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THE TRADE-INDUCED EFFECTS OF THE SERVICES DIRECTIVE AND THE COUNTRY-OF-ORIGIN PRINCIPLE

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Abstract in English

The proposed Services Directive by the European Commission could increase intra European trade in commercial services by 30 to 60 percent. This paper analyses the welfare effects of the trade growth using an applied general equilibrium model WorldScan. It shows that GDP could be raised by 0.3 to 0.7 percent and consumption by 0.5 to 1.2 percent in the European Union as a whole. These results could only be realised if the Services Directive is implemented including the country of origin principle. If this principle is excluded from the directive, trade increases only by 20 to 40 percent. The trade-induced welfare effects are correspondingly lower. GDP could rise by 0.2 to 0.4 percent and consumption by 0.3 to 0.7 percent in the EU as a whole. The country-specific effects vary: most of the new Member States will experience larger gains than the average Member State because their services trade is now still hampered by relatively large regulatory barriers in these countries.

Key words: Services Directive, trade, internal market EU, country of origin principle

JEL code: F12, F15, L51, L8

Abstract in Dutch

De intra-Europese handel in commerciële diensten kan met 30 tot 60 procent toenemen als de dienstenrichtlijn wordt geïmplementeerd zoals die door de Europese Commissie is voorgesteld. Dit document analyseert de welvaartseffecten van deze handelstoename gebruikmakend van het algemeen evenwichtsmodel WorldScan. Het laat zien dat het BBP in de Europese Unie met 0,3 tot 0,7 procent kan toenemen en consumptie met 0,5 tot 1,2 procent. Deze resultaten kunnen gerealiseerd worden als de dienstenrichtlijn inclusief het land van oorsprongbeginsel wordt geïmplementeerd. Als dit principe uit de dienstenrichtlijn wordt gehaald neemt de handel maar met 20 tot 40 procent toe. De welvaartseffecten van die handelstoename zijn dan ook kleiner. Het BBP in de EU kan met 0,2 tot 0,4 procent toenemen en consumptie met 0,3 tot 0,7 procent. De landspecifieke effecten variëren: voor de meeste nieuwe lidstaten zijn de handels- en welvaartseffecten groter dan gemiddeld omdat hun dienstenhandel nu nog gehinderd wordt door relatief veel regulering.

Steekwoorden: Dienstenrichtlijn, handel, interne markt, land van oorsprongbeginsel

Een uitgebreide Nederlandse samenvatting is beschikbaar via www.cpb.nl.

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Preface

In 2004, the European Commission proposed a directive to liberalise trade in services within the European Union. In most services sectors, less than 5 percent of production is exported to other countries. This is at least partly caused by trade costs resulting from a myriad of regulatory barriers. Previous CPB research (*The free movement of services within the EU*, CPB Document 69) concluded that the Services Directive could increase trade in commercial services by 30 to 62 percent and foreign direct investment by 20 to 35 percent within the EU. The present CPB Document builds upon these results. CPB's general equilibrium model for the world economy, WorldScan, is used to analyse the welfare effects of the trade increase induced by the Services Directive. The model is amended with imperfect competition and increasing returns to scale. The results show that the proposed directive increases trade, consumption and production of commercial services within the EU. The size of the effects is significantly affected by the country of origin principle. This principle is a key element of the original proposal of the European Commission but it is heavily debated in Europe. It states that Member States are not allowed to regulate their services imports on top of the regulation already imposed by the exporting country. If this principle is eliminated from the proposed directive, the effects of the amended directive are still substantial, but significantly smaller than in case the country of origin principle is implemented.

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Summary

In March 2004, the European Commission proposed a directive on the internal market in services. Its aim is to boost the EU's internal market in services by reducing regulation-based impediments to trade and investment in services. A previous CPB study *The free movement of services within the EU* concluded that bilateral trade in commercial services may increase by 30-60 per cent. This equals an increase of total intra-EU trade (i.e. including trade in goods) of 2 to 5 per cent. For foreign direct investment in commercial services the EU proposal may lead to an increase by 20 per cent to 35 per cent.

The present study adds to the previous analysis in two ways. First, it assesses the welfare effects of trade growth in commercial services induced by the directive. We use our general-equilibrium model WorldScan to analyse the welfare effects for the various Member states and economic sectors if the trade growth is realised. Second, it analyses separately the role of the country of origin principle (CoOP). This is a key element of the proposed directive but it is heavily debated. The principle states that a service provider has to meet the standards set by regulation of the country of origin, but that he may no longer be confronted by additional regulation in the EU country where the service is delivered. The present paper also examines the trade effects and accompanying welfare effects of the Services Directive if the country of origin principle is eliminated from the proposed directive.

The trade effects of the Services Directive are derived in lowering the trade-hampering country differences in the way services markets are regulated. We have assessed to what extent policy heterogeneity would be reduced if the directive was implemented. Based upon the empirical relation between bilateral trade in services and the heterogeneity indicators we assessed that services trade could increase by 30 to 60 percent within the EU. The present paper also investigates the impact of the CoOP on intra-EU services trade. We conclude that the role of CoOP is substantial: without CoOP intra-EU services trade could increase by 20 to 40 percent. The principle contributes for about a third to the trade-effects of the directive.

The next step is to assess the general equilibrium effects of the increase in intra-EU other commercial services trade, including and excluding the country of origin principle, using CPB’s general equilibrium model WorldScan. Reductions in non-tariff barriers are used to mimic the trade increases induced by the Services Directive. These reductions are carefully calibrated using the Armington demand functions in order to simulate the ex ante trade increases precisely.

The model results show that GDP could be raised by 0.3 to 0.7 percent, and consumption by 0.5 to 1.2 percent in the European Union as a whole. This GDP increase adds 32 to 74 billion euros

to Europe's economy based on EU's GDP in 2004. These results could only be realised if the Services Directive is implemented including the country of origin principle. Without the principle, the welfare effects of the induced trade growth are correspondingly lower: GDP could rise by 0.2 to 0.4 percent and consumption by 0.3 to 0.7 per cent in the EU as a whole.

The country-specific effects vary: most of the new Member States will experience large gains because services trade is still hampered by relatively large regulatory barriers in these countries. Most of these countries import more services, and specialise in manufacturing. This shift to manufacturing is due changes in specialisation patterns in providing other commercial services within Europe. The new Member states are not competitive in providing these services. Some older Member States like the Netherlands, Germany, Ireland and Austria do experience larger than average production and consumption increases. To some extent this is due to specialisation in the providing other commercial services, but the effects are also affected by large decreases in heterogeneity in regulation with the most important trading partners in other commercial services.

1 Introduction

The service sector is by far the largest economic sector in the European union (EU). It accounts for about two-third of all output and employment. The role of services in intra-EU trade is however much smaller. Measured as a share of intra-EU trade, it is only about 20%.[1] There are good reasons to argue that services are less tradable than goods, because most services are intangible and the provision of services needs the proximity of providers and consumer. However, service providers often experience obstacles if they want to export their services to other EU member states, or when they want to start a subsidiary company in other EU member states. The EC (2002) has concluded that these impediments are to a considerable degree caused by national regulations for service exporters, for foreign investment in services and for the service product itself. Such regulations are primarily established for domestic purposes without taking account of the interests of foreign service providers.

In 2004 the European Commission (EC, 2004) proposed a directive to reduce the impediments for trade in commercial services. A key element of this directive is the 'country of origin' principle. A service provider who complies with the national regulation of the country of origin should no longer –except for a few explicitly named derogatory issues– be hampered by regulation in the destination country. The directive facilitates also the establishment of foreign subsidiaries by service firms by introducing a single point of contact in each member state, i.e. a single "desk" where the foreign service providers can fulfil all their administrative and regulatory obligations. It also aims to eliminate unnecessary and discriminatory regulation such as nationality and residence restrictions. The proposed EU directive takes a "horizontal" approach. The same principles apply to a wide range of different EU service sectors, ranging from retail trade to business services, from courier services to construction, from tourism services to commercial medical services. It may have a large impact on the European service economy. The proposed measures could boost bilateral service trade between EU member states by 30 to 60% and intra-EU direct investment in services by 20% to 35%.[2]

The directive is heavily debated. The European Parliament discussed about 1600 amendments to the proposal and governments of several Members States oppose some elements of the proposed directive. The counter arguments vary. Some countries and labour unions fear job losses, others fear the lack of national control over vital public services sectors, like medical care and education. Others argue that the country of origin principle will lead to a race of lowering services standards and of less quality. Acceptance of the country of origin principle requires mutual trust in national standards of regulating services. From the debate it becomes clear that some opponents to the original proposal want to keep national control over the provision of services which could be a reason to skip the country of origin principle.

[1] See Kox *et al*. (2004b) and Voigt (2005).

[2] See Kox *et al.* (2004a).

This document examines the economic effects of the Services Directive including and excluding the country of origin principle. Previous work (Kox *et al*., 2004a) concluded that bilateral trade in other commercial services may increase by 30-60 per cent.[3] For foreign direct investment in other commercial services the EU proposal may lead to an increase by 20 per cent to 35 per cent. This assessment was based on an analysis of the original proposal including the country of origin principle. Here we assess the trade effects of the country of origin principle separately.

Section 2 is devoted to this topic. Next we focus on the trade-induced welfare effects of the Services Directive. We use our general equilibrium model of the world economy: WorldScan as tool for the analysis.[4] The model does not contain a full description of the role of foreign direct investment at the moment. Therefore we concentrate on the effects induced by trade impetus of the Services Directive.

Section 4 analyses the effects on production, consumption, trade, wages, and the structure of the economy. It concludes that GDP in the EU as a whole can increase by 0.3% to 0.6%, and consumption by 0.7% to 1.2% is the directive is completely implemented. The country of origin principle contributes for about a third to the production and consumption effects.

The economic results are the outcome of three effects. First, real trade barriers in services are dismantled. This increases the demand for foreign services. Second, lower trade barriers induce a positive trade-of-terms effect, and stimulate consumption. Third lower trade barriers open the opportunity for improving the allocative efficiency of the services sectors over Europe.

These three effects have a different impact on the Member States: most of the new Member States will experience large gains because services trade is hampered by relatively large regulatory barriers in these countries. Imports in these countries swallow. Also some older Member States like the Netherlands, Germany, Ireland and Austria experience larger than average production and consumption increases. In these countries the allocative efficiency plays an important role. They specialise in the production of other commercial services, but the effects are also affected by the large decrease in heterogeneity in regulation with the most important trading partners in other commercial services.

[3] Other commercial services include all commercial services excluding transport. The reason is that transport is excluded from the Services Directive.

[4] See Lejour *et al*. (2006) for a description. Recently the model is amended with imperfect competition and economies of scale, see De Bruijn (2006) for an extensive discussion of this topic.

2 Trade effects of the Services Directive

2.1 Regulation and services trade

Earlier CPB research has dealt extensively with the possible impacts of the European Commission's 2004 proposal for a Services Directive on the intra-European trade and direct investment in services.[5] A novelty in this research is the way in which non-tariff barriers in services are quantified. The basic idea is that international *differences* in product-market regulation affect trade and investment costs.

Service firms face many obstacles when they want to export their services or when they want to set up a local affiliate in other EU member states. The trade barriers to an important degree result from national regulations. This affects service firms more than manufacturing firms, because the service provider often has to deliver his services close to the foreign consumer, meaning that he actually has to work *within* the country of destination. Service firms exporting to other EU member states are thus confronted with all types of national regulations and red tape such as special licenses, requirements for additional diplomas, local residence of management, local professional insurance, constraints on the use of home country inputs, the necessity to fully apply all local labour laws even for temporary services, restrictions on marketing, inter-firm cooperation, or the juridical form of the company. Opaque regulations, a multiplicity of regulatory agencies, and fuzzy implementation procedures further add to trading costs of service providers.

International differences in product-market regulation cause a duplication of fixed qualification and policy-compliance costs for service firms operating across borders with two economic consequences.[6] First, it causes additional fixed costs for entering a particular foreign market. Secondly, it leads to a loss of potential scale economies. Due to the fact that the fixed qualification costs are *specific* for a national market, the costs cannot be spread out over production that is destined for other foreign markets. Regulation heterogeneity restricts the realisation of economies of scale in complying with regulations, and it increases costs for internationally operating services firms.

The approach adopted by Kox, Lejour and Montizaan (2004a) is to quantify the degree of policy heterogeneity between countries. For a set of 184 different comparison items in product-market regulation they establish bilateral policy heterogeneity between all relevant country pairs. The policy data stem from the OECD International Regulation database, which is fed by

[5] See in particular, Kox, Lejour and Montizaan (2004a); Kox and Lejour (2005).

[6] Since such fixed costs are often independent of firm size, the heaviest burden of policy heterogeneity falls upon small- and medium-size service firms. Qualification costs must be borne up-front by exporting firms, independent of firm size. Small firms thus are in a relatively disadvantaged position.

information from OECD member governments.[7] The heterogeneity indicator measures per comparison item whether two countries have identical regulation or not. When regulation differs for an item a value of *1* is assigned, and when there is no difference a value of *0*. Aggregated over the 184 items, this yields a numerical indicator for bilateral policy heterogeneity. A low value indicates little heterogeneity and a high value much heterogeneity.

The heterogeneity indicator is –following an OECD classification– further decomposed into separate indicators for five different areas of product-market regulation. Kox et al. (2004a) have used these five sub indicators as independent variables for explaining intra-EU trade through a gravity model. The dependent variable is bilateral trade (1999-2001) in 'Other Commercial Services' between the 14 'old' members of the European Union.[8] The model explains the bilateral trade from the following variables: the distance and differences in languages between countries (as a measure of trade costs), GDP in the countries of origin and destination (as a measure for market size and scale effects), and regulatory barriers. For the latter Kox *et al*. (2004a) investigate both the impact of the level and the heterogeneity of national product market regulations. They correct for unobserved variables in both origin and destination country.

The empirical analysis shows that the level and the heterogeneity of regulation between countries have a significant negative effect on bilateral trade in commercial services.[9] Various specifications and estimation methods lead to similar results: the intensity of regulation and its heterogeneity are variables that significantly affect the volume of trade in commercial services. The most important conclusions for the EU14 are:

- Heterogeneity in two areas of product market regulation (*Barriers to competition* and *Explicit barriers to trade and investment*) has a markedly negative impact on trade in commercial services. Heterogeneity in *Barriers to competition* has the largest effect of both.
- A high level of domestic regulation has a negative impact on the origin country's services exports and a negative impact on service imports from other EU Member States.
- Variables for the other components of regulatory heterogeneity have no statistically significant impact on commercial service trade.

[7] The database builds on the path-breaking data work by a team of OECD researchers (cf. Nicoletti *et al.* 2000). The base year is 1998. In the mean time, an updated version has been published for the year 2003 (cf. Conway *et al.* 2005).

[8] Belgium and Luxembourg are aggregated because their trade data are combined. Data for the new Member States were not available at that point in time. A more recent OECD database also contains trade data for Poland, Czech Republic, and Hungary.

[9] The OECD data for trade in commercial services includes Trade and Distribution, Business Services, Hotels and Restaurants, Personal Services, Construction, and Financial Services. We do not consider Transport services and Travel services, since they are not covered by the EU directive, and because they differ with regard to non-tariff barriers (cf. Kox, Lejour and Montizaan, 2004a: Ch.4).

Table 2.1 presents the estimated heterogeneity-related parameters. The indicators for bilateral policy heterogeneity in these two areas have been used for simulating the trade impacts of the Services Directive.

Table 2.1 Values of the estimated parameters for policy heterogeneity variables, explaining bilateral trade in services (OCS), 14 EU countries, 1999-2001

Indicators of bilateral heterogeneity by policy area	Estimated value parameter	T value [a]
Regulation regarding barriers for competition	– 3.10	5.64*
Explicit regulatory barriers to trade and investment	– 0.86	2.87*
Regulatory and administrative opacity	– 0.23	0.70
Administrative barriers for start-up firms	0.35	0.97
Regulation regarding government involvement and state control	0.74	1.28

[a] Asterisk denotes 1% confidence interval (two-tailed) of the estimates. The two heterogeneity parameters for which this holds have been used for simulating the trade impact of the Service Directive.
Source: Kox, Lejour and Montizaan (2004a)

2.2 The European Commission's 2004 proposal for a Services Directive

The European Commission aims at completing the European Single Market by extending its domain to the service sector. This is the overriding goal of the ambitious and far-reaching proposal for a Services Directive (EC, 2004).[10] This directive wants to eliminate the obstacles to the freedom of establishment, to eliminate the obstacles to the free movement of services, and to establish mutual trust between the EU countries on their regulatory regimes. The proposed directive can be interpreted as a general framework that involves all economic activities regarding service trade, though subject to some exceptions. The proposed measures force the member states to simplify their regulatory procedures, to eliminate regulations that restrict service trade, to guarantee the free movement of services from other member states and to evaluate the proportionality and justification of a number of requirements and the compatibility with EU directives. The most important elements of the Services Directive are:

- *Prohibition of restrictive legal requirements*. This holds for discriminatory requirements directly or indirectly based on nationality or residence. Restrictive requirements such as the prohibitions to establish in more than one member state or to enter the register of professional bodies or associations in more than one member state are also banned. Also prohibited will be the use of economic criteria for establishment or the involvement of competing operators in the

[10] The directive is still a proposal by the European Commission. The European Parliament will in February 2006 vote on the proposed directive and the amendments. Later in 2006 the European Council will discuss the amended form of the proposal.

granting of authorisation, or the obligation to provide a financial guarantee. Other national requirements (quantitative or territorial restrictions, obligations of certain legal form of holdings, requirements to the share holding of providers, the number of establishments in one country or the number of employees) have to be evaluated on the compatibility with EU directives.

- Measures for eliminating obstacles to the *free movement of services*. A major element here is the 'country of origin' principle, implying that a provider is only subject to the law of the country in which he is established (Section 2.2 will separately deal with this element that is of special relevance for intra-EU service trade). On the service demand side, the proposed directive establishes the right of persons and firms to use services from other Member States without being hindered by restrictive measures or discriminating behaviour from their own government. The directive asks for a national system for providing assistance to customers who use a service provided by an operator in another member state. The directive allocates the tasks between Member State of origin and of destination in the case of posting workers for provision of services.
- The proposals include several elements that will help eliminating the obstacles to the *freedom of service providers to establish* themselves in other Member States.[11]
- Measures *for establishing mutual trust between countries* consist of the harmonisation of legislation in order to guarantee equivalent protection of the general interest on essential issues such as consumer protection.[12]

The proposals apply to a large part of the EU services sector, ranging from retail distribution to marketing research, from administration firms to certified accountants, from funeral services to engineering consultants, from medical services to construction. However the sectors that will be most affected are: Distribution, Business Services, Hotel and Restaurant services, Construction, and Courier Services. Commercial services sectors not covered by the directive are: Financial Services, Transport, Telecommunications, and Energy.

[11] These elements include: administrative simplification measures like a the introduction per country of a 'single point of contact' where service providers can complete their administrative procedures; the use of electronic procedures for fulfilling administrative requirements; principles that must be respected by national authorisation schemes applicable to services; prohibition of certain restrictive legal requirements; and the obligation to assess the compatibility of certain national legal requirements with EU directives.

[12] This includes provider's obligations on information, professional insurance, settlement of disputes, and exchange of information on the quality of the provider. The directive asks for stronger mutual assistance between national authorities in order to promote effective supervision of services on basis of a clear division of tasks between the Member States. Other elements are the promotion of service quality by voluntary certification of activities, the possible cooperation between chambers of commerce, and the encouragement codes of conduct drawn up by interested parties at Community level.

Impact on regulatory heterogeneity

Most of the proposed measures must lead to reduced policy heterogeneity, a lower level of regulation, more transparent and less complex regulation for service providers that wish to operate in other EU Member States. For the full range of 184 policy items that have been used for calculating policy heterogeneity indices, Kox, Lejour and Montizaan (2004a) estimate the impact of the EU proposals on intra-EU regulation heterogeneity. They assess at detailed level per regulation item how it is likely to be affected (heavily, moderately, not affected) by the proposed EU directive. This information is aggregated into the overall effects of the EU measures on each of the heterogeneity indicators for sub-domains of product-market regulation. Table 2.2 gives the results, showing the expected reduction by sub-domain of product-market regulation. Because of the uncertain impact of the EU directive on some regulatory comparison items - in particular for those items that are partially affected - we use a bandwidth indicating minimum and maximum effect. The table shows that the heterogeneity components *Regulatory and administrative opacity* and *Explicit barriers to trade and investment* are heavily affected by the EU directive. The heterogeneity components *Administrative burdens for start-ups* and *Barriers to competition* are moderately affected by the EU directive and the component *State control* is hardly affected. The *state control* regulation items mainly relate to network sectors, and the latter are not included in the proposed EU directive. The impact percentages in Table 2.2 are used to assess the impact of the Services Directive on regulation heterogeneity and, hence, on trade in services between Member States.

Table 2.2 Expected impacts of proposed EU measures on intra-EU policy heterogeneity, by sub-domain

Components of heterogeneity indicator and covered policy domains	Average bilateral heterogeneity between 14 EU member states in 1998 [a)]	Reduction due to implementation of the EU directive [b)]
Regulatory and administrative opacity	0.38	66 – 77 %
Explicit barriers to trade and investment	0.21	73 – 78 %
Administrative burdens on start-ups	0.55	34 – 46 %
Barriers to competition	0.32	29 – 37 %
State control	0.42	3 – 6 %
Overall PMR heterogeneity indicator	0.39	31 – 38 %

a) Excluding Luxembourg due to insufficient data. Zero represents no heterogeneity, and one maximum heterogeneity.
b) Based on detailed item-wise consideration of the match between the EU directive and the 184 specific regulation items selected from the OECD database.
Source: Kox, Lejour and Montizaan (2004a)

The country-of-origin principle (CoOP) is perhaps the most debated single element of the Commission's 2004 proposal for a Services Directive. We investigate separately what impact the removal of the CoOP could have on intra-EU policy heterogeneity, and hence, on intra-EU trade in services.

2.3 The Country-of-Origin Principle

The country-of-origin principle forms a key provision in the European Commission proposal for a Services Directive (EC 2004). It allows an EU-based service provider to operate elsewhere in the Union if it meets the regulatory requirements in its home location. The text box on the next page presents the essentials of the country-of-origin principle in the Services Directive.

Governments have two basic mechanisms for reducing the costs of regulation heterogeneity for internationally operating firms, namely by regulation harmonisation, or by allowing foreign firms to operate under regulatory standards of their home country (mutual recognition). Harmonisation of regulation is a very long process, and it may not be efficient because countries may have different market preconditions or different regulatory preferences. This means that a wider application of the mutual-recognition principle may be the most auspicious track. Reducing regulation heterogeneity could be done by applying more mutual recognition with regard to qualification standards for service providers. This indeed is the approach that has been chosen by the European Commission in its 'country of origin' principle. It allows for more mutual recognition of regulatory regimes in the European service markets. A service provider that meets the regulatory standards in the member state of origin should no longer be confronted by other or additional regulatory requirements in the EU country where the service is delivered.

The country of origin principle (CoOP) applies only in the case of cross-border provision of services without establishment. If a service provider has an establishment, he is entirely subject to the law of that country. A service provider who wants to deliver his services in other Member States without a permanent presence there, has to comply only with the administrative and legal requirements of his country of establishment. Since the CoOP is combined with a number of explicit derogations[13] the individual service provider will have the certainty that outside the derogations he has to comply only with his own law.

The implication of the CoOP is that the wide diversity of national rules and standards would cease to be a major obstacle to services suppliers trading in other member states. The CoOP respects that individual EU member states have different preferences for the level of regulation of their service industries. However, for imported services they are asked to apply mutual recognition of regulatory regimes in other member states.

[13] A short summary can be found at: http://europa.eu.int/comm/internal_market/services/docs/services-dir/guides/cop_en.pdf

The country-of-origin (CoOP) principle

The country-of-origin principle is formulated in article 16 of the proposed Services Directive (EC 2004):

"Member States shall ensure that providers are subject to only the national provisions of their Member State of origin which fall in the coordinated field. [... This] *shall cover national provisions relating to access to and the exercise of a service activity, in particular those requirements governing the behaviour of the provider, the quality or content of the service, advertising, contracts and the provider's liability."*

Member States may not, for reasons falling within the coordinated field, restrict the freedom to provide services in the case of a provider established in another Member State, in particular, by imposing any of the following requirements:

(a) an obligation on the provider to have an establishment in their territory;

(b) an obligation on the provider to make a declaration or notification to, or to obtain an authorisation from their competent authorities, including entry in a register or registration with a professional body or association in their territory;

(c) an obligation on the provider to have an address or representative in their territory or to have an address for service at the address of a person authorised in their country;

(d) a ban on the provider setting up a certain infrastructure in their territory, including an office or chambers, which the provider needs to supply the services in question;

(e) an obligation on the provider to comply with requirements relating to the exercise of a service activity applicable in their country;

(f) the application of specific contractual arrangements between the provider and the recipient which prevent or restrict service provision by the self-employed;

(g) an obligation on the provider to possess an identity document issued by its competent authorities specific to the exercise of a service activity;

(h) requirements which affect the use of equipment which is an integral part of the service provided;

(i) restrictions on the freedom to provide the services referred to in Article [..., mainly tax-deductable services, certain refunded health-care activities, service activities done by posted third-country nationals].

The country-of-origin principle holds for a broad range of services, unless they fall under one of the explicitly mentioned derogations or exemptions. General derogations apply for services that are already regulated under other EU directives or form part of explicitly listed services. The latter include *inter alia* most network services (postal services, distribution of gas, water and electricity); intellectual property rights; acts requiring by law the involvement of a notary; statutory audits; services that are generally restricted in a country for reasons of public policy, public security, environment or public health; authorisation system for hospital care. All matters covered by the Directive on Posted Workers (such as minimum wages, working time, safety, hygiene and safety standards…) are excluded from the country-of-origin principle. This concerns working conditions laid down both by law and by collective agreements. Service providers must thus respect working conditions in the MS where they post workers and the authorities of that MS must control the compliance with those. (Art. 17.5, 24.1).

The status of the CoOP in the proposed Services Directive

The Services Directive has been prepared through a one-year consultation period with all EU member states. There was general agreement as to the objectives of the proposed Services Directive. However, in the half year after the publication of the proposals in march 2004 (EU 2004), some public unrest and debate arose on the potential social and economic effects of the proposed directive. An important element in this debate was the country-of -origin principle. Member-state ministers during the EU Competitiveness Council on 25 November 2004

expressed concerns about a number of issues. In this first debate on the subject, ministers focused on three main issues: the CoOP, co-operation between national authorities and the simplification of administrative procedures. Especially the CoOP appeared to be a controversial issue. Six member states said to be opposed to the principle that service providers should be subject to the laws of their home country rather than of the country where the service is provided. Such concerns inter alia referred to cross-border provision of health services.

In March 2005, EU Commissioner McCreevy in a speech to the European Parliament (EP) noted: "*After my initial round of contacts I went to President Barroso and said that I believed the current proposal would never be adopted unless we were prepared to accept modifications*". He subsequently identified the following point for revision:[14]

- "*The Directive will have to be clear that conditions and standards for workers will not be affected in any way. The text will have to be watertight on this point.*"
- "*The exclusion from the scope of the Directive of sectors such as health and publicly funded services of general interest.*"
- "*We should address concerns about the operation of the country of origin principle: We need to maintain this if we want to promote the cross-frontier provision of services. To do so we will need to address key issues such as giving greater confidence and certainty to businesses and consumers on what law will apply to cross-border transactions. We also need to build the trust and confidence between Member States necessary for it to operate effectively*".

On 22 November 2005, an important vote took place in the Internal Market and Consumer Protection (IMCO) Committee of the European Parliament (EP).[15] The Committee voted at first reading on the report about the proposed Services Directive, tabled by EP reporter Gebhardt. Over 1600 EP-amendments were proposed. Many amendments were approved or rejected by a narrow majority, whereas compromised and consolidated amendments were jointly supported by the major political groups.

The MEPs could not agree on the CoOP. With regard to the CoOP, Gebhardt had proposed to distinguish the right to provide cross-border services from the practical exercise of this right. The right to exercise a service activity would – in her proposal– be acquired by the provider in his country of origin, i.e. his country of establishment. But the provision of a service in another Member State (the host country) would be subject to the legislation of that State. However, the IMCO Committee voted (by 21 votes to 16, with 3 abstentions) in favour of a solution close to the Commission's initial proposal. Healthcare services will not fall within the remit of the Services Directive if the text of the IMCO Committee is approved by the European Parliament's

[14] C. McCreevy , Statement to the European Parliament on Services Directive, European Parliament Plenary Session, Strasbourg, 8 March 2005

[15] See report http://www.europarl.eu.int/news/expert/infopress_page/056-2690-326-11-47-909-20051118IPR02599-22-11-2005-2005--false/default_en.htm

plenary session and by the European Council later on. The MEPS want a clarification of the relation between the Services Directive and other pieces of EU legislation, such as the Directive on Posting of Workers: the other legislation should always prevail over the Services Directive according to the revised MEP text. Moreover, they agreed that the member state of destination (rather than that of origin) should be responsible for supervising the activity of a foreign service provider in its territory. The MEPs are planning to vote on the text in the Plenary Session in February 2006.

Although the European Commission's initial CoOP proposals are heavily criticised, these proposals are also supported by large groups. An economic assessment of the CoOP could contribute to this debate.

Impact of the CoOP on policy heterogeneity

Using the same approach as for Table 2.2 we have assessed what specifically the impact of the CoOP is on intra-EU heterogeneity in product-market regulation. Table 2.3 concludes that the CoOP has its strongest impact on intra-EU policy heterogeneity with regard to *Regulatory and administrative opacity*, the area of *Explicit barriers to Trade and investment*, and the area of *Barriers to competition*. As shown in Table 2.1, heterogeneity in the latter two areas has a decisive role as non-tariff barrier for services trade. The removal of the CoOP from the proposed Services Directive will therefore hamper intra-EU services trade by leaving much policy heterogeneity in the areas of *Explicit barriers to Trade and investment*, and *Barriers to competition*.

Table 2.3 Expected impacts of proposed EU measures – with and without the CoOP – on intra-EU policy heterogeneity, by sub-domain

Components of heterogeneity indicator and covered policy domains	Full implementation of Services Directive		Implementation of Services Directive without CoOP	
	Heterogeneity reduction [a]	Remaining policy heterogeneity, average all EU countries [b]	Heterogeneity reduction [a]	Remaining policy heterogeneity, average all EU countries [b]
Regulatory and administrative opacity	66 – 77 %	0.09 – 0.13	39 – 45 %	0.21 – 0.23
Explicit barriers to trade and investment	72 – 79 %	0.05 – 0.06	41 – 45 %	0.12 – 0.12
Administrative burdens on start-ups	34 – 46 %	0.30 – 0.36	34 – 45 %	0.30 – 0.36
Barriers to competition	29 – 37 %	0.20 – 0.23	19 – 25 %	0.24 – 0.26
State control	3 – 6 %	0.39 – 0.41	3 – 6 %	0.39 – 0.41
Overall PMR heterogeneity	31 – 38 %	0.24 – 0.27	22 – 27 %	0.28 – 0.30

[a] Based on detailed item-wise consideration of the match between the EU directive and the 184 specific items of product-market regulation.
[b] Remaining policy heterogeneity is calculated by subtracting the heterogeneity reduction from the initial values in Table 2.2.

Other results are that the CoOP has hardly any influence on intra-EU policy heterogeneity with regard to *State control* items. This is not strange since most of the network sectors (where state involvement often is considerable) are excluded form the directive. The CoOP also has hardly any impact on intra-EU policy heterogeneity with regard to *Administrative burdens on start-up firms*. This policy area is mainly related to the establishment of new local firms, a domain where the CoOP does not apply.

2.4 Possible impacts of the EU proposals on services trade

Using the results of the empirical gravity analysis (cf. Table 2.1) and the quantification of the heterogeneity impact of the Services Directive (Table 2.3) we have simulated how the proposed measures could affect intra-EU trade in services. Note that although the parameters in Table 2.1 are estimated for the EU14, we have used the estimation results also for the new Member States Poland, Czech Republic and Hungary. The data of the OECD International Regulatory database also permitted us to construct regulatory heterogeneity indices for Poland, Czech Republic and Hungary as bilateral trade partner. We used this information to estimate the bilateral trade increases with respect to these countries.

We account for two types of uncertainty: the statistical uncertainty of the parameter estimates, and some uncertainties about the eventual effects of the Services Directive on the actual policy heterogeneity. With respect to the latter we use the bandwidth on the expected impact of the EU directive on the heterogeneity indicators presented in Table 2.3. The statistical uncertainty in parameters (cf. Table 2.1) is taken into account by using a spread of the estimated parameter plus and minus its standard error. On this basis Table 2.4 presents a bandwidth in the possible effects: a minimum, a central, and a maximum effect. The central effect is calculated by using the parameter estimates and the middle of the bandwidth on the expected impact of the directive on regulatory heterogeneity. The minimum (maximum) effect is estimated using the values of the parameter estimates minus (plus) a standard error and taking the minimum (maximum) value of the bandwidth in Table 2.3.

Table 2.4 Simulation effects: Impact of proposed Services Directive (with and without the CoOP) on intra-EU bilateral trade in services (in %)

	Minimum	Central	Maximum
Effects for total intra-EU trade in Other Commercial Services, Directive without CoOP	19	28	38
Effects for total intra-EU trade in Other Commercial Services, full implementation of Directive	30	44	62
Difference	– 11	– 16 (= – 36%)	– 24

Effects are derived from the parameter estimates in Table 2.1 and the reduction in heterogeneity (Table 2.3). Kox *et al.* (2004a) presents the details of this analysis.

The trade effects differ substantially by country. In the case of the maximum effect:

- The new Member States, Poland, Czech Republic and Hungary will at least double their intra-EU trade.
- Greece and Portugal could expect a doubling of intra-EU service exports;
- Four countries may gain between 70 and 90 per cent (Austria, Italy, Spain, and Denmark);
- Six countries may gain between 58 and 70 per cent on intra-EU services exports: Germany, the UK, France, Sweden, Finland, Ireland;
- Belgium-Luxemburg and the Netherlands could increase trade by about 50%.

This variation between countries does also appear for the minimum effect case and for the case in which CoOP is excluded from the directive.[16] A decomposition analysis of the effects of the CoOP is shown in Table 2.5 for the EU15 as a whole. Most of the trade effects stems from the way the CoOP is expected to lower the role of heterogeneity in *Barriers to competition*.

Table 2.5 Decomposing the trade effects of removing CoOP from Services Directive (in %)

	Minimum	Central	Maximum
Total difference	– 11	– 16 [a)]	– 24
of which:			
Less reduction heterogeneity in *Barriers to competition*		– 13	
Less reduction heterogeneity in *Explicit barriers to trade*		– 4	

[a)] includes rounding error.

We conclude from this analysis that the CoOP contributes significantly to the development of intra-EU trade if the Services Directive is implemented .

[16] Annex 1 presents a full matrix on the trade increases for all bilateral other commercial services trade flows.

3 WorldScan and the baseline

We want to evaluate the economic effects of the trade stimulus induced by the Services Directive with and without the country of origin principle. The increase in trade will affect trade and production patterns, consumption and prices. The sector other commercial services will be most affected but changes in the demand for factor inputs, and shift in the provision of commercial services in Europe will also affect other economic sectors. We address these effects in an applied general equilibrium model, WorldScan.

The model takes account of several welfare effects. One is the effect on producers. In some cases, domestic service producers will be affected positively due to more export possibilities. Less competitive domestic producers will see their profits affected in a negative way. The balance between these two groups of producers will differ among the EU countries. Second, more competition lowers prices, and brings more variety. This will enlarge the consumer surplus, and thus benefit domestic consumers in most EU countries. Also producers can benefit. Since a number of the service sectors involved are providers of intermediate inputs, more EU-wide competition will lower intermediate unit input prices and thus make the client industries more competitive.

The welfare effects described above are generally positive for the EU as a whole. The country-specific effects will vary. The model takes also account of sectoral production and employment shifts. The direction of these shifts determines whether a country will benefit form implementing the Services Directive.

Characteristics of the model

WorldScan is an applied general equilibrium model for the world economy. The model was developed in the nineties for CPB's earlier scenario study *Scanning the Future* (1992). The model has thereafter often been used for scenario studies, analyses of climate-change policies and trade policies. The current version of the model has been substantially revised and it is much better underpinned empirically.[17]

The model version used in this paper distinguishes 10 goods and services markets, a labour market, and a capital market for each of the 23 countries and regions (see Annex 2). All EU countries are modelled separately, except for Belgium and Luxembourg and the three Baltic States, Cyprus and Malta. Moreover, we distinguish the United States, Rest OECD, and Rest of the world. We distinguish 10 sectors: agriculture, energy (primary energy and electricity), four manufacturing sectors (high, high-medium, low-medium and low technology), three services sectors (transport, other commercial and other) and a R&D sector.

There are 10 types of producers, each of which produces one type of good or service. We call this a sector. All goods are produced by using labour, capital, R&D and intermediate inputs, albeit in different proportions. The relative demand for each of these inputs depends on the characteristics of the sectoral production function. In general, we assume that labour and capital

[17] See Lejour *et al.* (2006) for an up-to-date publication.

are good substitutes. We consider the various intermediate inputs as good substitutes, but there are hardly any substitution possibilities between the intermediate inputs, on the one hand, and capital, labour and R&D, on the other hand.

Scale economies are modelled through a decreasing average cost curve caused by a fixed set-up cost for firms. Firms cover this fixed cost by setting a mark-up on their marginal cost. We assume a large number of firms with identical technology within a sector. Each firm produces a specific variety. Firms have market power, since consumers prefer different varieties. There is free entry and exit at each market until profits and losses are vanished. Every firm produces just as much to cover fixed costs by the mark up. Because production per firm is fixed , production per sector increases only if the number of firms increases. Hence, the number of varieties increases which induces a positive welfare effect. For more details on the description of scale economies and monopolistic competition, see De Bruijn (2006).

Consumers demand the various goods and services, and provide labour and capital to the firms. They consume goods and services in different proportions, depending on their prices and the income elasticities of these goods and services. We assume that the supply of labour is exogenous. Because consumers save part of their income, they are able to supply capital to firms in return for non-wage income. Savings depend on income growth and demographic characteristics. In the OECD countries, demography mainly concerns ageing within the population, which reduces savings.

Consumers supply capital and firms demand it. Equilibrium between demand and supply determines the price of capital.[18] In contrast to the labour market, regional capital markets are assumed to be linked to each other. So if capital is abundant in one region (and thus is relatively inexpensive), it is invested in another region in which capital is scarce (capital is expensive). However, there are some barriers to investing abroad. Therefore, interregional capital mobility reduces, but does not eliminate, capital price differentials between regions. In the latter case we would have one global capital market.

The regional goods and services markets are linked to each other, except for the R&D sector. Not only the home market, but also foreign markets determine demand for a good. Each region produces a different bundle of varieties of that good. Because we distinguish 23 regions, there are 23 bundles of varieties for each of the 9 non-R&D sectors. In principle, consumers and producers demand all these different bundles. The demand for each of the varieties depends on its relative price, the substitution possibilities between the varieties, transportation costs, trade barriers and preferences for the variety. If the price of a particular variety goes up, demand will decrease in favour of other varieties. Hence, total demand for each variety depends on the demand on the home and foreign markets.

[18] Actually, the price of capital is a function of the investment price times the sum of the real interest rate and depreciation rate.

Baseline path

We evaluate the impact of the Services Directive in comparison to a baseline simulation in which the directive is not implemented. The baseline describes a time path of economic developments from today to 2040, the final year of our simulations. The differences between the policy variant simulation and the baseline represent the effects of implementing the Services Directive.

The baseline complies with recent economic developments. The starting year of our simulations is 2001, because that is the latest year for which data are available to calibrate the model: GTAP data base, version 6 (Dimaranan and McDougall, 2005). The time path between 2001 and 2004 has to include the accession of the new member states to the internal market. Moreover, we expect some catching up of these countries towards the old ones. Second, the baseline has to be neutral with respect to the implementation of the policy variants. This means that we aim at moderate economic growth within the EU in the baseline.

Taking in mind these considerations, our baseline is based on one of our long-term scenarios for Europe. In 2003 CPB has developed four long-term scenarios of the European economy.[19] As a starting point for our baseline we chose the Strong Europe scenario.[20] In this scenario economic growth in Europe is moderate. Below we describe some of the characteristics of the baseline.

Population grows hardly within the EU due to aging: population growth declines in time from 0.35% per year to zero. In the Central and Eastern European countries population will diminish. The population projections are derived from Eurostat (2002) for the EU. GDP growth slightly decreases over time due to the decline in population growth. GDP growth per capita is more or less constant. Between 2001 and 2003 GDP growth is targeted on actual numbers of the World Bank (2004). From 2004 onwards we assume a constant growth of total factor productivity. This leads to a GDP per capita growth rate within the EU of about 1.9%.[21] In most new EU member states on average growth is about 2% points higher. In time participation rates decline, because people become older. Therefore employment growth falls over time, on average by 0.3% in the EU. Exports grow slightly faster than GDP. We do not incorporate further trade liberalisation and trade facilitation induced by WTO agreements or an improved functioning of the internal market in the EU.[22]

Table 3.1 presents the sectoral structure for the EU economy in 2001. This gives a good indication of the general pattern in the economy, although the numbers will differ at the level of

[19] See De Mooij and Tang (2003) for a motivation, derivation, and qualitative description of the scenarios, and Lejour (2003) for the quantitative illustration.

[20] This does not imply that we consider the realisation of this scenario more likely than one of the others. We only selected this scenario because its characteristics meet the conditions of the baseline in this analysis. We do not implement all characteristics of this scenario, so the baseline is not a perfect copy of Strong Europe.

[21] 2.0% GDP growth minus 0.1% population growth.

[22] Here we deviate from the Strong Europe scenario which assumes successful trade-liberalisation rounds and a better internal market in the EU.

the member states. Other commercial services and other services are the largest economic sectors in terms of value added and employment. Of the manufacturing sectors, low technology and medium-high technology sectors are the largest ones. The first one consists of food processing and textiles among others, the latter one consists of machinery and equipment and chemicals.

The manufacturing sectors are much more open in terms of export ratios (exports divided by production) than the other sectors. In other services, which are mainly government services, there is hardly any trade at all. Medium-high tech and high tech manufacturing are much more tradable than low tech manufacturing. Medium-high tech manufacturing also provides the largest part of total exports. Other important exporting sectors are low tech manufacturing and other commercial services, but as a share of production nearly no other commercial services are delivered to foreign markets. Transport services are by definition also tradable. R&D is not exported by assumption. Note that trade is restricted to cross-border trade, but includes intra- and extra-EU trade . For goods trade this is standard, but for services trade it implies that other modes of international transactions in services are not covered here such tourism and business travel, provision by foreign affiliates and the activities of individual service providers.[23]

Table 3.1 Sectoral characteristics for the EU as a whole in 2001

Sectors	Employment share	Value-added share	Export ratio	Export share
Agriculture	4.2	2.5	17.6	2.3
Energy	1.3	2.1	10.7	1.7
Low tech manufacturing	8.5	8.1	24.4	16.5
Medium-low tech manufacturing	4.5	3.8	25.4	8.4
Medium-high tech manufacturing	9.0	9.4	50.5	42.1
High tech manufacturing	2.3	1.9	48.9	7.5
Transport services	4.9	4.1	19.3	5.5
Other commercial services	38.8	44.3	5.7	12.9
Research and development	2.0	1.4	0.0	0.0
Other services	24.5	22.3	0.6	0.5

Source: own calculations based on GTAP data, 2001.
All numbers are expressed as ratios. The sectoral shares in employment, value added and exports add up to 100. The export ratio is defined as the volume of exports divided by the volume of production.

The EU average hides the country variation. Table 3.2 presents characteristics of the sector other commercial services for all Member States. On average this sector contributes for 46% to value added in 2040. This varies from 26% in the Czech Republic and Slovenia to more than 50% in Italy, Germany and Austria. The column with openness indicates that on average 7% of the production is exported. In Slovenia, Poland and the Czech Republic it is only 1%. Thee countries hardly export services. For the Netherlands en Austria it is about 10%, but for

[23] In the GATS terminology, these numbers only cover trade in mode I. Our analysis is also focussed on trade in mode I.

Belgium -Luxembourg it is 22% and for Ireland even 36%. The tradability of commercial services in Ireland is to a large extent caused by trade in IT.

The Balassa index is a measure for specialisation. Numbers exceeding 100 indicates that a country exports relatively much commercial services. This indicates that these countries are competitive in providing other commercial services. Examples are Austria, Belgium-Luxembourg, Germany, France, United Kingdom, Greece, Ireland, Netherlands, Portugal and Sweden. In particular Austria, Netherlands, United Kingdom, and Ireland provide relatively much services to other countries. Most of these countries are net exporters. Belgium-Luxembourg and Ireland are exceptions however. They seem to be specialised according to the Balassa index because they export relatively much commercial services as share of their total exports than other countries do. They are however net importers. Both countries export and import an exceptionally high share of services.

Table 3.2 Characteristics other commercial services sector

Other Commercial Services	Value added (% total)	Exports (billion US$)	Imports (billion US$)	Openness (% production)	Specialisation (Balassa index)
EU25	46.1	860.0	922.0	7.3	125.6
Austria	57.9	35.7	28.2	10.7	207.5
Belgium-Luxembourg	30.7	55.8	85.2	22.2	133.4
Czech Republic	26.4	1.3	35.8	1.1	4.7
Germany	56.1	179.5	107.6	7.4	144.1
Denmark	33.0	12.2	29.7	6.0	75.5
Spain	40.7	24.3	84.9	2.8	55.0
Finland	33.4	4.8	15.6	3.4	44.5
France	41.8	99.9	61.1	6.4	115.9
United Kingdom	49.0	182.8	102.4	7.4	219.1
Greece	44.3	10.5	6.1	5.1	133.4
Hungary	39.1	2.4	32.9	2.2	12.6
Ireland	39.6	49.2	79.8	36.5	235.6
Italy	52.6	69.5	62.7	5.8	119.1
Netherlands	48.1	75.8	56.1	12.7	236.5
Poland	40.0	4.6	45.1	1.0	13.9
Portugal	44.2	9.0	4.4	4.2	122.4
Slovakia	32.2	2.7	6.3	5.4	35.5
Slovenia	26.6	0.3	19.6	0.6	2.8
Sweden	44.3	37.6	38.3	9.6	162.8
Rest Europe	33.0	2.1	20.3	2.7	17.3

Source: WorldScan simulations. Numbers are derived from the final year of the baseline, 2040.

Balassa index indicates the share of other commercial services in total exports weighted by the word-wide average.

4 Trade-induced effects of the Services Directive

This section analyses the eocnomic effects of increases in other commercial services trade (including and excluding the country of origin principle) using WorldScan. It is not a complete welfare analysis of the Services Directive, since we analyse only the trade-induced effect of the Directive. We are not able to analyse the welfare effects of the increase in FDI stocks in the commercial services sector. By consequence, the outcomes of the present analysis of extra trade induced by the Services Directive have to be considered as a lower bound. The present analysis excludes also the temporary posting of foreign service providers. This is an fiercely debated topic, but the model does not allow for analysing this part of the directive. In addition, some other positive and negative welfare effects are not included, such as the policy costs of implementing the directive, the dynamic effects of extra competition on innovation and productivity, and the transformation costs of sectoral shifts in the economy.

Given the baseline described in Section 3, we simulate the implementation of the trade-stimulating features of the Services Directive (see Section 2). We conduct this analysis for the lower- and upper bound of the trade increase, including and excluding the CoOP. Cross-border trade is stimulated by reducing bilateral trade barriers in other commercial services in the model. The reduction of the bilateral trade barrier is calibrated such that the reduction increases bilateral trade ex ante to the extent predicted by Kox *et al*. (2004a). They have estimated the potential trade increase for every bilateral commercial services trade flow in the EU.[24] Given our baseline we incorporate this in the model by reducing the bilateral non-tariff barriers (NTBs) in other commercial services in such a way that every trade flow increases by the amount estimated *ex ante*. The simulations subsequently show the macroeconomic and sectoral effects of the trade increase.

In order to induce the estimated bilateral trade increases we have to calibrate the bilateral NTBs. Lejour *et al*. (2004) have developed a method to calibrate the NTBs. Basically, they translate the potential trade increase into a (Samuelson iceberg) trade-cost equivalent of the barriers. In particular, we recalibrate the Armington demand functions in the model (i.e. the preference parameters) such that these reproduce the original trade data (while NTBs are incorporated). Abolishing NTBs in the model, we simulate the (*ex ante*) trade levels that correspond to the predictions from the empirical model. This procedure is explained more extensively in Lejour *et al*. (2004, 2006).

[24]Note that Kox et al. (2004a) have calculated these numbers for bilateral trade in other commercial services between the old EU member states. They have also constructed regulatory heterogeneity indices including Poland, Czech Republic and Hungary as bilateral trade partner. We use this information to estimate the bilateral trade increases with respect to these countries. For the other regions, Slovakia, Slovenia and Rest EU (Baltic States, Cyprus, and Malta) there are no OECD regulatory data available to construct the heterogeneity indices. We assume that the regulatory obstacles between Slovakia and its trading partners are the same as for the Czech Republic and its trading partners, and similarly for Slovenia compared to Hungary, and Rest EU to Poland. As a consequence, the results for Slovakia, Slovenia, and Rest EU are more uncertain than for the other countries.

We use WorldScan to analyse the general-equilibrium effects of the reduction in NTBs on production, consumption, and prices. The abolishment of the NTBs has three effects.

First, it affects relative prices of intermediate inputs and final goods. This changes the demand for different goods from different origins, leading to trade creation and trade diversion. Without NTBs prices will better reflect relative scarcities so that countries can better exploit the gains from trade. Trade creation will cause a reallocation in production in all countries, resulting in efficiency improvements and a corresponding expansion in output. The increase in bilateral trade may also come at the expense of trade with third countries, which is referred to as trade diversion.

The second implication of abolishing NTBs is that it affects the terms of trade, i.e. the price of exports relative to the price of imports. Removing NTBs costs between two countries will typically cause a terms-of-trade gain in both countries. To understand this, note that we measure the terms of trade as the price of exports relative to imports that holds just outside the domestic border. For imports, the price includes cost of freight (the iceberg costs[25] and the c.i.f. - inclusive of cost, insurance and freight - that are present in the database) but not import taxes. For exports the price is f.o.b. (free on board) and includes export taxes but excludes the iceberg costs. Lower NTBs can thus raise the price of exports relative to imports in both countries. Although an improvement in the terms-of-trade may have adverse effects on production of a country, it can improve welfare since it raises the value of production goods, relative to imports. This welfare gain will be reflected in a higher volume of consumption.

Third, in contrast to tariffs, NTBs involve substantial income effects since they reflect real trade costs from which no one generates income, e.g. time needed to fulfil regulatory procedures. Reducing these real costs and thereby the prices of services imports, increases purchase power possibilities. The volume of imports will increase, while the volume of exports will initially not change.

This section is structured as follows. Sub-section 4.1 discusses the trade effects of a full implementation of the Services Directive. This sub-section is relatively extensive because we discuss detailed results for some countries. We defer from a detailed analysis of individual countries in the subsequent sub-sections in order to avoid a repetition of arguments. Sub-section 4.2 looks at the effects of excluding the country of origin principle form the Directive. Finally, sub-section 4.3 presents a sensitivity analyses with respect to the different forms of competition and economies of scale in the various industries. In sub-section 4.1 and 4.2 we assume imperfect competition with economies to scale in nearly all manufacturing and servcies sectors. However, the degree of economies of scale is not undoubted. As an extreme we assume perfect competition with constant returns to scale in all sectors. We compeare the results with those in sub-section 4.1.

[25] NTBs are modelled as iceberg costs: the idea that a share of the services melts away during the phase of trade.

4.1 Main results

We have simulated the increase of commercial services trade in the EU associated with the lower and upper bound of about respectively 30% and 62% from Kox *et al*. (2004a).

Table 4.1 presents the reductions of the NTBs after calibration in percentages of the import value. The reductions in the bilateral NTBs differ per country pair, based upon the bilateral trade increase, see Annex 1 for the upper bound scenario. For the sake of presentation we have averaged the bilateral NTB reductions over the destination countries. Table 4.1 shows that the reductions of NTBs are higher for the upper bound scenario than for the lower bound scenario. This is because abolishment of higher NTBs leads to overall higher trade effects which correspond to average 62% increase in commercial services trade in the upper bound scenario. The reductions of NTBs are relatively low for exporting countries as Belgium, the Netherlands, France and United Kingdom. This corresponds to the estimated trade effects in Section 2. For the old Member States Greece, Portugal, Austria, Denmark, Spain, and Italy the NTB reductions are relatively large. For the new Member States the reductions are even larger. Large reductions reflect relatively big changes in regulatory heterogeneity caused by much initial heterogeneity. The reduction of these barriers according to the proposed directive will have the largest trade effects in these countries.

Table 4.1 Reduction in non-tariff barriers due to less differences in regulation

Country	Lower bound	Upper bound	Country	Lower bound	Upper bound
Austria	13.0	22.5	Hungary	13.8	24.0
Belgium-Luxembourg	10.8	18.9	Ireland	12.0	20.8
Czech Republic	15.6	27.2	Italy	13.1	22.5
Germany	11.6	20.2	Netherlands	10.2	18.1
Denmark	14.1	23.9	Poland	16.1	27.8
Spain	12.6	21.7	Portugal	14.2	24.9
Finland	11.6	20.2	Rest EU [a)]	16.1	27.8
France	11.3	19.9	Slovakia [a)]	15.6	27.2
United Kingdom	11.1	19.3	Slovenia [a)]	13.8	24.0
Greece	13.5	23.4	Sweden	11.7	20.5

Source : WorldScan and Kox *et al*. (2004a). Numbers are expressed as percentages of import value.

The reductions in bilateral NTBs are averages over the destination countries of the exporting country.

[a)] The numbers for these countires are identical to those for Poland, Czech Republic and Hungary respectively, because of the reasons mentioned in footnote 24.

4.1.1 Macro effects

Ex ante, the Services Directive will increase the volume of other commercial services trade by at least 30% and at most 62%. This is substantial for the sectors involved; however at a macroeconomic level the increase is modest. Kox *et al*. (2004b) show that other commercial services trade makes up only about 13% of total EU trade. Moreover, nearly half of other commercial services trade is directed to countries outside the EU. So, only about 7% of EU trade is affected by the Services Directive. The substantial increase in other commercial services trade leads to a total trade increase in the EU of 2% to about 5%. The results in Table 4.2 confirm this. Overall, the trade effects are slightly less than this rule of thumb calculation.

Table 4.2 Macroeconomic effects of the trade increase due to the Services Directive (% volume changes)

Country	Lower bound				Upper bound			
	GDP	Consump-tion	Real wages	Exports	GDP	Consump-tion	Real wages	Exports
EU	0.3	0.5	0.6	1.7	0.7	1.2	1.3	3.6
Austria	0.5	1.0	1.2	2.1	1.0	2.2	2.6	4.4
Belgium-Luxembourg	0.3	1.0	1.1	1.6	0.6	2.1	2.2	3.1
Czech Republic	2.1	1.5	1.1	4.8	4.9	3.5	2.5	10.9
Germany	0.4	0.6	0.6	1.2	0.9	1.3	1.4	2.6
Denmark	0.4	0.6	0.4	2.2	0.9	1.3	1.1	4.7
Spain	0.2	0.3	0.3	1.0	0.3	0.5	0.6	2.2
Finland	0.5	0.6	0.5	2.0	1.1	1.2	1.0	4.2
France	0.3	0.4	0.4	1.0	0.6	0.8	0.8	2.1
United Kingdom	0.0	0.3	0.4	0.7	0.1	0.7	0.8	1.6
Greece	0.2	0.4	0.4	1.8	0.4	0.9	0.9	4.0
Hungary	1.7	1.4	1.2	4.7	3.8	3.2	2.6	10.3
Ireland	-0.2	1.5	1.7	0.4	-0.5	3.1	3.5	0.7
Italy	0.3	0.4	0.5	1.2	0.6	0.9	1.0	2.6
Netherlands	0.4	0.8	1.6	1.5	0.7	1.6	2.2	3.2
Poland	0.6	0.6	1.3	2.8	1.4	1.5	1.7	6.6
Portugal	0.2	0.4	0.7	1.4	0.5	0.9	1.1	3.1
Slovakia	1.3	1.7	1.6	3.5	3.0	3.8	3.7	8.2
Slovenia	1.7	1.3	1.3	5.5	3.6	2.7	2.7	11.7
Sweden	0.3	0.7	0.7	1.6	0.6	1.4	1.4	3.5
Rest EU	1.2	1.4	1.5	4.9	2.7	3.4	3.6	11.2

Source: WorldScan simulations. The numbers are cumulative volume changes compared to the baseline in 2040.

The country-specific effects on total exports and imports differ depending on the reduction in regulatory heterogeneity between the countries and their most important trading partners in other commercial services trade, their competitiveness, and compensating changes in manufacturing trade. Because of the last reason the relation between changes in total exports and the NTB reductions in other commercial services is weak.[26]

[26]Sub-section 4.2.1 discusses the relation between trade in other commercial services and the NTBs.

Given the small effects on total trade, it is not surprising that the GDP effects are modest, on average ranging from 0.3% to 0.7% in the EU in 2040. They vary between 3.0% and 4.9% for the new EU member states with the largest trade increases, and equal about 0.5% for countries with the lowest trade increases for the upper bound case. The consumption effects are slightly larger. The reason is that lowering NTBs reduces consumer prices (in particular import prices) without lowering export prices. So imports and consumption possibilities expand.

The variation in country effects requires some explanation. First, there is the terms-of-trade effect. Nearly all Member States experience a terms-of-trade gain reflected by larger increases in consumption than in production. Exceptions are some of the new Member States: the Czech Republic, Hungary and Slovenia. For the other new Member States the terms-of-trade gain is modest. The reason is that these countries hardly export services (see Table 4.2), hence the increase in the producer price resulting from lower NTBs has hardly any impact on the terms of trade. For countries like Austria, Belgium-Luxembourg, United Kingdom, Greece, Ireland, Netherlands, Portugal and Sweden the terms-of-trade gains are relatively large. These are all countries that specialise in providing other commercial services (see Table 3.2). Consumption increases at least 0.5% more than production and for Austria it even exceeds 1% in the upper bound scenario. The large terms-of-trade gain in Ireland is remarkable, together with the slight deterioration of total production.

The size of the NTB reduction also matters for the country effects. For example, the trade effects for France, Spain and Portugal are modest. From the data we know that these countries trade relatively much with each other and that the regulatory heterogeneity between these countries is small, although for Spain and Portugal the average NTB (not weighted by trade volumes) is relatively high. For the United Kingdom services trade is not much stimulated because of the limited heterogeneity in regulation with other countries. By consequence, the economic effects are also modest. For countries like the Czech Republic, Hungary, Poland, Slovenia and Slovakia, the regulatory heterogeneity with their most important trading partners is much larger and so is the effect of less heterogeneity induced by the Services Directive.

The effects on real wages correspond to the consumption effects. In general the increase in real wages is 0.1 to 0.2% smaller or larger than the consumption increase. In the Czech Republic and Hungary real wages increase less than consumption in the upper bound scenario. Because regional employment is exogenous in CGE models, any change in employment in the commercial services sector is met by offsetting employment changes in the other sectors. The changes in real wages equal the changes in real labour income.

In reality extra labour demand in other commercial services and the corresponding wages change could affect labour supply or the unemployment rate. This could induce extra labour supply, increase employment and offset the real wage increase to some extent. However, structural unemployment and labour supply are heavily affected by national labour market and

social policies. The extra labour demand induced bt the serivces Directive will hardly influence this relation.

The macroeconomic effects do not reflect a full-scale analysis of the Services Directive, since the Services Directive will also stimulate foreign direct investment, which is not taken into account in this analysis.[27] From this perspective our results are substantially larger than those of Copenhagen Econmics (2004). They analyse the Services Directive using an applied general equilibrium model including FDI (the CETM model). Overall consumption increases with about 0.6% in the European Union. This number corresponds to our result, but Copenhagen Economics also includes the effects of extra FDI induced by the directive in their analysis. For this reason Voigt (2005) considers the estimates of Copenhagen Economics to be a conservative estimate. It is difficult to disentangle the effects of more cross-border trade and foreign commercial presence in the Copenhagen Economics study, because both effects are analysed simultanously. However, it is apparent that the trade effects in their study are much smaller than ours.

4.1.2 Impact on sectoral competitiveness

Increase in total exports are mainly due to the boost in trading other commercial services. These exports increase by at least 14% and at most 30%, see Table 4.3. Notice that these exports consists of intra-EU and extra-EU exports. Because intra-EU exports form about half of total exports in other commercial services, e.g. a 62% increase in intra-EU trade leads to a 30% increase for the total EU-exports in this sector. Exports in other sectors also increase slightly: their producer prices decrease slightly, because intermediate inputs of other commercial services become cheaper within the EU. Production increases across all sectors except for research and development. Employment in other commercial services is reduced due to the restructuring of that sector in response to increased market access. Because of market integration, the most competitive countries will specialise in providing other commercial services. In these countries labour productivity rises and other commercial services output demands less inputs, including labour. Other sectors will attract more labour.

Table 4.4 shows that for the EU as a whole the sectoral effects are modest: value added will increase by at least 0.5% and at most 1.0% for the EU. The value added effect for other commercial services is not much larger than the increase in GDP (see Table 4.2), because other commerical services form about half of total value added and value added in other sectors increases as well.

[27] Simulating the increase in FDI requires an additional modelling effort in WorldScan. This project will be conducted the first half year of 2006.

Table 4.3 EU-wide sectoral effects of the Services Directive (% changes)

	Lower bound			Upper bound		
Sector	Employment	Value added	Exports	Employment	Value added	Exports
Agriculture	– 0.3	0.1	– 0.1	– 0.6	0.3	– 0.2
Energy	– 0.2	0.4	0.3	– 0.4	0.8	0.7
Low Tech Manufacturing	– 0.1	0.4	0.1	– 0.2	0.9	0.3
Medium-Low Tech	0.0	0.4	0.4	– 0.1	1.0	1.0
Medium-High Tech	0.2	1.0	1.0	0.6	2.2	2.3
High Tech Manufacturing	1.3	2.1	2.3	3.1	4.8	5.3
Other Commercial Services	– 0.1	0.5	13.9	– 0.1	1.0	29.5
Other Services	0.1	0.3	– 0.8	0.2	0.7	– 1.7
Research and Development	– 0.5	– 0.3		– 1.2	– 0.6	
Transport	0.0	0.5	0.2	0.0	1.0	0.3
Total	0.0	0.3	1.7	0.0	0.7	3.6

Source: WorldScan simulations. The numbers are cumulative changes compared to the baseline in 2040.

The country-specific results differ, depending on the competitiveness of the commercial services sector across Europe, and the reduction in regulatory barriers. In particular Austria, the Netherlands, Germany, United Kindom, Portugal, Sweden and Ireland expand value added in that sector compared to the EU average. From Table 4.2 we know that these countries are also specialised in providing other commercial services. Their imports do not increase much, but value added does.

Within this group of countries there are remarkable differences which can be explained by the degree of specialisation and the reduction of the NTBs. The increase in Portugese exports is almost twice that of the Netherlands, but growth in value added is much smaller. We can explain the large boost in Portugese exports from the higher reduction in NTBs (see Table 4.1) but Portugese imports accelerate as well. In contrast, the Netherlands is more specialised in commercial services and benefits from the larger market for commercial services, which explains the difference in value added.

For the new member states, Czech Republic, Hungary, Poland, Slovakia and Slovenia exports surge, but that is also the case for their imports. Although other commercial services will contribute to a larger extent to their exports, these countries do not specialise in that sector. In these countries value added in commercial services decreases by 5% at least, because provision of services shifts to other countries in Europe. The new member states specialise more in manufacturing. Although the Services Directive does not expand the other commercial services sector in these countries, the implementation of that directive is still beneficial. These countries shift some of their resources to other sectors in which they are more productive. Moreover, other commercial services become relatively cheaper.

Table 4.4 EU-wide volume changes in other commercial services (% changes)

Country	Lower bound		Upper bound	
	Value added	Exports	Value added	Exports
EU	0.5	13.9	1.0	29.5
Austria	1.3	20.1	3.1	45.1
Belgium-Luxembourg	0.4	13.2	1.1	27.3
Czech Republic	– 5.7	23.3	– 13.0	50.6
Germany	1.1	17.4	2.3	36.9
Denmark	– 0.5	16.1	– 1.0	35.1
Spain	– 0.2	12.7	– 0.4	26.9
Finland	– 0.4	14.6	– 0.9	30.4
France	0.3	10.2	0.7	21.9
United Kingdom	0.7	12.0	1.5	25.2
Greece	0.4	14.6	1.0	32.0
Hungary	– 2.5	13.0	– 5.3	27.7
Ireland	2.0	9.7	4.3	20.3
Italy	0.4	13.4	0.8	28.6
Netherlands	1.4	14.2	2.9	29.7
Poland	– 1.0	20.9	– 2.4	48.9
Portugal	0.8	22.3	1.8	49.1
Slovakia	– 0.4	26.6	– 1.1	58.9
Slovenia	– 7.0	15.2	– 15.0	30.6
Sweden	0.8	13.2	1.7	28.5
Rest EU	– 4.7	24.4	– 10.9	54.2

Source: WorldScan simulations. All numbers are relative volume changes in 2040 compared to the baseline.

4.1.3 Germany, Poland and the United Kingdom

As further illustration, Table 4.5 presents the changes in exports and production for all sectors in Poland, Germany and the UK for the upper bound scenario including the CoOP. These countries represent the new Member States, old Member States with larger than average effects and Member States which are less affected. In Poland value added increases in all sectors except other commercial services. This sector becomes much more open to trade, but the accompanying large influx of services affects domestic services provision negatively. Poland is not very competitive in this sector. This might be surprising taking in mind the numerous (newspaper) stories on expected large flows of Polish plumbers and other service providers which would undercut prices of domestic producers if the directive is implemented.

Nevertheless, this type of trade is not analysed here.[28] We concentrate on cross-border trade in which producers remain primarily in their home country.

Table 4.5 Sectoral effects of the Services Directive for various countries, upperbound case (% changes)

	Poland		Germany		UK	
Sector	Value added	Exports	Value added	Exports	Value added	Exports
Agriculture	1.2	– 1.0	– 0.6	– 0.8	– 0.3	– 0.1
Energy	2.0	2.8	– 0.7	– 0.7	– 0.3	– 0.7
Low Tech Manufacturing	2.7	2.8	– 0.1	– 1.0	– 0.7	– 1.5
Medium-Low Tech	6.6	7.1	– 3.1	–3.3	– 1.9	– 2.5
Medium-High Tech	8.0	8.8	– 3.0	– 2.7	– 2.9	– 3.8
High Tech Manufacturing	15.8	17.6	– 5.3	– 5.8	– 2.3	– 2.7
Other Commercial Services	– 2.4	48.9	2.3	36.9	1.5	25.2
Other Services	0.5	– 2.6	0.9	– 2.2	0.3	– 0.2
Research and Development	7.9		– 5.8		– 2.3	
Transport	2.8	2.1	– 0.3	– 1.4	0.2	– 0.5
Total	1.4	6.6	0.9	2.6	0.1	1.6

Source: WorldScan simulations. The numbers are cumulative changes compared to the baseline in 2040.

Labour and capital will move from other commercial services to other sectors in particular manufacturing. The sectors inhibiting large economies of scale (see the share of fixed costs in Annex 2) such as high-tech manufacturing will expand most. Because these sectors also demand R&D, production in the latter sector also increases substantially. The technology sectors benefit from extra labour and capital and the cheaper intermediates from other commerical services. The percentage increase in value added is much larger than the decrease in other commercial services, but on average the latter sector is relatively large (see Table 3.1) and thus has a big impact on the total economy. Exports in nearly all sectors increase, but the effects are most pronounced in other commercial services.

For the other countries like Germany and the UK, value added increases in other commercial services and to some extent also in other services. These sectors attract more capital and labour at the expense of technology sectors and R&D. The sectoral shift is bigger for Germany than for the UK as is also the case for the trade effects. The average NTB reduction for Germany is only slightly larger than for the UK (see Table 4.1), but the trade effects are much larger. The reason is that Germany decreases its regulatory heterogeneity more with its most important trading partners than the UK does. The larger trade effects induces larger

[28] In WTO terms this is called mode IV trade. This mode of trade represents services provision by individuals going abroad to deliver the service in other ocuntries. This type of trade is not subject of analysis here. If these individuals are employed at a (Polish) firm which delivers the service abroad, than it is cross-border trade. The latter mode of trade is the subject of the analysis here.

production effects. Because other commercial services contribute more to value added in Germany than in the UK (see Table 4.2), the macro effects are also larger for Germany.

4.2 Relevance of the country-of-origin-principle

A key element of the Services Directive is the 'country of origin' principle (CoOP). A service provider who operates legally in one Member State, can trade its services in other Member States without having to comply with further rules –save for a few explicitly named derogatory issues– in those "host" Member States.

Section 4.1 discussed the trade effects of a complete implementation of the Services Directive including the CoOP. This section focuses on the role of the CoOP by comparing the results in Section 4.1 with simulation results when the Services Directive is implemented without the CoOP. Without the CoOP EU service exporters are hampered by regulation in the importing country. As a result, trade effects for the commercial services sector will be smaller. In fact, we have estimated the potential trade increase for every bilateral commercial services trade flow in the EU. For the EU as a whole commercial services trade can increase by 19% to 38%, see Table 2.4. Hence, the CoOP accounts for over one-third of the overall trade increase in commercial services caused by a full implementation of the Services Directive. Obviously, the CoOP plays an important role in the Services Directive.

We simulate the effects of the amended Services Directive by reducing the NTBs in other commercial services in such a way that every trade flow increases by the amount estimated *ex ante* without CoOP. These reductions of NTBs are smaller compared to those in Table 4.1. However, relative differences between countries are almost unchanged, see Table 4.6.

Table 4.6 Reduction in non-tariff barriers due to less differences in regulation (without CoOP)

Country	Lower bound	Upper bound	Country	Lower bound	Upper bound
Austria	8.7	15.7	Hungary	9.3	16.7
Belgium-Luxembourg	7.3	13.1	Ireland	8.1	14.5
Czech Republic	10.4	18.8	Italy	8.9	15.8
Germany	7.8	14.0	Netherlands	6.7	12.3
Denmark	9.7	17.0	Poland	10.7	19.3
Spain	8.5	15.2	Portugal	9.4	17.2
Finland	7.8	14.0	Rest EU [a)]	10.7	19.3
France	7.5	13.7	Slovakia [a)]	10.4	18.8
United Kingdom	7.5	13.4	Slovenia [a)]	9.3	16.7
Greece	9.1	16.3	Sweden	7.8	14.1

Source : WorldScan and section 2. Numbers are expressed as percentages of import value.
The reductions in bilateral NTBs are averages over the destination countries of the exporting country.
[a)] The numbers for these countires are identical to those for Poland, Czech Republic and Hungary respectively, because of the reasons mentioned in footnote 24.

4.2.1 Macroeconomic effects

Because only about 7% of total EU trade is affected by the Services Directive, the increase in other commercial services trade would lead to a total trade increase in the EU of slightly more than 1% to about 3%. The results in Table 4.7 confirm this.

The results show that the increase in GDP and consumption for the EU are at least 50% higher if the CoOP is brought into force (compare Table 4.2 and 4.7). Again, the new member states benefit most from the Services Directive. For these countries GDP increases for the upper bound scenario by 1 to 3%, whereas for the EU-15 GDP increases on average only 0.4% for the upper bound scenario (instead of 0.6% including CoOP).

Table 4.7 Macroeconomic effects of the trade increase due to Services Directive without CoOP (% volume changes)

	Lower bound			Upper bound		
Country	GDP	Consumption	Exports	GDP	Consumption	Exports
EU	0.2	0.3	1.0	0.4	0.7	2.2
Austria	0.3	0.6	1.3	0.6	1.3	2.7
Belgium-Luxembourg	0.2	0.7	1.0	0.4	1.3	2.0
Czech Republic	1.3	0.9	2.9	2.8	1.9	6.2
Germany	0.3	0.4	0.8	0.6	0.8	1.6
Denmark	0.3	0.4	1.4	0.5	0.8	2.8
Spain	0.1	0.2	0.7	0.2	0.3	1.3
Finland	0.3	0.3	1.3	0.7	0.7	2.5
France	0.2	0.2	0.6	0.4	0.5	1.3
United Kingdom	0.0	0.2	0.5	0.1	0.4	1.0
Greece	0.1	0.2	1.1	0.3	0.5	2.4
Hungary	1.1	0.9	2.9	2.2	1.8	6.1
Ireland	– 0.1	0.9	0.3	– 0.3	1.9	0.5
Italy	0.2	0.3	0.8	0.4	0.5	1.6
Netherlands	0.2	0.5	1.0	0.4	1.0	2.0
Poland	0.4	0.4	1.7	0.8	0.8	3.7
Portugal	0.1	0.3	0.9	0.3	0.5	1.8
Slovakia	0.8	1.0	2.1	1.7	2.1	4.6
Slovenia	1.0	0.8	3.4	2.1	1.6	7.0
Sweden	0.2	0.4	1.0	0.4	0.8	2.1
Rest EU	0.7	0.9	2.9	1.6	1.9	6.4

Source: WorldScan simulations. The numbers are cumulative changes compared to the baseline in 2040.

Naturally, these differences in growth are the direct result of the size of the NTB reductions (see Table 4.6), the terms-of-trade effects, and the reallocation of other commercial services and other sectors over Europe. For the new Member States, the reallocation towards manufacturing and the size of the NTB reductions drive the economic results, the terms-of-trade effect is less important (or sometimes even negative). Comparing the exports for these countries in Table 4.2

with those in Table 4.7 shows that, if the CoOP is not implemented, these countries miss out on an additional 2% to 4.5% increase in exports.

For countries as Austria, Belgium-Luxembourg, United Kingdom, Ireland, The Netherlands, and Sweden the positive terms-of-trade effects are relatively important. In Ireland production slightly deteriorates due to the reallocation from manufacturing to other commercial services. The country-specific effects on exports and imports differ depending on the reduction in regulatory heterogeneity between the countries and their most important trading partners in other commercial services trade. Countries with modest trade effects, such as Spain, Portugal and France miss out on 0.5 to 1% additional exports.

Copenhagen Economics (2005) has also analysed the country of origin principle. According to their analysis CoOP contributes about 10% to the total welfare effects. These total effects also include the FDI induced effects. Because consumption increases with about 0.6% due to the Services Directive, the role of CoOP is limited to about 0.05% in consumption volume terms for the EU as a whole. In our analysis CoOP is much more important; it adds 0.2% to 0.5% to consumption if Tables 4.7 and 4.2 are compared. The main reason for this difference is the assessment of the trade effects of the Services Directive as stated in Section 4.1. According to our judgement these effects are much larger.

The relative contributions of CoOP to the total effects of the directive in both studies are better comparable. According to Copenhagen Economics it is 10% of the trade and FDI-induced effects, in our analysis it is about a third of the trade-induced effects. At the moment we will include FDI-induced effects in our analysis the relative contribution of CoOP will decline. Other studies suggest that the welfare effect of services trade liberalisation through FDI is larger than through cross-border trade (FDI-induced effects account for 70% to 80% of the total effects).[29] If this is also the case for our FDI-amended version of WorldScan, the relative contribution of CoOP would be less than 20%.

4.2.2 Impact on sectoral competitiveness

As the directive affects commercial services, except transport, we primarily focus on that sector. Table 4.8 shows that the sectoral effects are modest: value added will increase by at least 0.3% and at most 0.6% for the EU in 2040. Remember that a full implementation of the directive increases value added with 0.5% to 1.0% (seee Table 4.2). Therefore, this result again shows that the CoOP accounts for about 40% of the GDP and consumption effects and hence plays a particular important role in the Services Directive.

The country specific results differ, depending on the competitiveness of commercial services across Europe. In particular Austria, the Netherlands, Germany and Ireland expand sectoral value added. Their imports do not increase much, however, value added does. For other

[29] Examples are Rutherford et al. (2005), and Jensen et al. (2004). The model of Copenhagen Economics is an offshoot of the models used in these papers.

countries, such as the Czech Republic, Poland and Slovenia exports increase substantially. In relative terms, the size of the exports is still negligible. Although other commercial services will contribute to a larger extent to their exports, these countries do not specialise in this sector. In addition, these countries show a downward movement in value added of commercial services, because their services imports increase and production shifts to countries which are more specialised in providing other commercial services.

Table 4.8 Volume changes in other commercial services sector without CoOP (% changes)

	Lower bound		Upper bound	
Country	Value added	Exports	Value added	Exports
EU	0.3	8.7	0.6	17.8
Austria	0.8	12.2	1.7	26.0
Belgium-Luxembourg	0.2	8.4	0.6	16.8
Czech Republic	– 3.4	14.1	– 7.4	29.8
Germany	0.7	10.9	1.4	22.2
Denmark	– 0.3	10.0	– 0.6	20.8
Spain	– 0.1	8.0	– 0.2	16.3
Finland	– 0.3	9.2	– 0.5	18.6
France	0.2	6.3	0.4	13.1
United Kingdom	0.4	7.6	0.9	15.3
Greece	0.3	8.9	0.6	18.8
Hungary	– 1.5	8.0	– 3.2	16.6
Ireland	1.2	6.1	2.6	12.3
Italy	0.2	8.4	0.5	17.2
Netherlands	0.9	8.8	1.8	18.0
Poland	– 0.6	12.3	– 1.3	27.2
Portugal	0.5	13.6	1.1	28.7
Slovakia	– 0.2	15.9	– 0.5	34.1
Slovenia	– 4.3	9.5	– 8.9	19.2
Sweden	0.5	8.1	1.0	16.9
Rest EU	– 2.8	14.6	– 6.1	31.4

Source: WorldScan simulations. All numbers are relative volume changes in 2040 compared to the baseline.

4.3 Constant returns to scale and perfect competition

The economic effects of the Services Directive depend on the the size of the NTB reductions, the terms-of-trade effects, and the specialization patterns. Countries like the Netherlands, Austria, Germany and Ireland specialize in providing services while most new Member States specialize in manufacturing. The extent to which specialization patterns change in response to the Directive depend on the degree of competition and the economies of scale in production. In most of the manufacturing and services sectors there are economies of scale in production

combined with imperfection competition as the relevant market structure.[30] However the size of economies of scale is not undisputed. Economies to scale are hard to measure and the scarce empirical evidence shows a wide range of possible outcomes. In order to tackle this uncertainty of economies to scale, we conduct a sensitivity analysis assuming constant returns to scale and perfect competition. Starting from the conviction that economies to scale are important the assumption of constant returns to scale is extreme. However, if the simulation results assuming increasing returns to scale (IRTS) as in Section 4.1 and constant returns to scale (CRTS) do not differ too much, the precise size of economies of scale will affect the analysis of the Services Directive significantly. We expect less pronounced specialisation patterns under perfect competition, because there aree no economies of scale that can be exploited.

On a macroeconomic level, the results show that the differences between the two forms of competition are not particularly large. With CRTS the total trade increase ranges from 1.3% to 2.8% (see Annex 3), whereas with IRTS the total trade increase amounts from 1.7% to 3.6%. Differences in GDP and consumption are very small, only 0.1% to 0.2%. Specialisation patterns between countries are less pronounced than with IRTS, as we would expect. This becomes more clear when we examine the sectoral effects in Table 4.9.[31]

The effects for the commercial services sector do not differ much between the two market structures for the EU as a whole. Comparing IRTS to CRTS, value added is only 0.1% higher and exports increase by 2 to 4.5% extra in case of scale economies. Although the magnitude of the differences is small the outcomes do confirm the intuition that countries specialise more in the relatively most efficient sectors with IRTS compared with CRTS.

The country-specific results illustrate this intuition. From section 4.1 we know that Austria, Germany, the Netherlands, and Ireland expand production in other commerical services. This is confirmed, if we compare Tables 4.4 and 4.9. However, for these countries value added and exports are much higher in case of scale economies, since firms can better exploit their technologies. Furthermore, we notice from Table 4.4 that for the new member states such as the Czech Republic, Hungary, Poland, Slovakia and Slovenia exports increase substantially, as do their imports. In addition, value added falls for these countries. Hence, these countries become more specialised in other sectors than commercial services. Table 4.9 confirms these results, but the sectoral shifts are more modest. For the new member states, these are manufacturing sectors, and not other commercial services. For example in the Czech Republic and Slovenia value added in commercial services falls over 10% when IRTS is introduced in the upperbound

[30] From several studies (e.g. Oliveira-Martins, Pilat, Scarpetta (1996a, 1996b)) we know that most sectors exhibit scale economies and thus also imperfect competition. We have assumed increasing returns to scale and imperfect competition for the sectors energy, manufacturing (all technology levels), commercial services and transport. The sectors agriculture, other services and research and development feature constant-returns-to-scale technologies. For more details, see Annex 2 and De Bruijn (2006).

[31] Gelauff and Lejour (2006) present more detailed macro-economic results for 2025 and 2040 for the lower bound scenario assuming perfect competition and CRTS in their study on five Lisbon policies.

scenario. In contrast, value added decreases at most 2% in the CRTS case and the increase in exports of other commercial services is much larger.

Table 4.9 Volume changes in other commercial services sector (constant returns to scale)

Country	Lower bound		Upper bound	
	Value added	Exports	Value added	Exports
EU	0.4	11.9	0.9	25.0
Austria	0.8	15.4	1.8	33.7
Belgium-Luxembourg	1.2	12.0	2.6	24.4
Czech Republic	– 0.6	28.7	– 1.2	67.7
Germany	0.7	13.9	1.5	29.1
Denmark	– 0.1	15.0	– 0.2	32.4
Spain	0.0	11.3	– 0.1	23.8
Finland	– 0.2	14.8	– 0.5	31.1
France	0.2	8.7	0.5	18.5
United Kingdom	0.4	9.9	0.9	20.4
Greece	0.1	13.3	0.2	29.1
Hungary	– 0.4	15.7	– 0.8	34.8
Ireland	0.9	8.0	2.0	16.5
Italy	0.4	11.6	0.8	24.5
Netherlands	1.1	12.3	2.2	25.5
Poland	– 0.3	21.4	– 0.8	51.5
Portugal	0.6	19.5	1.3	42.6
Slovakia	– 0.2	25.3	– 0.5	58.9
Slovenia	– 1.0	22.9	– 2.0	51.2
Sweden	0.5	12.0	1.2	25.7
Rest EU	– 0.5	17.2	– 1.1	38.5

Source: WorldScan simulations. All numbers are relative volume changes in 2040 compared to the baseline.

Concluding, the macro effects are only slightly larger for IRTS technologies and imperfect competition than for CRTS technologies and perfect competition. Although the size of economies of scale is uncertain, the macroeconomic effects of the Services Directive are not very sensitive for assumption on the degree of economies of scale in the analysis. Nevertheless, different assumptions on technology and market structures do express themselves in the degree of specialisation if the services markets are liberalised in Europe. Scale economies lead to more specialisation in commercial services for countries like Austria, Germany, the Netherlands, and Ireland. In contrast, the new member states extract resources from this sector and specialise in manufacturing sectors.

5 Conclusions

The Services Directive is proposed by the European Commission in order to stimulate intra-EU cross-border trade and foreign direct investment in services. This paper contributes to the discussion on the economic effects of the Services Directive in two ways. First, we assess the economic effects as these are caused by trade-promoting character of the Directive. Second, we analyse the role of the country of origin principle (CoOP) within the Directive.

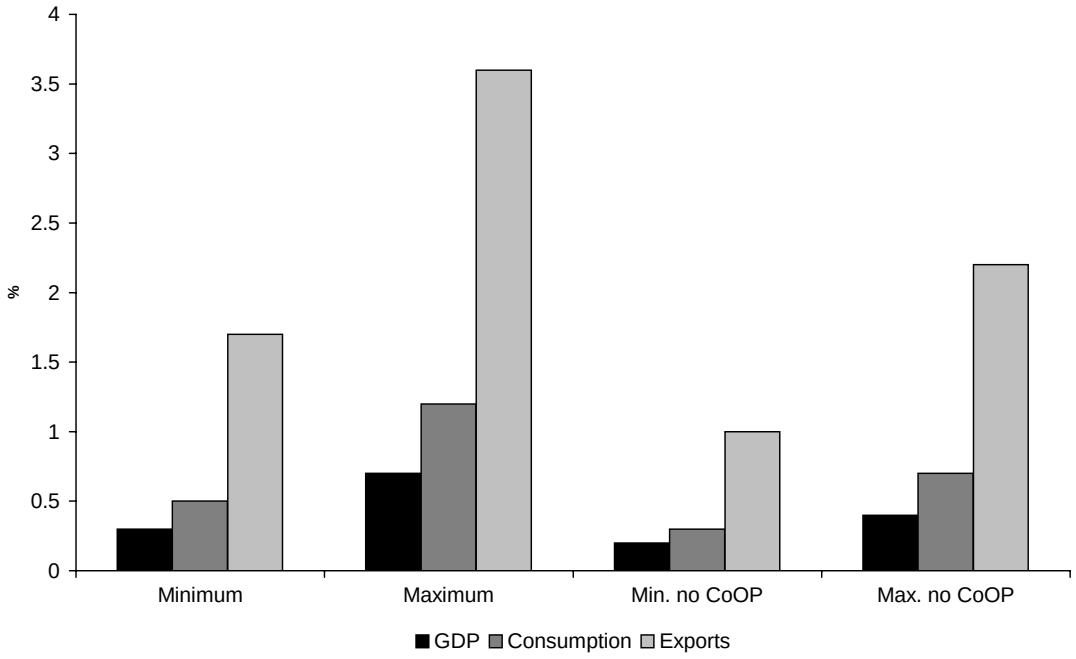
Earlier CPB work has shown that implementation of the Services Directive could increase intra-EU trade in services by 30 to 62 per cent. Now we find that the country of origin principle (CoOP) contributes significantly to this result. Deleting the CoOP from the Directive means that intra-EU services trade increases by 19 to 38 per cent. The bandwidth in the trade effects reflects a combination of statistical uncertainties and lack of clarity about the implementation of the Directive.

We have used an applied general equilibrium model for the world economy, WorldScan, to assess how the expected trade impulse generated by the Directive affects production and consumption in the EU Member States. The results represent the long-term effects of the Directive. Figure 5.1 shows the macroeconomic effects for the EU as a whole. The main item-wise conclusions are:

- Full implementation of the Directive – i.e. including the CoOP– would increase European GDP by on average 0.3 per cent (lower bound) to 0.7 per cent (upper bound). This adds 32 to 74 billion euros to Europe's economy (base year 2004). When the Directive is applied without the CoOP, GDP increases by 0.2 and 0.4 per cent, respectively.
- Consumption increases slightly more, because of a positive terms-of-trade effect. In case of full implementation consumption is expected to go up by 0.5 per cent (lower bound) to 1.2 per cent (upper bound). Leaving out the CoOP would mean that the increase is reduced to the range of 0.3 to 0.7 per cent.
- Exports increase by 1.7 to 3.6 per cent for a full implementation, and by 1.0 to 2.2 per cent for implementation without the CoOP.
- It can be concluded that the CoOP accounts for a very substantial part of the Directive's macroeconomic effects.

The effects for the member states vary widely depending on the reductions of the non-tariff barriers (NTBs), trading partners, terms-of-trade effects, technology differences and comparative advantages. The estimated reductions in NTBs are large. They vary between 27 per

Figure 5.1 Macroeconomic effects of Services Directive with and without the Country of Origin Principle



cent for new EU member states (Czech Republic, Hungary, Slovenia and Slovakia) to 19 per cent for more open countries (e.g. the Netherlands, Belgium, UK and France).[32]

Since the new member states face the largest import increases these countries also experience the highest increases in consumption. Their terms-of-trade effects are relatively modest.[33] The terms-of-trade effects for the countries that specialise in other commercial services like Austria, the Netherlands, Ireland and Germany are substantially larger. These countries therefore also display more value-added growth.

Part of the economic effects is caused by shifts in specialisation. Some of the original EU member states increase their relative specialisation in commercial services due to the more open borders. The new member states, however, reallocate more resources to their manufacturing activity. For them this effect represents a significant part of the GDP increases, ranging between 3.0 and 4.9 per cent in the upper-bound trade increase.

The analysis takes account of several welfare effects. One is the effect on service producers. In some cases, domestic service producers will be affected positively due to more export

[32] The given NTB reductions refer to the upper-bound trade increase.

[33] The reason is that increases in these countries producer prices of commercial services hardly affect the average export price due to the limited role of commercial services in exports.

possibilities. Less competitive domestic producers will see their profits affected in a negative way. The balance between these two groups of producers will differ among the EU countries. This is reflected in the differentiated country results.

Consumers and corporate buyers of services experience another welfare effect. More competition lowers service prices, and brings more variety. This will enlarge the consumer surplus, and thus benefit domestic consumers in most EU countries. Also producers will benefit. Since most of the intra-EU trade in services consists of intermediate inputs, more EU-wide competition will lower the unit price for intermediate inputs, while available varieties increase. Both effects have the potential to make client industries more competitive.

The paper however does not explicitly analyse further dynamic productivity effects that can arise due to a more competitive selection process. It can be argued that, due to the more open borders, under-performing firms will exit sooner, so that the remaining services firms are more productive. Also the effect of more competition on product and process innovation in services has not been explicitly taken into account.

The welfare effects described above are generally positive for the EU as a whole. The country-specific effects will vary. There are also some negative effects. Some intra-sectoral and inter-sectoral restructuring processes and employment shifts are likely to take place in domestic service industries. Arguably this process may proceed in the least painful and quickest way in countries with the more flexible procedures for employment shifts, bankruptcy and new firm start-ups. We do not account for the costs of these transformation processes.

Finally, the implementation of the EU directive has non-negligible direct policy costs may in Member States. Many laws and regulations pertaining to the service sector may have to be changed. It is imaginable that in some cases even the domestic organisational framework charged with implementing the previous regulations, will have to be changed. These are one-off welfare costs that may be compensated by more enduring welfare gains throughout the rest of the domestic economy.

Annex 1: Bilateral trade increase in other commercial services

Bilateral trade increase in other commercial services (maximum effect), percentages, reference year 2001

	Denmark	Greece	Sweden	United Kingdom	Austria	Belgium-Luxem.	Finland	France	Germany	Ireland	Italy	Nether-lands	Portugal	Spain	Czech Republic	Poland	Hungary
Denmark		129	103	85	91	85	107	69	93	41	102	47	102	106	170	241	190
Greece	129		55	72	139	87	103	126	98	106	132	113	162	102	123	141	98
Sweden	103	55		45	112	32	73	61	82	87	68	55	145	72	162	150	98
United Kingdom	85	72	45		73	48	47	63	57	41	74	57	92	34	174	184	99
Austria	91	139	112	73		80	83	80	87	77	66	43	117	100	180	139	138
Belgium-Luxem.	85	87	32	48	80		60	45	57	32	63	45	82	74	167	169	91
Finland	107	103	73	47	83	60		62	68	59	79	53	96	79	141	158	88
France	69	126	61	63	80	45	62		76	66	62	39	120	80	141	134	109
Germany	93	98	82	57	87	57	68	76		77	78	42	61	70	111	182	107
Ireland	41	106	87	41	77	32	59	66	77		87	35	71	56	219	212	144
Italy	102	132	68	74	66	63	79	62	78	87		82	161	101	178	156	124
Netherlands	47	113	55	57	43	45	53	39	42	35	82		103	67	126	133	103
Portugal	102	162	145	92	117	82	96	120	61	71	161	103		106	150	210	141
Spain	106	102	72	34	100	74	79	80	70	56	101	67	106		162	200	105
Czech Republic	170	123	162	174	180	167	141	141	111	219	178	126	150	162		103	129
Poland	241	141	150	184	139	169	158	134	182	212	156	133	210	200	103		102
Hungary	190	98	98	99	138	91	88	109	107	144	124	103	141	105	129	102	

Source: Kox et al. (2004a).

Annex 2: Some model characteristics

Overview of regions, sectors and production inputs in WorldScan

Germany	Agriculture	Value added
France	Low tech manufacturing	High-skilled labour
United kingdom	Medium-low tech manufacturing	Low-skilled labour
Italy	Medium-high tech manufacturing	Capital
Spain	High tech manufacturing	R&D stock
The Netherlands	Transport services	Fixed factor
Belgium-Luxembourg	Other commercial services	
Denmark	Other services (government)	Intermediate goods
Sweden	Energy	Agriculture
Finland	R&D	Low tech manufacturing
Ireland		Medium-low tech manufacturing
Austria		Medium-high tech manufacturing
Greece		High tech manufacturing
Portugal		Transport services
Poland		Other commercial services
Czech Republic		Other services (government)
Hungary		
Slovakia		Energy
Slovenia		
Rest EU		
United States		
Rest OECD		
Non OECD		

Model parameters for IRTS-sectors

Sector	Fixed cost (% of total firm output)	Demand elasticity
Energy	9.7	10.3
Low Tech Manufacturing	10.8	9.3
Medium-Low Tech Manufacturing	10.3	9.7
Medium-High Tech Manufacturing	9.8	10.2
High Tech Manufacturing	8.1	12.4
Other Commercial Services	18.5	5.4
Transport	18.5	5.4

Source: WorldScan calculations, De Bruijn (2006).

Annex 3: Macroeconomic effects (constant returns)

Macroeconomic effects of the trade increase due to Services Directive (constant returns to scale)

	Lower bound			Upper bound		
Country	GDP	Consumption	Exports	GDP	Consumption	Exports
EU	0.3	0.5	1.3	0.6	1.0	2.8
Austria	0.5	0.9	2.1	0.9	2.0	4.5
Belgium-Luxembourg	0.3	1.1	1.4	0.6	2.2	2.7
Czech Republic	1.1	1.0	2.4	2.4	2.3	5.4
Germany	0.3	0.5	1.0	0.6	1.0	2.2
Denmark	0.5	0.6	1.9	1.0	1.3	4.0
Spain	0.2	0.3	0.8	0.3	0.5	1.7
Finland	0.5	0.5	1.6	1.0	1.1	3.3
France	0.2	0.3	1.0	0.5	0.7	2.1
United Kingdom	0.1	0.3	0.8	0.1	0.6	1.6
Greece	0.2	0.3	1.7	0.5	0.8	3.7
Hungary	1.1	1.0	2.8	2.3	2.2	6.0
Ireland	0.4	1.6	1.2	0.7	3.3	2.5
Italy	0.2	0.3	1.1	0.4	0.7	2.3
The Netherlands	0.3	0.7	1.8	0.7	1.5	3.7
Poland	0.6	0.6	1.9	1.3	1.3	4.4
Portugal	0.2	0.4	1.2	0.4	0.8	2.7
Slovakia	1.4	1.4	3.0	3.0	3.3	6.7
Slovenia	1.0	0.7	2.7	2.1	1.6	5.6
Sweden	0.4	0.6	1.7	0.7	1.4	3.5
Rest EU	0.8	1.2	2.5	1.7	2.8	5.6

Source: WorldScan simulations. The numbers are cumulative changes compared to the baseline in 2040.

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