLANTIC MARKET is a world with affinity for national sovereignty, with an emphasis on private initiatives, rather than public responsibility. GLOBAL ECONOMY is a scenario with flourishing international cooperation and a move towards more private responsibility.

15 Four scenarios on the future of Europe

This chapter develops four scenarios on the future of Europe. The scenarios differ with respect to two key uncertainties: international cooperation and the response of governments to the pressure on the public sector. The scenarios are dubbed Strong Europe, Regional Communities, Transatlantic Market and Global Economy.

15.1 Scenario analysis

Forecasting short-run economic developments is difficult; predicting the long-run is impossible. For the long-run, it is therefore more useful to develop scenarios. Scenarios are feasible and consistent views on the future. They do not aim to predict the future, but rather to sketch alternative futures. These future states of the world form the background against which strategic decisions can be explored.

Governments, non-governmental organisations and companies have to take strategic decisions under uncertainty. The uncertainty refers to the environment in which decision makers operate. The world can change rapidly, e.g. due to natural events, political changes, social developments, and technological trends. By considering alternative futures, one can better prepare for unforeseen circumstances and take early action to deal with a particular conjuncture.

Scenarios have gained popularity during the last decade. Companies that face strategic investment decisions, such as oil companies (developing new technologies) or financial conglomerates (entering new emerging markets), have developed scenarios to think through their decisions in different futures. CPB has developed scenarios since the 1980s. They have been used to analyse strategic, long-term decisions on infrastructure projects, environmental policies, spatial issues and so on (CPB 1985; 1992ab; 1997b). Today, research institutes all over Europe develop scenarios for different purposes, including questions regarding the future of European institutions, the consequences of EU enlargement and technological developments such as ICT or energy-saving technologies (for recent contributions, see e.g. Bertrand et al., 2000; Duff et al., 2001; RIVM, 2003). Recently, the Intergovernmental Panel of Climate Change (IPCC) developed scenarios to explore the need for climate change policies to cope with the problem of global warming (IPCC, 2000).

This study develops four new scenarios. They have some overlap with scenarios that have been developed before. Their value added compared to previous analyses lies in at least three components. First, since the previous CPB scenarios of 1992 (and their update in 1997), the world has changed in a number of respects. In Europe, the EMU has been completed, the European Union is about to enlarge with ten new member states, and fundamental discussions are going on about the future of decision making and competences in the European Union. Our scenarios focus on these new policy issues in the context of current knowledge about future

social, demographic and technological trends. These issues are vital for the future of the Europe and, therefore, for future Dutch policies.

Characteristics of WorldScan

The quantitative characteristics of the different scenarios are based on simulations with WorldScan, an applied general-equilibrium model for the world economy. The model was developed with the aim to construct scenarios, but is also applied to study international economic integration – for example, EU enlargement, and climate change policies. For this scenario study WorldScan has been revised substantially; documentation of the model, replacing the current edition (CPB 1999), will appear in early 2004.
The dimensions of WorldScan are variable. The version that was used for the simulations in this study distinguishes 16 sectors and 16 regions, among which 11 European countries or regions. A different version with a strong focus on energy markets was also run to study the development of energy use, CO2 emissions and the effect of climate change policies.

A strong feature of general-equilibrium models is that they take into account the interdependencies among the separate markets for different goods and productive factors. Typically, the markets are assumed to clear, so that each of the productive factors is fully employed. In addition, the primary factors can reallocate across sectors instantaneously. Below, we discuss specif, important features of the WorldScan model:

Supply
The availability of the primary factors determines for each region their production and growth potential. WorldScan distinguishes labour, capital and technology.

- The *labour* supply is exogenous and based on demographic projections.
- Capital mobility is imperfect, implying that available *capital* stock depends on the profitability of domestic investment opportunities as well as on the domestic savings.
- The pace of *technical change* is exogenous. The simulations take into account that less developed countries can learn from more advanced countries. This implies convergence in overall productivity, albeit at a low pace. Sectors, following historical patterns, see their productivity rise at a different rate. Potentially, the model could also allow for spillovers from R&D (see Lejour and Nahuis, 2004).

Demand
The patterns of demand for different goods change over time. Services become more important than either manufacturing or agriculture. This reflects different income elasticities for different goods as well as changes in relative price – partly as the result of sectoral growth differentials. National savings rates depend the demographic structure of the population, based on empirical work.

International trade
Tensions between supply and demand on domestic markets are partly resolved through international trade. However, trade is not unrestricted. Goods from different origin are imperfect substitutes (the Armington assumption). International trade is subject to transport cost, tariffs and non-tariff barriers.

The second contribution of our scenarios is due to quantification. That is, we first elaborate on story lines that shape four futures of the world, particularly of Europe. Then, we translate these developments into variables that appear in our computable general equilibrium (CGE) model for the world economy, called WorldScan (see the box *Characteristics of Worldscan* for more details).[58] By substituting alternative development of exogenous variables, such as demography, institutions, trade barriers, technology parameters, and so on, we can simulate alternative economic developments in a consistent macroeconomic framework. We thus provide a quantification of the economic situation in 2020 and 2040 on the basis of the assumptions that underlie each of the four scenarios. Although a quantitative assessment of scenarios is often missing in other scenario studies, it is attractive for at least two reasons. First, the CGE framework ensures that the scenarios are consistent, since economic variables conform to identities, constraints and the current knowledge about interactions in the economy. Second, the quantification gives a feel for the relative importance of various developments for the future.

The final contribution of our scenarios is that they focus on two specific policy issues: subsidiarity in the European Union and the response of European governments to the growing pressure on the public sector. By addressing these issues, we aim to contribute to policy discussions that will be crucial for the European Union in the coming decades. Parts I and II of this study already deal extensively with these issues. This part elaborates on them in a more positive way by making alternative assumptions regarding the choices that European governments take. In some scenarios, Europe goes beyond what is justified on the basis of subsidiarity, while in others it does not go far enough. Similarly, public sectors in some scenarios succeed in policy innovation, while in others they just retreat in other scenarios.

Developing scenarios

We follow four steps to develop our scenarios. First, we select the strategic policy questions that we want to explore in the context of the scenarios. CPB will use the scenarios in follow-up studies for an analysis on the Dutch economy and its physical surroundings, the consequences of ageing, international energy policies, and the future of the welfare state. As a result, the

[58] This procedure is explained in more detail in Lejour (2003).

scenarios of this study should be sufficiently general to be applicable to a broad range of national policy issues.[59,60]

The second step in developing scenarios is the selection of future uncertainties that are relevant in the context of the policy questions. These uncertainties are described in parts I and II of this study. The third step involves merging uncertainties that are correlated. The purpose of this step is to end up with only two key uncertainties, from which one should be able to derive general characterisations of the scenarios. In our study, the two key uncertainties refer to the policy responses to the challenges that Europe will face during the coming decades. The first challenge is whether countries will succeed in *international cooperation*, necessary to deal adequately with cross-border issues (see part I). In particular, this uncertainty derives from the difficulties in reforming current international organisations, such as the European Union and the WTO, and institutionalising new forms of cooperation to deal with global problems. International cooperation thus refers to cooperation both within the European Union and between the European Union and other regions. The second key uncertainty refers to developments in the *public sector* in European economies (see part II). It derives from developments that put the public sector under pressure, such as ageing, the divide between low-skilled and high-skilled, policy competition, individualisation and so on. It is clear that national governments cannot continue on the old footing. It is uncertain, however, how they will respond to the pressure on the public sector.

Full-blown scenarios are developed in the final step. We combine the two key uncertainties as illustrated in figure 15.1. The horizontal axis represents outcomes regarding the response in Europe to various challenges for the public sector. It runs from a focus on *public responsibility* on the left to a focus on *private responsibility* on the right. The vertical axis represents the outcomes with respect to international cooperation. It moves from a focus on *national issues* at the bottom to broad *international cooperation* at the top. Figure 15.1 thus yields four combinations in the two key uncertainties. The four quadrants each describe a possible future. In particular, the upper left quadrant represents Strong Europe, a world with international cooperation and an important role for the public sector. The bottom left marks the scenario Regional Communities, combining public responsibility with little international cooperation. The lower right quadrant represents Transatlantic Market, a world with affinity for national sovereignty

[59] This implies that we do not develop extreme scenarios, which sometimes appear in studies that have a very long time frame. The emphasis in our study is on the period up to 2020 (with a more modest outlook to 2040, mainly to explore the implications of changing demographic trends).

[60] For more specific policy issues addressed by CPB, it is usually necessary to add information regarding other uncertain developments that are not discussed here in detail. For instance, international energy scenarios require a more detailed analysis of developments in energy-supplying regions (Mulder et al., 2003). The scenarios in this study are thought to give enough guidance to consistently add this information, perhaps even for those developments that are not addressed by CPB.

and much room for private initiative. Finally, GLOBAL ECONOMY is given in the upper right quadrant, combining flourishing international cooperation and a move towards more private responsibility.

Figure 15.1 Four scenarios in a nutshell

The next four sections describe the scenarios in more detail. We start by discussing the story lines (i.e. descriptions of the future in qualitative terms). The broad characterisations in figure 15.1 form the guiding principle in determining the course of uncertain events in each scenario. The qualitative stories are then complemented by a quantitative sketch of the scenarios, simulated with WorldScan. Lejour (2003) provides more background information about the translation of assumptions into exogenous variables in the model.

In determining the choice of uncertain trends, it is not always possible to unequivocally select developments that are consistent with the characterisation in figure 15.1. Sometimes, more than one development is consistent; sometimes it appears too mechanical to just assume that each and every trend is dictated by the extreme assumption on one of the axes of figure 15.1. Therefore, we make discrete choices with respect to particular developments in each scenario. For instance, we do not assume that international cooperation flourishes in all respects, among all countries, and in all fields, in the scenarios of the upper quadrants. Instead, we take the freedom to assume less extreme positions, which render the scenarios less mechanical and more plausible.

Apart from their differences, the scenarios also have a number of trends in common. For instance, ageing and growing pressure on the public sector are apparent in all scenarios. The

differences among the scenarios primarily originate in the responses to these trends by national governments and international organisations.

15.2 Strong Europe

European countries maintain social cohesion through public institutions. Society accepts that a more equitable distribution of welfare limits the possibilities of improving economic efficiency. Yet, governments respond to the growing pressure on the public sector by undertaking selective reforms in the labour market, social security, and public production. Although this inevitably hurts some groups in society, solidarity with the most vulnerable groups is maintained. Combined with early measures to accommodate the effects of ageing, the economy grows at a stable rate.

Reforming the process of EU decision making lays the foundation for a strong European Union. The enlargement is a success and integration proceeds further, both geographically, economically and politically. A strong Europe is important for achieving broad international cooperation, not only in the area of trade but also in other areas such as climate change. The transfer of powers to a supranational body reduces national sovereignty.

International cooperation

An institutional crisis is looming after EU enlargement in 2004. In this scenario, European member states are willing to sacrifice their national sovereignty in order to obtain a solution to this crisis. Underlying the discussions about institutional reform is a feeling of common interest; in a globalized and interdependent world, countries believe that a single country does not have the ability to 'make' policy, but that a group of countries does. Initiated by a core group of frontrunners, European integration intensifies on the basis of reinforced cooperation (see chapter 4). Countries that initially remain outside the core group step in at a later date, so that a multi-speed Europe emerges. EU decision making is eventually reformed and acquires legitimacy through democracy, good governance and transparency.

EU enlargement is primarily driven by historical, political (safety and stability) and economic reasons. Driven by its success, the European Union opens its borders further eastwards. Turkey becomes a member of the European Union and, although Ukraine and Russia do not become full members, they become more integrated with Europe. The bilateral association agreements with the Mediterranean countries are a success, and integration proceeds. Through economic cooperation, the European Union also exports political stability to its Southern and Eastern borders. Even with faraway China, which grows rapidly during the next decades, economic relationships become increasingly important for the European Union.

A strong Europe becomes one of the superpowers in the global arena, next to the United States. Europe develops its own identity. Solidarity defines the European view on international cooperation. This refers to issues such as trade and poverty, environment and ethical questions

around new (bio)technologies. The European view differs from that of the United States, which is usually inclined to shy away from international cooperation when not clearly in its own interest. But in this scenario, the United States leans somewhat towards the European view, that emphasises solidarity. The next WTO round becomes a modest success, primarily regarding trade in agricultural products. International cooperation in non-trade issues also intensifies, driven by the leading role of the European Union. The United States is granted some concessions for their participation in this cooperation (e.g. in the Kyoto Protocol).

Driven by the desire to obtain a strong position in the international political arena, Europe centralises its policies in Foreign and Security Policy. National sovereignty thus diminishes. Decentralised responsibilities remain in other fields. Enlargement increases heterogeneity in the European Union which calls for diversity in institutions, e.g. in social security and taxation. The European Union develops a framework in which policy competition between member states can take place. For instance, countries agree upon a minimum rate of corporate taxation and countries develop indicators on social targets which effectively operate as a floor for policy competition. Member states learn from each others' experiences, which creates a process of convergence of institutions among Europe. Within a context of common rules and restrictions, policy competition operates as a successful road towards more efficient institutions in Europe.

Public responsibilities

European countries maintain social cohesion through various collective arrangements. These limit income disparities (e.g. between skilled and unskilled and between those inside and outside the labour force). Countries are to some extent able to accommodate trends that put the public sector under pressure. In particular, governments experiment with more differentiation in the supply of publicly provided private goods, such as education, health care and social security arrangements. This is done by using more information about individual characteristics (at the expense of privacy) and large-scale application of ICT. European governments also experiment with new incentive schemes for raising efficiency in the public sector, ranging from benchmarking and yardstick competition to outright privatisation of companies (network sectors). In terms of chapter 14, countries find a successful road towards policy innovation. It comes, however, at a cost in terms of less privacy, less equal treatment, and less public responsibility for those with high and middle incomes.

Solidarity between young and old generations is maintained primarily through increases in the participation of the elderly. Participation is encouraged by a gradual increase in the retirement age, which becomes linked to life expectancy. The financial incentives for early retirement are reduced and more flexibility is introduced for the elderly to work shorter hours. In some European countries, national savings are stimulated by redirecting pension systems towards more funding and/or by sustained surpluses on the government budget. Hence, the elderly partly pay the price for maintaining intragenerational redistribution.

Europe combines social cohesion with a fairly competitive and strong economy. It succeeds in deepening the internal market as it intended to do (e.g. in energy, financial services, postal services, government procurement, and passenger transport), which intensifies competition and stimulates productivity growth. Also labour mobility is encouraged by the removal of institutional barriers to migration. Accelerating economic growth is reinforced by the completion of a successful European innovation strategy, which includes a European patent and joint policies to stimulate R&D. The budget for the Common Agricultural Policy and Cohesion Policy are maintained, but these policies become less distortionary as was intended by Commissioner Fischler early in the 21st decade. These policies are reformed and become effective instruments to benefit peripheral and rural regions in the European Union – especially in the new member states.

Immigration policy is coordinated by the European Union. With a focus on international cooperation and solidarity with other regions, European immigration rules become less strict and immigration flows increase. The reformed, more flexible labour markets are able to integrate the majority of immigrants in European societies. Indeed, many regulations that protect the position of insiders (such as employment protection legislation) are relaxed, and legal barriers to labour mobility (e.g. in pensions, social security and recognition of qualifications) are removed. Policies that aim to maintain an equitable income distribution (such as minimum wages, progressive taxes, and social insurance) remain, although moral hazard in social insurance is countered by strict eligibility criteria and effective enforcement of public administrations on the basis of output indicators (see chapter 14).

A quantitative sketch of Strong Europe

Table 15.1 shows the economic development of Strong Europe in quantitative terms. The outward orientation of Europe, the deepening of the internal market, and rapid growth in Central and Eastern Europe contribute to productivity growth in the European Union. Labour productivity increases by about 1.5% per year, which equals the average figure during 1980-1999. Population growth does not change much during the coming decades. In light of ageing, however, employment growth falls, especially after 2020. Annual GDP growth, equal to the sum of productivity and employment growth, thus falls from 2.2% during last two decades to 1.8% between 2000 and 2020, and to 1.3% between 2020 and 2040.

Table 15.1 Quantitative characteristics of the EU economy in Strong Europe

annual growth rates	1980-1999	2000-2020	2020-2040	
GDP	2.2	1.8	1.3	
labour productivity	1.5	1.6	1.4	
employment	0.7	0.3	−0.1	
population	0.3	0.4	0.2	
energy use		0.7	−0.1	
world exports	5.6	4.8	4.1	
ratios	**1980**	**2000**	**2020**	**2040**
participation rate	43.1	46.6	44.3	41.6
unemployment	7.0	8.5	7.1	5.8
savings rate		18.8	19.0	15.1
real interest rate		3.6	3.5	3.3
share intra-EU trade		53.5	51.6	47.3

source: Worldbank (2001) for historical numbers up to and including 2000 and WorldScan for simulation results from 2000 onwards.
The European Union represents the current 15 members.

Measures to stimulate the participation rate of older workers have an important effect, but cannot prevent that ageing reduces the overall participation rate in Europe. Among the working population, unemployment drops slightly to an equilibrium rate of 5.8% in 2040. The generous social insurance system prevents a further reduction in unemployment because it strengthens the position of workers in wage negotiations and reduces the incentives for unemployed people to search for work or to accept a job offer.

Savings decline, especially after 2020. This is because the growing retired population dissaves and policies to increase savings cannot fully compensate for this. Nevertheless, the real interest rate in Europe decreases. The reason is that the demand for capital falls as well, due to declining employment.

The integration of goods and services markets leads to large trade volumes and changing trade patterns. World exports increase by 4.8% per year until 2020, and by 4.1% thereafter. The larger growth in the period before 2020 is due to higher GDP growth and the trade-liberalisation policies during that period. The combination of lower trade barriers and high growth in Asia redirect export flows towards Asia, the Central and Eastern European countries and Turkey.

Modest GDP growth, the introduction of energy-efficient technologies, and a shift towards less energy-intensive sectors contribute to a modest fall in energy use in the European Union. Climate-change policies, such as taxes on the carbon content of energy carriers, support this development and reduce the demand for energy after 2020.

15.3 Regional Communities

European countries rely on collective arrangements to maintain an equitable distribution of welfare. At the same time, in this scenario governments are unsuccessful in modernising welfare-state arrangements. A strong lobby of vested interests blocks reforms in various areas. Together with an expanding public sector, this puts a severe strain on European economies.

The European Union cannot adequately cope with the Eastern enlargement and fails to reform her institutions. As an alternative, a core of rich European countries emerges. Cooperation in this sub-group of relatively homogeneous member states gets a more permanent character. The world is fragmented in a number of trade blocks, and multilateral cooperation is modest.

International cooperation

Enlargement with ten new member states in 2004 increases the heterogeneity of the European Union. This renders cooperation between all EU member states more difficult. Governments are willing to cooperate internationally, but only if their countries are sufficiently homogeneous. A new club of countries is born within the European Union. The club intensifies cooperation in various policy fields, including taxation and social policy. This is done through the community method on the basis of 'reinforced cooperation'. Although the intention was a two-speed Europe in which countries that lag behind would catch up with frontrunners after some time, reinforced cooperation ends up in a two-tier Europe that gets a more permanent character.

The new member states remain outside the core group because they are either unwilling or unable to join. While cooperation in the core group becomes more important, the European Union loses power. Further enlargement of the European Union receives little interest from the core: Turkey does not accede to the European Union and the Central and Eastern European countries remain outside the EMU. The disappointed Central and Eastern European countries shift their attention more and more eastwards by intensifying trade relations with Russia, Ukraine and China.

The world is too heterogeneous to deliver global coordination. The European Union and the United States have different views on global trade and non-trade issues. The world is fragmented in a number of different trade blocks. The United States agree upon a free trade area with the other Americas. Europe suffers from this, due to trade diversion.

EU policies are only modestly reformed: the Common Agricultural Policy maintains distortionary components, especially with respect to outside countries, or is replaced by distortionary national support measures. Cohesion policy remains ineffective as it is. In fact, poor member states from the Central and Eastern European countries are unable to absorb funds because they cannot comply with the complex and demanding administrative procedures set by the European Union. Moreover, a large part of the cohesion budget is transferred to richer member states that are unwilling to give up their share.

Public responsibilities

In the core of Europe, vested interests block reforms in social security systems, pensions, labour market institutions and product market regulations. Proposals to make collective arrangements more efficient or to introduce more differentiation in the public provision of private services fail. They either meet opposition because people are unwilling to sacrifice privacy or they create excessively complex regulations that fail to be effective. Governments largely maintain the welfare state in its original form, which suffers from moral hazard, a lack of incentives and uniformity in supply. Policy innovation thus largely fails.

Many mature European industries are protected from outside competition through trade barriers. This holds in particular for agriculture, which is protected by the Common Agricultural Policy, but also for network industries. Trade unions in the core of Europe actively cooperate and minimise wage dispersion. They form a powerful lobby group in the European Union and its member states to hold up reforms in welfare state arrangements.

Governments in Europe minimise the scope for policy competition through the harmonisation of social policies, such as employment protection legislation, minimum standards for social assistance, and disability insurance. The European core introduces a central unemployment insurance scheme with the aim to absorb asymmetric economic developments. The corporate tax system is harmonised, with a common base and a common rate. By limiting outside pressure from policy competition, domestic policy making becomes more vulnerable to government failures and lobby groups. In fact, policy coordination goes beyond what is justified on the basis of subsidiarity (see chapter 7). This contributes to the inefficiency of policies.

Increasing expenditure on old-age benefits and publicly provided health care pushes European public sectors to their boundaries. Inefficient and large public sectors render sustainable public finances problematic. This puts pressure on the Stability and Growth Pact and challenges the independence of the European Central Bank. The fear for inflation raises the risk premium on interest rates and hampers investments. Capital demand is also depressed by the lacklustre performance of the European economies. The return on investment is low, which exacerbates the ageing problem in countries that rely on funded systems (such as the Netherlands).

Migration is restricted within the European Union. Only a limited number of immigrants from the Central and Eastern European countries move towards the core of Europe. The small number of immigrants reduces the need to reform institutions.

In an effort to diversify their energy imports and to contain local environmental problems (e.g. air quality), countries opt for clean energy sources. The local environment thus fares rather well.

A quantitative sketch of Regional Communities

Table 15.2 shows Regional Communities in figures. In light of the barriers to international trade and the lack of competitive forces, labour productivity grows only mildly at a rate of 1.1% per year. In combination with the ageing of the population, which reduces the employment rate, this implies that GDP hardly grows after 2020: the growth rate of 0.2% is substantially smaller than the 2.2% that we experienced in the recent past.

The participation rate falls from 46.7% of the population in 2000 to 40.2% in 2040. Apart from ageing, this is the result of the adverse incentive effects of fairly generous social security systems and labour-market regulations. The unemployment rate among workers stays above 8%. Also the participation rate among older workers remains low.

Aggregate savings fall substantially in light of ageing. Economic policies do little to offset this, so that the saving rate decreases by about 6% points between 2000 and 2040. Slow economic growth and low employment also imply weak investment demand. As a result, the real interest rate decreases to below 3%.

Low economic growth reduces energy demand. This is partly due to the introduction of energy-saving technologies, but the low volume of international trade and low economic growth also limit the growth in energy use.

Table 15.2 Quantitative characteristics of the EU economy in Regional Communities

annual growth rates	1980-2000	2000-2020	2020-2040	
GDP	2.2	1.1	0.2	
labour productivity	1.5	1.2	1.0	
employment	0.7	-0.2	-0.8	
population	0.3	0.0	-0.3	
energy use		0.5	0.6	
world exports	5.6	2.9	1.8	
ratios	**1980**	**2000**	**2020**	**2040**
participation rate	43.1	46.7	44.7	40.2
unemployment	7.0	8.5	8.4	8.3
savings rate		18.8	16.7	12.7
real interest rate		3.6	3.0	2.6
share intra-EU trade		53.5	53.3	52.8

source: Worldbank (2001) for historical numbers up to and including 2000 and WorldScan for simulation results from 2000 onwards.
The European Union represents the current 15 members.

15.4 Global Economy

European countries find a new balance between private and public responsibility. Institutions are increasingly based on private initiatives and market-based solutions. European governments concentrate on their core tasks, such as the provision of pure public goods and the protection of property rights. They engage less in income redistribution and public insurance, so that income inequality grows.

Political integration and cooperation in non-trade areas is not feasible, as governments assign a high value to their national sovereignty in many areas. The problem of climate change intensifies, while European taxes on capital gradually decline under tax competition. Economic integration becomes broader, however, as countries find it in their mutual interest. The European Union finds it relatively easy to enlarge further eastwards. The negotiations in the WTO lead to a successful liberalisation of global trade.

International cooperation

European institutional reform is successful after the enlargement. Further integration is, however, primarily focussed on a proper functioning of the internal market. Political integration is not an issue. Cooperation in foreign policy is intergovernmental and fragmented. As a successful economic and (partly) monetary union, the European Union finds it easy to enlarge further eastwards. Turkey, Ukraine and some smaller countries of the former Commonwealth of Independent States become members of the European Union. Despite the abolishment of European Cohesion policy, the Eastern member states converge gradually to the EU average. This is because rapid institutional reform in these countries and a catching up of technology take place. Indeed, a surge of foreign direct investment flows into the Eastern regions of Europe.

International cooperation is limited to economic issues. The WTO focusses solely on free trade, and manages to find an agreement among all participants. Free trade in agriculture and services is fostered. This calls for substantial industrial restructuring in Europe. For instance, agricultural sectors with little value added contract, while the same holds true for textiles in a number of countries. Although this entails substantial changes, European economies have become sufficiently flexible to cope with these changes.

Whereas economic cooperation between the European Union and other continents is successful, cooperation in non-trade issues fails. For instance, political cooperation via the United Nations is cumbersome. More generally, the failure of international political cooperation increases the risk of conflicts. Regarding global environmental issues, the European Union is unable to convince the United States to participate in the Kyoto Protocol, since raising energy prices is a political non-starter in the United States. International markets for energy being efficient and reliable, countries do not diversify their imports of energy; energy consumption is not only (relatively) high, but also fossil-fuel intensive.

Public responsibilities

European governments take steps to limit their role in facilitating an efficient and productive economy. Societies have a strong preference for flexibility and diversity, which is best provided by the market. This applies in particular to private goods that are currently publicly provided, such as health care, higher education and so on. Moreover, government regulations to ensure uniformity in supply (e.g. in pensions, housing and so on), are relaxed so as to meet more diversity in life styles. Governments remain responsible for the production of pure public goods (basic education, defence, police, justice), but also use their regulatory powers to ensure effective competition on markets. For example, the markets for insuring health care costs and disability require governments to tackle the problem of adverse selection and to ensure transparency. In terms of chapter 14, a combination of policy innovation and retreat of the state is conducted.

Labour mobility increases, especially of high-skilled workers. Governments engage in competition to attract these skilled workers as well as mobile firms. Intense policy competition in a large Europe contributes to an efficient government, but also reinforces the trend towards downsizing the scope for income redistribution. Reforms in the labour market, income taxation and social security encourage participation. This applies particularly to elderly workers. Their incentives to participate increase because of reforms in early retirement provisions, tougher eligibility criteria in social security and an increase in the retirement age. Savings also increase, partly through early reduction of government debt and partly via early reforms in pensions towards individualised defined-contribution schemes. This is the response to a deteriorating public pension.

The European Union follows a selective immigration policy by allowing each year a fixed number of immigrants. This system is based on experiences in the Unites States, Canada and Australia. The immigrants that legally enter Europe are typically young, well-educated and have a high probability of finding jobs. Immigration is facilitated by the reformed, flexible European labour markets, which can easily absorb new workers.

The open markets and institutional reforms contribute to productivity growth, while immigration and rising participation increase labour supply. The flip side of the coin, however, is that economic growth is accompanied by increasing income inequality.

A quantitative sketch of Global Economy

The trends in Global Economy are illustrated numerically in table 15.3. International integration and market-oriented domestic policies stimulate labour productivity which grows by 2.1% per year up to 2020 and by 2.0% thereafter. Despite the ageing of the population, GDP grows rapidly due to significant employment growth. This is because participation among the elderly generations increases due to various reforms. Immigration reinforces the positive effect on labour supply. A selective immigration policy ensures that immigrants are high-skilled and that they easily enter the European labour market.

Savings fall after 2020 by around 4%-points. This is less than in the other scenarios, however, because governments increase national savings by prudent government budgetary policies and pension reforms towards defined-contribution schemes. High economic growth stimulates investment, which implies an increase in the real interest rate until 2020. After 2020, a lower pace of economic growth leads to a slight decrease in the real interest rate.

Successful trade liberalisation boosts international trade. Until 2020, world trade shows an increase of about 6% per year. After 2020, growth falls somewhat since GDP growth levels off. In 2040, 60% of all European exports have a destination outside Europe, compared with less than 50% in 2000.

High economic growth and large trade flows harm the environment, in particular since efforts for a global climate change policy fail.

Table 15.3 Quantitative characteristics of the EU economy in Global Economy

annual growth rates	1980-2000	2000-2020	2020-2040	
GDP	2.2	2.7	2.3	
labour productivity	1.5	2.1	2.0	
employment	0.7	0.5	0.2	
population	0.3	0.4	0.2	
energy use		1.8	1.6	
world exports	5.6	5.8	5.4	
ratios	**1980**	**2000**	**2020**	**2040**
participation rate	43.1	46.6	46.5	45.8
unemployment	7.0	8.5	6.2	3.9
savings rate		18.8	19.5	15.6
real interest rate		3.6	4.2	3.8
share intra-EU trade		53.5	46.4	39.4

source: Worldbank (2001) for historical numbers up to and including 2000 and WorldScan for simulation results from 2000 onwards.
The European Union represents the current 15 members.

15.5 Transatlantic Market

European countries limit the role of the state and rely more on market exchange. This boosts technology-driven growth and at the same time increases inequality. The heritage of a large public sector in EU countries is not easily dissolved. New markets – e.g. for education and social insurance – lack transparency and competition, which brings new social and economic problems. The elderly dominate political markets. This makes it difficult to dismantle the pay-as-you-go systems in continental Europe.

EU member states primarily focus on national interests and assign a high value to their national sovereignty. Reforms of EU decision-making fail which makes further integration in the European Union difficult. The European Union redirects her attention to the United States and agrees upon transatlantic economic integration. This intensifies trade in services and yields welfare gains on both sides of the Atlantic. The prosperity in the club of rich countries contrasts sharply with the situation in Eastern Europe and in developing countries.

International cooperation

After enlargement to 25 member states in this scenario, EU governance is not reformed into decisive and legitimate institutions. Many countries do not regard this failure of reform in the European Union as problematic. The bureaucracy in Brussels is widely mistrusted and is seen as unnecessarily interfering, undemocratic and intransparent. Countries thus want to play down the power of supranational decision making. Integration comes to a halt – it reverses de facto in some areas. The European Union is primarily seen as an economic union with a focus on the internal market. Policy competition prevails with respect to most institutions. Increasing mobility of capital intensifies policy competition.

Multilateral cooperation via international institutions is not a primary concern for the European Union and the United States: both are unwilling to sacrifice sovereignty to multilateral institutions. However, economic integration between the two continents is feasible at low coordination costs. Hence, whereas a global trade agreements fails, the European Union, the United States and Latin America agree upon a 'backdoor free trade' agreement. The transatlantic economic integration actually goes beyond a free trade agreement: it leads de facto to a single market in which a large number of formal and informal barriers to trade are removed through mutual recognition. This holds in particular for the service sectors. This fosters growth in the ICT sector in Europe.

The rich transatlantic economic block contrasts sharply with the poorer parts of the world. Less developed countries even suffer from trade diversion as a result of the free-trade agreement. There is little interest in Europe and the United States to actively fight poverty in developing countries.

EU enlargement is not a success in this scenario: cohesion support is ineffective and the new member states have difficulty in adjusting to the increasingly competitive market. Poverty in

rural areas in the Central and Eastern European countries is increasing, and there is slow convergence to the EU average. The new member states do not enter the EMU. Turkey does not accede to the European Union, but instead shifts her attention more eastwards. China and Russia become more isolated, both politically and economically. Because of poor border controls in the East, EU member states suffer from an inflow of illegal immigrants. Enlargement receives a low priority from the Western EU countries, as they fear the import of even more instability and more immigrants.

Public responsibilities

Pressure on public sectors and strong preferences for individualised arrangements, rather than collective ones, leads to downsizing of European welfare states. Insurance against labour market risks is reduced and partly shifted to the market and social partners. Publicly provided welfare provisions are limited to social assistance. At the same time, the labour market becomes more flexible as employment protection legislation is relaxed, the power of trade unions deteriorates, minimum wages are reduced, and tax systems become less progressive. These reforms stimulate participation in the formal labour market and induce people to work longer hours.

The transition from collective state arrangements to market-based solutions is sometimes disorderly, as new markets meet new problems such as disproportionate market power, insufficient transparency, and restricted access. In the absence of appropriate regulation, this limits the efficiency of market-based solutions. The 'political market' becomes more and more dominated by the older generations. Hence, countries that have not switched early enough towards a funded system find it difficult to downsize the pay-as-you-go system. The high costs of public pensions, in combination with high expenditures on health care, crowd out the possibilities for intra-generational redistribution. Indeed, it more or less urges governments to downsize public redistribution schemes among the young. Thus, we arrive at a less equitable income distribution between people inside and outside the labour market.

Income inequality increases also because of a rapidly rising skill premium. In particular, ICT-driven technical change raises the demand for skilled workers relative to unskilled workers. At the same time, the supply of skills does not increase at the same pace, especially since part of the population cannot afford higher education. As a result, income disparities between skilled and unskilled workers rise considerably. Trade unions, which used to dampen wage dispersion, lose power and can no longer offset the increasing skill premium.

Competition in the European economy intensifies. More flexibility comes at the expense of commitment in economic relations. Accordingly, investment in general skills becomes increasingly important, but investment in firm-specific skills becomes less important. A process of creative destruction by young and dynamic firms creates rapid technological change and substantial productivity gains. Corporate governance structures in Europe move towards the American-style shareholder model, away from the European style stakeholder model.

Increasing income disparities between rich and poor countries raise the potential immigration to the European Union. Europe, however, keeps its borders closed for immigrants. Illegal immigrants and asylum seekers who do enter the European Union can be absorbed by the flexible labour market, but tend to increase the skill premium even further.

A quantitative sketch of Transatlantic Market

Table 15.4 shows quantitative characteristics of Transatlantic Market. The broad dissemination of ICT boosts labour productivity growth to 1.8% per year. Growth is concentrated in ICT-producing sectors, and in ICT-using service sectors such as the financial sector, business services and the public sector. GDP growth falls over time, however, as the result of declining employment due to ageing.

Participation rates do not fall substantially, since lower social benefits and limited eligibility reduce unemployment and stimulate labour supply. This positive effect on employment compensates for the negative effect of an ageing population on labour supply.

The real interest rate rises somewhat as, on the one hand, the elderly dissave while, on the other hand, high GDP growth stimulates investments.

Persistent trade barriers and relatively low economic growth outside the club of rich countries hamper world trade. World exports grow moderately. A large share of the European exports is intra-EU trade. The United States is an important destination for the exports to other regions because of the European-American internal market.

Table 15.4 Quantitative characteristics of the EU economy in Transatlantic Market

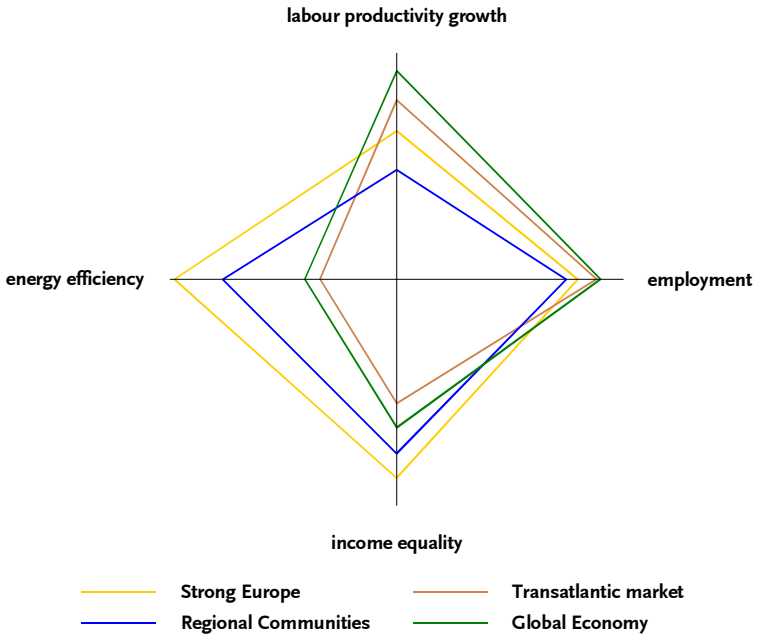
annual growth rates	1980-2000	2000-2020	2020-2040	
GDP	2.2	2.3	1.6	
labour productivity	1.5	1.9	1.8	
employment	0.7	0.4	−0.2	
population	0.3	0.2	−0.1	
energy use		1.6	1.0	
world exports	5.6	4.1	3.3	
ratios	**1980**	**2000**	**2020**	**2040**
participation rate	43.1	46.7	47.0	45.2
unemployment	7.0	8.5	6.2	3.9
savings rate		18.8	17.1	13.0
interest rate		3.6	4.2	4.3
share intra-EU trade		53.5	50.5	49.3

source: Worldbank (2001) for historical numbers up to and including 2000 and WorldScan for simulation results from 2000 onwards.
The European Union represents the current 15 members.

15.6 Comparing the four scenarios

Figure 15.2 illustrates the scores of the scenarios on four dimensions that, together, comprise the Lisbon targets of the European Union: productivity, employment, income equality and environmental quality. Scenarios where the public sector retreats, such as Transatlantic Market and Global Economy, show strong economic performance. Labour productivity improves at a brisk pace, while labour market participation is high. In Strong Europe and Regional Communities, the public sector retains its central role in income redistribution through an elaborate system of taxes and transfers. A lower income per capita is the price they pay for more equity. In Strong Europe and Regional Communities, the burden on environment is lower than in Global Economy and Transatlantic Market (due to differences in environmental policies and economic growth).

Figure 15.2 Comparing four dimensions of the scenarios
relative deviation from the average



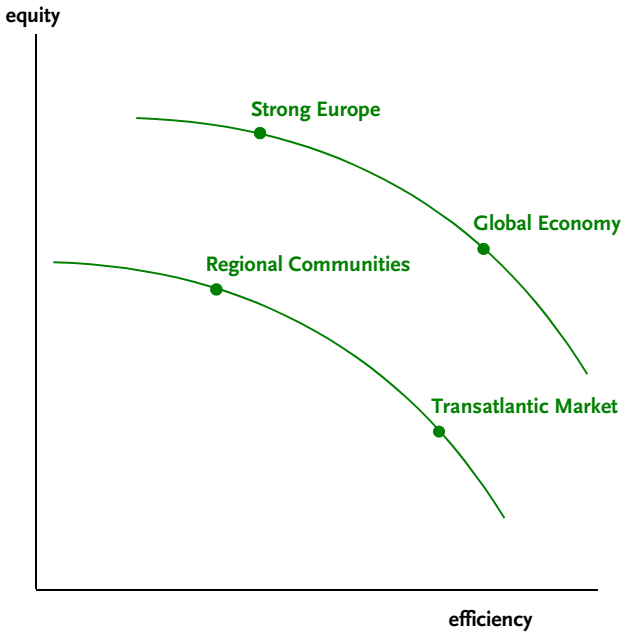
The employment rate is determined by the participation rate and the unemployment rate; the energy efficiency improvement is the growth differential between GDP growth and energy use; the measure for income equality is a ranking of the four scenarios.

Figure 15.2 also illustrates an important difference between Strong Europe and Global Economy, on the one hand, and Regional Communities and Transatlantic Market, on the other. Strong Europe scores better on each of the four dimensions than Regional Communities, while Global Economy scores better in each dimension than Transatlantic Market. To explain this, return to the trade-off between equity and efficiency (see figure 15.3).

For illustrative purposes, Strong Europe and Global Economy are positioned on a same equity-efficiency curve. The main difference between these two scenarios is the social preference for one over the other. Regional Communities and Transatlantic Market lie on a same curve as well, but the position of this curve differs from the GM/SE curve. In particular, the Global Economy/Strong Europe curve is positioned further away from the origin. This corresponds to better combination of equity and efficiency, irrespective of social preferences. The Regional Communities/Transatlantic Market curve lies closer to the origin, indicating worse combinations of equity and efficiency.

Society would achieve a higher level of welfare if it were able to develop institutions that push the equity-efficiency curve to the right. Whether governments succeed in this is uncertain. This is the motivation for the differentiation between the scenarios. For instance, governments in Regional Communities fail to respond adequately to the growing pressure on the public sector – partly because a strong lobby of vested interests prevents this. This implies that achieving the goal of an equitable income distribution comes at a greater cost in terms of efficiency than in Strong Europe. In Transatlantic Market, governments do not find ways to adequately deal with market failures, while European countries have inherited pay-as-you-go systems that are difficult to reform. As a result, efficiency improves less than in Global Economy.

Figure 15.3 Equity and efficiency in the four scenarios



The distinction between scenarios on each of the two equity-efficiency curves can be explained in two ways. First, governments do not find the right balance between private and public responsibility in Regional Communities and Transatlantic Market. In Regional Communities, the public sector maintains too many responsibilities. Hence, the scenario is positioned too much to the left in figure 15.1. In Transatlantic Market, the public sector retreats and fails to adequately deal with market failures. Accordingly, the scenario is positioned too much to the right in figure 15.1. The other two scenarios feature less extreme positions somewhat closer to the origin, and better combine public and private responsibility. The only difference between them is the preference for equity versus efficiency.

A second possible explanation for the different positions of the curves in figure 15.3 is that the two axes are not entirely independent. In particular, Strong Europe and Global Economy are not only positioned at the upper frontier in figure 15.3, but also on the upper part of vertical axis in figure 15.1 (i.e. where international cooperation is flourishing). This match between the position of the efficiency-equity curve and international cooperation is plausible for two reasons. First, an international orientation of governments in Strong Europe and Global Economy improves the performance of European governments and works as a disciplinary device on policy makers to develop efficient institutions.[61] Second, economic integration allows countries to specialise, exploit economies of scale and apply new techniques; it provides an experimental setting for governments to learn about best practices.

Comparing quantitative sketches

Table 15.5 brings the tables of previous subsections together and provides an overview of the numerical results for the different scenarios. It underlines the fact that Strong Europe and Regional Communities feature lower productivity growth, lower participation rates, and higher unemployment than Transatlantic Market and Global Economy. A numerical measure for income equality is not available, but this performance is exactly opposite from the economic performance indicators. The table shows that energy use grows at disparate rates. This reflects differences in GDP growth and differences in environmental policies. Growth and investment go hand in hand, leading to rising real interest rates in Transatlantic Market and Global Economy, and to falling real interest rates in Strong Europe and Regional Communities. The fact that in Global Economy the increase in real interest rate is only small, is the result of policies that stimulate national savings.

[61] Empirical evidence suggests that more open economies have bigger governments, suggesting that the public has more confidence in their government if it is exposed to more competition, see e.g. Rodrik (1998).

Table 15.5 Characterisation of the EU economy in the four scenarios

	Past	2000-2040			
annual growth rates	1980-2000	Strong Europe	Transatlantic Market	Regional Communities	Global Economy
GDP	2.2	1.6	1.9	0.6	2.5
labour productivity	1.5	1.5	1.8	1.1	2.1
employment	0.7	0.1	0.1	-0.5	0.4
population	0.3	0.3	0.0	-0.2	0.3
energy use		0.3	1.3	0.6	1.7
world exports	5.6	4.5	3.7	2.4	5.6
ratios	2000	Strong Europe	Transatlantic Market	Regional Communities	Global Economy
participation rate	46.6	41.6	45.2	40.2	45.8
unemployment	8.5	5.8	3.9	8.3	3.9
savings rate	18.8	15.1	13.0	12.7	15.6
interest rate	3.6	3.3	4.3	2.6	3.8
share intra-EU trade	53.5	47.3	49.3	52.8	39.4
GDP per capita (index)	100.0	162.9	210.4	134.6	234.5

source: Worldbank (2001) for historical numbers up to and including 2000 and WorldScan for simulation results from 2000 onwards.
The European Union represents the current 15 members.

Trade liberalisation and economic integration boost trade in Global Economy and Strong Europe. World exports increase by 5½% and 4½%, respectively. In three of the four scenarios, the growth of world trade is lower than in the past. Ageing populations in OECD countries and lower population growth in developing countries can partly be held responsible. Also, the shift from agriculture and manufacturing towards services, especially in Asia, tends to moderate the growth in trade volume, because services are less tradable than commodities and manufactured goods.

Since Asia is invariably projected to grow further, European trade flows turn towards that continent leading to a decreasing share of intra-EU trade. This effect is especially strong in the scenario with strong international cooperation, Strong Europe and Global Economy.

16 Special topics: growth, trade and ageing

The quantitative sketch of the four scenarios in the previous chapter provides an indication of the margins with respect to various macroeconomic variables in the long term. Behind these aggregate figures are disaggregated developments that are important for particular policies. For (the distribution of) welfare, it matters whether economic growth is pollution intensive, which regions grow fast, and which sectors benefit most from growth. For industries, it is important how comparative advantages of countries will change. And effectiveness of a policy response to ageing depends on developments in world capital markets.

This chapter focuses on the quantitative scenarios in a more disaggregated manner. First, we take a closer look at the patterns of economic growth. In particular, we pay attention to three issues: the factors that contribute to growth, the sectoral decomposition of production growth and regional patterns of growth. Second, we explore trade patterns of the European Union, such as the direction of trade and the revealed comparative advantages in the four scenarios. Finally, we elaborate on the implications of ageing in the alternative scenarios, for both labour markets and capital markets. Lejour (2003) provides more detailed information about the quantitative results of the scenarios.

16.1 Economic growth

Engines of growth: technical change is of critical importance

To see the driving forces behind economic growth in the four scenarios, we decompose GDP growth into three components: employment growth, capital accumulation, and total factor productivity growth (TFP). The development in each of these components is presented in table 16.1 for the four scenarios.

Table 16.1 Growth accounting for the European Union, 2000-2040

	Strong Europe	Transatlantic Market	Regional Communities	Global Economy
Labour	0.0	0.0	-0.2	0.2
Capital	0.7	0.6	0.4	0.9
TFP	0.8	1.3	0.5	1.3
GDP	1.5	1.9	0.6	2.4
Population	0.3	0.0	-0.2	0.3
GDP per capita	1.2	1.9	0.8	2.1

source: WorldScan

Table 16.1 shows that GDP growth in Regional Communities is less than a quarter of that in Global Economy: 0.6% versus 2.4%. In Strong Europe and Transatlantic Market, GDP

growth is almost similar at rates of 1.5% and 1.9%, respectively. The decomposition of growth in table 16.1 shows two important points. First, labour contributes little to GDP growth in all scenarios. In fact, only in Global Economy does employment have a positive effect on GDP growth. In this scenario incentives to supply labour are relatively strong and immigration into the European Union takes place at a relatively large scale. In contrast to this, in Regional Communities the population contracts and participation rates decline. As a result, employment exerts a negative effect on the growth of GDP.

A second observation from table 16.1 is that TFP growth is the most important driving force behind GDP growth. This underlines the critical importance of technology and, more generally, knowledge for level and growth of productivity. But TFP growth is more than technical change; for example, it also reflects changes in economic efficiency, that more or less public intervention may bring about, and changes in energy use. Again, Global Economy and Regional Communities are at the far ends. High TFP growth in Global Economy reflects an efficient functioning of markets, both nationally and internationally, which brings static efficiency gains but also dynamic technology gains. In Regional Communities lack of international competition in combination with extensive public intervention hurts economic efficiency and hinders development and diffusion of new technologies.

More than in any other scenario is GDP growth in Transatlantic Market driven by technical change. Productivity increases are concentrated in ICT-producing and ICT-using sectors. This is the result of intenser trade relations with the United States. Market failures and regionalism are the reasons that TFP growth in Transatlantic Market is still lower than in Global Economy. In contrast, public efforts to encourage R&D and ICT as part of the Lisbon strategy and ongoing internationalisation contribute to TFP growth in Strong Europe.

Capital accumulation follows to some extent from TFP growth. Higher productivity and income imply higher savings and investments. However, the macroeconomic propensity to save is also different across scenarios. In Strong Europe and Global Economy, early policy responses to the prospect of ageing populations are successful in stimulating national savings.

Developments in the population lead to smaller differences in per capita growth rates (at most 1 percentage point) than in overall growth rates (at most 1.9 percentage points). Strong Europe and Global Economy feature the highest population growth, partly as a result of immigration. Accordingly, the growth rate differential between Strong Europe and Transatlantic Market becomes larger: GDP per capita grows by 1.2% in the first scenario and by 1.9% in the second.

Sectoral growth differentials: towards a service-based economy

The GDP growth rates hide some important differences across sectors. Some of them will experience faster growth than others in each scenario, while the relative performance of sectors is substantially different across scenarios.

Table 16.2 presents the value-added shares of four (aggregated) sectors in the years 2000 and 2040. In each of the four scenarios, the service sector grows relative to other sectors. In particular, the share of services increases from about 73% in 2000, to between 81% (in Regional Communities) and 85% (in Global Economy) in 2040. The difference across scenarios is related to per capita GDP growth. Higher income per capita, combined with income elasticities for consumer services that exceed one, leads to a larger share of services in household consumption.[62]

Table 16.2 Sectoral value added in the EU-15, in 2000 and 2040 (% of GDP, excluding taxes)

	2000	Strong Europe 2040	Transatlantic Market 2040	Regional Communities 2040	Global Economy 2040
Agriculture and Food	6.5	4.2	3.6	4.7	3.2
Energy and Raw Materials	1.8	0.9	1.4	1.5	2.1
Manufacturing	18.6	13.3	12.2	12.4	10.2
Services	73.2	81.7	83.1	81.3	84.7

source: WorldScan. Value added in producer prices

The complement of a rising share of services in value added are falling shares of agriculture, energy and raw materials, and manufacturing. The decline in the production of energy and raw materials is especially pronounced in Strong Europe, where global climate change policies are introduced. With rapid economic growth in combination with lax environmental policies, Global Economy is, however, a pollution-intensive scenario.

Regional growth disparities: the gap between rich and poor closes sometimes slowly

The Lisbon agenda of the European Union includes the objective to raise productivity. Does Europe succeed in becoming the most dynamic economy of the world in terms of productivity? And what happens to other, relatively poor regions?

Table 16.3 shows GDP growth in five different regions in the world: the EU-15, an aggregate of countries east from the European Union (Central and Eastern Europe, Turkey and Russia),

[62] In Transatlantic Market, the diffusion of ICT leads to relatively strong productivity growth in services, which neutralises Baumol's law. Indeed, the share of services in this scenario is much lower than in Global Economy. Nevertheless, it does not reverse the trend of a rising share of services in the economy.

the United States, the rest of the OECD (comprising Japan, Canada, Oceania, and the EFTA countries), and non-OECD countries (including Asia). As a rule, GDP growth is highest in Global Economy and lowest in Regional Communities. One important difference between these two scenarios is the degree of economic integration, which is reflected in growth. In Transatlantic Market, the growth performance of non-OECD countries is relatively weak. This is because the two economic superpowers, Europe and the United States, work closely together, while poor countries are excluded from this cooperation.

Table 16.3 shows that most regions grow faster than the EU-15, irrespective of the scenario. One important reason is that population growth in the EU-15 is rather slow. For instance, the population growth rate in the United States exceeds that in the EU-15 by about 0.7% per year, while in non-OECD countries it is at least 1% per year higher.

Table 16.3 GDP growth, 2000-2040

	Strong Europe		Transatlantic Market		Regional Communities		Global Economy	
	00-20	20-40	00-20	20-40	00-20	20-40	00-20	20-40
EU-15	1.8	1.3	2.3	1.6	1.1	0.2	2.7	2.3
Eastern Europe	4.1	3.2	3.4	2.3	2.6	1.5	4.4	3.3
United States	2.3	1.5	3.0	2.2	2.0	0.9	3.0	2.2
rest of the OECD	1.2	0.6	1.4	0.9	1.0	0.2	1.8	1.6
non-OECD	5.0	4.3	3.6	2.8	4.1	3.2	5.5	4.6

source: WorldScan

Another reason for the growth differentials between the European Union and some other regions is the process of catching-up: poor, economically backward countries can learn from and grow faster than rich, economically advanced countries.[63]

Table 16.4 Catching up in labour productivity among regions, 2000 - 2040

	2000	Strong Europe	Transatlantic Market	Regional Communities	Global Economy
Eastern Europe to EU-15	13.8	32.4	20.0	20.8	25.7
Turkey to EU-15	14.1	37.1	18.2	22.3	27.1
EU-15 to US	80.5	83.8	75.9	78.1	76.2
Non-OECD to OECD	8.4	17.3	7.9	13.0	15.9

Labour productivity is defined as the ratio of GDP to employment. This does not take into account price differences. Typically the prices of non-tradeables are much lower in low-productive countries than in high-productive countries. As a result, the differences in purchasing power are smaller than reported differences in labour productivity.

[63] The scenarios do not distinguish between rapidly growing or declining regions outside Europe. Indeed, the scenarios differ primarily with respect to the developments within Europe.

Table 16.4 shows developments in the relative performance of regions with respect to labour productivity. Hence, population growth does not play a role for these developments. It reveals that Central and Eastern Europe and Turkey catch up with the EU-15 in all scenarios. In Strong Europe, convergence occurs at the most rapid pace, and the productivity ratio with the EU-15 more than doubles. In the other scenarios, convergence is significantly slower. In Transatlantic Market, for example, productivity in Turkey hardly catches up with the EU average because the Turkish economy is directed towards the poorer Eastern neighbours, rather than to the richer European Union. Similarly, globalization is on average conducive to convergence between poor, non-OECD countries and rich, OECD countries. Only in Transatlantic Market do productivity levels fail to converge and gap between rich and poor even grows.

In three of the four scenarios, labour productivity growth in the United States is higher than in Europe, especially in Transatlantic Market, where the European integration is not a success. The European Union outperforms the United States only in Strong Europe . Here, productivity levels catch up with those in the United States, fulfilling the implicit aim of the Lisbon agenda. The success is, however, relative since productivity growth is higher in the scenarios with strong emphasis on private responsibilities.

16.2 Trade

In a world where markets integrate and become global, trade patterns will change. In particular, European exports will be redirected to other regions, while competing imports may increase competition on home markets and lead to a restructuring of industries. This section elaborates on the various trade liberalisation policies in the different scenarios and the consequences thereof for export specialisation patterns.

European and global trade liberalisation

I all scenarios the countries from Central and Eastern Europe will become EU members. They will join the internal market, which implies a removal of all formal and informal barriers to trade. In Regional Communities, however, transitional periods for various aspects of the internal market take on a more permanent character. The EU accession thus effectively boils down to a customs union, e.g. in agriculture and food, in which informal trade barriers remain. In Strong Europe and Global Economy, the candidate countries integrate beyond the internal market as they enter the EMU. Moreover, the European Union enlarges with Turkey and concludes association agreements with the former Soviet Union.

In Strong Europe and Global Economy, global trade liberalisation is successfully pursued and leads to a reduction in tariffs and non-tariff barriers in 2005 and 2015. Global trade liberalisation fails in the other two scenarios. Transatlantic Market is characterised instead by

more intense cooperation between the United States, the European Union and Latin America. Regional Communities assumes regional trade liberalisation between the Americas from 2015 onwards.

Redirected trade flows: intra-EU trade becomes relatively less important

In 2000, almost 54% of all exports by EU countries have destinations within the European Union. Slightly more than 18% is shipped to non-OECD countries (mainly to Asia) while the remaining 28% flows more or less equally to the United States, the rest of the OECD, and the Eastern part of Europe (the Central and Eastern European countries, Russia and Turkey).

The direction of trade changes drastically in most scenarios, as shown in table 16.5. Asia will become a much more important trading partner for Europe during the coming decades. The four scenarios do not foresee a growth slowdown in Asia; growth in Asia partly explains increasing export shares to that part f the world. A related but somewhat different explanation is that possibilities for further integration of European markets have become smaller than in the past.

In Strong Europe and Global Economy, solid growth in Asia, together with the multilateral eradication of trade barriers, leads to a substantial fall in the share of intra-EU trade. Strong Europe, which also features lower trade barriers within the EU internal market, features a less pronounced trade shift towards Asia than Global Economy.

In Transatlantic Market the trade intensity between the European Union and the United States increases, thereby boosting the export share from 10% to almost 14%. Intenser transatlantic relations also lead to trade diversion, which shows up in a lower share of intra-EU trade (falling to 49%) and a more moderate increase in the share of trade with non-OECD countries (rising to 20%).

The smallest changes in trade patterns take place in Regional Communities where overall GDP growth is low and trade barriers remain largely intact. Still, the share of exports to non-OECD regions increases from 18% in 2000 to nearly 23% in 2040. This comes at the expense of trade with the rest of the OECD. The share of intra-EU trade remains stable because of the elimination of non-tariff barriers between the EU-15 countries.

Table 16.5 Destination of EU-15 export flows, in 2000 and 2040

	2000	Strong Europe 2040	Transatlantic Market 2040	Regional Communities 2040	Global Economy 2040
EU-15	53.5	47.3	49.3	52.8	39.4
Eastern Europe	8.2	9.6	8.9	8.3	9.5
United States	10.1	6.7	13.9	9.4	9.3
rest of the OECD	9.9	7.0	7.8	6.6	8.0
non-OECD	18.3	29.4	20.1	22.9	33.9
EU-15 exports[1]	100	428	411	208	704

source: WorldScan, regional; all aggregates include intraregional trade
[1] level of total EU-15 exports is indexed at 100 in 2000.

The comparative advantages of the European Union

Table 16.5 shows the so-called revealed comparative advantages for various sectors. For each sector, this measure is equal to the share of exports in total production relative to the average shares for other countries in the world (and multiplied by 100). If it is higher than 100, a region is said to specialise in that sector (i.e. it has a comparative advantage in that sector). Table 16.6 shows that the European Union today has a relatively strong position in the exports of agriculture and food, chemicals and minerals, and business services.

In all scenarios, the European Union maintains its comparative advantage in chemicals and minerals and business services. The comparative advantage in agriculture and food is somewhat artificial due to the CAP and disappears in three of the four scenarios. Only in Regional Communities is the direct and indirect support to farmers enough to maintain their position on world markets. In contrast, the export pattern of the European Union becomes more specialised in trade and transport in all scenarios, again with exception of Regional Communities.[64]

[64] Note that the development in the comparative advantage of business services and other services is different in Transatlantic Market as compared to the other scenarios. The reason is that the United States has a comparative advantage in these sectors and will in this scenario displace European exports.

Table 16.6 Revealed comparative advantages in the EU-15, in 2000 and 2040

	2000	Strong Europe 2040	Transatlantic Market 2040	Regional Communities 2040	Global Economy 2040
Agriculture and food	110	76	77	131	79
Energy and raw materials	36	44	55	59	78
Chemicals and minerals	134	147	135	152	159
Capital goods	102	93	102	90	85
Other manufacturing goods	100	86	88	99	79
Trade and transport	87	122	127	85	131
Business services	109	138	96	116	128
Other services	97	120	77	108	120

source: WorldScan.
The numbers include intra-EU trade. Revealed comparative advantage is measured as the share of exports in total production relative to the average shares for other countries in the world.

16.3 Ageing and capital markets

Ageing threatens to increase the tax burden on young, working generations, thereby exacerbating existing tax distortions and creating an inter-generational conflict. Chapter 9 discusses several ways to mitigate the impact of ageing: raise participation among the young, increase the retirement age, reduce government debt, or move from a pay-as-you-go towards a funded pension system. The success of each of these approaches hinges upon developments in the rate of return on savings. In particular, a low interest rate makes it less attractive to invest in financial capital (pension reform, a fiscal surplus) and more attractive to invest in human capital (increasing participation, education). In contrast, a high interest rate makes it relatively attractive to finance pensions through funded systems and to reduce public debt. This section discusses how the interest rate develops in different scenarios. In a simple model, the interest rate is determined by the demand for and supply of capital and the international mobility of capital. Below, we discuss each of these components of the interest rate.

Savings

Ageing tends to reduce the supply of capital. This follows from the life-cycle pattern of savings: people borrow when young, save when mature, and dissave when old.[65] As a result, the average savings rate declines when the old-age dependency ratio increases during the coming decades. To get a grip on the relationship between capital supply and the expected demographic changes, WorldScan adopts an equation where savings depend on the growth of GDP per capita and the

[65] Retirees may not save from a macroeconomic perspective if pensions are based on a pay-as-you-go system.

demographic structure of the population. The equation is estimated using panel data for a group of countries.

Saving rates, as they also depend on policies, differ across the scenarios. For instance, pension reform or fiscal consolidation may offset the initial decline in national savings. For this reason, savings rates in Strong Europe and Global Economy are higher than in Transatlantic Market and Regional Communities. Yet, this is not sufficient to prevent a decline in savings. Table 16.7 shows that savings rates are below the level in 2000 in all scenarios. The average savings rate in the second period 2020-2040 is lower than in the first period 2000-2020, reflecting differences in the degree of ageing.

Table 16.7 Demand for and supply of capital, and real interest rates, in 2000 and 2040

		Strong Europe		Transatlantic Market		Regional Communities		Global Economy	
	2000	2020	2040	2020	2040	2020	2040	2020	2040
Savings (% of GDP)	18.8	19.0	15.1	17.1	13.0	16.7	12.7	19.5	15.6
Net foreign assets (% of GDP)	−0.8	−13.9	−35.3	−17.2	−29.3	−5.5	−9.9	−25.5	−72.4
Demand for capital (annual growth, %)		2.3	2.0	2.3	1.9	1.7	0.8	2.8	3.1
Interest rate	3.6	3.5	3.3	4.2	4.3	3.0	2.6	4.2	3.8

source: WorldScan

Investment

The demand for capital depends on the cost of capital and the marginal productivity of capital in production. For this latter development, the labour market is important. Ageing reduces the growth of employment. By increasing the capital-labour ratio, this depresses the marginal productivity of capital and reduces investment.[66] The demand for capital therefore largely follows from the development in employment.

The developments in employment are presented in table 16.8, which reveals that employment grows by 0.4% annually in Global Economy, while it declines by 0.5% in Regional Communities. In Strong Europe and Transatlantic Market, the growth rate takes an intermediate value of 0.1%. Table 16.8 decomposes employment growth into three parts: population growth, participation (of the population), and involuntary unemployment (among participants on the labour market). In Regional Communities, the population shrinks. In Global Economy and Strong Europe, immigration, higher fertility, and lower mortality rates

[66] Similarly, tough environmental policies reduce the input of energy and raw materials in production, thereby reducing the marginal productivity of capital and thus the demand for capital.

offset the decline in the population. Hence, the population keeps growing. Ageing reduces the overall participation rate, however. In Global Economy, this development is offset by a higher participation of younger generations, and a rising effective retirement age. Also in Transatlantic Market and Strong Europe, this mitigates the downward trend in the participation rate – although to a smaller degree than in Global Economy. A lower unemployment rate hardly contributes to employment growth. In Strong Europe, Transatlantic Market and Global Economy does the unemployment rate fall, but this adds only negligibly to the growth of employment.

Table 16.8 Decomposition of employment growth for the EU-15, 2000-2040
Average annual growth rate

	Strong Europe	Transatlantic Market	Regional Communities	Global Economy
Employment	0.1	0.1	–0.5	0.4
Population	0.3	0.0	–0.2	0.3
Participation (of population)	–0.3	–0.1	–0.4	0.0
Unemployment (among participants)	0.1	0.1	0.0	0.1

source: WorldScan and for population Eurostat .
A decrease in the unemployment rate contributes positively to employment growth. A '+' sign in the row for unemployment implies a lower unemployment rate.

International capital mobility

International mobility of capital increases the opportunities to invest capital abroad and thus reduces the impact of national saving and investment on the interest rate. Note, however, that capital mobility between developed and developing countries will play a minor role in solving the ageing problem as the box: *Why investing in developing countries will not solve the ageing problem* reveals.

The degree of capital mobility differs across scenarios. In Strong Europe and Global Economy, capital is relatively mobile internationally as capital markets become better integrated. Accordingly, the European Union finds it easier to attract foreign capital. In Strong Europe and Global Economy, this causes a net inflow of foreign assets – especially after 2020 when savings decline. At the end of the scenario period, net foreign debt increases to almost 36% and 73% of GDP, respectively, in Strong Europe and Global Economy respectively. Most foreign assets originate from Asia, where saving rates are higher than elsewhere. The opportunity to import capital from abroad implies that the impact of savings and investment on the interest rate is smaller.

Why investing in developing countries will not solve the ageing problem

For at least as long as capital is mobile between rich and poor countries, interest rates will depend on the economic conditions in not only developed countries, but also developing countries. Indeed, a popular idea is that the developed countries in the North will finance their future pensions by investing their funds in developing countries in the South. Without this possibility, higher savings in developed countries would sooner depress the rate of return on investment. With capital mobility, in contrast, higher savings in the North would not reduce the interest rate as they can be invested in the South at relatively high rates of return.

This idea should be qualified for several reasons. First, the return to investment in poor countries is not necessarily higher than in rich countries. This was the reply when Lucas asked more than 10 years ago: "Why Doesn't Capital Flow from Rich to Poor Countries?". The return seems conditional on several institutional factors. Second, many developing countries, especially in Asia, feature high saving rates themselves. This implies that these countries do not need to import capital from the North. Third, ageing is not confined to developed countries: it is a world-wide phenomenon that also applies to developing countries. Therefore, the demand for capital in developing countries may fall as well. Finally, many impediments hamper cross-border capital flows. Developing countries would need to liberalise their financial markets so as to remove these impediments. But even if financial capital were fully mobile, the return on investment might fall quickly if the pace of investment is high. The reason is that countries that expand and grow rapidly see their terms-of-trade deteriorate. This leads to a lower return on investment and limits the incentive to invest in faster-growing countries.

Projections for the interest rate

The last row in table 16.8 shows that the interest rate decreases in Strong Europe and Regional Communities and increases in Transatlantic Market and Global Economy. The spread between the real interest rates is 1.7 points in 2040 (2.6% in Regional Communities and 4.3% in Transatlantic Market). The simulation results thus indicate that the impact of ageing on the interest rate is ambiguous: neither the effect of lower investment, nor the effect of lower savings dominates. To understand the different patterns of the interest rate, compare Strong Europe and Transatlantic Market. GDP grows at a similar rate, while there are only small differences in the demand for capital. In Strong Europe, however, savings and capital mobility are higher than in Transatlantic Market. This leads to a declining interest rate in the first scenario, and a rising interest rate in the second. Comparing Global Economy and Strong Europe, we see that the main difference is the demand for capital. In Global Economy, the European economy grows at a faster pace than in Strong Europe, which raises investment. As a result of higher demand, the interest rate in the first scenario is higher than in the second.

17 What next? What if ...

Scenarios are useful for analysing policies with long-term, uncertain implications. This chapter indicates what type of analysis may benefit from scenarios and how scenarios should be used.

Two key uncertainties mark the future of Europe. First, uncertainty with respect to global and regional cooperation determines the pace of economic and political integration, both across continents and within the European Union. This has important implications for welfare. Second, uncertainty with respect to national institutional developments determines how European countries cope with a number of social and economic challenges, such as ageing, technological change, increased heterogeneity and increased costs of taxation. This determines both the level and the distribution of welfare. Combining the two key uncertainties yields four possible futures of Europe. Figure 17.1 presents these four scenarios.

Figure 17.1 The four scenarios

Follow-up studies at CPB will use scenarios as a tool to address particular, strategic questions for the Netherlands. Examples are policies in the area of the environment, infrastructure, spatial demand, ageing and the welfare state. To illustrate, what policy measures are necessary in each scenario to achieve a given set of environmental targets? What policies are required to meet competing spatial demands? Clearly, the required policies differ among scenarios. To address

such questions, the four scenarios for Europe in this study will be extended with more specific information for the Dutch economy.

Others may use the scenarios as well. Thereby, the scenarios may serve two purposes. First, the scenarios provide a structure for discussing future uncertainties and their mutual interdependencies in a comprehensive framework. The scenarios give a feeling for the range of possible outcomes in the future, and perhaps an early warning to policy makers about particular bottlenecks. The scenarios also offer a tool for thinking about future international policy issues, such as international cooperation. In a sense, the positive approach of the scenarios forms the mirror image of chapter 7, where we discussed international cooperation from the perspective of the subsidiarity principle.

The use and misuse of scenarios

Scenarios are ...	Scenarios are not / cannot ...
... possible futures of the world	... predictions of the future
... exogenously given for the user	... be influenced by the user
... all plausible	... to be selected by the user
... consistent	... "visions"
... explorations of "what if ..."	... explorations of "what happens ..."

Second, the scenarios can be used to explore strategic policies in the Netherlands. Thereby, it is important to note that there is always a risk that scenarios are used inappropriately as the Box "*The use and misuse of scenarios*" reveals. In particular, the scenarios should form the exogenous backgrounds that are outside the influence of the policy maker. Indeed, Dutch policy makers have only a limited impact on policies in other countries or on international agreements. Therefore, where scenarios are used, questions should start with: "What if ...". What should governments do today if they do not accept an increase in the future tax burden under alternative scenarios? With thriving world trade, investments in transport and distribution are perhaps profitable, but what if the process of integration falters (as in Transatlantic Market and Regional Communities): will such investments still be profitable? In this way, the scenarios offer a range of distinct worlds in which long-term policies can be explored.

How do policies work out in alternative worlds? What are no-regret options? Which policies have a high option value of waiting as they are attractive only in one scenario? The aim of our scenarios is to provide a toolkit for these type of analyses. Wit this study, we present a challenging toolkit to policy makers and researchers who must consider policies with long-term implications.

References

Acemoglu, D., 1998, Why do new technologies complement skills? Directed technical change and wage inequality, *Quarterly Journal of Economics* 113, 1055-1090.

Adam, K. T. Jappelli, A. Menichini, M.Padula, M. Pagano, 2001, Analyse, compare, and apply alternative indicators and monitoring methodologies to measure the evolution of capital market integration in the European Union, Centre for Studies in Economics and Finance (CSEF), Department of Economics and Statistics, University of Salerno.

Aghion, P., E. Caroli and C. García-Peñalosa, 1999, Inequality and economic growth: the perspective of the new growth theories, *Journal of Economic Literature* 37, 1615-1660.

Alesina, A., I. Angeloni and L. Schuknecht, 2001a, What does the European Union do?, NBER Working Paper, no. 8647.

Alesina, A., O. Blanchard, J. Galí, F. Giavazzi, and H. Uhlig, 2001b, Defining a macroeconomic framework for the Euro-area; Monitoring the European Central Bank 3, CEPR.

Alesina, A., E. Glaeser, and B. Sacerdote, 2001c, Why doesn't the US have a European-style welfare state, mimeo

Altshuler, R., H. Grubert and T.S. Newlon, 2001, Has US investment abroad become more sensitive to tax rates?, in J. Hines Jr. (ed.), *International Taxation and Multinational Activity*, University of Chicago Press.

Altshuler, R. en T.J. Goodspeed, 2002, Follow the leader? Evidence on European and US tax competition, mimeo Hunter College.

Anderson, K., 1999, Agriculture, developing countries and the WTO millennium round, CIES Discussion Paper no. 99/28, Adelaide Australia.

Ark B. Van, and R. H. McGuckin III, 2003, Performance 2002: productivity, employment, and income in the world's economies, The Conference Board, Report R-1328-03-RR.

Arranz, M.R., 2001, Wage information and information technology, mimeo.

Autor, D., L. Katz and A. Krueger, 1998, Computing inequality: have computers changed the labor market?, *Quarterly Journal of Economics* 113, 1169-1213.

Balassa, B., 1961, *The theory of economic integration*, Irwin, Homewood, Illinois.

Baldwin, R.E., J.F. Francois, and R. Portes, 1997, Costs and benefits of eastern enlargement: the impact on the EU and Central Europe, *Economic Policy* 24, 127-176.

Baldwin, R., 2000, Regulatory protection, Developing nations and a two-tier world trade system, CEPR Discussion Paper, 2574, London.

Baldwin, R., E. Berglöf, F. Giavazzi, and M. Widgreen, 2001, Nice Try: Should the treaty of Nice be ratified? Monitoring European Integration 11, CEPR.

Baldwin, R. and M. Widgreen, 2003, How the draft constitutional treaty affects powers in the EU, web essay on http://heiwww.unige.ch/~baldwin/policy.htm.

Barnes, J. ,2000, *Something to declare*, Picador, London.

Bartel, A.P. and F. Lichtenberg, 1987, The comparative advantage of educated workers in implementing new technology, *Review of Economics and Statistics*, 49, 1-11.

Bartel, A.P. and N. Sicherman, 1999, Technological change and wages: an interindustry analysis, *Journal of Political Economy* 107, 285-325.

Bauer, T. and K. Zimmermann, 1999, Assessment of possible migration pressure and its labour market impact following EU enlargement to CEE, Research Report 139, Department for Education and Employment, UK.

Baumol, W.,and W.G. Bowen, 1966, *Performing arts: the economic dilemma*, Twentieth Century Fund, New York.

Baumol, W., 1967, Macroeconomis of unbalanced growth; the anatomy of urban crisis, *American Economic Review*, 57, 415-426

Becker, G.S., 2002, The continent gets it, *Business Week*, April.

Beetsma, R. en C. Oudshoorn, 1999, Tools for regional stabilisation, AEP Research Memorandum 9903, Ministerie van Economische Zaken, The Hague.

Beetsma, R., and H. Uhlig, 1999, An analysis of the stability and growth pact, *Economic Journal*, 109, 546-571.

Bentivogli, C. and P. Pagano, 1999, Regional disparities and labour mobility: The European Union versus the USA, *Labour*, 13, 737-760.

Berman, E., J. Bound and Z. Griliches, 1994, Changes in the demand for skilled labor within U. S. Manufacturing industries: Evidence from the annual survey of manufactures, *Quarterly Journal of Economics*, 109, 367-365.

Bertrand, G., A. Michalski and L.R. Pench, 2000, *European futures; five possible scenarios for 2010*, Cheltenham : Edward Elgar Publishing.

Boeri, T., and H. Brucker (Main authors of the European Integration Consortium), 2000, The impact of Eastern enlargement on employment and labour markets in the EU Member States, Report for the European Commission, Berlin.

Bonaglia, F., J. Braga de Macedo and M. Bussolo, 2001, How globalization improves governance, CEPR Discussion Paper, 2992

Bordo, M.D., B. Eichengreen, and D.A Irwin, 1999, Is globalization today really different than globalization a hundred years ago?, NBER Working paper 7195

Bovenberg, A.L., and C.N. Teulings, 1996, Doelmatigheid, rechtvaardigheid, rechtsgelijkheid en privacy, *Economisch-Statische Berichten*, 81, 1008-1011.

Bovenberg, A.L., and P.B. Sorensen, 2003, Improving the equity-efficiency trade-off: mandatory savings accounts for social insurance, paper presented at the 59th Annual Congress of the International Institute of Public Finance in Prague, August 25-28, 2003.

Bradley, D., E. Huber, S. Moller, F. Nielsen and J. Stephens (2001), Distribution and redistribution in post-industrial democracies, Luxembourg Income Study Working Paper No. 265.

Braunerhjelm, P., R. Faini, V. Norman, F. Ruane, and P. Seabright, 2000, *Integration and the regions of Europe: how the right policies can prevent polarization*, Monitoring European Integration 10, London: CEPR.

Breuss, F., 2001, Macroeconomic effects of EU enlargement for old and new members, WIFO working paper no. 143/2001, WIFO, Vienna.

Brewer, T., P.A. Brenton and G. Boyd, 2002, Globalizing Europe: Deepening integration, alliance capitalism and structural statecraft, New Horizons in International Business, Cheltenham, UK and Northampton,

Brown, D., A.V. Deardorff, S. Djankov and R.M. Stern, 1997, An economic assessment of the integration of Czechoslovakia, Hungary and Poland into the European Union, in: S.W. Black (ed.), *Europe's Economy looks East: Implications for Germany and the European Union*, Cambridge University Press.

CEPR, 2002, *Making sense of globalization*, CEPR Policy Paper 8.

Chen, Y-F., en M. Funke, 2003, Labour demand in Germany: an assessment of non-wage labour costs, CESifo Working Paper no. 952.

Coe D.T, and E. Helpman, 1995, International R&D spillovers, *European Economic Review*, 39, 859-87.

Coppel, J., J.C. Dumont and I. Visco, 2001, Trends in immigration and economic consequences, OECD Economics Department Working Papers no. 284.

CPB, 1985, The Dutch economy in the long run: three scenarios for 1985-2010. 1985 (in Dutch), Working Paper no. 1.

CPB, 1992a, *Scanning the future; a long-term scenario study of the world economy 1990-2015*, SDU Publishers.

CPB, 1992b, *The Netherlands in triple; scenario's for the Netherlands 1990-2015* (in Dutch), SDU Publishers.

CPB, 1997a, *Challenging neighbours; rethinking German and Dutch economic institutions*, Berlin, Springer Verlag.

CPB, 1997b, *Economics and its physical surroundings: policy challenges and options 1995-2020*, SDU Publishers.

CPB, 1999, *WorldScan: the core version*, The Hague.

CPB, 2003a, *Centraal Economisch Plan*, 157-167, CPB, The Hague.

CPB, 2003b, *Macro Economische Verkenning*, 137-148, The Hague.

CPB/SCP, 2003, *Social Europe*, Sdu Publishers.

Davies, H., and J. Heather, 1992, Sex, sharing and the distribution of income, Birkbeck College Discussion Papers in Economics 9/92.

Davis, S.J. (1992), Cross-country patterns of change in relative wages, *NBER Macroeconomic Annual*.

Decressin J. and A. Fatas, 1995, Regional labour market dynamics in Europe, *European Economic Review*, 39.

Deininger, K., and L. Squire (1996), A new data set measuring income inequality, *World Bank Economic Review*, 10(3), 565-591

Devereux, M.P., B. Lockwood, and M. Redoano, 2002, Do countries compete over corporate tax rates?, CEPR Discussion Paper, no. 3400.

Devereux, M., R. Griffith en A. Klemm, 2002, Corporate income tax reforms and tax competition, *Economic Policy*, 451-495.

Duff, A. and S. Williams, 2001, European futures: alternative scenarios for 2020, London : Federal Trust for Education and Research.

Ederveen, S., J. Gorter, R.A. de Mooij and R. Nahuis, 2002, *Funds and Games: the economics of European cohesion policy*, Sdu publishers, The Hague.

Ederveen S. and N. Bardsley, 2002, The influence of wage and unemployment differentials on labour mobility in the EU: A meta-analysis, mimeo, CPB.

Eichengreen, B., and C. Wyplosz, 1998, Stability Pact; More than a minor nuisance?, *Economic Policy*, April.

Eichengreen, B., 1993, Labour markets and European monetary unification, in: Masson, R.P. and Taylor, M.P. (eds.) *Policy Issues in the Operation of Currency Unions*, Cambridge: Cambridge University Press, 130-162.

Eichholz, P.M.A., C.G. Koedijk and R. Otten, 2002, Aandelen blijven beste beleggingen, *Economisch-Statistische Berichten*, 4345, 90-91.

European Commission, 1996, *The single market review*, Kogan Page, London.

European Commission, 1998, Conclusions of the ECOFIN Council meeting on 1 December 1997 concerning taxation policy, *Official Journal of the European Communities*, C2, 6/1/98, 1-6.

European Commission, 2001a, The economic impact of enlargement, Enlargement paper no. 4, DG for Economic and Financial Affairs, Brussels.

European Commission, 2001b, Company taxation in the internal market, COM(2001)582.

Eurostat, 2002, Statistics in focus: population social conditions, theme 3 - 9/2002.

Esping-Andersen, G., 1999, *Social foundations of post-industrial economics*, Oxford: Oxford University Press.

Feldstein M. and C. Horioka, 1980, Domestic saving and international capital flows, *Economic Journal*, 90, 314-29.

Flinn, C., 2002, Labour market structure and inequality: a comparison of Italy and the US, *Review of Economic Studies*, 69, 611-45.

Frankel J. and A. Rose, 1999, The endogeneity of the optimum currency area criteria, *Swedish Economic Policy Review* 4, 487- 512.

Frankel, J, and A. Rose, 2002, An estimate of the effect of common currencies on trade and income, *Quarterly Journal of Economics*, 437-466.

Fujita M., P. Krugman and A.J. Venables, 1999, *The spatial economy*, MIT Press.

Gelauff, G.M.M. and J.J. Graafland, 1994, *Modelling welfare state reform*, Contributions to Economic Analysis, North Holland.

Giannetti, M., L. Guiso, T. Jappelli, M. Padula and M. Pagano, 2002, Financial market integration, corporate financing and economic growth, final report, European Economy, Economic Papers no. 179.

Gordon, R.H., and H.R. Varian, 1989, Taxation of asset income in the presence of a world securities market, *Journal of International Economics* 26, 205-26.

Gordon,R.H., and A.L. Bovenberg, 1996, Why Is capital so immobile internationally? Possible Explanations and Implications for Capital Income Taxation, *American Economic Review*, 86, 1057-75

Gorter, J., 2002, The economic geography of Europe, *CPB Report*, 2002/4.

Gorter, J. and R.A. de Mooij, 2001, *Capital income taxation in the European Union: trends and trade-offs*, Sdu Publishers, The Hague.

Goulder, L.H., I.W.H. Parry and D. Burtraw, 1997, Revenue-raising vs. other approaches to environmental protection: the critical significance of preexisting tax distortions, *Rand Journal of Economics*, 28, 08-731.

Grauwe, P. de, en M. Polan, 2003, Globalization and social spending, CESifo Working Paper no. 885.

Groot, H.L.F. de, R. Nahuis and P.J.G. Tang, 2003, Is the American model miss world? Choosing between the Anglo-Saxon model and a European-style alternative, CPB Document, forthcoming.

Harrison, G., T.F. Rutherford D.G. Tarr, Trade liberalization, poverty and efficient equity, 2003, *Journal of Development Economics*, 71, 97-128.

Heston, A., R. Summers and B. Aten, 2002, Penn World Table Version 6.1, Centre for International Comparisons at the University of Pennsylvania (CICUP).

Hoekman, B., and C.P. Braga, 1997, Protection and trade in services: a survey, Policy Research Paper 1747, World Bank, Washington.

Hufbauer, G. and F. Neuman, 2002, Trade and investment: an American perspective, paper for conference on 'Transatlantic Perspectives on US-EU Economic Relations'.

Hummels D., 1999, Towards a Geography of trade costs, University of Chicago, mimeo.

IPCC, 2000, *Emission scenarios*, Cambridge University Press.

Italianer, A., 1999, The euro and internal economic policy coordination, *Empirica* 26, 201-216.

Jacobs, B. ,2004, The lost race between schooling and technology, *De Economist*, forthcoming

Keller, W., 2001, The geography and channels of diffusion at the world's technology frontier, NBER Working Paper, 8150.

Koning, P. and A. Deelen, 2003, Prikkels voor UWV, CPB Document, The Hague.

Krueger, A., 1993, How computers have changed the wage structure: evidence from micro data, 1984-1989, *Quarterly Journal of Economics* 110, 33-60.

Krusell, P., L. Ohanian, V. Ríos-Rull and G. Violante, 2000, Capital-skill complementarity and inequality: A macroeconomic analysis,*Econometrica*, 68, 1029-53.

Lawrence, R.Z., A. Bressand and T. Ito, 1996, *A vision for the world economy: openness, diversity and cohesion*, The Brookings Institution, Washington D.C.

Leibfritz W., P. O'Brien and J.C. Dumont, 2002, Effects of immigration on labour markets and government budgets: an overview, paper presented at the CPB-ENEPRI conference 'Policy competition and the welfare state', 30 November 2002, The Hague.

Lejour, A.M., 2003, Four long-term scenarios for Europe: a quantitative assessment, CPB Document, forthcoming.

Lejour, A.M., R.A. de Mooij and R. Nahuis, 2003, EU enlargement: Economic implications for countries and industries, in: H. Berger, T. Moutos and H-W. Sinn (eds), *Managing EU enlargement*, forthcoming in MIT Press .

Leuvenstein, M. van, and J. van Ommeren, 2003, New evidence of the effect of transaction costs on residential mobility, CPB Discussion Paper no. 18, The Hague.

Lundberg, M., and L. Squire, 2003,The simultaneous evolution of growth and inequality, *Economic Journal*, 113, 326-344.

Machin, S. and J. Van Reenen, 1998, Technology and changes in skill structure: Evidence from seven OECD countries, *Quarterly Journal of Economics*, 113, 1215-44.

Maddison, A., 2001, *The world economy in millennial perspective*, Paris: OECD

McCallum, J., 1995, National borders matter: Canada-U.S. regional trade patterns, *American Economic Review* 85, 615-623.

Mirrlees, J.A., 1971, An Exploration in the theory of optimum income taxation, *Review of Economic Studies* 38, 175-208.

Mooij, R.A. de, and S. Ederveen, 2003, Taxation and foreign direct investment: a synthesis of empirical research, *International Tax and Public Finance*, forthcoming.

Mooij, R.A. de, en R. Nahuis, 2003, Kansen en bedreigingen van de EU-uitbreiding, *Tijdschrift voor Politieke Economie*, 24, 3-29.

Nahuis, R., and H.L.F. de Groot, 2003, *Rising Skill Premia: you ain't seen nothing yet?*, CPB Discussion Paper 20.

Nahuis, Richard and Sjak Smulders, 2002, The skill premium, technological change and appropriability, *Journal of Economic Growth*, 7, 137-156

Nahuis, R., en H. van der Wiel, 2003, The 'new economy': where do we stand and where do we go?: The ICT policy agenda, Lisbon or back to Cardiff?, CPB Discussion Paper, forthcoming

Nickell, S.J., 1997, Unemployment and labor market rigidities, *Journal of Economic Perspectives*, 11, 55-7.

Nickell, S.J. and R. Layard, 1999, Labor market institutions and economic performance, in: Ashenfelter, O. and D. Card (eds), *Handbook of labor economics*, vol. 3c, Amsterdam: Elsevier.

Nicoletti, G. And S. Scarpetta, 2003, Regulation, productivity and growth: OECD evidence, *Economic Policy*, 36, 9-69.

Obstfeld M. and K. Rogoff, 2000, The six major puzzles in international macroeconomics: is there a common cause?, NBER Working Paper 7777.

OECD, 1999, *Assessing performance and policy; implementing the OECD job strategy*, Paris

OECD, 2001a, *Agricultural Policies in OECD Countries: monitoring and evaluation*, Paris

OECD 2001b, Fiscal implications of ageing: projections of age-related spending, Economics Department Working Paper, no. 35

OECD, 2001c, *Employment Outlook 2001*, Paris

OECD, 2002, *Employment Outlook 2002*, Paris

OECD, 2003a, *Transforming disability into ability; policies to promote work and income security for disabled people*, Paris

OECD, 2003b, *Information Technology outlook; ICTs and the information economy*, Paris

Rele, H. ter, and G. van Steen, 2001, Housing subsidisation in the Netherlands: measuring its distortionary and distributional effects, CPB Discussion Paper no. 2.

RIVM, 2001, The IMAGE 2.2 implementation of the SRES scenarios: Climate change scenarios resulting from runs with several GCMs, RIVM CD-ROM Publication 481508019.

RIVM, 2003, Four scenarios for Europe based on UNEP's third Global Environment Outlook, RIVM rapport 402001021.

Rodríguez, F. and D. Rodrik, 1999, Trade policy and economic growth: a skeptic's guide to the cross-national evidence, NBER Working Paper, 7081

Rodrik, D., 1998, Why do more open economies have bigger governments?, *Journal of Political Economy*, 106, 5, 997-1032

Roodenburg, H., R. Euwals and H. ter Rele, 2003, *Immigration and the Dutch economy*, The Hague, CPB & Koninklijke De Swart

Sala-i-Martin, X.X., 1996, Regional cohesion: Evidence and theories of regional growth and convergence, *European Economic Review*, 40, 1325-1352.

Sapir, A., 1992, Regional integration in Europe, *Economic Journal*, 102, pp. 1491-1506.

Sapir, A., 2000, Who is afraid of globalization? The challenge of domestic adjustment in Europe and America, paper for conference on 'Efficiency, Equity and Legitimacy: The Multilateral Trading System at the Millennium'

Sapir, A., 2001, Old and New Issues in EC-US Trade Disputes, paper for conference on 'Transatlantic Perspectives on US-EU Economic Relations'

Sapir, A., P. Aghion, G. Bertola, M. Hellwig, J. Pisani-Ferry, D. Rosati, J. Viñals en H. Wallace, 2003, An agenda for a growing Europe – Making the EU economic system deliver, Report of an independent high-level study group established on initiative of the President of the European Commission.

SER, 2001, Arbeidsmobiliteit in de EU, SER advies 01/04, The Hague.

Sinn, H.-W., 2000, Why A funded pension system is useful and why it is not useful, *NBER Working Paper*, 7592

Stiglitz, 2002, *Globalization and its discontents*, Norton, New York

Straubhaar, T., 1988, International labour migration within a common market: some aspects of EC experience, *Journal of Common Market Studies*, 27, 45-62.

Tinbergen, J. , 1975, *Income distribution; analysis and policies*, North-Holland, Amsterdam

Uhlig, H., 2002, One money, many fiscal policies in Europe: what are the consequences?, CEPR Discussion Paper, 3296

UNICE, 2000, *Memorandum on cross-border company taxation obstacles in the single market*.

Visser, J., 2001, Europa en de CAO: Drie scenario's en een toekomstverkenning, AIAS research paper, University of Amsterdam (in Dutch).

Vollaard, B., 2003, Performance contrasts for police forces, CPB Document no. 31.

WTO, 2001, Doha briefing notes: some facts and figures, see www.wto.org.

Zalm, G., 1999, Budgettaire coordinatie: to be or not to be?, in: *Langs de lijnen van geleidelijkheid* (in Dutch), Wolters Noordhoff.

Zuckerman, M.B., 1998, Debate: A second American century, *Foreign Affairs*, May/June.