CENTRE FOR EUROPEAN POLICY STUDIES

A Qualitative Analysis of a Potential Free Trade Agreement between the European Union and South Korea

Study submitted by a consortium consisting of:

Centre for European Policy Studies (CEPS), Brussels *(Project Coordinator)*

Korean Institute for International and Economic Policy (KIEP), Seoul

to

DG Trade

European Commission

November 2007

Contributors:

Selen Sarisoy Guerin, Project Leader
T. Huw Edwards
Guido Glania
Heungchong Kim
Hongshik Lee
Jurgen Matthes
Mahmut Tekce

Contents

Preface

This study is a qualitative analysis of a potential free trade agreement (FTA) between the EU and South Korea conducted from January to April 2007, under a contract from the Directorate General for Trade of the European Commission. The aim of this study is to provide a basis for the negotiations that started in May 2007 between the EU and South Korea. As such, it is an in-depth examination of the extent to which EU exporters face non-tariff barriers to trade with Korea. This study offers a potential scenario for efficiently tackling the non-tariff barriers and liberalising services and investment, first by analysing horizontal issues (i.e. dispute settlement, technical barriers to trade, intellectual property rights issues, etc.) and then by offering a sector-by-sector analysis. The potential implications of the EU-Korea FTA and the timing issues are also addressed.

This study is the joint work of CEPS and the Korea Institute for International Economic Policy (KIEP). All the researchers worked in an independent capacity. Our research greatly benefited from the input of both European and Korean industries in Brussels and in Seoul. In order to assess both the attitude towards a potential EU-Korea FTA and the problems of the European industries, we sent out a detailed questionnaire (see Annex 1) which was followed up by a workshop organised by CEPS on 14 February 2007 in Brussels (see programme in Annex 2). We would like to thank ACEA (European Automobile Manufacturers Association), CEA (Communauté Européen des Assurances), Eurometaux, ESF (European Services Forum), CESA (Community of European Shipyards' Association), Business Europe among others for their input and participation in these discussions. Our study also greatly benefited from discussions from a workshop co-organised by CEPS and KITA (Korea International Trade Association) on 8 March 2007 in Seoul. We have also carried out face-to-face interviews with representatives of the Federation of Korean Industries (FKI), EUCCK, the Korea Chamber of Commerce and Industry (KCCI) and the Korean Confederation of Trade Unions.

We would like to acknowledge support of KITA, KIEP and the Office of the Delegation of the European Commission to the Republic of Korea in Seoul and also thank them for their kind hospitality. We also acknowledge excellent research assistance by Chiara Faini throughout this study.

Selen Sarisoy Guerin
Project Leader

A Qualitative Analysis of a Potential Free Trade Agreement between the European Union and South Korea

Executive Summary

Korea is an attractive FTA partner that has achieved an impressive growth in human capital.

Korea has been transformed from an agricultural economy in the 1960s to an industrial economy by the 1990s. Its GDP per capita is comparable to that of Portugal and other new EU member states and it is now the 11th largest economy in the world. When compared to the EU's other FTA partners, Korea's average growth rate (5.2%) has been higher than that of Chile (4.4%), Mexico (2.7%) or South Africa (3.8%) over the period 2000-05. Especially in trade (exports plus imports), Korea is a far more significant trade partner than any of EU's three recent FTA partners. The economic importance of Korea for Europe can be summarised as follows:

- Korea is a dynamic country with good growth potential with a pool of skilled labour that is comparable to that of some EU countries.
- Korea is also a strategic partner in a region that is signing bilateral agreements with other competitor countries.
- Among the EU's trade partners, Korea is the 8th most important trade partner (EUROSTAT, 2007).
- Among Korea's trade partners, the EU is the 4th most important trade partner (EUROSTAT, 2007).

Nevertheless, the EU's motivation to pursue an FTA with Korea is not based on purely economic interests. Even after the provisional suspension of the WTO DDA (Doha Development Agenda) negotiations, the EU's main trade policy remains loyal to multilateralism. However, the EU also recognises that there is a need for a new breed of FTA, one that does not contradict the principles of multilateralism, to contribute to the EU's competitiveness and growth. It should be emphasised that the pace of change in Korea is fast and the EU needs to target long-term gains from this FTA. For example, both the evolution of the human capital and its effects on the R&D and innovation capacity of Korea imply that its production and trade patterns will change. Ten years from now, when Korea reaches a certain level of innovation capacity, it may well be high-technology sectors where the trade issues may arise. Another external factor is China catching up with Korea, which we can already see happening in the automotive sector. This will put additional pressure on Korea to 'specialize' in its exports. This has clear implications for the negotiation process. This implies that all sectors and horizontal issues are equally important in terms of EU's negotiating efforts (e.g. on removing NTBs (non-tariff barriers) in the automotive sector, as well as IPRs (intellectual property rights)).

The status quo and a simple FTA are not an option for the EU.

The current status of trade relations between the EU and Korea are governed by their respective WTO commitments and also the Trade and Cooperation Agreement between the EU and Korea signed in 2001. This agreement outlines a trade cooperation where both parties grant each other MFN (most-favoured nation) status, and agree to work towards the elimination of non-tariff barriers in particular. This agreement also covers trade issues, such as market access for industrial, agricultural and fisheries products and services in general, but especially financial

and telecommunications services. Cooperation in fields of standards and technical regulations and IPRs were also foreseen under this agreement. However, as can be seen from the trade issues that were raised through the Commission and WTO dispute settlement mechanisms and also as repeatedly mentioned by the industry (at the workshop held in Brussels and the CEPS questionnaires – see Annex 1) and the EU Chamber of Commerce in Korea (EUCCK), this framework agreement does not seem to have made the necessary improvements. The finding that the status quo is not an option gives us a starting point. At a minimum, simple FTA with tariff elimination in goods is a necessary but in no way a sufficient step.

A 'deep' FTA with Korea that successfully eliminates not only the tariff barriers but also the non-tariff barriers, as well as securing investment and services liberalization, is the only option to maximise the economic benefits for the EU.

The quantitative studies using CGE models indicate that there will be substantial gains from an EU-Korea FTA, but these gains will not be distributed evenly. Since Korea is more protectionist, it will receive the majority of the gains, about two-thirds, while the EU will receive about one-third. In these studies it was indicated that a significant part of the benefits to the EU will come from services liberalisation. This is also not surprising since the EU has a comparative advantage in almost all service sub-sectors except utilities, gas and electricity. On the other hand, the main growth area in Korea's economy and exports will be in motor vehicles. However, these studies do not take into account non-tariff barriers. As some evidence suggests, the non-tariff barriers are more significant than tariff barriers, for example in the automotive industry. Another shortcoming of these CGE studies is that investment liberalisation is not factored in. As theoretical studies indicate, trade and FDI can be complements if trade costs are sufficiently low. This implies that besides the direct positive impact from investment liberalisation, there will be indirect positive feedback effects on trade if trade costs like IPRs and regulatory restrictions are successfully removed. In short, the most important elements in an EU-Korea FTA for the EU include:

- Elimination of non-tariff barriers (e.g. automotive sector),
- Liberalisation in the services sector,
- Removal of barriers to investment (especially in the service sector) and
- Transparency in the regulatory environment.

The most effective way for the EU to deal with non-tariff barriers in an FTA with Korea is to have a strong dispute settlement mechanism.

As indicated over and over again, the trade issues/disputes that the EU has with Korea are attributable not so much to a lack of rules and regulations (that create the majority of the NTBs), but rather to the lack of implementation and transparency. For this reason, an FTA with all the necessary chapters on sensitive issues may be worthless, if there is no credible retaliation mechanism in the event that one side fails to implement their obligation. For this reason, we suggest that the agreement should contain a special retaliatory clause, in case the Koreans fail to tackle the non-tariff barriers. This may include tariff retaliation (increase of the tariff rate back to its final bound rate before the ratification of the agreement), if the NTBs are not dealt with in a given space of time or if new NTBs are created in the meanwhile. This form of dispute settlement may be the most effective way to deal with NTBs in sensitive sectors. Also in this way, the dispute and the retaliatory measure only affect the sector in question but do not disrupt the whole agreement. The dispute settlement may incorporate tariff retaliation, especially in sectors where the optimal tariff rates are high, as a credible threat in case of a dispute, since the EU is a large entity. In case the optimal tariff rates are already low, then retaliation can be on other parts of the agreement.

One important question in services liberalisation is the extent of liberalisation that is aimed at by the FTA.

The level of liberalisation in services depends on the design of *rules of origin* and *market access* modes agreed at the end of the negotiations. In this respect, the rules of origin constitute a crucial identifier. Basically, the FTA partners may agree to either preferential or MFN liberalisation in services. Preferential services liberalisation must define 'restrictive' rules of origin so that the benefits from the services liberalisation are only shared by the FTA partners. Usually, in this case the rules of origin are used to avoid the free-rider problem by non-FTA partners. Preferential services liberalisation can be more appropriate if the importing country (e.g. Korea) is less efficient and would like to open its services markets to competition gradually. Such a restrictive liberalisation naturally creates trade diversion but to the benefit of the exporting country (e.g. the EU). The other option is to adopt liberal rules of origin and provide more MFN-type of liberalisation. As can be expected, these two options have different economic and bargaining implications. Regardless of whether the service supplier is a firm or an individual, a restrictive set of rules of origin may limit exports and associated employment gains to foreign suppliers already established. However, new suppliers from the exporting country should be able to raise both their exports (mode 1) and investment (modes 3 and 4). In terms of market access, all four modes should be implemented in the agreement. Adoption of only mode 1 or mode 2 will not bring sufficient benefits to the EU. Most of Korea's GATS (General Agreement on Trade in Services) commitments allow for these four modes, but some restrictions apply (mostly on mode 4). Among the four types of entry, mode 3 is undoubtedly the most economically beneficial for the EU. The EU is already the number one direct investor in Korea. The sales of services through direct investment enterprises (mode 3) will not only increase access to services markets that cannot be served via mode 1, but also indirectly circumvent some of the problems that arise from information asymmetries.

The main motivation behind the inclusion of investment agreements as part of bilateral agreements is due to the widely acknowledged benefits from direct investment.

Foreign direct investment is often associated with promoting growth in the host economy while potentially securing higher returns to the savers in the investing country. According to the 2004 Trade Policy Review of the WTO, Korea has made significant efforts to encourage FDI by liberalising and making its foreign investment regime more transparent. Certain restrictions still constitute barriers to investment (e.g. excessive regulation, lack of transparency, etc.). It is very important to emphasise that the quantitative analysis done for the European Commission in 2006 by Copenhagen Economics and Joe François does not count the direct economic gains from investment liberalisation, nor does it account for the indirect effect of investment liberalisation on trade in goods or services. Based on theory and other empirical studies, we would expect the effect of investment liberalisation to magnify the benefits for the EU, especially through its indirect effects on trade in goods and services. The investment agreement should grant each party national treatment, with a detailed definition of what an asset is, and who is considered an 'investor'. In the case of direct investment, the FTA should make sure to follow the internationally recognised standards and definitions of the OECD and the IMF.

Non-tariff barriers in the form of standards and technical regulations can be tackled by regulatory cooperation.

In this case, the negotiators should insist that Korea either recognises international or EU standards and technical regulations. Korea has its own standards-setting procedure which favours domestic producers. The agreement should make sure that Korea adheres to international standards wherever appropriate. In case where Korea has already adopted another country's standards (e.g. US standards), the mutual recognition of standards should come from the FTA directly without having to resort to signing MRAs separately.

Protection of intellectual property rights is one of the most important problems in Korea, as Korea is the world's largest exporter and producer of counterfeit goods.

Besides some regulatory gaps, its laws are largely in compliance with the minimum requirements of the TRIPS agreement. As indicated before with other NTBs, the general problem is not a lack of reform or laws – but their implementation. IPRs are not only important in goods trade but also for investment. It would not be beneficial to have an agreement on investment liberalisation without tackling IPR issues. FDI in standardised, labour-intensive technologies and products are shown to be insensitive to IPRs, but it is quite sensitive to IPRs in sectors which use complex but easily copied technologies. As the IPR improves, FDI flows should increase in these sectors. Mainly since the EU's offensive interests are in complex and high-technology (or high R&D cost) sectors, the agreement should prioritise IPR issues in these sectors (e.g. chemicals). This would also have an impact on FDI in services. Basically, the agreement should cover copyrights, trademarks ,geographical indications patents and design. More importantly, the chapter on IPR may offer cooperation that may help in the implementation process of IPR laws in Korea.

If the FTA is to reach its full potential to liberalise trade, it has to have a strong focus on both horizontal provisions and concrete sectoral steps.

Hence it seems to be necessary to negotiate sector-specific commitments that would become part of the agreement. This would result in detailed annexes not only on tariff dismantling and services, as is the given standard on FTAs, but also on sectoral steps. Horizontal provisions against non-tariff barriers have to define the appropriate balance between the right to regulate when pursuing legitimate policy objectives (like the protection of the consumer and the environment) and misuse for protectionist purposes. In this context, one usually refers to the provision to choose the least trade-restrictive measure, i.e. if two measures are equally effective, one has to choose the one that restricts trade the least.

The question of timing has several facets.

It seems plausible that *less time is needed* for EU-Korean negotiations for several reasons when other agreements with industrialised countries have already been concluded. Firstly, to a large extent, templates of an agreement are already available and Korean negotiators have already been able to gather experience with industrial countries. As a consequence the EU needs to expend less negotiating capacities. The EU may *benefit in several respects from the outcomes of the prior agreements* between Korea and the EU's competitors. Concerning possible Korean services liberalisation, the EU may profit from letting the US in particular move first. With its large negotiating power and its focus particularly on services, the US has managed to obtain very significant services liberalisation from its partner countries in earlier bilateral trade agreements. On the other hand, moving first in an FTA with a certain country provides the opportunity of market-share gains in comparison to the main competitors. Indeed, the EU experienced severe market-share losses in Mexico after NAFTA had been concluded between the US, Mexico and Canada. However, the EU can choose from a strategic trade-off: the (temporary) market-share losses could be outweighed by better (and permanent) negotiating outcomes in terms of access to the Korean market, if the EU can credibly signal to the Korean government that it is prepared to accept the (temporary) market-share losses for some time (as the price for having let the US move first). The issue of timing can also be analysed with respect to the DDA negotiations. On the one hand, starting new FTA negotiations in the potentially final phase of the Doha Round could be interpreted by spectators as evidence that the EU is no longer fully committed to the DDA. On the other hand, one might argue that this timing is of a tactical nature. By signalling that the EU can pursue alternative avenues of trade liberalisation, the other WTO members might be induced to offer more valuable commitments in Geneva in order not to be bypassed or discriminated against by future EU FTAs.

A Qualitative Analysis of a Potential Free Trade Agreement between the European Union and South Korea

1. Introduction

This study is conducted for DG Trade of the European Commission in order to assess qualitative aspects of a potential free trade agreement (FTA) between the EU and South Korea (Korea from here on). In the period during which this study has been carried out, the Commission has already requested a mandate from the Council to negotiate an FTA with Korea on behalf of the member states and the first round of negotiations have taken place in early May 2007. Two important developments in the global trade arena set the stage for the EU-Korea FTA, and hence for this study: a period of suspension of the WTO's DDA (Doha Development Agenda) negotiations from July 2006 until February 2007, and Korea's offensive campaign to conclude bilateral agreements with competitor countries, namely the US. In the course of writing this report, US-Korea FTA negotiations have just been finalised on 2 April 2007 and there has been a revival on multilateral negotiations at the WTO level especially since April 2007, although the G4 Summit in June 2007 did not produce favourable outcomes.

The aim of this study is to provide a clear and concise picture to policy-makers and negotiators of the current state of non-tariff barriers (NTBs) that trigger constant trade disputes between the EU and Korea and of the sectoral implications of a potential FTA. Since the MFN (most-favoured nation) tariffs are already decreasing and are low between the EU and Korea, especially for industrial goods, NTBs represent far-higher barriers to trade today. It has become a real challenge to tackle NTBs in bilateral trade agreements around the world under the banner of 'deep' FTAs for two reasons: i) it is often difficult to prove that divergent standards (or certification procedures) or regulations discriminate against imports versus domestic products, and ii) NTBs can sometimes be based on such elusive concepts as 'transparency' of the regulations. In this report, we identify trade disputes that have arisen from these NTBs both by examining official trade disputes between the EU and Korea at the WTO or Commission level and by consultations with the representatives of European industry based in Brussels and Seoul.

In order to justify our arguments and our conclusions, we first examine the economic importance of Korea for Europe. As outlined in the European Commission's new trade policy strategy, although the conclusion of the Doha Round is the first priority of the EU Commission, it is important to strengthen bilateral trade relations with major economies around the world to secure and contribute to Europe's competitiveness and growth. In this respect, Korea is an ideal candidate with a dynamic economy in a region where the EU has not signed an FTA before. In addition, Korea has just concluded comprehensive FTA negotiations with the US, and is in process of negotiations with Canada, both EU competitors. There is a sense of urgency particularly in the EU-Korea FTA case to avoid any substantial trade diversion that may arise from Korea's other FTAs, not to mention getting a foothold in a region that is the driving engine of world growth.

The structure of this study is outlined in the following paragraphs. In chapter 2, we examine Korea's general macroeconomic performance and its future growth potential. It is important to have a general picture of the macroeconomic health of a future potential FTA partner and its growth prospects. This chapter also covers Korea's trade and investment patterns, not only to understand the country's relative importance in world trade and investment but also to understand whether its trade and investment performance has been below or above potential. In this chapter, we place special emphasis on the growth of human capital in Korea and its interaction with trade and production. Finally, we discuss the current state of regulatory reform in Korea.

In chapter 3, we narrow our focus to bilateral relations between the EU and Korea. We cover bilateral trade and production patterns, as well as foreign direct investment (FDI) flows and stocks. This chapter also identifies the sectors where there are sensitivities between the EU and Korea due to asymmetric comparative advantage and the protectionist inclinations via tariff or non-tariff barriers. Finally, this chapter describes the sectoral composition of bilateral services trade and its potential growth.

After outlining the general and bilateral macroeconomic and trade and investment patterns in previous chapters, in chapter 4 we examine Korea's and the EU's FTA strategies, respectively. We also examine in detail any official and non-official trade disputes that exist between the EU and Korea.[1]

In chapter 5, we comment on the quantitative studies on the economic impact of a potential EU-Korea FTA. For this we rely on CGE (computable general equilibrium) analysis carried out by Copenhagen Economics and Joe François (2007), Pukyong study (2006) and KIEP (2005). CGE models have become the standard tool for analysing international trade agreements. For example, the Copenhagen Economics study utilises the 'imperfect competition' variant of the GTAP model and can help us draw conclusions on the overall gains/losses in terms of GDP, wages and welfare and also on the microeconomic effects of the EU-Korea FTA. Existing studies using gravity models will also be examined. Finally, this chapter will discuss the details of some of Korea's and the EU's most relevant FTAs (i.e. Korea-Chile FTA, Korea-EFTA FTA and EU-Chile Association Agreement).

In chapter 6, we draw conclusions from earlier chapters and offer policy recommendations on some of the most important elements to be included in an EU-Korea FTA. We also present policy recommendations on what and how to negotiate on sector by sector issues. This section will largely draw information from a workshop held at CEPS, Brussels on 14 February 2007 with the representatives of various European industries and also from consultations with the EU Chamber of Commerce in Korea (EUCCK) in Seoul and the German Chamber of Commerce in Seoul in March 2007. This chapter also has two important sub-sections: one on the political feasibility of an EU-Korea FTA (for the Korean side) and on the optimal strategy for the timing of the EU-Korea FTA.

References

Copenhagen Economics and Joe François (2007), *A Quantative Analysis of a Potential Free Trade Agreement (FTA) between the EU and South Korea,* study prepared for the European Commission, DG Trade, Brussels.

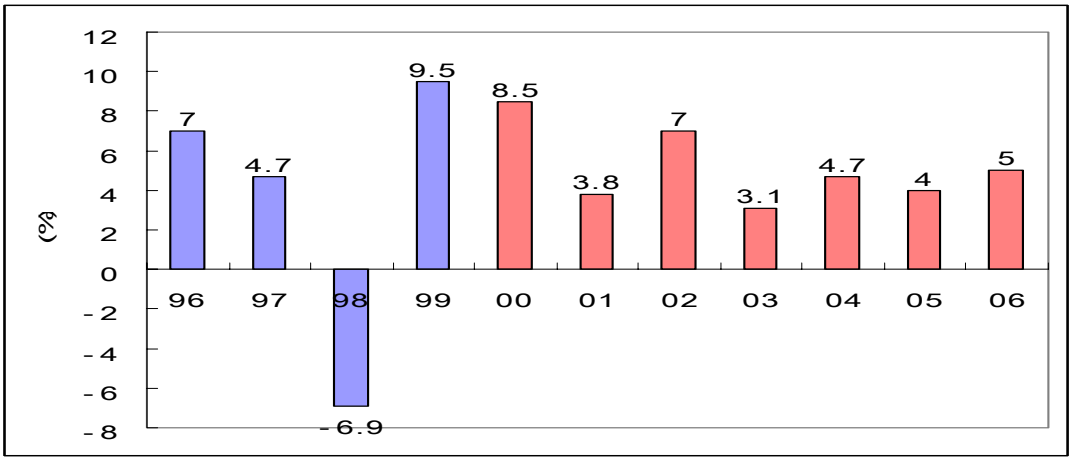
[1] By non-official trade disputes, we refer to trade irritants that have been reported by the representatives of European industry, but did not lead to an official complaint at the WTO or Commission level.

2. Macroeconomic performance of Korea

2.1 General macroeconomic performance and future growth expectations in Korea

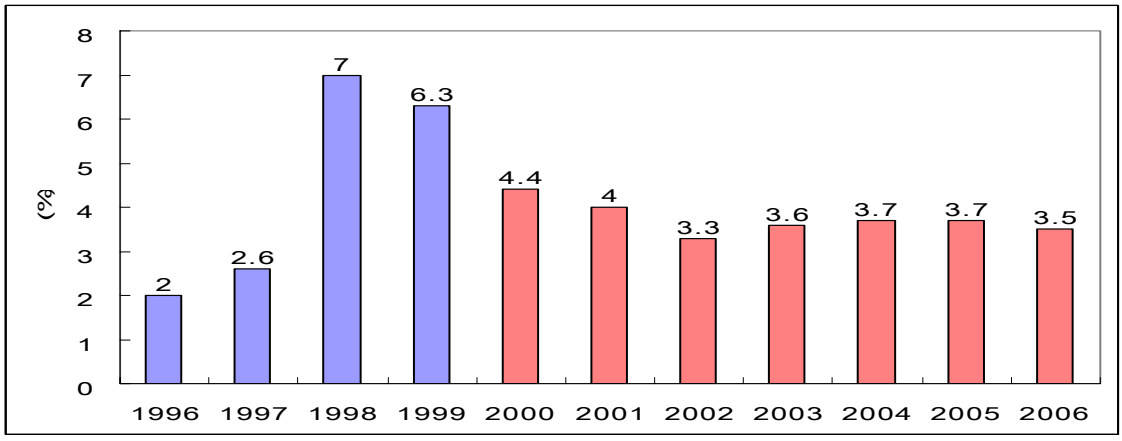
Following the financial crisis in 1997, Korea entered into severe recession. In 1998, gross domestic product (GDP) contracted by 6.9% and unemployment nearly tripled, rising to 7.0% in 1998.

Figure 2.1.1 Korea's real GDP growth rate



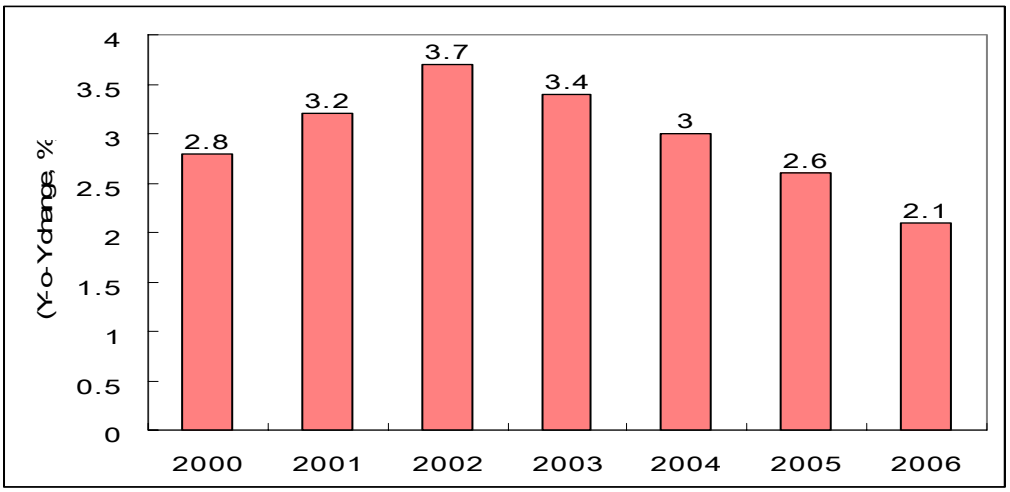
Source: Bank of Korea, Economic Statistics System.

Figure 2.1.2 Korea's unemployment rate



Source: Korea National Statistical Office.

Figure 2.1.3 Korea's inflation rate (based on consumer prices)



Source: Korea National Statistics Office.

The economy rebounded in 1999 and 2000, growing by 9.5% and 8.5%, respectively, enabling the Korean government to rapidly retire many of the debts it incurred in 1997. In 2001, however, growth slowed considerably, dragged down by a combination of internal and external developments, including a decline in consumer and business confidence, the bursting of Korea's stock-market bubble, rising oil prices and a sharp fall-off in exports to the United States and Japan, which entered economic downturns of their own. The government responded by lowering interest rates, unveiling an economic stimulus package and easing the rules on the use of credit cards. These measures boosted consumer spending, which helped to double the growth rate from 3.8% in 2001 to 7.0% in 2002. Growth also was boosted by rapid economic integration with China. Domestic investment, however, remained low.

In 2003, overuse of personal credit cards led to the near-collapse of many financial firms and a sharp slowdown in economic growth, which fell back to 3.1%. Consumer credit problems in 2003 caused a sharp deterioration in consumer finances and confidence, pulling down the growth rate and leaving household debt at approximately 130% of household disposable income. Although the economy rebounded in 2004, registering 4.7% gross domestic product (GDP) growth on the strength of a 31% expansion in exports, domestic private demand remained weak.

In 2005, private consumption staged a robust recovery, growing by 3.2% and contributing 1.6 percentage points to a GDP growth of 4.0%. Government consumption expanded by 4.0%, and the external sector provided further momentum, driven by 12% export growth. But capital investment growth in 2005 remained weak. Soft fixed capital investment, coupled with yet higher oil prices, and somewhat softer support from exports than in the previous year, explain the modest deceleration in growth in 2005.

Despite solid export performance, high import growth, due in large part to rising oil prices and the recovery of domestic demand, squeezed the trade surplus to $23.2 billion and reduced the current account surplus to 1.9% of GDP in 2005. In 2006, Korea's trade surplus was further compressed down to $16.7 billion (Table 2.1.1). In early 2005, the government lowered its growth forecast from 5 percent to less than 4 percent, due in part to a slowdown in export growth. The government responded by unveiling a $6.5 billion fiscal stimulus policy. Beginning in the late spring, Korean domestic production and demand began to increase, perhaps indicating a resolution of the credit card problem; despite rising energy prices (Korea imports all of its oil), private spending rose by 3.2 percent in 2005, compared to a 0.5 percent contraction the year before. Meanwhile, a bullish stock market, as well as optimism over the economy and

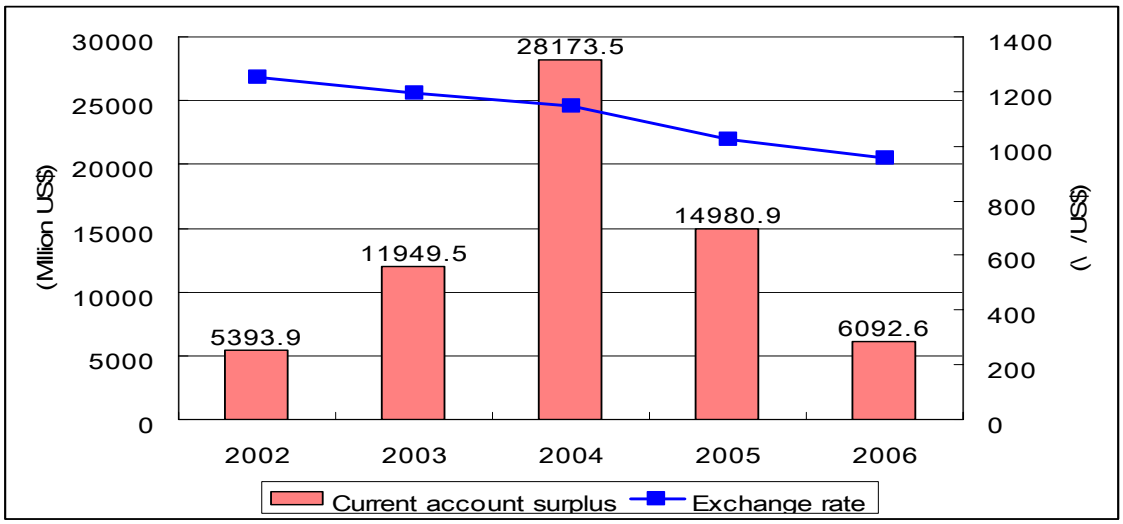
currency, contributed to an appreciation of the won which strengthened by 2.4% against the dollar.

Table 2.1.1 Trend of Korea's Trade Balance (Unit: $US million, %)

	Exports		Imports		Trade Balance
	Amount	% Change	Amount	% Change	(Amount)
1994	96,013	16.8	102,348	22.1	-6,335
1995	125,058	30.3	135,119	32.0	-10,061
1996	129,715	3.7	150,339	11.3	-20,624
1997	136,164	5.0	144,616	-3.8	-8,452
1998	132,313	-2.8	93,282	-35.5	39,031
1999	143,685	8.6	119,752	28.4	23,933
2000	172,268	19.9	160,481	34.0	11,786
2001	150,439	-12.7	141,098	-12.1	9,341
2002	162,471	8.0	152,126	7.8	10,344
2003	193,817	19.3	178,827	17.6	14,991
2004	253,845	31.0	224,463	25.5	29,382
2005	184,419	12.0	261,238	16.4	23,180
2006	325,985	14.6	309,334	18.4	16,651

Source: Ministry of Finance and Economy

Figure 2.1.4 Korea's current account surplus



Source: Bank of Korea & Korea Customs Service.

In 2006 the Korean economy expanded 5% as initially forecasted. In the second half of 2006, momentum for domestic demand including consumption moderated. Robust exports, however,

balanced out the weakening momentum for domestic demand. Private consumption had recovered at a faster pace than income since 2005, but the pace has been under adjustment since the third quarter of 2006. Facility investment kept recovering before growth slightly slowed in the fourth quarter of the year. Construction investment reversed course to a modest rise during the same period.

Exports were buoyant throughout the year, backed up by strong overseas demand arising from the robust global economy. Export growth remained double-digit in January 2007. The current account kept registering surplus on goods sales, which was driven by export rise. However, the widening services account deficit emerged as uncertainty to the current-account surplus trend.

Employment was dull due to decreasing hiring in manufacturing, but more jobs were available in the service sector. Prices remained stable in the 2% band on the support of stable agricultural prices. January 2007 prices were also stabilised in the 1% range led by oil price fall and stable agricultural prices as the Lunar New Year falls in February this year, whereas it fell in January last year.

In 2007 the Korean economy is expected to expand a mid 4%, mostly in line with growth and employment potential. As for the quality of growth, domestic demand such as consumption is estimated to keep moderating. Economic growth is projected to be stronger in the second half than in the first half.

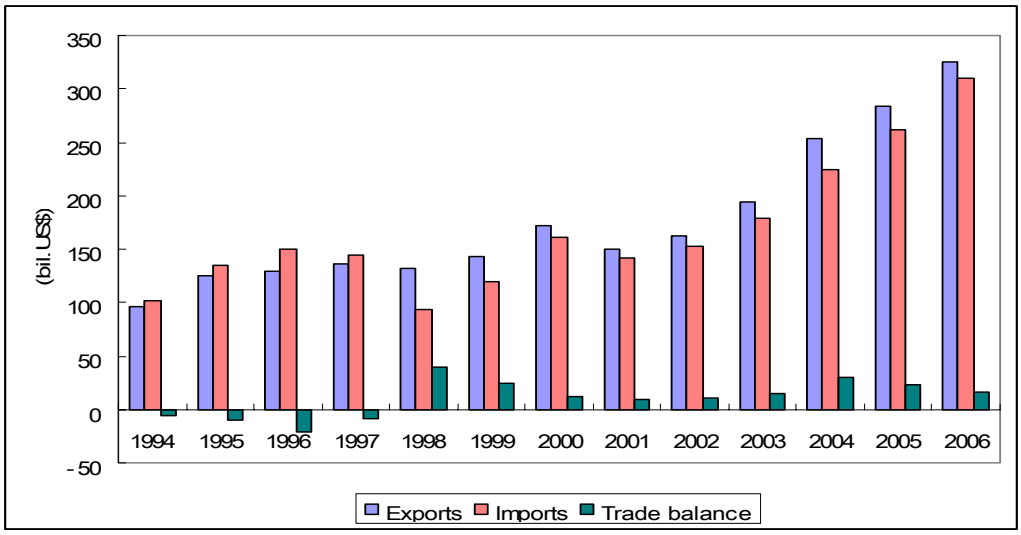
For 2007, the current account surplus is forecasted to narrow further due to a decrease in the goods account surplus amid the global economic slowdown and widening service account deficit. Maintaining the current account surplus is likely to be dependent on the level of service account deficit, including travel accounts.

Semi-conductors, shipbuilding, machinery and display are forecast to extend their growth streak in 2007, according to a report on 12 key industries' 2006 performances and 2007 outlook, published by the Korean Ministry of Commerce, Industry and Energy. The key industries continued an upward trend in 2006, driven by the robust export led by flagship export items such as shipbuilding and semi-conductors, in spite of unfavourable external circumstances including the rising won and oil prices. Most items in the key industries are expected to sustain their growth this year, albeit slower than last year, due to factors such as the sluggish recovery of domestic demand and the decelerated export growth following the slowdown of the world economy.

2.2 Patterns of trade

Robust growth in the volume of world trade and improvements in the competitiveness of large firms in Korea has underpinned growth in Korea's exports. Korean electronics and automobiles continue to make inroads into markets with newly forming middle classes in China, for example. Despite solid export performance, however, high import growth and widening services account deficits have been reducing the current account surplus.

Figure 2.2.1 Korea's trade trend



Source: Korea International Trade Association (KITA).

Patterns of exports

Table 2.2.1 indicates some important points regarding Korea's export markets. Firstly, Korea has diversified its export markets over the last two decades. Until the crisis, exports to ASEAN and China increased at the expense of those to the United States. The traditional heavy reliance on the US market had been declining until the onset of the crisis. Exports to the US rose until the mid-1980s, reaching a peak of 40% of the total in 1986, and then began declining.

In contrast, the shares of exports to ASEAN and China rose sharply until the onset of the crisis. Korea's exports to ASEAN included capital-intensive goods to support the industrialisation of that region. Noticeably, this fast growth in exports to ASEAN took place in conjunction with the surge in Korea's Outward Direct Investment (ODI) to the region over the period. Exports to China surged dramatically in the mid-1990s due mainly to the establishment of diplomatic relations in the early 1990s, as well as to the country's geographical proximity. Meanwhile, exports from Korea to EU were relatively stable. Because of the increase in exports to ASEAN and China, Korea was able to diversify its export markets away from its heavy reliance on the US market between 1980 and 1997.

This geographical composition has changed since the crisis. In particular, the relative importance of the US market increased again until 2000, when it once again began to decline. In particular, China emerged as an important market, especially at the expense of the ASEAN and Japanese markets. The strong US economy over the last 10 years has led to an increase in imports, whereas the ASEAN economy lost purchasing power following the crisis. The strong US economy was largely attributed to the growth in information technology industries, which raised the demand for semi-conductors, Korea's most important export item.

Table 2.2.1 Shares of Korea's major export countries (% of total)

	United States	**Japan**	**China**	**EU**	**ASEAN**
1980	26.3	17.4	0.1	16.7	6.5
1985	35.5	15.0	0.1	11.8	5.1
1990	29.8	19.4	0.9	15.4	8.0
1991	25.8	17.2	1.4	14.7	10.2
1992	23.6	15.1	3.5	12.8	11.8
1993	22.1	14.1	6.3	12.1	12.3

1994	21.4	14.1	6.5	11.7	13.0
1995	19.3	13.6	7.3	13.0	14.4
1996	16.7	12.2	8.8	11.8	15.7
1997	15.9	10.8	10.0	12.4	15.0
1998	17.2	9.2	9.0	13.7	11.6
1999	20.5	11.0	9.5	14.1	12.3
2000	21.8	11.9	10.7	13.6	11.7
2001	20.7	11.0	12.1	13.0	10.9
2002	20.2	9.3	14.6	13.4	11.3
2003	17.7	8.9	18.1	12.8	10.4
2004	16.9	8.5	19.6	14.9	9.5
2005	14.5	8.4	21.8	15.4	9.6
2006	13.3	8.2	21.3	15.1	9.9

Source: Korea International Trade Association (KITA).

The sustained growth of the Chinese economy and the recovery of the ASEAN and Japanese economies are also factors crucial to Korea's exports and growth. While there was a drop in the relative importance of the ASEAN markets following the crisis, the complementary relationship between Korea and the region indicates the importance of these markets for the country's exports. However, the relative importance of the ASEAN market after 2000 fluctuated somewhat. Recently, the Japanese market has showed an overall declining trend, and is still less significant than it was before the crisis.

The importance of the China market is particularly noticeable. In 1999, China emerged as the third largest single market for exports from Korea (9.5% of total exports) followed by the US (20.5%) and Japan (11.0%). The share of the market in Korea's total exports reached 21.3% in 2006 and it is now the single most important destination for exports from Korea.

Table 2.2.2 Korea's trend of exports by commodity (% of total)

	1980	**1990**	**1995**	**2000**	**2006**
Agricultural	10.6	4.1	2.7	1.8	1.0
Mineral	1.0	1.9	4.1	6.4	6.8
Chemical	7.3	4.8	8.1	9.1	10.5
Plastic rubber or leather	3.6	3.1	3.6	3.0	2.4
Textile & apparel	29.1	22.7	14.9	10.9	4.1
Livingware	10.5	11.8	3.5	1.9	0.8
Iron or steel, metals	14.2	10.0	8.4	6.5	8.6
Machinery	8.3	13.0	18.6	19.8	28.3
Electrical or electronic	12.2	27.7	35.7	40.0	37.1
Miscellaneous	3.1	0.9	0.5	0.6	0.5

Source: Korea International Trade Association (KITA).

Korea's major export industries have significantly changed over the last 20 years. The major industries of Korea's exports were agricultural industry, textile and apparel industries, and steel industry in the 1980s. However, the machinery industry and the electronic industry became the major export industries, accounting for 65.4% of Korea's total exports in 2006. The change in major export products reflects the industrial development of Korea from light industries to high tech industries.

Patterns of imports

Table 2.2.3 shows some important patterns regarding Korea's import markets. Korea has also diversified its import markets as well as its export markets over the two decades. Imports from the US and Japan have decreased from 24.3% and 26.6% in 1990 to 10.9% and 16.8% in 2006, respectively. In contrast, the shares of imports from China and ASEAN rose significantly, which would be related to an increase in FDI of Korean firms to those regions. In particular, China's share of Korea's total imports jumped sharply from 0.1% in 1980 to 15.7% in 2006, making the country the second most important country among Korea's import markets.

Table 2.2.3 Shares of Korea's major import countries (% of total)

	United States	**Japan**	**China**	**EU**	**ASEAN**
1980	21.9	26.3	0.1	7.6	6.7
1985	20.8	24.3	1.5	11.0	8.7
1990	24.3	26.6	3.2	13.0	7.3
1991	23.2	25.9	4.2	13.1	7.6
1992	22.4	23.8	4.6	12.8	8.7
1993	21.4	23.9	4.7	13.3	8.7
1994	21.1	24.8	5.3	14.2	7.7
1995	22.5	24.1	5.5	13.5	7.5
1996	22.2	20.9	5.7	14.1	8.0
1997	20.8	19.3	7.0	13.1	8.7
1998	21.9	18.1	7.0	11.7	9.8
1999	20.8	20.2	7.4	10.5	10.2
2000	18.2	19.8	8.0	9.8	11.3
2001	15.9	18.9	9.4	10.6	11.3
2002	15.1	19.6	11.4	11.2	11.0
2003	13.9	20.3	12.3	10.8	10.3
2004	12.8	20.6	13.2	10.8	10.0
2005	11.7	18.5	14.8	10.4	10.0
2006	10.9	16.8	15.7	9.8	9.6

Source: Korea International Trade Association (KITA).

Table 2.2.4 indicates a trend regarding Korea's import industries. Mineral products including oil have been a major import category over the last two decades, registering between 18-32% of total imports. Imports of agricultural products have drastically decreased from 18.2% in 1980 to 5.6% in 2006. The machinery and electronic industries have made up a major portion of Korea's imports over the last 20 years.

Table 2.2.4 Korea's trend of imports by commodity (% of total)

	1980	**1990**	**1995**	**2000**	**2006**
Agricultural	18.2	10.5	9.1	6.7	5.6
Mineral	32.5	18.4	17.9	26.9	31.4
Chemical	10.5	14.0	12.5	10.4	10.2
Plastic rubber or leather	2.5	3.8	2.6	1.8	1.7
Textile & apparel	2.0	3.3	3.9	3.0	2.6
Livingware	0.6	0.9	1.3	1.0	1.3
Iron or steel, metals	7.0	9.6	10.1	7.6	11.0

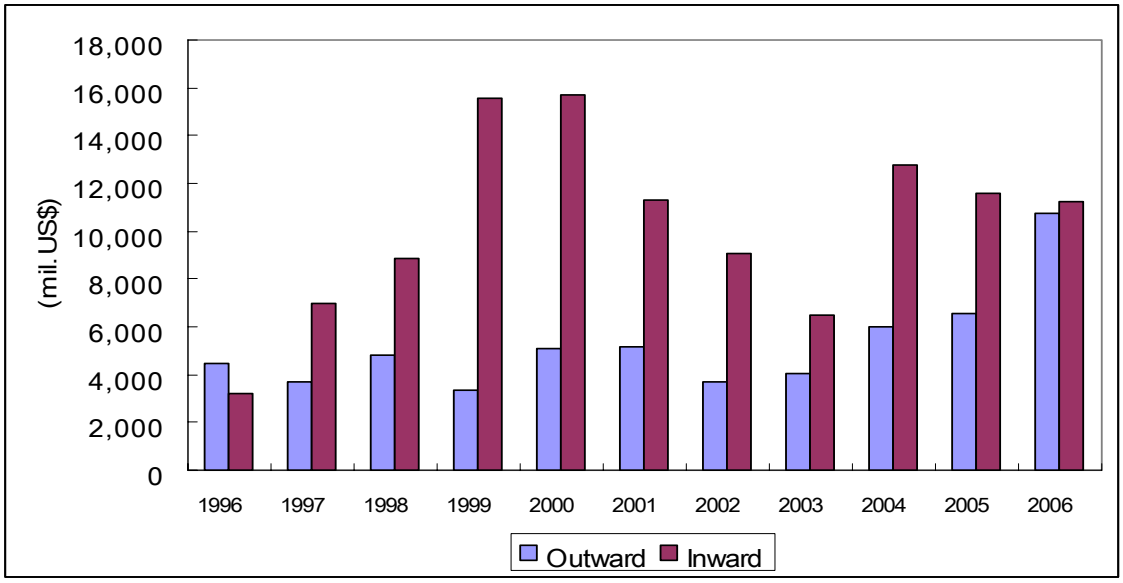
Machinery	13.9	21.1	21.8	12.9	12.9
Electrical or electronic	8.2	17.5	20.2	29.1	22.5
Miscellaneous	4.5	0.8	0.6	0.5	0.9

Source: Korea International Trade Association (KITA).

2.3 Patterns of investment

As shown in Figure 2.3.1, Korea's FDI inflow has surpassed FDI outflow since the 1997 financial crisis. However, Korea's FDI outflow has significantly increased in recent years, surging to $10.7 billion in 2006. The increase was driven by investment in overseas resource development, global management strategy and eased regulations on overseas investment. In particular, the recent investment in resource development surged on the back of government assistance such as strengthening resource diplomacy, expanding financial sources for resource development and training skilled manpower. On the other hand, FDI inflow has fluctuated and has recently experienced an overall decreasing trend, registering $11.23 billion in 2006. The year-on-year decline was mainly due to sluggish M&A investment activity despite a rise in greenfield-type investments.

Figure 2.3.1 Trends in Korea's direct investment



Source: Korean Ministry of Commerce, Industry and Energy and the Export-Import Bank of Korea.

Foreign direct investment

The Korean government removed regulations on FDI and strengthened incentives significantly after the 1997 financial crisis. In addition to its change in globalisation policy and a recognised high standard of labour quality, the improved current account produced by expanded exports and a stabilised foreign exchange market was helpful in the recovery of foreign investor confidence, which is evidenced by the surge of FDI flows into Korea.

FDI inflows were slowly increasing before the 1997 crisis. The amount of FDI inflows totalled $1.9 billion in 1995 and $3.2 billion in 1996, but this constituted only 1.5% and 2.5% respectively of Korea's exports. In contrast to the dwindling ODI (outward direct investment), FDI inflows began to surge from 1997 and maintained strong growth until 2000. FDI inflows in 1997 were valued at $7 billion, which is more than double the previous year's figure. FDI inflows peaked in 1999 and 2000, reaching $15.5 billion and $15.7 billion, respectively. This was followed by a downturn until 2003, although the inflows picked up again in 2004.

The increased FDI inflows following the crisis provide evidence of the recovery in the confidence of foreign investors in the economy of Korea, although the inflows were also boosted by policy reforms such as permission for M&As, new fiscal taxation incentives and fewer restrictions on foreign ownership, which were aimed at removing distortions in FDI and the depreciation of the won currency.

Table 2.3.1 clearly illustrates that increased FDI inflows after the crisis were largely led by improved US and European Union investment at the expense of Japanese investment. The share of United States investment in Korea before the crisis was around 27-30%, but this increased rapidly after 1996. US investment accounted for the lion's share of foreign investment in the period 1997-98, although it dropped in the period 1999-2000. However, US investment rose again to account for nearly half of FDI inflows in 2002, before dropping sharply to 19.2% and then resurging to 36.9% in 2004. The table also indicates that European Union investment increased continuously until 1999, but began to decline in 2000 and declined to 18.3% in 2002. However, it increased sharply again in 2003, and in recent years the share of the EU FDI in Korea accounted for the largest portion, recording over 40%. The share of Japanese FDI in Korea between 1962 and 1990 was 48.2%. However, it dropped to 3.8% in 1997, although it has picked up a little since then. Despite this recovery, with some fluctuations, Japanese investment never regained the historically high level recorded between the 1970s and mid-1990s.

Table 2.3.1 Shares of Korea's FDI by source country and by host industry

Period/years	Total		Source country (% of total)			Host industry (% of total)	
	Amount ($ mil.)	Cases	United States	European Union	Japan	Manufacturing	Services
1962-90	7,874	5,337	28.5	12.5	48.2	65.4	34.1
1991-95	6,598	2,929	29.9	32.5	23.0	53.7	46.4
1996	3,203	968	27.4	27.9	8.0	60.3	39.2
1997	6,971	1,055	45.8	33.1	3.8	33.7	65.8
1998	8,852	1,399	33.6	32.6	5.7	64.8	33.2
1999	15,541	2,173	24.1	40.3	11.3	45.9	53.8
2000	15,697	4,271	18.6	28.0	15.6	43.4	56.3
2001	11,291	3,418	34.4	27.1	6.8	27.4	72.6
2002	9,101	2,435	49.4	18.3	15.4	26.7	73.1
2003	6,468	2,564	19.2	47.3	8.3	26.2	63.9
2004	12,784	3,068	36.9	23.5	17.7	48.6	48.0
2005	11,563	3,668	23.3	42.2	16.3	26.7	72.1
2006	11,233	3,108	15.1	46.6	18.8	37.6	59.1

Source: Korean Ministry of Commerce, Industry and Energy (http://www.mocie.go.kr).

Table 2.3.1 also shows a dramatic change in FDI by industry. Traditionally, most FDI has flowed into the manufacturing sector. The share of FDI in manufacturing stayed between approximately 53% and 65% over the period between 1962 and 1996. However, the service sector has recently taken a greater share. This dramatic change accelerated after the 1997 crisis. The service sector's share of total FDI increased continuously after the crisis and peaked at 73.1% in 2002.

The change in FDI by sector reflects the change in source countries and in the comparative advantage of the economy of Korea. Most Japanese investment was directed towards the country's manufacturing sector, and this is consistent with the high share (65.4%) of foreign investment in manufacturing in Korea over the period from 1962 to 1990. Because of increased wages, some areas of manufacturing in Korea seem to have lost their comparative advantage over China and ASEAN. In contrast to Japanese investment, United States and European Union

investment in the service sector increased, particularly after the financial crisis. This includes investment in the financial sector as well as in the business service sector.

Outward direct investment (ODI)

While the reforms following the 1997 financial crisis focused on FDI inflows, the trend of ODI flows has also changed. In particular, the rapid momentum of the 1990s seems to have been lost. Korea's ODI began to surge from the mid-1980s, when the economy had a significant surplus on the current account, largely due to a favourable exchange rate and low interest rates in the global capital market. Owing to the confidence in the current account balance, the government gained confidence in capital account management and removed restrictions on ODI. Furthermore, domestic production costs rose sharply, mainly due to the surge in wages. This rapid upward trend lasted until the onset of the crisis, followed by a somewhat stagnant period with some fluctuations.

Table 2.3.2 Shares of Korea's ODI by destination country and by source industry

Years	Total		Destination country (Percentage of total amount)			Source industry (Percentage of total amount)	
	Amount ($ mil.)	Cases	United States	China	European Union	Manufacturing	Other
1980	145	352	22.4	0.0	3.6	22.9	77.1
1985	113	38	11.1	0.0	34.4	18.3	81.7
1990	963	341	35.9	1.7	5.0	50.6	49.4
1996	4,458	1,472	35.4	20.9	8.9	63.9	36.1
1997	3,710	1,330	23.9	20.0	7.3	50.7	49.3
1998	4,812	617	19.6	14.5	14.1	49.3	50.7
1999	3,329	1,095	42.0	11.0	6.3	50.1	49.9
2000	5,069	2,082	27.3	14.0	3.0	30.4	69.6
2001	5,164	2,153	28.3	12.4	39.8	74.2	25.8
2002	3,697	2,490	15.4	27.8	23.7	47.2	52.8
2003	4,062	2,809	25.9	41.0	3.9	53.2	46.8
2004	5,989	3,764	22.4	38.4	11.3	56.4	43.6
2005	6,557	4,389	19.0	40.4	8.5	55.8	44.2
2006	10,731	5,185	16.3	30.8	9.8	47.2	52.8

Source: Export-Import Bank of Korea.

Korea's ODI was led largely by labour-intensive and small and medium-sized (less than $300,000) manufacturing companies, particularly since the mid-1980s. Manufacturing's share of total ODI increased from 18.3% in 1985 to 63.9% in 1996. The surge in wages was the main driving force for the exodus in textiles, clothing and primary and fabricated metals. Asia (including ASEAN and China) received the lion's share of this investment, followed by North America. In particular, ODI to China rose sharply to exploit geographical proximity and low labour costs in small and medium-sized firms, followed by ODI to the United States, Hong Kong and Viet Nam. In contrast to manufacturing-led ODI to Asia, Korea's ODI to North America and the European Union was led by trading companies. This reflects an attempt by small and medium-sized firms in Korea to export to North America and the European Union directly, rather than adopting the traditional method of indirect exports through local trading companies.

The relative importance of large-sized firms in ODI seems to have increased following the 1997 financial crisis. For example, Hyundai motor company, Samsung and LG Electronics increased

their foreign investment in Asia, North America and the European Union after 2000. Despite the crisis, China remained the most important country for foreign investment in Korea. The share of China in total ODI fluctuated between 12.4% in 2001 and 40.4% in 2005. In contrast with FDI, Korea's ODI barely seemed to be influenced by the 1997 financial crisis. This trend reflects the strong Chinese economy and uncertainty about the US economy owing to the hostilities in Iraq and rising oil prices, as well as the surge in wages and rather weak business environment in the home market over the period. Manufacturing-led ODI remained unchanged following the crisis. This reflected the weak competitiveness of Korea's non-manufacturing industries in the global market.

2.4 Korea human capital

This section presents evidence on the growth of Korea's human capital and its impact on trade and production patterns. A factor that cannot be disregarded in the evolution of Korea's economic development is its *impressive investment in human capital*. In the 1960s, the population received on average 4.25 years of schooling (which was half that of Germany's at the time) and by 2000, it was 10.8 years. By comparison, this latter figure is higher than that of Germany and indeed the EU average. This spectacular increase in Korea's human capital is likely to have an impact on the development potential of Korea, and hence define its trade and investment patterns with its trading partners. In other words, human capital accumulation alone can change Korea into a country like Japan in the future. In that sense, a potential FTA with Korea would have long-term dynamic effects for the EU. Below is a brief background on how Korea was able to accumulate such high-skilled labour within a short period of time, followed by its impact on Korea's R&D and innovative capacity and on its role in becoming a knowledge-based economy.

Historical background

In order to understand the impressive evolution of the educational system, and hence Korea's growth in human capital, a brief examination of history is warranted. The roots of the education system were established during Korea's colonial period (1910-45). During these years, the Japanese government invested heavily in such infrastructure projects as building schools, in order to integrate Korea with the Japanese economy. After the liberalisation in 1945, Korea was left with these physical assets but also suffered a severe shortage of managerial manpower since all the resources were used to benefit the Japanese. The years that followed until 1962 were difficult for the Korean economy. The Korean War (1950-53) not only destroyed production facilities but also resulted in the loss of one million lives. The reconstruction years that followed were mainly characterised by growth driven by massive foreign aid and protectionist trade policies and import substitution.

Nevertheless, these pre-growth years were marked by a surge in the expansion of education: in 1946, primary school enrolment increased from 1.4 million to 2.2 million pupils. The rapid increase in school enrolment was mainly due to the high motivation in the Korean society to obtain higher social levels.[1] The figures indicate that by 1960 around 56% of adults had received some primary education and 20% obtained secondary schooling. These figures bring out a sharp contrast to the earlier period of 1945 when 87% of adults had never received any schooling (Lee, 1996).

The Korean economy's transformation from an agricultural to an industrial economy started in the 1960s with the help of a successfully conducted, export-led growth strategy. This also

[1] Lee (1996) indicates that because of the unusual homogeneity of the Korean society and the destruction of the class system after the Korean War, attaining higher levels of education became the only means to obtain a higher social class in Korea.

coincided with the early results of the investment in education that ensured that Korea had substantial human capital stock. As a consequence, the export-led strategies were successfully implemented due to the abundance of a highly skilled workforce. The real GDP growth rate was 6% per year on average for the period 1962-73. During this period, the share of agriculture decreased from 37% to 25%. In the 1970s, the government started targeting strategic export sectors and import substitution of intermediate inputs and capital goods in order to boost competitiveness. Massive investment was mainly directed towards such industries as shipbuilding, steel and petrochemicals, which soon revealed the inefficiency of the government policies by a large accumulation of excess capacity.

In the 1980s, after the economic and political crisis in 1980, the government started market liberalisation and price stabilisation policies. These policies have proven to be successful and the average real GDP growth rate over the 1980s has been 7.8%. In the 1990s, the development process in Korea began to change from export-promotion strategies to the beginning of plant exports and learning advanced and core technologies. At this stage, there was increased product innovation and process improvement compared to the 1960s and 1970s where production was dominated by OEMs (original equipment manufacturers) with no R&D activity at all (Lee et al, 1996). All these development stages were made possible by an almost simultaneously increasing stock of human capital.

This brief account of development strategies of Korea indicate that the relationship between the impressive growth in human capital through investment in education and the growth of the economy is of a circular nature. In other words, the impressive record of economic growth, helped by outward-oriented growth strategies, resulted in Korea's growth in human capital. In return, growth was achieved by high human capital stock. Lee (1996) emphasises that in the 1960s and 1970s Korea's exports were labour-intensive manufactures. Later, the Korean exports became more capital- and skill-intensive products. Especially, in the 1990s, it can be seen that the stock of skilled labour has helped the absorption of technology. In return, the strong upward trend in the skill levels of the labour force ensured the growth of employment and real wages, which in turn helped keep a strong demand for education (Lee, 1996). Korea is now quickly becoming a knowledge-based economy due to its skilled human capital that is not only able to replicate production processes but also, now taken a step forward, able to innovate.[2]

The interaction of human capital development and production and trade patterns

The role of human capital in economic growth and trade theory was not always recognised. In the 1960s and 1970s, there was an interest in understanding the impact of education on economic growth and attempts were made to measure the return to investment in education (Andreosso-O'Callaghan, 2002) but the focus was not on the skill content of the labour force. It was in the 1980s when economists started debating the impact of technology combined with knowledge and skill on economic growth and this debate led to the 'new growth theories'.

In some early empirical work, e.g. Easterlin (1981) and Hanson (1989), it is argued that the relationship between growth and education is uni-directional from education to growth. These studies were empirical tests mainly on developing and less-developed countries to understand why they were not catching-up faster. The reason why these countries were delayed in the convergence process was because, it was claimed, the diffusion of technology was limited. One explanation as to why technology may be hindered was seen as low quantity and/or quality of education. More recent literature on education and growth (e.g. Psacharopoulos, 1993) indicates that return to education is higher for primary education than higher education, and primary education facilitates growth more. Korea as well as the US and Germany were shown to be

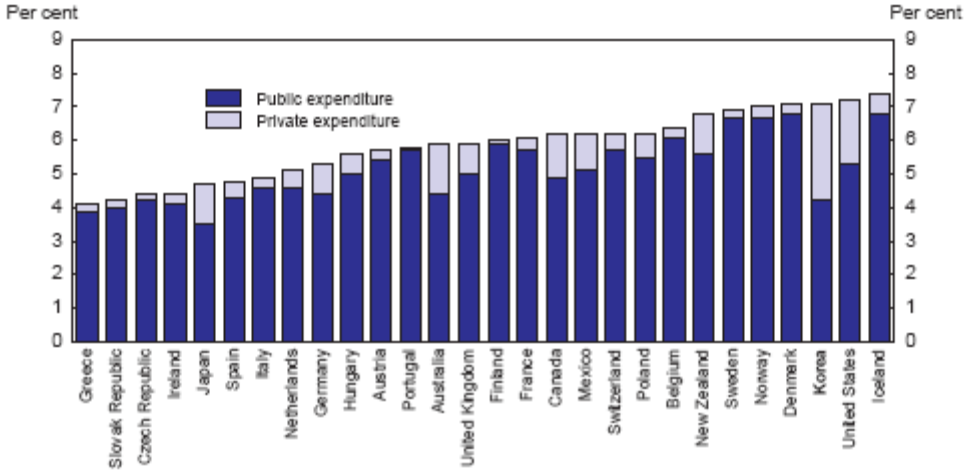
[2] See Stiglitz (2004)

good examples of this argument, where there was substantial adult literacy (i.e. primary education) before these countries embarked on their growth path.

Economic growth may also promote better quality and quantity of education. Especially in the case of tertiary education, empirical studies showed that the causality may run in the direction from growth to education since tertiary education may require more public investment (Graff, 2001). Another way in which growth may affect education is through increased real wages and employment hence an increased demand for further education, as was mentioned above for Korea. Statistics indicate that government spending on education in Korea did not increase significantly (Lee, 2001). Instead, education was mostly supplemented by private spending, which indicates that there was strong demand for education from the society.

The OECD report on Korea (2005) shows that Korea spent 7.1% of GDP for all levels of the educational institutions in 2002, the third highest among the OECD countries after Iceland and the US (see Figure 2.4.1 below). However, the public expenditure at 4.2% of GDP was below the OECD average of 4.9%.[3]

Figure 2.4.1 Expenditure on educational institutions (% of GDP in 2002)

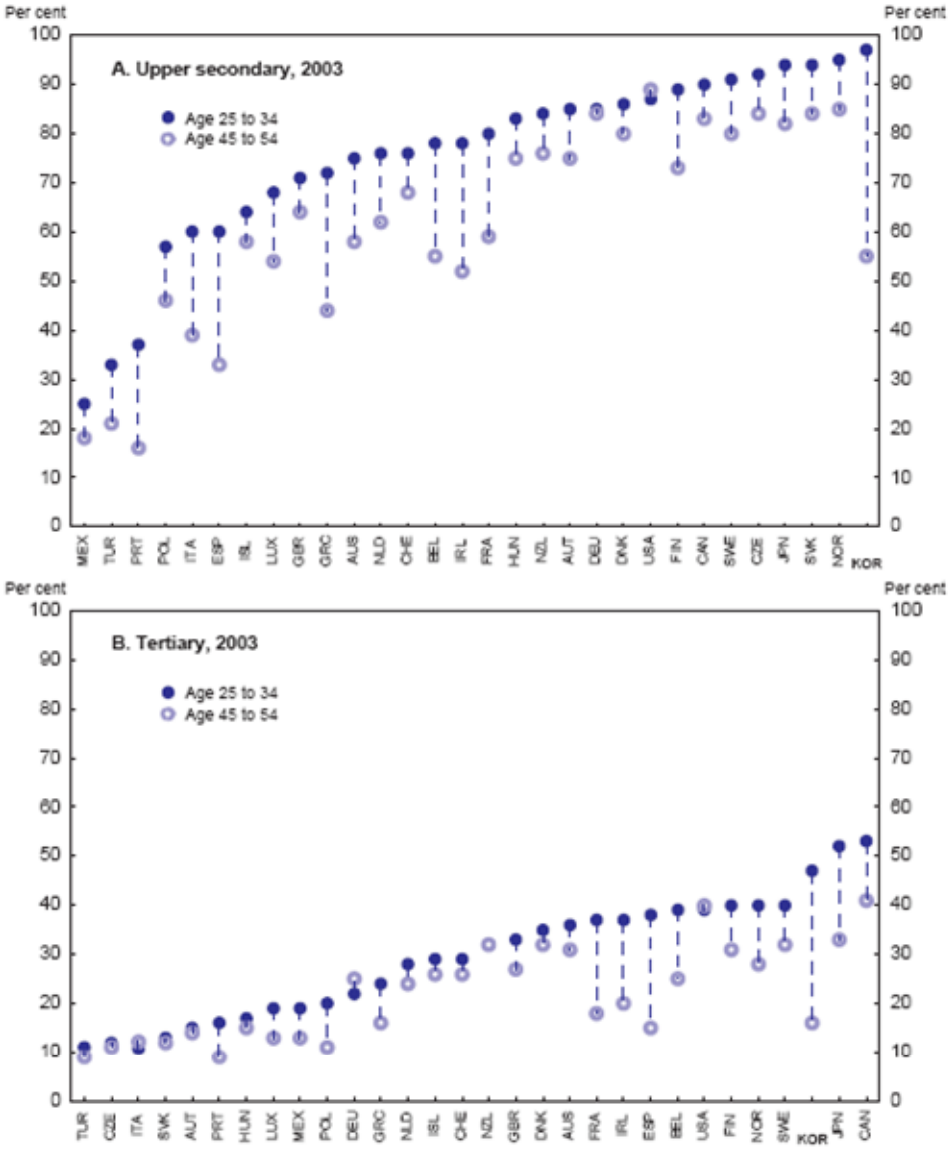


Source: OECD, *Economic Surveys: Korea,* 2005.

Nevertheless, Figure 2.4.2 below shows that Korea has the highest educational attainment in upper secondary education between the ages of 25-34 among the OECD countries. In terms of tertiary education, Korea is only third after Canada and Japan in the 25-34 age group. This figure confirms that Korea not only has higher average years of schooling than Germany, Finland or France (Table 2.4.1) but also that it has accumulated a high-skilled labour force ahead of even the Nordic states.

[3] Surveys by Korean Educational Development Institute (KEDI) show that private tutoring after school amounts to 2.3% of GDP (OECD, 2005). These figures above do not take account of out-of-school spending.

Figure 2.4.2 Educational attainments of the population (% of age group)



Source: OECD, *Economic Surveys: Korea,* 2005.

Table 2.4.1 Average years of schooling

	1960	**2000**
Korea	4.25	10.84
Germany	8.18	10.2
France	5.40	7.86
Finland	5.40	9.99
Canada	9.11	11.62

Source: Barro-Lee dataset.

The OECD report (2005) suggests that if Korea is to achieve sustained growth, this needs to be done through innovation, which depends on R&D and the education system. Despite some shortcomings of the education system, which are reported in the recent report by the OECD, the percentage of high-skilled labour force has increased sharply. So, let us now concentrate on the R&D expenditures. Korea's R&D spending as a percentage of GDP exceeds that of France, Germany and many other European countries, and even that of the US (Table 2.4.2). In addition,

the human capital resources of Korea in terms of researchers who can capitalise on the R&D investment in order to innovate are not that far behind France and Germany.

In contrast, Korea has one of the lowest government shares in R&D spending. Instead, the majority of its R&D is financed by the business sector and within the sector, larger companies dominate over SMEs (Suh, 2000). In terms of its sectoral distribution, R&D spending is concentrated in a few industries: ICT sectors (communications equipment, semiconductors, computers and electrical and electronic products) account for 58% of total manufacturing R&D expenditure, automotive sector (19.6%), chemicals (9.8%), machinery (3.9%) and iron and steel (3.8%). Among these, Korea's international competitiveness is highest in communications equipment, semiconductors, office equipment and computers and cars (Suh, 2000).

Table 2.4.2 Indicators of R&D attainment, by country

	Gross domestic expenditure in R&D		**Total researchers**	
	Amount ($ million ppp)	**Percentage of GDP**	**No. of persons**	**Persons per thousand of total employment**
Australia	9,884.6	1.69	73,173	7.8
Belgium	5,890	1.94	30,668	7.4
Canada	19,154.1	2.04	112,624	7.2
China	65,159.1	1.07	810,525	1.1
France	38,360	2.23	186,420	7.5
Germany	55,673.5	2.49	265,819	6.8
Hungary*	1,494.7	1	14,965	3.9
Ireland	1,433	1.1	9,376	5.3
Italy	17,698.6	1.13	71,242	3
Japan	108,248.1	3.18	646,547	10.1
Korea	22,246.6	2.53	141,917	6.4
Netherland	8,708.3	1.72	38,159	4.6
Portugal	1,563.1	0.76	18,984	3.7
Singapore	2,189	..	1,812	..
Spain	9,684.4	0.99	83,318	4.8
Taiwan	12,194	..	64,385	..
US	276,260.2	2.65	1,334,628	9.6
EU15	196,710	1.89	1,030,490	6
EU25	204,217.5	1.79	1,144,519	5.6
Total OECD	6,567,556	2.24	3,550,077	6.9

* Concerning these indicators, Hungary is the best performing among the new EU member states.

Source: OECD, *Main Indicators on Science and Technology*, 2005.

The R&D figures and the stock of human capital imply that Korea's exports should be more and more in the high-technology sectors, and this is confirmed by the statistics. Korea's share of high-technology exports increased from 18% in 1990 to 33% in 2004 (Table 2.4.3). Overall, Korea is one of the major exporters of high-technology products ahead of Japan, Germany and the UK.

Table 2.4.3 A comparison of Korea's exports and imports to other countries and the high-technology content of exports

	Imports (% of GDP)		**Exports (% of GDP)**		**Primary exports (% of merchandise exports)**		**Manufactured exports (% of merchandise exports)**		**High-technology exports (% of merchandise exports)**		**ToT (1980)**
	1990	**2004**	**1990**	**2004**	**1990**	**2004**	**1990**	**2004**	**1990**	**2004**	**2004**
Ireland	52	65	57	80	26	10	70	86	41	34	94
Japan	9	10	10	12	3	3	96	93	24	24	116
US	11	14	10	10	21	14	75	82	34	32	112
Netherlands	51	60	54	65	37	30	59	70	16	29	99
Finland	24	32	23	37	17	16	33	83	8	21	99
Belgium	69	81	71	84	19	18	77	81	...	8	..
France	23	26	21	26	23	17	77	83	16	19	..
Italy	20	26	20	27	11	11	88	88	8	8	132
UK	27	28	24	25	19	18	79	76	24	24	99
Spain	20	29	16	26	24	21	75	77	6	7	121
Germany	25	33	25	38	10	9	89	84	11	17	112
Korea	29	40	28	44	6	8	94	92	18	33	75
Portugal	39	38	33	31	19	15	80	85	4	9	..

Source: United Nations, *Human Development Report 2006*, UN, New York.

Another impact of Korea's human capital and its R&D activities can be seen in the evolution of its innovative capacity, which can be measured by the number of its patents. In order to compare Korea's performance in patent ownership to other countries, we look at the US patent registration trends. Since the US patent market is the largest market, this provides the best comparator. One important observation from Table 2.4.4 below is that the catching-up process in Korea has been impressive. Korea is far ahead of other 'Asian tigers' such as Singapore and Hong Kong and slightly behind Taiwan. In terms of the EU countries, Korea's patent performance has caught up with France and Germany since the 1990s and has overtaken Italy, Netherlands, Belgium and Austria.

Table 2.4.4 Trends in ownership of US patents by country

	1983-1989		1990-1999		2000-2002		2003	
	Counts	Percentage	Counts	Percentage	Counts	Percentage	Counts	Percentage
US	283122	54.13	602864	54.39	259646	52.90	87901	52.00
Japan	98741	18.88	237092	21.39	99378	20.25	35517	21.01
Germany	48962	9.36	75085	6.77	32774	6.68	11444	6.77
France	17502	3.35	30674	2.77	11895	2.42	3869	2.29
UK	17547	3.36	27188	2.45	11469	2.34	3627	2.15
Canada	9903	1.89	22727	2.05	10456	2.13	3426	2.03
Taiwan	1937	0.37	17638	1.59	15469	3.15	5298	3.13
Switzerland	8616	1.65	11928	1.08	4106	0.84	1308	0.77
Italy	6889	1.32	12832	1.16	5174	1.05	1722	1.02
Sweden	5626	1.08	8605	0.78	4993	1.02	1521	0.90
Netherlands	5629	1.08	9336	0.84	3964	0.81	1325	0.78
Korea	483	0.09	14256	1.29	10638	2.17	3944	2.33
Australia	2549	0.49	4984	0.45	2439	0.50	900	0.53
Belgium	1957	0.37	4405	0.40	2134	0.43	622	0.37
Austria	2282	0.44	3665	0.33	1624	0.33	592	0.35
Israel	1447	0.28	4501	0.41	2793	0.57	1193	0.71
Finland	1430	0.27	4099	0.37	2159	0.44	865	0.51
Denmark	1220	0.23	2617	0.24	1341	0.27	529	0.31
Hong Kong	217	0.04	849	0.08	649	0.13	276	0.16
Ireland	251	0.05	637	0.06	399	0.08	166	0.10
Singapore	56	0.01	647	0.06	924	0.19	427	0.25
China P.R.	135	0.03	571	0.05	603	0.12	297	0.18
India	94	0.02	442	0.04	557	0.11	341	0.20
Others	6399	1.22	10748	0.97	5281	1.08	1918	1.13
Total	522994	100	1108390	100	490865	100	169028	100

Note: Patent data include only the utility patents, which are more closely related to technology invention, as opposed to design patents, plant patents and reissue patents.

Source: Lee (2005).

Some anecdotal evidence also supports the statistics. One example of how Korea has been transformed from an import-substituting economy to a knowledge-based economy can be seen in Korea's recent achievement with digital technology. With the use of its human resources and

R&D facilities, Korean companies emerged as world leaders in many innovative digital products. For example, the UK enjoyed its first digital TV broadcast with the aid of an LG product. Samsung and LG hold a number of 'world-firsts' in terms of technologies and licenses in related fields of digital technology (Lee, Lin & Song, 2005). In the initial stages of developing digital TV, Korea's human resources were not sufficient for a commercially viable production in the 1990s, and Korean firms had to rely on newly recruited manpower. This example indicates that although the Koreans did not have sufficient capacity at the start in this industry, they were able to overcome this difficulty by seeking R&D capacity outside. This anecdote provides useful evidence of how far Korea has come in terms of catching up with the EU15, the US and Japan. But more importantly, it shows just how narrow the gap now is between Korea and the major economies of the world.

Summary

This section examined the evolution of the development of the human capital in Korea. In summary the sources of rapid increase in school enrolment and the increase in average years of schooling can be attributed mainly to Korea's outward-oriented growth strategies. As discussed, the growth path takes off in the 1960s, by which time Korea already had accumulated a large literate work force. Afterwards, the causal relationship between growth and human capital accumulation through education becomes circular, where one feeds into the other. As the skilled human capital becomes abundant and the stage of the development of the country progresses, the patterns of trade may also change. In the early 1960s, Korea's exports were mainly labour-intensive manufactures. Today, they are mainly high-technology products. This implies that Korea is more similar to a European economy than a developing economy. The trade in the near future between the EU and Korea will not be in standardised labour-intensive products but more and more in complex skilled-labour-intensive products. Ten years from now, if Korea can achieve sustained growth, it can be more like Japan. It has already overtaken Japan in the digital TV industry, which shows that the EU should be prepared to have a very dynamic trade partner. Despite the general positive outlook on growth, Korea will face challenges from its aging demographics and also a slow down in its accumulation of human capital.

2.5 Korea's regulatory reform

Regulatory reform programs have been core part of the Korean public sector reform since the financial crisis in 1997. The economic crisis, in the short term, was triggered by the onset of foreign exchange crisis in Southeast Asia in 1997. However, in the long term, it resulted from structural weaknesses accumulated in a state-led development of last three decades. The guiding principle of reform policy was to achieve the parallel development of democracy and a market economy. Pursuing the balanced development of democracy and a market economy requires a full-scale change in the policy paradigm. It means a paradigm shift from a state-led development strategy to a market driven development.

The Korean government initiated drastic regulatory reform programs in parallel with structural reforms in several sectors such as finance, corporate and public. They were all aimed to promote the efficiency and discipline using market principle and market force. These reform measures in a broad sense included changes in regulatory systems and methods, and policy tools. Far-reaching efforts at reform of regulation were conducted. A strong political leadership combined with a sound institutional framework for regulatory reform made it possible to carry out drastic and comprehensive reform of regulation.

OECD Reviews of Korea's Regulatory Reform (2007) appraised the achievement that Korea has made, noting strong political leadership has helped drive through the reforms. Among the various reforms Korea has conducted, OECD stated that Korea has made impressive progress, especially, in the following areas:

Reform towards high-quality regulation: According to the OECD**, "***Korea's regulatory quality system has been developed and consolidated since the financial crisis. The Regulatory Reform Committee, which has functioned since 1998, and the Regulatory Reform Task Force (since 2004), both under the direction of the Prime Minister, set regulation policy, review regulations, evaluate progress, and co-ordinate across relevant government ministries. The internet is used extensively to improve access to regulations, and is linked to efforts to reduce administrative burdens. OECD assessed that the emphasis of Korea's regulatory reform has shifted from a quantitative reduction of the overall stock of regulations to an effort to further promote regulatory quality".*

Competition Policy: OECD pointed out, in the same report mentioned above, that "*commitment to market principles at the highest political level has provided strong support for competition policies, reforms of the financial sector and corporate governance, and for opening markets to trade and lowering barriers to foreign investment. Significant progress has been achieved in terms of shifting the focus of the Korea Fair Trade Commission (KFTC) towards core competition problems and increasing its ability to enforce competition policy, even if further challenges remain.*

The core of the KFTC's latest reform program has been its launch of the 2003 "Three Year Market Reform Road Map" (Road Map). One foundation of this program was an Index developed by the Korea Development Institute to measure transparency, fairness and competition of firms and markets in Korea. The Road Map concentrated on three general areas. First, it focused on strengthening business transparency and accountability by modifying corporate laws, authorizing lawsuits against business misconduct, protection minority shareholder rights, reinforcing auditor independence, and tightening the control of insider misconduct. Second, the Road Map revised the KFTG's own regulations of conglomerates in ways that were intended to encourage more transparent structures. The third area was traditional competition policy topics such as doubling the financial penalty against cartel violations, streamlining merger review with pre-notification, retiring anti-competitive regulations and strengthening consumer rights. This plan was embodied in legislation in 2005. The KFTC staff structure was reorganized to reflect these changes, notably by reducing the staffing that administers the regulation of cross-holdings among affiliates."

Market Openness: "*Korea maintains a firm commitment to attract more foreign direct investment and further liberalize the market. OECD indicated that improvements in regulatory procedures, greater engagement of the business community and streamlining of procedures in customs and public procurement contribute to this end. The Korean On-line E-Procurement System (KONEPS) has enhanced transparency and efficiency. Korea has also made efforts to change the negative public perception towards imports, foreign firms and foreign investment, and has introduced a framework to reward public servants who promote Foreign Direct Investment. Invest Korea is a one-stop shop for foreign investors, and the Office of the Investment Ombudsman assists foreign investors on problems after establishment*."

Telecommunications: "*Since 2000 the telecommunications sector in Korea showed continued rapid growth, especially in broadband penetration where Korea now ranks the highest among OECD countries. It is also the 9th largest telecommunication market among OECD countries. Sector liberalization has produced notable benefits in terms of improved services, lower prices, and innovation. Korea is also among the leaders for wireless broadband as well as digital multimedia broadcasting. Positive reforms have taken place to create a competitive market.*

Korea Telecom was fully privatized in 2002, a goal that many other countries with state-owned operators have not yet managed to complete."

As the OECD appraised, Korea has made impressive progress in a very short time period in adapting and modernizing its regulatory framework towards consultation and transparency, improving competition in domestic markets and further consolidating market openness. The reform will eventually produce large gains for moving toward a market-driven development as reforms intended.

However, as many people argue, reform implementation is crucial to gaining reform effects and sustainability. Poor implementation may lead to the lack of credibility and public confidence. Implementation depends on government capacities to deal with opposition and resistance from vested interest groups. Changing regulations, in theory, is easy but changing attitude and behavior is more difficult. Regulating agencies are needed to change their regulatory behavior and attitude as regulation reformed. In addition, as pointed out in the OECD report, capacity-building, including at the local level, is a critical factor to ensure that changes decided at the national level can effectively be implemented. In words, it is necessary to foster competent expertise to deal with practical things. Reformer continuously needs to look forward and evaluate reform result. Setting targets and monitoring and evaluating implementation need to be continued. Feedback and correction for reform drives through this process would lead to desirable reform movement in Korea.

References

Andreosso-O'Callaghan, B. (2002). Human Capital Accumulation and Economic Growth in Asia, National Europe Centre Paper No. 30, University Limerick.

Easterlin, R. (1981). Why isn't the whole world developed? *Journal of Economic History*, 41:1, March, pp. 1-19.

Graff, M. (2001). Human capital, distribution and development. Proceedings of the 4th Seminar on "Wissenschaft und Praxis der Entwicklungpolitik", Frankfurt: KfW.

Hanson, J.R. (1989). Education, Economic Development and Technology Transfer: A Colonial Test. *Journal of Economic History*, 49:4, December, pp. 939-957.

Korean Educational Development Institute (2005), *Brief Statistics on Korean Education*.

Lee, J.W. (1996). Economic growth and human development in the Republic of Korea, background paper for the UN Human Development Report, United Nations.

Lee, J.W. (2005). Human capital and productivity for Korea's sustained economic growth. *Journal of Asian Economics*, No. 16, pp. 663-687.

Lee, M, Son, B. and K. Om (1996). Evaluation of national R&D Projects in Korea. *Research Policy*, 25, 805-818.

Lee, K., C. Lin and W. Song (2005). Emerging digital technology as a window of opportunity and technological leapfrogging: Catch-up in digital TV by the Korean firms. *International Journal of Technology Management*, Vol. 19, Nos. 1-2, pp. 40-63.

OECD (2005), *Economic Surveys: Korea*, Organisation for Economic Cooperation and Development, Paris.

OECD (2007), Review of Regulatory Reform: Korea, Progress in Implementing Regulatory Reform, Organisation for Economic Cooperation and Development, Paris.

Psacharopoulus, G. (1993). Returns to Investment in Education: A Global Update. World Bank PDR Working Paper 1067, World Bank, Washington, D.C.

Stiglitz, J. (2004). Korea: Medium and Long-Term Economic Prospects, http//www2.gsb.columbia.edu/faculty/jstiglitz/download/papers

Suh, J. (2000), *Korea's Innovation System: Challenges and New Policy Agenda*, The United Nation University, Institute for New Technologies, No. 2000-04.

United Nations (2006), *Human Development Report 2006*, UN, New York.

3. EU-Korea bilateral trade relations

3.1 Trade patterns

Trade pattern

Since the establishment of official diplomatic relations between the EU and Korea in 1963, the economic relationship between the two parties has dramatically been strengthened, together with the economic growth of Korea. Korea's exports to the EU increased by 566 times to $49.2 billion in 2006 from only $87 million in 1971, and the EU's exports to Korea over the same period jumped more than 117 times to $30.2 billion from $257 million. The EU has experienced a trade deficit with Korea since 1998, when the Korean currency, the Won, was substantially devalued due to the financial crisis. The EU's trade deficit recorded a high of more than $19 billion in 2006.

It is noteworthy that the total trade volume between the two has doubled in the period 2000-06, mainly due to Korea's explosive increase in trade. Over the same period, Korea's total trade volume with the world increased by 1.91 times. More than that, Korea's exports to the new EU member states doubled in the years 2003-04.[1]

Table 3.1.1 Korea's trade performance with the EU ($ millions)

	1998	**2000**	**2002**	**2003**	**2004**	**2005**	**2006**
Exports	18,171	23,424	21,694	24,887	37,830	43,659	49,240
Imports	10,928	15,788	17,107	19,380	24,187	27,296	30,168
Total trade volume	29,099	39,212	38,801	44,267	62,017	70,954	79,408
Trade balance	7,243	7,635	4,587	5,507	13,643	16,363	19,072

Source: KITA (KOTIS database)[2].

As of 2006, Korea's exports to the EU account for 15.1% of Korea's total exports, and 9.8% of Korea's total imports are from the EU. The EU's weight among Korea's export destinations has gained.

Korea's main export items include automobiles, semiconductors, computers, ships and wireless telecommunications devices. Machinery, semiconductors, jewellery and various chemical products are, among others, Korea's major imports from the EU.

Table 3.1.2 Korea's top four trading partners ($ millions)

Country	**Exports**		**Country**	**Imports**	
	2005	**2006**		**2005**	**2006**
China	61,915	69,459	Japan	48,403	51,926
EU	43,659	49,240	China	38,648	48,557
US	41,343	43,184	US	30,586	33,654
Japan	24,027	26,534	EU	27,296	30,168

Source: KITA (KOTIS database).

[1] In 2004, Korea's exports to the new EU member states increased by 288.5% for Cyprus, 209.7% for Slovakia, 103.8% for Poland and 91.2% for the Czech Republic compared to the previous year.

[2] This database is the most reliable source of trade statistics since KITA is directly connected to the firms in the field.

As of 2006, the EU is Korea's second biggest export market following China and is its second biggest trading partner as well. The status of the EU in the list of Korea's trading partners has recently changed significantly. The EU stood as the second-largest export destination of Korean goods in 2005, and the second biggest trading partner in 2006. The US, once the biggest trading partner of Korea now ranks in fourth place. Meanwhile, Korea is the eighth biggest trading partner to the EU.[3]

Germany and the UK are the biggest trading partners of Korea among the EU member states. Italy, the Netherlands and France follow (see Table 3.1.3). Most of the trade with the EU is conducted with the previous EU15 member states before the expansion in 2004. As for 2004, exports into the new EU member states was only 11.0% of total EU exports at $4,180 million and imports only 2.2% of the total at $537 million.

Figure 3.1.3 Korea's major trading partners in the EU ($ millions)

Exports	2005	2006	Rank	Imports	2005	2006	Rank
Germany	10,304	10,056	6th	Germany	9,774	11,365	6th
UK	5,339	5,635	9th	France	2,759	3,219	20th
Italy	4,297	4,286	15th	Netherlands	2,760	3,026	22nd
Netherlands	3,647	3,609	20th	UK	3,149	2,977	23rd
Spain	2,867	3,479	21st	Italy	2,778	2.916	24th

Source: KITA (KOTIS database).

Among the new member states, Poland and Hungary are the main trading partners with Korea. As of 2006, Korea's exports to Poland amount to $2.6 billion and its imports from Poland totalled $271 million. Korea's exports to Poland more than doubled in 2006 from merely $1.17 billion in 2005. In the case of Hungary, Korea's exports were $1.201 billion and its imports were $229 million. Currently Korea has a significant trade surplus against the new member states, including Poland and Hungary.

In sum, Korea's trade with the EU has markedly increased in recent years, but its growth rate is higher than Korea's trade record with other trading partners, implying that the EU stood as one of the most important trading partners of Korea. Korea experienced a huge trade surplus against most of the EU member states, except for Germany ($1.3 million in 2006).

A comparison of Korea's tariff structure with the EU's

In general, Korea is evaluated to be more protective of its local market and industries than the EU. First of all, Korea's concession rate in 2004 is 91.5%, which is lower than the EU's 100%. Korea's tariff exemption rate is 13.3%, while the EU's rate is 26.9%. Korea's MFN tariff rate is 12.8%, which is also higher than the EU's 6.5%. Applied rates are within the range of 0-887.4%, which is generally a higher level of tariff protection compared to that of the EU. Korea's average tariff rate for agricultural products is 52.2% (according to the WTO's definition), which is much higher than the EU's 16.5% and for non-agricultural products the average tariff rate is 6.7%, which is slightly higher than the EU's 4.1%. For instance, the average tariff rate applied to vegetables (HS 2) is 100%, and the tariff rates for shoes (HS 12) and textiles (HS 11) are 10.2% and 9.9%, respectively (Kim et al, 2005).

The items with tariff rates of more than 15% (international tariff spikes) are 8.9% in Korea, which is similar the level of the EU, 8.6%. 2.7% of Korea's total items are under the low tariff

[3] The major trading partners of the EU in terms of trade volume (unit: €100 million) in 2004 are as follows: US (3,926), China (1,756), Switzerland (1,366), Russia (1,265), Japan (1,174), Norway (925), Turkey (689), Korea (481) and Canada (383).

rates of below 2% (nuisance tariff), while the coverage under the nuisance tariff in the EU's lines is 6.8%. To combine this with the ratio of exemptions, Korea applies a tariff rate of below 2% on 15.4% of total items while the EU applies a tariff rate of below 2% on 33.7% of total items. Korea has stronger tariff protections compared to the EU for its domestic market. On the other hand, Korea's tariff structure is more transparent than that of the EU in that Korea has a lower share of non-ad valorem duties. The non-ad valorem duties in Korea are mostly applied to agricultural products. For high tariff items (i.e. more than three times the average tariff rate) in Korea is only 2.5% of total items compared to 5.8% in the EU. The tariff structures of Korea and the EU are compared in Table 3.1.4.

Table 3.1.4 Comparison of tariff structures of Korea and the EU, 2004 (%)

	Korea	EU
Concession rate	91.5	100
Ratio of items subject to exemption	13.3	26.9
Ratio of items subject to non-ad valorem	0.6	9.9
Ratio of items subject to non-ad volorem (no AVEs)	0.6	2.7
Ratio of tariff imposed items	1.7	3.3
Simple average tariff rate	12.8	6.5
Agricultural products (HS 01-24)	47.9	16.6
Non-agricultural products (HS 25-97)	6.6	3.7
Agricultural products (WTO definition)	52.2	16.5
Non-agricultural products (WTO definition)	6.7 (9.8)*	4.1 (8.0)[a]
Domestic tariff spikes[b]	2.5	5.8
International tariff spikes[c]	8.9	8.6
Nuisance applied tariff[d]	2.7	6.8
Standard deviation of tariff rate distribution	52.0	11.5

Note: Based on MFN applied tariff rates. [a] The average tariff rate of textiles & clothing. [b] The ratio of items that apply three times more than the simple average applied tariff rate. [c] Items that exceed 15%. [d] Items that apply a rate over 0% and below 2%.

Source: WTO 2004 TPR EU and TPR Korea.

Table 3.1.5 Tariff structure of Korea by item (2004)

	Tariff Rate	Range	The percentage of each group against Korea's total imports		
			EU 25	EU 15	EU 10
Total industry	**12.8**	**0 ~ 887.4**	**11.10**	**10.85**	**0.24**
Primary industry	47.9	0 ~ 887.4	9.66	9.29	0.38
Manufacturing industry	6.6	0 ~ 754.3	14.93	14.62	0.31
Livestock	27.1	0 ~ 243	10.92	8.92	2.00
Fisheries	16.1	5 ~ 20	2.09	1.87	0.23
Agricultural products	108.1	0 ~ 887.4	2.43	2.39	0.04
Processed food	21.3	0 ~ 754.3	19.65	19.62	0.03
Mineral products	3.8	0 ~ 8	0.30	0.28	0.02
Chemicals	11.8	0 ~ 754.3	21.08	20.85	0.22
Plastic	7.0	0 ~ 8	16.24	16.15	0.10
Raw hide/leather/fur	7.6	2 ~ 16	23.14	23.07	0.08
Wood products	7.2	1 ~ 8	6.63	6.45	0.18

Pulp & paper	0.5	0 ~ 8	13.39	13.36	0.03
Textiles	9.7	1 ~ 51	11.98	11.88	0.10
Shoes & hats	9.7	8 ~ 13	14.59	14.23	0.35
Cement & glass	7.9	0 ~ 8	18.62	16.89	1.72
Steel	2.5	0 ~ 8	8.92	8.43	0.49
Non-ferrous metals	6.7	0 ~ 8	8.21	8.15	0.06
Electrical & electronic equipment	5.8	0 ~ 13	7.86	7.47	0.39
- Semiconductors	5.5	0 ~ 13	5.89	5.56	0.33
- Telecommunications equipment	5.5	0 ~ 13	9.75	9.55	0.20
- Home appliances	5.5	0 ~ 13	10.46	10.02	0.44
- Computers	6.0	0 ~ 13	7.25	6.61	0.65
Machinery equipment	6.9	0 ~ 13	24.71	24.50	0.21
- Machinery	6.0	0 ~ 13	26.51	26.23	0.28
- Precision instruments	7.2	0 ~ 8	21.37	21.29	0.08
Motor vehicles	7.9	0 ~ 10	40.47	39.98	0.48
Rail/aircraft/ships	4.1	0 ~ 10	17.95	17.08	0.87
Others	4.2	0 ~ 8	20.21	20.09	0.13

Source: The average tariff rate and range follows the WTO TPR appendix. The percentage of imports was calculated by the authors.

In summary, the tariff protections of the EU are generally lower than that of Korea and there are less high tariff rates. The EU has the most items in the 0-5% range, but Korea has items concentrated in the 5-10% range. However, the EU has significant tariff protection on important items. Korea, on the other hand, has an overall higher tariff rate than the EU and the tariff structure is rather complicated in that Korea has over 90 different tariff bands.[4] Table 3.1.5 shows Korea's simple average tariff rates by item and the percentage of imports from each country group against the total imports of Korea. The tariff levels for agricultural products, livestock, processed food, fisheries, chemicals, textiles & clothing, and shoes & hats are quite high as well as some items in the machinery and electronics category.

3.2 Patterns of FDI

The EU is the largest direct investor to Korea both in terms of cumulated flows and stocks. The aggregate foreign direct investment in Korea since 1962 in the total acceptance base totalled $126,743 million as of December 2006. Of that sum, $40,476 million or 31.9% of the total investment is from the EU member states.

Table 3.2.1 The EU's investment record to Korea (unit: cases, $ millions)

Country	2004		2005		2006		Total (1962-2006. 4/4)	
	Number of cases	Amount	Number of cases	Amount	Number of cases	Amount	Number of cases	Amount
The world	3,077	12,792	3,667	11,563	3,109	11,233	36,117	126,743
EU	366	3,009	443	4,781	408	4,977	4,590	40,476

[4] Even by excluding tariff quotas and cross tariffs, the rates range between 0-72%, with over 30 bands. For instance, there are more than 15 bands for items with tariff rates below 10%.

		(23.5%)		(41.3%)		(44.3%)		(31.9%)
Netherlands	60	1,309	85	1,150	76	800	860	13,775
Germany	95	487	102	705	92	484	1,215	7,279
UK	62	642	96	2,308	83	705	817	6,490
France	54	180	58	85	62	1,174	653	4,712
Belgium	17	179	9	54	14	567	143	3,122
Ireland	15	30	18	42	21	614	193	2,076

Source: Ministry of Commerce, Industry, and Energy (2007).

The EU's investment in Korea has increased in some critical years. In the early years, the EU invested only a few tens of millions of dollars in Korea, but after 1987, investments exceeded $100 million. Since 1996-97, the EU's annual investment record to Korea has been over $1 billion including $6.3 billion in 1999. Recently, the EU member states have annually invested over $3 billion to Korea. The EU's investment in recent years have changed the landscape of Korea's FDI. The US has been the biggest foreign investor for Korea since 1962, but the EU surpassed the US to become the largest investor to Korea in 1999, 2000, 2003, 2005 and 2006. The EU now stands as the largest investor to Korea in cumulative terms since 1962.

The EU's investment in Korea focuses on the fields of energy, electrical & electronics, telecommunications, and wholesale & retail industries. The largest projects the EU member states have made in Korea include semiconductor LCDs, automobile parts, cosmetics wholesale, distribution, and energy area. Among the EU member states, the Netherlands is the largest investor with an aggregate investment worth $13.8 billion in total. Germany ($7.3 billion), the UK ($6.5 billion), France ($4.7 billion) and Belgium ($3.1 billion) follow (see Table 3.2.1).

Korea's investments in the EU member states are smaller than the EU's investments to Korea. They also have high volatility in the yearly data, too. The first peak of Korea's investment to the EU was in the mid-1990s, when Korean companies took bold steps in driving outbound investment with the support of the appreciated Korean currency, the Won. In 1995, Korea's total investment in the EU27 totalled $580 million, 28.6% of which went to the CEECs who joined the EU later. Korea's drive for active ODI to the EU collapsed drastically after the financial crisis in 1998, but its ODI to the EU was restored up to $2.10 billion in 2001, and it reached $919 million, $194 million, $681 million, and $559 million in 2002, 2003, 2004 and 2005, respectively. In 2006, Korea invested $1,070 million in the EU27.

Table 3.2.2 Korea's total investment in the EU ($ millions)

	2001	2002	2003	2004	2005	2006
EU total	**2,099.1**	**918.5**	**193.9**	**680.6**	**558.6**	**1,069.9**
New member states	**46.4**	**42.1**	**36.0**	**130.0**	**335.9**	**745.8**
(NMS/EU, %)	**(2.2)**	**(4.6)**	**(18.5)**	**(19.1)**	**(60.1)**	**(69.7)**
Asia	1,386.2	1,748.1	2,422.7	3,390.9	3,931.9	6,059.3
North America	1,486.5	574.5	1,066.5	1,385.0	1,277.1	2,141.8
Total	5,163.7	3,697.1	4,061.5	5,988.6	6,557.2	10,731.0

Note: The EU is based on 27 member states even before the accession of the new member states.

Source: Export-Import Bank of Korea (2007), "Foreign Direct Investment Statistics Yearbook" (http//www.koreaexim.go.kr).

The most striking feature in the trend of Korea's investment in the EU is that these investments have shifted to the new member states and this trend has been strengthened. In 2006, 69.7% of Korea's investments to the EU went to the new member states, including Romania and Bulgaria. Rapidly increasing investment activities in the new member states are explained by

both Korean firms' strategy to gain wider market access to the EU market and improved investment environments of the new member states brought in by the accession into the EU.

Investment projection by 2010 shows that FDI into the EU will increase while investment into Korea may stagnate without a Korea-EU FTA.[5] The EU member states remain the largest host countries of investment, while Korea ranks 25th in the list of FDI inflows from the EU (representing $8.7 billion in 2010), which is much lower than the future target of FDI inflows of the Korean government. As cross-border M&As will be a main driver among the types of investment, FDI inflows to the US and the EU will keep pace and new member states of the EU will remain the biggest beneficiary of the trend. Korea's interest in ODI to the new member states would not completely collapse, but the driving force behind ODI to Europe would substantially diminish as emerging Asia would become the main target of Korea's investment activities.

Table 3.2.3 Investment projection by 2010 ($ billions)

	2005	**(%)**	**2010**	**(%)**
North America	143.6	(15.0)	418.5	(29.7)
China	116.6	(12.2)	118.0	(8.4)
Japan	3.2	(0.3)	10.1	(0.7)
Europe	492.0	(51.5)	567.5	(40.3)
Southeast Asia/Oceania	13.5	(1.4)	62.6	(4.4)
India	6.7	(0.7)	14.3	(1.0)
Latin America	79.4	(8.3)	79.2	(5.6)
Middle East and Africa	42.5	(4.5)	43.5	(3.1)
Russia/CIS	25.8	(2.7)	36.2	(2.6)

Note: China includes HK and Taiwan.

Source: Author's calculation from EIU (2006).

KIEP (2005) forecasts that a Korea-EU FTA would increase FDI by 42-70%. If this projection is applied to the current record of investment, the EU's investment to Korea after a FTA would range from $7 to $8.5 billion and Korea's FDI outflows would increase to $1.4-$1.7 billion by 2010.

3.3 Sensitive Sectors and Implications from the Outcome of Korea-US FTA

This section will adopt a micro-approach to the investigation of bilateral trade issues and how they have been addressed over the years. This will not only help determine the basic characteristics of bilateral economic relations, but will help the parties prepare for FTA negotiations, because the current trade issues will most likely be part of the major agenda of FTA talks. The major economic issues to be reviewed in this section will be divided into derivations of sensitive industry and controversial and contentious trade issues.

Background: Sensitive industries from both sides

Kim, et al. (2005) outline a number of sensitive industries in Korea and the EU. Korea has several industries that show a comparative disadvantage to the EU member states' industries. France, Germany and Italy alike have nine industries of advantage over Korea such as

[5] EIU. 2006. World Investment Prospects to 2010: Boom or Backlash?

agricultural products, processed food, mineral products, pulp & paper, cement & glass, precision instruments, other manufacturing, livestock and wood products. The UK has no industry of advantage in agriculture or manufacturing over Korea. Hungary has four including agricultural products, mineral products, livestock and wood products. Poland has five industries of advantage, namely agricultural products, processed food, cement & glass, livestock and wood products.

It is generally understood that Korea will define as a sensitive industry: agricultural products, dairy products including cheese, pulp and paper and precision instruments, since Korea has domestic producers who are vocal in their interests. Other industries, including livestock, mineral products, wood products, cement and glass are in a different situation, as trade liberalisation would lead to an improvement in the welfare of domestic consumers rather than threatening them. With regard to the service industry, we will examine this issue in 3.4.

On the other hand, Korea has industries of absolute advantage over the EU member states. For example, Korea has eight industries of advantage over France such as textile products, shoes & hats, semiconductors, telecommunications equipment, home appliances, computers, automobiles, rail/aircraft/ships; seven industries over Germany including textile products, shoes & hats, semiconductors, telecommunications equipment, computers, automobiles, rail/aircraft/ships; ten industries over Italy such as fisheries, plastic, steel, non-ferrous metals, semiconductors, telecommunications equipment, home appliances, computers, automobiles, rail/aircraft/ships; nine industries over the UK including plastic, textile products, shoes & hats, semiconductors, telecommunications equipment, home appliances, computers, automobiles, rail/aircraft/ships; sixteen industries over Hungary such as processed food, plastic, raw hide/leather/furs, pulp & paper, textile products, cement & glass, steel, non-ferrous metals, semiconductors, telecommunications equipment, home appliances, computers, machinery, precision instruments, automobiles, rail/aircraft/ships, other manufacturing; sixteen industries over Poland including mineral products, chemicals, plastic, raw hide/leather/furs, pulp & paper, textile products, shoes & hats, non-ferrous metals, semiconductors, telecommunications equipment, home appliances, computers, machinery, precision instruments, automobiles, rail/aircraft/ships, other manufacturing.

In general, textile products, shoes & hats, semiconductors, telecommunications equipment, computers, automobiles, rail/aircraft/ships can be ranked as the most competitive industries of Korea, which are all objects of interest from the point of view of the EU.

Automobiles

The automobile sector is one of the sensitive sectors discussed by both parties at the annual Joint Committee's meetings. The main issues with regard to the automobile sectors include trade imbalance and other questions related to Non-Tariff Barriers (NTB). First, there is a trade imbalance between Korea and the EU; in 2006, the number of Korean passenger cars sold in the EU reached a total of 734,710 units. On the other hand, the number of cars from the EU sold in Korea was 29,404 units in 2006 (KAMA, 2006). Despite a rapidly growing market share of vehicles from the EU member states, several NTBs remain in the Korean car market.

Table 3.3.1 The automobile market share by engine displacement in 2006

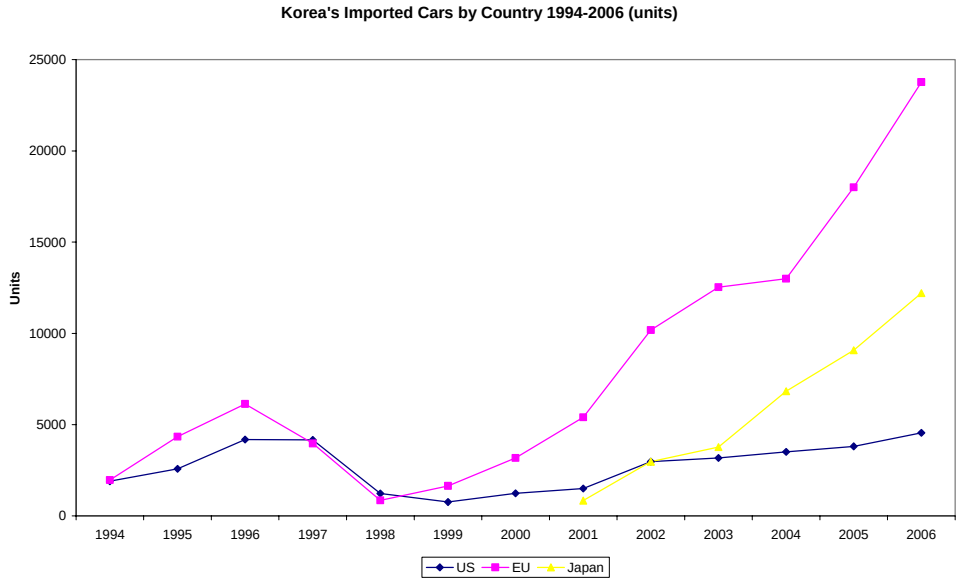
Engine Displacement	Domestic Cars (unit)	Imported Cars (unit)	Market Share of Imported Cars (%)
Under 800cc	39,230	9,427	1.02
801 - 1500cc	58,219		
1501 - 2000cc	421,052		

2001 - 3000cc	417,180	16,318	3.68
3001 – 4000cc		10,022	2.26
Over 4000cc	0	4,763	100.00
Total	935,681	40,530	4.15

Source: KAMA, KAIDA (Korea Automobile Importers & Distributors Association)

When we look at the numbers of cars sold in Korea (Table 3.3.1), we see that the majority of the domestic cars fall under the 1500-2000cc engine displacement category and the share of foreign cars in this category (and below) is only 1%. The majority of imported cars are in higher engine displacement category. They are big, luxury cars above 2000cc. The top 10 best selling cars in Korea in 2006 in order were: Lexus (ES350), Honda (CR-V), BMW (320), BMW (523), Audi (A6), Lexus (IS350), Honda (Accord), Ford (Five Hundred), Mercedes Benz (S 350) and Volkswagen (Passat) (KAIDA, 2007).

Figure 3.3.1 A Breakdown by Country of Korea's Passenger Car Imports (Units)



Source: KAIDA, 2007

According to KAIDA (Korea Automobile Importers and Distributors Association), in 2006 (Figure 3.3.1), the number of imported cars from the EU reached 23,769 (units), constituting 57 percent of the Korean imported car market, far ahead of the penetration of US and Japanese car imports.[6] The total number of cars imported into Korea during the period of 2006 was 40,530 units which is an increase of more than 5 fold compared to 2001, indicating that the Korean imported car market has expanded dramatically. According to KAIDA, the outlook in 2007 is positive with considerable growth rate, but somewhat slower compared to 2006.

It is important to understand the final outcomes of the negotiations for the Korea-US FTA, as Korea will take them as a guideline for a Korea-EU FTA. The outcomes include taxation and

[6] Please note that there is slight difference in the figures from KAMA versus KAIDA.

safety and environmental criteria. First, in the area of custom duties, they are immediately eliminated on parts of vehicles, cars with engine displacement of under 3000cc and trucks of 5-20 tons. Duties on cars with over 3000cc will be phased out over a three-year period. Duties on mini-trucks will be phased out over a ten-year period.

The impacts of such tariff concessions can be estimated from the past records of car trade. Averaging import statistics in 2003-05 between Korea and the US, duties on $99.7 million of Korea's imports from the US are immediately eliminated, which amount to 99.985% of Korea's total imports from the US. On the other hand, duties on $6,779 million (74.6%) of Korea's car exports to the US are immediately eliminated, duties on $2,309 million (25.4%) will be phased out over a three-year period and ten-year phase-out will be applied to the remaining $0.02 million (0%). In 2006, Korea's export to the US in cars amounted to $8.7 billion and its imports from the US were worth $0.1 billion. As for vehicle parts, Korea exported to the US $2.6 billion and imported $0.4 billion last year.

Korea promised to eliminate the discriminating aspects of Korea's Special Consumption and Vehicle Taxes with respect to the size of engine displacement, and will reduce existing tax rates to 5% in three years. Korea will also simplify car tax by the size of engine displacement from five categories to three categories (under 1000cc, 1000-1600cc, and over 1600cc)

Second, in the safety area, the two parties agreed to provide a grace-period for imported motor vehicles for at least two years following the adoption of Korean safety standards. If issued, they will only apply to a model that is subject to a government-mandated recall, and motor vehicles produced by a manufacturer selling 6,500 or fewer units will be deemed to be in compliance with US standards. If applied to EC producers, this threshold would be too low given that some European producers are already not too far from this limit (e.g. BMW had exported close to 4,000 units of cars in 2006 to the Korean market according to KAIDA).

The impact factor concerns environmental issues. Korea agreed not to apply the (KULEV: Ultra Low Emissions Vehicle) standard to motor vehicles produced by a manufacturer selling 4,500 or fewer units in Korea. To those manufacturers selling 4,501-10,000 units, a special Californian ULEV rate can be applied. Korea will introduce the California Fleet Averaging System methodology for manufacturers selling more than 10,000 units. With respect to OBD II (Onboard Diagnostics) which has been controversial in the dialogue between the EU and Korea, Korea decided to impose 50/75/100% coverage of all vehicles year by year from 2007 for manufacturers selling less than 10,001. However, the agreement confirms a grace-period until the end of 2008, for manufacturers selling 10,000 or fewer units per year in Korea. This is what the EU has asked the Korean government to adopt. Lastly, an Automotive Working Group will be established. Both parties agreed to introduce a "snapback" system designed to ensure compliance of the FTA commitments.

Pharmaceuticals

The field of pharmaceuticals has been one of the most contested issues between Korea and the EU. The issues of concern fall into three categories: *pricing and re-pricing*, including minimum price guarantee for innovative drugs (also known as A-7 pricing) and re-pricing systems (Triennial Re-pricing and Actual Transaction Pricing); *the introduction of a positive list system* and *intellectual property rights issues*.

The final results of the Korea-U.S. FTA in the field of the pharmaceuticals are as follows. The Parties will develop a Korea-U.S. Committee on Pharmaceuticals. The Committee, whose members will consist of government officials in the field, foreign, and other related ministries, aims to improve surveillance of the progress of the agreements in the Korea-U.S. FTA and the enhancement of cooperation in this field. The Parties will also establish Medicines and Medical Devices Working Groups for cooperation on GMP (Good Manufacturing Practices), GLP (Good Laboratory Practices) and MRA (Mutual Recognition Agreement) for drugs under the

Committee. These groups will be the foundation for a continued dialogue between the U.S. and Korea concerning emerging health care policy issues. Furthermore, the Agreement includes principles on facilitating high-quality health care and improving access to safe and reliable innovative and generic pharmaceutical products, biologists and medical devices.

The Korean government and the U.S. were unable to arrive at an agreement on the minimum prices for innovative drugs. In the issue of a minimum price for new innovative drug or A-7 pricing,[7] the Korean government argued that the introduction of new pricing for these new drugs could weaken the effectiveness of the 'Drug Expenditure Rationalization Plan' introduced by the Korean Ministry of Health and Welfare in 12 December 2006. Finally, guaranteed minimum prices for innovative drugs are not included in the Korea-US FTA.

Both parties are committed to ensuring fair and equal treatment for pharmaceutical products and medical devices. They have also agreed to adopt, maintain, and enforce measures which will promote ethical business practices by forbidding inappropriate incentives by pharmaceutical product and medical device manufacturers. Additionally, Korea has agreed to establish and maintain an independent body that will review recommendations or determinations regarding the pricing and reimbursement of pharmaceutical product and medical devices.

In terms of IPR protection on pharmaceuticals, the patent period will be extended if permission for new drugs is delayed, which has been established in the domestic regulation of Korea. As for Data Protection,[8] new drugs will have a guaranteed protection rate of five years (as seen in current Korean regulations). In order to avoid infringement of copyright during the patent period, the regulation for obligation notification to the patent holders by producers of copy drugs on the patent drug's application has also been introduced. Without further qualification, these figures can however not be taken to suggest that burdensome and costly approved procedure have been substantially alleviated.

Cosmetics

Regarding the cosmetics sector, the EU claims that Korea's appropriateness and safety tests and the introduction of the functional cosmetics system (2001) are blocking the entry of EU pharmaceuticals into the Korean market. The EU Commission has suspended the TBR (Trade Barriers Regulation) case. In response, Korea has taken measures, such as converting the pre-quality inspection system to the post-management system, abolishing the labelling pre-approval system, acknowledging EU test results of raw materials for cosmetics, and relaxing required documentation for the functional cosmetics review system. Following the action taken, Korea

---

[7] Among new drugs, "innovative drugs" which greatly improve drug efficacy are priced at the adjusted average of the prices of seven advanced countries (USA, UK, Germany, France, Italy, Switzerland, and Japan). Currently, Korea prices innovative drugs at about 83% of the price of the advanced seven countries (40% for general new drugs). The EU claims that the standard of innovation is too strict in Korea, and is asking Korea to comply with A-7 Pricing for all new drugs. The EU suggested the establishment of a Task Force Team to deal with the issue.

[8] Related to TRIPS, the EU claims that confidential information submitted to the Food & Drug Administration for drug approval is not being protected. The EU argues that there are cases where generic drug manufacturers receive approval for drugs using information posted in academic journals, and requests the establishment of a system to protect violation of patent rights in drug approval processes through cooperation between the Food & Drug Administration and the Korean Intellectual Property Office. In response to this, Korea has stated that data is protected according to TRIPS, and that clinical test results published in medical journals cannot be seen as data to be protected under article 39.3 of TRIPS as "confidential information submitted to the government for approval purposes."

has asked the EU to end the TBR investigation as soon as possible. According to the Food & Drug Administration, the number of imported cosmetics that passed the functional review increased to 180 items in 2003 from 100 items in 2002 and then again to 369 items in 2004, 369 items in 2005 and by April of 2006 the figure had reached 119.

The Korean government argues that the submission of a production certificate is necessary and special categorisation for 'functional cosmetics' can be found in other countries. In the US SPF cosmetics are categorised as an OTC (Over-the-counter) drug, which requires approval of NDA (New Drug Application) and ANDA (Abbreviated New Drug Application) for the new ingredients. In Japan, cosmetics for whitening are in a different category, and in Canada, there is no special category for functional cosmetics, but the Cosmetic Notification Form containing all the information about ingredients needs to be reported to the relevant authority. In China, much stricter regulations are applied to the functional cosmetics, including a pre-market testing system.

Agricultural products/Sanitary and Phyto-sanitary (SPS)

Korea is one of the major markets for agricultural products. In 2004, Korea imported $10.6 billion in agricultural products. Among them, the EU exported some $1.6 billion to Korea. In agricultural products including processed food and livestock, Korea has a comparative disadvantage over the EU in general. Therefore, it would be better to state first the result of the Korea-US FTA with regard to agricultural products.

In brief, Korea will lift most of the tariff barriers to importing agricultural products from the US in fifteen years following the enforcement of the Korea-US FTA, except for rice and rice-related products.

In detail, more than half ($1.6 billion) of current US farm exports to Korea will become duty-free immediately, including wheat, feed corn, soybeans for crushing, hides and skins, cotton, almonds, pistachios, bourbon whiskey, wine, raisins, grape juice, orange juice, fresh cherries, frozen french fries, frozen orange juice concentrate, and pet food.

As for the target of two-year tariff phase-outs, avocados, lemons, dried prunes, and sunflower seeds are included. Tariffs for food preparations, chocolate and chocolate confectionary, sweet corn, sauces and preparations, alfalfa, breads and pastry, grapefruit, and dried mushrooms will phase out in five years. Frozen chicken breasts and wings are in the 12 year phase-outs. Tariffs for pork will be eliminated in January 2014. Tariff rate quota (TRQ) is allowed for skim and whole milk powder, whey for food use, cheese, dextrins and modified starches, barley, popcorn, and soybeans for food use.

Among the sensitive products from the Korean side, a special safeguard system is introduced on beef, pork, ginseng, red peppers, garlic and onion. If imported volume exceeds the agreed quota then additional duties can be levied. Special safeguards on apples, red peppers, garlic, onions, ginseng are valid after lifting tariffs. Rice and rice-related items are an exception to the concession list, as are the cases of Korea's FTAs with other countries. Tariffs for beef, lemons, red peppers, garlic, and onions phase out in fifteen years. There are eighteen-year phase-outs for ginseng, a twenty-year phase-out for pears and apples, and a seventeen-year phase-out for grapes. Seasonal tariffs are introduced in oranges, grapes, and potatoes for chips. The above-mentioned scheme for tariff elimination in the Korea-US FTA could be a good starting point when negotiation of the Korea-EU FTA starts.

In the Sanitary and Phyto-sanitary (SPS) sectors, both parties agreed to establish a SPS committee, the role of which focuses on the scientific evaluation of risk and technical cooperation among experts. Technical cooperation is emphasised, aiming to develop the contents of technical cooperation, and to apply and implement the outcomes of the cooperation.

Textiles

In 2006 Korea exported $2.7 billion to the US and imported $236 million from the US in textiles and apparels. In the Korea-US FTA, reciprocal duty-free access is immediately provided for most textile and apparel goods. Both parties agreed to 100% duty-free access. Korea calculates that 61% of its exports to the US in the sales volume are in the list of immediate elimination of tariffs, while tariffs will be immediately eliminated in 72% of the US export to Korea. Among Korea's export to the US another 18.6% are in the five-year phase-outs and 20.2% are in the ten-year phase-outs. Among the US exports to Korea, 13.4% are in three-year phase-outs and 14.6% in five year phase-outs. There is no item in the ten-year phase-outs on the list of the US exports to Korea.

As a principle of Rules of Origin, 'yarn forward' rule, meaning that apparel using yarn and fabric only from the US and Korea qualifies for preferential tariff treatment, was adopted. There is an exception to the rule for some items such as linen, jackets for women, shirts for men, etc. which are difficult to fit into the rule, and acryl, liosel, and rayon which is affected by a lack of yarn supply.

The agreement contains strict customs enforcement provisions concerning any possibility of detour exports. The customs authorities may conduct unannounced site visits to Korean producers and the US is authorised to undertake a variety of enforcement actions up to and including denying entry for suspect goods. In addition, both parties agreed to introduce a special textile safeguard, allowing the US to impose tariffs on certain goods if injury should occur due to import surges.

Legal services/accounting services

Korea's legal service market is not open yet. Korea's list of offers for legal services to the WTO includes foreign lawyers allowed to provide legal consultancy on the laws and related international laws of the country of qualification. In the Korea-Chile FTA and the Korea-Singapore FTA, legal services were not open, while Korea's offer list is applied to the case of the Korea-EFTA FTA.

Foreign lawyers are working with Korean lawyers and Korean law firms but they are not allowed to be official legal consultants. As of May 2005, 201 foreign lawyers acquired E-7 visas, 156 from the US, 17 from China and 8 from Canada. 169 are working with law firms while 32 are working for private companies.

In the Korea-US FTA, Korea agreed to open up to foreign legal consulting services and commit to phase-in additional liberalisation that will permit foreign lawyers to associate more freely with Korean lawyers and offer a broader range of services. Korea has thus taken a bold step to open up its legal market in the five years since the FTA came into effect. Similar steps were taken for accounting services.

In the field of the liberalisation of legal services, three stages will be applied. Foreign legal consulting services and opening local branches of foreign law firms will be allowed when the Korea-US FTA becomes effective. Two years after the enforcement of the FTA, further liberalisation actions of associative works with domestic law firm are allowed. M&A among local and foreign law firms will be allowed and foreign law firms can employ Korean lawyers in five years following the enforcement of the FTA.

In accounting services, similar steps will be taken in time for the FTA enforcement, such as allowance of foreign accounting and tax accounting services and opening of local branches of foreign accounting firms. Within five years following the enforcement of the FTA, foreign accounting firms will be allowed to invest in local accounting and tax accounting firms.

Financial services

In the financial services area, there has been a controversial debate about whether cross-border supply (Mode 1) of financial services and new financial services are allowed or not. In the field of cross-border supply, both parties agreed to allow cross-border supply in the limited areas of the trade-related insurance services, and finance-assisting services such as consultancy on insurance, corporate restructuring, and portfolio management services for investment funds in Korea. The supply of new financial services is allowed on condition that it is supplied by local branches of financial institutions, but cross-border supply of new financial services is not allowed.

The Korean government argues that a temporary safeguards system be introduced in case of financial crisis. And the Korean government said that the specificity of public financial institutions such as KDB (Korea Development Bank) is recognised by both parties and the financial institutions can provide 'policy 'financial assistance' to farmers, SMEs and the poor.

The US government argues that the US financial institutions have full rights to establish or acquire financial institutions in Korea to supply a complete range of financial services, and may establish branches of US banks and insurance companies.

Korea committed to ensure regulatory reforms in the financial services sector, such as increasing the allowance of foreign currency reserves, bancassurance reform, more regularized and transparent regulatory procedures[9], adoption of a negative list approach to financial sector regulation, regional integration of data processing, and leveling the playing field between private insurers and Korea Post, and cooperatives selling insurance services such as those mentioned above.

Rules of Origin

In terms of the determination of preferential rules of origin, both parties agreed to make the ground rules for applying the preferential tariffs, for selecting out detour trade and for determining specific rules by products. Both agreed to determine a product wholly obtained or produced entirely in the territory of one or both of the countries as an originating good, in addition, agreement to make provisions for determining the change in tariff schedule, value added criteria, important operation or process criteria.

As for the value or price for determining rules of origin, both agreed to use the FOB price rather than ex-work price, similar to the cases of NAFTA, Korea-Chile FTA, and Korea-Singapore FTA. This is different from the cases of EFTA, EEA, EFTA-Singapore and EFTA-Mexico FTAs, which adopted ex-work price criterion.

There has been an agreement on complement standards of rules of origin. Both parties agreed on accumulation to consider the raw materials from the territory of one party, used in the production of a good in the territory of the other party - as originating materials to facilitate trades of raw materials. This clause applies to both the materials and goods.

Both agreed that a good that does not undergo a change in tariff classification pursuant to the annex is nonetheless an originating good if the value of all non-originating materials used in the production of the good does not exceed 10 % of the adjusted value of the good, which is the same 'De Minimis' clause as that of the Korea-EFTA FTA. In case of textile and apparel products, however, a different rule from that of the Korea-EFTA FTA is applied; *A textile or apparel good that is not an originating good,……, shall nonetheless be considered to be an*

[9] Please refer to the Article 13.11 of the text of the Korea-US FTA released 25 May 2007 (www.mofat.go.kr)

*originating good if the total **weight** of all such fibers or yarns in that component is not more than **seven** percent of the total weight of that component.*[10] In the Korea-EFTA FTA, **ten** percent rule of the total weight was applied.

As for fungible goods and materials,[11] both agreed that the determination of whether fungible goods or materials such as grain, coal, scrap iron are originating goods, shall be made the use of inventory management method such as last-in, first-out, or first-in first-out in order to simplify the determination of rules of origin and to increase convenience.

Outward processing in the Rules of Origin is one of the key interests from the Korean side. The Korean government asked to include outward processing as a Korean origin if the products are processed outwards in North Korea, arguing that outward processing was accepted in the Korea-Singapore FTA and Korea-EFTA FTA, although the coverage of products and regions are different from one another.

In the Korea-US FTA, it had been a controversial issue as well. Both parties agreed to adopt an annex under which "Committee of Korea Outward Processing Zone" could designate the appropriate Outward Processing Zones (OPZs). The Korean government argued that both parties agreed to permit OPZ by designating specific zones to give the preferential tariffs to the Gae-Sung industrial complex, but there is no clear designation of the word, "Gae-Sung" in the text of the result on the Korea-US FTA, nor any binding clause for creating OPZs in any other region of North Korea.

Intellectual property rights

In the Korea-EU Joint Committee meetings, the protection of IPR has been one of the main issues of interest for the EU. During consultation with the EUCCK, it became clear that, the status of Korean legislation has improved, but mainly the problems centered around implementation. To give an example, under the current Korean law, a person found guilty of trademark infringement may be sentenced up to maximum of 7 years imprisonment or up to 100,000,000 KRW (approximately 80,000 euros) in fines. In reality, the Korean courts are very reluctant to sentence actual jail terms. Furthermore, the fines issued by the courts are nominal. Thus, there is a lack of deterrent effect on the criminals. For example, to a counterfeiter whose net yearly profit is more than 80,000 euros, mere 400 euros fine once or twice a year is just a cost of doing business, not a deterrent. (EUCCK, 2007).

Despite the general lack of will by the government enforcement agencies, there are other enforcement bodies that are an exception, such as the Korea Customs Service. Korea Customs Service utilizes innovative methods and works hard to fight against counterfeits, however the Korea Customs Service has jurisdiction only at the border. For domestic issues, the National Police Agency and/or the Prosecutors Office have the jurisdiction, who show a little or no effort on IPR infringement issues.

Another issue that needed questioning on problems of IPR implementation was the possibility of lack of capacity to deal with large number of IPR cases. According to Ministry of Justice, currently there are 35 prosecutors assigned to IPR related cases. However, the problem is that although these prosecutors are assigned to IPR department, not all of their workload is related to IPR issues. EUCCK was often informed that the prosecutors are overburdened because they have to handle "other criminal matters."

[10] Article 4.2.7.

[11] Article 5.6.7.

Another area of IPR implementation problem that is fast expanding is in the e-commerce. Korea is very strong on e-commerce, thus internet has become a popular business tool for counterfeiters. In terms of trademark infringement enforcement by the Korean government, again, there is a lack of will power and effort to enforce. The National Police Agency has a special force called the "Cyber Police," however very little enforcement actions are actually conducted for IPR infringement matters. This is a systematic problem. Internet enforcement is difficult and time consuming because the criminal is not readily apparent. Most internet-based offenders also do not carry a large quantity of inventory (it is the nature of the internet based business). Thus, after a hard work, the Police or the Prosecutors Office has little to show for. Furthermore, due to the courts' 'weak' punishment, many internet offenders receive little or no punishment, thus further demoralizing the enforcement agencies.

In the Korea-US FTA, the major issues covered by the Agreements on Protection of Intellectual Property Rights were copyrights, trademarks and patents, followed by its enforcement. The EU will at least cover the same issues, but with more broad emphasis on patent and design, especially in those sectors where R&D costs are high.

- Copyrights

As for copyrights, first, both parties agreed on extending the terms of protection until the death of the author or 70 years, with a grace-period of 2 years after becoming effective. Second, claims for broadcast compensation were set as an exception to national treatment. Third, 'temporary' copies are allowed, such as temporary storing in the computer RAM drive, with an exception made for 'fair use'. Fifth, circumvention of technical safeguards is prohibited, with the possibility of discussing additional exceptions. Sixth, there were agreements reinforcing liabilities of Internet Service Providers for copyright infringement. Seventh, prohibition of receiving or distributing encrypted satellite signals was agreed upon. Eighth, government agencies are required to use legitimate computer software.

- Trademarks

The coverage of exclusive validity of trademarks is limited to designated products and 'identical, similar' products. Trademarks are granted as 'first-in-time, first-in-right principle' to trademarks and geographical indications (GIs), which needs improvement in the Korean system. That is, the Korean government promised to revise its domestic rules on GIs. Both sides will abolish requirements for license recording and provide protection for sound marks, scent marks, and certification marks.

- Patents

Both countries will introduce compensation for delays in granting patents when the registration is delayed 4 years after application and 3 years after judgment. The extended patent terms to 20 years after application. Also, the grace-period for publication will be extended from 6-months to 12-months as well as reinforcing standards for patent invalidations by abolishing conditions not in use.

- Enforcement

For uniform enforcement, both countries worked on the system of compensation for damages on infringements of trademarks and patents, in order to decide the maximum and minimum compensation beforehand, not interfering with the principles of actual compensation for damages. The court of justice will prohibit exporting products which infringe intellectual property rights, while the judicial authorities will prosecute infringements of intellectual property rights without accusation. Moreover, both sides will introduce a report system on

suspicious products infringing copyrights that will automatically suspend export and inform the owner.

In the further negotiation completed in 30 June, both agreed to provide a waiver on accusation for eighteen month since the effectiveness of the FTA in the fields of the violation of IPRs of the pharmaceuticals.

The Korean government became to be more active in the protection of IPRs, as it observes rapidly growing cases of the violation of the protection of trademarks and copyrights of Korean companies and people in China. The Korean government seems to hold a consistent stance in the IPR protection, observing a possible start of a Korea-China FTA. Thus, promises on strong commitment of the protection of IPRs needs to be asked to Korea.

3.4 Trade in Services

Current status of trade in services in Korea and the EU

The EU has a dominant position in the worldwide service trades. The total volume of trade in services of the EU member states accounts for 48.1% of total export and 44.5% of total import in the world. In 2004, the total exports in services of the EU-27 member states amounted to $1,075,400 million and the total imports were $989,700 million.

Table 3.4.1 Trade in services in the world, 2004

Exports				Imports			
Rank	**Country**	**$ millions**	**Percentage**	**Rank**	**Country**	**$ millions**	**Percentage**
	World	2,234.8	100		World	2,223.3	100
Top 10 countries							
1	US	340.4	15.2	1	US	296.1	13.3
2	UK	181.4	8.1	2	Germany	193.1	8.7
3	Germany	141.9	6.3	3	UK	144.4	6.5
4	France	110.4	4.9	4	Japan	135.5	6.1
5	Japan	97.6	4.4	5	France	97.6	4.4
6	Spain	84.9	3.8	6	Italy	82.0	3.7
7	Italy	83.7	3.7	7	China	72.1	3.2
8	Netherlands	73.8	3.3	8	Netherlands	69.4	3.1
9	China	62.4	2.8	9	Ireland	64.5	2.9
10	Hong Kong	54.2	2.4	10	Canada	57.4	2.6
16	Korea	41.9	1.9	12	Korea	49.9	2.2
	EU-27	1,075.4	48.1		EU-27	989.7	44.5

Note: The export and import volume of the EU combines intra- and inter-trade of the 27 member states.

Source: IMF (2006), *Balance of Payments Statistics*.

According to Table 3.4.1, Korea exported $41,900 million or 1.9% of the total volume of the world services trade and imported $49,900 million or 2.2% of the world trade volume. Korea

experienced a trade deficit in services in 2004, while the EU-27 shows a trade surplus in services.

Table 3.4.2 shows the trend of services trade in Korea and EU-27 since 1995. Korea has shown a trade deficit in services over the sample period (1995-2004), of $3,000-9,000 million. On the other hand, the EU is gaining a trade surplus of $20,000-50,000 million every year. Korea's trade deficit in services increases each year, while the EU's trade surplus in services is widening.

Table 3.4.2 Services Exports and import of Korea and EU to the world ($ billions and %)

Sorting year	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Korea services export	22.8	23.4	26.3	25.6	26.5	30.5	29.1	28.4	33.0	41.9
(Ratio)	(15.4)	(15.3)	(15.9)	(16.2)	(15.4)	(14.8)	(16.1)	(14.8)	(14.3)	(14.0)
Growth rate		2.6	12.3	-2.8	3.8	15.1	-4.8	-2.3	16.1	27.1
Korea services import	25.8	29.6	29.5	24.5	27.2	33.4	32.9	36.6	40.4	49.9
(Ratio)	(16.6)	(16.9)	(17.2)	(21.3)	(18.9)	(17.3)	(19.3)	(19.8)	(18.7)	(18.5)
Growth rate		14.7	-0.3	-16.8	10.8	22.8	-1.4	11.1	10.4	23.6
EU services export	557.4	585.9	588.2	620.8	649.0	660.9	684.9	756.8	904.5	1,075.4
(Ratio)	(20.8)	(21.1)	(21.1)	(21.3)	(22.2)	(21.9)	(22.5)	(23.1)	(23.0)	(23.1)
Growth rate		5.1	0.4	5.5	4.5	1.8	3.6	10.5	19.5	18.9
EU services import	536.3	558.3	556.6	602.1	629.6	642.9	657.7	717.9	853.4	989.7
(Ratio)	(21.0)	(21.3)	(21.2)	(21.7)	(22.0)	(21.4)	(22.1)	(22.7)	(22.5)	(21.9)
Growth rate		4.1	-0.3	8.2	4.6	2.1	2.3	9.2	18.9	16.0

Notes: Numbers in parentheses imply market share. The export volume of the EU is the aggregated amount of intra- and inter-trade of the 27 member states.

Source: IMF (2006), *Balance of Payments Statistics*.

Comparative advantages of Korea and the EU in trade in goods and services

Table 3.4.3 denotes the final outcome of the calculation of the revealed comparative advantage (RCA) from 1995 to 2004 by exploiting the balance of payments (BOP) statistics of the IMF to observe the export competitiveness of goods and services in Korea and the EU.[12] When evaluating comparative advantages in the world export market in terms of the RCA index, Korea turns out to be above 1, while the EU stands below 1 in the goods sector. The RCA values in the services sector, in contrast, proved that the RCA of Korea is below 1 and the EU above 1. Thus, Korea tends to show an advantage in goods, while the EU has an advantage in services. The growing numbers in 'Korean goods' and 'EU services' imply that Korea has gained export competitiveness in goods and the EU has done so in services as time go by.

[12] RCA is a commonly used index evaluating the export competitiveness of specific goods and services. If the value of the index is higher than 1, it is regarded as having a comparative advantage, while below 1 is regarded as having comparative disadvantage.

Table 3.4.3 RCA index in Export in goods and services (1995-2004)

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Korean goods	1.049	1.056	1.047	1.052	1.061	1.056	1.048	1.070	1.073	1.073
Korean services	0.796	0.773	0.809	0.797	0.761	0.766	0.806	0.725	0.710	0.705
EU goods	0.983	0.983	0.982	0.987	0.976	0.967	0.968	0.966	0.964	0.960
EU services	1.071	1.069	1.073	1.050	1.093	1.138	1.129	1.131	1.142	1.164

Notes: In the case of the EU, the calculations combine intra- and inter-trade of the export/import volumes of the 27 member states.

Source: Author's own calculations based on *Balance of Payments Statistics*, IMF.

An analysis of trade in services by modes of supply

Classification of trade in services by modes of supply

The General Agreement on Trade in Services (GATS) of the WTO classifies 'services' into twelve different sectors[13] and the following four modes of supply are suggested according to the consumer's status in each sector of trade in services. The relationships between BOP statistics of IMF and the modes of supply of WTO GATS are summarised in Table 3.4.4.

Table 3.4.4 Matching GATS definition of modes of supply with BOP in IMF

Modes of supply	Related statistical data	Challenges
Mode of supply 1: Cross-border supply	BOP: Commercial services (excluding travel and construction services)	Impossible to separate mode 1 and mode 4 in BOP
Mode of supply 2: Consumption abroad	BOP: Travel (Tourism)	Tourism cannot be subdivided into each category Certain transactions related with this mode of supply is included in BOP at the same time
Mode of supply 3: Commercial presence	Foreign affiliates trade statistics (FATS) BOP: FDI data BOP: Construction services	Not all countries produce FATS data FDI statistics are concerned with both major controllable businesses and larger subgroups Impossible to classify mode 3 and mode 4
Mode of supply 4:	BOP: Commercial services	Not feasible to classify mode 1 (in case of

[13] The WTO classified services at the UR negotiations as follows: Business (Professional, Computer and Related, Research and Development, Rental/Leasing, Other); Communication (Postal, Telecommunication, Audiovisual, Other); Construction and Related Engineering (General construction work for buildings, General construction work for civil engineering, Installation and assembly work, Building completion and finishing work, Other); Distribution (Commission agents', Wholesale trade, Retailing); Educational (Primary education, Secondary education, Higher education, Adult education, Other); Environmental (Sewage, Refuse disposal, Sanitation and similar, Other); Financial (All insurance and insurance-related, Banking and other financial services, Other); Health-Related and Social Services (Hospital, Other Human Health, Social Services, Other); Tourism and Travel-Related (Hotels and restaurants, Travel agencies and tour operators, Tourist guides, Other), Recreational, Cultural and Sporting Services (Entertainment, News agency, Libraries, archives, museums and other cultural services, Sporting and other recreational services, Other), Transport (Maritime, Internal Waterways, Air, Space, Rail, Road, Pipeline, Services auxiliary); Other Services Not Included Elsewhere. *Source*: WTO (1991). Services Sectoral Classification List, MTN.GNS/W/120.

Presence of natural persons	(Excluding travel) BOP Statistics: employee compensation and worker remittance	construction services, mode 3) and mode 4 Weak relativity with mode 4

Source: WTO (2006), *Measuring Trade in Services*, p. 11.

The WTO GATS does not define the term 'services' explicitly, but classifies the concept into four modes of supply. According to the estimation of trade volume in modes of supply, cross-border supply accounts for 35%, consumption abroad 10-15%, commercial presence 50% and presence of natural persons 1-2%.[14]

An Analysis of Trade in Services in Mode 1 and Mode 2

This report will illuminate the situation of Korea-EU trade in services by modes of supply. In accordance with Table 3.4.4, we analyse the comparative advantage of the combined cross-border supply (mode of supply 1) and consumption abroad (mode of supply 2)[15] by utilising BOP statistics of the IMF. As data on the presence of natural persons (mode of supply 4) are very difficult to collect, this report will utilise the BOP statistics of IMF.

We analysed Korea-EU service competitiveness in cross-border supply based on the data on trade in services provided by IMF BOP statistics. A commercial service is defined as all services excluding government services. Commercial services can be divided into transportation, travel and other commercial services. Other commercial services can be divided again into i) communication services, ii) construction services, iii) insurance services, iv) financial services, v) computer and information services, vi) royalties and license fees, vii) other business services and viii) personal, cultural and recreational services. Ten sectors of transportation, travel, other services, royalties, finance, computer and information, insurance, communications, personal, cultural and recreational services, and construction are included. According to IMF BOP statistical data, although there are 11 sectors, government services such as diplomacy is a non-commercial service and therefore is excluded.

Commercial Services:

Transportation services

With regard to transportation services,[16] Korea has an advantage over the EU. According to Table 3.4.5, Korea's Trade Specialization Index (TSI) in 2004 is 0.121, which is higher than that of the EU (0.022), revealing that Korea has export advantages. In the world RCA in 2004, Korea marked 2.418 in the transportation sector, which was much higher than the comparative advantage of the EU (0.956).

[14] WTO, "Economic Importance of Cross-border Trade in Services-Recent Developments", WTO Symposium on Cross-border Supply of Services, p. 5.

[15] Cross-border supply is applied only when the service supplier of one country delivers the services to the consumer in another country and are not present within each other's territory, for example overseas calls, international internet information providing services, etc. Consumption abroad is applied when the consumer residing in one country moves to another country to receive the services. For example, travel-related services and studying abroad.

[16] Transportation includes all transportation services (maritime, air and land, internal waterways, space and pipeline). All transportation services provided by a resident of an economy to another resident of the other economy includes transport of passengers, transport of freight, transport device containing attendants and related auxiliary services.

Table 3.4.5 Competitiveness in the transportation services ($ millions)

Classification Year	Korea				EU			
	Export	Import	TSI	RCA	Export	Import	TSI	RCA
1995	9,272	9,645	-0.020	1.657	131,075	130,628	0.002	0.960
1996	8,765	10,230	-0.077	1.599	133,780	133,048	0.003	0.975
1997	11,005	10,310	0.033	1.814	135,525	133,837	0.006	0.999
1998	10,204	8,983	0.064	1.778	139,321	138,541	0.003	1.000
1999	11,466	9,980	0.069	1.939	140,718	138,791	0.007	0.972
2000	13,687	11,048	0.107	1.987	144,852	146,547	-0.006	0.972
2001	13,180	11,043	0.088	2.038	146,245	144,241	0.007	0.959
2002	13,216	11,301	0.078	2.155	155,529	154,020	0.005	0.951
2003	17,180	13,613	0.116	2.423	182,362	181,548	0.002	0.937
2004	22,529	17,655	0.121	2.418	228,749	219,097	0.022	0.956
Average growth rate (%) and mean	11.36	7.58	0.058	1.981	6.68	6.17	0.005	0.968

Note: The values of TSI and RCA reflect 10-year averaging.

Source: Calculations from IMF (2006), *Balance of Payments Statistics*.

Examining the average of TSI and RCA over 10 years, both TSI, we observe that the RCA of Korea is higher than that of the EU, showing a competitive advantage. Over the 10 years, Korea's TSI showed a yearly average of 0.058, with exports being rather larger than imports. Korea scored a yearly average of 1.981 in RCA, which is almost as twice as high as the EU's average score of 1, implying a strong competitive advantage.

Travel services

In Table 3.4.6, the value of TSI of Korea in 2004 turned out to be negative (-0.341) in travel services[17] revealing disadvantages in export competitiveness. Likewise, the TSI of the EU was rated at -0.002, showing disadvantages in export competitiveness. Even with the RCA, Korean travel services sector in 2004 showed 0.519 of comparative disadvantages. Similarly, the EU showed comparative disadvantages of 0.924.

Table 3.4.6 Competitiveness in travel services ($ millions)

Classification year	Korea				EU			
	Export	Import	TSI	RCA	Export	Import	TSI	RCA
1995	5,150	6,341	-0.104	0.707	179,851	176,042	0.011	1.011
1996	4,880	7,482	-0.211	0.652	185,515	182,177	0.009	0.990
1997	4,731	6,988	-0.193	0.578	181,186	176,562	0.013	0.990
1998	6,908	3,470	0.331	0.873	189,958	187,167	0.007	0.989
1999	6,841	4,881	0.167	0.831	199,786	197,027	0.007	0.992

[17] Travel services include the products and services of health, education, or business purpose acquired by an individual traveller. Unlike other services, travel is not a designated service itself, but consists of various products and services that the traveller consumes, for example, accommodation, food and beverages, entertainment, transportation at the travelling country, gifts and souvenirs.

2000	6,834	7,132	-0.021	0.735	198,284	194,643	0.009	0.985
2001	6,384	7,617	-0.088	0.742	193,174	192,972	0.001	0.952
2002	5,936	10,465	-0.276	0.717	207,109	206,717	0.001	0.938
2003	5,358	10,103	-0.307	0.577	241,502	245,595	-0.008	0.947
2004	6,069	12,350	-0.341	0.519	277,519	278,492	-0.002	0.924
Average growth rate (%) and mean	2.95	12.31	-0.104	0.693	5.14	5.44	0.005	0.972

Note: The export and import items show yearly-averaging growth rate, while the TSI and RCA values show the average of 10 years.

From the 10-year averages of TSI and RCA, the EU scores higher than Korea in both values. The EU is showing better competitive advantage.

Other commercial services:

Communications services

Communications services cover communications, postal and fast delivery services. Recently, it is shown that the competitiveness of Korea has been weakened while that of the EU is strengthening. In Table 3.4.7, the TSI value of Korea in 2004 is negative (-0.176), meaning disadvantages in export competitiveness. On the other hand, the EU recorded negative values until 2003, and then recovered to a positive number (0.004) in 2004, meaning advantages in export competitiveness. Until 1998, Korea marked over '1' in RCA, then dropped below '1' afterwards, showing comparative disadvantages. In contrast, the EU maintained comparative advantages after 2000, recording 1.228 in 2004.

Table 3.4.7 Competitiveness in communications services ($ millions)

Classification year	Korea				EU			
	Export	**Import**	**TSI**	**RCA**	**Export**	**Import**	**TSI**	**RCA**
1995	561	642	-0.067	1.321	9,183	9,727	-0.029	0.886
1996	643	706	-0.047	1.457	9,688	9,519	0.009	0.877
1997	652	865	-0.141	1.288	10,143	10,603	-0.022	0.896
1998	656	1,133	-0.267	1.204	10,871	12,530	-0.071	0.822
1999	400	677	-0.257	0.715	12,987	14,635	-0.060	0.949
2000	387	623	-0.233	0.603	14,391	15,785	-0.046	1.034
2001	398	742	-0.302	0.621	16,234	17,518	-0.038	1.075
2002	378	685	-0.289	0.648	17,182	18,437	-0.035	1.106
2003	341	693	-0.340	0.491	21,771	23,027	-0.028	1.141
2004	446	636	-0.176	0.531	26,442	26,241	0.004	1.228
Average growth rate (%) and mean	-0.77	2.18	-0.212	0.888	12.72	11.91	-0.032	1.001

Note: The export and import items show the average rate of increase, while TSI and RCA values show the average of the years.

In the figures of the 10-year averages of TSI and RCA, the EU scores higher than Korea. In particular, even if both Korea and the EU have negative values of export disadvantages, the EU has comparative advantages by scoring higher than 1 in RCA.

Construction services

In the construction services sector, both Korea and the EU are gaining surplus, though the Korean trade volume in this sector is insignificant. According to Table 3.4.8, in 2004 the TSI value (0.930) of Korea is positive, showing export competitiveness advantages. But Korea's RCA in this sector is 0.130, a considerably lower value than the EU's (1.188).

In case of trade in construction services sector, if the project is longer than one year, it is regarded as being provided by a local resident. Therefore, since the BOP reflects the sum total of construction services that would be finished within one year, the competitiveness comparison is done on construction services that are completed within one year or less.

Table 3.4.8 Competitiveness in construction services ($ millions)

Classification year	Korea				EU			
	Export	Import	TSI	RCA	Export	Import	TSI	RCA
1995	n.a.	n.a.	n.a.	n.a.	23,083	16,861	0.156	1.457
1996	n.a.	n.a.	n.a.	n.a.	22,859	16,328	0.167	1.454
1997	n.a.	n.a.	n.a.	n.a.	23,014	16,824	0.155	1.377
1998	5	6	-0.085	0.008	21,929	14,741	0.196	1.275
1999	10	5	0.333	0.016	18,497	13,284	0.164	1.176
2000	29	16	0.296	0.050	15,870	11,426	0.163	1.266
2001	82	15	0.688	0.144	16,991	12,100	0.168	1.267
2002	39	24	0.250	0.073	18,172	13,045	0.164	1.265
2003	37	14	0.462	0.060	21,740	15,863	0.156	1.273
2004	99	4	0.930	0.130	23,272	17,666	0.137	1.188
Average Growth Rate (%) and mean	93.76	20.21	0.411	0.069	0.65	1.14	0.163	1.300

Note: The export and import items show the average increase rate, while the TSI and RCA values show the average.

The data on the 10-year averages of TSI and RCA show that Korea performed better than the EU in TSI, but it shows disadvantages in RCA.

Insurance services

In the insurance services sector, the EU shows absolute advantages over Korea. Korea records a huge deficit in the insurance services sector: the TSI value of -0.538 in 2004 means a weakness in export competitiveness, and 0.313 in RCA value also means comparative disadvantages. In contrast, the TSI value of the EU in 2004 was positive (0.137), and the industry had a comparative advantage by achieving 1.198 in RCA.

Table 3.4.9 Competitiveness in insurance services ($ millions)

Classification year	Korea				EU			
	Export	Import	TSI	RCA	Export	Import	TSI	RCA
1995	-20	255	-1.170	-0.045	12,096	10,415	0.075	1.128
1996	95	203	-0.363	0.213	14,062	11,216	0.113	1.257
1997	-2	162	-1.024	-0.004	13,881	10,678	0.130	1.322
1998	52	143	-0.470	0.107	13,382	12,115	0.050	1.146

1999	48	-114	-2.471	0.090	14,497	11,108	0.132	1.106
2000	68	146	-0.363	0.124	11,200	8,332	0.147	0.944
2001	60	374	-0.723	0.106	14,874	10,665	0.165	1.109
2002	37	571	-0.879	0.047	28,053	16,064	0.272	1.337
2003	34	390	-0.840	0.035	33,661	22,607	0.196	1.253
2004	139	461	-0.538	0.131	32,450	26,998	0.092	1.198
Average Growth Rate (%) and mean	-356.21	-29.43	-0.884	0.080	14.97	13.54	0.137	1.180

Note: The export and import items show the average increase rate, while the TSI and RCA values show the average. Negative export is when the overseas compensation outflow was larger than the insurance revenue inflow, marking TSI value as '-1' and RCA value as '0'. Negative import is when the compensation inflow from abroad was larger than the overseas insurance revenue outflow, marking TSI as '-1'.

From the figures in Table 3.4.9 of TSI and the average RCA over 10 years, the EU performed better than Korea in both TSI and RCA, showing finer competitiveness.

Financial services

In the financial services sector, both Korea and the EU are gaining surpluses in 2004. According to Table 3.4.10, Korea's TSI value (0.791) was positive, showing high export competitiveness advantages together with the EU (0.357). But Korea's RCA in the financial services sector recorded 0.479, which is lower than the EU's (1.369). Korea scored a significantly high average export growth rate of 41.8%, while the EU's was 14.5%.

Table 3.4.10 Competitiveness in financial services ($ millions)

Classification year	Korea				EU			
	Export	**Import**	**TSI**	**RCA**	**Export**	**Import**	**TSI**	**RCA**
1995	105	130	-0.105	0.123	24,237	14,835	0.241	1.162
1996	123	103	0.090	0.126	28,289	15,549	0.291	1.158
1997	159	74	0.365	0.136	33,133	16,854	0.326	1.260
1998	145	109	0.143	0.115	35,313	18,547	0.311	1.157
1999	478	186	0.440	0.311	41,990	21,629	0.320	1.118
2000	705	191	0.573	0.361	48,080	23,146	0.350	1.137
2001	533	83	0.731	0.303	46,529	22,817	0.342	1.123
2002	695	70	0.818	0.466	51,018	25,200	0.339	1.284
2003	699	101	0.747	0.413	61,130	29,879	0.343	1.317
2004	1,083	127	0.791	0.479	79,430	37,611	0.357	1.369
Average growth rate (%) and mean	41.80	7.74	0.459	0.283	14.45	11.15	0.322	1.209

Note: The export and import items show the average increase rate, while the TSI and RCA values show the average.

In Table 3.4.10, Korea and the EU are showing only a slight difference in TSI, but the EU has greater competitiveness in RCA.

Computer and information services

Computer and information services cover news agency services, etc. During 2004, the EU has shown a remarkable surplus, while Korea could not pull itself out of a deficit. According to

Table 3.4.11, the TSI value of the EU was 0.365, which is a better performance in export competitiveness than Korea (0.722). In RCA as well, the EU scored 1.568, which is also higher than Korea (0.018).

Table 3.4.11 Competitiveness in computer and information services ($ millions)

Classification year	Korea				EU			
	Export	Import	TSI	RCA	Export	Import	TSI	RCA
1995	5	93	-0.900	0.023	7,017	6,435	0.043	1.371
1996	6	76	-0.852	0.024	8,467	7,453	0.064	1.346
1997	3	66	-0.907	0.009	10,236	8,641	0.085	1.283
1998	5	90	-0.905	0.009	18,840	11,521	0.241	1.473
1999	4	69	-0.893	0.006	21,720	13,760	0.224	1.395
2000	11	92	-0.793	0.012	24,096	14,463	0.250	1.220
2001	16	104	-0.731	0.017	27,523	16,962	0.237	1.206
2002	20	124	-0.729	0.020	32,606	18,556	0.275	1.248
2003	30	134	-0.636	0.023	43,897	22,468	0.323	1.250
2004	25	157	-0.722	0.018	57,058	26,538	0.365	1.568
Average growth rate (%) and mean	31.84	8.06	-0.807	0.016	27.68	17.28	0.211	1.336

All of Korea's values for TSI and the RCA average of 10 years in Table 3.4.11 are low.

Royalties and license fee services

Royalties and license fee services cover payment and obtaining rights to utilise non-financial assets and royalties, copyrights, brand names, franchise fees for industrial processes and franchises. Both Korea and the EU show a deficit, by having a negative number in TSI values in 2004 of -0.410 and -0.205, respectively, indicating low export competitiveness. Korea and the EU also recorded an RCA in 2004 of 0.895 and 0.657, which is a comparative disadvantageous state. Only the Korean RCA value is recently on the rise with a remarkable average export growth rate of 27.9%, meaning that its competitiveness is strengthening in this sector.

Table 3.4.12 Competitiveness in royalties and license fee services ($ millions)

Classification year	Korea				EU			
	Export	Import	TSI	RCA	Export	Import	TSI	RCA
1995	299	2,385	-0.777	0.298	15,976	25,276	-0.225	0.652
1996	185	2,431	-0.859	0.177	17,206	27,918	-0.237	0.657
1997	252	2,414	-0.811	0.215	17,247	27,962	-0.237	0.657
1998	260	2,369	-0.802	0.218	18,469	33,354	-0.287	0.637
1999	455	2,661	-0.708	0.342	20,349	33,210	-0.240	0.625
2000	688	3,221	-0.648	0.432	20,547	32,615	-0.227	0.597
2001	924	3,053	-0.536	0.629	20,148	33,575	-0.250	0.583
2002	835	3,002	-0.565	0.580	22,571	36,222	-0.232	0.588

2003	1,311	3,570	-0.463	0.789	27,399	45,773	-0.251	0.601
2004	1,861	4,446	-0.410	0.895	35,053	53,105	-0.205	0.657
Average growth rate (%) and mean	27.89	7.70	-0.658	0.458	9.51	8.99	-0.239	0.625

From the figures in TSI and RCA 10-year average, Korea and the EU are showing disparities in export competitiveness, with the EU possessing higher TSI as well as higher RCA, meaning comparative advantages.

Other business services

Other business services cover professional and technical services such as trade-related services; operational leasing services and others; legal accounting, management consulting, public relations, advertising and public opinion polling and R&D services; engineering, other technical services; agricultural, mining, and on-site treatment. Korea is recently showing a deficit in this sector, while the EU used to record a deficit but has turned around to a surplus as of 2004. The TSI value of the EU was 0.021 of high export competitiveness, while Korea was -0.237. Korea and the EU scored 0.832 and 1.112, respectively, for the RCA values in 2004. Korea showed comparative disadvantages, while the EU showed the opposite.

Table 3.4.13 Competitiveness in other business services ($ millions)

Classification year	Korea				EU			
	Export	**Import**	**TSI**	**RCA**	**Export**	**Import**	**TSI**	**RCA**
1995	6,761	5,807	0.076	1.373	134,733	127,186	0.029	1.120
1996	7,952	7,806	0.009	1.528	146,302	133,912	0.044	1.123
1997	8,633	8,022	0.037	1.435	145,597	134,858	0.038	1.082
1998	6,580	7,716	-0.080	1.125	153,649	154,663	-0.003	1.082
1999	6,035	8,275	-0.157	1.002	160,664	163,084	-0.007	1.090
2000	7,200	10,328	-0.178	1.052	165,325	173,969	-0.025	1.116
2001	6,388	9,237	-0.182	0.945	182,872	183,813	-0.003	1.147
2002	6,006	9,607	-0.231	0.908	199,480	208,444	-0.022	1.131
2003	6,687	11,049	-0.246	0.848	240,681	241,051	-0.001	1.112
2004	8,125	13,163	-0.237	0.832	278,886	267,532	0.021	1.112
Average growth rate (%) and the mean	3.22	10.34	-0.119	1.105	8.59	8.72	0.007	1.112

As can be found in the 10-year averages for TSI and RCA, the TSI value of the EU exceeds the Korean average, and in case of RCA, which stands for the comparative advantages in the world, both Korea and the EU have outstanding export competitive advantages.

Personal, cultural and recreational services

In the case of personal, cultural and recreational services including audiovisual and entertainment services, both Korea and the EU are recording deficits. According to Table 3.4.14, Korea's TSI value registered -0.492 in 2004, along with the EU's value of -0.065. Both are showing poor export competitiveness. In terms of RCA in 2004, however, Korea calculated 0.222, which is inferior to the EU (1.051).

Table 3.4.14 Competitiveness in personal, cultural and recreational services ($ millions)

Classification year	Korea				EU			
	Export	**Import**	**TSI**	**RCA**	**Export**	**Import**	**TSI**	**RCA**
1995	n.a.	98	n.a.	n.a.	4,311	7,877	-0.293	0.901
1996	n.a.	121	n.a.	n.a.	4,888	9,260	-0.309	1.050
1997	5	137	-0.930	0.020	5,222	9,740	-0.302	0.920
1998	14	92	-0.734	0.045	6,191	10,073	-0.239	0.813
1999	29	153	-0.682	0.087	6,528	11,208	-0.264	0.806
2000	137	160	-0.079	0.329	7,702	12,076	-0.221	0.858
2001	138	206	-0.197	0.379	8,130	12,598	-0.216	0.945
2002	185	283	-0.210	0.487	8,808	11,114	-0.116	0.870
2003	76	261	-0.548	0.178	11,313	13,428	-0.086	0.965
2004	128	376	-0.492	0.251	13,756	15,665	-0.065	1.051
Average growth rate (%) and the mean	100.53	19.73	-0.484	0.222	14.01	8.36	-0.211	0.918

As shown in the table above, the EU proved to be higher than the Korean average in both the 10-year average of TSI and RCA.

An evaluation

Table 3.4.15 describes the competitiveness of Korea and EU service industry □ (excellent), ○ (favourable) or △ (average) by sectors, compared with the average competitiveness of Korea and EU.

Table 3.4.15 The criteria of competitiveness of Korea and the EU

Index	Criteria	Mark
TSI	Each country's TSI ≧ average TSI of Korea and EU	□
	Each country's TSI < average TSI of Korea and EU	○ or △[a]
RCA	Each country's RCA ≧ average RCA of Korea and EU	□
	Each country's RCA < average RCA of Korea and EU	○ or △[b]

[a] △ is marked when the TSI is lower than the average and negative. ○ is marked when TSI is lower than the average but positive.

[b] △ is marked when RCA is lower than 1. ○ is marked when RCA is higher than 1.

When the results of TSI and RCA analysis are in conflict with each other, RCA is taken into consideration in prior. In case the values are difficult to evaluate, the country that has the higher growth rate in exports is regarded as having the advantage.

Table 3.4.16 Export growth rate of Korea and the EU by services (%)

Services	Korea		EU	
	10 years' average	2004	10 years' average	2004
Transportation	11.36	31.14	6.68	25.44
Travel	2.95	13.27	5.14	14.91
Communications	-0.77	30.60	12.72	21.45
Construction	93.76	166.67	0.65	7.05
Insurance	-356.21	307.94	14.97	-3.60
Financial	41.80	55.06	14.45	29.94
Computer and information	31.84	-14.81	27.68	29.98
Royalties and license fees	27.89	41.94	9.51	27.94
Other business services	3.22	21.50	8.59	15.87
Personal, cultural, recreational	100.53	67.98	14.01	21.60

For the sectoral service analysis, the average values of TSI of Korea and the EU from 1994-2004 are measured. In Table 3.4.17, TSIs of Korea and the EU are shown and marked as □, ○ or △ according to the criteria described in the Table 3.4.15. In case of the Transportation, Korea TSI is □ meaning strong competitiveness over the average of Korea & the EU's TSI. The EU's TSI is lower than the average but still positive, resulting in ○ in the Transportation. In the Financial sector, there is no big difference between the TSIs of Korea and EU, implying the sectors in both countries are export-oriented.[18] The results of TSI analysis indicate that EU has a comparative advantage in seven sectors including Travel, Communications, Insurance, Computer and information, Royalties and license fees, Other business service and Personal, cultural, recreational services. On the other hand, Korea enjoys comparative advantage only in Transportation and Construction sector.

Table 3.4.17 A comparison of TSI of Korea and the EU for 10 years

Services	Korea		EU		10-year average of Korea and the EU
	TSI	mark	TSI	mark	
Transportation	0.058	□	0.005	○	0.031
Travel	-0.104	△	0.005	□	-0.050
Communications	-0.212	△	-0.032	□	-0.122
Construction	0.411	□	0.163	○	0.287
Insurance	-0.884	△	0.137	□	-0.373
Financial	0.459	○	0.322	○	0.391
Computer and information	-0.807	△	0.211	□	-0.298
Royalties and license fees	-0.658	△	-0.239	○	-0.448

[18] Please note that, both in KIEP and Copenhagen study, there is a difference in competitiveness of the EU and Korean Financial sector.

Other business services	-0.119	△	0.007	□	-0.056
Personal, cultural and recreational	-0.484	△	-0.211	○	-0.347

In a similar way, the average values of RCA of Korea and the EU for 10 years are measured in Table 3.4.18 for the sectoral competitiveness analysis. The EU has a comparative advantage in Travel, Communications, Construction, Insurance, Financial, Computer and information, and Personal, cultural, recreational services. While Korea enjoys a comparative advantage only in Transportation, it has similar competitiveness with the EU in Royalties and license fees and Other business services.

Table 3.4.18 A comparison of RCA of Korea and the EU for 10 years

Services	**Korea**		**EU**		**Average of Korea and the EU's RCAs for 10 years**
	RCA	**mark**	**RCA**	**mark**	
Transportation	1.981	□	0.968	△	1.474
Travel	0.693	△	0.972	○	0.832
Communications	0.888	△	1.001	□	0.945
Construction	0.069	△	1.300	□	0.684
Insurance	0.080	△	1.180	□	0.630
Financial	0.283	△	1.209	□	0.746
Computer and information	0.016	△	1.336	□	0.676
Royalties and license fees	0.458	△	0.625	○	0.541
Other business services	1.105	○	1.112	□	1.108
Personal, cultural and recreational	0.222	△	0.918	○	0.570

Taking both TSI and RCA into consideration, the results of the comparative advantage analysis are described in Table 3.4.19. Out of a total of 10 sectors in the services industry, Korea has a comparative advantage of competitiveness only in Transportation, showing comparative disadvantages in most other sectors. The EU enjoys a comparative advantage in seven sectors such as Travel, Construction, Communications, Insurance, Financial, Computer and information, and Personal, cultural, recreational services. In the case of Royalties and license fees, Other business services, Korea and EU have similar competitiveness.

Table 3.4.19 A comparison of competitiveness of Korea and the EU by services

Services	**Korea**		**EU**		**Comparative advantage**
	TSI	**RCA**	**TSI**	**RCA**	
Transportation	□	□	○	△	Korea
Travel	△	△	□	○	E U
Communications	△	△	□	□	E U
Construction	□	△	○	□	E U

Insurance	△	△	□	□	E U
Financial	○	△	○	□	E U
Computer and information	△	△	□	□	E U
Royalties and license fees	△	△	○	△	similar
Other business services	△	○	□	○	similar
Personal, cultural and recreational	△	△	○	○	E U

Trade in Services in Mode 4

Modes of 'movement of natural persons' and WTO concessions

The movement of natural persons or 'Mode 4' of the provisions of services in the General Agreement in Trade in Services refers to the entry and temporary stay of persons for the purpose of providing service in(to) the territory of other countries where consumers reside. For instance, natural persons such as business consultants or fashion models enter other countries in order to provide their services, having nothing to do with seeking citizenship, permanent residence or access to the labour market of the country.

Commitments scheduled under the mode 4 of supply, the movement of natural persons, were largely limited to two categories: one related to the commercial presence, mode 3; and the other, not. First, the movement of natural persons linked to commercial presence includes intra-company transferees regarded as 'essential personnel', such as directors, managers and technical staff, business visitors for the purpose of preparing the establishment of commercial presence and service suppliers for the purpose of negotiating service contract. Second, CSSs (contractual service suppliers) fall on the other part of mode 4, which are not related to the commercial presence.[19]

As a part of the GATS negotiations, Korea submitted the revised offer[20] regarding services to the WTO in May 2005, which commits the concession of movement of natural persons in some fields, which is a development from the initial offer. In the revised offers, Korea re-stated the initial offers submitted in March 2003, aiming at increasing the transparency of the scope of the concession. In addition, the revised offer presented ten sectors which could help attract foreign professionals into Korea.

Some developing countries, having difficulties in penetrating the Korean market in the form of commercial presence, requested to have a concession of the entry or stay of contractual service suppliers who are not linked to commercial presence. But Korea does not accept the request by focusing on a concession of the entry or stay of contractual service suppliers *affiliated to the corporate.*

In the revised offer, Korea permitted mode 4, the entry into or stay in Korea, subject to several conditions, as follows. The natural person must obtain a service contract for a period of less than one year from a juridical person incorporated in Korea. Also, the natural person must possess the necessary academic and professional qualifications and professionally qualified competency–based experience to exercise an activity pursuant to the accreditations by relevant international organisations. Services related to the instalment, management or repair of

[19] CSSs consist of corporate contractual service suppliers affiliated with the corporation and independent professionals who aren't affiliated with the corporation.

[20] Korean Ministry of Finance and Economy, Reference materials for a meeting of ministers of foreign relations, 23 May 2005.

industrial equipment or machine, consultancy services for foreign accounting and auditing, architectural services, management consulting services, professional engineering services related to the installation of computer hardware, software R&D-based implementation, data management, data system, specialty engineering design services for automobiles fall under this conditions.

Services trade in terms of compensation for movement of natural persons

IMF balance-of-payment statistics show that compensation for the movement of natural persons worldwide has steadily increased (see Table 3.4.20). The average growth rate of exports for ten years in 1995 -2004 reached 8.5% and that of imports, 6.9%.

Table 3.4.20 Compensation for movement of natural persons, 1995-2004 ($ millions and %)

	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Exports	35,657	34,472	42,496	43,287	45,807	43,903	45,029	51,541	55,763	63,841
Growth rate	22.0	-3.3	23.3	1.9	5.8	-4.2	2.6	14.5	8.2	14.5
Imports	43,054	42,406	41,014	43,433	45,934	45,603	48,315	54,286	62,790	71,177
Growth rate	16.0	-1.5	3.3	5.9	5.8	-0.7	5.9	12.4	15.7	13.4

Source: IMF BOP (2006).

Table 3.4.21 Compensation of employees in Korea and the EU ($ millions and %)

	World		**Korea**		**EU[a]**	
	Exports	**Imports**	**Exports**	**Imports**	**Exports**	**Imports**
1995	35,657	43,054	774 (2.2)	132 (0.3)	19,011 (53.3)	16,141 (37.5)
1996	34,472	42,406	745 (2.2)	180 (0.4)	18,587 (53.9)	15,556 (36.7)
1997	42,496	41,014	706 (1.7)	6 (0.0)	24,840 (58.5)	15,281 (37.3)
1998	43,287	43,433	446 (1.0)	42 (0.1)	25,057 (57.9)	15,979 (36.8)
1999	45,807	45,934	527 (1.2)	42 (0.1)	25,448 (55.6)	17,611 (38.3)
2000	43,903	45,603	582 (1.3)	51 (0.1)	23,991 (54.6)	17,418 (38.2)
2001	45,029	48,315	566 (1.3)	69 (0.1)	25,674 (57.0)	18,723 (38.8)
2002	51,541	54,286	590 (1.1)	64 (0.1)	29,979 (58.2)	23,013 (42.4)
2003	55,763	62,790	732 (1.3)	97 (0.2)	36,093 (64.7)	27,826 (44.3)
2004	63,841	71,177	744 (1.2)	134 (0.2)	40,811 (63.9)	31,493 (44.2)

[a] EU includes intra- and external-trade (exports and imports) of EU27 countries.

Source: IMF BOP (2006).

It is notable that service exports of both Korea and the EU are higher than the imports in the field of movement of natural persons (Table 3.4.21). The average share of Korea's total services exports throughout the world is 1.4%, while that of services imports is merely 0.2%. The EU occupies 57.8% of exports and 39.4% of imports during the same period, which shows that the share of services exports of the EU's total trade is higher than that of imports.

References

Ha, J.H. (2007), *The Impact of KORUS FTA on the Financial Industry of Korea*, KFI (in Korean).

Kim, HC. et al. (2005), *An Analysis of the Economic Effects of a Korea-EU FTA and Policy Implications on the Korean Economy*, Policy Analysis 05-09, KIEP.

Ministry of Foreign Affairs and Trade of Korea (2006), *The 5th Korea-EU Joint Committee Meeting* (in Korean).

Ministry of Foreign Affairs and Trade of Korea (2007), *The Final Outcomes of KORUS FTA by Sector*, April (in Korean).

USTR (2007), "Trade Facts: Free Trade with Korea, summary of the KORUS FTA" (www.ustr.gov).

4. Trade Policy Strategies of Korea and EU

4.1 Korea's FTA strategy

Korea's adoption of FTA policy

Korea, an underdeveloped agricultural country with a small and stagnant economy a half-century ago, is now known as one of the most dynamic players in the world economy. Korea's rapid economic growth has been led by its successful pursuit of an outward-looking development strategy. In particular, government policy towards international trade has played a key role for both economic growth and industrialisation of the Korean economy. The Korean economy has depended heavily on international trade particularly under the circumstances characterised by a lack of resources and economic base. Korea is currently the world's 11th largest economy, and the total volume of its external trade now amounts to approximately 70% of its gross domestic product.

Korea had maintained a policy stance emphasising a multilateral trading system such as GATT and the WTO. Starting in the mid-1990s, however, as regionalism emerged as the leading alternative in the global trading system, Korea began to actively engage in establishing FTAs. By eliminating trade barriers and catalysing the restructuring of trade and industrial structures, FTAs were expected to be an effective tool to overcome economic slowdown that followed the 1998 Asian crisis. Korea began to pursue an FTA policy in 1998 when it examined a Korea-Chile FTA as its first FTA.

Korea's FTA strategy

Korea is currently pursuing several FTAs simultaneously, adopting a multi-track approach. Korea formulated an FTA Roadmap in September 2003, and revised it in May 2004. Based on the Roadmap, Korea has been pursuing FTAs actively with over 20 countries in order to overtake other players in the global arena. Korea also seeks to conclude FTAs that are consistent with the WTO rules and are comprehensive in coverage, covering a wide range of areas such as services, investment, government procurement and intellectual property rights. In addition, in order to obtain wider public endorsement, the Korean government is making a concerted effort to explain the process and outcome of FTA negotiations to the National Assembly, industrial associations and the public at every step of the way.

Korea's current progress with FTAs

Concluded FTAs

The Korea-Chile Free Trade Agreement, which is the first bilateral market liberalization initiative of the Korean government, was concluded in October 2002. After painful debates on the future of the Korean agricultural industry, the Korea-Chile FTA was barely ratified in the National Assembly in February 2004, and entered into force on April 1st, 2004. Contrary to concerns, the Korea-Chile FTA has brought about a substantial increase in bilateral trade and has hardly affected Korea's agricultural sector.

Korea also signed the FTA with Singapore in April 2005, which entered into force in March 2006. Despite the fact that Korea and Singapore already maintain low tariff regimes, expansion of trade in goods through the FTA is still expected. The FTA goes beyond tariff elimination, covering the freer movement of goods, services, investment, information and people. The Korea-Singapore FTA would provide better market access for services in Singapore for Korean service providers and vice versa. In addition, the Korea-Singapore FTA includes a provision to recognize the goods produced in the Gaesong Industrial Complex (and other sites in in North

Korea) as originating in South Korea. This was the first time Gaesong's products were included in an agreement and it is a very important political achievement of South Korea.

Korea also concluded the FTA with EFTA in July 2005 and effectuated it in September 2006. The Korea-EFTA FTA covers not only elimination of tariffs on industrial goods but also liberalization of other comprehensive areas such as agricultural sector, services, investment, government procurements and so on. The FTA also includes a relaxation of the outward processing rules allowing the possibility of patially manufacturing a limited number of products in the Gaesong Industrial Complex while maintaining South Korean origin. The Korea-EFTA FTA is expected to provide Korea with opportunities to enhance its competitiveness of its service sector and to expand its export market into the EU. The Korea Institute for International Economic Policy (KIEP), a government-run think tank, estimated that the Korea-EFTA FTA would increase Korea's GDP by 0.02 to 0.05 percent.

In addition, Korea and nine out of ten ASEAN member states, excluding Thailand, reached the free trade agreement in April 2006, aimed at liberalizing merchandise trade by 2010. The FTA went into effect on June 1, 2007. Under the FTA, Korea will scrap tariffs on 63 percent of imports coming from the five nations, while the five ASEAN member states will apply less than five percent tariffs on 45 percent of Korean imports. According to KIEP's analysis, the FTA with ASEAN would boost Korea's gross domestic product by $14.6 billion in short term gains and $18.2 billion in long-term effects.

In particular, Korea concluded historic free trade agreement negotiations with the U.S. on April 2, 2007. The Korea-U.S. FTA will be one of Korea's most significant FTAs. This comprehensive trade agreement will eliminate tariffs and other barriers to trade in goods and services, promote bilateral investments, and enhance transparency of the institutions. The Korea-U.S. FTA will bring significant and tangible economic benefits to both countries by promoting bilateral trade and investment. According to the findings of KIEP, the FTA would increase Korea's GDP by 0.32 to 5.97 percent.

FTAs under negotiation

Korea is currently engaged in negotiations with ASEAN, Canada, the EU, Mexico, and India. With ASEAN, the FTA on goods already entered into effect on June 1, 2007, and negotiations aimed at liberalizing services and investment are under way.

An exploratory discussion on the FTA between Korea and Canada was concluded in May 2005, and both countries launched the first FTA negotiation in Seoul in July 2005. KIEP estimated that the FTA with Canada would increase Korea's welfare level by approximately $1.5 billion.

Korea and the EU entered the first round of a free trade agreement in May 2007. The two sides have discussed the tariff removal on merchandise, services and investment and customs administration. According to the analysis of KIEP, Korea's GDP would increase by 1.3 percent in the short run to 1.9 percent in the long run due to the FTA.

Korea and Japan have so far held six rounds of negotiations. Japan is one of Korea's key trading partners. The talks, however, have been deadlocked due to differences over the levels of the market opening in the agricultural sector and the diplomatic row over Japan's renewed claim to Dok Island. The resumption of the FTA talks relies heavily on the political will of both countries.

Besides the countries mentioned above, Korea already launched an FTA negotiation with Mexico and India, respectively, in February and March 2006.

FTAs under examination

Korea is also reviewing possibilities for an FTA with its major trading partners such as China, MERCOSUR, and GCC. Joint studies on a Korea-China FTA are currently under way, and Joint studies on a Korea-MERCOSUR FTA had finished in November 2006. In addition, Korea and GCC agreed to pursue an FTA between the two sides.

Table 4.1.1 Current Status of Korea's FTA Initiatives

Concluded	Under Negotiation	Under Examination
- Chile (Entered into force in April 2004) - Singapore (Entered into force in Mar. 2006) - EFTA(Entered into force in Sep. 2006) - ASEAN(FTA on goods)(Entered into force in June 2007) - The U.S.(Concluded in April 2007)	-ASEAN(FTA on services and investment)(Launched in Feb. 2005) - Canada(Launched in July 2005) - Mexico(Launched in Feb. 2006) - India(Launched in Mar. 2006) - The EU(Launched in May 2007) - Japan (Interrupted)	- China - MERCOSUR - GCC

Future prospects

Due to the Korea-Chile FTA, Koreans have become more confident of economic liberalisation through FTAs. The Korea-Chile FTA has helped the public to realise that the benefits of the Korea-Chile FTA are greater than expected and also that the promotion of FTAs is essential for Korea to maintain its position in the world market.

Based on the experience of the Korea-Chile FTA, Korea began to drive its FTA policy on a multi-track basis in 2005. The multi-track policy will help Korea jump on the free trade bandwagon, which could ensure more benefits to its export-driven economy. It could also pave the way for Korea to engage in an FTA with such large economies as the US, the EU, China or Japan.

Considering that an FTA negotiation involves two or more actors, Korea may have difficulty in keeping to its planned FTA schedule. In spite of that possibility, if Korea's FTA negotiations go as scheduled, it would significantly assist the country in pursuing FTAs with bridgehead countries in every continent, its major trading countries and the emerging economies in the near future.

Furthermore, Korea's pursuit of FTAs on the multi-track basis will help Korea become the business hub of Northeast Asia and enable it to become a much larger force in the world economy. The FTAs would provide Korea with a great opportunity to strengthen its competitiveness, to adjust its industrial structure and to gain greater access to foreign markets. Making optimal use of the well-equipped infrastructure of FTAs, Korean firms would be better able to break into the world market as well.

4.2 The FTA strategy of the EU

From 1999, trade policy of the EU had mainly been focused on multilateralism, where the EU maintained an effective suspension on the opening of bilateral or regional negotiations to

conclude FTAs. Lamy (2002) explained this policy as one "pursu[ing] all existing mandates for regional negotiations with vigour and fairness, but not to begin any new negotiations". This trade strategy was based on two reasons: first it favoured the multilateral approach of the Doha Development Agenda (DDA), where the EU did not want to take any initiative that might detract from its completion; and second, the EU had a 'deep integration' approach in FTAs and these agreements were complex and time-consuming to negotiate (Lamy, 2002, pp. 1412-1413). Increasing the number of bilateral agreements has been labelled a 'spaghetti bowl' and these interconnected links were assumed to create problems in the medium term for the international trading system as a whole. The expectation was that the DDA, which was launched in November 2001, would conclude by the end of 2004. However, following the collapse of WTO Ministerial in Cancun in September 2003 and several rounds of inconclusive negotiations, the DDA negotiations were provisionally suspended in July 2006 until recently. As the Director-General Pascal Lamy's report to the General Council on 9 May 2007 indicates full negotiations resumed since February, including a June meeting between the G4 countries to narrow down differences in Potsdam.

The earlier suspension of the DDA negotiations, combined with the increasing numbers of FTAs of the US,[1] forced the EU to alter its course of action in order to protect or enhance its competitiveness. After these developments, in October 2006, the European Commission revealed a new trade policy strategy under which the EU will pursue bilateral FTAs with major economies in order to secure the market access and competitiveness of European companies in important markets. The core of the new trade strategy of the EU has been summarised as "rejection of protectionism at home, accompanied by activism in creating open markets and fair conditions for trade abroad" (European Commission, 2006).

The new strategy primarily focuses on the need to identify and remove tariff and non-tariff barriers to market access for goods and services that are important for the European exporters. Although the conclusion of the Doha Round is the first priority of the EU Commission (and even if the DDA is successful), the applied tariffs in some major emerging markets of interest to the EU may not be reduced. In this context, the new FTAs do not only serve to improve EU market access in partner countries but also aim to solve some behind the border issues that cannot be tackled by the DDA.

The report published by the European Commission revealed an agenda aiming to influence the forces driving change, to seize the opportunities of globalisation and to manage the risks and challenges posed by the emerging economies especially in Asia and South America.

The FTA strategy constitutes a very important part of this trade policy. The EU already has quite a large number of bilateral deals: the agreements with the EFTA countries, the customs union with Turkey, the goods agreements with the Euromed countries and the preferential arrangements offered to the sub-Saharan African, Caribbean and Pacific (ACP) countries. The EU has also signed FTAs with Chile, Mexico and South Africa. Still, as the recent developments in the world trade system made it necessary for the EU to enhance its access to new markets in order to protect and improve competitiveness of European business, the Commission defined economic criteria, target countries and coverage for future FTAs.

According to the European Commission (2006), the key economic criteria for new FTA partners should be market potential and the level of protection (tariffs and NTBs) against EU export interests. In this sense, the Commission defines ASEAN, Korea and Mercosur as prior FTA partners, and India, Russia and the Gulf Cooperation Council as countries of direct interest.

[1] Since 2000, the US has signed FTAs with Australia, Bahrain, Chile, Jordan, Oman, Morocco, Singapore, Peru and the six Central American members of CAFTA, has just finalized negotiations with Korea, and is currently in negotiations with several other countries.

China, on the other hand, despite meeting many of the criteria, is not defined as a possible FTA partner, but a country of special attention because of the opportunities and risks it presents.

The EU's new FTA strategy aims at the highest possible degree of trade, investment, and services liberalisation, in addition to a ban on export taxes and quantitative import restrictions. The main targets are regulatory convergence, non-tariff barriers and stronger provisions on IPRs and competition. These trade relations could also include incorporating new cooperative provisions in areas relating to labour standards and environmental protection. In this sense, the EU would also have to take the erosion of its existing trade preferences into account when negotiating FTAs, which could translate into sheltering certain products from tariff cuts (ICTSD, 2006).

Initially, the main concern about this new trade strategy was the perception that the EU was shifting its attention from the WTO to bilateral agreements, since bilateral FTAs have been widely criticised for creating a 'spaghetti bowl' of overlapping trade rules that erode the principle of non-discrimination and raise the transaction costs of doing business. However, the strategy report clearly states that there will be no European retreat from multilateralism, the EU remains committed to the WTO (European Commission, 2006, p. 10).

4.3 Trade-related regulatory issues between the EU and Korea

As the previous section on the regulatory reform and regulatory environment in Korea explained, although the reform process has been under way there are still many remaining issues that hinder trade. More often than not, these issues have not taken the form of formal complaint either with the European Commission or with the WTO dispute resolution body. As the tariffs around the world are already progressively lowered, non-tariff barriers are rising as the most significant and cumbersome barriers to trade to deal with. The non-tariff barriers can be in the form of quantitative restrictions such as quotas or technical regulations and standards.[2] While the quotas are the most transparent and strictest form of NTBs, regulations can be difficult to identify due to lack of transparency.

In this section, we examine both formal and informal trade disputes that have arisen between the EU and Korea due to non-tariff barriers. The aim of this exercise is two-fold. First, this will simply help identify what kinds of non-tariff barriers exist between the two potential FTA partners. Second, an examination of current topics of disputes is necessary in order to identify whether these non-tariff barriers, quantitative or regulatory, can be effectively addressed in an FTA.

Below we first identify the sectors in which the EU and Korea had a trade dispute due to non-tariff trade barriers where a formal complaint was filed with the European Commission or the WTO dispute settlement body.

Disputes filed with the European Commission

The first official trade dispute between the EU and Korea was in the cosmetics sector, concerning perfume and toiletries. On 2 April 1998, COLIPA (European Cosmetic, Toiletry and Perfumery Association) lodged a complaint concerning three obstacles to trade in the cosmetic market of Korea: conformity assessment procedure, administrative tracking products and the authorisation procedure for advertisements.

[2] The quantitative restrictions may be in the form of import quotas, prohibitions, non-automatic licensing, customs measures, import surcharges, voluntary export restraints and prior authorisations (Andriamananjara et al., 2004).

Other additional barriers (like labelling procedures and non-recognition of an EU inventory of cosmetics ingredients) were also listed.

At the same time the complaint was lodged, Korea introduced new legislation on cosmetics. However, despite some positive changes, the EU argued that the regulation of functional cosmetics in Korea remained complicated, burdensome and potentially trade restrictive.

On 20 June 2005, the EU and Korea agreed together to solve the case on the basis of a European Commission proposal called 'Shared Agreed Objectives'. On 25 August 2006, the Commission and Korean authorities held a technical meeting to discuss the issue. After the technical meeting in August 2006, a series of teleconferences have been held with the aim of closing the case.

Another dispute was in the pharmaceutical sector. On 15 June 1999, EFPIA (European Federation of Pharmaceutical Industries and Associations) lodged a complaint concerning three categories of obstacles to trade in the pharmaceutical products market of Korea: discrimination in prices, excessive regulatory requirements (toll manufacturing and manufacturing licenses acting as restrictions, requirements to duplicate clinical trials already conducted outside Korea) and IPR (intellectual property rights) issues.

At that time, the Korean regulatory system was going through a period of reform, so it was difficult to check the existence of WTO violations. Despite the reforms, American and European firms still encountered many problems in market access, as reported by several monitoring missions carried out by the Commission.

In May 2006, the Korean government announced the introduction of the 'positive list system' for reimbursement and pricing of drugs. As these new measures are likely to improve access barriers, during the EU-Korea Joint Committee meeting on 19 June 2006, the Commission Services submitted many questions to the Korean authorities and has also requested a meeting to discuss the issue.

In October 2000, CESA (Committee of European Union Shipbuilders Association) lodged a complaint concerning adverse trade effects suffered by European shipbuilders resulting from subsidies and other benefits granted to Korean companies in the sector, in violation of Articles 3 and 5 of the WTO SMC (Subsidies and Countervailing Measures) Agreement.

The investigation of the Commission established that:

- KEXIM (the state-owned Export-Import Bank of Korea) guarantees refunds and pre-shipment loans to Korean shipyards;
- Korea has granted subsidies through debt forgiveness, debt-for-equity-swaps, and interest relief;
- Daewoo Shipbuilding and Marine Engineering has benefited from two kinds of special tax concessions under the Special Tax Treatment Control Law (special taxation on in-kind contributions and special taxation on spin-offs); and
- These practices are in violation of Articles 3 and 5 of SMC Agreement.

It was also established that the negative effects suffered by the European shipbuilding industry in the period of the investigation were indeed caused by the above subsidies. The Commission discussed the matter with the Korean authorities, but no solution was reached. The Commission therefore initiated a dispute settlement proceeding against Korea within the WTO Dispute Settlement Understanding.

Disputes filed with the WTO

After European shipbuilders accused Korea of heavily subsidising its shipbuilding industry following the Asian crisis, the EU moved the dispute to the WTO in 2002.

The WTO panel found that certain KEXIM (Export-Import Bank of Korea) guarantees under the APRG (Advance Payment Refund Guarantee) programme and certain KEXIM loans under the PSL (Pre-Shipment Loan) programme were prohibited export subsidies under Articles 3.1(a) and 3.2. However, the panel rejected the Commission's claims that debt restructuring of Korean shipyards qualified as subsidies or that shipyards received subsidies in the form of tax concessions. Thus, the panel concluded that there was no causality effect between the subsidised APRG and PSL transactions and negative effects suffered through price depression by the EC shipyard industry. Still, the panel report that was adopted on 11 April 2005 recommended that Korea withdraw the individual APRG and PSL subsidies within 90 days (WTO, 2006).

Following that dispute, this time Korea filed a complaint about the Temporary Defensive Mechanism for Shipbuilding (TDM Regulation) of the EU. The panel found that TDM Regulation was covered by GATT Article III:8 (b), and the EC decisions authorising the schemes were not inconsistent with GATT Article III:4. However, the Panel concluded from the conditions imposed before an aid may be granted that with the TDM the EC was seeking to induce Korea to stop alleged subsidisation of its shipyards and therefore did not respect its obligation to use exclusively the WTO dispute settlement system to solve its dispute over Korean subsidisation of shipyards (DSU Art. 23.1). The panel report was adopted on 20 June 2005, by which time the TDM had ceased to exist.

The most recent WTO dispute between Korea and the EU concerned Dynamic Random Access Memory (DRAM) chips, where Korea complained about the EU's final countervailing measures on imports of DRAMS chips from Hynix company of Korea.

The panel report, completed on 3 August 2005, concluded that the EU's finding that some Korean subsidies programmes constituted 'financial contribution' and were inconsistent with ASCM Article 1.1 (a), and the EU failed to prove the existence of a benefit from the financial contribution under one of the programmes and miscalculated the amount of benefits conferred. The panel also found that the EU acted inconsistently with Article 15.4 by taking into account 'wages' in its calculation of all relevant economic factors. The EC implemented the DSB ruling and recommendations with the adoption of Council Regulation (EC) No 584/2006 (published in the Official Journal No L 103 of 12 April 2006).

Informal or potential trade disputes due to NTBs that have been raised by stakeholders

There are other non-tariff barriers in various sectors that constitute trade barriers between the EU and Korea that have been raised by stakeholders (both by EUCCK and CEPS questionnaire respondents). Although the list below is not exhaustive, it points out to the significant NTBs that are of interest to European exporters.

Agriculture, fisheries and agrochemicals

- *Additive certification*: Certain types of products are defined as dietary products and they cannot contain food additives even if they are allowed in the EU and the US. The additive list is extremely restrictive and the approval procedure for food additives is burdensome and slow to the importers. Korea also does not recognise tests and certifications of the exporting countries.
- *Codex standards in cheese products*: Korea has not recognised the cheese categorisation under Codex standards.
- *Labelling for wine and spirits*: Korea's labelling requirements for alcohol products are much more demanding than those provided for in the Codex standards, in order to apply different taxes on different distribution channels. Thus, it becomes very difficult to label and

to export 'niche' products, such as specialised spirits. This labelling regime is incompatible with existing WTO rules on the Technical Barriers to Trade (TBTs).

- *Excessive food quarantine*: Food products have to undergo a 25-day quarantine inspection, which is valid each year for the same product coming from the same exporter.
- *Tea moisture*: An excessively strict rate of moisture is applied to the import of tea and herb products.
- *Caffeine in foodstuff*: There is a lack of homogeneity between Korean and international standards and food categorisation, which leads to difficulties in importing foods containing caffeine.
- *Testing for dairy products*: In dairy products, highly frequent random tests take a long time and make exports burdensome.
- *Restrictions on additional warehouses*: Unlike local distributors, liquor importers do not have the right to have additional warehouses at sites they choose.
- *Local water quality subsidy tax*: This tax aims at conserving the domestic water supply but is collected from both domestic bottled and imported water. As imported water has neither direct nor indirect environmental impact or correlation with local water supply, this tax is discriminatory.

Electronics

- *Certification*: Korea does not recognise international standards and classifications, thus local certification process is too long.

Cosmetics

- *Registration and approval problems*: The registration procedure is time-consuming, repetitive and costly.
- *Labelling on packaging*: There are several restrictions against foreign language indications on packaging, challenged as excessive advertising, and also companies are often not allowed to deliver information through labelling in creative way.
- *Functional cosmetics*: In 2000, Korea introduced a special category called 'functional cosmetics', which requires pre-market approval for four to six months on average. This category causes difficulties especially for many anti-wrinkle products and should be removed in terms of the EU-Korea Cosmetic Agreement adopted in 1999.
- *Quality management*: A very expensive and burdensome quality control process is required, instead of recognising manufacturing companies' quality management system.
- *Narrow definition of cosmetics*: The category of cosmetic products does not include deodorant, slimming, anti-acne and hair-dye products, and these products cannot be sold freely as cosmetic products.

Pharmaceuticals

- *Certification*: Despite progress, there are still many delays in achieving harmonisation (as aimed by the International Conference on Harmonisation (ICH) of Technical Requirements for Registration of Pharmaceuticals for Human Use).
- *IPRs*: There is not an effective legislation on regulatory data protection. There should be a data protection legislation ensuring at least ten years of protection to the originator's product, and this data protection should be available irrespective of patent protection of the

product. It is also mentioned in the recent report by EUCCK (2007) that in order to ensure the implementation of IPR in Korea, Supplementary Protection Certificate (SPC) and 'patent linkage' may be helpful tools in the pharmaceuticals sector. SPC system is enforced in all EU member states (as well as EFTA states) that enables the company to maximize its investment into R&D. Patent linkage is another method that would improve Korea's respect for IPR in this sector. Basicly, patent linkage ensures that a drug registration does not infringe upon a patent.

Construction and engineering

- *Dredging*: Registration practices required to conduct business in the internal market are economically impossible for many foreign companies to comply with.
- *Standards*: Korean standards are often derived from American standards, and this constitutes a barrier for European companies due to lack of harmonisation in elevator safety standards and lack of recognition in European light equipment standards.
- *'Black list' on public projects*: Public projects require import substitution for all items that can be manufactured in Korea, and so foreign items cannot be promoted.

Financial services and banking

- *Issuance of bonds*: Korean authorities still do not recognise the 'global equity concept'. The operation of foreign banks is restricted as well; for instance, foreign bank branches are not allowed to issue bonds in local currency.

Automotive

- *Regulation on noise certification*: In Korea, the same noise test as international standards is used, but laws and regulations operate differently in terms of test vehicles, selection standards and the number of tests performed, which are stricter.
- *Breadth of vehicles*: Not consistent with international standards.
- *Absence of ownership titles for motor vehicles*: The legal status of motorcycles is differently considered than that of automobiles, and it levies taxes as registration and acquisition fees.
- *Self-certification and safety standards on passengers cars*: New technology innovation, even if already in use, cannot be introduced because of a lack of regulation; acceptance of the US Motor Vehicle Safety Standards in terms of bumper test standards, but not of the European one, even if it is as stringent as the US one; theft protection regulation does not reflect the current technology systems.
- *On-Board Diagnostic (OBD) System*. Since 1 January 2005, the US OBD II standards for gasoline passenger cars are gradually applied (phase-in periods). EU OBD is not accepted. This discriminates against cars produced by European manufacturers as due to their low volume (20,000 units), costs for changing the engines to comply with US OBD II are much higher than those for Korean car manufacturers to comply with EU OBD (export volume: 500,000 units).

Asset manager industry issues

- *Offshore funds*: Requirements for offshore funds registration are time-consuming and inefficient; there is no parity in tax treatment between offshore and domestic funds.

- *Overseas managers*: Requirements for overseas managers should be adjusted to allow more efficient registration and application.

Legal services

- *Lack of openness*: Despite recent formal progress, the Korean legal services market is still not liberalised, and according to EUCCK, it is virtually impossible for a foreigner to pass the Korean bar exam.
- *Legal services market issues*: A disproportionately small number of Korean lawyers are experienced in financial transactions and there is a lack of personnel with expertise in international finance. The foreign law advisory capability is also weak.

Intellectual Property Rights

- *Computer software industry*: The leniency of the judicial system for illegal software distributors and for individuals sharing files provides no safeguard for the game industry.

The above issues that are raised in each sector as evidence of Korean protectionism provide anecdotal evidence and to quantify the actual trade costs from these NTBs are usually difficult. Usually, in trade literature one can infer these costs by the use of econometrics. One common method to estimate the trade costs between two countries in a specific sector is the gravity models. In Annex 3, we use gravity models to estimate the level of protectionism in a number of sectors (11) in Korea. Overall results indicate that Korea, given its level of openness, does not appear to be a particularly protectionist country. Especially, regarding its trade with the EU, we find no absolute evidence that Korea is discriminating against the EU (vis a vis other countries) in any sector, including the automotives. One reason for lack of evidence of protectionism in the Korean economy may be due to the assumptions made on the Korean 'home bias' dummy. Further details and the tables are included in Annex 3.

Trade-related regulatory issues between the EU and Korea: A Korean perspective

Value-added taxes and excise duties apply to imports (VAT also applies to services); these rates are set by the member states and are not harmonised at the EU level. In addition the European Community remains an important user of contingency trade remedies, such as anti-dumping duties and countervailing duties. The European Community maintains import licenses on grounds of surveillance, quota management and safeguards. Moreover, technical regulations, standards, and sanitary and phytosanitary measures have not been fully harmonised among member states.

Among the trade-related regulatory measures mentioned above, the greatest challenges that Korean companies are facing in the EU market are said to be anti-dumping measures and technical barriers to trade. Therefore, in this section we review the regulatory issues in the EU market focusing on those measures mentioned above.

As of October 2006, five anti-dumping (AD) measures have been imposed on Korean products, such as PET chips, colour TVs and refrigerators. In addition, countervailing duties are imposed on Hynix DRAM, one of the Korea's major exports.

Table 4.3.1 Trade remedy measures imposed by the EU on Korean products

		Products (expiration date)
Anti-dumping	Imposition of duties (5 cases)	PET chips (Dec. 1, 2005), Steel (Aug. 2007) Colour TVs (Aug. 2007), PSF (Mar. 2010) Two-door refrigerators (Sep. 2011)

	Under investigation (2 cases)	Colour TV picture tubes (initiated in Jan. 2006) Circumventing practice of Silicone metal produced in China (initiated in April in 2006)
Countervailing duties	Imposition of duties (1 case)	Hynix DRAM

On the other hand, another main area in which Korean companies claim to experience difficulties concerns technical barriers to trade (TBT). Under the EU's legislation, the manufacturer must affix the 'CE' marking on the product to indicate conformity with the applicable EU requirements, without which the product cannot be placed on the EU market. Even though the 'CE' marking is for the health, safety and environmental objectives, the steps and costs a manufacturer must take in order to affix the 'CE' marking impose a burden on the Korean exporters who consider the marking system, in practice, as a technical barrier to trade. Korean exporters contend that it takes on average 2-3 months for electronic products to affix the 'CE' marking and 7 months for automobiles.

In addition, full harmonisation of standards and technical regulations in the EU has not been achieved. Products placed on the market of a member state must comply, where necessary, with relevant national and Community-wide legislation. In non-harmonised areas, the EU is required to provide increased transparency, and to prevent unjustified restrictions to trade. In particular, the standardisation of existing informal requirements in the information and communications technology industry is a main issue. Korean firms contend that the EU is required to improve efficiency, coherence and visibility of European standards, and their regulatory framework, including the transposition of international standards into the EU framework.

References

Andriamananjara, S., J.M. Dean, R. Feinberg, M. Ferrantino, R. Ludema and M. Tsigas (2004), *The effects of non-tariff measures on prices, trade and welfare: CGE implementation of policy-based price comparisons*, Office of Economics Working Paper No. 2004-04-A, US International Trade Commission, Washington, D.C.

European Commission (2006), *Global Europe:Competing in the world*, Commission Staff Working Document, DG Trade.

Lamy, Pascal, (2002), "Stepping Stones or Stumbling Blocks? The EU's Approach Towards the Problem of Multilateralism vs Regionalism in Trade Policy", *The World Economy*, Vol. 25, pp. 1399-1413.

WTO (2006), WTO Dispute Settlement: One-Page Case Summaries, 1995-September 2006, Geneva.

5. Potential Economic Effects of Deep Integration

5.1 Gravity and CGE modelling of a Korean/EU Free Trade Agreement

While theoretical models can assist us in understanding the economic effects of a Free Trade Agreement (FTA), theory alone cannot provide clear answers as to the likely economic effects of any particular FTA. This is, in part at least, because the various effects of such an agreement do not all carry the same sign: some are beneficial (to one or both parties), others are detrimental. For this reason, a combination of empirical analysis and simulation modelling is needed.

Before discussing these types of modelling, it is worth first summarising the various types of potential welfare effects from an FTA. Taking, particularly, Baldwin & Venables (1995) as a model, the following (incomplete) list probably summarises the most important effects.

Effects in traditional neoclassical trade theory

1. **Trade creation:** A FTA benefits trade by allowing firms and individuals to take advantage of differences in comparative costs between countries. This is a positive welfare effect.
2. **Trade diversion:** If the removal of tariffs or non-tariff barriers (NTBs) between a pair of countries leads to trade that was formerly taking place with third parties being diverted to within the FTA, then there will potentially be costs of trade diversion. These costs will certainly be felt by the third party country, but trade diversion may also adversely affect the new FTA members if the difference in trade barriers between trade within the FTA and trade with third parties is great enough, and if the cost differential is large enough. A priori, one might expect trade diversion to be costly where two countries that do not initially trade much form an FTA, while maintaining high trade barriers against outsiders. On the other hand, if trade barriers with the outsiders are also being reduced (for example by other FTA agreements), then the FTA may not result in trade diversion.

Effects in newer trade theory

3. **The 'love of variety' effect**: Consumers benefit from being able to spread their expenditure across a wider variety of goods (Krugman, 1979), or being able to buy at lower cost goods to meet specialised individual taste (Lancaster,1979).
4. **The competitive (profit margin) effect**: In imperfectly competitive sectors, firms will charge lower profit markups (with correspondingly lower welfare cost) where they face keener competition. This is generally the case where it is easier for foreign firms to enter the market after an FTA is formed. There is also a related **bargaining effect** in some models, where keener product market competition restrains union wage-setting.
5. **The scale effect (Krugman, 1979)**: Firms may be able to reap economies of scale after an FTA is formed, by operating at a bigger scale across two markets. For this to happen, there has to be a shakeout of some existing capacity.
6. **The profit shift effect**: In an imperfectly competitive model, the prices charged by firms exceed marginal cost. Consequently, if the foreign country raises its market share in the importing country following an FTA, foreign firms will gain higher profits, at the expense of local firms. There will therefore be some redistribution of income between members of an FTA.
7. **Capital movement:** If an FTA results in expanding demand, and this raises returns on capital, then capital may flow into the FTA. This is particularly true in studies of previously isolated regions joining an FTA (such as the EU accession states). The GDP gains need to be weighed against the opportunity costs of this capital.
8. **Firm selection:** This is currently the subject of much theoretical and firm-level analysis (notably Ghironi & Melitz, 2005 and Bernard et al., 2004), but has rarely been incorporated into CGE studies. In models where firms are heterogeneous, increased

foreign competition drives high-cost local producers out of the market (while the efficient firms may survive). At the same time, there are typically fixed costs of entering a foreign market: lowering these costs results initially in a rise in output by only the more efficient local firms (who start exporting). However, eliminating barriers which were initially low may have the opposite effect (enabling relatively less efficient producers to start exporting).

Inferences that can be drawn from modelling

Any modelling work is limited by the model structure, the theoretical assumptions made and the data used.

Gravity models as tools for analysing FTA and FTA+ agreements

A gravity model is essentially a set of descriptive/analytical tools for understanding an observed trade data set. As such, it is different in aims and kind to a computable general equilibrium (CGE) model, which makes more theoretical assumptions, but is capable of predicting counter-factuals. A CGE model may be derived in ways that are consistent with a gravity model, and may derive some of its parameters from a gravity study.

A gravity model consists of an econometrically-estimated set of equations, in which trade is seen as depending positively on output in the exporting country and consumption in the importing country and negatively on the distance between them (which is seen as a proxy for transport and communication costs). Tariffs may also be incorporated in the model, while other factors, such as membership of economic blocs, language ties, historic ties (e.g. British Commonwealth), the presence of sizeable migrant communities, etc. can be included in the form of dummy variables. A basic gravity model format might well be:

$$\ln X_{ij} = A + b \ln GDP_i + c \ln GDP_j - d \ln D_{ij} + \sum_z Dum_{zij} + \varepsilon_{ij}, \quad (1)$$

where X_{ij} is exports from I to j, GDP_i is the exporting country's GDP, GDP_j is the importing country's GDP, D_{ij} is great circle distance between the two countries' capitals and Dum_{zij} is one of a number of dummy variables. Where the equation is estimated for a particular industry, GDP of the exporting country should be replaced by volume of output in that industry, while GDP of the importing country is replaced by consumption. The New Trade Theory (Bergstrand, 1989; Eaton & Kortum, 2002 and Anderson & Van Wincoop, 2004) would predict that a gravity model should be a good approximation of trade between a pair of countries, with parameters b and c are close to unity. However, it is worth noting that a gravity model is also consistent (on various assumptions) with more traditional, neoclassical theory (Deardorff, 2001), so a good fit to estimated gravity models does not, of itself, prove that trade is driven by the 'love of variety' and imperfect competition.

Although equation (1), above, is a static, cross-sectional equation, estimated on a cross-sectional group of countries, dynamic panel versions of the model are increasingly common, taking account of the fact that trade flows take time to adjust to changes in income, tariffs or trade bloc membership.

In the case of preferential trade agreements, there are two main avenues for using a gravity model:

a. The first approach estimates the gravity model simply upon trade volumes. In this case, we are comparing Korea's trade with the EU against Korea's trade with other countries. The usual inference drawn from this approach is whether a country is '*overtrading*' or '*undertrading*' with a particular partner – in other words, whether its export or import volumes exceed or fall short of those which the model would predict, if trade were in line with that of other countries (ignoring country-specific dummy variables). If a country is 'undertrading' with a particular partner, then trade liberalisation is likely to be trade creating (beneficial to welfare) rather than trade diverting (harmful to welfare). Again, if

the country's overall trade (with all other countries, taken as a group) is low relative to what its GDP and its location suggest, then again we might expect an FTA to be more likely to be trade creating. However, these are simply indications, not welfare calculations – to get a formal welfare analysis, partial or general equilibrium modelling is required.

b. The alternative approach follows more from Trefler (1995) and McCallum (1995), though its origins go back to Bergstrand (1989). This is to estimate the model on sales by all countries (including home sales in the domestic market), so that the gravity model not only contains dummy variables for trade with foreign countries, but also a *home bias* dummy, reflecting the degree to which domestically-produced goods and services outsell imports, even when account is taken of tariffs, transport costs etc. This home bias inevitably turns out to be very large, usually dominating all other dummies. The inference is that, even if Korea (say) is 'overtrading' with the EU (on the more traditional gravity methodology) compared to with other countries, it is greatly 'undertrading' with the EU compared to the amount it trades with itself. An implication of this is that the dangers of trade diversion are far less than traditional gravity studies imply.

Gravity inference based upon overall aggregate trade volumes and overall GDP may also be misleading, in the sense that, while the gravity model is consistent with the inter-industry trade patterns in qualitatively differentiated products seen between advanced countries, it is not so easily reconciled with trade driven by comparative advantage (typically that between advanced and developing countries). This criticism does not apply to more sectorally disaggregated studies (e.g. Trefler, 1995).

Gravity models as an input to CGE models

Sectorally disaggregated gravity models can also be used to infer parameters for CGE modelling (see LeJour et al., 1997 or Edwards, 2007), particularly for technical barriers to trade (Maskus & Wilson, 2000), which are not easily inferred by other means. Essentially, the gravity modeller derives these barriers as a residual, by fitting a dummy variable for membership of an FTA or other economic bloc. Typically, three types of dummy are fitted: 1) both countries belong to an economic bloc, 2) the exporter belongs to the bloc, but the importer does not and 3) the importer belongs to the bloc, while the exporter does not. These can then be converted into 'iceberg' trade cost equivalents, based on the assumed trade elasticities in the CGE model. Usually, if both countries are members of a trade bloc, these trade costs are lower than when neither is a member. Where one country is a member and the other is not, trade costs may be lower or higher than when neither is a member (and this should indicate whether a 'deeper integration' agreement would be expected to be trade-creating or diversion).

Gravity models of Korean trade

The first gravity study we have available is that carried out by Copenhagen Economics (2007) on the services sectors. Their summary regression, based on GTAP data, is attached. The relevant coefficients are the country dummies for trade with EU25 and EFTA, which are negative and significant, indicating that Korea 'undertrades' with these countries. However, the corresponding dummies for most other areas are also negative (with the exception of Other Oceania, Philippines, Sri Lanka, Other Southeast Asia and Other Europe). If Korea undertrades with Europe, it is undertrading even more with the NAFTA countries, China and Japan. A tentative conclusion would be that this does not indicate that an FTA with Europe should be a major priority for Korea in this area. The main use Copenhagen make of this coefficient is to derive an implicit trade cost, which is then removed in some of their CGE simulations.

Another gravity study is by Sohn (2005) on Korea's trade flows. Although this study does not refer specifically to its trade with the EU, its results are interpreted to identify potential FTA

partners for Korea. The general results from the study indicate that Korea has large unrealized trade potentials with Japan and China, suggesting that they are desirable FTA partners.

Finally, the gravity study by Kim (2003) asks the question whether the level of actual trade between the EU and Korea reflect the true potential of EU-Korea trade. His results indicate that EU and Korea are over-trading (given their GDPs and the distance between the two partners) whereas eight of new member states of the EU-25 are under-trading. These results are contradictory to the findings by the Copenhagen study and should be interpreted with caution.

General equilibrium models

CGE models have become the standard tool for analysing international trade agreements. This is because a large-scale trade agreement, whether it takes the form of multilateral liberalisation à la Doha, a customs union, an FTA or an FTA+, has potentially far-reaching effects, both in terms of altering the commodity and geographical structure of participants' (and even non-participants') trade, and of affecting domestic factor markets and government revenues, sometimes significantly. To understand these complex effects requires a large model, combining a sophisticated input-output and trade database (sometimes called a SAM – 'social accounting matrix') and a series of microconsistent behavioural and accounting equations determining the behaviour of the model.

General equilibrium models are generally used for *counterfactual* simulations, analysing how an economy, or set of economies, might have looked in a baseline year if an alternative set of policies had been in place. Advantages of this approach are that they enable us to derive not only a set of disaggregated estimates of trade, production and income changes, but also summary measures of income, welfare and distributional effects.

The value and applicability of such simulations depends on a large range of factors. These can be broadly summarised as:

a. The structure of the model.

b. The choice of database aggregation and

c. The choice of policy scenarios investigated.

Structure of the Model

CGE models vary widely in terms of structure. Even within the class of multi-country models (which are essential for analysing the effects of a discriminatory trade agreement, such as an FTA or FTA+), there is a large variety of possible model specifications or parameterisations. These include the degree of disaggregation and number of levels of nesting of production and consumption functions, and the way in which trade is incorporated into the model, as well as the implicit elasticities which govern how much substitutability there is in production between factors and in consumption between different classes of goods, or goods of different national origin. These elasticities play an important part in governing the behaviour of the model, and so are not simply academic features belonging in footnotes (despite the tendency of recent studies to relegate them to footnotes or appendices – if they are mentioned at all). It is generally considered good modelling practice for a study to carry out sensitivities on the effects of a range of elasticity assumptions.

In addition, models may differ in terms of long-run structure (compared to short-run), and whether or not they incorporate dynamics. Finally, models may differ in terms of the assumed competitive structure of the economy.

Comparing the main types of trade structure: models can be broadly split into neoclassical models, empirical (Armington) models and new trade theory models. These differ fundamentally in terms of the types of trade effects being analysed, and so it is essential, when examining a CGE study, to be aware of which type of model is being used.

a) **Neoclassical models** are based upon the Heckscher-Ohlin model of international trade, where trade is governed by international differences in factor endowments. Labour (skilled and unskilled) and capital are generally taken as immobile across national borders, and technology is a given. There is no two-way trade (hence the model is unrealistic in its ability to explain actual trade patterns). If tariff and transport costs were removed, economies would move largely or completely towards specialisation in the goods in which they have comparative advantage, and (if complete specialisation were not reached) factor prices would be equalised across countries. A variant of the model which produces less extreme specialisation effects, and where factor price equalisation does not occur, is the Ricardo-Viner model, where each sector employs a specific (sectorally-immobile) factor of production. While these models have a strong theoretical pedigree, their inability to correlate to observed trade patterns (particularly two-way trade in the same good) means they are of more interest to theorists than to applied studies.

b) The commonest type of trade models are empirical models, following the **Armington** formulation. This assumes that all sectors, in all countries, are perfectly competitive. However, even within an industry, goods from different countries are imperfect substitutes (Armington effectively assumes that Mercedes and VW cars are perfect substitutes for one another, but are imperfect substitutes for Renaults or Toyotas). This model formulation can easily be calibrated to observed international trade patterns, and is usually fairly easy to compute, as long as substitution elasticities are not too high. Sector-specific factors can easily be incorporated within this model. When trade substitution elasticities are high, the model approaches the neoclassical model in its behaviour. However, with empirically more plausible elasticity ranges, even a relatively small country can manipulate its terms of trade by the use of tariffs, quotas and other tax changes, so that terms-of-trade and optimal tariff effects are important. This makes the Armington formulation an easy and reliable workhorse for analysing these effects.

   Disadvantages of the Armington model include its relatively conservative structure (unless trade elasticities are high, production structures are relatively invariant over time) and its assumption of perfect competition, which means that many of the pro-competitive effects of trade liberalisation are ignored. This means that Armington models tend to give lower estimates for the long-run benefits for trade liberalisation than new trade theory models, and this difference is more marked, where an economy initially has a closed and uncompetitive industrial structure. In addition, the theoretical justification for the Armington assumption is rather questionable.

c) **New Trade Theory** models are based upon the incorporation of imperfect competition (usually in the form of Dixit-Stiglitz monopolistic competition), and so have a stronger theoretical basis than the Armington model. These models are also easily reconciled with gravity models of trade, since the theoretical basis for a Dixit-Stiglitz model produces trade patterns conforming to gravity equations (Bergstrand, 1989). In the short- or medium-run, the number of firms is assumed fixed, which causes trade patterns to move more or less in line with the predictions of an Armington model, although there are pro-competitive effects (trade liberalisation reduces profit mark-ups). In the long run, firms move to countries with comparative advantage, so that trade patterns shift more markedly. Where product variety also feeds through into inputs, the model has potential agglomeration economies and path-dependency effects, so that the sequencing and timing of trade liberalisation agreements becomes important (this causes problem with static models, which can have multiple equilibria – including unstable ones). For these reasons, long-run Dixit-Stiglitz models can be harder to compute than Armington models. The long-run effects of trade liberalisation can be much greater than in the Armington framework, although there may also be losers (areas which become marginalised economically).

d) **New advances in trade theory,** such as incorporation of bargaining or firm selection effects, are being investigated by modellers, but are not, as yet, common in these models.

Potentially, these effects mean that policy changes can have still larger effects on economic efficiency than suggested by standard models.

Dynamic versus static CGE models

CGE modelling inevitably involves trade-offs, since very large and non-linear models will only solve with great difficulty. For this reason, it is more important that a model is appropriately designed for the policy questions it is asking, rather than that it encompasses all possible effects.

Until fairly recently, it has been rare to find models which are both dynamic and multi-country in their scope. Consequently, dynamic models have not been suitable for investigating the effects of differential trade policy changes (such as an FTA or a FTA+). In recent years, however, with improved model solution techniques, some dynamic, multi-country models have been built, such as the GTAP-Dyn model.

Perhaps ironically, a dynamic model should be seen as a medium-run model, whereas some types of static model are actually better suited to modelling long-run effects. This is because, in a static model, it is possible to solve for quite a complicated type of equilibrium economic structure, while the dynamic model has to make simplifications (such as using an Armington, rather than a Dixit-Stiglitz trade structure). Consequently, the dynamic model has more difficulty capturing long-run effects of trade policy changes.

The dynamic model is also usually rather ad hoc in its adjustment mechanisms, possibly more akin to a macroeconomic model. This is because, typically, dynamic models need a good deal of sticky adjustment costs in order to ensure that they follow a relatively smooth equilibrium path (if this is not done, the model can jump all over the place, and may not be able to find any kind of stable long-run solution). Smoothing is done by imposing adjustment costs and/or adaptive expectations.

Where a dynamic CGE model has advantages over a static one for trade analysis is in the treatment of the effects of capital formation, capital movements and exchange-rate dynamics. If a trade policy change leads to an inflow (or outflow) of capital to a particular region, this can cause exchange rate fluctuations, and is mirrored in changes in the current account balance in the short- to medium term. Likewise, an investment boom in a particular sector or sectors may be reflected in a short- to medium-run diversion of resources into the construction sector at home. By contrast, a static model generally assumes a fixed trade balance (or maybe a fixed balance after taking account of long-term capital interest), and maintains investment in a long-run relationship to GDP.

GTAP

The Global Trade Analysis Project (GTAP), based at Purdue University, West Lafayette, Indiana, is a multinational collaborative project, pooling the efforts of a high proportion of the world's general equilibrium, trade and environmental modellers. Trade and input-output databases for a large number of sectors are combined according to a common framework (with considerable work carried out by various national teams, as well as the central GTAP team at Purdue, to reconcile national data to the definitions of the central database). The result, in its latest incarnation (GTAP V6) is an unparalleled database for a single year (2001) of input-output tables, national income accounts, trade flows and protection data, taxation and environmental data for the whole world, broken down according to 87 regions and 57 sectors, along with an aggregation package, which enables the subscriber, at the touch of a key, to aggregate these into a customised set of sectors and regions, suitable for CGE analysis.

In addition to the shared database facility, GTAP V6 incorporates a standard, multi-country Armington CGE model. This constitutes probably the most accessible global CGE model, though it should be seen as rather conservative in its scope and structures.

The two CGE studies here utilise more sophisticated variants on the basic GTAP model: the Pukyong study (2005) uses GTAP-dyn, a dynamic variant of the basic Armington model, incorporating adjustments to capital stocks and international capital flows, according to an adaptive expectations framework (see Ianchovichina & McDougall, 2000, for details). The Copenhagen study opts for a different route, using a static model based upon a Dixit-Stiglitz framework of imperfect competition (Francois, 1997).

Trade Costs and 'Deeper Integration in a CGE model'

Trade costs can be divided into four main kinds:

a. Tariffs. These may be specific or (more commonly) ad valorem, and raise revenue for the importing country government, though they also produce a dead-weight cost. Occasionally, there may also be export tariffs.

b. Transport costs. These are a resource cost, and are often measured as 'iceberg costs' (see below), although the GTAP model uses a specific global transport sector. Usually, these are seen as fixed, although they may sometimes be modelled as susceptible to 'trade facilitation' policies, in which specific money is spent on improving ports, airports, road and rail connections, more efficient customs facilities and the like.

c. Formal non-tariff barriers. These include quotas and voluntary export restraints (VERs). Typically they produce a quota rent, which is usually assumed to accrue to the exporter. Very often these are converted into a 'tariff-equivalent', and then simply modelled as a form of (export) tariff. However, this may be misleading, since the tariff-equivalent of the NTB should not be constant. Also, where markets are not perfectly competitive, quotas can have additional anti-competitive effects in the importing country (Bhagwati, 1965).

d. Informal barriers to trade. These include many 'technical barriers to trade' (TBTs), such as customs, testing and labelling procedures and difference in national regulations and standards. The economic analysis of TBTs is in its infancy (see Maskus & Wilson, 2000 and Edwards, 2007a). Probably the most standard procedure for modelling these costs is to infer them by means of a gravity model (see LeJour et al., 1997 and Edwards, 2006). Alternatively, they can be calibrated directly in the case of a Dixit-Stiglitz model, provided information on transport costs and tariffs is available (Edwards, 2007).

Informal barriers to trade are usually treated as real resource costs, and often modelled as 'iceberg costs'. This is despite mounting evidence that, at the firm level, they are better represented by a fixed cost.

'Iceberg costs' (Samuelson, 1952)

The notion of an iceberg cost is a modelling device for dealing with transport and other trade costs. A parallel is with an iceberg travelling across the ocean, where a certain proportion is assumed to melt en route.

The idea is that the monetary value of a consignment of a particular good leaving country A for country B is the same as that arriving in country B. However, the transportation process uses up x% of the consignment. Consequently, only fraction (1-x/100) of the good arrives in country B, and its implicit unit cost is (100/(100-x)) of its price on the quayside in country A.

General Equilibrium Studies of a Korean/EU FTA

The 'Copenhagen Study', 2007

This study was a joint study for the European Commission by Copenhagen Economics and Joe François (Erasmus University). The study utilises the 'imperfect competition' variant of the GTAP model (François, van Meijil & Tongeren, 2005). This model divides sectors into three categories:

i. those with perfect competition (PC) and Armington trade;

ii. those with monopolistic (Dixit-Stiglitz) competition (MC) and

iii. those which incorporate industry-wide scale economies, average cost pricing and Armington trade (IRTS/AC).

Out of the 36 sectors in the model, the classification of these sectors is summarised in the table below. Monopolistically competitive sectors are: other processed foods; beverages and tobacco; paper, pulp, publishing; petrochemicals; chemicals, rubber and plastics; iron and steel; non-ferrous metals; motor vehicles; electrical machinery; other machinery; other manufactures; communications, financial and banking services; insurance; other business services.

Unfortunately, we do not have data on assumed firm numbers or average firm sizes for these sectors.[27] We therefore do not know how much initial welfare loss there is in Korean industry from a lack of competition at home. Nevertheless, bearing this proviso in mind, we would expect trade liberalisation to bring gains from increased product variety and reduced profit mark-ups, the latter being additional to those seen in an Armington model. There are also potential scale-economies from a shake-out of firms, and some potential for gains in some industries from agglomerating in one country.

We should therefore expect the model used to give larger estimates of welfare gains from trade liberalisation than a standard Armington model.

As well as having 36 sectors, the model uses an aggregation of 35 regions. It is therefore a very large data set. Despite this large number of regions, the whole of the EU25 is treated as a single region, which is a possible oversight in the modelling, since it means the study was unable to take account of any potential impacts upon individual countries within the EU. However, given that overall economic impacts on the EU are small, this is probably not a serious flaw.

The baseline of the study assumes a successful Doha round, the accession of China into the WTO and the phase-out of the ATC. The former of these now seems questionable.[28] Since the interaction of various FTAs is an important point to consider in this case, the liberalisation scenarios assume that Korea enters into a number of FTAs[29] simultaneously. This is perhaps unfortunate, since it might have been better to investigate the impact of an EU-Korean FTA individually, in the presence or absence of these other agreements. The first scenario includes a limited liberalisation in agriculture, a full liberalisation in manufacturing and a 25% liberalisation in services. Again, other scenarios might have proved worth investigating: particularly those which vary the relative degrees of liberalisation in manufacturing and in services (given that Korean exports are likely to gain from the former, while EU exporters gain from the latter – there may be issues of bargaining over the relative degrees of liberalisation).

The services sector is assumed to suffer from regulatory barriers, which are inferred from gravity analysis (see above). These are partially lifted in the liberalisation scenarios.

The scenarios analysed are summarised in the following table (taken from Copenhagen Economics, 2007, Table 3.2).

---

[27] These are important assumptions, since the own-price elasticity facing a firm in a monopolistically competitive industry (assuming Cobb-Douglas top-level preferences) is $\eta = S + \sigma(1-S)$, where S is a firm's weighted) market share and σ is the elasticity of substitution. Each firm charges a markup $m = \eta/(1-\eta)$, which generates a deadweight loss which (assuming $\sigma > 1$) increases the larger S is. So economies with few firms suffer larger welfare losses, and gain more from foreign competition.

[28] This was an assumption provided by DG trade.

[29] With the US, Canada, China, India, Japan, ASEAN and EFTA, as well as the EU.

Table 5.1.1 Scenario analysis

		Assumptions			
Scenario		**Food**	**Non-Food**	**Services**	**Trade facilitation**
1	Partial 1 trade agreement	40% tariff reduction	Full tariff reduction	25% services barrier reduction	None
2	Partial 2 trade agreement	40% tariff reduction	Full tariff reduction	50% services barrier reduction	None
3	Full FTA	Full tariff reduction	Full tariff reduction	Full services liberalisation	1% of value of trade

Source: Copenhagen Economics (2007).

Trade facilitation is taken (somewhat questionably) as being a costless alteration of procedures.

A summary of the results (in terms of real income) is shown in Table 5.1.2.

Principal conclusions of the Copenhagen study

1. Korea stands to make significant gains in real income, which increase up to 2.4% of GDP in the most ambitious liberalisation scenario considered.
2. The effect on European incomes is marginal, but generally positive.
3. The biggest income gains come from services liberalisation. This is mainly because the barriers to trade, in this case, are assumed to be real resource costs (whereas the tariffs and quotas applied in other sectors at least generate tariff revenue or quota rent). Services liberalisation raises real incomes in Korea by up to 2%.
4. Services liberalisation leads to a rise in services exports from Europe to Korea, and lowers prices, raises choice and increases competition within Korean services sectors.
5. Trade volumes increase more due to services liberalisation than to the other forms of liberalisation, although manufactures liberalisation also benefits Korean exports to Europe. Korea and Europe are not natural trading partners in agricultural products, with a few exceptions.
6. The big beneficiaries of manufacturing liberalisation are Korean car-makers, with output of electrical goods, iron and steel, non-ferrous metals and machinery also as ‘gains’. The growth of these sectors in Korea is mirrored by a (proportionately smaller) decline in Europe.
7. European exports to Korea only grow if there is significant services liberalisation. In this case, business services, communication, transport and finance all increase exports, taking a good share of the Korean market. Other business services in Korea are the most vulnerable to imports from Europe.
8. Real wages in Europe barely change. Real wages in Korea rise, with the unskilled faring better than skilled wage-earners.

Table 5.1.2 Effects of the various Korea/EU FTA scenarios

Percentage of real income													
	Partial 1 FTA				**Partial 2 FTA**				**Full FTA**				
	Protection				**Protection**				**Trade facilitation**	**Protection**			
	Food	**non-food**	**services**	**Total**	**Food**	**non-food**	**Services**	**Total**		**Food**	**Non-food**	**Services**	**Total**
EU	0	0	0	0	0	0	0	0	0	0	0	0	0
Korea	0	0.3	0.3	0.6	0	0.3	0.7	1	0.1	0	0.3	2	2.4
Percent change in exports value													
	Partial 1				**Partial 2**				**Full FTA**				
	Food	**non-food**	**services**	**Total**	**Food**	**non-food**	**Services**	**Total**	**Trade facilitation**	**Food**	**Non-food**	**Services**	**Total**
EU	0	0.1	0.1	0.2	0	0.1	0.3	0.4	0	0	0	0.2	0.2
Korea	0.5	3.1	2.7	6.3	0.5	3.2	6.3	10	0.2	-0.1	0.6	0.9	1.6
Real wage effects (Korea only)													
	Partial 1				**Partial 2**				**Full FTA**				
	Food	**non-food**	**services**	**Total**	**Food**	**non-food**	**Services**	**Total**	**Trade facilitation**	**Food**	**Non-food**	**Services**	**Total**
Unskilled	0.1	0.5	0.4	1	0.1	0.5	1	1.6	0.1	0.1	0.6	2.7	3.5
Skilled	0.1	0.3	0.2	0.6	0.1	0.3	0.4	0.8	0.1	0.1	0.3	1.1	1.6

Source: Copenhagen Economics (2007).

Table 5.1.3 Sectors gaining and losing most from a full FTA agreement (Copenhagen study)

	EU			**Korea**	
Gainers	Other business services	0.7%		Motor vehicles	28.8%
	Communications	0.3%		Electrical machinery	27.1%
	Transport	0.2%		Iron and steel	18.1%
	Financial and banking services	0.2%		Non-ferrous metals	10.7%
	Other services	0.1%		Other machinery	10.6%
	Trade	0.1%			
Losers	Motor vehicles	-1.7%		Other business services	-23.1%
	Electrical machinery	-1.7%		Communications	-6.7%
	Non-ferrous metals	-1.0%		Beef	-2.25%
	Iron and steel	-0.9%		Other services	-2.4%
	Textiles	-0.6%		Other primary agriculture	-2.3%

Comments

This study is sound methodologically, and takes on board most of the main elements of modern trade modelling. The welfare gains from this type of model are usually larger than in more traditional, Armington models. The estimates of gains to Korea from services liberalisation may, if anything, be even larger than this if the modellers have underestimated the degree of concentration or cartelisation in some Korean service industries.

It is not clear whether capital is mobile in the long run in this model. Korea could gain still more if it becomes a more attractive destination for investment.

Given that services liberalisation is so beneficial to Korea, there is a question as to why the Koreans do not simply liberalise this sector unilaterally.

The Pukyong study (Jong Huan Ko, 2006)

This is a somewhat different study, focusing on the dynamics of Korean adjustment to a trade deal. The model utilised is an 8 region x 16 sector version of the dynamic GTAP model (see box below) It is therefore in the same family of models as that used by the Copenhagen team, but with dynamics added, and without imperfect competition.

Listing of regions and sectors in the dynamic GTAP model

Regions

Korea
EU15
CEEC10 (new EU accession states)
Japan
China
Asean
United States
Rest of the world

Sectors

Electronics
Machinery
Automobiles and parts
Other transport equipment
Textiles and Apparel
Petroleum and Chemicals
Metal products
Processed food
Other manufactures
Trade and business services
Finance and insurance
Communication
Construction
Other services
Agriculture, forestry and fisheries

As discussed above, this set-up means that the Pukyong study is probably less suitable than the Copenhagen study for analysing the long-run impact of liberalisation, but should give an interesting insight into the disequilibrium dynamics of investment, international capital flows and exchange rates. The GTAP database has been supplemented by financial data from the IMF.

The method of solution of the dynamic model is adaptive expectations, which is far simpler to solve than using forward-looking expectations, although it may produce misleading results in some circumstances.

Intermediate inputs and capital are tradable between regions, while labour, land and natural resources are not.

Rates of return on capital across regions are gradually equalised.

The model covers the period 2001-21. The **baseline scenario** includes implementation of the Uruguay Round and the 2004 accession of the CEEC10 into the EU. Other Korean FTAs are not included.

The **policy scenario** is that Korea-EU FTA negotiations will be concluded in 2008 and completed in 2017, with a gradual reduction of tariffs and NTBs over this period.

Tariffs and NTBs on agriculture, forestry and fisheries are phased out over 10 years, as are those on manufactures, while those on textile and apparel are eliminated over 5 years.

Total Factor Productivity in a range of manufactured sectors is assumed to increase in Korea "by 0.1% of import volumes by sector per year for 10 years". **This may well be the main driver of the observed rise in income levels: its derivation is arbitrary, and it is hard to ascribe it to trade agreements.**

Results

1. Korean GDP rises by 2.34% by 2021. As noted above, however, this may be more due to the assumed productivity boost than to the specific trade agreements being investigated.
2. The impact on Korean imports is greater than on Korean exports. This is because Korea becomes an attractive place to invest, leading to a rise in local investment, and a capital inflow (which is matched by a deterioration, in the short term, in Korea's current account balance).
3. Korea's terms of trade rise by just over 0.2% by 2012, and deteriorate thereafter, eventually being somewhat lower than at the start. This pattern is to be expected given the inflow of capital.
4. Korean exports grow fastest in automobiles (+25% by 2021), processed food (+10.5%) and textiles/apparels (+10.5%). Services exports decline.
5. Imports grow fastest in the processed food sector (+24%), followed by automobiles (+14 ½ %), other manufactures (+9%) and textiles/apparels (+8 ½%). The growth of services imports is much less notable.
6. The sectors with the biggest output gains are automobiles (+14%), textiles/apparels (+7 ½ %) and construction (+5% at its peak in 2019, though starting to decline thereafter). The latter reflects the boom in investment in Korea.

Comments

1. A conclusion of this analysis is that the model is really looking far more at the manufactures sector. The derivation of NTBs in services lacks the sophistication of the Copenhagen approach, and one suspects they have largely been ignored. Consequently, this is a more manufactures-driven set of results.

2. The sectoral figures show that trade is increasing in both directions in most of these manufacturing sectors. The gains come from the fact that different countries produce qualitatively different versions of these goods.
3. The similarity of the GDP gain to the Copenhagen model is probably fortuitous. This model does not cover services liberalisation, and does not model the pro-competitive effects looked at by the Copenhagen study. On the other hand, it does assume an acceleration of productivity growth, which is not linked to the trade deals by any formal modelling.
4. The rise in Korean GDP also reflects the increasing use of imported inputs, and the fact that Korea is able to borrow more from abroad (thus allowing higher spending at home).
5. The powerpoint presentation does not reveal the changes in real wages, or in welfare.

KIEP study, 2005

The KIEP study by Heungchong Kim, Chang Soo Lee, Gyun Tae Kim, Jun Gu Gang and Sun Chan Park on the Economic Effects of a Korea-EU FTA is a CGE analysis using GTAP 2001 data. Their model is based on perfect competition and constant returns to scale. This is the most basic framework for analysis but they indicate that they prefer this model since it produces the most stable results. There are many shortcomings of this static model: 1) it does not take into account the mutual correlation between trade liberalisation and economic growth and 2) it cannot accurately reflect lower average costs and increased production due to monopolistic competition.

The CGE model refers to the EU as a whole as well as to individual countries (Germany, France, the UK, the other EU-15 member states, the new EU-10 member states) as well as Japan, China, the US, ASEAN and others (countries) by sector.[1] The economic effects are based on three different scenarios:

- Scenario 1: Complete removal of tariffs in the agricultural and manufacturing sector.
- Scenario 2: Complete removal of tariffs in the agricultural and manufacturing sector, 50% reduction of barriers to trade in services.
- Scenario 3: Complete removal in the manufacturing sector, 50% removal of tariffs in the agricultural sector and 50% reduction of barriers to trade in services.

The KIEP study, unlike the Copenhagen Economics study, uses the Hoekman index to analyse the effects of trade liberalisation in the services sector. Each scenario is analysed both by a static CGE model and a capital accumulation CGE model. While the results from the static model can be interpreted as short-run effects, the results from the capital accumulation model represent long-run effects.

The overall effects are in line with the results of the Copenhagen Economics study. The majority of the tariff-elimination benefits will accrue to Korea since it is more protectionist than the EU to start with. Under the assumptions of Scenario 3, as a result of an EU-Korea FTA, the GDP of Germany, France and the UK may increase by about 0.1% and that of Korea by about 2.02%.

The results of the analysis of sectoral effects (Scenario 3, static model) indicate that as a result of the EU-Korea FTA, Korea's automotive industry will be the largest beneficiary by a production increase of 4.97%. As the Copenhagen study also shows, this sector on the EU side

[1] The sectors included agricultural products, processed food, textiles and apparel, petrochemicals, steel and metal products, motor vehicles, other transport equipment, electronic equipment, machinery, other manufacturing products, construction services, distribution services, transportation and storage services, financial services and other services.

will be negatively affected. Other large gains to Korea will come in textiles, construction, distribution, transportation and telecommunications, finance and business and other services. For the EU, the gains will be in the following sectors: processed food, petrochemicals, machinery, other manufacturing products, construction, distribution, finance and business and other services.

5.2 Lessons from existing deep FTAs

The aim of this section is to examine some of Korea's and the EU's 'deep' FTAs in detail in order to draw inferences on the potential design of a EU-Korea FTA from these agreements.

Korea's existing FTAs

The Korea-Chile FTA

The Korea-Chile FTA was Korea's first FTA experience. Before, Korea has been a strong supporter of the multilateral talks through the WTO and did not pursue a policy of regionalism. The negotiations with Chile started in December 1999, and an agreement (Geneva Agreement) was reached on October 2002 after six rounds of talks. As Korea's first FTA, Korea-Chile FTA represented a major challenge for Korea in terms of dealing with both domestic opposition and resolving issues between the counterparts. The Geneva Agreement is composed of 21 chapters and covers a wide range of issues. The contents of the agreement covers not only goods trade, which include market access, rules of origin, customs procedures, etc., but also, investment and services, trade regulations, intellectual property rights, government procurement, SPS and technical barriers to trade (see box below). Although this was the first FTA that the Korean government had negotiated, this FTA was ambitious and deep and also beneficial to both parties.

Contents of the Korea-Chile FTA

Preamble, Chapter 1 and Chapter 2. Initial Provision and General Definition
Chapter 3. National Treatment and Market Access for Goods
Chapter 4. Rules of Origin
Chapter 5. Customs Procedures
Chapter 6 and 7. Safeguard Measures and Anti-Dumping and Countervailing Duty Matters
Chapter 8. Sanitary and Phytosanitary Measures
Chapter 9. Standards-Related Measures
Chapter 10 and 11. Investment and Cross-Border Trade in Services
Chapter 12. Telecommunications
Chapter 13. Temporary Entry for Business People
Chapter 14, 15 and 16. Competition, Government Procurements and Intellectual Property Rights
Chapter 17 and 18. Transparency and Administration of the Agreement
Chapter 19. Dispute Settlements
Chapter 20 and 21. Exceptions and Final Provisions

Source: Hae-Kwan (2003), p. 77.

This FTA provided the first challenge for the Korean government to negotiate an agreement that would minimise the impact on its agricultural sector, its most sensitive sector, while on the other hand to secure zero tariffs for most of its manufactures in the Chilean market. For example, automobiles, mobile phones and computers were among the products that received immediate tariff elimination. Among the agricultural products, Korea obtained exclusion for sensitive items such as apples, pears and rice. Besides these exclusions, Chileans achieved greater access to the Korean market for their agricultural goods. On the Chilean side, their exclusion list included such sensitive items as refrigerators and washing machines.

Table 5.2.1 Chile's tariff elimination schedule (unit: based on Chilean 8-digit HS codes, %)*

Category	Total	Industrial products	Farm products	Forest products	Marine products	Main description
Year 0	2,450 (41.8)	1,478 (30.6)	677 (92.9)	96 (100)	199 (99)	TVs, vehicles, PCs, cellular phones
Year 5	1,994 (34.1)	1,992 (41.3			2 (1.0)	Polyethylene, vehicle parts
Year 7	14 (0.2)	14 (0.3)				Oil or petrol-filters
Year 10	1,190 (20.3)	1,180 (24.4)	10 (1.4)			Electric accumulators, cleaner
Year 13**	152 (2.6)	152 (3.2)				Textiles, clothing
E***	54 (1)	12 (0.2)	42 (5.7)			Washing machines, refrigerators
Total	**5,854**	**4,828**	**729**	**96**	**201**	

* Item categorisation, Harmonised System (HS) code modification may lead to a change in the number of item.

** Liberalisation over a transitional period of 13 years, with the elimination starting from the sixth year.

*** Customs duty applied shall not be eliminated.

Source: Hae-Kwan (2003), p. 78.

As can be seen in the above tables, the tariff elimination schedule for Chile is straightforward for agricultural, fisheries and forest products with an immediate elimination of tariffs. On the other hand, there are five categories of tariff-elimination for manufactured products. The Chilean side offered immediate elimination of tariffs on 31% of manufactured goods, elimination after five years on 41% of products, elimination after seven years on 0.3% of products, elimination after ten years on 24.4% of products (electric accumulators, cleaners) and elimination after 13 years on 3.2% of products (textiles, clothing).

Table 5.2.2 Korea's tariff limitation schedule (unit: Korea's 10-digit HS codes, %)

Category	Total	Industrial products	Farm products	Forest products	Marine products	Main description
Year 0	9,740 (87.2)	9,101 (99.9)	224 (15.6)	138 (58.2)	277 (69.5)	Mixed feeds, pure-bred breeding animals, silk fabrics, coffee
Year 5	701 (6.3)	-	545 (38.1)	70 (29.5)	86 (21.5)	Bracken, roses, bean curd, wine, almonds
Year 7	41 (0.4)	1 (0.01)	40 (2.8)	-	-	Fruit juice, prepared fruit, meat of poultry or heading, soup, potatoes
Year 9	1 (0.01)	-	1 (0.07)	-	-	Other fruit juices
Year 10	262 (2.3)	-	197 (13.8)	29 (12.3)	36 (9.0)	Tomatoes, pork, cucumbers, kiwis
10S*	1 (0.01)	-	1 (0.07)	-	-	Grapes
Year 16	12 (0.1)	-	12 (0.8)	-	-	Prepared dry milk
TRQ** + DDA***	18 (0.15)	-	18 (1.26)	-	-	Beef, chicken, mandarins
DDA	373 (3.3)	-	373 (26)	-	-	Garlic, onions, red peppers, dairy products
E****	21 (0.2)	-	21 (1.5)	-	-	Rice, apples, pears
Total	**11,170**	**9,102**	**1,432**	**237**	**399**	

* Liberalisation over a transitional period of 10 years on a seasonal basis.

** Liberalisation with tariff quota.

*** Tariff elimination schedule shall be negotiated after the end of the Doha Development Agenda of the WTO.

**** Customs duty applied shall not be eliminated.

Source: Hae-Kwan (2003), p. 82.

The Korean side had a more complicated elimination schedule: immediate elimination, five-year, seven-year, nine-year, ten-years and sixteen years, as well as seasonal tariffs (liberalisation over a transitional period of ten years on a seasonal basis), tariff quota plus negotiation after Doha, discussion after DDA and exclusion list. This complex tariff elimination schedule was mostly constructed to provide the minimum impact to the Korean agricultural sector products. The Korean government offered to eliminate tariffs on nearly 100% of manufactures immediately. The Koreans agreed to eliminate tariffs on processed fruit, foods and groceries through seven-to-sixteen-year elimination schedule in order to give the producers an adjustment period. Such products like beef and chicken for example were given tariff free access up to a quota (and the quota limit to be negotiated after DDA). Rice, apples and pears were left out of the FTA with current rate of tariffs.

In terms of investment liberalisation, both parties agreed to provide national and most-favoured nation (MFN) treatment to the investments from the other party. The scope of investment was expanded to include all kinds of investment including direct and non-direct investment. Investment protection for financial institutions such as banks, insurance companies, savings and finance companies was left intact for another four years after the signing of the FTA to be re-negotiated.

In services, an institutional system was agreed to be installed to ensure national treatment for service providers and to avoid restrictive measures while promoting trade in services between the two countries (Hae-Kwan, 2003). The services sector remained closed in non-commercial public services, finance, airliners, government procurement and subsidies.

In terms of trade regulations, the parties agreed to establish safeguard measures only to agricultural products. These measures allowed any party to stop the FTA tariff reduction or increase tariffs up to the MFN rate in case of severe injury or market disruption. These measures included a cooperation agreement to ensure competitiveness rules. In terms of dispute settlement, parties could choose either from FTA or WTO in cases where the dispute fell under both.

There was a clause included on opening the government procurement to liberalise this market with certain restrictions. To strengthen the protection of intellectual property rights, the parties agreed to enforce IPRs, including well-known trademarks. Some products such Korean Ginseng, Korean Kimchi and Boseong Tea for Korea and Pisco and other related products for Chile were included under the protection of geographical indicators.

On the general regulation of rules of origin, specific rules were based on other FTAs, such as NAFTA and the EU-Chile FTA. The scope of country of origin was defined to provide preferential tariff treatment to mostly industrial goods while, in the agricultural products the aim was to prevent imports via a third country.

Korea-EFTA FTA

The FTA between Korea and EFTA countries was Korea's first FTA with not only European but also developed countries. The negotiations were carried out in four rounds of talks and were completed within nine months. The agreement was signed on 15 December 2005 and it entered into force on 1 July 2006. As well as the basic tariff elimination on goods, the agreement covers services, competition, government procurement, intellectual property rights, dispute settlement, and separate agreements on investment between Korea and Iceland, Liechtenstein and

Switzerland. There were bilateral agreements on agricultural products between Korea and EFTA states.

Contents of the Korea-EFTA FTA

The agreement consists of ten chapters with 13 annexes:

Preamble

Chapter 1. General provisions

Chapter 2. Trade in goods

Chapter 3. Trade in services

Chapter 4. Financial services

Chapter 5. Competition

Chapter 6. Government procurement

Chapter 7. Intellectual property

Chapter 8. Institutional provisions

Chapter 9. Dispute settlement

Chapter 10. Final provisions

Annexes

The tariff elimination was immediate for most industrial goods and fish and marine products. The agreement also ensures that there will be no new customs duties or other duties or charges on imports and exports between the parties. There was a transitional period of customs duty elimination in maximum seven years for some products for Korea (e.g. petroleum and oils were excluded from the agreement to be renegotiated after three years) but 99.1% of industrial products are covered under the tariff elimination schedule so this is the highest level of liberalisation achieved by Korea. All import and export restrictions were eliminated, and parties applied national treatment to each other according to Article III of the GATT 1994. SPS measures were to be governed by the WTO Agreement on application of Sanitary and Phytosanitary Measures. For technical regulations, standards and conformity assessment, the WTO Agreement on TBT was binding. The agreement provides for liberal rules of origin and in the production of certain products up to 60% of non-originating input is allowed in production.

There have been three bilateral agreements signed for trade in basic agricultural products with Iceland, Norway and Switzerland/Liechtenstein and Korea.

The trade in processed agricultural products was covered in the annex. Some products were classified as ‘B2’ and some as ‘B4’. For the products in the B2 (e.g. some fish products) category, the customs duties were gradually eliminated in six equal steps, the first step taking effect on the date of the entry into force of the agreement, and each year until 2011. For products indicated as ‘B4’ (e.g. alcoholic drinks), the gradual elimination was to happen in 11 steps starting on 1 January 2007, until January 2016.

The agreement includes a general section on trade in services and various issues are such as market access, national treatment, domestic regulation, movement of natural persons, monopolies and exclusive service suppliers and transparency, etc were all covered under the appropriate Articles of the GATS and were directly incorporated into the Agreement. Some other issues were covered under the annexes such as: specific commitments, most-favoured nation (MFN) exemptions, mutual recognition, telecommunication services and co-production of broadcasting programmes. The agreement covered all four modes of delivery of services, as defined under GATS. As in GATS the positive list of specific commitments of each party are taken as basis.

Trade in financial services was covered in a separate chapter. Most provisions and definitions were incorporated from the GATS, including most-favoured national treatment, market access, national treatment, domestic regulation, movement of natural persons, payments and transfers, transparency and dispute settlement.

The chapter on competition acknowledges that anti-competitive business conduct may hinder the benefits from this agreement. To this end, each party takes responsibility to remove anti-competitive business conduct from their respective competition laws. If required, competition authorities may consult each other to facilitate the removal of anti-competitive business conduct.

Both parties agree to take the WTO Agreement on Government Procurement as the basis of their agreement on government procurement. The parties agree to exchange information to facilitate communication.

The chapter on intellectual property rights covered areas such as patents, trademarks, geographical indications (including appellation of origin) and copyrights. The agreement covers a wider area than the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). A joint committee was established to supervise and administer the agreement.

The chapter on dispute settlement contains rules and procedures for avoiding and settlement of disputes. In the case of a dispute that arises under both this agreement and the WTO Agreement, the dispute may be settled in either forum. In case the dispute is not settled within 60 days, an arbitration panel may be established. The role of the arbitration panel in dispute settlement is described in great detail in the agreement.

Bilateral agreements on investment between Korea and Iceland, Switzerland and Liechtenstein that were signed covered market access and the protection of investment. In these agreements the three EFTA states and Korea grant each other national treatment for the investment.

An issue that has been a problem in the negotiation process between the US and Korea did not constitute a problem in the EFTA-Korea FTA: the Gaesung Industrial Complex was given the guarantee of preferential tariff treatment for products from this complex. Both parties acknowledge the importance of maintaining peace and stability in the region. As a result, the treatment of products from the industrial complex was not in violation of the WTO MFN treatment obligations. In addition, other industrial complexes that will be built in North Korea may also receive the same preferential treatment.

The EU's existing FTAs

EU-Chile Association Agreement

The agreement between EU and Chile is an example of one of the 'deep' FTAs that the EU has signed with a non-European, non-neighbourhood policy country. The negotiations started in November 1999 and the EU-Chile Association Agreement was signed in November 2002 after 10 rounds of negotiations and entered into force on 2 January 2003. The scope of this agreement is much wider than an FTA, covering both political and economic association. The agreement consists of five parts with Part 4 constituting the largest section on trade and trade-related matters. The economic rationale behind the EU-Chile FTA was to have access to Latin American markets for the EU and for Chile, it was to attract investment.

The elimination of customs duties for industrial products for each party is relatively simple compared to for example the Chile-Korea FTA. For Chilean exports to the EC, the industrial products were categorized as 'Year 0' and 'Year 3' products. The table below shows the schedule for elimination of custom duties.

Table 5.2.3 Percentages of annual tariff reductions for the EU-Chile FTA

Category	Entry into force	1.1.04	1.1.05	1.1.06
Year 0	100%			
Year 3	25%	50%	75%	100%

Source: EU-Chile Association Agreement (OJ Reference L/352, 30.12.02 L/38, 10.02.05).

On the other hand, industrial products originating in the EC destined to Chile were categorised into three groups: 'Year 0', 'Year 5' and 'Year 7'. The customs duties agreed to be eliminated are given in Table 5.2.4.

Table 5.2.4 Percentages of annual tariff reductions for the EU-Chile FTA

Category	Entry into force	1.1.04	1.1.05	1.1.06	1.1.07	1.1.08	1.1.09	1.1.10
Year 0	100%							
Year 5	16.7%	33.3%	50%	66.7%	83.3%	100%		
Year 7	12.5%	25%	37.5%	50%	62.5%	75%	87.5%	100%

Source: EU-Chile Association Agreement (OJ Reference L/352, 30.12.02 L/38, 10.02.05).

Therefore, the tariff elimination schedule for industrial goods for the EU was 100% by 1 January 2006, and 100% by 1 January 2010 for Chile. The agricultural and processed agricultural products were to be 80.9% tariff-free by 1 January 2013 for both parties. There were tariff quotas (TQ) on the remaining products/imports to Chile which were categorised as TQ. On the other hand, the EU had applied both ad valorem customs and tariff quotas on the remaining agricultural and processed agricultural products. The fish and fisheries were to be liberalised 90.8% by 1 January 2013 for the EU and with immediate effect for Chile (DG Trade, 2004). For the remaining products/imports on both sides, tariff quotas are applied, which are managed on a first-come first-served basis.

The chapter on trade in goods also outlines agreed provisions on standards, technical regulations and conformity assessment procedures, sanitary and phytosanitary measures and trade in wines, spirit and aromatised drinks. The rules of origin were bound by EU rules and the establishment of a Special Committee was foreseen. Anti-dumping rules were based on WTO rules as well as standards (e.g. TBTs).

The general provisions of the agreement outlines that liberalisation of trade in services is to be reciprocal and be based on Article V of GATS. The agreement covers all four modes of supply. In some cases liberalisation was taken further. The agreement describes in detail clauses on market access, national treatment, mutual recognition and transparency. Trade in international maritime transport and telecommunications were covered in more detail. Liberalisation in trade of financial services was described under a separate chapter.

The rest of the agreement includes chapters on government procurement, current payments and capital movements, intellectual property rights, competition and dispute settlement.

These examples of both Korea's and the EU's 'deep' FTAs indicate:

- Both parties are interested in signing bilateral agreements that go well beyond 'simple' FTAs. In other words, both parties recognise that, in the current trading system, elimination of non-tariff barriers, and especially investment and services liberalisations are more important than tariff elimination. Studies carried out both by the Koreans and the Commission on the economic impact of an EU-Korea FTA indicate that gains would be far superior if the FTA included investment and services and eliminated non-tariff barriers.
- The FTA strategies of both parties indicate that their respective agreements are conciliatory. Both parties are skilled negotiators who can deal with domestic pressures while negotiating.

Overall, the FTA strategies and previous 'deep' FTAs signed by Korea and the EU indicate that there are more similarities than differences between the two parties. Considering the openly shared willingness to sign an FTA by both parties is also encouraging that an agreement that is beneficial to both parties is within reach.

References

Anderson, J. and E. van Wincoop (2004), "Trade Costs", *Journal of Economic Literature*, Vol. 42, No. 3, September.

Baldwin, R.E. and A.J. Venables (1995), "Regional Economic Integration", in M. Gene Grossman and Kenneth Rogoff (eds), *Handbook of International Economics*, Vol. 3, pp. 1597-1644, Elsevier, Amsterdam.

Bergstrand, J.H. (1989), "The Generalised Gravity Equation, Monopolistic Competition and the Factor-Proportions Theory of International Trade", *Review of Economics and Statistics* 71, pp. 143-153.

Bernard, A., S. Redding and P. Schott (2004), *Comparative Advantage and Heterogeneous Firms*, NBER Working Paper No. 10668.

Bhagwati, J. (1965), "On the Equivalence of Tariffs and Quotas", in R.E. Baldwin (ed.), *Trade, Growth and the Balance of Payments: Essays in honor of Gottfried Haberler*, Rand McNally, Chicago.

Copenhagen Economics, with Joe François (2007), *Economic Impact of a Potential Free Trade Agreement between the European Union and Korea*, report for the European Commission.

Deardorff, A. V. (2001). Rich and Poor Countries in Neoclassical Trade and Growth, *The Economic Journal*, 111, 277-294.

DG Trade (2004), The EU's Relations with Chile: The Association Agreement (http://ec.europa.eu/comm/external_relations/chile/assoc_agr/index.htm).

Eaton, J. and S. Kortum (2002), "Technology, Geography and Trade", *Econometrica* 70(5), pp. 1741-1779.

Edwards, T. Huw (2007), "Implicit Trade Costs and the European Single Market", accepted for *Applied Economics*, forthcoming.

Edwards, T. Huw (2007a), "Strategic Regulatory Bias under Noncooperation and under Mutual Recognition", February, under submission to the *Canadian Journal of Economics*.

EFTA (2005a) (http://secretariat.efta.int/Web/ExternalRelations/PartnerCountries/Korea).

EFTA (2005b) (http://secretariat.efta.int/Web/ExternalRelations/PartnerCountries/Korea/KR/KR_Overview.DOC).

EFTA (2005c) (http://secretariat.efta.int/Web/ExternalRelations/PartnerCountries/Korea/KR/KR_Agreement.pdf).

Francois, J., H. van Meijl and F. van Tongeren (2003), *Trade Liberalization and Developing Countries under the Doha Round*, Tinbergen Institute Discussion Paper No. 03-060/2, Tinbergen Institute, revised 30 August 2003 (downloadable!).

Ghironi, F. and M.J. Melitz (2005), "International Trade and Macroeconomic Dynamics with Heterogeneous Firms", *Quarterly Journal of Economics* CXX, August, pp. 865-915.

Hae-Kwan Chung (2003), "The Korea-Chile FTA: Significance and Implications", *East Asia Review*, Vol. 15. No. 1, spring, pp.71-86.

Ianchovichina, E., R. McDougall and T. Hertel (2000), *A Disequilibrium Model of International Capital Mobility*, GTAP Working Paper No. 10.

Jong, Huan Ko (2006), "Economic Relations Between Korea and the EU", powerpoint presentation at Seoul National University (the 'Pukyong study').

Korean Ministry of Foreign Affairs and Trade (2003) (http://www.mofat.go.kr/me/me_a004/me_b014/1150987_999.html).

Krugman, P. (1979), "Increasing Returns, Monopolistic Competition and International Trade", *Journal of International Economics*, 9: 469-79.

Lancaster, K. (1979), *Variety, Equity and Efficiency*, Columbia University Press, New York.

LeJour, DeMooij and Nahuis (2001), *EU Enlargement: Implications for Countries and Industries*, Report CPB Netherlands Bureau for Economic Policy Analysis.

McCallum, J. (1995), "National Borders Matter: Canada-US Regional Trade Patterns", *American Economic Review*, 85: 615-23.

Maskus, K.E. and J.S. Wilson (eds) (2001), *Quantifying the Impact of Technical Barriers to Trade*, Michigan University Press, Chapters 1 and 2 by the editors.

Samuelson, P. (1952), "The Transfer problem and transport costs: the terms of trade when impediments are absent", *Economic Journal*, 62: 278-30.

Sohn, C-H (2005), "Does the gravity model explain South Korea's Trade Flows?", *Japanese Economic Review*, 56, 4, 417-430.

Trefler, D. (1995), "The Case of the Missing Trade and Other Mysteries", *American Economic Review*, 85, December, pp. 1029-1046 (lead article), reprinted in Worth Series in Outstanding Contributions: International Economics, edited by E. Leamer, New York: Worth Publishers.

6. Policy Options for an EU-South Korea FTA and its Feasibility

6.1 Options for deep integration

In this section, we discuss two possible scenarios for the EU-Korea FTA: a simple FTA and a deep FTA. Since the decision to negotiate a FTA with Korea has already been taken in the Commission and the negotiating directives have been approved by the Council, it is not a viable option to compare these scenarios against the status quo. The current status of the trade relations between the EU and Korea are governed by their respective WTO commitments and also the Trade and Cooperation Agreement between the EU and Korea signed in 2001. This agreement outlines a trade cooperation where both parties grant each other MFN status, and agree to work in particular towards the elimination of non-tariff barriers. This agreement also covers trade issues such as market access for industrial, agricultural and fisheries products, services in general, but especially financial and telecommunication services. Cooperation in fields of standards and technical regulations and IPRs were also foreseen under this agreement. However, as can be seen from the trade issues that were raised through the Commission and WTO dispute settlement mechanisms and also as repeatedly mentioned by the industry (through the workshop held in Brussels and the CEPS questionnaires) and EUCCK, this framework agreement does not seem to have made the necessary improvements. Thus, we take as a starting point the view that the status quo is not an option.

Scenario A – Simple FTA

A simple FTA entails tariff liberalisation only in goods and agriculture sectors.

Trade liberalisation in goods

Korea has been a member of the WTO since 1995 and has greatly benefited from multilateral trade liberalisations. Currently, Korea's applied MFN tariff rates are about 11% (2005) with a tariff binding coverage of 94.5% compared to the EU rate of 4% with a binding coverage of 100% on all goods. By virtue of the fact that Korea is a more protectionist economy, a simple FTA would largely benefit the Korean economy while providing small-to-moderate gains to the EU (Copenhagen Economics, 2007).

As discussed in detail in the previous chapters, there are some sectors that are sensitive (see chapter 3.3) on both sides and there are sectors from which the major gains are expected to come. For example, as pointed out by the Copenhagen study (and others) the major gains will be in the automotive sector for the Korean side, while the EU counterpart will lose out (see also Annex 2). Another sensitive sector that was mentioned by the FKI was the chemicals. In the case of a simple FTA, a tariff elimination in the automotive sector will bring the most important gains by far to Korea both in terms of exports and income, while leaving the EU exposed to considerable non-tariff barriers (the details of which will be discussed in the next section). On the other hand, the situation is the reverse in the case of the chemical sector. During interviews, some Korean sources indicated that the chemical sector is top on the defensive list of Korea while EU has considerable offensive interest in this sector, mainly because Korea has a comparative disadvantage in this sector vis-à-vis the EU. There may also be other additional sectors in which issues need to be taken up specifically, but since there are few such sectors, it is possible to aim for a negative list approach in the elimination of goods tariffs.

In the majority of goods sectors, tariff elimination can be effective from the date of entry into force of the agreement both for the EU and Korea. However, in sensitive sectors the tariff elimination can be achieved in three steps (e.g. 30%, 60% and 100%) over a maximum period of ten years. Especially in the case of Korea, where the pace of change is rapid, any tariff elimination schedule longer than ten years risks becoming obsolete. As we emphasised in earlier chapters, both the evolution of the human capital and its effects on the R&D and innovation

capacity of Korea will change its production and trade patterns. For example, ten years from now when Korea reaches a certain level of innovation capacity it may well be high-technology sectors rather than the motor vehicles sector where the trade issues may arise.

In order to achieve longer-term gains from this FTA, it is important not to focus too much on today's trade deficits. This may be a difficult concept to convey to the Koreans that "still seem to have a mercantilist view of trade and think that a win-win situation is not feasible" according to Yang (2005). The trade deficit issue was also raised by some participants at a conference co-organised by the Korea International Trade Association (KITA) and CEPS in Seoul on 8 March 2007, who see the deficit as the only motivation for the EU to negotiate a FTA with Korea. This is contradictory to how EU views trade.[1] Needless to say, it is imperative that both sides understand each other's expectation from the start of the negotiations. In this context, it is important, for example, that the EU makes clear that this FTA's main motivation is not to tackle the trade deficit.

Trade liberalisation in agriculture

Agriculture has been a very sensitive issue in Korea's past and ongoing FTA negotiations; it was one of the main factors behind the delay of the closing of FTA talks with the US, and suspension of the FTA talks with Japan. Also, agriculture has been a very sensitive internal issue in Korea during the FTA negotiations. Although the agricultural sector has a relatively small role in Korean economy, its political power is strong; protests from the sector have continued since the 1980s following the changes in the nutrition habits, the decreasing demand for rice, the government's investment focus on the fruit industry and the increasing debt of farmers.

In the EU-Korea FTA, agriculture is generally not mentioned as one of the sensitive sectors, where the adjustment costs would be low. The main reason is that the EU is not a major rice exporter and is not concerned with Korea's high protection of rice. As explained above, rice protection has more than economic meaning in Korea and on the other hand the Korean market is very tempting to rice-exporting countries, especially the US. Thus in Korea's FTA talks with Chile and the US, rice has become one of the major issues, and following long negotiations rice has been excluded from tariff reductions. The EU's rice exports are minor and the EU does not have a significant benefit to negotiate on Korean rice protection.

Still, an FTA including agricultural products is very important for both Korea and the EU. Quantitative studies on the potential impacts of an EU-Korea FTA (Copenhagen Economics, 2006; Kim et al., 2005) assume similar results for agricultural sectors; exports of the EU to Korea will increase, especially in dairy products, beverages, tobacco and meat, and on the other hand the production of certain agricultural goods in Korea, mainly processed foods and pig meat will fall. Since the Korean market is quite protected from EU imports in processed foods, trade impacts from the FTA are expected to be large in this sector. According to Copenhagen Economics (2006), even under the assumption of 40% reduction of tariffs in agricultural products, the EU is expected to increase its market share of processed foods in Korea from 5.6% to 28.2%, and more importantly, under the same assumption, output in the EU processed food sector is expected to grow by 0.36%.

On the side of Korea, there are two effects of the FTA: production of some agricultural products is expected to fall, but on the consumers' side, there is a considerable gain. As mentioned above, consumers pay three-four times the world prices for many food products. For example, there is a great demand in Korea for bacon and the belly part of pork, and their prices are very high compared to world prices. In addition, the Korean supply of pork is far behind the demand.

[1] Although the trade deficit is not the main motivation for the EU-Korea FTA, it should be noted that a large portion of the trade deficit is due to the imbalance only in one sector: automobiles (see Annex 2).

Thus, cheap and high-quality pork meat coming from the EU would be beneficial for large numbers of consumers. In this sense, Korean consumers will be one of the main beneficiaries of this FTA.

On the EU side, an FTA in agriculture is important in order to enter, or keep its share in the Korean market. Korea is progressively signing FTAs with other countries and the EU will be losing the Korean market of food and agricultural products if it does not act soon. When we look at the consequences of a Chile-Korea FTA for the EU, we can see the trade diversion very clearly. Korea's increased imports of Chilean pork after 2004 led to a fall in the EU's market share. Also in wine, Chile rapidly increased its wine exports to Korea and became the second biggest supplier in the Korean market. In 2000, for example, France supplied 42% of the wine in Korea, and the share was only 2.4% for Chile. However in 2005, Chilean wine had 18% of the market, and the share of French wine fell to 22%.[2] Of course, this increase in the exports of Chilean wine cannot be explained solely by the effect of the FTA, as tariff reductions in wine has been planned to reduce gradually in five years, but according to KITA (2005) there has been a psychological impact of the FTA, where Korean consumers' awareness of Chilean wines has grown. After the Korea-US FTA comes into effect, this market share is very likely to shrink further as Californian wine will enter the market.

In the negotiations on agriculture, Korea will demand exemptions and long transition periods on certain products. For example before FTA negotiations with Chile, Korea requested the exemption of 300 items from the agreement, but in the end, only rice, apples and pears were excluded. In the Korea-US FTA negotiations, the US demanded complete opening of the Korean agricultural market without any exemptions, but Korea did not accept to further open its rice market, where Korea is already obliged to abolish tariffs on rice gradually through 2014 by the WTO clause.

In the Korea-Chile FTA, Korea accepted instant tariff removal on assorted feed, animal food and additives, flour, wool, tomatoes and paste. Other agricultural products are subject to gradual tariff reductions according to different time schedules. Following the approval of the agreement, grape and strawberry juice will be tariff-free after seven years, and dried fruits, peach, pork and fish will be tariff-free after ten years. For grapes, there is a seasonal exemption of tariff reduction in high seasons, which will be abolished in 2014. Also, for some sensitive products for Korea, tariff reductions have either been postponed after the DDA (garlic, pepper, onion) or exempted from liberalisation (rice, apples, pears).

In conclusion, for the EU, there is a substantial export potential for many agricultural products. In this sense, the main priority for the EU in the process of FTA negotiations is to target tariffs (and non-tariff barriers) in specific agricultural products instead of focusing on full liberalisation in agriculture without any exemptions. As every negotiation is a 'give and take process', there is not much benefit for the EU to force liberalisation of very sensitive products of Korea, especially of rice. In the products of interest to EU exporters, e.g. processed food, wine, beer, cheese, fruit juices, pig meat and milk, tariff rates are high. The EU should target full removal of tariffs in these specific products, instantly or in the shortest transition period.

Scenario B – Deep FTA (WTO+)

A deep FTA that is WTO+ is the most desirable scenario for the EU-Korea FTA. Since both sides emphasise their commitment to the WTO's DDA negotiations, the FTA should aim to be more comprehensive than each party's WTO commitment, yet in no way should this bilateral agreement conflict with multilateral principles. In an ideal world, the 'spaghetti bowl' effects

[2] It should be noted that despite the loss in market share, the sale of French and Italian wine actually increased as a result of growth in Korea as an export market due to other FTAs. This was also mentioned in the Copenhagen Economics study.

that arise from bilateral agreements can be minimised if an FTA can guarantee universal liberalisation not only in goods but also in services and investment. Below we discuss in detail how services and investment and other trade-related issues can be tackled in a deep FTA.

Services

The services sector in Korea is now the largest sector making about 62% of the GDP in 2003 (DG Trade, 2006). Korea has been a member of the WTO since 1995, and has made its first DOHA Round GATS offer in March 2003, and its revised offer in May of 2005 (see TN/S/O/Kor/Rev.1). Korea's WTO GATS commitment covers 98 services sectors (compared to 115 services sectors in EU-27). The last revision covered improvement on market access (mode 4) and horizontal commitments in the following sectors (see also chapter 3.4 for details):

- Mode 4 (Intra-corporate transferees, contractual service suppliers)
- Business services (Legal services, veterinary, services incidental to manufacturing)
- Communication services (telecommunication services)
- Distribution services
- Educational services
- Financial services and
- Transport services.

Services liberalisation has been shown by Copenhagen Economics (2006) study to offer the most significant gains for the EU. The KIEP (2005) study also shows that the EU has far more comparative advantage in almost all sectors in services. The value of the EU's exports in various services sectors increases between 40 to 60% of baseline values. On the other hand, 53% of gains in real income in Korea in the Partial 1 scenario can be attributed to the liberalisation of services (Copenhagen Economics, 2006). It is very important to emphasise that Korea's losses are in the short term: besides there will be spillover effects (e.g. positive productivity gains) from services liberalisation into the manufacturing sectors to the extent that manufactures use services as intermediate inputs.

The question on the economic benefits from services liberalisation does not have a straightforward answer. There are two crucial differences between services and goods protection. First, services protection is not in the form of tariff barriers, but of non-tariff barriers. Second, it is not always easy to identify what these non-tariff barriers are, and hence it is difficult to quantify the benefits from their removal. As previous academic research indicates there is very little information on the benefits from services liberalisation mainly because of insufficient data and very few examples of services liberalisation within FTAs, but more and more, FTAs include services liberalisations. One recent study by Arnold et al. (2006) finds empirical evidence that there are positive spillover effects from services liberalisation to the manufacturing sectors that use services as intermediate inputs. The authors find that "allowing foreign entry into services industries is the key channel through which services liberalisation contributes to improved performance of downstream manufacturing sectors".

One important question in services liberalisation is the extent of liberalisation that is aimed at by the FTA. The level of liberalisation in services depends on the design of *rules of origin* and *market access* modes agreed at the end of the negotiations. In this respect, the rules of origin constitute a crucial identifier. Basically, the FTA partners may agree to either preferential or MFN liberalisation in services. Preferential services liberalisation must define 'restrictive' rules of origin so that the benefits from the services liberalisation are only shared by the FTA partners. Usually, in this case the rules of origin are used to avoid the free-rider problem by non-FTA partners. A non-FTA partner may use the FTA partner-county A (lower tariff barriers) to export to FTA partner-country B (higher tariff barriers). Preferential services liberalisation can be more appropriate if the importing country (e.g. Korea) is less efficient and would like to open its services markets to competition gradually. Such a restrictive liberalisation naturally creates

trade diversion but to the benefit of the exporting country (e.g. the EU). The other option is to adopt a liberal rules of origin and provide more MFN-type of liberalisation.

As can be expected, these two options have different economic and bargaining implications (Fink & Nikomborirak, 2007). The economic implications for the exporting economy (the EU) depends on whether a restrictive (preferential) or liberal (MFN) rules of origin is adopted. As Fink & Nikomborirak (2007) argue, regardless of the fact that the service supplier is a firm or an individual, a restrictive rules of origin may limit exports and associated employment gains to foreign suppliers already established. However, new suppliers from the exporting country should be able to raise both their exports (mode 1) and investment (modes 3 and 4). On the other hand, a liberal rules of origin may attract new FDI from non-FTA parties.

The above analysis is only relevant under the assumption that not all the provisions Koreans agree with another FTA partner (e.g. the US) are MFN-type liberalisation in services, before the negotiations start with the EU. If Korea signs a preferential services liberalisation with the US, there may be substantial first-mover advantages since the sunk-costs of entering a services sector for a non-FTA member are high. In this case, the EU needs to swiftly negotiate the EU-Korea FTA in order not to perpetuate the market share losses. If however, Korea signs a MFN liberalisation with the US, this would mean the benefits will also be extended to the EU and other competitors. A MFN liberalisation would also likely attract more FDI. This option would be the least costly for the EU, and time-saving, not to mention the fact that it would be WTO-friendly. However, this is an unlikely outcome. Since Korea will lose jobs (Copenhagen Economics, 2006) in the short-term and they probably would like to protect some of their services industries, politically a preferential services liberalisation would be more feasible. Also adopting a liberal rules of origin may weaken Korea's bargaining power for its later FTAs.

In terms of market access, all four modes should be implemented in the agreement. Adoption of only mode 1 or mode 2 will not bring sufficient benefits to the EU. Most of Korea's GATS commitments allow for these four modes, but some restrictions apply (mostly on mode 4). Among the four types of entry, Mode 3 is undoubtedly economically most beneficial for the EU and Korea. The EU is already the number one direct investor in Korea. The sales of services through direct investment enterprises will (mode 3) not only increase access to services markets that cannot be served via mode 1 but will also indirectly circumvent some of the problems that arise from information asymmetries.[3] The details of investment in services should be elaborated under the investment chapter.

It may be suggestive to examine other FTAs for the extent of services liberalisation offered so far. The services agreement signed under the China-Hong Kong Closer Economic Partnership Agreement (2003) is a special one in this aspect. This agreement has a restrictive but the most detailed rules of origin, where the aim of both parties was closer integration. Korea's FTA with EFTA is in many ways an example of a deep FTA, including services, investment, government procurement agreements, etc. (see chapter 5.3 for details). However, when we look closely, the services agreements that were signed between Korea and EFTA were more or less directly incorporated from the WTO GATS. On the other hand, the EU-Chile FTA provides an example of WTO+ services liberalisation since the FTA actually covers a larger services commitment on behalf of Chile than its commitments to the GATS. The final outcome of the agreement on the US-Korea FTA did not provide the level of services liberalization that was initially intended.

How to tackle the NTBs in the services sectors? As the previous analysis in chapter 4.3 indicates, the non-tariff barriers that exist today and constitute a barrier to services trade are

[3] FDI can be trade-replacing if the barriers to trade are high. Although theoretically it is expected that increasing FDI is a sign of good health and approval for structural reforms in an economy, there is some empirical evidence that FDI may also increase when there are more barrier to trade and information (e.g. corruption, poor IPR laws, etc.).

mostly regulatory issues. As explained before in the chapter on the regulatory reform in Korea (2.5), there has been impressive progress since the Asian crisis. However, Korea's main problem seems to be lack of transparency in its regulatory reform. This problem in general is pervasive not only in the services sector but also in many manufacturing sectors. The most efficient way to deal with services liberalisation is by the use of a 'negative list'. This has the overall advantage of obtaining an economically more meaningful FTA for the EU while dealing with specific trade issues in services more efficiently. Since this is the opposite of the 'positive list' approach used in GATS, the coverage and benefits would be more comprehensive. Another point is that as time goes by and new services evolve, a positive list becomes less and less relevant whereas a negative list leads to automatic liberalization. This is a fundamental difference between both approaches which renders the negative list more efficient.

On another issue, the main opposition to the Korean services liberalisation will come from the labour unions. During consultations with the Korean Confederation of Trade Unions, it was clearly indicated that the Union sees the Korean government's FTA strategies as totally unacceptable. They indicated their opposition to 'NAFTA'-style FTA negotiations and, hence, they do not support any FTAs (not only the EU-Korea FTA). Korean Unions do not support any FTAs based on their belief that an ownership change, foreign or domestic, in the provision of these services undermines the basic rights of Korean citizens. It should be noted the EU does not demand the Korean government to privatize.

Investment

Investment liberalisation has increasingly become a standard part of bilateral FTA agreements. The main motivation behind the inclusion of investment agreements as part of bilateral agreements is due to the widely acknowledged benefits from direct investment. Foreign direct investment is often associated with promoting growth in the host economy while potentially securing higher returns to the savers in the investing country. In addition, direct investment is often characterised by positive spillovers through the transfer of managerial know-how, R&D and technology.

According to the Trade Policy Review of the WTO (2004), Korea has made significant efforts to encourage FDI by liberalising and by making its foreign investment regime more transparent. Most of the liberalisation in investment took place after the Asian crisis. In fact, 1998 was the first year that inflows exceeded outflows in more than two decades.[4] Despite all the reform measures, Korea has not been very successful in attracting FDI. Over the last 15-17 years, FDI inflows have not exceeded 1% of GDP. In comparison to some developing countries, for example Chile, a country that has been very successful in attracting FDI and other portfolio investment flows, Korea's performance is weak. Certain restrictions still constitute barriers to investment (e.g. excessive regulation, lack of transparency, etc.). Below is an up-to-date list of all restrictions placed on FDI in Korea, by sector.

Table 6.1.1 Restrictions on FDI

Restricted categories	**Criteria for approval for foreign investment**
Grain and other food crop cultivation	Permitted except for cultivation of rice and barley
Beef cattle breeding	Foreign-investment percentage: less than 50% of total voting shares or equity
Coastal fishery	Foreign-investment percentage: less than 50% of total voting shares or equity

[4] This was mainly due to the collapse of asset prices and currency devaluations, which made investment in Korea cheap (Krugman, 1998).

Publication of newspapers, magazines and other periodicals	Foreign-investment percentage for newspapers: less than 30% of total voting shares or equity; others: less than 50% of total voting shares or equity
Nuclear fuel processing	Permitted except manufacturing and supplying fuel for atomic power generation
Electric power generation	Permitted except atomic power generation; provided that a foreign investor's acquisition of domestic generation facilities from KEPCO are limited to 30% of total domestic generation facilities
Power transmission, distribution and sales business	A foreigner should not be the largest share holder; Foreign-investment percentage: less than 50% of total voting shares or equity
Wholesale meat	Foreign-investment percentage: less than 50% of total voting shares or equity
Passenger and freight transportation service within home waters	Transportation between South and North Korea; a joint venture with a Korean company is mandatory; foreign-investment percentage: less than 50% of total voting shares or equity
Scheduled and unscheduled air transport	Foreign-investment percentage: less than 50% of total voting shares or equity
Telecommunication circuit facility leasing, wired and wireless telephone service, wireless paging and other wireless communication service, and other telecommunication services	Foreign-investment percentage: less than 49% of total voting shares or equity (for KT, foreigners can be a majority owner only when the FDI ratio is 5% or less)
Local banks	Permitted for commercial banks and provincial banks (special banks and agricultural, fishery and livestock cooperatives are not yet open to FDI)
Radio and television broadcasting	Not open
Cable networks	Foreign-investment percentage: less than 33% of the total voting shares or equity; news programme supply business is not open
Cable and other programme distribution	Foreign-investment percentage: less than 33% of the total voting shares or equity; relaying cable broadcasting is not open to FDI
Satellite broadcasting	Foreign-investment percentage: less than 33% of the total voting shares or equity
News agency activities	Foreign-investment percentage: less than 25% of the total voting shares or equity
Radioactive waste collection, transportation and processing service	Permitted except radioactive waste management service business

Source: Korean Confederation of Business and Industries, *Doing Business in Korea*, 2006.

Korea has signed bilateral investment treaties (BITs) with 19 of the EU's 27 member states.[5] In these bilateral investment agreements, UNCTAD defines the main part to be included as the protection of the investor from prohibition of nationalisation and expropriation, compensation for losses incurred by wars, riots, etc., and guaranteed repatriation of profits and capital gains

[5] Korea has not signed BITs with Bulgaria, Malta, Cyprus, Estonia, Latvia, Slovakia, Slovenia and Ireland.

and proceeds accruing from the sale or liquidation of investment. Most of the BIT agreements include a clause on the protection of IPRs and settlement of investment disputes.

It is very important to emphasise that the quantitative analysis done by Copenhagen Economics does not count the direct economic gains from investment liberalisation nor does it account for the indirect effect of investment liberalisation on the trade of goods or services. Based on theory and other empirical studies (e.g. Arnold et al., 2006), we would expect the effect of investment liberalisation to magnify the benefits for the EU, especially through its indirect effects on trade of goods and services. One issue that is not clear in the academic literature is whether trade and FDI complement or substitute each other. FDI can be trade-replacing if the trade barriers and trade costs are high, but when trade barriers are low, FDI can be trade-enhancing. FDI can also be trade-replacing when there is high corruption and insufficient protection of intellectual property rights.[6] For this reason, it is imperative that the FTA deals efficiently with eliminating such non-tariff barriers so that FDI and trade are complementary.

Ideally, the investment agreement should grant each party national treatment, with detailed definition of what an asset is, and who is considered an 'investor'. In the case of direct investment, the FTA should make sure to follow the internationally recognised standards.[7]

Non-tariff barriers

Intellectual property rights

Protection of intellectual property rights (IPRs) is one of the most important challenges facing Korea as the country is the world's largest exporter and producer of counterfeit goods. The trade issues related to IPRs in Korea are discussed in detail in chapter 4.3. The estimated trade losses due to copyright piracy in Korea in 2005 were estimated around $415 million in entertainment software, $255 million in business software (American Chamber of Commerce in Korea, 2006). The problem with IPRs in Korea is not a lack of legislation. When Korea joined the WTO, it also signed the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement. Aside from some regulatory gaps, their laws are largely in compliance with the minimum requirements of the TRIPS agreement (EUCCK, 2007). As indicated before with other NTBs, the general problem is not a lack of reform or laws, but rather their implementation.

Concerned European companies have made the following recommendations for improving Korea's implementation:

- higher penalties for IPR infringements,
- guidelines that ensure that damages accurately reflect the harm suffered by the right holders,
- more training for police, prosecutors, judges and other officials and
- stronger action as regards the distribution of counterfeited goods on the internet.

The EU-Korea FTA should discuss trade-related IPR issues under a separate heading. IPRs are not only important in goods trade but also for investment. It would not be very beneficial to have an agreement on investment liberalisation without tackling IPR issues. FDI in standardised, labour-intensive technologies and products are shown to be insensitive to IPRs.

---

[6] By being close to the market, the investor can better control and protect its investment when legal protection is insufficient. In a sense, FDI is preferred over other modes of entry because of the market failure to correct for the information asymmetries.

[7] A joint committee of the IMF and the OECD is working on the revision of the IMF's Balance of Payments Manual and the definition of direct investment. This is the most recent effort to arrive at agreement on how FDI should be recorded and what constitutes FDI.

However, FDI is quite sensitive to IPRs in sectors that use complex but easily copied technologies (Maskus, 2006). As respect for IPR improves, FDI will increase in these sectors.

Since the EU's offensive interests are mainly in complex and high-technology (or high R&D-cost) sectors, the agreement should prioritise IPR issues in these sectors (e.g. chemicals). This would also have an impact on FDI in services. Basically, the agreement should cover copyright, trademarks and geographical indications.[8] More importantly, the chapter on IPRs may offer cooperation that might help in the implementation process of IPR laws in Korea. Especially a cooperation agreement on 'capacity-building' may be helpful for the Korean government to deal with the burden of prosecuting the high number of IPR violations.

Standards, technical regulations and sanitary and phytosanitary standards

Non-tariff barriers that are in the form of standards and technical regulations can be tackled by regulatory cooperation. In this case, the negotiators should insist that Korea either recognises international or EU standards and technical regulations. Korea has its own standards-setting procedure which favours domestic producers. The agreement should make sure that Korea adheres to international standards wherever it is appropriate. Under the case where Korea has already adopted another country's standards (e.g. US standards), the FTA should ensure that Korea also recognises the EU standards in these specific sectors (e.g. the ODB dispute in the automobiles sector). Under the special sub-heading of Automotive Standards (Article 9.7) in Chapter 9 on technical barriers to trade in KORUS, the parties agreed to harmonize standards for motor vehicle environmental performance and safety, and to cooperate in the World Forum for Harmonization of Vehicle Regulations of the United Nations Economic Commission for Europe. So there may be some positive spillover from KORUS for the EU.

According to the KORUS, Korea is required to comply with the WTO TBT (Technical Barriers to Trade) Committee Decision to promote reliance on international standards that are consensus-based. US persons should enjoy national treatment for participation in the development of standards, technical regulations and conformity-assessment procedures. Non-governmental bodies that perform testing and certification for compliance with technical regulations should grant national treatment to US conformity-assessment bodies. The KORUS also provides for more transparency and procedural guidelines for new technical regulations and standards (publication, timing, possibility to make written comments). Moreover, KORUS will establish a bilateral committee to strengthen FTA and WTO commitments on TBTs. Many of these arrangements (such as national treatment for US products) are based on the TBT agreement and could be expected of WTO members to be good practice. Some of the provisions go beyond WTO commitments (i.e. the provision to allow 60 days for written comments on proposals for new rules and regulations).

In terms of sanitary and phytosanitary standards (SPS), Korea has signed the WTO's Sanitary and Phytosanitary Measures Agreement. As explained above (section 4.3), the non-tariff barriers in agricultural sector would mostly fall under the SPS category. Generally the experience of foreign exporters (US and EU alike) with Korean SPS standards indicate that Koreans are very strict on food and safety issues, even more so than international standards (e.g. Korea's measures on BSE, which is equally applied both on domestic and imported beef). These non-tariff barriers are important stumbling blocks for European exporters of agricultural foods. The EU needs to focus on these barriers in detail and aim to harmonise Korean food standards with European standards, like Codex standards in dairy products and alcoholic beverages. These will both allow the European agricultural exporters to access and compete in the growing Korean market, and give Korean consumers the chance to pay lower prices for higher quality

[8] The Commission reports on the surveys conducted on IPR issues in Korea indicate that only one issue was raised regarding geographical indications: the use of `champagne' label on non-genuine products.

food products. The chapter on Agriculture (Chapter 3) in the KORUS does not mention any sector specific SPS commitments. The chapter on SPS (Chapter 8) in the KORUS envisages the establishment of a 'SPS Committee' which will enhance each party's implementation of the SPS Agreement (the WTO Agreement on SPS). The chapter also describes that both parties' regulatory bodies will cooperate on evaluation and mutual understanding of both present and new regulations.

Dispute settlement

Under the WTO's Dispute Settlement Understanding (DSU), the members may raise tariffs in response to trade violations committed by other member states. Since the main difficulty in the FTA negotiations for the EU will be the effective elimination of non-tariff barriers, this will require a strong dispute settlement mechanism to deal with non-action. As the chapters above repeatedly indicated, the trade issues/disputes that the EU has with Korea are not so much due to the lack of rules and regulations but rather the lack of implementation and transparency. For this reason, an FTA with all the necessary chapters on sensitive issues may be worth nothing if there is no credible retaliation mechanism in case one side fails to implement their obligation.

The dispute settlement under the EU-Chile Association Agreement provides a reasonably good template for the EU-Korea FTA. In brief, the dispute settlement mechanism in the EU-Chile agreement describes in the first part the steps by which a dispute has to be identified, and then an appropriate 'implementing measure' is decided by the Party concerned to stop the violation of an obligation. The part that deals with identifying a dispute or verifying that it exists can be the same. The first step is to notify the Agreement Committee that an obligation has been breached. Then the Committee appoints an arbitration panel consisting of individuals who have the necessary background and knowledge to judge whether a section of the agreement has indeed been violated. If the arbitration panel ruling is in the affirmative, then the complaining party can move onto the next step and decide on the 'implementing measure' that needs to be notified to the Party in dispute and also the Agreement Committee. This format is analogous to WTO dispute settlement mechanism, but there is no possibility for appeal. All decisions by the arbitration panel are final and binding. These provisions lend themselves to effective and relatively fast settlement of disputes. Finally, the effectiveness depends on whether there are clearly identified officials who can pursue dispute settlement procedures. A sound dispute settlement procedure can fail if there are not enough human resources dedicated to making it work. The effectiveness of this dispute settlement would also suffer, if companies would be expected to first file a complaint under the terms of the Trade Barriers Regulation (TBR). TBR procedures would significantly add to the time from first encountering a problem to the solution. Especially in the field of NTBs where provisions can change rapidly, speed is essential.

Perhaps the most important part of the dispute settlement procedure is the choice of an 'implementing measure'. In some cases, these measures can be implemented in the tariff elimination procedures. For example, the elimination of EU tariffs in the motor vehicles sector can be conditional upon Korea's elimination of its non-tariff barriers in the same sector. The agreement may contain a special retaliatory clause in case Koreans fail to tackle the non-tariff barriers. This may include a tariff retaliation (increase of the tariff rate back to its final bound rate before the ratification of the agreement), if the NTBs are not dealt with in a given space of time or if new ones are created in the meanwhile. This form of dispute settlement may be the most effective way to deal with NTBs in sensitive sectors. Also in this way, the dispute and the retaliatory measure only affect the sector in question but do not disrupt the whole agreement. As an example, it should be noted that the KORUS entails a specific dispute-settlement mechanism for auto-related issues which comprises retaliation in the form of reversing the tariff reduction for cars in case of a violation.

There are arguments for and against tariff retaliation in the enforcement of trade agreements. Although these arguments are raised against the WTO's DSU (Dispute Settlement

Understanding), similar arguments can be extended to the dispute settlement mechanism in bilateral trade agreements as well. The argument for the tariff retaliation is that without a credible threat, the party under dispute would not have any incentive to comply with the provisions of the agreement. Limao & Saggi (2006) also mention that if the complaining party is large enough (i.e. the EU), then tariff retaliation may give the injured party partial compensation by improving its terms of trade. The arguments against tariff retaliation are based on the sub-optimality of this method. Specifically if the complaining country is small (i.e. a country that cannot affect world prices), then tariff retaliation does not pose a credible threat against a large country. In recent years, there have been arguments in favour of financial compensation as a means to settle trade disputes (Bronckers & Van Den Broek, 2005). Although these proposals originated in small countries, it could also be meaningful for large countries if the optimal tariffs for these countries are too low to influence world prices. In such cases the overall effect of tariff retaliation may be welfare reducing.

Limao & Saggi (2006) cite some interesting examples. In the recent banana dispute between the EU and several banana exporters, Ecuador was authorised to threaten the EU by not applying its TRIPs commitments to EU products. This may also be an option for the EU as an 'implementing measure' in an area where tariff retaliation does not add up to a significant amount to exert pressure on Korea. In summary, the dispute settlement may incorporate tariff retaliation, especially in sectors where the optimal tariff rates are high, as a credible threat in case of a dispute, since the EU is a large entity. In case the optimal tariff rates are already low, then retaliation can be on other parts of the agreement.[9]

Since the agreement with Korea is ambitious both in terms of trade volume to be liberalised and the contents of the commitments, it appears worthwhile to foresee an annual trade barriers report that could form the basis of a review mechanism which scans in a systematic way compliance with the FTA. The EU is already carrying out an annual review of US trade policy. The way this review is carried out could be a starting point for this review of Korean policies.

At the end of the day, goodwill on both sides to refrain from disguised protectionism is the key element of success. Dispute settlement can correct specific trade-distorting measures. But against a policy that uses standards and technical regulation in a systematic way as protectionist instruments, dispute settlement can only be of little use. Concrete commitments and effective dispute settlement may to some degree deter protectionist tendencies, but it probably cannot reverse strong policy trends.

6.2 Sector-by-sector implications

Industry

Automobiles

As observed earlier in section 3.3.2, the European and Korean automobile industry will be one of the most affected sectors as a result of the proposed FTA. Both partners have strong and internationally active automobile companies. The tariffs in the EU and Korea for passenger cars amount to 10% and 8% respectively. This is significantly above the industrial average of both FTA partners.

There is a significant sectoral trade imbalance. EU exports to Korea reached 29,404 units in 2006, whereas Korean exports to the EU amounted to 734,710 units (KAMA, 2007). EU car manufacturers argue that unlike many other Asian countries, the Korean market is quite saturated and not to be seen as a promising market (ACEA, 2006). The size of the market (1.1

[9] However, it should be noted that an outright inclusion of such retaliatory measures in the agreement may be difficult.

million units) is limited and the development of the market is rather sluggish. On the other hand, Korean car manufacturers managed to boost their exports to the EU from 0.6 million vehicles in 2003 to 1.0 million vehicles in 2005. Exports to the EU are of the same size as the Korean domestic market.

Korea has a significant trade surplus in auto parts. In 2005, Korean exports of auto parts accounted for $7.7 billion and imports, for $2.2 billion (from Europe: $758 million). The Korean tariff level is 8%.

According to Cheong (2007), the FTA between the EU and Korea would boost Korean exports in the transportation sector by $2.6 billion annually. Hence, this sector would be the main Korean beneficiary sector of the FTA.

As a consequence, most European automobile companies and the European automobile umbrella organisation ACEA, are opposed to the FTA. They underline that the key market access problem are various non-tariff barriers, whereas tariffs are of lesser importance. Moreover, the Korean cars are predominantly a very price-sensitive market segment. Hence as a result, an FTA would enhance the export possibilities for Korean cars significantly.

Moreover, from the perspective of European consumers, the competitiveness of Korean cars lies mainly in their attractive price. Neither innovative design nor technology nor prestige is attributed to Korean cars. Hence, tariff elimination could be translated in considerable price reductions which could further boost demand for Korean cars to the detriment of their European competitors. These considerations render the quantitative assessments made by Cheong quite plausible.

Non-tariff barriers reported by European car manufacturers mainly fall in the areas of environmental protection, technical and safety standards.

The environmental standards concern fuel efficiency and a special act on the Capital Region air quality. Whereas US standards for ‘on-board diagnostics’ are accepted in Korea, European standards are not. It is appreciated that Korea did move towards self-certification for safety standards in 2003. Particularly useful is a table of equivalents standards for manufacturers’ test reports which lays down in detail the recognition of test results. However, the Korean Ministry of Construction and Transportation is considering either cancelling the table or introducing new tests.

The environmental NTBs reported represent a de facto discrimination, given the average type of imported car (rather big cars with comparatively high emissions); however they do not represent a de jure discrimination against imports and fall in the area of regulations that pursue legitimate policy objectives (according to the provisions of the WTO TBT agreement). In this context, it should be noted that, in principle, international standards should enjoy priority. In the automobile sector these international standards are developed by the World Forum for Harmonization of Vehicle Regulations of the United Nations Economic Commission for Europe (UNECE).

The KORUS proves that despite WTO compatibility, de facto discriminatory taxation provisions and safety and environmental standards can be tackled on a bilateral basis. The EU will benefit from some of these FTA provisions. Imported cars will benefit from a two-year grace period as regards new Korean safety standards. However, on emissions standards, Korea agreed not to apply the KULEV (Ultra Low Emissions Vehicles) standard to motor vehicles produced by a manufacturer selling 4,500 or fewer units in Korea. To those manufacturers selling 4,501-10,000 units, a special Californian ULEV rate will be applied. Korea will introduce the Californian Fleet Averaging System methodology for manufacturers for manufacturers selling more than 10,000. For European manufacturers, these thresholds cannot be a satisfactory solution, since the FTA should be designed to boost European car exports significantly above these levels. The KORUS establishes an Auto Working Group which is

supposed to address regulatory issues and should implement an 'early warning system'. Whenever Korea develops new regulatory measures, it must provide information to the Working Group as soon as that information is provided to stakeholders. The Working Group will analyse potential new regulations and provide views to the Korean government, in order to promote good regulatory practices (USTR Trade Facts, Fact Sheet on Auto-Related Provisions in the KORUS). The USTR underlines that there is an automobile-specific binding dispute settlement in place that can lead to the withdrawal of tariff concessions on passenger cars if an independent panel finds a violation of an auto-related commitment.

Chemicals

The Korean chemicals industry (without pharmaceuticals and cosmetics) is populated by small and medium-sized companies. Hence, their research capacity is quite limited which gives room for innovative European companies. Import penetration varies strongly, from e.g. 51% in dyestuff to 8.1% in agrochemicals. Since Korean industry is promoting the development of high-tech industries such as nano- and biotech, there may be a growing need for corresponding cutting-edge chemicals (fine chemicals). Traditionally, Korea's demand for chemicals has been driven by the automobile, shipbuilding, computer and textile industries and agriculture.

European chemical companies are quite successful in Korea. EU chemical exports to Korea amounted to €3.1 billion in 2005 and account for 16% of total EU exports to this country. Hence, this sector is one of the most important ones. Korean chemical exports to the EU totalled €1.1 billion, accounting for only 3.3% of total Korean exports to the EU. The Korean tariffs typically amount to 6.5%.

In both FTA partners, chemicals are heavily regulated. In Korea the chemical management systems consist of three pillars:

- Registration and evaluation,
- Specific hazardous chemical management and
- Life cycle assessment.

The measures in place are not applied in a discriminatory manner. Hence, they are in line with the right to regulate for the protection of consumers and the environment. However, also in this sector the FTA could lead to regulatory convergence. Double registration, testing and evaluation could be avoided if there were a mutual recognition of testing and authorisation procedures. Moreover, some specific procedures and provisions appear to be too bureaucratic. These issues probably could be mentioned in the framework of the FTA negotiations but it has to be kept in mind that they fall in the category of creating a business-friendly environment.

Machinery

For European companies, the Korean machinery market account for exports of €9 billion. Hence it represents 40% of all EU exports to Korea and constitutes a sector of strategic importance. Korean tariffs for machines are in the range of 0 to 8%. Korea is the fifth biggest market for machine tools worldwide (volume in 2005: €3 billion). Important clients are the automobile, metal works machinery and electronics industries. However, Korea is also an important manufacturer of machinery with rapidly expanding exports particularly to Asian markets.

Non-tariff barriers in the machinery industry in Korea are more widespread. Internationally accepted standards are superseded by national standards, which require costly and time-consuming double testing. The solution lies in making a strong horizontal commitment to international standards, self-declaration of compliance, mutual recognition of equivalence or recognition of testing procedures. Hence, strong horizontal commitments can be useful. It is

noteworthy, that the Korean side considers tariffs to be a more significant barrier to trade than NTBs in the machine industry, which usually benefits from relatively low tariffs.

Construction/Public procurement

The construction industry accounts for 8.2% of Korea's GDP and realises sales amounting to €93 billion. The industry is considered internationally competitive. It is particularly successful in the Middle East. Foreign companies focus on architectural services, planning and project management. The Korean construction industry is undergoing a dramatic structural change. Small- and medium-sized companies are struggling to survive, whereas the large companies benefit from large-scale renovation projects in Seoul and its environs, engage in BTL (build, transfer, lease) projects and manage to penetrate international markets.[10] These developments could bring about business opportunities for European companies as suppliers to these thriving construction industries (e.g. cranes and concrete processing).

Korea is party to the Government Procurement Agreement (GPA) of the WTO. Hence, it already follows a standard set of market access provisions. In Korea public tenders are published and processed electronically. Basic information on tenders is available in English with the Public Procurement Service. Hence, public procurement is considered to be quite transparent.

One major complaint as regards public procurement is the amount of preparation for the initial bidding phase (prequalification). Internationally active construction companies argue that at this initial phase the amount of information required should be cut to an internationally comparable level. More detailed bidding documents have anyway handed in by those companies which entered qualify for the next round. However, it must be noted that this applies to both domestic and foreign companies. The KORUS limits the prequalification requirements and rules out the condition that the bidder had been already awarded contracts in the territory (Chapter 17.5). The thresholds for coverage of goods and services tendered by central governments are 100.000 US$ which is about half of the threshold of the GPA (for construction services it is 5.000.000 Special Drawing Rights hence it remains unchanged).

The KORUS managed to enhance market access particularly through cutting the GPA threshold by almost 50%, increasing by nine the number of Korean central government entities that offer non-discriminatory treatment to US companies. Moreover, the US and Korea set up a bilateral working group which should serve as a forum to discuss procurement-related issues.

Cosmetics

EU cosmetics exports to Korea amounted to $225 million in 2004. The entire market accounts for €4.3 billion (2004) and is the third largest in Asia (after China and Japan). The prospects of the market are considered very good, particularly since the market segment for men enjoys greater than average growth. The market is highly polarised between cheap brand products (mainly domestically produced) and high-end functional cosmetics (dominated by European imports). Both the EU and Korea apply tariffs of about 8%, which is quite high and could be another priority of the tariff negotiations. However, the main barriers to trade are various NTBs.

According to the EUCCK, the main problems can be described as follows:

- Full ingredient labelling requirement. Korean labelling requirements deviate from the internationally accepted standard, INCI.
- Quality control system. Korean regulations lay down in detail testing procedures for quality control. According to the companies concerned, these procedures are burdensome and

[10] German Office for Foreign Trade.

should be removed and replaced by quality control systems under the responsibility of the companies themselves.

- Prior import report for customs clearance. For customs clearance, detailed information on the formula used are required. This procedure may lead to the disclosure of commercially sensitive information.
- Extension of the cosmetic products category. There are several cosmetics such as anti-acne, hair-dye or deodorant products which according to Korean definition are not cosmetics and are hence subject to stricter regulations. Hence, European producers call upon Korean authorities to extend the category of cosmetic products to these products in order to facilitate their distribution.

Food, Beverages, Beer

European food and beverages producers face high tariffs for beer (30%), dairy products (36%), wine (15%) and spirits (30%). Moreover, Korea deviates substantially from the provisions of the CODEX alimentarius, i.e. as regards the classification of cheese, labelling for wine and spirits, and approval of food additives. A particular problem is the fact that certain types of products are defined as functional food (i.e. dietary products), which is subject to strict regulations as regards food additives and product format.

European producers indicate that there is a particularly high market potential but at the same time heavy barriers to trade for beer, cheese, mineral water, wine and whiskey and tea.

The US faced fierce resistance in attempting to open up the Korean rice market (product excluded from the FTA) and to lift a ban on US beef. Tariff rate quotas were agreed for cheese and milk powder. Whisky and wine will be tariff-free right from the beginning.

Pharmaceuticals

The medical sector is one of Korea's growth industries. This is due to the aging society, considerable investments in medical infrastructure and the objective of the Korean government to develop the country into an international medical centre. The age group of people over 65 years will grow from 4.38 million in 2005 to 9.92 million in 2025. Health expenses in Korea account for 5.6 % of GDP, which is considerably below the OECD average (8.9%). Some 97% of the population is covered by the National Health Insurance. It covers on average 51% of the expenses (their fees are paid 50/50 by employers and employees), 37% are paid by the patients themselves and the remainder is paid out of the state budget. The Korean government intents to increase the share covered by the National Health Insurance and to reduce the cost burden for the patients. In the period from 1995 to 2004, health expenses increased by more than 60%. Hence, the government is implementing price control policies to keep the rising costs in check. Annually there are about 10,000 foreign patients who come to Korea to undergo treatment (mainly check-ups and cosmetic surgery). The government wishes to boost this number to 400,000 by 2015.

The Korean market for pharmaceuticals accounts for €9.2 billion (2004). Domestic production accounts for €8 billion. Korean tariffs for pharmaceuticals reach from 0% to 8%. Pricing and reimbursement by the National Health Insurance is a key issue for European pharmaceutical companies. Since the Korean health care system is highly regulated, provisions on reimbursement have a crucial impact on the revenue of pharmaceutical companies. Another important issue is the running time of patents. European companies call for the possibility to prolong patents and refer to the EU system of Supplementary Protection Certificate (SPC), which takes into account that in the pharmaceutical sector there is an important time lap – on average about 10-12 years – between the request for patent protection and the marketing of the product (mainly caused by clinical trials and authorisation procedures). By means of an SPC,

patent protection can be pronged by up to five years. Such a system does not yet exist in Korea. European companies complain about unethical business practices (i.e. payments for formula access).

In 2006 the Korean Government introduced a new pricing system based on a Positive List, which faced fierce resistance from domestic as well as foreign pharmaceutical companies. The number of drugs eligible for coverage by the National Health Insurance is supposed to be reduced from 21,700 to 5,000. The pricing is quite restrictive too. Only a few drugs benefit from a special provision on 'innovative' pharmaceuticals which should be oriented according to average prices of comparable countries (A-7).

For medical devices Korea applies a tariff of 8%. The most important barriers to trade are various regulatory issues, like the question whether products and procedures already approved in the EU should not be accepted in Korea without any further certification and approval procedures. Also in this sector, mutual recognition and more exchange of information between regulators are desirable. Moreover, European companies hint at the fact that minor violations of compliance fall under the Korean criminal code.

The KORUS contains commitments to increase access to innovative products, enhances transparency in the pricing and reimbursement process for pharmaceuticals and sets up a Medicines and Medical Devices Working Group that will provide for continued dialogue between the US and Korea on health care issues. Korea is committed to establish an independent body that reviews recommendations or determinations regarding the pricing and reimbursement of pharmaceutical products and medical devices (USTR, 2007).

Services

As shown in section 3.4, according to RCA- and TSI-based analysis, the EU has a clear comparative advantage in the services sector. In this context, one has to keep in mind that these indicators are only based on actual trade flows and hence reflect the status quo with all existing trade and investment barriers. The removal of those barriers can have a significant impact on the competitiveness of the sectors concerned.

Asset Management & Securities

European asset management and securities companies see an uneven playing field in the application of regulations. This concerns, among others, the licensing process, supervision of foreign companies, provisions on small cap funds and direct selling.

Banking

The financial crisis of 1997-98 has prompted major reforms in the financial sector. More recently, the Korean government declared its objective to turn Korea into a financial hub for North East Asia. Hence further reforms are to be expected. In 2006, the Ministry of Finance set up a special task force to support and monitor Korea's progress towards internationalisation. Moreover, an International Supervision Support Office was created which aims at guiding foreign financial institutions through regulatory procedures and to process applications for licenses and product approvals.

In the framework of the above-mentioned initiative, the liberalisation of foreign exchange transactions is scheduled for 2009. So far, there are considerable barriers between banking, securities and insurance that inhibit the creation of universal banks. The Capital Market Consolidation Act is intended to bring the sectors under the umbrella of a single law. There are still restrictions in place on foreigners for national board seats, which can hinder the internationalisation of companies. The head office capital base is not taken into account as regards the prudential ratios of foreign banks. Hence, foreign banks have to restrict their

business activities accordingly. European banks call for the recognition of the head office capital base as the basis for computation of regulatory capital ratio compliance. Moreover, they dismiss price controls exerted in the framework of regulatory supervision.

Banks report that authorisation procedures for new branches and ATMs are not automatic. Decisions to deny authorisation can appear arbitrary. As a consequence European banks plea for rendering the procedures automatic (as long as all preconditions for approval are fulfilled).

Given the fact that the Korean government sees financial reform as part of its own political agenda, one has to evaluate carefully whether further liberalisation and non-discriminatory practices has to be boosted by the FTA negotiations. If progress can be expected without bilateral negotiations, one may be inclined to leave it to the national reform process. However, FTA commitments may accelerate and lock in the reforms that otherwise could be subject to political changes. One relevant factor to be taken into account are the relevant provisions in the FTA between Korea and the US.

The KORUS grants US financial institutions the right to establish and to acquire financial institutions in Korea. Moreover, Korea is committed to ensure regulatory reforms, particularly as regards allowance of foreign currency reserves, bancassurance, and to adopt a negative list approach to financial sector regulation (USTR, 2007).

Insurance

European insurance companies complain about an unstable regulatory environment. Changes to regulations take place without notice and with little time to provide comments. The Financial Supervisory Service (FSS) intervenes heavily in the features and the pricing of insurance products in the course of their approval process. In Korea there are restrictions on the sales channels (ban on using insurance solicitors of other insurance companies). However, it has to be noted that these restrictions apply to both national and foreign companies. In Korea there are some 'quasi-insurers' such as the Post Office which hold significant market shares but are not subject to the Insurance Business Law and FSS supervision on product development. Hence, they possess a competitive advantage over the rest of the suppliers.

Most of the barriers reported by European insurance companies fall in the area of business climate (regulatory environment). There is only limited de jure discrimination between foreign companies and local ones.

In the KORUS, Korea committed to levelling the playing field between private insurers and Korea Post and cooperatives selling insurance services.

Legal services & accounting

The Korean legal service market is still quite restricted. These restrictions represent an important burden for European exporters and investors. Despite recent improvement (e.g. the Foreign Legal Consultants Act), there are various discriminatory rules in place that could be tackled in the framework of the FTA. The major obstacle is the restriction that foreign law firms are not entitled to employ Korean lawyers and to consult on Korean law. Joint ventures between foreign and Korean law firms are not permitted. As a consequence, there is a segregation of the market between international and Korean law firms, which translates into higher costs and complications.

Currently foreign companies are not allowed to invest in Korean accounting firms. Foreigners are not allowed to do auditing related to the Korean accounting principles.

The offers made by Korea in the framework of the DDA would not change this situation. The current investment restrictions could be tackled within the ordinary FTA services negotiations (Mode 3 according to the GATS definition).

The KORUS provides for liberalisation of foreign legal consulting services and entails commitments to phase in additional liberalisation that will permit foreign lawyers to more freely associate with Korean laywers and offer a braoder range of services. Similar steps were taken for accounting services (USTR, 2007).

Telecommunications

Foreign investment in license-based telecommunications operations is limited to 49%. Moreover, investment above 15% is subject to an approval by the Ministry for Information and Communication. Moreover, telecommunications companies report various discriminatory practices (i.e. preference for national companies in procurement procedures) which are not based on legal provisions.

The removal of the current restrictions of investment (Mode 3 of the GATS terminology) can be tackled within the normal FTA services negotiations. However, it is difficult to assess whether the removal of the current investment restrictions would translate into new investments of European companies. According to USTR (2007), the KORUS includes a commitment by Korea to permit US companies to own up to 100% of an operation in Korea. Moreover, it ensures US operators cost-based access to the services of dominant Korean phone companies.

Conclusions

If the FTA is to reach its full potential to liberalise bilateral trade, it has to have a strong focus on non-tariff barriers. Both horizontal provisions and concrete sectoral steps are important. Hence it seems to be necessary to negotiate sector-specific commitments, which should be become part of the agreements. This would result in detailed provisions not only on tariff dismantling and services, as is the given standard on FTAs, but also on sectoral steps.

Horizontal provision against non-tariff barriers have to define the appropriate balance between the right to regulate when pursuing legitimate policy objectives (like the protection of the consumer and the environment) and misuse for protectionist purposes. In this context, one usually refers to the provision to choose the least trade-restrictive measure, i.e. if two measures are equally effective, one has to choose the one that restricts trade less. This consideration overlooks the question of proportionality. One measure alone has to be able to contribute to the fulfilment of the objective. Whether the costs involved for business stand in a reasonable relationship to this contribution is not taken into account. Another basic feature of horizontal provisions against NTBs is non-discrimination – that is to say that the same rules should apply to imported products and domestically-produced products. As the previous section has shown, there are only very limited de jure discriminations against foreign companies in operation in Korea. They fall mainly in the field of services. In practice, rules can be easily geared towards mainly affecting imported products, when imported products have typical physical characteristics. The automobile industry is a good example of de facto discrimination through high environmental standards. If a new technology is invented, state regulators may take it up and form a corresponding technical regulation which makes this technology mandatory. Despite the fact that the rule applies to both imported and domestically produced products, one can heavily discriminate against imports.

In principle, these weaknesses of horizontal rules against non-tariff barriers could be tackled through:

- provisions on the proportionality of technical regulations. However, proportionality is subject to interpretation and is difficult to be enshrined in an objective manner in an agreement. The interpretation of ‘proportionality’ is usually developed on a case-by-case basis.

- provisions against technical regulations that mainly target imports and are designed to ward off imports. However, the regulator has the right to foresee the latest technology as an industry standard. Strong provisions against de facto discrimination could undermine sovereignty.

Against this background the effectiveness of horizontal rules against NTBs is limited. It is also difficult to imagine whether these rules could substantially go beyond what has already been achieved in the WTO.

In the course of FTA negotiations, specific NTBs can be removed through specific commitments. But once the negotiations are concluded, there remains the key question of how one can avoid the re-erection of non-tariff barriers. Once the concrete sectoral commitments are implemented, one entirely has to rely on horizontal rules in order to avoid the resurgence of new NTBs. That aspect underlines the strategic importance of strengthened horizontal rules. Moreover, one could foresee a review of the entire agreement or specifically of the sectoral NTB commitments. Pressure to really engage in these regular reviews could be enhanced through a expiration date of the agreement, so that it has to be renewed in order to extend the tariff-free treatment. The uncertainty this involves – also for the business community – and the practical issues as regards investment provisions have to be weighed against the stronger leverage against new NTBs.

In the field of non-tariff barriers, there are various types of commitments possible:

- Move from external testing procedures to self declaration of compliance
- Mutual recognition of testing procedures (so that local testing institutes are authorised to test for compliance in the partner country)
- Recognition of equivalence of technical regulations
- Move from national standards to internationally accepted standards (e.g. ISO; IEC, Codex Alimentarius)
- Modification of laws or establishment of precise executive orders (against arbitrary interpretation of laws). This commitment is important in the mentioned grey areas, where non-automatic licenses render authorisation procedures unpredictable. This is the main category of commitments in the field of government procurement.

In this context it should be noted that the level of consumer protection and environmental legislation prevailing in the EU and Korea is much more comparable than exists with all the other FTA partners with whom the EU envisages to start negotiations. Hence it should be relatively easy to achieve recognition of equivalence of technical regulations. As shown, the KORUS provides for a series of sectoral commitments and strengthened horizontal rules against technical barriers to trade. European companies will benefit from many of these provisions (particularly on transparency and procedural issues). However, recognition of equivalence of technical regulations and mutual recognition of testing procedures can only be achieved bilaterally between the EU and Korea.

In order to achieve regulatory cooperation, technical regulations should be notified to the partner country at an early stage which would give room for comments on trade effects and provide the opportunity to suggest less trade-distorting measures. Whenever regulations are taken, EU and Korean policy-makers should take into account the regulations and procedures already in place in the partner country. An institutionalised dialogue between EU and Korean regulators could be useful. However, experience shows that regulatory convergence is hard to achieve. Ex-post notification (after rules are established) does not bring about any added value, since this has to be done already at the WTO level. Regulatory convergence cannot be achieved

through ex-post transparency. The US/Korean TBT working group and provisions on transparency can serve as a starting point for the assessment of what can be achieved bilaterally.

6.3 Overall implications of deep integration under an FTA between South Korea and the EU

Korea's FTA strategy had been detailed in the strategy roadmap, which was published in 2003. The Korean government declared that it is adopting two strategies in actively pursuing FTAs with its trading partners. First, Korea uses a *multi-track* strategy pursuing several FTAs with many nations simultaneously. The reason for this strategy is that Korea needs to speed up in forming FTAs to catch up with the world trend so that the opportunity costs can be reduced for the Korean economy. Also, when FTA negotiations are pursued simultaneously, the disadvantages or negative effects of one FTA can be offset by another FTA, which will maximise the overall national benefits.

Evaluation

Korea has made earnest efforts to strengthen its capacity to pursue FTA negotiations in a multi-track approach: creating the Ministry of Trade (and the FTA Division) within the Ministry of Foreign Affairs and Trade (MOFAT); and recruiting and training negotiation experts in the Ministry. Communications systems among the ministries, the industries and experts including academics have been built-up. These were half-way in place by 2006.

This year, the FTA division in the MOFAT is expanding to an FTA headquarters which has two divisions. After finishing its FTA negotiations with the US, the Korean government decided to expand its organisation, recognising that a more efficient use of its staffs can lead to maximisation of the results of each negotiation process. Now the headquarters of the FTA team will have more than 80 government officials, supported by experts of lawyers, economists and others.

Korea is also pursuing *high-level and comprehensive* FTAs. The abolition of tariffs on goods is not enough. An FTA should include tariffs reductions or their abolition in the services market, investment, government procurement, intellectual property rights and technical standards. Korea's FTAs should be harmonised with WTO/GATT and GATS rules. As well as sound government policies and strategies, broad public support is critical for the successful implementation of an FTA. The country's past experience with the Korea-Chile FTA carried important lessons on the need to people's support. Therefore, the Korean government ruled that all progress in FTA negotiations must be transparent and the terms must actively reflect the opinions of business, professional and trade organisations.

Evaluation

Prior to the Korea-US FTA, it is difficult to evaluate whether Korea followed the strategy of negotiating 'high-level FTAs', although in a sense, comprehensive FTAs have been achieved. There are many areas of disappointments from Korea's past experience with FTAs, including those with Chile, Singapore and EFTA.

In the Korea-Chile FTA, the concession rate from the Korean side was 99.8% including 100% for manufactured goods and 98.5% for agricultural goods. The share of 'immediate elimination' of tariffs was lowered to 87.2% in total, including 15.6% for agricultural goods, 69.5% for fishery products and 58.2% for wood and wood-related goods. In the Korea-Singapore FTA, the concession rate from the Korean side was only 91.6%, including 56.2% for the fishery products and 66.6% for agricultural goods. As for tariffs subject to 'immediate elimination', the share was only 59.7% in total, including 13.8% for fishery products and 16% for agricultural goods. It is interesting to note that the concession rate and the rate for immediate elimination for Singapore were both 100%.

In the Korea-EFTA FTA, Korea's total concession rate amounts to 99.1%, including 84.2% for agricultural goods. The ratio of tariffs immediately eliminated for whole goods amounts to 86.3%, including only 15.8% for agricultural goods. In the Korea-Chile FTA, the general degree of openness

was higher for Korea, while in both the Korea-Singapore and Korea-EFTA FTAs, Korea lagged behind its partner in the degree of openness.

In the Korea-US FTA, Korea's concession rate amounts to 100%, including 94% of early elimination (within three years of elimination), which is higher than 90.1% in the case of the Korea-EFTA FTA. Furthermore, the FTA can be taken to achieve substantial development in market opening, including the key areas of IPRs, legal and accounting services, agriculture, automobiles and investment.

In selecting its partner countries, Korea seeks large and advanced economies because its ultimate goals in the FTA policy are to maximise the economic benefits and advance its economic structure. That is why Korea has pursued FTAs with the big and advanced economies of the US, Japan and the EU, and with the big and emerging BRIC economies (Brazil, Russia, India and China).

Evaluation: The Korea-US FTA is the first FTA that Korea has negotiated with a big economic power.

Why are high-level and comprehensive FTAs strongly recommended for the creation of FTA networks in harmony with worldwide trade liberalisation?

The move towards regional economic integration that is flourishing in East Asia gives growing concerns that these FTAs or RTAs may only produce stumbling blocks to trade liberalisation at the multilateral level. The answer to this challenge seems to depend on the types of FTAs being negotiated. It is important to recall that we need to create FTAs that offset the growing cost of the 'spaghetti bowl' effects. That is, to create a type of FTA that is acceptable to the philosophy of multilateral trade liberalisation.

In searching for a type of FTA that is in harmony with multilateral liberalisation, it should be emphasised that the FTA process is not only a negotiation process, but it is also a highly domestic matter. The positions of the negotiating representatives in each country are just a mirror of how advanced the economy is, how developed are the institutions of the economy, how strongly do the people in the country believe that they benefit from the liberalisation and, of course, how competitive are the domestic industries in the economy. As the FTA process includes these domestic factors, it is important to create an FTA that the domestic economic system can support.

By the way, the adverse effects cannot be underestimated when an FTA produces a herd of disadvantaged people who are hit by the opening of markets. If the benefits of trade liberalisation are not widely shared by all people in the economy, further liberalisation is consequently endangered. The world must confront the challenge so that the benefits of trade and investment liberalisation can reach all peoples thus, allowing further liberalisation to take place.

In order to spread the benefits of trade liberalisation, well-designed programmes of remediation are necessary, but other measures such as structural reform in the domestic market, capacity-building and anti-corruption are also critical for the success of the FTA process, as they can serve a useful means for providing equal opportunities, enhancing the capabilities of disadvantaged groups and spreading practices of good governance. Structural reform can make up for defects in market failures, which disproportionately hit disadvantaged groups. It also aims at enhancing efficiency in the public sectors, which is crucial for the promotion of disadvantaged groups. For building capacity, social capital as well as human capital needs to be emphasised, as it is more difficult for disadvantaged groups to create social capital. Anti-corruption is also a very important issue to assist the disadvantaged group, as vested interests groups discriminate against the disadvantaged while seeking illegal rent.

All of these issues are deeply related to economic reform of the domestic economy. And it is strongly recommended that only high-level and comprehensive FTAs can bring about this kind of economic reform in the domestic economy. Low-level FTAs only produce half measures or no economic reform at all, which creates a stumbling block to worldwide trade liberalisation. Economic reform shares the same goals as the worldwide trade liberalisation process. Moves towards FTAs in the region should contribute to triggering domestic reform, which in turn contributes to further progress in worldwide trade liberalisation. That is why comprehensive and high-level FTAs are strongly recommended.

In this respect, the Korea-EU FTA is very important for strengthening Korea's FTA strategy for the high-level (or deep) FTA. In the first instance, the EU cannot be excluded from its FTA strategy of pursuing a multi-track, high-level and comprehensive approach with the big economies. Second, a Korea-EU FTA would provide a good chance to expand trade with the giant economy and create additional wealth. Third it also can serve as a stepping stone in accelerating the economic reform and upgrading the Korean economy, which is similar to the aim behind the Korea-US FTA.

For the successful start and completion of the Korea-EU FTA negotiations, many factors should be considered, including, the existence of a strong will to evolve preliminary talks to a higher level; the development of negotiations in the Doha Development Agenda (DDA), which had faced a deadlock since mid-2004 and resumed very recently with even less probability of success for the end- of-year deadline; and the approval of the outcomes of the Korea-US FTA. There is plausible reason to believe that political sensitivities within Korean society would not be so high as shown in the course of negotiating the Korea-US FTA, and nor would the response on the part of interest groups on both sides be so great.

Korea remained aloof from the global trend of regionalism, but the country is now pursuing FTAs on a multi-track basis as a major pillar of its trade policy, in parallel with multilateral liberalisation. More than 50 countries are presently participating in FTA networks worldwide, including small but strong countries such as Chile, Singapore, EFTA and Canada; big and advanced economies of the US, EU and Japan; and big and emerging economies such as ASEAN, China, India, Mexico, MERCOSUR and Russia.

The Korea-Chile FTA, which was Korea's first such agreement, attracted much attention because of the intense protests it provoked from Korean farmers' associations and it thus took a long time to negotiate. Fortunately, the Korean people are coming to realise the importance and effectiveness of FTAs. The way in which Korean industry and companies utilise and benefit from FTAs is critical to maximising their economic impact. The numbers and estimates produced by institutes and governments are based on the assumption of rational actors in the economy. Thus, if industry does not effectively perform, the numbers and estimations might be quite different. The Korean government views broad public support as a basic requirement for a successful FTA, and hence, it is trying to generate more support from its people.

The impact of Korea's forthcoming elections on the negotiations of the EU-Korea FTA

Presidential elections in Korea will take place in December of this year, and the general elections for the National Assembly in April 2008. To evaluate the possibility of any impact of these political activities on the negotiations of the EU-Korea FTA, it is necessary to survey the recent political geography in Korea.

The Roh, Moo-hyun administration, which had been regarded as centre-left in its political orientation, has made a strong push for the successful establishment of the KORUS FTA over the past two years. In the course of the final stages of the negotiations over the last couple of months before its signing, President Roh has given strong support to the Korean FTA team to complete the negotiations, contrary to the expectations of the Korean public and elites. Thus,

there would be little possibility that a Korea-EU FTA schedule would be interrupted this year by the Blue House, or Uri Party, once it might become the majority party under the Roh administration.

The GNP (Grand National Party or Hannara Party), on the centre-right, has the largest number of seats in the National Assembly today. The party also has the strongest presidential candidates, who have received the highest approval ratings from the public in the polls. Both candidates, Mr. Lee, Myung-Bak and Ms. Park, Keunhae would be the last persons to object to the negotiations of any FTAs, as the party has supported Korea's trade liberalisation strategy, which was initiated in the 1960s when the predecessors of the party assumed political power. Especially Mr. Lee, who was an extremely successful CEO in the Hyundai Co. and is now leading the presidential race, supports the current FTA policy of the Roh administration.

As the campaigns approach, public attention in Korea would be re-directed from the negotiations process of an EU-Korea FTA to the Presidential election, which would give more room to the Korean negotiation team. This development could actually have a positive impact on a successful completion of the FTA negotiation. In the course of the KORUS FTA negotiations, it was rather difficult for the Korean and American teams to reach a reasonable conclusion due to irrational response from the Korean public and anti-KORUS FTA groups in the Korean society. The EU-Korea FTA negotiations may take place against a more favourable background than did those of the KORUS FTA.

Completion of the negotiations is one thing and the approval of the FTA is another. Now that the general election is approaching, the members of the National Assembly from rural areas must do their best to be seen to block the KORUS FTA bill and to stall the bill in the National Assembly. It would be quite difficult to predict the possibility of the passage of the KORUS FTA bill now, but there is a growing probability that the bill will be stalled until next spring after the new National Assembly is formed. Or the bill could be passed through the National Assembly this year against strong objections from the members from rural areas.

Therefore, the best strategy is to complete the FTA negotiations with Korea as quickly as possible, if the European Union wishes to minimise the possibility of trade diversion caused by the effectiveness of the KORUS FTA. The interval of time between the approval of the KORUS FTA and that of the EU-Korea FTA needs to be minimised.

6.4 The optimal strategy for the timing of a EU-Korea FTA

The question of timing has several facets. It is mainly the decision about when to start negotiations, but also about how rapidly to conclude an agreement. The timing of the onset of negotiations has already been decided. The first round of negotiations started on May 7, 2007.

When considering the question of optimal duration of the negotiations, *political aspects* can be considered, as was discussed in section 6.3.

Moreover, a *variety of economic and strategic arguments* can be found to support the conclusion of negotiations either more rapidly or less rapidly. This chapter will therefore analyse the advantages and disadvantages of waiting until the EU's main competitors have concluded their bilateral trade agreements with Korea. At the time of writing, however, the negotiations between Korea and Japan have stalled and those between Korea and China have not yet started, but it appears that the Korean negotiations with Canada will be finalised soon and a free trade agreement between Korea and the US has just been concluded. While the ratification of this latter agreement by the political bodies of the respective countries is not guaranteed, the following analysis will rely on this assumption. Prompted by the deal with the US, it has become more likely that the negotiations with Japan will resume and that the negotiations with China might also follow in the not too distant future.

Advantages of letting the EU's competitors move first

Several arguments can be found for the strategy of 'waiting'. As far as Japan, China and other possible competitors are concerned, 'waiting' would mean planning for slow negotiations between Korea and EU. However, as the US is probably the main competitor of the EU, the following arguments can be seen as a possible justification for having let the US (and also to some extent Canada and EFTA) move first.

1. For several reasons it seems plausible that *less time is needed* for the EU-Korean negotiations when other agreements with industrialised countries have already been concluded. Firstly, to a large extent templates of an agreement are already available or need only to be adapted. Secondly, Korean negotiators have already been able to gather experience in negotiating trade agreements with industrialised countries.

As a consequence of the shortened negotiating time, the EU would need to invest fewer negotiating capacities. This could be helpful as the EU is already negotiating several other agreements (e.g. Mersocur, GCC, EPAs) and will probably start further time-consuming negotiations with India and ASEAN. Moreover, with fewer capacities needed for establishing and dealing with a general negotiating framework, the EU can concentrate sooner and more intensively on special and possibly time-consuming aspects, such as constraints on existing and new NTBs.

2. The EU may *benefit in several respects from the outcomes of the prior agreements* between Korea and the EU's competitors:

- In services negotiations and other regulatory issues, liberalisation commitments (e.g. a deregulation of a formerly monopolised market) can benefit all countries and thus basically qualify as MFN liberalisations. The EU would then benefit from better market access to the Korean market without having to 'pay' in terms of its own liberalisation commitments. This argument can be qualified to some extent, however. From the perspective of the EU's competitors, this kind of Korean MFN liberalisation carries positive externalities. There is an incentive for the EU's competitors to focus on preferential and discriminatory liberalisation in services and regulatory issues (e.g. licensing, limited FDI access) and also to limit the coverage of services to those sectors where the domestic companies of the particular EU competitor are especially competitive. The negotiating outcome between Korea and the US provides, for example, for enhanced regulations in Korea regarding copyright, patents and transparency provisions (e.g. regarding standards-setting procedures or pharmaceutical issues), which should generally benefit the EU as well. On the other hand, the US has secured seemingly only preferential access for US companies, e.g. regarding full ownership of telecommunications operations and in the broadcast market and preferential access in financial and professional services – all sectors where US companies are renowned to be highly competitive.
- Concerning possible Korean service liberalisation, however, the EU may profit from letting the US move first. With its large negotiating power and its focus on services, the US has managed to obtain very significant service liberalisations from its partner countries in earlier bilateral trade agreements which go well beyond the offers of these partner countries in the Doha Round of multilateral negotiations (Roy et al., 2006). These possible Korean commitments may be MFN liberalisations so that the EU would benefit directly, or they may be preferential liberalisations that could be easier for the EU to negotiate as Korea has already shown flexibility in this particular area.
- Resistance to Korean (preferential) liberalisation from import substitution industries will be greatly reduced once the FTAs between Korea and other industrialised countries have been implemented. From the point of view of such industries, it does not matter whether intense competition from the industrialised world comes from the US or from the EU. This

strengthens the EU's negotiating position. In terms of the mercantilist negotiating structure, the EU should not have to 'pay' too large an amount of its own liberalisation commitments to outweigh Korean liberalisation in those fields where Korea has already yielded preferentially to the US. Instead, the EU could save its 'bargaining chips' for negotiating areas of particular importance and may thus be able to achieve a better agreement than its competitors. This is all the more true as the structural adjustment in Korea is predicted to be less grave in a bilateral agreement with the EU than with the US, Japan or ASEAN (Kim et al., 2005).

Advantages of concluding an agreement rapidly/disadvantages of 'waiting'

Moving first in an FTA with a certain country provides the opportunity of market-share gains in comparison to the main competitors. Indeed, the EU had to experience severe market-share losses in Mexico once NAFTA had been concluded between the US, Mexico and Canada. The ensuing EU-Mexico negotiations proceeded very rapidly after this and the EU's market share rose again markedly.

Regarding Korea, a similar scenario can be envisaged. CGE analysis (Kim et al., 2005) suggests that the EU would suffer significant (temporary) market-share losses particularly from an FTA between Korea and the US. Thus, the EU is likely to be under pressure to limit these negative effects by rapidly concluding an FTA with Korea. Moreover, such a strategy would prevent Korea from concluding earlier FTAs with other competitors of the EU, which would further increase the (temporary) market-share losses.[11] This constellation potentially weakens the EU's negotiating position, as the Korean government is well aware that after a US-Korean FTA, the EU will be in dire need of an agreement to level the playing field again.

However, the need to achieve a rapid agreement might not be as compelling as suggested above. The EU is in a position to choose from a strategic trade-off: the (temporary) market-share losses could be outweighed by better (and permanent) negotiating outcomes in terms of access to the Korean market, if the EU can credibly signal to the Korean government that it is prepared to accept the (temporary) market-share losses for some time (as the price for having let the US move first).

There are some further arguments that tend to strengthen the EU's negotiating position:

- CGE analysis suggests that EU companies are very competitive and would gain market shares in a scenario in which Korea has FTAs with the EU and its main competitors at the same time – compared to a scenario with no Korean FTAs with the EU and its main competitors (Copenhagen Economics, 2006, p. 37).
- Following the US-Korea agreement, which will entail considerable structural adjustment for Korea, the additional adjustment required due to an EU-Korea FTA will be limited and thus the Korean 'bargaining chips' will not be as 'valuable' as they would be in the absence of a US-Korea FTA.
- Furthermore, CGE evidence suggests that Korea is likely to gain more than the EU from an FTA with the EU in terms of absolute real income (Copenhagen Economics, 2006, p. 27).

However, the strategic decision to accept market-share losses might only work if the market-share losses are truly temporary. Therefore, the question of whether market-share losses could become permanent is explored here. There are two main reasons that could lead to a

[11] There is disagreement in different CGE analyses as to whether market-share losses for the EU from Korean FTAs with other countries (such as the US and Japan) are only relative (Copenhagen Economics, 2006) or even go along with an absolute decrease of EU exports to Korea due to stronger trade diversion (Kim et al., 2005).

perpetuation of market-share losses: permanent first-mover advantages and the setting of discriminatory standards in an FTA that would be incompatible with EU standards.

Permanent market-share losses in Korea due to first-mover advantages?

It is debatable whether permanent first-mover advantages can be considered a widespread phenomenon. It is true that the academic literature offers several plausible arguments – at least for medium-term gains due to, for example, the existence of market entry barriers, network externalities or clientele effects (see box on first-mover advantages). However, theoretical and practical arguments to the contrary can also be found, and the empirical evidence lends only mixed support to the hypothesis (López & Roberts, 2002; Berger & Dick, 2004).

CEPS has therefore tried to gather information directly from several business organisations and companies by means of a questionnaire (reproduced in the annex). Due to a rather limited number of answers regarding the relevance of first-mover advantages, only very tentative conclusions can be drawn. Concern is mentioned to a limited extent by an EU subsidiary in Korea from the healthcare business and to a larger extent by a French automobile company and an EU subsidiary in Korea from the electronics and machinery industry. The other four answers (from the non-ferrous metals industry, shipbuilding, a German automobile firm and from another subsidiary in Korea from the electronics and machinery industry) see no or only very limited permanent first-mover advantages.

All in all, the danger of permanent market-share losses due to irreversible first-mover advantages is acknowledged, but it does not seem to be of very great importance. However, further analysis and information from the business sector would be helpful in order to gain better insights into possible first-mover advantages with respect to the Korean market.

In competitive and contestable markets, market-share losses will only be temporary, as competitive firms will be able to attract consumers in the medium and long term. Nevertheless, there are several theoretical arguments to support the notion of more permanent market-share losses due to first-mover advantages (Mattoo & Fink, 2002; López & Roberts, 2002; Berger & Dick, 2004; Lamy, 2006). On closer inspection, however, these arguments can to some extent be qualified.

First-mover-advantages can theoretically arise due to supply- or demand-side characteristics of the market.

- On the supply side, *economies of scale*, e.g. in the form of high fixed costs can pose an entry barrier, as the incumbent with a large amount of output will be able to produce at a lower average cost than a newcomer who sets out at smaller scale. However, the evidence concerning the relevance of economies of scale is mixed (Berger & Dick, 1999). This could be explained by the notion that a (potentially competitive) firm with sufficient capitalisation could enter the market and compete against the (potentially less competitive) incumbent, knowing that initial losses could be outweighed once the new firm grows large enough to out-compete the incumbent.
- However, in close connection to markets involving high fixed costs, another supply-side argument relies on the commitment value of *sunk costs* – i.e. fixed costs that are necessary for market entry but are so specific that they cannot be retained when leaving the market. Thus, sunk costs can be regarded as costs for failed market entry. In game theoretical terms, sunk costs constitute a commitment value, signalling to the newcomer that the incumbent will stay and will not easily be out-competed as the investment will in this case be completely lost. Sunk costs are seen as particularly relevant in services sectors where location-specific investments are necessary, e.g. in a telecommunications network or in a

network of bank branches.[12] (The negotiating outcome for the FTA between Korea and the US provides, for example, for the establishment of branches for US financial companies.) Mattoo & Fink (2002) quote some sparse empirical evidence for sunk costs in service markets. Lamy (2006) points to the principal relevance of sunk costs in relation to preferential trading agreements.

- On the demand side, a *clientele effect* – i.e. a certain permanence in the customer-supplier relation – can arise mainly for two reasons. Firstly, the existence of *switching costs* – i.e. transaction costs of a change of the business relation – can be particularly relevant in certain markets, e.g. in financial markets when changing the bank account is cumbersome or even more when selling an insurance policy (after a relatively short time) causes considerable losses. Secondly, *customer inertia* pertains on the one hand to the (irrational) reluctance of consumers to switch suppliers out of habit even though it is obvious that other suppliers offer better terms. On the other hand, (rational) customer inertia can arise due to information asymmetries when risk-averse customers hesitate to give up an established business relationship to the incumbent in markets where unobservable quality and/or mutual trust are relevant. This could be relevant in banking, but also in certain professional business services (e.g. auditing, tax consultancy, legal services). A 'clientele effect' might insulate to some extent and for some time against efficient newcomers, but it is questionable whether it will be also relevant in the medium to long term when the demonstration effects of an increasing number of customers, who change the business relation, will cause hesitant customers to also do so.

- In *network and software industries*, first-mover advantages on the demand side are relevant, particularly if different systems are incompatible with each other (Shapiro & Varian, 1999). Once the first mover has established a critical mass in using a standard (e.g. Microsoft Windows) or a communications network, the followers will find it very difficult to compete, because the value of a network or a software standard increases with the number of participants (*positive network externalities*). Thus, for national competition policy, there is a trade-off between accepting a widely used standard/network and using strict anti-trust policies against the implied monopolisation of the markets.

- In addition, there may be a phenomenon which could be termed '*limited market'* where moving first can entail a long-term advantage. In strongly regulated markets the administration can directly influence the intensity of international competition by distributing licenses to only a limited number of foreign suppliers. In Korea limited licensing is used, for example, in telecommunications, broadcasting and professional services (see USTR, 2006). Thus, the US as the first mover among larger industrialised countries could potentially obtain such licences, and the remaining market share could be restricted for the followers. Judging from the negotiating outcome between the US and Korea, with preferential US-access to these service sectors, this aspect could become relevant to the EU. In the medium and long term, licenses might be redistributed and the number of foreign suppliers extended, but counting on this option might prove to be in vain. Moreover, as the incumbent will have gained experience in the market and may profit from the above-mentioned first-mover advantages, it might still prove difficult for latecomers to gain a significant share of the market, if they obtain licences later-on.

First-mover advantages: Theoretical arguments and qualifications

In certain service industries (with high location-specific sunk costs, network externalities or a 'limited market'), first-mover advantages might be relevant. To some extent, a clientele effect might occur, but it should tend to lose relevance in the medium to long term. In the case of Korea, where foreign

[12] Instead, investments in goods markets might be used to produce for other regions or countries.

firms are already present in many markets, first-mover advantages are generally less relevant. However, where market access is still severely restricted for foreign companies (e.g. in several service industries), there is some potential because, due to protectionist barriers, Korean service providers are considered less productive than foreign competitors (Copenhagen Economics, 2006, p. 4). Therefore, US service firms can be expected to gain a significant market share if admitted to the market first.

However, there are several arguments that put these conclusions into perspective:

- In case of high fixed (sunk) costs, the relatively large amount of investment required to enter a market as a newcomer might not be as great a deterrent for a huge multinational company as for a smaller supplier. Moreover, EU multinationals have considerable experience in their respective markets so that the risk of failure (and of a loss of sunk costs) is certainly less relevant.
- Multinational companies might also be able to take over or merge with an incumbent, provided that such a strategy is permitted and that the incumbent firm is an incorporated company or, if not, the company can be acquired. This strategy can circumvent any of the above-mentioned entry barriers and eliminate any potential first-mover advantage of the incumbent.
- In general, latecomers have the advantage of being able to learn from the experience of the first mover and are likely to commit fewer mistakes.
- From the Korean perspective first-mover advantages imply the danger that the incumbent foreign firm is not the most efficient one – and will not become the most efficient one because it is protected by market-entry barriers. Thus, it would be to the benefit of Korea to put in place a functioning competition policy in order to avoid such cases. Moreover, in the case of a highly regulated 'limited market', where EU competitors have been granted exclusive market access (e.g. via licenses), there should be the incentive for the Korean administration not to perpetuate such an arrangement but to change suppliers or to open the market for further competition after a relatively short time period.

All in all, first-mover advantages might be possible, particularly in certain service sectors, but do not appear to be widespread or highly permanent phenomena for the economy as a whole.

Permanent market-share losses in Korea due to incompatible standards?

The potential EU strategy to trade off temporary market-share losses against better negotiation outcomes could also be hampered in another scenario: long-term market-share losses might result if EU competitors implementing an early FTA with Korea negotiate product standards and technical regulations that are incompatible with European standards. In this case expensive adaptations of European products could be necessary. If these adaptations were only required for the Korean market and if the sales in Korea were too small to allow substantial economies of scale, then the competitiveness of European business could be hampered permanently.

As the US is considered to rely much less than the EU on internationally accepted standards and has in some cases tried to induce countries to adopt US standards, this danger appears relevant. We evaluate this hypothesis below following a brief note on different kinds of standards and a look at differing approaches to standard-setting followed in the EU, Japan, Korea, and the US.

In general, product standards and technical regulations are useful instruments to assure, for example, consumer safety. But under this pretext they can be used elegantly for protectionist purposes and can become important non-tariff barriers to trade whose impact is difficult to quantify (Maskus & Wilson, 2001). Therefore, in the context of the WTO (mainly the TBT and SPS agreements), the use of internationally recognised standards and the reliance on sound scientific assessment is encouraged. International organisations in charge of setting worldwide accepted standards exist for several product categories. However, as often there is only minimal international consensus, there remains room for higher – and possibly discriminatory – standards at the national level (Egan, 2002).

The extent of discrimination against foreign suppliers depends on the kinds of standards used. In the academic literature two types are distinguished (Baldwin, 2000; Edwards, 2007). Horizontally differing norms achieve the aim (e.g. consumer protection) by using different approaches. A typical example concerns electrical plugs. Vertically differing norms can vary in degree of strictness (and consumer protection) and are usually formulated as minimum standards. An example of this kind of standard would be a car's emissions standards. In general, the adaptation to a differing horizontal standard is more costly, as the product has to be changed substantially. Vertically differing norms are no problem for the country with the higher standard. However, depending on the kind of product, the investment to meet a higher vertical standard in another country could be costly.

Korea, the EU and the main competitors of the EU (US and Japan) follow differing regulatory approaches.

- The EU is largely oriented towards international standards (Egan, 2002; WTO, 2004a, p. 61).
- The same is largely true for Japan, however with a certain exception of some industries like automobiles (WTO, 2006a, p. 30 & 42).
- Korea also increasingly applies international standards (WTO, 2004b, p. 38). Nevertheless, the Korean authorities are criticised by other countries for still applying many standards that are incompatible with international approaches, having overlapping responsibilities between several regulatory authorities and using unnecessary and burdensome conformity-testing procedures while barely accepting overseas conformity-testing results. Moreover, a general lack of transparency in the regulatory system is also criticised (WTO, 2004b, p. 38 & pp. 57-61; EUCCK, 2006; Schott, 2006; USTR, 2006).
- The US relies much less on international standards but to a large extent on national regulations which are often set by the market (Egan, 2001). The WTO's trade policy report (WTO, 2006) states that there is no centralised information on the extent to which the US relies on international standards or which US regulators have recognised foreign regulations. Moreover, a lack of transparency is criticised due to multiple responsibilities in standards-setting – on the federal level, the state level, by municipalities or even by insurance companies (Egan, 2001; EC, 2006).

Judging from these differences, an earlier FTA between Korea and Japan should not be particularly critical for EU competitiveness. However, potential problems could arise for EU companies from an FTA between the US and Korea – as both countries have a tendency to apply their own standards or use standards (and conformity-testing measures) in a national way that tends to give rise to more trade costs than are necessary. There are several arguments that support this notion:

- The Korean authorities already apply US standards in the automobile sector concerning bumper tests and are introducing US standards regarding on-board-diagnostics (OBD) for gasoline-driven cars (EUCCK, 2006). As mentioned earlier in section 6.1, under KORUS, the US and Korea agreed to cooperate bilaterally "*including in the World Forum for Harmonization of Vehicle Regulations of the United Nations Economic Commission for Europe, to harmonize standards for motor vehicle environmental performance and safety*".
- There are major differences in the regulatory approaches between the EU and the US concerning antitrust policies (Yale Global Online, 2006) and the governance of intellectual property rights (EC, 2006). This could pose problems for the EU, if the US were successful in getting Korea to adopt the US approach.
- The European Commission's report on trade barriers in the US (EC, 2006, p. 21) reports that the "US actively seeks to deflect countries with which it has particularly intense trade in

electrical and electronic equipment from the path of international standardisation". This campaign was said to have increased in recent years, particularly in Latin America. There is a danger that the US could use this strategy in the case of Korea.

However, these concerns appear to be overdrawn. In fact, there is only mixed evidence of the US pressuring other more highly developed countries. In the FTA treaties with other rather advanced countries, for example, Australia, Chile, and Singapore (USTR, 2007a, b, c), there is hardly any evidence that particular US standards were included. Instead, the agreements generally refer to the WTO's TBT – agreements which put emphasis on the non-discriminatory use of international standards. The negotiating outcome between the US and Korea also suggests a strong reliance on the TBT agreement and promotes Korea's stronger reliance on international standards. However, two working groups (one with a particular focus on the automobile industry) have been set up in order to inter alia cooperate in the development of standards. It remains to be seen whether this will lead to any disadvantage to the EU.

The CEPS questionnaire (with its limited number of responses) also provides mixed results about the relevance of standards for potential long-term market-share advantages. Some companies and business organisations from the healthcare, non-ferrous metal and shipbuilding industry do not think that an "earlier FTA between Korea and US/Japan/China would lead to the adoption of standards/regulations that would impede the competitiveness of EU businesses" in their sector. However, two EU subsidiaries in Korea from the machinery/electrical industry and two EU automobile companies see the problem in general and one (of these) also anticipated problems particularly in the event of an (earlier) US-Korea FTA. Moreover, during a CEPS workshop, the engineering industry in particular expressed general concerns regarding the standards issue.

Generally and similar to the case of first-mover advantages, setting discriminatory standards could easily backfire, because Korea would risk granting a favourable position to (US) businesses that might not be the most efficient suppliers. To avoid such a risk and to foster competition among foreign suppliers to its own benefit, Korea is more likely to either continue to set its own standards (which entails the risk that inefficient domestic suppliers prevail) or accept international standards.

In contrast to first-mover advantages, the effect of incompatible standards is relevant only as long as the respective standard is in force. Thus, a later EU-Korean FTA will be able to address cases where significant problems with (US) standards in Korea have arisen.

In summary, disadvantages for the EU from potential first-mover advantages of EU-competitors or from discriminatory standards do not appear to be of great relevance. Thus, the strategy for the negotiations with Korea to trade off limited market-share losses against a better outcome seems viable. The advice would be to be as quick as possible in the negotiating process while avoiding a defensive position. In addition, a possibility to limit the build-up of potential first-mover advantages could be to aim for relatively short implementation periods of a future agreement (in comparison to the implementation periods in the Korean trade agreements with the competitors of the EU).

The issue of timing and the Doha Round

The issue of timing can also be analysed with respect to the DDA negotiations. The question of duration of future negotiations between Korea and the EU is considerably less important than the question of when these negotiations begin. As negotiations have started on May 7, 2007, how can this be interpreted? On the one hand, starting new FTA negotiations in the potentially final phase of the Doha round could be interpreted as evidence that the EU is no longer fully committed to the DDA. On the other hand, one might argue that this timing is of a tactical nature. By signalling that the EU has other trade liberalisation alternatives, the other WTO

members might be inclined to offer more valuable commitments in Geneva in order not to be bypassed or discriminated against by future EU FTAs.

In case the Doha round is not concluded in the next few months and is postponed until after the US presidential elections in November 2008,[13] a piece of advice can be given regarding the duration of future EU-FTA negotiations. As bilateral trade agreements can pose certain problems for the multilateral path of liberalisation (Glania & Matthes, 2005), the EU should aim to conclude its FTAs before the Doha Round is concluded. It remains questionable, however, whether the Doha Round will prove easier to conclude in the future when export interests in the industrialised countries will have been satisfied to a large extent by FTAs with important emerging countries, and might therefore have only limited incentives to lobby against the protectionist interests of the agricultural (and textile) industries.

References

American Chamber of Commerce in Korea (2006), "US-Korea Free Trade Agreement Position Paper", US-Korea Business Council and AMCHAM in Korea.

Arnold, J., B.S. Javorcik and A. Mattoo (2006), *Does services liberalization benefit manufacturing firms?*, CEPR Discussion paper series No. 5902.

Baldwin, R.E. (2000), "Regulatory Protectionism, Developing Nations and a Two-Tier World Trading System", in S. Collins and D. Rodrik (eds), *Brookings Trade Forum*, The Brookings Institution, Washington, D.C., pp. 237-293.

Berger, Allen N. and Astrid A. Dick (2004), "Entry into Banking Markets and the First-Mover Advantage", *Federal Reserve Bank of Chicago*, May, pp. 243-254.

Bronckers, M. and N. Van Den Broek (2005), "Financial compensation in the WTO: Improving remedies in WTO Dispute Settlement", *Journal of International Economic Law* 1.

Copenhagen Economics (2006), *Economic Impact of a Potential Free Trade Agreement (FTA) between the European Union and South Korea*, Copenhagen.

Edwards, T. Huw (2007), "Strategic Regulatory Bias under Noncooperation and under Mutual Recognition", mimeo, Loughborough University.

Egan, Michelle (2002), "Setting Standards: Strategic Advantages in International Trade", *Business Strategy Review*, Vol. 13, Issue 1, pp. 51-64.

EUCCK – European Chamber of Commerce Korea (2006), *Trade Issues Recommendations 2006* (retrieved from http://trade.eucck.org/site/2006/en).

EUCCK (2007), Intellectual Property Rights Committee Report, Seoul.

European Commission (2006), *United States Barriers to Trade and Investment, Report for 2005*, Brussels.

Fink, C. and D. Nikomborirak (2007), *Rules of Origin in Services: A Case Study of Five ASEAN Countries*, World Bank Policy Research Working Paper 4130.

Glania, Guido and Jürgen Matthes (2005), *Multilateralism or Regionalism? – Trade Policy Options for the European Union*, CEPS, Brussels.

[13] The US Congress, which has been dominated by the Democrats since autumn 2006, might not be prepared to renew the Trade Promotion Authority (the so-called 'fast-track' authority) granted to the executive branch, after its expiration at the end of June 2007.

Kim, Heungchong et al. (2005), *An Analysis on the Economic Effects of a Korea-EU FTA and Policy Implications*, Policy Analyses 05-09, Seoul.

Krugman, P. (1998), Fire-sale FDI (http//web.mit.edu/krugman/www/FIRESALE.htm).

Lamy, Pascal (2006), "Multilateral and bilateral trade agreements: friends or foes?", 2006 Gabriel Silver Memorial Lecture, Columbia University, New York.

Limao, N. and K. Saggi (2006), *Tariff retaliation versus financial compensation in the enforcement of international trade agreements*, World Bank Policy Research Working Paper No. 3873.

Lopez, Luis E. and Edward B. Roberts (2002), "First-mover advantages in regimes of weak appropriability: The case of financial services innovations", *Journal of Business Research*, Vol. 55, No. 12, pp. 997-1005.

Maskus, K. (2006), *Intellectual Property Rights and FDI*, Centre for International Economics Studies Policy Discussion Paper No. 22, University of Adelaide, Australia.

Maskus, K.E. and J.S. Wilson (eds) (2001), *Quantifying the Impact of Technical Barriers to Trade*, Ann Arbor, MI: Michigan University Press.

Mattoo, Aaditya and Carsten Fink (2002), "Regional Agreements and Trade in Services: Policy Issues", *World Bank Policy Research Working Paper*, No. 2852, Washington, D.C.

Roy, Martin, Juan Marchetti and Hoe Lim (2006), *Services Liberalisation in the New Generation of Preferential Trade Agreements (PTAs): How much further than the GATS?*, WTO Staff Working Paper ERSD-2006-07, WTO, Geneva.

Schott, Jeffrey J., Scott C. Bradford and Thomas Moll (2006), *Negotiating the Korea-United States Free Trade Agreement*, Policy Brief, No. PB06-4, Institute for International Economics, Washington, D.C.

Shapiro, Carl and Hal Varian (1999), *Information Rules: A Strategic Guide to the Network Economy*, Cambridge, MA: Harvard Business School Press.

USTR – United States Trade Representative (2006), *2006 National Trade Estimate Report on Foreign Trade Barries* (retrieved from http://www.ustr.gov/Document_Library/Reports_Publications/2006/2006_NTE_Report/Section_Index.html).

———— (2007a), *Chile FTA Final Text* (retrieved from http://www.ustr.gov/Trade_Agreements/Bilateral/Chile_FTA/Final_Texts/Section_Index.html).

———— (2007b), *Singapore FTA* (retrieved from http://www.ustr.gov/Trade_Agreements/Bilateral/Singapore_FTA/Section_Index.html).

———— (2007c), *Final Text of the U.S.-Australia Free Trade Agreement* (retrieved from http://www.ustr.gov/Trade_Agreements/Bilateral/Australia_FTA/Final_Text/Section_Index.html).

USTR (2007), "Trade Facts: Free Trade with Korea, summary of the KORUS FTA" (www.ustr.gov).

WTO – World Trade Organisation (2004a), Trade Policy Review, European Communities, Report by the Secretariat, Geneva.

———— (2004b), Trade Policy Review, Republic of Korea, Report by the Secretariat, Geneva.

———— (2006a), Trade Policy Review, Japan, Report by the Secretariat, Geneva.

———— (2006b), Trade Policy Review, United States, Report by the Secretariat, Geneva.

YaleGlobal online (2007), *US-South Korean Free-Trade Agreement: The Cost of Failure* (retrieved from http://yaleglobal.yale.edu/article.print?id=8600).

Yang, J (2005). Learning by doing: The impact of a trade remedy case in Korea. In *Managing the challenges of WTO participation: 45 case studies*. (eds.) Gallegher, P., Low, P. and A. Stoler, Geneva.

Annex 1. Questionnaire: Introduction to the EU/Korea FTA

CENTRE FOR EUROPEAN POLICY STUDIES
Place du Congrès 1, B-1000 Brussels
Tel: (32.2) 229.39.11
Fax: (32.2) 219.41.51

Introduction to the EU/Korea FTA

Deadline for answers:

Part 1: Information about your company/ association

Name of your company / association

……

Which sector do you represent / on which sector does your company focus on?

……

Contact details:

Name and Position: ……

Day time telephone number: ……..

E-mail address: ……

May we contact you by phone/e-mail for further information?

☐ Yes ☐ No

Part 2: Overall assessment of a FTA EU/Korea

1) What are the key issues to be addressed in a bilateral agreement from the point of view of the overall EU economy?

2) Do you believe that these issues will be addressed in the bilateral agreement?

3) To what should EU negotiators pay particular attention to?

4) How do you assess the economic importance of the FTA for the EU?

(not important) 1 2 3 4 5 (very important)

5) How do you assess the economic importance of the FTA for Korea?

(not important) 1 2 3 4 5 (very important)

6) Could you indicate how much an FTA could have an impact on

a) Exports from Korea to the EU:

(none) 1 2 3 4 5 (very significant)

b) Exports from the EU to Korea:

(none) 1 2 3 4 5 (very significant)

c) Investment from Korea to the EU:

(none) 1 2 3 4 5 (very significant)

d) Investment from the EU to Korea:

(none) 1 2 3 4 5 (very significant)

7) Do you support the bilateral negotiations?

(strongly against) 1 2 3 4 5 (strong support)

Part 3: Information on barriers to trade/investment in your sector

Please briefly describe the barriers, how much they restrain business activity of your company/sector and what you expect from an EU-Korea-FTA in this respective case.

Goods

Customs related issues (i.e. tariffs, procedures etc)

Standards and certification issues (i.e. mandatory or voluntary standards)

Internal regulation issues (i.e. taxes, domestic laws that favour local over imported goods, work permits, government procurement etc.)

Social or market-related issues (i.e. consumer preferences)

Other issues

Services and Investment

Market Access issues (i.e. prohibitions or other restrictions)

Post-establishment issues (i.e. domestic laws that favour domestic local investors or service providers)

Governance and competition related issues (i.e. process for obtaining government approvals)

Tax related issues (i.e. discriminatory taxation arrangements)

Social or market-related issues (i.e. staff recruitment, consumer preferences)

Other issues

Part 4: How will your sector be affected by an FTA?

1) Could you indicate how much an FTA could have an impact on

a) Exports from Korea to the EU:

(none) 1 2 3 4 5 (very significant)

b) Exports from the EU to Korea:

(none) 1 2 3 4 5 (very significant)

c) Investment from Korea to the EU:

(none) 1 2 3 4 5 (very significant)

d) Investment from the EU to Korea:

(none) 1 2 3 4 5 (very significant)

2) How will the FTA affect the market share of European companies of your sector in Korea?

(no increase) 1 2 3 4 5 (significant increase)

3) How will the FTA affect the market share of Korean companies of your sector in the EU?

(no increase) 1 2 3 4 5 (significant increase)

4) Will short term and long term effects on market shares, trade and investment differ?
If yes, please explain

☐ No ☐ Yes: ……

5) What are the key issues of concern in an FTA for your sector?

6) Might an FTA with Korea lead to reallocation of production in your sector? If yes, please explain

☐ No ☐ Yes: ……

7) Would an FTA with Korea effect employment in your sector?

☐ No ☐ Yes
If yes:

(sharp decrease) 1 2 3 4 5 (sharp increase)

8) Would it matter in terms of market share losses for EU businesses in your sector if Korea **only** implemented an FTA with the U.S. or with Japan and not with the EU?

(no) 1 2 3 4 5 (substantial)

9) Would it matter in terms of market share losses for EU businesses in your sector if Korea **firstly** implemented an FTA with the U.S./Japan/China and only afterwards with the EU?

(no) 1 2 3 4 5 (substantial)

10) Would possible market share losses be readily regained, if the EU-Korea-FTA was eventually implemented (after the FTAs between Korea and U.S./Japan/China) or would these losses rather be perpetuated?

(losses regained) 1 2 3 4 5 (losses perpetuated)

11) If losses rather perpetuated, please briefly explain

12) Would you prefer the EU to be the first major FTA-partner of Korea (compared to U.S./Japan/China) because you see potential for first-mover advantages in your sector that could be perpetuated after a later FTA with U.S./Japan/China?

(no advantage) 1 2 3 4 5 (large first-mover advantage)

13) If first-mover advantage exists, please briefly explain

14) Do you think an earlier FTA between Korea and U.S./Japan/China would lead to the adoption of standards/regulations that would impede the competitiveness of EU businesses in your sector? If yes, please briefly explain

☐ No ☐ Yes: ……

15) Is there any other point you would like to mention?

Annex 2. Workshop Programmes, 14 February (Brussels) and 8 March 2007 (Seoul)

Introduction to the EU-Korea FTA
CEPS Workshop, Brussels, 14 February 2007, 10:00-13:00

10:00 Opening remarks: Daniel Gros, Director, CEPS

10:10 Presentation on The EU-Korea FTA: The economic importance of Korea for the EU and an overview of the CEPS/KIEP study, Selen Sarisoy Guerin, Research Fellow, CEPS

10:30 The questionnaire, Guido Glania

Open discussions

Workshop of the Korea-EU Free Trade Agreement
Co-organised by CEPS and the Korea International Trade Association (KITA)
Seoul, 8 March 2007, 14:30-17:50, Trade Tower 51F Conference Room

14:30-14:50 Opening and Welcoming Remarks
Opening Remarks: Mr. Hee-Beom Lee (Chairman & CEO, KITA)
Congratulatory Speech: H.E. Brian McDonald
* subject to change according to the ambassador's schedule
(Ambassador, Head of Delegation, European Commission to the Republic of Korea)

14:50-16:10 Session I. The Economic Effects of Korea-EU FTA
Moderator: Dr. Selen Guerin (CEPS)
Presentation: (20 minutes each)
(1) The economic effects of Korea-EU FTA from Korea's point of view
Dr. Heungchong Kim (Head of Europe Team, KIEP)
* Currently conducting joint research with CEPS
(2) The effects of Korea-EU FTA from the EU's point of view
Dr. Selen Guerin (CEPS)
Discussants: (10 minutes each)
Dr. Sang-Hyup Shin (Kyung Hee University)
Mr. Andrea Esteban Sama (First Secretary, Embassy of Italy)
Mr. Raffaele Quarto (Head of Trade Section, Delegation of the European Commission to the Republic of Korea)

16:20-17:50 Session II. The Sectoral Effects of Korea-EU FTA
Moderator: Oh-Seok Hyun (President, TRI)
Presentation: (15 minutes each)
(1) The sectoral effects of Korea-EU FTA (Manufacturing sector)
Dr. Inkyo Cheong (Inha University)
(2) The sectoral effects of Korea-EU FTA (Agricultural sector)
Dr. Mahmut Tekce (CEPS)
(3) The sectoral effects of Korea-EU FTA (Manufacturing/Service sector – European Sentiment on the EU-Korea FTA)
Dr. Guido Glania (CEPS)
Discussants: (10 minutes each)
Mr. Joe Day (Vice Chairman, BCCK)
Mr. Jae-Hwa Jeong (Research Fellow, FTA Team, TRI)
Dr. Deuk-Kab Kim (SERI)

*** Each session will include Q&A with the floor and discussion among participants.**

Annex 3. Evidence of Regulatory Protection in Korean-EU Trade

It is usually difficult to obtain direct evidence of the presence of regulatory protection, other than anecdotal evidence. For this reason, trade economists have increasingly resorted to the use of econometric and other methods to infer the presence of such barriers. The usual methodology is to estimate a gravity equation, which relates trade between any pair of countries to the size of the two countries and (inversely) to the distance between them (see section 5.1 above for a more detailed discussion). Once size and distance have been taken into account, we can then infer the size of the trade barriers between two countries by the 'home bias' or 'border effect' dummy in the equation. If the border effect is to reduce trade between a pair of countries substantially, then we can infer that there are probably large trade barriers between them. These, of course, may not be simply non-tariff barriers: tariffs can have an effect, as can harder-to-measure things such as language or cultural differences. The residual barrier is then converted into a 'cost equivalent' with the use of an assumed trade elasticity: most studies currently indicate substitution elasticities in trade of between 4 and 10 for most commodities.

Following this methodology is relatively straightforward where we are looking at the effects of membership of an existing trade bloc - for example, the study in Emerson et al. (2006) on Ukrainian-EU trade relations looked at EU border dummies, and converted those into cost equivalents. The recent Copenhagen study (2007) of an EU-Korean FTA applies a similar methodology for services sectors only. Border effects for an individual country are harder to ascertain, unless regional data is available (as in McCallum, 1995). This is partly because average distance WITHIN a country is not easy to estimate. For this study, we have assumed a formula relating such trade to the square root of the area of a country.

Table A.3.1 shows our estimated equations for the various sectors. We have divided the economy into 17 sectors, based on aggregations from the GTAP[44] database for 2001. Gravity equations have been estimated on 11 of those sectors (due to time constraints), for 42 countries/regions aggregated from GTAP. These are: Distance, total sales by the exporting country's producers, total consumption in the importing country and dummies for sales 1) From EU15 to other EU15 members, 2) From EU10 (2005 accession states) to other EU10 members, 3) from Korea to Korea, 4) From EU15 to Korea. 5) From Korea to the EU15, 6) Home bias in any other country, 7) from EU10 to Korea, 8) from EU15 to EU10 and 9) From Korea to EU10. Unlike other studies, this methodology does not impose symmetrical barriers on trade between the EU and Korea.

Estimated equations are shown in Table A.3.1, below. By and large these are well-behaved statistically, with most size dummies reasonably close to unity (as theory would suggest) and trade declining with distance.

We concentrate on trade between the EU15 countries and Korea. For EU exports to Korea, we assume there are two possible levels of integration. First, the dummy for EU exports to Korea is removed. This brings EU exports to Korea into line with what would be expected from other countries' exports to Korea, taking account of country size and distance. The effect on trade is shown in Table A.3.2, below. EU15 exports to Korea increase for crops and light manufactures, but decline for all other sectors. This confirms the KIEP study's conclusion that the EU and Korea 'overtrade' when compared with Korean trade to other countries. Converted to cost equivalents using an assumed elasticity of 8 (close to that in the Copenhagen study), we find relative costs on EU exports to Korea compared to other countries' exports are either small or negative.

[44] The Global Trade Analysis Project, based in Purdue University, West Lafayette, Indiana.

Table A.3.2 IMPLICIT COST SAVINGS by sector on EU15 Exports to Korea

Assuming trade substitution elasticity =8		
	Remove EU dummy:EU15	**And remove Korean Home Bias:**
Crops	5.6%	43.9%
Animal prods	-19.8%	-16.8%
Dairy Prods	-47.4%	-57.2%
BevTabacco	-23.0%	-28.7%
Mvhicles	-10.2%	-40.4%
Chems	-1.7%	-18.5%
Heavy man	-1.9%	-19.3%
Food products	-7.2%	48.1%
Ltman	1.3%	24.5%
Other prim	-21.4%	8.7%
TexLC	-7.7%	21.1%

The second change is to assume that Korean home bias is also removed. When this is done, the cost barrier equivalent is over 40% for crops and food products, and around 20-25% for light manufactures and textiles. For other sectors, the cost is small or negative, indicating little sign of protection.

Table A.3.3 carries out an equivalent analysis for Korean exports to the EU15 area. First Korean exports are brought into line with those from other countries (again, the EU is discriminating more than average against Korea in crops and in other primary produce), and then the EU border dummy is removed. This combined effect is equivalent to a trade cost of over 60% on crops and other primary produce, 25% on animal produce and food products, and around 20% on beverages and tobacco. For other sectors, barriers are small (<10%) or negative.

Table A.3.3 IMPLICIT COST SAVINGS by sector on Korean exports to EU15

	Remove Korea Dummy	**And equate to intra-EU trade**
Crops	23.4%	66.6%
Animal prods	6.0%	25.0%
Dairy Prods	-8.2%	7.5%
BevTabacco	-11.2%	18.1%
Mvhicles	-15.8%	-2.2%
Chems	2.3%	7.5%
Heavy man	-3.1%	3.2%
Food products	5.9%	24.5%
Ltman	-7.4%	-4.4%
Other prim	13.2%	61.1%
TexLC	-11.1%	0.8%

Table A.3.1 Regression Results by sector

	Crops		Animal prods		Diary products		BevTabacco		Mvhicles		Chems		Heavy man	
Distance	**-0.5349**	-3.2	**-0.96061**	-6.77	**-2.54266**	-10.61	**-1.11153**	-6.95	**-1.21851**	-8.07	**-0.94291**	-19.72	**-0.8123**	-17.47
Total sales by the exporting country	**1.794929**	28.33	**1.271638**	13.3	**3.067235**	23.01	**1.785254**	18.36	**2.191861**	31.4	**1.178793**	44.03	**1.230139**	47.49
Total consumption in the importing country	**1.13891**	12.08	**1.233741**	14.01	**2.258146**	15.9	**1.703836**	17.38	**1.287922**	15.97	**0.980153**	33.97	**0.962481**	33.19
From EU 15 to EU15	**2.404776**	5.17	**1.319532**	3.36	**1.266891**	1.9	**2.277436**	5.15	**1.195734**	2.86	**0.395401**	2.99	**0.503285**	3.91
From EU10 to EU10	**3.98127**	2.21	**1.032047**	0.67	**3.938157**	1.52	**2.316298**	1.35	**1.376399**	0.85	**0.949624**	1.85	**0.633094**	1.26
From Korea to Korea	**2.471084**	0.47	**0.299706**	0.07	**-1.64065**	-0.22	**-0.61828**	-0.12	**-3.28635**	-0.69	**-1.50374**	-1	**-1.56105**	-1.06
From EU15 to Korea	**-0.43942**	-0.32	**1.768595**	1.49	**5.144654**	2.57	**2.086329**	1.56	**0.857383**	0.68	**0.133997**	0.34	**0.155368**	0.4
Korea to EU15	**-1.67933**	-1.21	**-0.46831**	-0.4	**0.685727**	0.34	**0.947712**	0.71	**1.373297**	1.09	**-0.18082**	-0.45	**0.254615**	0.65
Home bias	**1.843392**	2.02	**4.877873**	6.26	**4.60784**	3.5	**5.31698**	6.07	**3.903304**	4.72	**2.982001**	11.39	**3.258202**	12.77
EU10 to Korea	**-1.915**	-0.64	**2.35674**	0.92	**7.758499**	1.8	**1.999704**	0.7	**0.294421**	0.11	**-0.93581**	-1.09	**-0.99081**	-1.19
EU15 to EU10	**1.521798**	1.74	**0.051785**	0.07	**-1.10044**	-0.88	**1.50773**	1.81	**0.869175**	1.1	**0.275801**	1.11	**0.273514**	1.12
EU10 to EU15	**-0.51115**	-0.59	**0.704404**	0.95	**2.312578**	1.84	**1.446665**	1.74	**1.73507**	2.21	**-0.15505**	-0.62	**0.376263**	1.55
Korea to EU10	**-3.46437**	-1.16	**-1.29667**	-0.51	**-15.0575**	-3.5	**-0.07133**	-0.02	**0.648352**	0.24	**-0.38481**	-0.45	**-0.47143**	-0.56
R-squared	0.3741		0.2709		0.4214		0.3444		0.474		0.7134		0.7245	
Adj R-squared	0.3695		0.2655		0.4171		0.3396		0.4701		0.7113		0.7225	

Continued

Food products		Ltman		Other prim		TexLC	
-0.86657	-9.52	**-0.8192**	-18.44	**-1.63359**	-8.94	**-0.83048**	-20.56
1.282155	23.06	**1.17678**	46.24	**2.098479**	21.77	**1.0382**	43.89
1.158427	20.49	**1.000817**	38.66	**2.14796**	18.71	**0.892702**	35.15
1.294972	5.16	**0.256897**	2.09	**2.821937**	5.56	**1.004329**	8.92
1.981835	2.03	**0.810703**	1.7	**4.159736**	2.12	**0.619614**	1.42
3.737398	1.31	**1.648552**	1.19	**2.597049**	0.46	**2.165944**	1.71
0.59424	0.78	**-0.10327**	-0.28	**1.930931**	1.27	**0.6374**	1.89
-0.45831	-0.6	**0.613481**	1.66	**-0.99275**	-0.65	**0.940648**	2.79
4.506476	9.04	**3.44095**	14.16	**3.312815**	3.31	**3.145684**	14.19
-0.59788	-0.37	**0.17281**	0.22	**0.984587**	0.3	**-1.10022**	-1.52
0.711581	1.5	**0.25548**	1.1	**1.735717**	1.82	**0.64086**	3.02
0.218852	0.46	**0.464459**	2.01	**0.508548**	0.53	**0.655332**	3.09
-1.51799	-0.93	**0.518533**	0.65	**-10.8627**	-3.32	**0.517533**	0.71
0.4352		0.7405		0.3644		0.7212	
0.4352		0.7386		0.3597		0.7191	

References

Copenhagen Economics and Joe François (2007), *A Quantative Analysis of a Potential Free Trade Agreement (FTA) between the EU and South Korea,* study prepared for the European Commission, DG Trade, Brussels.

Emerson, Michael, Huw Edwards, Ildar Gazizullin, Matthias Lücke, Daniel Müller-Jentsch, Vira Nanivska, Valeriy Pyatnytskiy, Andreas Schneider, Rainer Schweickert, Olexandr Shevtsov and Olga Shumylo (2006), *The Prospect of Deep Free Trade between the European Union and Ukraine,* CEPS Paperback, Centre for European Policy Studies, Brussels, April.

McCallum, John (1995), "National Borders Matters: Canada-US Regional Trade Patterns", *American Economic Review*, 85(3), pp. 615-623.

Annex 4. Automotive Sector

This section provides detailed background information on the importance of the European automotive sector and its competitiveness vis-à-vis its Korean counterpart. The analysis in this sector is suggestive of the impact of a *simple* FTA between the EU and Korea, since a simple FTA will not be dealing with non-tariff barriers that are largely prevalent in the Korean automotive sector. In order to understand the relative importance of the arguments raised against this FTA by the European automobile manufacturers, we first examine the structure of the trade imbalance between the EU and Korea and then concentrate on the importance of the European automobile sector in the world and for the European economy in general. Finally we look in more detail at the breakdown of the EU-Korean trade imbalance in motor vehicles.

Table A.1.1 below shows the relative importance of each sector in percent share of the EU exports. In order to outline the probable effects of the Free Trade Agreement with Korea, it is necessary to look at the main characteristics of the EU's specialisation in international trade and the role played by the automotive sector. Data on exports clearly indicate that the machinery and transport equipment sector plays an important role for the European economy, accounting between 44 and 46% of the value of the overall exports, and within this sector, auto vehicles constitute the largest item.

Table A.1.1 Extra-EU25 exports by sector, 1999-2005 (% of total)

SITC rev. 3 sectors	1999	2000	2001	2002	2003	2004	2005
Food and live animals	4.3	4.0	3.9	3.9	3.9	3.5	3.4
Beverages and tobacco	1.8	1.6	1.6	1.7	1.7	1.5	1.5
Crude materials	1.7	1.7	1.6	1.7	1.8	1.8	1.8
Mineral fuels and lubricants	2.2	3.3	2.7	2.8	2.9	3.2	3.9
Oils, fats and waxes	0.3	0.3	0.2	0.3	0.3	0.2	0.2
Chemicals	14.2	13.9	14.6	15.7	16.1	15.1	14.9
Manufactured goods classified by materials	14.4	14.4	14.1	14.2	14.0	14.0	14.0
Machinery and transport equipment	46.0	46.2	46.4	44.9	44.9	43.9	44.4
of which:							
Road vehicles	8.6	8.8	9.1	10.0	10.3	9.9	9.7
Vehicles for passengers transport	5.4	5.6	5.8	6.5	6.6	6.3	6.1
Vehicles for transport of goods	0.6	0.6	0.6	0.7	0.7	0.8	0.8
Others motor vehicles	0.2	0.3	0.3	0.3	0.3	0.4	0.4
Parts and accessories of motor vehicles	2.1	2.0	2.1	2.2	2.4	2.2	2.1
Motor cycles	0.1	0.1	0.2	0.2	0.2	0.1	0.1
Trailers and semi-trailers	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Miscellaneous manufactured articles	12.3	12.2	12.4	12.4	12.1	11.7	11.2
Others	2.8	2.4	2.3	2.4	2.4	4.9	4.7

Source: UN comtrade database, author's calculations.

Other important export sectors for the EU are chemicals, manufactured goods classified by materials and miscellaneous manufactured goods. In order to compare the relative net trade performances of both the EU and Korea, we calculated normalised trade balance indices in these

sectors and for road vehicles (SITC 78) and passenger vehicles (781).[1] The normalised trade balance index is used by the OECD, as by others, to measure the trade performance of a country and is one of the statistics in their Trade Indicators Project (TIP).

Table A.1.2 Comparing EU and Korean normalised trade balance indexes

	Chemicals (SITC 5)	Manufactured goods classified by materials (SITC 6)	Machinery and transport equipment (SITC 7)	Road vehicles (SITC 78)	Vehicles for passengers transport (SITC 781)	Miscellaneous manufactured goods (SITC 8)
Korea						
1999	-0.03	0.30	0.28	0.84	0.99	0.23
2000	0.01	0.25	0.26	0.82	0.97	0.02
2001	-0.02	0.23	0.29	0.80	0.96	0.00
2002	-0.01	0.17	0.30	0.75	0.91	-0.12
2003	0.01	0.15	0.32	0.77	0.92	-0.15
2004	0.06	0.09	0.36	0.81	0.93	-0.15
2005	0.06	0.07	0.36	0.81	0.90	-0.07
EU25						
1999	0.25	0.07	0.05	0.24	0.29	-0.16
2000	0.26	0.05	0.03	0.33	0.42	-0.16
2001	0.26	0.06	0.08	0.38	0.47	-0.15
2002	0.28	0.11	0.10	0.41	0.49	-0.14
2003	0.28	0.10	0.10	0.38	0.43	-0.16
2004	0.25	0.08	0.10	0.36	0.40	-0.15
2005	0.25	0.08	0.12	0.38	0.43	-0.17

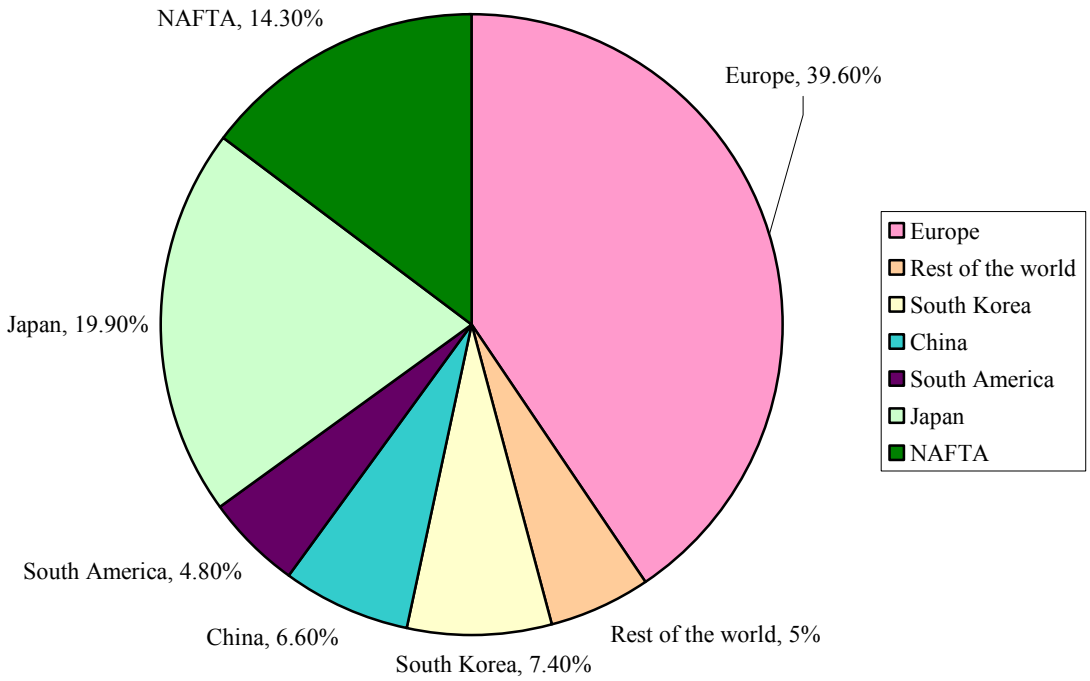
Source: UN comtrade data, author's calculations.

This index reveals the evolution of exports and imports in the above-mentioned sectors over 1999-2005. It can be clearly seen that although both the EU and Korea are exporters of passenger cars, the Korean automobile industry has been heavily concentrated on exports only and the index for the year 1999 indicates that Korea has been almost totally closed to imports of passenger cars (ntb index= 0.99). Before we analyse in detail the nature of trade imbalance between EU and Korea in the automotive sector, we briefly describe below the relative importance of the European automotive sector.

In order to understand the potential impact of an FTA that includes total tariff elimination in the automobile sectors for the EU, it is important to put this sector into perspective in terms of the European economy in general. The significant contribution of the European motor vehicle industry to the global market can be seen by its share in global production, reaching 40% in 2005 (ahead of 19.9% and 14.3% achieved respectively by Japan and NAFTA countries, the world's second- and third-largest producers) and in worldwide employment in the sector, and by the value of extra EU15 exports (Figure A.1.1 and Table A.1.3).

[1] The normalised trade balance: $Z = (X - M) / (X + M), \quad -1 \leq Z \leq 1$ *where:* X = *exports* M = *imports.*

Figure A.1 World passenger car production (% share), 2005



Source: 2006 European Automobile Industry Report, ACEA.

Table A.1.3 The European Motor Vehicle Industry

Production	Total MV (Worldwide)	2005	Mn units	64.6	
	Total MV (Europe)	2005	Mn units	20.7	= 32% of worldwide MV production
	Total MV (W.Europe)	2005	Mn units	16.5	
	Total PC (Worldwide)	2005	Mn units	45.2	
	Total PC (Europe)	2005	Mn units	18	= 40% of worldwide PC production
	Total PC (W.Europe)	2005	Mn units	14.2	
	-o/w ACEA members	**2004**	**Mn units**	**13.2**	**= 30% of worldwide PC production**
New registrations/sales	Total MV (Worldwide)	2005	Mn units	60.9	
	Total MV (Europe)	2005	Mn units	17.7	= 30% of worldwide MV registrations/sales
	Total MV (W.Europe)	2005	Mn units	16.9	
	Total PC (Worldwide)	2004	Mn units	41.8	
	Total PC (Europe)	2005	Mn units	15.1	= 42% of worldwide PC registrations/sales
	Total PC (W.Europe)	2005	Mn units	14.5	
	-o/w ACEA members	**2004**	**Mn units**	**11.8**	**= 28% of worldwide PC registrations/sales**
Employment	MV Production (DM 34.00) – Europe	2004	Mn people	2.2	
	MV Production (DM 34.00) – W.Europe	2004	Mn people	1.9	

	MV Production (DM 34.10) – Europe	2004	Mn people	1.2	
	MV Production (DM 34.10) - W.Europe	2004	Mn people	1.1	
	Total (incl. Indidirect) - W.Europe	2004	Mn people	ca. 12	
	Employment worldwide (ISIC 34)	2002	Mn people	ca. 8,6	(EU MV employment = 22% of Worldwide empl.)
Turnover	ACEA members worldwide	2001	Bn EUR	452	
	ACEA members Europe	2001	Bn EUR	271	
Investment	ACEA members worldwide	2001	Bn EUR	33	=8% of turnover
R&D	ACEA members worldwide	2001	Bn EUR	19	=5% of turnover
Value added	in EU15 (MV+Suppliers)	2002	Bn EUR	8%	of manufacturing sector
Exports	Extra-EU15	2003	Bn EUR	67.2	
Trade balance		2003	Bn EUR	33.4	

Source: 2006 European Automobile Industry Report, ACEA.

The 2006 European Automobile Industry Report released by European Automobile Manufacturers Association (ACEA), outlines the breakdown of motor vehicle production in Europe (Table A.1.4), Germany, France, United Kingdom, Spain and Italy covering 79.9% of the overall EU27 motor vehicle production and 79.1% of the EU27 passenger car production (author's calculations using ACEA 2006 report).

Table A.1.4 Motor Vehicle Production in Europe 2006

	Q1	Q2	Q3	Q4	FY 2006	%06/05
Cars	4278771	4280352	3534555	4001255	16104933	1%
Light Commercial Vehicles	491003	476400	392898	501037	1861338	4%
Heavy Trucks	144008	146026	127410	161252	578696	5%
Buses	10197	11244	8756	10806	41003	4%
Total	4923979	4914022	4063619	4674350	18585970	1%

Source: 2006 European Automobile Industry Report, ACEA.

The comparative advantage of the EU versus Korean automotive sector

One way of analysing the competitiveness of the different export sectors of a country is by using *symmetric revealed comparative advantage* index (*srca*). This index is a measure of trade intensity and reveals the Korean and European export specialisation in various manufacturing industries.[2] Although both countries show a comparative advantage in the machinery and transport sector (SITC 7), and an even stronger advantage in road vehicle (SITC 78) and passenger car (SITC 781) production, Korea seems to be more specialised than Europe (Table A.1.5).

[2] The symmetric revealed comparative advantage index is calculated as follows:

$SRCAik = (RCAik - 1) / (RCAik + 1)$

$RCAik = (xik / \Sigma k\ xik) / (xwk / \Sigma k\ xwk)$

where:

xik = country i *'s exports of product* k

xwk = world exports of product k

Table A.1.5 Korean and European symmetric revealed comparative advantage, 2005

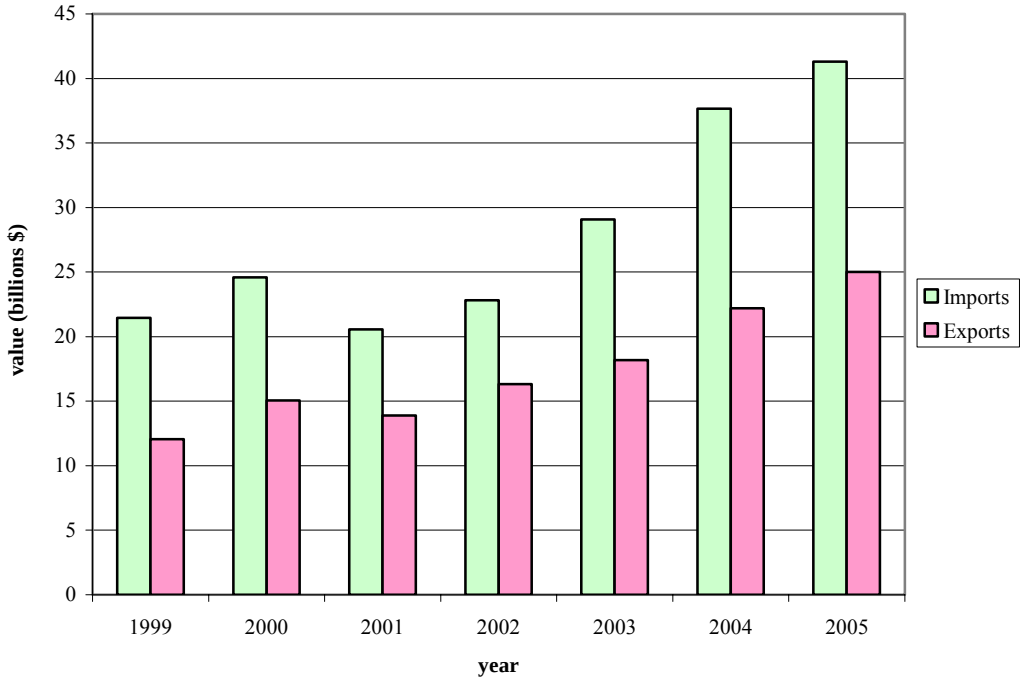
Sectors	Korea	Europe
Chemicals	-0.18	0.13
Manufactured goods classified by materials	-0.09	0.00
Machinery and transport equipment	0.11	0.05
of which:		
Road vehicles	0.07	0.02
Vehicles for passengers transport	0.20	0.08
Miscellaneous manufactured articles	-0.33	-0.01

Note: *rsca* indexes range from -1 to 1, and is positive in case of comparative advantage, and negative in case of comparative disadvantage.

Source: UN comtrade data, author's calculations.

Overall, South Korea and Europe seem to have similar comparative advantages in industrial specialisation (except in chemicals). In terms of passenger vehicles, however, Korea is far more competitive compared to the EU. Now we analyse the source of the EU-Korea trade imbalance in detail. As shown by Figure A.1.2, the EU-Korean trade balance has been negative during the last seven years, and, in spite of a general growth in trade flows, the gap between imports and exports has widened from $9.4 billion in 1999 to $16 billion in 2005.

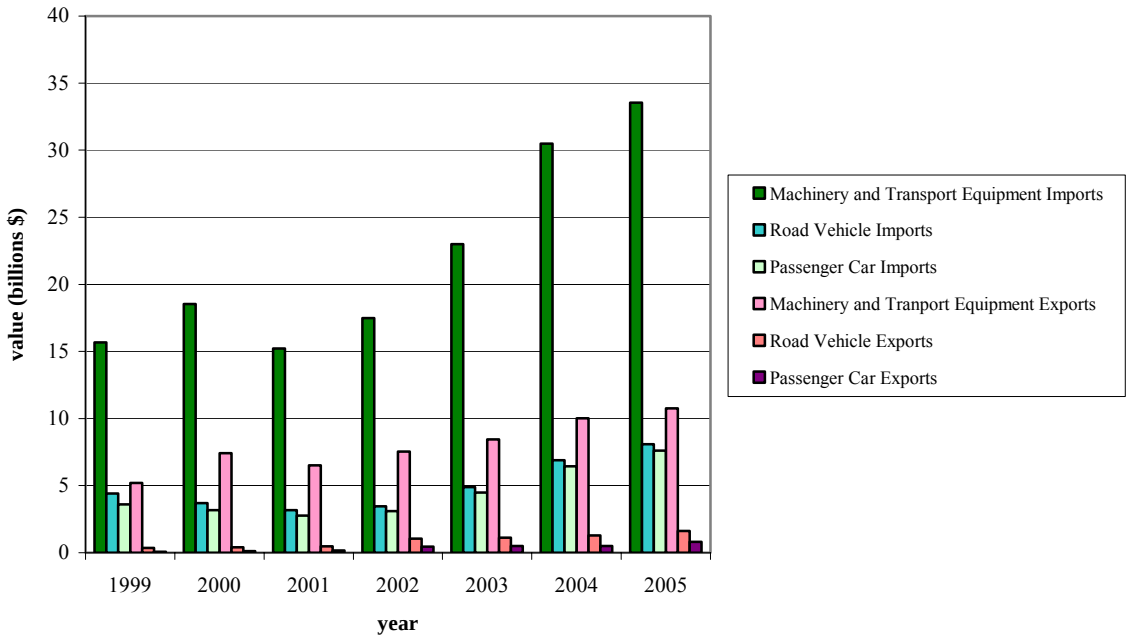
Figure A.1.2 EU-Korea trade balance, 1999-2005



Source: UN comtrade data.

Perhaps not surprisingly, the EU's trade deficit with Korea can largely be explained by its trade in road vehicles and the passenger car sectors. These sectors have been consistently contributing to the trade deficit (Figure A.1.3).

Figure A.1.3 EU-Korean trade balance 1999-2005: machinery and transport equipment sector



Source: UN comtrade data**.**

We examine a further breakdown of the passenger vehicle sector in order to see whether the trade imbalance in this sector was overwhelmingly caused by one particular item. Accordingly, we report in Table A.1.6 the exports and imports for bodies and parts and accessories for motor vehicles.

Table A.1.6 EU-25 trade with Korea in motor vehicle bodies (HS 8707) and parts and accessories for motor vehicles (HS 8708) ($ millions)

Reporting country: EU-25	Motor vehicle bodies		Parts and accessories for motor vehicles	
	Export	Imports	Export	Imports
1999	0.3	221[3]	178	305
2005	0.6	0.3	653	306

Source: UN comtrade data.

Besides the abnormally high imports in 1999 from Korea in motor vehicle bodies, the figures are difficult to draw conclusions from due to year-to-year fluctuations. Contrary to what one might have expected, in 2005 the EU has a trade surplus in both bodies and parts and accessories for motor vehicles. And this is achieved despite a higher Korean tariff rate (8%) in automobile parts vis-à-vis EU (2.5%). Hence we can conclude that the trade deficit between the EU and Korea is largely due to the trade deficit in the motor vehicles sector. Within this sector, the major item that contributes to the trade deficit is not bodies or parts and accessories but rather complete passenger cars. Among the global exports of Korean passenger cars, the share of mini, small and medium cars constitutes more than 50%, but the EU mainly imports cars that are large by engine size (KAMA, 2006). In fact, 30% of Korean cars imported into the EU were medium to large-size cars (1500-3000cc) in 2005 (Table A.1.7). The economy-size cars

[3] In 1999, Korea's exports of motor vehicle bodies to Poland amounted to a $219 billion, hence EU imports excluding Poland was a little over $1 billion.

(<1000cc) account for only a 4.5% share in the total Korean imports to the EU, but still small cars (1000-1500cc) constitute 19% of total Korean car imports (among cars with spark ignition engines). Over the last couple of years, we can see that diesel Korean imports have increased considerably (45.7% of total Korean passenger vehicle imports). In the diesel category, cars >1500cc make up more than 40% of diesel imports.

Table A.1.7 EU's automobile imports from Korea according to engine type and size (% share in automobile imports)

	1996	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
spark ignition engines	92.74	94.65	85.15	80.14	77.80	73.50	60.76	64.60	61.57	54.28
<1000 cc	*0.30*	*0.09*	*11.34*	*15.89*	*17.27*	*15.46*	*9.68*	*6.43*	*4.38*	*4.45*
1000-1500 cc	*49.08*	*47.02*	*36.09*	*32.24*	*27.66*	*23.14*	*18.25*	*23.85*	*22.55*	*18.83*
1500-3000 cc	*42.35*	*46.46*	*37.24*	*31.91*	*32.84*	*34.87*	*32.72*	*33.54*	*33.90*	*29.99*
>3000 cc	*1.01*	*1.09*	*0.49*	*0.10*	*0.03*	*0.03*	*0.11*	*0.77*	*0.74*	*1.02*
diesel engines	7.21	5.33	14.83	19.86	22.19	26.49	39.23	35.35	38.33	45.69
<1500 cc	*0.00*	*0.00*	*0.00*	*0.04*	*0.07*	*0.41*	*2.33*	*2.53*	*2.69*	*3.99*
1500-2500 cc	*1.97*	*2.04*	*13.03*	*15.48*	*14.89*	*18.79*	*25.18*	*23.04*	*25.48*	*30.73*
>2500 cc	*5.24*	*3.29*	*1.80*	*4.35*	*7.23*	*7.29*	*11.73*	*9.77*	*10.16*	*10.97*

Source: UN COMTRADE, author's calculations.

Table A.1.8 EU's automobile exports to Korea according to engine type and size (% share in automobile exports)

	1996	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
spark ignition engines	93.34	97.81	90.05	96.38	98.12	98.61	97.46	95.92	92.72	91.20
<1000 cc	*0.10*	*0.05*	*0.15*	*0.13*	*0.06*	*0.11*	*0.12*	*0.06*	*0.01*	*0.10*
1000-1500 cc	*0.70*	*0.35*	*2.30*	*2.42*	*0.40*	*0.29*	*0.09*	*54.58*	*0.06*	*0.05*
1500-3000 cc	*70.81*	*57.57*	*55.87*	*49.91*	*60.77*	*68.44*	*46.30*	*41.27*	*50.85*	*40.19*
>3000 cc	*21.73*	*39.84*	*31.74*	*43.92*	*36.89*	*29.77*	*50.94*	*0.00*	*41.80*	*50.86*
diesel engines	6.53	1.97	9.94	3.62	1.84	1.26	2.48	3.98	7.28	8.74
<1500 cc	*0.01*	*0.04*	*0.06*	*0.03*	*0.10*	*0.03*	*0.00*	*1.39*	*0.01*	*0.01*
1500-2500 cc	*0.36*	*1.53*	*0.19*	*0.24*	*1.20*	*0.98*	*1.51*	*2.59*	*1.58*	*1.97*
>2500 cc	*6.17*	*0.39*	*9.68*	*3.36*	*0.54*	*0.25*	*0.97*	*0.00*	*5.70*	*6.76*

Source: UN COMTRADE, author's calculations.

In return, EU exports to Korea are more in the range of large engine size (>3000cc), accounting for approximately 51% (Table A.1.8). Medium-to-large cars (1500-3000cc) constitute another 40% of EU exports to Korea. The examination of the export specialisation patterns in particular vis-à-vis the automotive sector reveals that Korea has been an impenetrable market not only for the EU, but for all foreign producers. In fact, the EU has the largest market share in automobile imports into Korea in the world. KAMA (2006) reports that import penetration by German cars are by far the highest (41%), followed by Japan (29%), the US (16%), Sweden (6%) and France (3%).

Non-tariff barriers

In the light of the above analysis of the EU-Korea trade in automobiles, it is obvious that tariff elimination will not bring substantial gains to the European automobile industry unless non-tariff barriers are appropriately addressed. As it was indicated by ACEA, EUCCK and respondents to the CEPS questionnaire, because so many non-tariff barriers affect the industry, simple elimination of tariffs will not be enough to give the EU a level playing field. The non-tariff barriers that have been mentioned by the questionnaire respondents are described below.

i) Standards and certifications

- Average Fuel Efficiency (AFE). The AFE regulation has applied since 1 January 2006 for local manufacturers. Importers were granted a grace period until 2009 without any conditions attached but an agreement to discuss further delay in the latter half of 2009[4]. The limits are as follows: vehicles below 1.500 ccm – 8.1l/100km, vehicles above 1.500 ccm 10.4l/100km. The automotive industry thinks the regulation does discriminate against imported vehicles, since nearly all of them are above 1.500 ccm. In addition, under the AFE regulation, manufacturers who over-achieve with vehicles below 1.500 ccm will get credit to make up for under-achievement in vehicles above 1.500 ccm. Since imported car manufacturers do not offer any vehicles under 1.500 ccm, they have no 'buffer vehicles' if they don't meet the 10.4l/100km for vehicles over 1.500 ccm.
- KULEV (Korea Ultra-Low Emission Vehicle) Regulations. These proposed emission standards, which are more stringent than EURO 4 standards, originally had to be applied from 1 January 2006. The foreseen phase-in is 0% in 2006, 50% in 2007, 75% in 2008 and 100% in 2009. Manufacturers who sell less than 10,000 units per year (i.e. importers), just have to comply % by 2009.
- Special Act on Capitol Region Air Quality Improvement. Importers who sold an average of 3,000 units in the capital area (Seoul, Incheon, Gyeonggi) for the past three years have to sell a certain number of so-called 'low-emission vehicles' (LEV). Tax incentives from the Korean government, which could help to encourage the customers to buy LEVs, would be welcomed.
- On-Board Diagnostic (OBD) System. Since 1 January 2005, the US OBD II standards for gasoline passenger cars are gradually applied (phase-in periods). EU OBD is not accepted. This discriminates against cars produced by European manufacturers as due to their low volume (20,000 units), costs for changing the engines to comply with US OBD II are much higher than those for Korean car manufacturers to comply with EU OBD (export volume: 500,000 units).
- Self-certification: For automotive safety standards, a self-certification system was established in 2003. The experience of vehicle manufacturers with this system is very good. To cope with certain variations in the execution of tests (European vs. US standards), Korea has issued a table of 'Equivalent Standards for Manufacturer's test report'. If covered by this table, testing to either US-FMVSS or EU/ECE requirements was sufficient for the vehicle manufacturer to demonstrate compliance with the respective Korean requirement. However, at present there are attempts by the Korean Ministry of Construction and Transportation (MOCT) to withdraw this Equivalent Standards table by either cancelling the table or introducing new tests. This would result in higher costs for the manufacturers/customers due to duplicated testing without any benefit for vehicle safety.

ii) Internal regulation issues

Discriminatory tax system

- In addition to the import duty, which is currently 8%, a vehicle is subject to seven other different taxes, which are levied on domestic and imported vehicles. However, as the tax base for imported vehicles is the CIF price (including insurance and freight) plus import

[4] The standard average gas mileage will start to be applied to imported cars from 1 January, 2010 despite the conditional rule of Article 1 of Additional Rules. If there is a possibility for the average gas mileage of imported cars not to meet the standard until the end of 2009, a delay can be discussed in the latter half of 2009.

duties of 8% compared to the ex-factory price for domestic vehicles, the effect of this 'tax-on-tax' system is **discriminating against imported vehicles**.

- Furthermore, most of these taxes are based on **engine displacement with only one threshold** (engines of 2,000 cc and below and engines over 2,000 cc). This engine displacement tax puts imported cars with generally larger engines at a significant disadvantage. The maximum cumulative effect of CBU vehicle import levies amounts to a prohibitive rate of 67% (vehicles with engines over 2,000 cc), whereas the equivalent burden for domestic vehicles is slightly less than 55%.

iii) Social or market-related issues

The government no longer promotes an anti-import perception policy, as it has in the past, and tax investigations no longer take place. However, a certain anti-import sentiment can still be detected in the population.

iv) Other issues

'Grey imports' are not subject to lengthy and complicated approval procedures, homologation and test procedures to their advantage. If variants of ECE-cars are being imported into Korea, these cars do not correspond to the respective Korean variants. In addition to the fact that therefore many parallel imports do not meet the safety and environmental standards of the Korean government, there are sometimes illegal versions. Last but not least, the vehicles in question are often stolen vehicles with no proper documents that could entitle the vehicle owner to warranty and other services. The result is a deterioration of overall consumer satisfaction.

Annex 5. Agricultural Sectors

1. Effects of the EU-Korea FTA on Agricultural Sectors

In the process of rapid industrialisation of Korea since the early 1960s, there has been a dramatic change in the sectoral structure of the Korean economy. The country has been transformed from a largely agricultural economy into an industrialised one in no more than 30 years, whereas this process took more than a century in most western developed countries.

Agriculture's share in Korea's GDP declined from more than 45% in the early 1960s to 3% in 2005. In the same period, the share of agriculture in employment also fell from 65% to 7.9%. This rapid transformation in the economy has been a unique characteristic of Korean industrialisation, where the speed of decline in the role of agriculture has been much faster than any developed country (Lee & Lim, 2004). The same rapid decline has also been experienced in the rural population; the ratio of rural population fell from 44.7% in 1970 to 15.5% in 1990 and to 7% in 2005.

Table A.2.1 Main indicators of Korean agriculture

	1990	**1995**	**2000**	**2002**	**2003**	**2005**
Labour force in agriculture (*thousands*)	3,237	2,403	2,243	2,069	1,950	1,815
% Share of agriculture in employment	17.9	11.8	10.6	9.3	8.8	7.9
% Share of agriculture in GDP	8.0	5.7	4.3	3.6	3.3	3.0
Growth of output in agriculture (*%*)	-6.5	5.3	1.2	-3.5	-5.3	-0.1
Agricultural production index *1999-2001=100*	80.2	86.7	100.4	94.0	91.2	95.7

Source: Asia Development Bank (2006).

The major agricultural products are rice, pig, beef cattle, milk, chicken, radish, soya beans, potatoes, watermelon, garlic, tomato, ginseng and cabbage. Rice is the most important food in Korea; its ratio to total agricultural production is about 28%, and Korea ranks eighth in per-capita rice consumption, ahead of Japan and Taiwan, with 103 kg. per annum.

In the recent years, the production structure in Korean agriculture has been changing. Rice consumption has been falling since the 1990s due to changes in tastes and adaptation of new eating habits and diets, whereas consumption of fruits and vegetables has increased. This change in demand led to a continuous decrease in production, while vegetables, fruits, and livestock and poultry products have shown increasing trends.

An important characteristic of Korean agriculture is the old age structure of the agricultural labour. In 1960s, at the initial phases of Korea's rapid industrialisation, the government paid relatively little attention to the agricultural sector, although keeping consumer food prices low was a key tool of the export-oriented development strategy. Under this policy, Korean farmers became the main losers, and the resulting disparities between rural and urban incomes led to large-scale rural-urban migration during the 1960s, thus providing the labour force required for industrial expansion (Stockbridge, 2006).

As the young agricultural workers migrated to urban areas, mostly old farmers remained in the sector. Currently 94% of total farm operators are over 40 years old in Korea; even more striking is that 53% of total farm operators are over 60 years old. The job mobility of these farmers is very limited; according to Lee & Lim (2004), economic growth has been too fast for old farmers to adjust to the new situation, leaving them no other option but farming. This is one of the main factors behind the social and political sensitivity of rice farming in Korea; rice cultivation is favoured by older farmers as they are accustomed to the farming environment and rice farming requires less labour.

2. Agricultural trade

Because Korea is a mountainous country with only 20% of arable land, it thus faces serious limitations in its natural resource base. As the employment in agriculture decreased seriously since the 1960s and among the urban population, thereby increasing food demand from urban areas, Korea had to rely heavily on agricultural imports. Moreover, globalisation led to serious changes in consumption habits and increased the demand for new types of agricultural products. Thus, although the overall trade balance of Korea has continuously improved, agricultural and fishery products have remained a deficit at an amount of €11.5 billion in trade balance in 2005. The changes in agricultural markets have facilitated competition in domestic markets, coupled with the effect of the opening of the agricultural market since the Uruguay Round Agriculture Agreement in 1994, and have influenced farmers' cropping system, their household economy and finally the overall national economy (FFTC, 2006). In addition, changes in consumer preferences and nutrition habits led to a growing demand to imported goods from western countries in recent years.

Table A.2.2 Korea's total trade of agricultural products ($)

	Food		**Agri. raw materials**		**Total agri. products**	
	Import	***Export***	***Import***	***Export***	***Import***	***Export***
1995	7,338,846,112	2,824,622,728	7,388,424,672	1,623,284,698	14,727,270,784	4,447,907,426
2000	7,721,500,352	2,665,120,362	5,115,006,816	1,633,237,614	12,836,507,168	4,298,357,976
2001	7,991,055,392	2,523,668,960	4,512,726,560	1,424,166,648	12,503,781,952	3,947,835,608
2002	9,055,655,328	2,521,674,176	4,487,222,624	1,402,588,355	13,542,877,952	3,924,262,531
2003	9,866,162,880	2,676,657,918	4,554,399,200	1,647,596,125	14,420,562,080	4,324,254,043
2004	10,986,713,428	3,000,883,016	5,049,532,691	1,983,543,294	16,036,246,119	4,984,426,310
2005	11,609,460,350	3,008,882,222	5,163,072,078	2,276,054,664	16,772,532,428	5,284,936,886

Source: Author's own calculations from UN COMTRADE data.

The share of agricultural products in total exports has been 1.8% in 2005, where agricultural products had a share of 4.5% in Korea's imports. The top ten countries exporting agricultural products to Korea are given in Table A.2.3 below. We can see that 20% of Korea's agricultural imports come from the US, and 18% comes from China. EU25 ranks third in the list, but if we consider the EU countries individually, none of them would be in this list.

Table A.2.3 Top ten exporters of agricultural products to Korea, 2005

Rank	**Country**	**Value ($)**
1	US	3,353,358,807
2	China	2,996,349,959
3	EU-25	1,616,148,549
4	Australia	1,488,595,441
5	Canada	939,372,668
6	New Zealand	726,823,846
7	Indonesia	693,943,753
8	Brazil	651,398,922
9	Japan	594,076,671
10	Thailand	562,192,905

Source: Author's own calculations from UN COMTRADE data.

According to 2005 data, fish, crustaceans and molluscs have the largest share in Korea's agricultural imports. Korea also imports large amounts of cereals (maize, wheat and rice), meat and meat preparations, pulp and waste paper, fruits and vegetables.

Table A.2.4 Composition of Korea's agricultural imports

SITC-3 Code	Description	1995	2000	2005
3	Fish, Crustaceans, molluscs	784,266,176	1,337,595,904	2,300,935,507
4	Cereals, cereal preparations	1,948,847,744	1,622,228,864	2,192,220,903
1	Meat and meat preparations	766,130,688	1,163,273,728	1,509,718,711
25	Pulp and waste paper	1,857,989,248	1,686,334,080	1,478,325,537
5	Vegetables and fruits	551,852,736	647,245,568	1,185,729,431
24	Cork and wood	1,694,661,632	954,202,112	1,118,377,677
8	Animal feed stuff	551,889,600	576,915,520	946,606,675
6	Sugar, sugar prep., honey	558,151,232	393,413,024	564,621,759
9	Misc. edible products	236,964,944	323,464,640	560,493,565
21	Hides, skins, fur skins	1,189,300,224	767,989,632	516,983,413

Source: Author's own calculations from UN COMTRADE data.

3. EU-Korea agricultural trade

Trade of agricultural goods between the EU and Korea is minor related to other sectors. In 2005, Korea imported more than $1.6 billion of agricultural products from the EU, but its agricultural exports to the EU has been $316 million. Agricultural products constitute about 6% of the EU's exports to Korea, but have an insignificant share in Korea's exports to the EU. Korean agriculture has a comparative disadvantage in agriculture, and on-going efforts to pursue FTAs make it necessary for Koreans to adjust the market to foreign competition.

Table A.2.5 Role of agricultural products in Korea's trade with the EU

	Imports ($)	Exports ($)	% share in total imports from the EU	% share in total exports to the EU
1990	518,520,769	226,097,723	5.72	2.25
1995	1,068,512,994	193,702,806	5.87	1.19
2000	1,080,448,824	254,120,579	6.84	1.08
2005	1,616,148,549	316,637,425	5.92	0.72

Source: Author's own calculations from UN COMTRADE data.

The EU mainly exports meat (pork and beef), alcoholic beverages (wine and spirits), vegetable oils, processed food and dairy products to Korea. The main import item of the EU from Korea is fish and sea products.

In 2005, among the EU countries, the highest value of agricultural exports to Korea belonged to the UK, with $332 million, which is mostly based on exports of whisky worth $225 million. In the second place there is France, which mainly exports meat, dairy products and wine to Korea.

Table A.2.6 Korea's agricultural imports from EU countries, 2005

Country	Value ($)	Main items
UK	332,329,812	Alcoholic beverages (Whisky)
France	217,023,215	Meat; Dairy products; Alcoholic beverages (wine)
Netherlands	173,576,287	Meat; Dairy products (milk and cream)
Spain	155,168,199	Vegetable oils; meat
Denmark	143,558,644	Meat; hides, skins and fur skins
Belgium	132,415,791	Meat
Germany	103,192,684	Crude animal products
Italy	97,082,162	Vegetable oils; cereal preparations

Austria	80,045,387	Textile fibres; meat
Greece	43,497,409	Tobacco; textile fibres

Source: Author's own calculations from UN COMTRADE data.

Table A.2.7 shows the top ten agricultural exports of the EU to Korea according to two-digit SITC-3 classification. At the top of the list we see meat and meat preparations, which has been in a rapid increase in recent years. The EU's exports of meat and meat preparations increased from $7.5 million in 1995 to $173.8 million in 2000, to $219 million in 2004 and $352 million in 2005. Export of beverages (mostly alcoholic beverages; whisky and wine) has been above $200 million since 2000.

Table A.2.7 Composition of agricultural imports of Korea from the EU ($)

SITC-3 Code	Description	1995	2000	2005
01	Meat and meat preparations	7,498,010	173,827,260	352,342,189
11	Beverages	37,625,261	210,800,865	295,186,593
41	Animal oils and fats	1,026,069	547,920	130,848,039
03	Fish, crustaceans, molluscs	11,754,611	41,728,372	76,604,326
02	Dairy products	18,731,550	40,933,422	68,383,750
07	Coffee, tea, cocoa, spices	25,439,223	36,145,870	58,330,462
08	Feeding stuff for animals	6,360,055	33,982,920	36,787,575
05	Vegetables and fruit	4,383,792	17,189,918	35,770,692
12	Tobacco and tobacco manufactures	18,182,649	53,420,763	35,001,972
04	Cereals and cereal preparations	32,365,027	85,744,066	33,808,886

Source: Author's own calculations from UN COMTRADE data.

4. Agricultural policy and support

Korean agriculture is generally characterised by high government support levels and a low level of market orientation. Since late 1980s, little progress in market orientation has occurred, and the level of producer support remained very high. In Korea, most support to agriculture is provided through market price support, largely for rice.

Support to producers (% PSE) has decreased from 74% in 1990 to 63% in 2005, but it is still more than double the OECD average. The support level varies widely across commodities, from 33% for eggs to 76% for rice and 89% for oilseeds.

Table A.2.8 Producer support estimates of OECD, EU and Korea (%)

	1990	1995	2000	2003	2005
OECD	32	31	33	30	29
EU	33	36	34	36	32
Korea	74	72	67	61	63

Source: OECD PSE/CSE Database.

According to the OECD figures, most of the producer support is given in the form of market price support, which is 92% of the overall support. Prices received by farmers in 1986-88 were 233% higher than those received in the world market. By 2005, the gap has decreased to about 150%. Korean consumers pay on average two and a half times the world price for agricultural commodities. As of 2005, the price of rice in Korea is more than three times that of the average price of rice on the international market; consumers pay three times the average world prices for beef, two times for pork and milk, and 3.5 times for garlic.

Table A.2.9 Composition of producer support in 2005 (percentage share in PSE)

	EU	Korea
Market price support	43.68	92.41
Payments based on output	4.43	0.10
Payments based on area planted/animal numbers	20.77	0.00
Payments based on historical entitlements	15.82	2.57
Payments based on input use	9.54	2.19

Source: OECD PSE/CSE Database.

Apart from market price support to the sector, import restrictions in the form of licences and quotas have also been the main instruments for controlling agricultural trade and prices. Combined policies of production support and import restrictions kept agricultural prices above world levels. Even in certain periods, there has been a ban on imports of some commodities, especially of rice. During the 1970s and 1980s, Korea aimed for and succeeded in achieving self-sufficiency in rice by controlling production, consumption and imports. However, after experiencing very low levels of rice stocks in 1994, Korea agreed to adopt a minimum access import regime in the Uruguay Round of the WTO. After 1996, Korea's rice imports rose from $1 million to more than $150 million.

5. Tariff and non-tariff barriers in Korean food and agricultural markets

Korean tariff barriers remain considerably high compared to other OECD countries and among all sectors the highest average tariffs are in agriculture, which is above 50%. According to the International Trade Centre of UNCTAD/WTO, 'real' tariffs faced by EU agricultural products in Korea, calculated by taking into account the export structure, average 62.8%.

When we look at the agricultural products individually, we see that tariff barriers are very high on products that are important for the preparation of Korean specialty foods and face potential competition especially from China. For example, the tariff is 630% for sesame, 360% for garlic, and 270% for pepper. Tariffs for meat products, although still very high by international standards, are relatively lower: 40% for beef, 22.5% for pig meat and 18% for chicken.

The important fact at this point is that Korea, although described as a 'developed country' by the World Bank and IMF, still has the "developing country" status in the WTO as far as agriculture is concerned. This status mostly shelters Korean agriculture from radical reductions in agricultural protection resulting from WTO agreements.

In the context of the EU-Korea FTA, agricultural products of particular interest to European exporters are dairy products (mainly cheese), alcoholic and non-alcoholic beverages (beer, wine, spirits, fruit juices, mineral water, tea), pork and beef, and processed food. In Table A.2.10, Korea's tariff rates on these agricultural products are shown.

Table A.2.10 Korea's tariff rates in selected agricultural products

Product	Tariff rate (%)
Meat of bovine animals	40
Meat of swine (ham, carcass, belly)	22.5
Milk and cream	36
Butter	89
Cheese	36
Black tea	40
Processed foods	avg. 30
Beer	30
Wine	15

Fruit juices	30 - 54
Tobacco	20
Mineral water	8

Source: APEC tariff database.

From Table A.2.10, we see that agricultural exports of EU to Korea in these particular products face high tariffs. The most significant tariff barriers are on bovine meat, butter, juices, beer, cheese, milk and black tea.

References

APEC (Asia-Pacific Economic Cooperation) Tariff Database, available at http://www.apectariff.org/tdb.cgi/ff3230/apecmain.html.

Asian Development Bank (2006), *Country Reports: Republic of Korea*, available at http://www.asiandevbank.org/Korea/default.asp.

Diao X, J. Dyck, D. Skully, A. Somwaru and C. Lee, (2002), "*Structural Change and Agricultural Protection: Costs of Korean Agricultural Policy, 1975 and 1990*", USDA Agricultural Economic Report No. 809.

FFTC (Food & Fertilizer Technology Center) (2006), *Agricultural Situationer by FFTC Member Country: Korea*, http://www.agnet.org/situationer/korea.html.

ICTSD (2006), *New EU Trade Strategy: Pursue Bilateral FTAs, Reduce NTBs*, International Centre for Trade and Sustainable Development Bridges Weekly News Digest, Vol. 10, No. 33.

KITA (2005), "*Korea's Exports to Chile Surge 58.7% After FTA*", KITA Research Papers No. 347.

Lee, Jung-Hwan and Song-Soo Lim (2004), "*The Road Ahead for Korean Agriculture: Soft Landing on a New Plateau in the WTO*", Korea Rural Economic Institute, Working Paper No: 22/2004.

OECD PSE/CSE Database, available at http://www.oecd.org/document/55/0,2340,en_2825_494504_36956855_1_1_1_1,00.html.

Stockbridge, Michael (2006), "*Agricultural Trade Policy in Developing Countries during Take-off*", Oxfam GB Research Report.