European Commission, DG Trade

EU-China Investment Study

Final report | June 2012

INFORMED DECISIONS

COPENHAGEN ECONOMICS

COLOPHON

Author: Martin H. Thelle, Eva R. Sunesen and Joseph Francois

Client: European Commission, DG Trade

Date: June 2012

Contact: SANKT ANNÆ PLADS 13, 2nd FLOOR | DK-1250 COPENHAGEN
PHONE: +45 2333 1810 | WWW.COPENHAGENECONOMICS.COM

TABLE OF CONTENTS

List of figures

LIST OF TABLES

PREFACE

This study is produced by Copenhagen Economics under the terms of reference for the study entitled *"Assessing the impact of an EU-China investment agreement"* under framework contract (TRADE/07/A2).

EXECUTIVE SUMMARY

The Lisbon Treaty gives the EU the exclusive competence to enter into agreements for foreign direct investment. In the July 2010 Communication on EU future investment policy, China has been identified as one of the potential partners for an investment agreement. This study assesses the economic impacts of such an investment agreement with China.

BACKGROUND

Foreign direct investment (FDI) is a main contributor to economic growth. It creates jobs, it increases productivity by allowing the transfer of technology, skills and knowledge, and it can boost trade. The EU is a large foreign investor with outward extra-EU stocks of FDI amounting to 4.2 trillion Euros in 2010 while EU inward stocks (extra-EU) accounted for 3.0 trillion Euros in the same year according to Eurostat.

China and the EU are key trading partners, but investment flows between the two regions remains limited in comparison with EU investment elsewhere. The stock of EU-owned foreign direct investment in China has increased from €21 billion in 2004 to €75 billion in 2010, corresponding to an average annual increase of 23 percent. Still, China accounts for only 1.8 percent of total outward extra-EU FDI. The stock of Chinese FDI in the EU27 has increased from €2 billion in 2004 to €7 billion in 2010, which corresponds to an annual growth of 25 percent. The stock of Chinese FDI in the EU is still very small compared to the overall amount of FDI in the EU27 originating from non-EU countries. China's investments accounted for only 0.2 percent of the total inward stock in the EU27 in 2010.

POLICY OPTIONS ANALYSED

With the rapid growth in China's outward investment, currently just over half the size of the inward stock, China will soon become a net exporter of FDI. According to estimates in Rosen and Hanneman (2011), China's outflow of FDI could reach between $1 trillion to $2 trillion by 2020; whilst between $250 billion to $500 billion of China's outward FDI could be destined for the European market according to forecasts by the Rhodium Group and the Chinese investment bank CICC.

With the prospect of increasing outward investments, China has expressed an interest in obtaining a unified level of investment protection at the EU level in this context. The current legal framework comprises a patchwork of 25 so-called bilateral investment treaties (BITs) between Member states and China.

At the same time, EU investors often face multiple barriers to their establishment and post-establishment operations in China, as well as discriminatory treatment in China, while the EU market is perceived more open when it comes to Chinese investment in Europe.

Regarding the future EU-China investment relationship, DG TRADE can consider three broad policy options: first, a stand-alone investment protection agreement replacing the 25

BITs, second, a comprehensive investment agreement covering market access and investment protection, and finally it is an option not to make any separate agreement, with investment continuing to be covered by informal dialogues and WTO as well as broader agreements like the 1985 Partnership and Cooperation Agreement.

In this study, we have been asked to assess the two first options in order to compare with the "do nothing" option. The "comprehensive investment agreement" option has been split into two, and we thus investigate three options:

- *Option 1* entails a basic 'investment protection only' agreement building on the existing BITs and thus creating a comprehensive EU level investment protection agreement.
- *Option 2* combines investment protection with market access, although with only limited removal of investment barriers. The scenario analysed implies a modest liberalisation of a three percent reduction in the estimated barriers (see chapter 8).
- *Option 3* is similar to option 2, but involves more market access for investment. The scenario implies a more ambitious reduction which is based on a 10 percent reduction in the barriers reported.

MAIN FINDINGS OF THE REPORT

The report is structured in eight chapters.

Chapter 2: Current investment situation

In *Chapter 2*, we provide an analysis of China-EU FDI stocks and their development over time. Looking at *the EU investments in China,* we find that the EU stock of foreign direct investment (FDI) in China was €75 billion in 2010 according to Eurostat. China began its policy of opening up its economy to foreign investors in 1992, and in the following two years, there was high political focus on attracting FDI to China. The FDI stock held by EU firms in China was very low prior to 1992, but following the opening of the Chinese economy, the EU FDI stock in China increased rapidly until around 2001 when the EU stock in China levelled off at around €20 billion. EU investment in China resumed growth again around 2004 with an average annual growth rate of the EU owned FDI stock in China of around 23 percent between 2004 and 2010. Today, EU FDI in China consists of almost equal parts manufacturing and services. At a more detailed level, the investment in manufacturing is concentrated on chemicals, metal and motor vehicles, while real estate and finance dominate the service sector investments. Compared to Russia, where the EU has invested heavily, China is lagging behind as a destination for EU investment. Our analysis shows that China is underrepresented as a destination for EU investment.

Looking at *China's investment in the EU*, we find that in most EU countries with available data, the Chinese share of total extra-EU owned firms is 0.1 to 0.3 percent (measured in production value). While the investment from China in the EU is increasing rapidly, it is still less dramatic than the increases from other BRIC countries. Investments into the EU

from Brazil and Russia are increasing much more rapidly, with the investment stock from Brazil being ten times higher than that from China.

The Chinese investment in the EU focuses mainly on services. Mining and agriculture account for only a very small fraction of total investment. On a more detailed level, Chinese investment in the EU27 within manufacturing is concentrated on machinery, computers and communication equipment, while the investment in services is dominated by investments in the financial sector.

We also highlight the role of state-owned enterprises (SOEs) in China's outward FDI. All of the ten largest Chinese MNEs by total outward FDI stock are SOEs, and more than half are operating in the natural resources sector according to the OECD. Our analysis of 33 Chinese investment projects in the EU recorded in the period 2006-2011, shows that 73 percent of the invested amounts were made by SOEs.

Chapter 3: Assessment of a protection only agreement (option 1)

In *Chapter 3*, we look at option 1 and assess the degree of protection provided by the current system of 25 BITs with China. It is a clear benefit for China to have only one single EU BIT providing clarity and protection for investors. We have also investigated whether an "investment protection only" agreement with China would provide added value in terms of ensuring a 'level playing field' for the protection of European investors in China. Here results are less clear. We find that even though the playing field is somewhat levelled by the MFN clauses in the BITs and by the possibilities for European investors to minimise investment risks through corporate restructuring, investors are able to rely on higher standards of protection and more legal certainty in the newer BITs than those granted under an old generation BIT. Therefore on balance, a continuation of the current 25 BITs would retain an element of legal uncertainty and will depend on a case by case evaluation through an arbitration panel. As a consequence, it should be held that the level of protection in a single EU level agreement would be legally more certain for investors from all 27 Member States than if maintaining the current status quo.

Chapter 4: Impacts of BITs on FDI flows

In *Chapter 4*, we ask the question "do BITs bite?" and whether BITs have a measurable economic impact on investment flows. To answer this, we review research on the impact of BITs. Our review of econometric and qualitative studies suggests that while BITs can be important instruments for the protection of investments, it is more uncertain how BITs impact the volume and destination of FDI. The econometric evidence on the relationship between BITs and investments is, in our view, mixed and without a clear consensus on the extent to which BITs should be expected to increase FDI. Empirical findings are extremely sensitive to the estimation method, particularly when it comes to handling the possible endogeneity problem i.e. the possibility that BITs are signed when FDI flows between the signatories are already large and/or are expected to increase. Based on the available evidence, we conclude that a consolidation of current BITs with China into one single EU-wide investment protec-

tion agreement that extends current "best-in-class" protections to all EU Member States would be unlikely to significantly increase FDI flows from the EU to China.

Chapter 5: Barriers to be addressed by FDI liberalisation (options 2 and 3)

In *Chapter 5,* we look at "a BIT with bite", i.e. an investment agreement with investment liberalisation chapters as stipulated in options 2 and 3. Here we describe the investment barriers facing EU and Chinese investors. In Chapter 3 and 4, we came to the conclusion that an "investment protection only" BIT with China will provide benefits by increasing the certainty of the investment protection. We also found that an "investment protection only" BIT should not be expected to lead to a considerable increase in investment flows. A BIT with more bite would include improved market access by reducing investment barriers and restrictions on investment. In Chapter 5, we show that there are significant investment barriers and that barriers for EU investors in China are higher than the investment barriers facing Chinese investors in the EU. We bring together the data on EU investment flows with qualitative data from an inventory of Chinese investment barriers and the results of an investor survey conducted amongst EU investors in China in order to identify sectors of particular interest to the EU. We find focus on the following sectors: Financial services, construction services, automotives and electrical machinery. The barriers in these sectors are discussed in greater detail. The chapter also addresses the barriers facing Chinese investors in Europe.

Chapter 6: Possible benefits of FDI liberalisation (options 2 and 3)

In *Chapter 6*, we provide an analysis of the possible impacts of a liberalisation of investment barriers between the EU and China.

Impact from increasing outward FDI to China

Rising levels of *European outward FDI to China* is a concern for many policy makers and some parts of the European public. These concerns stem from the perception that the foreign activities of European MNEs might depress economic activity and reduce employment within the EU. Based on the existing empirical literature, we conclude that EU outward FDI has made a positive and significant contribution to EU firms' competitiveness in the form of higher productivity. The productivity gains appear to be less pronounced for investments in less developed countries. EU outward FDI has so far had no measurable impact on aggregate employment. In fact, EU firms' investments out of the EU appear to have a positive impact on their employment and in general, over time, there is no indication that employment in the parent company is put under pressure by low wages in the host country of the foreign affiliate. Finally, outward FDI in general has redistributive impacts where skilled workers gain relative to unskilled workers, but our analysis of the scenarios for an EU-China investment agreement does not confirm this effect. The few studies that compare redistribute impacts of FDI in developed and developing countries appear to be inconclusive.

Impact of increasing inward FDI from China

Increased levels of *Chinese FDI into Europe* could also be beneficial. We know from a range of other studies that increased inward FDI into Europe, in general from all sources, will enhance economic growth through productivity gains and higher employment. This will happen since these investments bring knowledge and new technologies to the EU firms and enhance competition. However, there may be reasons to believe that Chinese investments may entail less positive stimulus. Compared to FDI from more advanced countries such as the US and Japan, the productivity spillovers from Chinese FDI should be expected to be smaller. This is so because the bulk of Chinese FDI comes from SOEs, as shown in Chapter 2, and because studies find that Chinese SOEs are less efficient than privately held firms and consequently fewer spillovers should be expected. However, as noted by Rosen and Hanneman (2011), Chinese companies are rapidly improving their performance and the emergence of efficient and globalised private firms from China suggests that EU companies may benefit from Chinese FDI in the future. This would imply that, over time, FDI from China could have the same positive macroeconomic effects in terms of increased competition, lower prices and higher consumer welfare as FDI from other countries. At the same time, we acknowledge the risk that the Chinese investors may bring back technological know-how to China and use the knowledge to build Chinese companies that, over time, will be able to compete on the global market. This is a risk for all inward FDI projects but taking China's sheer size and the extent of state intervention into account makes China a special case.

Chapter 7: Quantifying the impact of FDI liberalisation on FDI (options 2 and 3)

In *Chapter 7*, we describe our quantitative economic analyses of the estimated impact of investment barriers on the level of EU investment in China. We have applied several econometric models to quantify the impact of reducing investment barriers on FDI between the two economies. We measure investment barriers by including different indicators of the investment barriers in China and the EU, including the index of perceived restrictiveness based on new survey data. In our most conservative estimation, we estimate that the EU stock in China could increase by 0.6 percent in the moderate scenario (option 2) and by 1.9 percent in the more ambitious scenario (option 3). This is the case in the non-reciprocal scenario, where only China reduces FDI barriers. In the reciprocal case, where both the EU and China reduce barriers, we estimate that the Chinese FDI stock in the EU would increase by 0.3 percent in the moderate scenario (option 2) and by 0.9 percent in the more ambitious scenario (option 3). We find that these impacts are in line with the CGE results in the next chapter.

Chapter 8: Quantifying the economy-wide implications of FDI liberalisation (options 2 and 3)

In *Chapter 8*, we report the results from a model-based analysis of the economy-wide impacts of the two scenarios for the reduction of investment barriers between the EU and China. As was the case for our econometric estimates in Chapter 7, we consider both cases where there is unilateral FDI liberalisation by China as well as cases with reciprocal liberalisation with comparable concessions by the EU. The reciprocal concessions relate to possible

further concessions by the EU itself, reducing the investment barriers for China and bringing them slightly closer to those facing EU firms operating within the EU. Furthermore, we have considered that the elimination of investment barriers may also yield improved access for third countries, when barrier reductions involve generic changes in regulatory barriers. In the CGE model, we therefore extend the modelling approach to also include third country spillovers.

Macro-economic results

Our simulations show a clear pattern of results where the most ambitious liberalisation scenario (option 3) yields more substantial benefits than the modest scenario (option 2), not only for the EU but also for China. Indeed, in the case of the modest scenario with limited liberalisation and almost no spillovers, there is also basically no substantive effect on GDP in either the EU or China. Another key finding from the simulations is that, for the EU, estimated gains are actually larger when the spillover effects are also larger, i.e. when FDI liberalisation in China has a large multilateral element. We estimate an increase in European real income of €7 billion (+0.05%) in the EU and €1.4 billion (+0.07%) in China. This follows from better demand conditions globally with greater Chinese FDI liberalisation, as well as better intermediate supply conditions in China with greater spillovers.

Possible environmental impacts

We have also assessed the possible environmental impacts in this chapter. At the overall level, most of the scenarios shift the sector structure of EU MNEs in China in the direction of the generally more polluting manufacturing sector relative to the generally less polluting services sectors. It cannot, however, be concluded on this basis that there will be negative environmental impacts from the estimated changes in output. Using a recent classification "dirty" and "clean" industry sectors, we can qualify the direction of the change in sector output for EU firms in China in the various experiments. Our analysis at the more detailed manufacturing sector level indicates that for the identifiable "clean" sectors in the model will grow more than identifiable "dirty" sectors and that the pollution intensity for European MNEs in China would decrease as a result of FDI liberalisation. This is however based on a partial assessment, and additional environmental improvements could follow through other channels such a technology transfer, and from the fact that MNEs generally apply stricter environmental standards than local Chinese firms. We have also evaluated the global impacts on carbon emissions in all scenarios (through the use of the CGE-model). On the basis of current patterns of trade and current technology levels, we estimate the net global carbon impact to be negligible in all scenarios.

Labour market impacts

While there is only a very small positive or no impact on overall employment levels in the EU, the changes at the sector level are estimated to be more pronounced, but still moderate. In the reciprocal and ambitious scenario with high spillovers, we find an overall positive employment impact. In this case, we predict the following positive sector employment impacts in the EU (with the higher estimates relating to the flexible closure):

- +0.5 to +0.6 percent in the EU motor vehicle sector
- +0.3 to +0.4 percent in the EU transport equipment sector
- +0.5 to +0.7 percent in the EU electronic equipment sector

A number of other sectors are seeing more moderate positive effects of zero to 0.1 percent increase. Some sectors are shown to be negatively affected in the scenario (with the higher estimates relating to the fixed closure):

- - 0.2 percent in the EU ferrous metals sector
- - 0.4 percent in the EU other metals sector
- - 0.2 to -0.1 percent in the EU metal products sector
- - 0.2 percent in the EU communication services sector

Turning to the non-reciprocal and ambitious scenario with high spillovers, sector results look different. The scenario still yields an overall positive employment impact of 0.03 percent as in the scenario above, but in the non-reciprocal case we predict bigger positive sector employment impacts in the EU, but in fewer and bigger sectors compared to the reciprocal experiment. Specifically we find (with the higher estimates relating to the flexible closure):

- +0.1 to +0.9 percent increase in the EU chemicals, rubber and plastics sector
- +0.2 to +0.7 percent in the EU machinery and equipment sector

Some sectors are shown to be negatively affected in the non-reciprocal scenario. In this case we predict the following negative sector employment impacts in the EU (with the higher estimates relating to the flexible closure):

- 0 to - 0.2 percent in the EU metals sector
- 0 to - 0.2 percent in the EU motor vehicles sector
- - 0.4 to -0.9 percent in the EU transport equipment sector
- - 0.4 to -3.2 percent in the EU electronic equipment sector
- - 0.2 percent in the EU 'other manufacturing' sector

Chapter 1 | Introduction to the study

1.1. Background and context of the study

The Treaty on the Functioning of the European Union ("the TFEU") establishes the European Union's exclusive competence on foreign direct investment, as part of the common commercial policy. In order to exercise this new EU exclusive competence, on 7th July 2010 the Commission adopted the Communication "Towards a comprehensive European international investment policy", which explores main orientations of the future EU investment policy and main parameters for immediate action in this area. It also identifies certain key trading partners with whom new investment agreements could be particularly desirable in order to improve the investment environment and legal certainty for European investors. China is one of the countries identified.

In the case of China, 26 of 27 EU Member States have concluded bilateral investment treaties (BITs) which deal with investment protection but implement different levels of standards, which may not provide the same level of protection across the EU.

The new EU exclusive competence on foreign direct investment allows the Union to negotiate comprehensive investment agreements that integrate both investment market access and investment protection provisions and ensure a level playing field for all EU investors operating in foreign markets.

Building on existing analyses in the past of the existing BITs of Member States with China, the Chinese investment regime and on previous studies looking at the barriers to investment between the EU and China, the Commission has decided to launch an Impact Assessment to review options for the strengthening of the EU-China investment relations.

This study is aimed at supporting the Impact Assessment by providing information and economic analysis.

1.2. Objectives of the study

The objective of the study is to assess the economic benefits and costs of a possible EU-China investment agreement. The agreement should:

(i) open up market access for foreign direct investment by EU investors in China (and Chinese investors in the EU) and it should

(ii) include provisions on investment protection, thereby consolidating the existing bilateral investment treaties between individual EU Member States and China.

Furthermore, the study shall also report on possible social and environmental implications of such changes based on the analyses performed where possible.

Chapter 2 THE EU-CHINA INVESTMENT RELATION

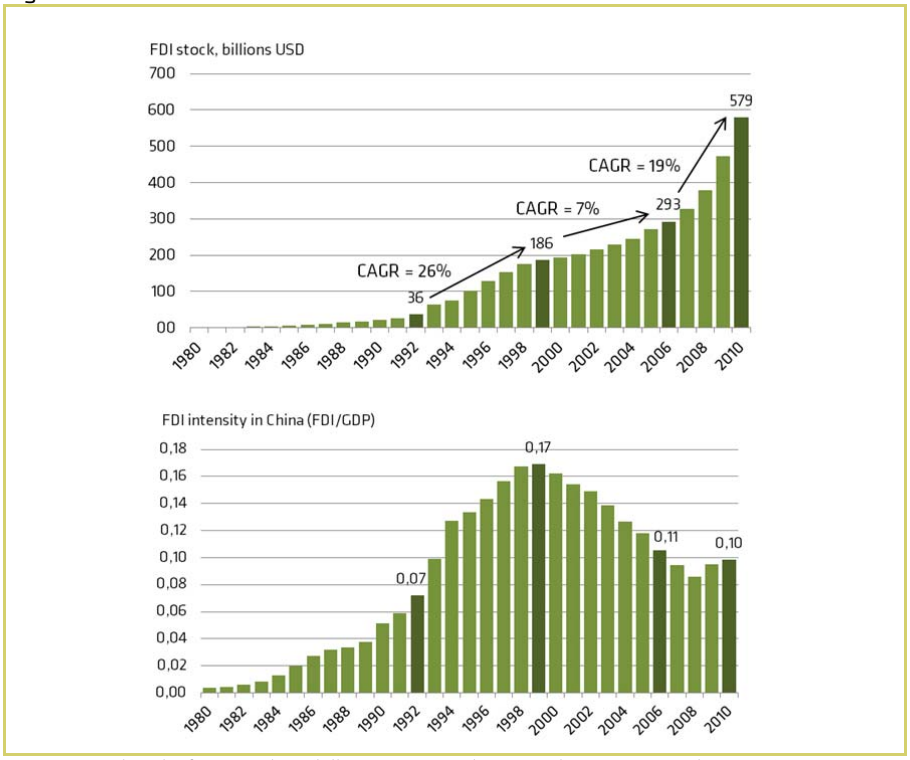
In this chapter we provide an overview of the developments in foreign direct investment (FDI) between the EU and China.

2.1. CHINA'S PROCESS OF OPENING UP FOR FOREIGN INVESTMENT

China began its policy of opening up their economy to foreign investors in 1992, and the following two years, there was high political focus on attracting FDI to China, and as a result, inflows increased markedly, from a very low level to a level among the highest. By the mid-1990s China attained the position it still holds, as the largest recipient of FDI among developing countries. Between 1992 and 1994, FDI as a ratio to GDP in China rocketed from just 0.07 to 0.13 in 1994 and it continued to climb to peak at 0.17 in 1999.

In the late 1990s, China embarked on a more restrictive policy towards FDI with gradually imposing restrictions on FDI. As a result, inflows cooled down, and grew less rapidly until 2006 when a new set of regulations on investments were put in place. In the period since 1999, Chinese GDP grew by impressive rates, but the ratio of FDI to GDP declined steadily reaching a level of 0.11 in 2006 and further declining to 0.09 in 2008 before resurging.

Figure 2.1 China inward FDI stock 1980 - 2010



Note: Inward stock of FDI in China (billion USD upper diagram and as ratio to GDP lower part). CAGR = Compound average growth rate in percent over the period indicated.

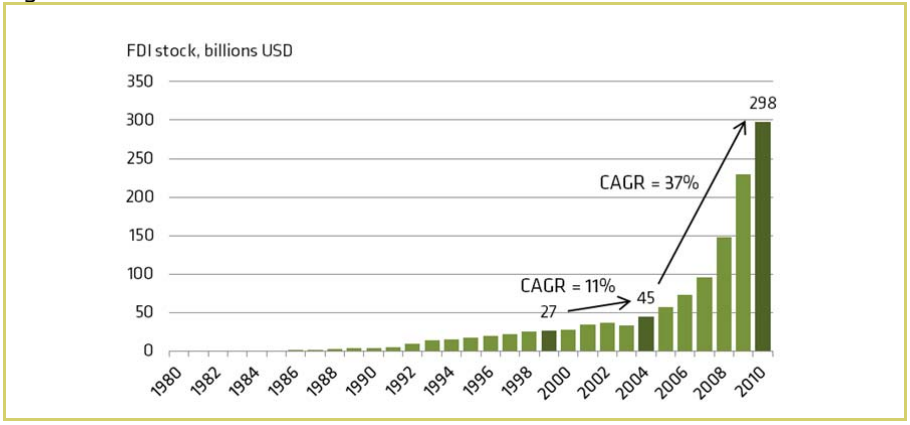
Source: Copenhagen Economics based on UNCTAD data

China's outward investment is growing rapidly

The Chinese Government initiated a so-called *Go Out* policy (also referred to as the *Going Global Strategy*) in 1999 in an effort to promote Chinese investments abroad.[1] Since the launching of the Going Global Strategy, Chinese companies has increased their investment overseas significantly especially among State Owned Enterprises (SOEs).

As shown in Figure 2.2 China's outward investments have been growing at rate of 11 percent per year between 1999 and 2004, starting from a low level of USD 27 billion in 1999. In the mid-2000s, the annual growth rate of the Chinese outward FDI stock took off and Chinese outward FDI have grown at an average of 37 percent per year since 2004. From a level of $45 billion in 2004, the stock has grown to around $300 billion by 2010 according UNCTAD statisticss and confirmed by MOFCOM statistics. This development is a consequence of the accumulated foreign reserves resulting from the large annual trade surpluses with the rest of the world.

Figure 2.2 China outward FDI stock 1980 - 2010



Note: Outward stock of Chinese FDI in the worl (billion USD)
CAGR = Compound average growth rate in percent over the period indicated.
Source: Copenhagen Economics based on UNCTAD data

Outlook

With the rapid growth in China's outward investment, currently just over half the size of the inward stock, China soon will become a net exporter of FDI: China's Ministry of Commerce expets this crossover to occur around 2015, while the International Monetary Fund (IMF) mentions that it could occur earlier[2]. According to estimates in Rosen and Hanneman (2011), China's outflow of FDI could reach between $1 trillion to $2 trillion by 2020.

These funds need to be invested somewhere, and some of these investments are flowing into the EU. According to research by Kolstad and Wiig (2010), Chinese outward FDI is increas-

[1] See William Hess, "Going Outside, Round-Tripping and Dollar Diplomacy: An Introduction to Chinese Outward Direct Investment" (IHS Global Insight, 2006).
[2] See IMF (2010) and Rosen and Hannemann (2011).

ingly attracted to large markets in the OECD countries and while its initial focus on non-OECD countries with a combination of large natural resources and poor institutions.

In the following we look at how these recent changes in China's investment policy has changed the EU-China investment patterns. First we look at the EU's investment in China, and describe the main developments. Then we look at China's outward investments in Europe and look at the changes in the recent years. First we describe the data used.

2.2. THE DATA

We use Eurostat data as the main source. We have compared Eurostat data with the data from the OECD and UNCTAD and find general consistency between these sources. We have also assessed Chinese FDI data, and found that these were not comparable and Chinese FDI statistics do no comprise a useful measure of the FDI stock in China, as also is pointed out by the OECD investment review of China from 2008, see OECD (2008). For this reason, we use data as reported by EU Member States for investments in both directions (see Box 2.1 on data used)

Box 2.1 Eurostat data on FDI

The Eurostat database on Foreign Direct Investment contains both inward and outward FDI stocks and flows, and provides country and sector breakdown. This enables detailed analyses of FDI flows and positions. There are however a few shortcomings with the data.

There are missing observations for certain countries in certain years. Furthermore the missing observations are not the same for EU FDI stock in China and Chinese FDI stock in EU. This makes it difficult to include the same countries in a two-sided analysis. Moreover EU aggregates contain SPE's (Special Purpose Entities), whereas national statistics does not. The missing data therefore makes it difficult to construct an EU aggregate excluding SPE's.

The sector breakdown is also suffering from missing data or data being unavailable for confidentiality reasons and the sum of subsectors do not sum up to the sector total. Both these issues limit the scope for detailed sector analyses.

Regarding foreign affiliate sales (FATS statistics) the inward FATS includes Hong Kong in the Chinese numbers, but the outward FATS does not.

Source: Copenhagen Economics based on Eurostat information

Investments via Hong Kong

Our analyses cover direct investment between EU and China. We note, however, that a number of European firms are making investment in China via a special purpose vehicle in Hong Kong[3]. The amount of investment being made by European firms via Hong Kong is unknown and there are no statistics on the amount of European FDI being channelled through Hong Kong, cf. Sung (2005). Our survey, based on a questionnaire to European investors in China, pointed out that in the cases where European firms had invested in Chi-

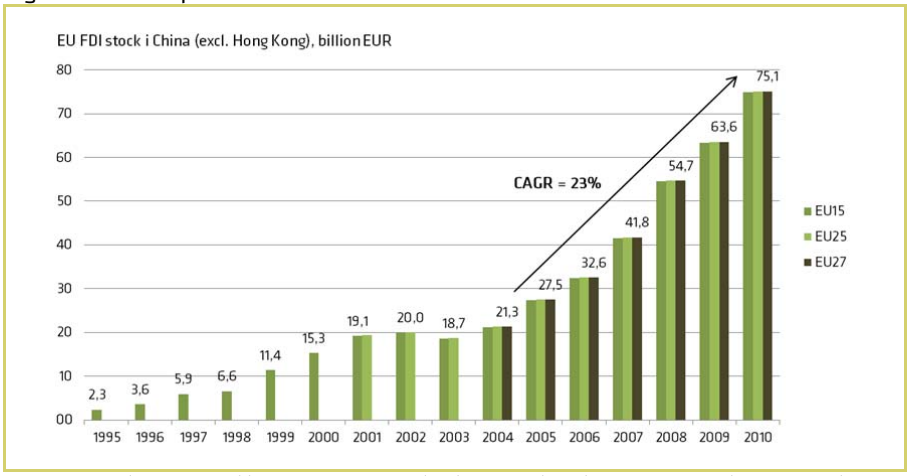
[3] *Special Purpose Entities* (SPEs) are generally organised or established in economies other than those in which the parent companies are resident and engaged primarily in international transactions but in few or no local operations. According to the OECD definition, SPEs are defined either by their structure (e.g., financing subsidiary, holding company, base company, regional headquarters), or their purpose (e.g., sale and regional administration, management of foreign exchange risk, facilitation of financing of investment).

na through a third country, Hong Kong was most frequently mentioned.[4] It should be kept in mind that a non-insignificant amount of European FDI in China is made by European firms through Hong Kong subsidiaries into China. A detailed analysis of the sector composition of the EU27 FDI stock in Hong Kong further supports the role of Hong Kong as financial hub, as close 70 percent of the overall FDI stock is in financial services.

2.3. EU DIRECT INVESTMENT IN CHINA

The EU stock of foreign direct investment (FDI) in China was €75 billion in 2010 according to Eurostat and China accounts for only 1.8 percent of total outward extra-EU FDI. The FDI stock held by EU firms in China followed the general pattern in China's inward investment. From a very low investment stock in China prior to 1992, the EU FDI stock increased rapidly until around 2001 when the EU stock in China levelled off at around €20 billion. EU investment resumed growth again around 2004 with an average annual growth rate of the EU owned FDI stock in China of around 23 percent between 2004 and 2010, cf. Figure 2.3. We have shown the development of EU27 FDI in China since 2004, the EU25 FDI in China since 2001, and the EU15 FDI in China since 1995. We note that the EU15 total constitute more than 99 percent of the EU27 total reported by Eurostat.

Figure 2.3 Development in EU's FDI stock in China 1995-2010



Note: EU27 data aggregated by Eurostat. EU15 is also shown as it has a longer time series than EU25 and EU27
CAGR = Compound average growth rate in percent over the period indicated.
Source: Eurostat, EU direct investment positions (Financial account direct investment stock abroad)

Differences by EU Member States

There are pronounced differences in the amount of investments made in China by Member State. According to the data made public by Eurostat, the ten largest EU investor countries in China are: Germany, France, the UK, Italy, the Netherlands, Finland, Sweden Spain, Denmark and Austria. The reported data for these ten countries account for a stock of €70

[4] For more details on the survey, please refer to section 4.3 in this report.

billion direct investment in China which is 93 percent of the reported EU 27 total of €75 billion, cf Table 2.1. We note that due to confidentiality, the reported country data does not sum to the reported EU27 total.

Table 2.1 EU FDI stock in China, country composition

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	0.06	0.11	0.18	0.20	-	0.29	0.53	0.62	0.90	1.40	2.38
Belgium	-	-	-	-	-	-	-	-	1.45	0.80	0.79
Bulgaria	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cyprus	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01
Czech Rep.	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Denmark	0.38	0.47	0.46	0.58	0.85	1.12	1.35	1.88	1.78	2.22	2.75
Estonia	0.00	0.00	0.00	0.00	0.00	-	0.00	0.01	0.01	0.01	0.00
Finland	0.52	0.77	0.58	0.80	1.19	1.23	1.18	1.64	1.91	2.46	4.30
France	1.80	2.20	2.24	2.14	2.31	3.10	4.28	5.64	7.56	8.99	11.10
Germany	5.74	6.93	6.37	6.98	8.17	10.40	12.24	14.45	18.72	20.74	23.78
Greece	-	0.01	0.01	0.02	0.02	0.06	0.06	0.05	-	0.02	0.02
Hungary	-	-	-	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02
Ireland	-	-	-	0.00	0.03	0.01	0.09	0.29	0.40	-	-
Italy	0.58	0.56	0.49	0.53	0.64	0.91	1.11	2.15	3.38	3.73	6.27
Latvia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lithuania	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Malta	-	-	-	-	0.00	-	-	-	-	-	-
Netherlands	1.80	2.27	1.84	1.76	1.25	1.83	2.18	4.37	5.10	6.47	5.53
Poland	0.15	0.16	0.13	0.11	0.11	0.13	0.13	0.12	0.13	0.13	-
Portugal	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.00	0.00	0.01	-
Romania	-	-	-	-	-	0.00	0.00	0.00	-	-	-
Slovakia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00
Slovenia	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02
Spain	-	-	-	-	-	-	0.34	0.50	0.70	1.92	3.06
Sweden	0.68	1.22	1.15	0.69	1.07	1.55	1.40	1.68	2.12	2.84	3.94
UK	2.41	3.46	4.94	2.57	2.67	3.92	3.32	3.71	4.80	5.01	6.98

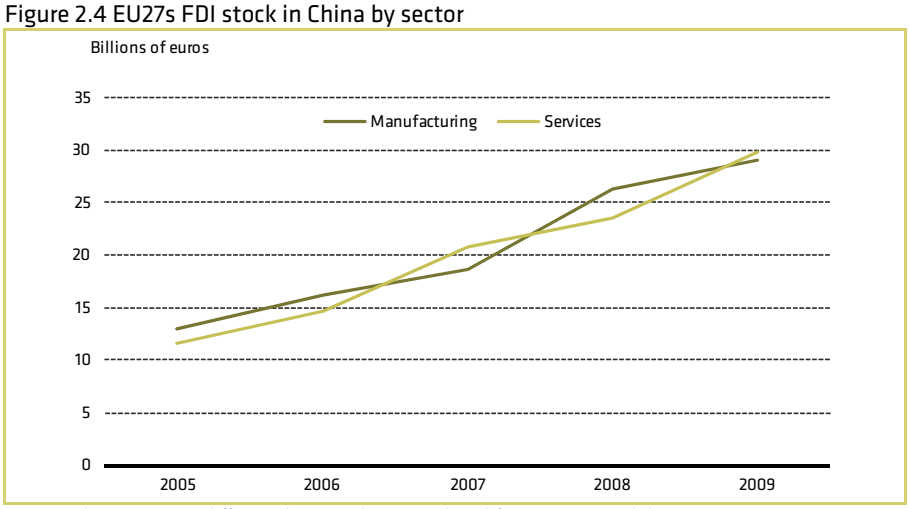
Note: Billions of euros. "-" means that data are not publicly available because of confidentiality
Source: Eurostat, EU direct investment positions, breakdown by country and economic activity

As can be seen from the above table, Germany is by far the largest origin of EU investments in China with a FDI stock of €24 billion in 2010. FDI from France, United Kingdom and Italy are also significant. In the last period especially the Italian and the Austrian FDI stock have risen significantly with annual growth rates above 50 percent, but also the largest investor Germany has had a high annual growth rate of 24 percent.

Sectors

Turning to the sector breakdown, the EU investments in China are almost equal parts manufacturing and services, cf. Figure 2.4. Sector composition is not available for 2010.

Figure 2.4 EU27s FDI stock in China by sector



Note: There is a minor difference between the reported total from Eurostat and the sum across sectors
Source: Eurostat, EU direct investment positions, breakdown by country and economic activity

At a more detailed level the investment in manufacturing is concentrated in chemicals (23 percent in 2009), metal (19 percent in 2009) and vehicles (20 percent in 2009), while real estate and finance dominate the service sector investments (both 39 percent in 2009), cf. Table 2.1. Investments in agriculture, mining, electricity and construction only accounts for a small part of total EU FDI stock in China. There is no sectoral breakdown for 2010.

Table 2.2 EU27s FDI stock in China, sector composition

	2005	2006	2007	2008	2009
Agriculture and fishing	**0.00**	**0.00**	**0.02**	**0.03**	**0.01**
Mining and quarrying	**1.04**	**1.23**	**1.35**	**1.05**	**1.04**
- Extraction of petroleum and gas	0.99	1.20	1.29	0.99	0.95
Manufacturing	**13.01**	**16.17**	**18.61**	**26.28**	**29.03**
- Food products	0.63	0.88	0.89	1.73	1.96
- Total textiles and wood activities	0.65	0.67	0.75	0.81	0.67
- Total petroleum, chemicals, rubber and plastic products	3.38	3.97	4.10	6.42	6.59
- Total metal and mechanical products	2.56	3.52	4.29	5.58	5.32
- Total machinery, computers, RTV and communication equipment	1,09	1.53	2.10	3.39	4.31
- Total vehicles and other transport equipment	2.80	3.23	3.68	4.42	5.64
- Other manufacturing	-	-	-	-	-
Electricity, gas and water	**0.08**	**0.27**	**0.40**	**0.58**	**0.71**
Construction	**0.96**	**0.04**	**0.06**	**0.13**	**0.16**
Services	**11.64**	**14.68**	**20.76**	**23.55**	**29.78**
- Trade and repairs	1.42	2.03	2.74	3.66	5.18
- Hotels and restaurants	0.01	0.02	0.02	0.04	0.02
- Transports, storage and communication	0.51	0.71	1.55	1.36	1.26
- Financial intermediation	5.04	6.20	9.08	8.18	11.59
- Real estate, renting and business activity	4.47	5.60	7.30	10.08	11.41
- Other services	0.11	0.08	0.02	0.19	0.18

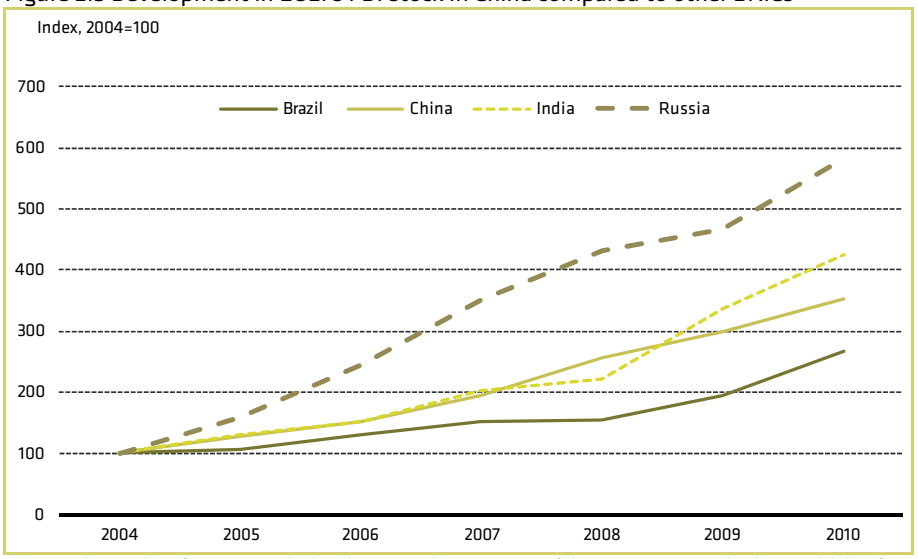
Note: Billions of Euro. The subgroups do not sum exactly to the sector total
Source: Eurostat, EU direct investment positions, breakdown by country and economic activity

In chapter 5 we provide further analyses of the sectors with potential for increasing FDI in China, and we decribe the barriers facing investors in these selected sectors.

EU FDI in China compared to other BRIC countries

The increase in European FDI stock in China is impressive, but the increases in EU investments in India and Russia have been even larger. Compared to Russia, where the EU has invested heavily, China is lagging behind as destination for EU investment, cf. Figure 2.5. In value terms, EU27 had the largest investments in Brazil in 2010. The FDI stock in Brazil amounted to €188 billion in 2010, while the FDI stock in India was the smallest among the BRICs amounting to €34 billion in 2010. The EU27 FDI stock in China was €75 billion and it was €120 in Russia.

Figure 2.5 Development in EU27s FDI stock in China compared to other BRICs

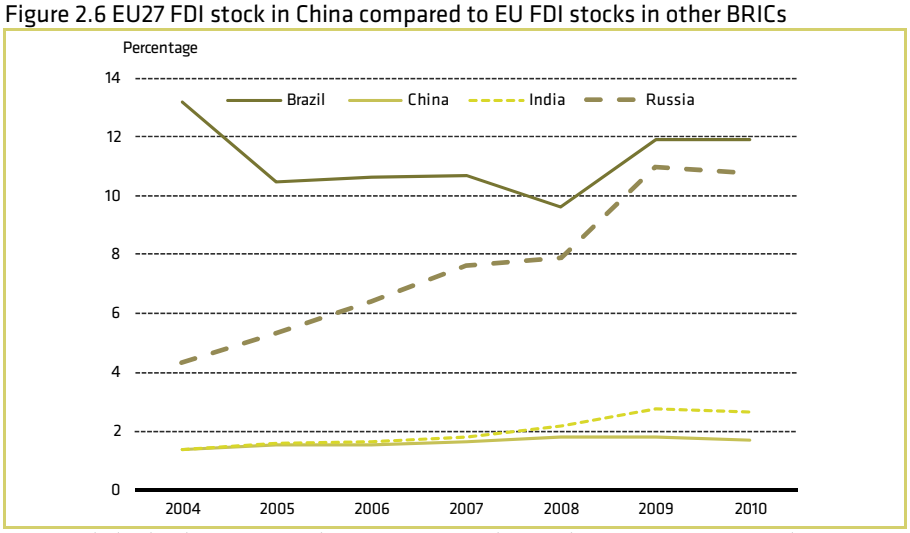


Note: The numbers for EU27 are higher than a simple aggregation of the 27 countries, as the data availability for some of the countries are restricted for confidentiality reasons

Source: Eurostat, EU direct investment positions (Financial account direct investment stock abroad)

This is also confirmed in Figure 2.6 which shows that the intensity of EU's FDI to China's GDP has not risen markedly, so the significant increase in EU investment in China corresponds relatively well to the development in Chinese GDP. Measured this way, Russia and Brazil are far ahead in terms of attracting European FDI as indicated by a much higher intensity of EU FDI relative to the GDP of Russia and Brazil respectively. Compared to the size of the Russian economy and compared to the size of the Brazilian economy, EU investments in these countries are more than five times higher than EU investment in China. The intensity of EU investment in India increased from 2007-2009, and India now exceeds China in this respect. This shows that China is underrepresented as destination for EU investment.

Figure 2.6 EU27 FDI stock in China compared to EU FDI stocks in other BRICs



Note: Calculated as the EU's FDI stock in partner country relative to the partner country's nominal GDP
Source: World Bank and Eurostat, EU direct investment positions (Financial account direct investment stock abroad)

That China is underrepresented as destination for EU investment is also confirmed by comparing the share of EU's investment in China's overall foreign investment to the share of EU's global outward investments. Based on an analysis of OECD data, we find that the EU accounted for 31 percent of total FDI stock in China, while the EU represents 36 percent of the global outwards stock (based on 2008 data). The EU is thus slightly underrepresented in China. Using the same measure and the same data, we also find that Asian investors such as Japan and Korea are overrepresented in China, while the U.S. is also under-represented in China, in fact more so than the EU.

Comparison of sector composition of EU FDI in China with other BRIC countries

The EU investment in China is more concentrated in manufacturing than in other BRICs and has a more equal distribution between manufacturing and services. In other BRICs, especially Russia there is a larger share of investments in other sectors than manufacturing and services, i.e. mining and agriculture, cf. Table 2.3.

Table 2.3 Sector composition of EU27s FDI stock in China and other BRICs in 2009

Sector	EU27 FDI stock in Brazil (pct. by sector)	EU27 FDI stock in Russia (pct. by sector)	EU27 FDI stock in India (pct. by sector)	EU27 FDI stock in China (pct. by sector)
Manufacturing	35%	20%	38%	46%
Services	46%	40%	51%	47%
Other	19%	40%	11%	7%
Total	**100%**	**100%**	**100%**	**100%**

Note: There is a minor difference between the reported total from Eurostat and the sum across the above mentioned sectors

Source: Eurostat, EU direct investment positions, breakdown by country and economic activity

Types of FDI

Statistics from the Ministry of Commerce in China show that most foreign investment in China in 2011 is wholly foreign owned enterprises, cf. Table 2.4. These represent 79 percent of total FDI. By 2011, equity joint ventures represented 18 percent of the total, down from 28 percent in 2000. The joint venture share has been rather constant around 20 percent since 2005.

Table 2.4 FDI in China split by type of investment

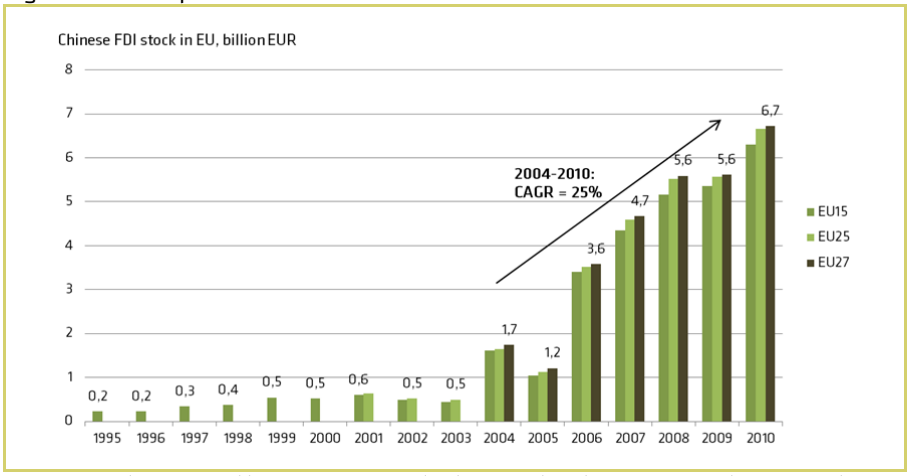
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Joint Ventures	28.4%	33.6%	28.4%	28.8%	27.0%	20.2%	20.7%	20.9%	18.7%	19.2%	21.3%	18.0%
Wholly foreign owned	60.2%	50.9%	60.2%	62.4%	66.3%	59.3%	66.6%	76.6%	78.3%	76.3%	76.6%	79.0%
Others	11.4%	15.5%	11.4%	8.8%	6.6%	20.5%	12.7%	2.6%	3.0%	4.5%	2.1%	3.0%

Source: Ministry of Commerce, China

2.4. CHINESE INVESTMENTS IN THE EU

The Chinese stock of foreign direct investment (FDI) in EU27 was €6.7 billion (including Special Purpose Entities) in 2010 according to Eurostat data. The stock of Chinese FDI in the EU is still very small compared to the overall amount of FDI in the EU27 originating from non-EU countries. China's investments accounted for only 0.2 percent of the total inward stock in the EU27 in 2010. In the period from 2004 to 2010 the Chinese investment stock in the EU increased in value by 25 percent per year on average. As can also be seen from the comparison of the EU15 and the EU27 total Chinese investments are also made in the new Member States.

Figure 2.7 Development in Chinese FDI stock in the EU 1995-2010

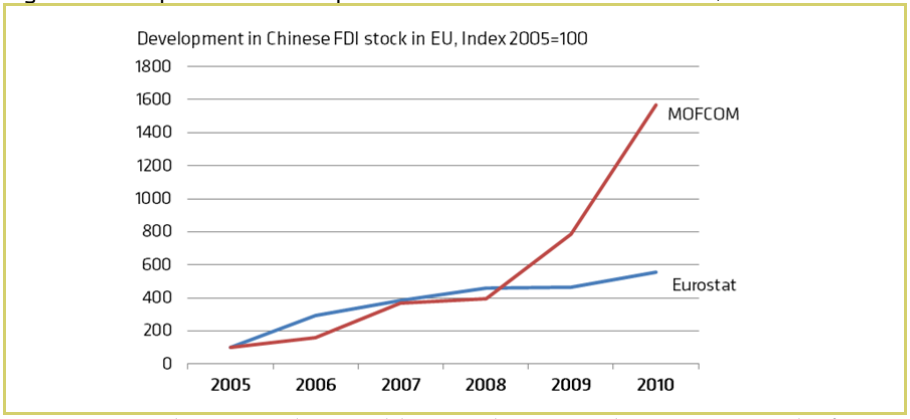


Note: EU27 data aggregated by Eurostat. EU15 is also shown as it has a longer time series than EU25 and EU27 CAGR = Compound average growth rate in percent over the period indicated.

Source: Eurostat, EU investment positions (Financial account direct investment stock in the reporting economy)

Comparing the Eurostat numbers with the Chinese numbers on outward investment from the Chinese Ministry of Commerce (MOFCOM), shows a divergence in the developments in recent years. The two statistics follow broadly between 2005 and 2008, but a divergent picture appears for 2009 and 2010, where MOFCOM is reporting much bigger increases.

Figure 2.8 Comparison of development in Chinese FDI stock in the EU, 2005-2010



Note: MOFCOM data are reported in USD while Eurostat data are reported in Euro. MOFCOM data for 2005 and 2006 include only non-financial outward FDI stock

Source: Copenhagen Economics on the basis of Eurostat data and MOFCOM 2010 Statistical Bulletin of China's Outward Foreign Direct Investment, page 101

Development by EU Member State

Table 2.5 provides the country breakdown (excluding SPEs). It shows that many EU countries are investment recipients hosting less than €0.05 billion of Chinese owned FDI in

2010. As can be seen from Table 2.5, Sweden and Germany are the favourite destinations of Chinese FDI, with United Kingdom and Denmark following thereafter.

Table 2.5 China FDI stock in EU, country composition

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	0.00	-	-	0.00	-	0.00	-	0.02	0.00	0.14	0.14
Belgium	-	-	-	-	-	-	-	-	0.20	-0.62	-0.56
Bulgaria	-	-	-	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02
Cyprus	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Czech Rep.	0.01	0.01	0.00	0.00	0.00	0.00	0.03	0.08	0.06	0.04	0.05
Denmark	-	0.00	-0.01	0.00	0.12	0.22	0.31	0.34	0.41	0.34	0.38
Estonia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Finland	-0.01	-0.01	-0.01	0.01	0.02	0.01	0.01	0.01	-0.02	-0.01	0.05
France	0.02	0.10	0.11	0.16	0.16	0.13	0.17	0.30	0.24	0.34	0.36
Germany	0.16	0.18	0.15	0.16	0.19	0.24	0.33	0.44	0.56	0.61	0.80
Greece	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	0.00
Hungary	-	-	-	0.01	0.02	0.02	0.02	0.02	0.03	0.01	0.11
Ireland	-	-0.01	-0.10	-0.14	0.28	0.09	0.17	0.21	0.16	-0.11	-0.89
Italy	0.03	0.03	0.03	0.03	0.04	0.05	0.06	0.11	0.14	0.32	0.32
Latvia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lithuania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Malta	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Netherlands	0.03	0.05	0.06	0.06	0.03	0.02	0.04	0.10	0.13	0.06	0.26
Poland	0.01	0.01	0.01	0.02	0.02	0.06	0.07	0.14	0.24	0.13	-
Portugal	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-
Romania	-	-	-	0.20	0.09	0.09	0.05	0.07	0.06	0.03	0.05
Slovakia	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.04
Slovenia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spain	-	-	-	-	-	-	-	-	-	-	-
Sweden	-	-	-	-0.04	-0.04	-	0.04	0.03	0.05	0.11	1.11
UK	0.06	0.08	0.07	0.15	0.17	0.16	0.15	0.28	0.45	0.70	0.47

Note: Billions of euros. "-" means that data are not publicly available because of confidentiality
Source: Eurostat, EU direct investment positions, breakdown by country and economic activity

We also find an increasing trend in Chinese FDI in Europe since 2004. The stock of Chinese owned FDI in the EU27 has increase by a factor four since 2004 from €1.7 billion to €6.7 billion in 2010 according to Eurostat numbers.

While Chinese outward investment has increased dramatically since 2004, the level of Chinese ownership in the EU is still low compared to other non-EU investors such as the US, Canada and Japan.

Looking at Member States with FATS data, we find that Chinese owned enterprises generally account for less than half a percent of the total production value at enterprises controlled by non-EU owners. Only in France does the Chinese share exceed one percent. We note that there are no such data for Germany. In most other EU countries with available data, the Chinese share of total extra-EU owned production value is 0.1 to 0.3 percent. Looking at the production value of the Chinese owned enterprises in the EU and comparing with US owned enterprises, we find that the production value by US owned companies is almost 200

times larger than the Chinese owned, based on Eurostat FATS data for 2008/2009, cf. Table 2.6.

Table 2.6 Production value for foreign controlled enterprises in EU (2008/2009)

	Extra EU-27	Canada	United States	China	Japan	China Share of Extra EU-27
Belgium	-	-	-	-	-	-
Bulgaria	7.875,8	13,5	1.579,7	9,4	105,5	0,1%
Czech Rep.	41.117,9	795,8	16.062,9	-	6.780,9	-
Denmark	22.833,8	191,9	8.670,5	-	608,2	-
Germany	-	-	-	-	-	-
Estonia	-	-	-	-	-	-
Spain	60.572,9	752,0	36.412,6	133,6	6.734,7	0,2%
France	219.122,9	6.255,1	141.638,9	2.163,3	15.444,3	1,0%
Italy	166.979,6	-	88.837,5	228,1	9.900,2	0,1%
Cyprus	327,8	7,1	103,5	0,0	-	0,0%
Latvia	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-
Hungary	30.799,5	760,5	14.192,5	82,4	4.806,1	0,3%
Malta	555,1	3,9	95,2	3,7	0,0	0,7%
Netherlands	-	1.066,2	88.270,6	238,2	7.357,3	
Austria	34.955,2	3.782,2	10.694,7	9,8	2.929,8	0,0%
Poland	32.049,2	453,6	12.501,5	-	3.461,2	-
Portugal	-	-	4.559,1	-	-	-
Romania	-	-	-	-	-	-
Slovenia	2.713,8	-	696,3	3,1	56,0	0,1%
Slovakia	13.231,1	8,6	3.989,4	-	384,6	-
Finland	20.432,7	365,6	7.508,5	9,7	1.673,0	0,0%
Sweden	52.693,6	860,5	24.778,4	83,4	2.102,5	0,2%
UK	459.587,4	19.293,4	259.149,0	188,8	37.094,9	0,0%
Total for 12 MS	**1.056.616,3**		**585.686,8**	**2.915,3**		**0,3%**

Note: "-" means that data are available. Table covers total business economy except financial and insurance activities

Source: Eurostat, FATS data [fats_g1a_08]

Looking at the number of people employed at Chinese owned enterprises in the EU, we also find a relatively small magnitude. For those 12 Member States reporting data on this, Chinese owned enterprises employed around 18.000 people by headcount in 2008, which 0.5 percent of the 3.7 million people employed at EU enterprises controlled by non-EU owners. Two million people alone are employed in US owned enterprises in the EU, according to Eurostat FATS data for 2008, cf. Table 2.7.

Table 2.7 Employment at foreign controlled enterprises in EU (2008)

	Extra EU-27	Canada	United States	China	Japan	China Share of Extra EU-27
Belgium	-	-	-	-	-	-
Bulgaria	74.366	414	23.821	210	-	0,3%
Czech Rep.	260.286	7.293	121.651	-	34.023	-
Denmark	92.204	852	36.199	-	3.200	-
Germany	1.206.452	14.169	626.677	4.156	74.564	-
Estonia	-	-	-	-	-	-
Spain	284.736	4.088	164.422	767	22.407	0,3%
France	717.581	22.853	450.836	8.968	51.557	1,2%
Italy	482.135	-	275.202	683	26.593	0,1%
Cyprus	3.829	101	719	0	-	0,0%
Latvia	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-
Hungary	197.992	5.125	90.515	1.631	24.184	0,8%
Malta	3.587	14	893	-	0	
Netherlands	291.417	2.216	166.206	1.226	23.740	
Austria	121.069	9.867	42.157	93	5.725	0,1%
Poland	222.097	5.024	98.187	-	20.678	-
Portugal	-	-	26.121	-	-	-
Romania	-	-	-	-	-	-
Slovenia	24.046	-	3.783	113	265	0,5%
Slovakia	64.945	79	22.857	-	7.459	-
Finland	74.953	1.478	30.523	45	7.352	0,1%
Sweden	246.789	3.960	113.060	553	8.548	0,2%
UK	2.102.225	44.766	1.155.528	-	112.707	
Total for 12 MS	**3.725.365**	**-**	**1.987.921**	**18.445**	**-**	**0.5%**

Note: Number of persons employed. "-" means that data are available. Table covers total business economy except financial and insurance activities.

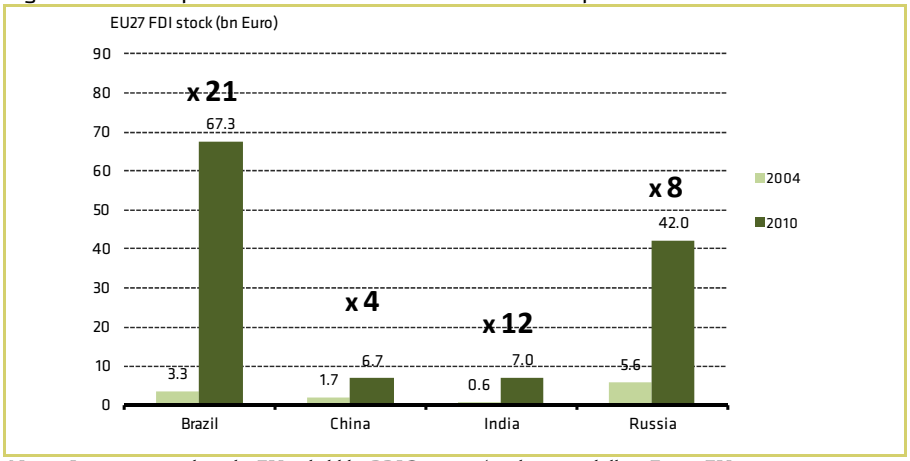
Source: Eurostat, FATS data [fats_g1a_08]

Comparison with investments from other BRIC countries

The share of Chinese investment in the EU is still low compared to the overall FDI stock held by extra-EU sources.

While the investment from China in the EU is increasing rapidly, it is still less dramatic than the increases from other BRIC countries. The stock of Indian owned FDI in the EU27 is around the same level as Chinese owned FDI in EU27 with €7.0 bn of Indian FDI in the EU in 2010 compared to €6.7 bn of Chinese FDI in 2010. Compared to a much lower initial level, the stock of Indian FDI increased by a factor of twelve since 2004. This is still slow compared to the increase in Brazilian investments in the EU27 which increased by a factor 21 since 2004, cf. Figure 2.12.

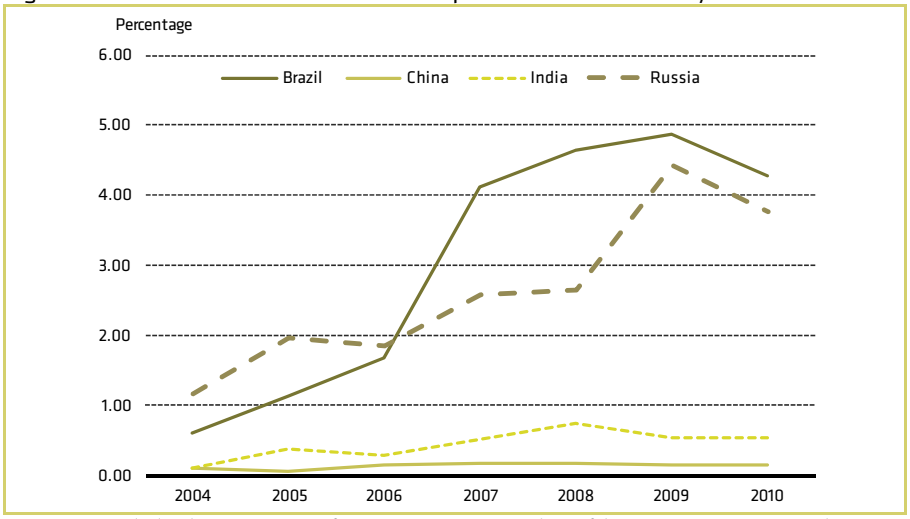
Figure 2.9 Development in Chinas FDI stock in EU27 compared to other BRICs



Note: Investment stock in the EU27 held by BRICs in 2004 and 2010 in billion Euros. EU aggregates are produced with data including Special Purpose Entities for all Member States and hence are not just sums of national figures. Besides this, some of the data used in the aggregates are estimates produced by Eurostat
Source: Eurostat, EU direct investment positions, breakdown by country and economic activity

Compared to the size and growth of China's economy (measured by GDP), China's investment in the EU is low and much lower than other BRICs, cf. Figure 2.10. The picture is the same for the United States, where Chinese investments are also low compared to the size of the Chinese economy and to other BRICs, cf. Figure 2.10. This could suggest that Chinese outward investments to the OECD countries have been suppressed, and that there is a dormant potential for an upsurge in Chinese investments in the EU in years to come.

Figure 2.10 Chinese FDI stock in the EU compared to FDI in the EU by other BRICs



Note: Ratio calculated as FDI in EU27 from partner country as a share of the partner country's nominal GDP
Source: World Bank and Eurostat, EU direct investment positions, breakdown by country and economic activity

Comparisons with the investments made by the four BRIC countries in the US show a somewhat similar picture as shown above for the EU. Russian and Indian investments are more pronounced in the US than Chinese investments when taking the size of these economies into account. Chinese investments in the US are at a similar low level as Chinese investments in the EU.

Sector composition of Chinese FDI in Europe

The Chinese investment in EU focuses mainly on services. Mining and agriculture only account for a very small fraction of total investment. On a more detailed level Chinese investment in the EU27 within manufacturing is concentrated in machinery, computers and communication equipment, while the investment in services is dominated by investments in the financial sector, cf. Table 2.8.

Table 2.8 China's FDI stock in EU27, sector composition

	2005	2006	2007	2008	2009
Agriculture and fishing	**0.00**	**0.00**	**0.00**	**0.01**	**0.02**
Mining and quarrying	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
- Extraction of petroleum and gas	0.01	0.01	0.01	0.01	0.01
Manufacturing	**0.10**	**0.42**	**0.51**	**0.62**	**0.63**
- Food products	0.03	0.03	0.05	0.03	0.02
- Total textiles and wood activities	0.03	0.04	0.03	0.00	0.01
- Total petroleum, chemicals, rubber and plastic products	0.23	0.04	0.06	0.09	0.05
- Total metal and mechanical products	0.02	0.04	0.04	0.12	0.13
- Total machinery, computers, RTV and communication	-0.24	0.24	0.26	0.22	0.25
- Total vehicles and other transport equipment	0.01	0.02	0.03	-0.02	-0.03
- Other manufacturing	-	-	-	-	-
Electricity, gas and water	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**
Construction	**0.02**	**0.01**	**0.03**	**0.01**	**0.01**
Services	**1.06**	**3.11**	**4.08**	**4.78**	**4.76**
- Trade and repairs	0.30	0.32	0.45	0.73	0.56
- Hotels and restaurants	0.00	0.01	0.00	0.00	0.01
- Transports, storage and communication	0.00	0.00	0.00	0.00	0.00
- Financial intermediation	0.53	2.45	2.99	3.28	3.31
- Real estate, renting and business activity	0.14	0.20	0.38	0.62	0.69
- Other services	0.01	0.01	0.01	0.03	0.01

Note: Billions of Euro. The subgroups do not sum exactly to the sector total
Source Eurostat, EU direct investment positions, breakdown by country and economic activity

Types of FDI

Looking at the general composition of FDI from China, research conducted by the USCC (2011) shows that China is increasingly engaged in mergers and acquisitions (M&A). Also, Chinese outward investment activities in general are often directed by the Chinese Government, especially in deals involving oil and minerals or telecommunications, which are required by the Chinese Government to remain under State oversight or control.

Although in 2009, investment in the form of M&A comprised only 30 percent of the total Chinese outward investment (to all destinations), evidence shows that M&As in oil, gas, and

mining are playing a increasingly important role in Chinese outward FDI.[5] Most M&A deals in 2007-2009 were in the energy and minerals sectors, although the largest transactions tended to be purchases of minority stakes in global financial institutions.[6] For example, Shanghai Baosteel, one of China's largest steel producers, acquired a 15 percent ($240.5 million) stake in Aquila Resources in Australia in 2009 as part of a strategic cooperation agreement to expand Aquila's steel raw materials projects, including iron ore, coal, and manganese.[7]

Dominance of Chinese state-owned enterprises

As stated by OECD (2008), China's outward FDI is dominated by state-owned enterprises (SOEs). The average investment size of SOEs is much larger than that of privately owned Chinese enterprises. All of the ten largest Chinese MNEs by outward FDI stock are SOEs, and more than half are operating in the natural resources sector, according to the OECD.

This is also confirmed by Chinese statistics for 2009 showing that centrally owned SOEs provided 67.5 percent of total Chinese outward FDI ($38.2 billion) and privately owned companies only provided 10.6 percent ($345 million).[8]

Looking at the largest and most recent Chinese investments in the EU confirms this picture. Of the 33 large investments recorded in the Heritage Foundation's *China Global Investment Tracker,* at least 18 investments were performed by a state-owned or state-controlled Chinese entity. Most of the large investments in the EU were done by SOEs, and for the 33 investment projects recorded in the period 2006-2011, 73 percent of the invested amounts were made by SOEs, cf. Table 2.9.

[5] MOFCOM, 2009 Statistical Bulletin of China's Outward Foreign Direct Investment (Beijing: 2010), p. 16.
[6] Ken Davies, "Outward FDI from China and Its Policy Context," Columbia FDI Profiles (Vale Columbia Center: October 18, 2010), p. 3.
[7] Sarah-Jane Tasker, "Aquila Resources Clinches $286m Baosteel Investment," The Australian, August 28, 2009. http://www.theaustralian.com.au/business/news/aquila-resources-clinches-286m-baosteel-investment/story-e6frg90f-1225767075809.
[8] According to the 2010 MOFCOM Statistical Bulletin.

Table 2.9 Large Chinese investments in the EU 2006-2011 – high share of SOEs

Year	Month	Investor	Investment (millions)	Share Size	Partner/Target	Sector	Subsector	Country	SOEs
2006	January	ChemChina	$480		Adisseo	Agriculture		France	1
2006	November	China Development Bank	$800	1.1%	Anglo-American	Metals		Britain	1
2007	January	Bluestar	$700		Rhodia	Chemicals		France	
2007	May	LinkGlobal Logistics	$130		Parchim Airport	Transport	Aviation	Germany	
2007	June	China International Marine Containers	$140		Burg Industries	Transport	Shipping	Netherlands	
2007	July	China Development Bank	$3,040	3.1%	Barclays	Finance	Banking	Britain	1
2007	November	Ping An	$2,700	4.2%	Fortis	Finance	Insurance	Belgium	
2008	April	SAFE	$2,800	1.6%	Total	Energy		France	1
2008	April	SAFE	$1,990	1%	BP	Energy		Britain	1
2008	June	Zoomlion	$250	60%	Compagnia Italiana Forme Acciaio	Real Estate	Construction	Italy	
2008	September	Sany Heavy Industry	$140			Real estate	Construction	Germany	
2009	July	CIC	$370	1.10%	Diageo	Agriculture		Britain	1
2009	August	CIC	$450	19%	Songbird Estates	Real Estate	Property	Britain	1
2009	August	Sinochem	$880		Emerald Energy	Energy		Britain	1
2009	September	Unicom	$1,000		Telefonica	Technology	Telecom	Spain	1
2009	November	Great Wall Motor	$120		Litex Motors	Transport	Autos	Bulgaria	
2010	February	CIC	$960	2.30%	Apax Finance	Finance	Investment	Britain	1
2010	February	Wanhua Industrial	$190		BorsodChem	Chemicals		Hungary	
2010	March	Geely Auto	$1,800		Ford	Transport	Autos	Sweden	
2011	January	CNPC	$510	50%	INEOS	Energy		Britain	1
2011	January	CNPC	$510	50%	INEOS	Energy		France	1
2011	January	ChemChina	$1,990		Orkla	Chemicals		Norway	1
2011	January	China Unicom	$500	1.40%	Telefonica	Technology	Telecom	Spain	1
2011	February	Wanhua Industrial	$1,660	58%	BorsodChem	Chemicals		Hungary	
2011	May	Fosun International	$120	10%	Folli Follie	Industry		Greece	
2011	May	Zijin Mining	$100		Glencore	Metals		Switzerland	
2011	June	CITIC	$370	20%	Credit Agricole	Finance	Investment	France	1
2011	June	Lenovo	$670		Medion	Technology	Computing	Germany	
2011	August	CIC	$3,240	30%	GDF Suez	Energy		France	1
2011	August	SAFE	$720	3%	Munich Re	Finance		Germany	1
2011	October	Wolong Holding	$140		ATB Group	Transport	Autos	Austria	
2011	October	Wanhua Industrial	$260			Chemicals		Hungary	
2011	December	Three Gorges	$3,510	21%	Energias de Portugal	Energy		Portugal	1
SUM of the above			**$33,240**						
By State-owned or state-controlled investors			**$24,120**						
		% of total investment	**73%**						

Note: The data contains more than 250 Chinese investments in all countries from the beginning of 2005 through the end of December 2011. It excludes both bond purchases and transactions smaller than $100 million. Identification of SOEs based on press reports in WSJ, Wikipedia and the SASAC list of central Chinese SOEs http://www.sasac.gov.cn/n2963340/n2971121/n4956567/4956583.html

Source CE analysis based on data from the Heritage Foundation's China Global Investment Tracker. http://www.heritage.org/research/reports/2011/07/chinese-outward-investment-more-opportunity-than-danger

Some of these investments are made by the State through China Investment Corporation (CIC), a sovereign wealth fund, and by the State Administration of Foreign Exchange (SAFE) who are managing China's growing foreign reserves. It should be noted that they, in some cases, only holds a small share below five percent and such investments would generally not qualify as foreign control or influence. Other investments are made by large Chinese SOEs such as Unicom, ChemChina or the China National Petroleum Corporation (CNPC) which in many instances has taken a controlling share of the EU target of 50 percent or more. According to the numbers recorded by the Heritage Foundation, the share of large investments by China's SOEs has been declining slowly between 2005 and 2011.

Chapter 3 Option 1: Investment protection by consolidating existing BITs

In this chapter, we analyse the so-called *option 1*, which involves the creation of a single EU–China investment protection agreement through building on the current 25 bilateral investment treaties (BITs) of Member States with China[9]. One of the main purposes of a BIT is to provide a level of protection of investments in order to encourage investment flows between two countries. In this chapter, we shall investigate how effective a consolidation of the current 25 BITs could be in terms of improving the protection of European investments in China. In the next chapter, we shall then review the empirical evidence on whether BITs have a measurable impact on investment flows. We recognise at the same time that BITs can also serve other purposes than increasing investments.

3.1. Bilateral investment treaties

Foreign direct investment is a main contributor to economic growth. It creates jobs, increases productivity by allowing the transfer of technology, skills and knowledge, and it can boost trade. The EU is a large foreign investor with outward extra-EU stocks of FDI amounting to 4.2 trillion Euros by 2010 while EU inward stocks (extra-EU) accounted for 3.0 trillion Euros in the same year according to Eurostat.

The purpose of bilateral investment treaties is to promote and protect foreign investments. The central element of a BIT is that it provides a minimum level of protection for foreign investors. BITs establish the terms and conditions for investment by nationals and companies of one country in another and set up a legally binding level of protection in order to encourage investment flows between two countries. Amongst other things BITs contain provisions that grant investors fair, equitable and non-discriminatory treatment, protection from unlawful expropriation and adequate and effective compensation in cases of expropriation, free transfers of funds and direct recourse for investors to international arbitration. Since investment is usually defined in a broad, asset based manner protection also extends to intellectual and industrial property rights.

BITs may grant "national treatment" to investors and their investments (terms no less favourable than those that apply to domestic investors) and may include a clause on "most-favoured-nation treatment" (terms no less favourable than those that apply to investors from third countries) cf. Box 3.1. EU states are the main users of BITs globally, with a total number of about 1200 bilateral treaties already concluded.

[9] With the exception of Ireland, all EU Member States have signed BITs with China. Belgium and Luxembourg have one common BIT with China.

Box 3.1 What is a bilateral investment treaty ("BIT")?

A Bilateral Investment Treaty is an agreement establishing the terms and conditions for investment by nationals and companies of one country in another country. It establishes a legally binding level of protection in order to encourage investment flows between the two countries. It grants investors a number of guarantees, which typically include fair and equitable and non-discriminatory treatment, protection from unlawful expropriation, free transfer of funds and full protection and security. On top of this, the majority of bilateral investment treaties also offer investors direct recourse to international arbitration against the country concerned when their rights under the treaty have been violated.

Note: With shall use the abbreviation BIT throughout this report when referring to bilateral investment treaties
Source: DG Trade website, dated 7 July 2010, accessed at http://trade.ec.europa.eu/doclib/press/index.cfm?id=590

As mentioned, cf. Box 3.1, one of the purposes of a BIT is to protect investments and investors in order to encourage investment flows between two countries. This is the main purpose we will investigate in this report.

BITs can have positives effects beyond their main purpose which are not investigated further such as acting as a trigger for domestic reforms to strengthen property rights[10] or the rule of law and transparency, something that is particularly relevant in the case of China where many investors complain about the lack of certainty and transparency. They serve to depoliticise the resolution of investment disputes[11] insofar as they offer recourse to investor to state dispute settlement and not only state to state disputes.

We shall leave these considerations aside and focus on the possibility of increasing the level of protection of EU investors in China through the creation of a single EU-China BIT building on existing protection standards in the existing Member States' BITs with China.

3.2. The value added of an EU-wide consolidation of BITs with China

By negotiating a single EU-China BIT to replace the current 25 BITs a number of advantages could occur that would make the option attractive:

1) Improve the level of protection for EU investors in China originating in countries with a "weaker" BIT with China (and non in the case of Ireland) and grant protection to investors in such EU Member States with an equivalent or higher level of protection granted in the "strongest" of the current BITs.
2) A consolidation could also improve and simplify the investment protection regime for Chinese investors in Europe by replacing the current 25 different agreements with one single agreement.

Finally, it may be argued that the Commission could be expected to have increased negotiation power *vis-a-vis* China when negotiating on behalf of the entire union, and thereby per-

[10] See for example Franck (2007) arguing that investment treaty arbitration's precise impact on FDI is unclear; nevertheless, as it has important implications for investment and the rule of law, it is a factor worthy of ongoing consideration.
[11] Aron Broches, the General Counsel of the World Bank with influence on the Convention on the Settlement of Investment Disputes between States and Nationals of Other States (ICSID Convention), has emphasized the importance of depoliticisation of international disputes via investor-state arbitration. See for example Broches (1995). See also Paulsson (1995) or Choi (2007) for further arguments.

haps leverage on that negotiation power to obtain better investment protection including provisions not covered currently in the BITs.

In the following, we shall focus on the first of these benefits, and assess to what extent a consolidation would constitute an improvement compared to the status quo.

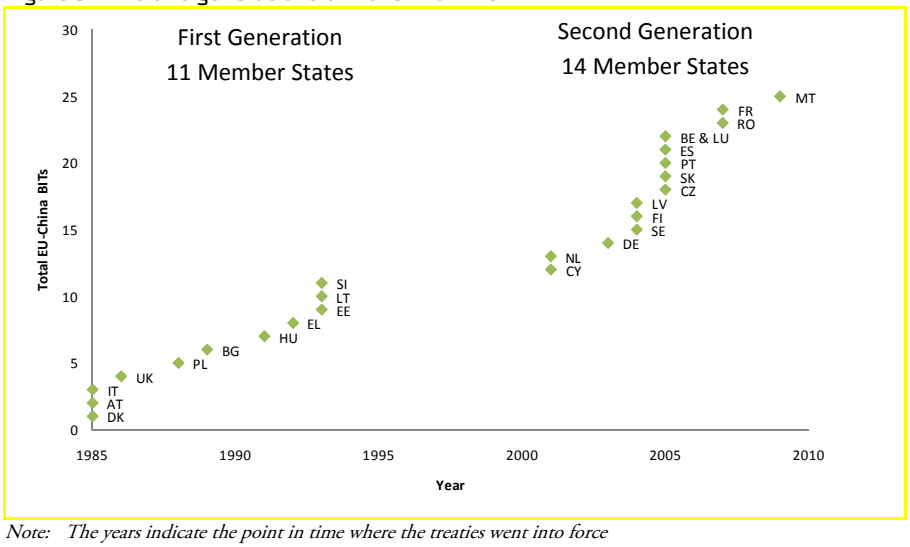
3.3. THE LEVEL OF PROTECTION IN EXISTING EU-CHINA BITS

There are currently 25 different BITs between EU Members and China. There are certain differences in the content of these BITs, as a number of EU Member States rely on BITs signed before China modified its investment treaty policy as a result of its transformation into an outward investment country.

Existing treaty protections

Chinese BITs with EU Member States can be grouped in two generations. BITs in the first generation, signed before 1998, followed China's policy of *not* including national treatment provisions and only allowing investors recourse to international arbitration to adjudicate disputes concerning the amount of compensation for expropriation. By contrast, the second more recent generation of BITs include both national treatment provisions (though in many instances with limitations) as well as more comprehensive provisions allowing investor-to-state dispute settlement concerning all substantive protections (though it should be noted that concerning ICSID China has limited the reach of arbitration before ICSID in its accession which does not affect seemingly more comprehensive provisions in BITs if ICSID is chosen as the tribunal as explained below), cf. Figure 3.1 below.

Figure 3.1 The two generations of EU-China BITs



Note: The years indicate the point in time where the treaties went into force
Source: UNCTAD

Today, investors from the 11 Member States with first generation Chinese BITs thereby enjoy lower standards of protection, at least in theory, than those with second generation BITs. This could provide a strong argument in favour of creating one single EU-China investment treaty, as that would ensure equal levels of protection and legal certainty for all Member States (incl. Ireland).

Investor-state arbitration

The defining characteristic of most BITs signed after the mid-1980s (henceforth referred to as 'modern' BITs) is that the contracting parties allow investors covered by the treaty to submit investment disputes to international arbitration even though even in the case of some of these this is still limited by the need to exhaust local remedies.

In the early years of China's BIT program, China did not offer such consent, or only offered it on limited terms by only allowing this for matters relating to the amount of compensation but not other substantive provisions. Although European negotiators tried to obtain effective and comprehensive investor-state arbitration provisions, China insisted that since "*a foreign investor - individual or company - does not have the same status as a state, the investor's recourse to arbitration should remain much more limited*".[12]

This was an attempt to strike a balance between granting investor rights but at the same time preserving state sovereignty.[13] When China acceded to the ICSID Convention in 1993, it thus notified the Centre under Article 25(4) that "*the Chinese government would only consider submitting to the jurisdiction of ICSID disputes over compensation resulting from expropriation or nationalisation".* This policy persisted up through the 1990s, and was reflected also in the language of Chinese BITs. In the 1998 Polish BIT with China, for instance, the relevant clause provides that:

> *If an investor challenges the amount of compensation for the expropriated investment assets, he may file complaint with the competent authority of the contracting party taking the expropriatory measures. If it is not solved within one year after the complaint is filed, the competent court of the Contracting Party taking the expropriatory measures or an ad hoc international arbitral tribunal shall, upon the request of the investor, review the amount of compensation.*[14]

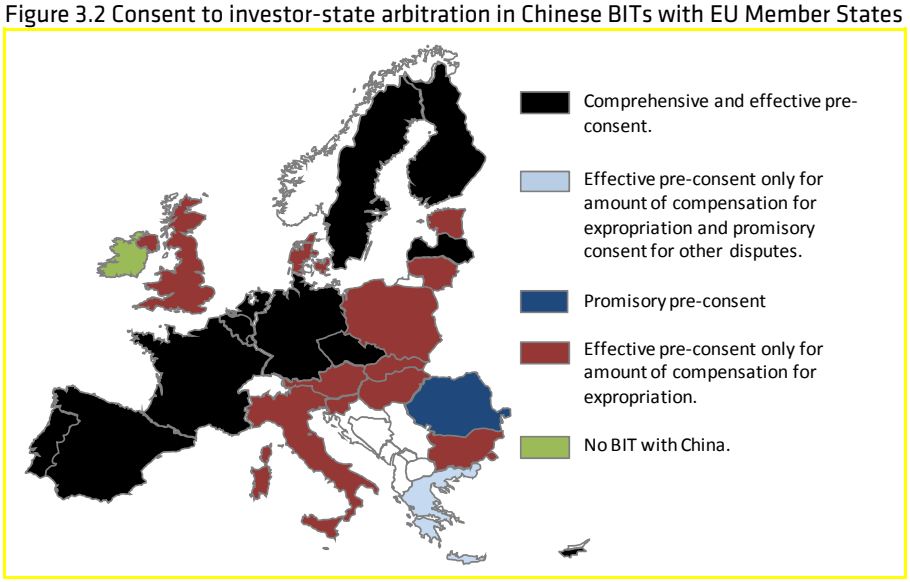
In the 1992 BIT with Greece the offer to arbitrate is slightly more comprehensive by also covering "*any other dispute between an investor and a contracting Party"* but only in so far as there is "*mutual consent"*.[15] This last requirement means the clause is aspirational only: if

[12] E. Denza and S. Brooks, 'Investment Protection Treaties: United Kingdom Experience,' 36 International and Comparative Law Quarterly 4 (1987).
[13] L. Shishi, 'Bilateral Investment Promotion and Protection Agreements: Practice of the People's Republic of China,' in: P. De Waart, P. Peters, and E. Denters (eds.), International Law and Development (Dordrecht: Martinus Neijhoff, 1988), at 166.
[14] Poland-China BIT, 1998, art. 10(1). Italics added.
[15] Greece-China BIT, art. 10(2).

investors wish to file an international investment claim that does not concern compensation for expropriation, the contracting parties need to consent on a case by case basis.[16]

As a consequence, investors from countries with 1st generation BITs like Denmark, the United Kingdom, Greece, and several of the Eastern European Member States will thereby have to resort to Chinese courts to adjudicate most types of investment disputes - at least prima facie, cf. Figure 3.2 below. The same holds true for Chinese investors in Europe.

Figure 3.2 Consent to investor-state arbitration in Chinese BITs with EU Member States



Source: UNCTAD and EU Member States

Since its 1998 BIT with Barbados, however, China has expanded its investor-state arbitration clauses to cover not just expropriation disputes, but also other substantive treaty protections. Investors will typically have to wait six months before submitting a dispute to arbitration and exhaust an internal administrative review procedure in China.[17] 'Cooling off' periods of a few months is not unusual in BITs, however, and the administrative review is not equivalent to an exhaustion of local remedies requirement but rather a possibility for the Chinese authorities to scrutinize actions taken at central and local levels vis-à-vis the foreign investor. Again however a caveat remains over the ICSID accession terms of China.

How disadvantaged are European investors in countries without the "new generation" Chinese BITs?

While considerable differences between Member States' BITs with China exist, there is a possibility that needs to be explored, that by virtue of MFN clauses and/or careful corporate

[16] See discussion in; N. Gallagher and W. Shan, Chinese Investment Treaties: Policies and Practise (Oxford: Oxford University Press, 2009), 318-319.
[17] See e.g. Spain-China BIT, 2005, art. 9.

structuring investors could benefit from the protection standards granted by "modern" BITS.

This line of reasoning is discussed in academic literature on the benefits and effects of BITs looking also at investment arbitration cases where such reasoning has been deployed. It raises a question of how uneven the playing field is among European investors operating, or seeking to operate, in China.

The first investor-to-state dispute based on a Chinese BIT tried to challenges the view that recourse to arbitration was only possible over the amount of compensation for expropriation.[18]

In Tza Yap Shum v. Peru, a Chinese national resident in Hong Kong with a majority shareholding in a Peruvian food products company filed an ICSID claim of approximately 3 million Euro against Peru.[19] Mr. Tza claimed that actions taken by the Peruvian tax administration breached the 1994 BIT between China and Peru, and in particular its provisions on fair and equitable treatment, full protection and security, transfer of capital and earnings, as well as the expropriation clause.

The provision allowing access to international arbitration was restricted as in many of the older BITs with European countries, covering only disputes "*involving the amount of compensation for expropriation*"[20]. Peru argued that such a clause meant that, "*the only type of dispute that may be settled by ICSID arbitration is that involving the amount of compensation owed to the investor, once the occurrence of an illegal expropriation has been confirmed*"[21]. The question of liability was therefore outside the scope of the Tribunal's jurisdiction.

In a broad interpretation of the arbitration provision, this was rejected by the Tribunal, however, which argued that,

> *…it includes not only the mere determination of the amount but also any other issues normally inherent to an expropriation, including whether the property was actually expropriated in accordance with the BIT provisions and requirements.*[22]

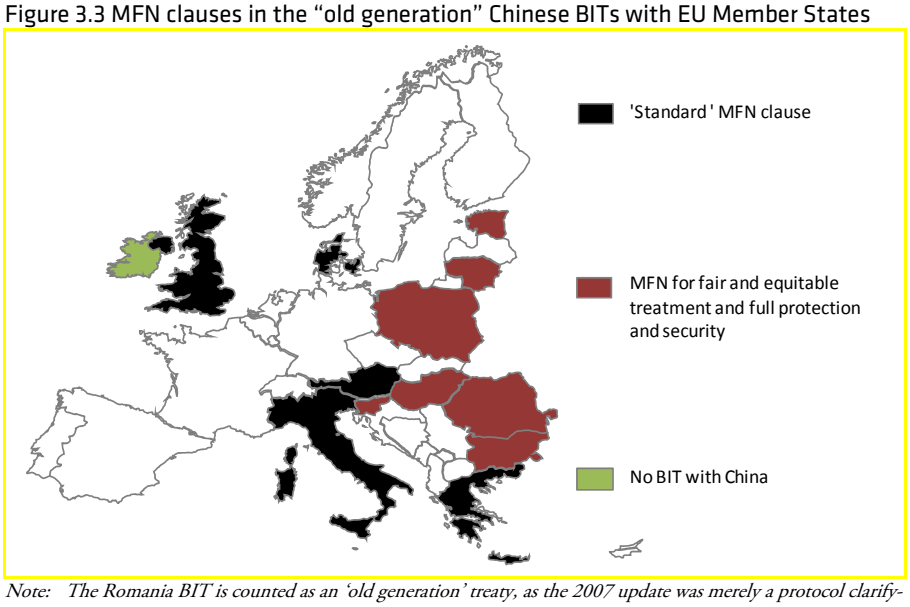
Reviewing other cases where similar reasoning was accepted by Tribunals, one could draw a conclusion that European investors covered by old BITs may have recourse also to the more comprehensive protection. At the same time though it has to be emphasised that the jurisprudence is not entirely coherent and not least that there is no doctrine of precedent in in-

[18] Recall, that expropriation provisions in Chinese BITs cover not only outright expropriation but also measures having similar effects, and they thereby offer protections against a wide range of regulatory acts.
[19] Tza Yap Shum v. The Republic of Peru, ICSID Case No. ARB/07/6, Award on Jurisdiction, 19 June, 2009.
[20] Peru-China BIT, 1994, art. 8(3).
[21] Tza Yap Shum, op. cit., par 134. Unofficial translation.
[22] Ibid., par. 188. Unofficial translation.

vestment arbitration. This caveat also holds true for the possibility that investors could benefit from the standards of protection granted under new BITS by virtue of the MFN clause.

While all Chinese BITs with EU Member States include an MFN provision, only eight agreements contain unlimited MFN treatment. Still it could be possible for investors to use the MFN principle in certain cases to claim for the same more favourable treatment. At the same time it should be pointed out that existing case-law is inconsistent on the matter and presents an element of legal uncertainty.
Chinese BITs tend to follow one of two approaches, cf. Figure 3.3 below.

Figure 3.3 MFN clauses in the "old generation" Chinese BITs with EU Member States



Note: The Romania BIT is counted as an 'old generation' treaty, as the 2007 update was merely a protocol clarifying a few provisions
Source: UNCTAD and EU Member States

On the one hand, there are limited MFN provisions, such as in the treaty with Slovenia,

> *1. Investments and activities associated with investments of investors of either Contracting State shall be accorded fair and equitable treatment and shall enjoy protection in the territory of the other Contracting Party.*
> *3. The treatment and protection referred to in Paragraph 1 of this Article shall not be less favourable than that accorded to investments and activities associated with such investments of investors of a third State.*[23]

On the other hand, other treaties include more 'standard' MFN provisions, however, as in the BIT with Denmark,

[23] Slovenia-China BIT, 1993, art. 3.

> *2. Neither Contracting Party shall subject investments made by nationals or companies of the other Contracting Party or returns of such investments to treatment less favourable than that which it accords to investments or returns of nationals or companies of any third State.*
> *3. Neither Contracting Party shall in its territory subject nationals or companies of the other Contracting Party, as regards their management, maintenance, use, enjoyment or disposal of their investments or returns, to treatment less favourable than that which it accords to nationals or companies of any third State.*[24]

While MFN clauses may allow investors to benefit from substantive protections the host state has offered not just in the BIT with the investor's home state but also in BITs with third states, there are certain clauses such as umbrella clauses or investor-to-state dispute settlement that would not automatically be extended via the MFN clause.[25] Thus a question mark remains over whether by virtue of MFN provision, European investors not covered by China's recent investment treaties may thereby be able to use clauses in other BITs.

However, the jurisprudence on the relationship between MFN and arbitration clauses has been mixed.[26] A number of Tribunals have indicated a willingness to use MFN provisions to broaden the scope of their jurisdiction[27]. This is based on the understanding that access to international arbitration is the most important right granted to investors under BITs. If followed by future Tribunals, this could allow *all* European investors covered by Chinese BITs to adjudicate a wide range of claims against China using international arbitration and China would have to assume that it has offered the same protections to all European investors.[28] This would be the case without any renegotiations of existing BITs or an EU-wide investment protection treaty.

At this stage, however, the jurisprudence remains not coherent, and if an investor is faced with a Tribunal that rejects this line of reasoning, it would not be allowed to import more favourable arbitration provisions by virtue of an MFN clause.

Therefore, while European investors covered by early Chinese BITs could possibly be able to rely on MFN-provisions to extend their substantive protection. Importing broader arbitration provisions from "new generation" Chinese BITs is also a possible, yet a considerably more unpredictable option.

---

[24] Denmark-China BIT, 1985, art. 3.
[25] See e.g.; MTD Equity Sdn. Bhd. & MTD Chile S.A. v. Chile, ICSID Case No. ARB/01/7, Decision on the Respondent's Request for Continued Stay of Execution, May 25, 2004, par. 103–04.
[26] E.g.; Malta-China BIT, 2009, art. 3; Switzerland-China BIT, 2009, art. 4.
[27] As noted by Schill, '*MFN clauses have the effect of reducing leeway for specificities in bilateral investment relations.* S. Schill, The Multilateralization of International Investment Law (Cambridge: Cambridge University Press, 2009), at 195.
[28] See also; B. Legum, 'Defining Investment and Investor: Who is Entitled to Claim?,' 22 Arbitration International 521 (2006), at 525.

Possibilities to obtain protections under China's 'new generation' BITs through corporate structuring

Apart from relying on MFN-provisions, European investors can also obtain recourse to the more liberal protections in China's recent BITs by channelling their investments through special purpose vehicles (SPV) in other Member States.

The possibility of obtaining treaty coverage through interposing intermediate companies in third country jurisdictions may depend on the definition of the covered investor and the covered investment in the BIT. But although none of China's recent BITs with EU Member States include so-called 'denial of benefits' clauses, a number of requirements nevertheless have to be met in order for European investors to avail this option.

Most importantly, like several European BIT-models (e.g. that of Germany), all of China's recent BITs require that companies must have a registered office, seat, or other genuine link to the country in order to be considered an investor for the purpose of the treaty , cf. Table 3.1. This prevents European investors from gaining treaty protections by merely setting up "shell" companies in third country jurisdictions.

Table 3.1 Corporate nationality tests in "new generation" EU-China BITs

EU Member State	Corporate nationality test
BLEU	Registered office
Cyprus	Seat
Czech Republic	Seat
Finland	Registered office
France	Seat
Germany	Seat
Latvia	Registered office
Malta	Seat or registered office
Netherlands	Seat
Portugal	Seat
Spain	Seat
Sweden	Seat or predominant Swedish interest

Source: UNCTAD and EU Member States

This implies that if European companies seek to rely on multi-layered corporate structures to obtain the full range of protections in China's recent BITs, it would be safest to establish the SPV before an actual dispute arises. This is also implied by the corporate nationality tests in recent Chinese BITs, as they all require a substantial connection with the home state.

Thus, while European investors not covered by recent Chinese BITs may under some circumstances channel their investments through another EU Member State to enjoy greater treaty protections, they would have to have substantial economic links with the 'new' home state – such as their registered office – which in most cases would be prohibitive.

3.4. Conclusion

This chapter looked at implications of option 1. We have investigated whether an "investment protection only" agreement with China would provide added value in terms of ensuring a 'level playing field' for the protection of European investors, particularly since by virtue of MFN clauses or by relying on corporate restructuring, the academic literature referenced above suggests that to a large extent, investors are able to rely on higher standards of protection than those granted under an old generation BIT.
However on balance, these possibilities retain an element of legal uncertainty and will depend on a case by case evaluation through an arbitration panel.

As a consequence it should be held that the level of protection in a single EU level agreement would be legally more certain for investors from all 27 Member States than if maintaining the current status quo.

Chapter 4 Do BITs bite?

That BITs can be important for some investors establishing investments abroad is indisputable. This is confirmed by reports of treaty shopping, for instance, where investors choose to invest from countries that have a BIT with the host country rather than investing from their home country, cf. Sauvant and Sachs (2009). But the fact that BITs at times can have an impact on how investments are structured does not necessarily imply that these investments would not have taken place in the absence of BITs. In terms of increasing overall investment flows, BITs may therefore not bite.

Our review of econometric and qualitative studies suggests that while BITs can be important instruments for the protection of investments, it is more uncertain how BITs impact the volume and destination of FDI. The econometric evidence on the relationship between BITs and investments is in our view mixed and without a clear consensus on the extent to which BITs should be expected to increase FDI. Empirical findings are extremely sensitive to the estimation method, particularly when it comes to handling the possible endogeneity problem i.e. the possibility that BITs are signed when FDI flows between the signatories are already large and/or are expected to increase.

In the survey of Chinese investment barriers carried out as part of this project we have asked EU companies to assess the BIT between China and their home country. Respondents were asked questions concerning their familiarity with the basic provisions of the BIT, the effectiveness of the BIT and the importance of the BIT in their conpany's decision to invest in China. Results from the survey indicate that respondents are not very familiar with the BIT and that the BIT rarely plays a role in the investment decision. In addition, only one third of the respondents who are familiar with the BIT find that the BIT is effective in protecting investments. Although the survey has certain shortcomings, e.g. that there is a risk that respondents who are not unfamiliarity with the BIT may interpret this as a sign of ineffectiveness of the BIT, the survey lends support to the empirical finding that EU BITs with China have little impact on overall investment flows between the two countries.

Based on the available evidence, we conclude that a consolidation of current BITs with China into one single EU-wide investment protection agreement that extends current "best-in-class" protections to all EU Member States would be unlikely to significantly increase FDI flows from the EU to China.

4.1. Econometric studies

In the following, we describe the results of a number of econometric studies from the literature. These studies have been carried out by leading experts and we find that these are the most important studies on the relationship between BITs and FDI. For further details, we refer to Sachs and Sauvant (2009), Yackee (2010) and Poulsen (2010) for reviews of the existing empirical studies.

Box 4.1 Data limitations to analyses of BITs

The numerous econometric studies on the impact of BITs on FDI flows are all constrained by the fact that data on bilateral FDI stocks and flows are generally poor. This causes important limitations of which at least the following should be emphasised:

- Bilateral FDI data do typically not allow distinguishing between various types of FDI (e.g. efficiency vs. market-seeking), modes of market entry (e.g. greenfield investments vs. M&As), or disaggregating by sector and size. The potential value of BITs is likely to differ depending on some or all these factors, yet it is not possible to control for these in econometric studies.

- FDI flows are determined by a range of regulatory, political and economic factors in both host and home countries. Many of these are difficult to control for in a quantitative setting, which combined with poor data quality can result in misleading conclusions.

The combination of poor data quality and the need to control for several – often intangible – determinants usually makes it difficult to produce as convincing and unambiguous results that can support firm conclusions on the impact of BITs on FDI.

We have not identified any studies attempting to measure the impactof BITs using firm level data. This might be a future research avenue to pursue.

Source: Copenhagen Economics

Early studies of the relationship between FDI and BITs

The early studies of the effectiveness of BITs in increasing FDI have analysed the relationship between aggregate FDI and the number of BITs in the host country. In general, these studies found a positive and significant impact of BITs on FDI flows. A few of the most frequently early studies have been listed below.

One of the most cited econometric studies of the relationship between BITs and FDI is by Neumayer and Spess (2005). The two authors looked at 119 developing countries between 1970 and 2001 and found that developing countries that have more BITs with developed countries than with other developing countrie, received a significant higher FDI inflows. The study argued that a country might nearly double its FDI by signing BITs with a large number of capital-exporting countries. Neumayer and Spess (2005) concluded that BITs do not only have a substantial impact on investment but may also provide a substitute for poor institutional quality in host countries. Another study by Egger and Pfaffermayer (2003) concluded that BITs have a positive impact on FDI flows.

In summarising earlier studies, a review by UNCTAC (2009) concluded that *"studies published between 2004 and 2008 have shifted the balance towards concurring that BITs appear to have an impact on FDI inflows from developed countries into developing countries"*

Recent studies of the relationship between BITs and FDI

Since the, the earlier studies have been challenged by more recent studies that have applied more advanced econometric methods (such as panel data analysis) to take some or all of the shortcomings in the earlier studies into account. *First*, the more recent studies are based on bilateral flows and bilateral treaties to allow for a more accurate separation of the effects of BITs from the strog upward trend in FDI over time.[29] *Second*, most of the studies take into

[29] See Poulsen (2010).

account the possibility that BITs are signed when FDI flows between the signatories are lare or expected to increase (the endogeneity problem). *Third*, some of the study differentiate between BITs with different provisions and include also broader Preferential Trade and Investment Agreement (PTIAs).

One important aspect to consider is the fact that BITs can differ markedly in their substantive and procedural provisions. So in order to determine the impact of BITs on FDI, studies have attempted to differentiate between strong and weak BITs. For example, BITs with market access provisions would be expected to have a greater impact on investment flows than BITs covering only the post-establishment phase and BITs which incorporate a legally binding consent to arbitrate a wide range of investment disputes with private investors are likely to be valued higher by investors than BITs where such consent is limited or absent. Only a few more recent studies have made an attempt to distinguish between different types of BITs and the strength of their provisions. And, when these propositions have been tested, and none have been convincingly confirming a measuring impact to date, cf. Poulsen (2010).

UNCTAD (1998) provided the first important econometric study of the relationship between BITs and FDI. It reported results of a cross-sectional time-series model of the determinants of bilateral FDI inflows. The study covered seventy-two host countries over twenty-three years. The authors found that the relationship between BITs and FDI is statistically weak, both in the sense of statistical significance and in the sense of magnitude of effect, and they concluded that BITs could be expected to only "marginally increase" FDI.

Jang (2011), for example, summarises the impact of a large number of trade treaties and finds that the existence of a bilateral FTA decreases bilateral FDI in the OECD–OECD country pairs but increases bilateral outward FDI in the OECD–non-OECD country pairs.[30] The reason is that a reduction in trade costs should be expected to have different impacts on FDI depending on the relative skill structures in the home and host countries. When the skill structure is very different (as is more often the case between OECD and non-OECD countries) FDI is mainly vertical in nature, i.e. driven by cost reduction or resource seeking motives. A reduction in trade costs makes it more attractive to split up value chains and source parts of the production to low cost countries. Bilateral FDI should therefore be expected to go up when a new trade treaty succeeds in lowering trade costs between the home and the host country. When the skill structures are more similar (as is the case between OECD countries) FDI is mainly horizontal in nature, i.e. driven by market-seeking or tariff-jumping motives. A reduction in trade costs makes it more attractive to export goods rather than to produce locally. Bilateral FDI should therefore be expected to go down when trade costs go down.

[30] The paper uses the within estimator, the Difference-in-Difference estimator and the Arellano–Bond estimator to deal with the endogeneity problem, on panel data of bilateral FTA and outward FDI in 30 OECD countries and 32 non-OECD countries between 1982 and 2005.

Yackee (2007) set out to replicate the positive impact of BITs on FDI in developing countries originally found by Neumayer and Spess (2005) and in studies by Hallward-Dreimeier (2003) and UNCTAD (1998). Yackee made seneral improvements in the estimation method: Extending the time period, using a BIT variable that is a weighted count of BITs signed by capital-importing countries with the top 18 capital-exporting countries, extending the number of BITs included to also cover a number of broader commercial treaties that contain embedded BIT-equivalent investment-related chapters or provisions (like NAFTA), replacing the count of free trade agreements the World Development Indicator measure of "trade openness" (see also the next group of studies listed underneath), and adding a constant to all observations of the dependent variable prior to logging it to deal with negative values. Yackee found no evidence of a positive impact of BITs on FDI. In fact, the results suggest an opposite conditional relationship, where BITs are statistically significant predictors of FDI share only for low-risk countries, and where the magnitude of that effect increases as risk decreases. The problem is that there is very little theoretical reason to expect BITs to only be effective in low-risk situations, or to become more effective as risk decreases. In addition, the study failed to find any evidence that strong BITs help developing countries to improve their FDI shares. This non-finding is highly revealing, as it is here that a positive relationship between BITs and FDI should be most evident.

In a study from 2009, Aisbett stated that "due to the poor explanatory power of current theoretically motivated models of FDI, it is important that this literature consider carefully the influence of omitted variables. One advantage of using bilateral panel data is that country-pair fixed effects may be used to control for time-invariant variables affecting the bilateral FDI relationship". Using bilateral panel data on nearly 2,500 BITs, Aisbett (2009) finds that the positive effect from BITs on FDI disappears once the endogeneity of BIT adoption is corrected for. Aisbett (2009) also finds that the positive impacts of BITs on FDI found in Neumayer and Spess (2005) and in an earlier study by Salacuse and Sullivan (2005) disappears once the endogeneity problem is taken into account.

Another recent study, conducted by London Economics for DG Internal Market, provides an estimation of the quantitative impact of the existence of BITs on intra-EU FDI flows. Their empirical analysis, using a number of different econometric techniques, consistently shows that BITs do *not* have a statistically significant impact on bilateral FDI flows within the EU27, cf. London Economics (2011).

One of the more recent studies, Guerin (2010), focuses on European BITs with developing countries and uses a large panel data set of bilateral FDI inflows to 25 middle-income developing countries (including China) from 14 OECD countries over the period 1992-2004 to examine the impact of BITs on FDI. The study finds a statistical positive impact of the existing BITs on FDI in the sample of developed countries. The study tests for a number of rele-

vant factors and uses a number of model specifications to ensure robustness of the results (including testing for endogeneity problems).[31]

However, looking further into the results, Guerin (2010) finds that only the BITs of Austria and France had a statistically significant positive effect on their FDI outflows. Furthermore, the positive impact found for the Austrian BITs disappears once controlling for risk of expropriation.[32] This result suggests that BITs of Austria exert a positive influence on FDI outflows through protection of investment and reducing risk, whereas in France BITs also have provided significant market access. The study, however, finds no impact of BITs for Denmark, Finland, Germany, Italy, Netherlands, Portugal, Spain, Sweden and the United Kingdom. Furthermore, the study also looks at the host country side, and finds no significant impact of EU Member States' BITs with China. Among EU's BIT partners only Philippines, Romania and South Africa have positively benefited from signing BITs with the EU, whereas no positive impact has been recorded for BITs with Argentina, Chile, Egypt, Indonesia, India, Mexico, Morocco, Russia, Thailand or Turkey (or with any of the new EU Members States a part from Romania in the analysis).

OECD (2006) analyses the economic consequences of including investment provisions in trade agreements by creating an index of the extensiveness of investment provisions in RTAs and then using that index in a gravity model framework of trade and investment. The results indicate that investment provisions are positively associated with trade and, to an even greater extent, investment flows. However, the study finds an insignificant effect of BITs on investment flows.

Some studies also include broader economic agreements (such as PTIAs) that are concluded for the purpose of facilitating international trade, investment and the transfer of factors of production across borders. In PTIAs, the section dealing with foreign investment forms only a small part of the treaty, whereas main issues dealt with in PTIAs are trade in goods and services, tariffs and non-tariff barriers, customs procedures, specific provisions pertaining to selected sectors, competition, intellectual property, temporary entry of people and many more. One PTIA is the North American Free Trade Agreement (NAFTA). While the NAFTA agreement deals with a very broad set of issues, most importantly cross-border trade

[31] In order to address concerns over potential endogeneity in their model, Guerin (2010) uses a modified gravity-type model and estimate the relationship between BITs and FDI by a fixed-effects model controlling for both country-pair fixed effects and time effects. Models estimated with country-pair fixed-effects are shown to effectively eliminate the selection bias. The study tests the robustness of the results against the omitted variable bias, strict exogeneity and also sensitivity against different estimation techniques. The positive impact of BITs on EU FDI in the developing countries is robust when the level of economic and political reform in the host country is controlled for by introducing the level of privatisation proceeds in the host country, an index of risk of expropriation, the level of democratic development and the level of trade linkages. The economic impact of BITs on Member States' FDI outflows is stronger in estimations using both random effects and pooled OLS models. Following Baier and Bergstrand (2007), the author controls for strict exogeneity and find no feedback effect from FDI.

[32] The study uses the *Euromoney political risk index* as a proxy for the risk of expropriation. The Euromoney index provides an assessment of the risk of non-payment and the risk of non-servicing of payment for goods or services, laons, trade-related finance and dividents as well as the risk of non-repatriation of profits.

between Canada, Mexico and the US, chapter 11 of this agreement covers detailed provisions on foreign investment similar to those found in BITs. Jang (2011), for example, summarises the impact of a large number of trade treaties and finds that the existence of a bilateral FTA decreases bilateral FDI in the OECD–OECD country pairs but increases bilateral outward FDI in the OECD–non-OECD country pairs.[33]

The EU-Korea Free Trade Agreement is the most recent example of an EU PTIA. The Agreement covers cross-border provisions of services as well as the liberalisation of investment, in most services and nonservices sectors. The scope of the FTA includes diverse services sectors: telecommunications, environmental, transport, construction, financial, postal and express delivery, professional services such as legal, accounting, engineering and architectural services, and a large variety of other business services. Overall, Korea commits to market access liberalisation in more than 100 sectors.[34] The Agreement improves market access and provides that foreign investments both at pre- and post-establishment stages are treated like domestic ones.[35] However, it is too early to draw conclusions regarding the effecticveness of the EU-Korea treaty in increasing FDI flows between the two countries.

Concluding remarks

In our view, most of the more recent econometric studies find that BITs have no measurable impact on FDI flows, when taking the so-called endogeneity problems into account. In other words, while many studies in the past had found a correlation between the increase in FDI and an increase in the number of BITs, many recent analyses show that such correlations may just reflect that BITs are signed with countries were investments are large or increasing (or both). On the basis of mixed econometric evidence on the impact BITs on FDI, we conclude that it would be unlikely that a consolidation of current BITs with China in itself would increase EU FDI in China to a significant degree.

Observations by Knottnerus (2011) suggest that some governments outside the EU have drawn the same conclusion:

- Brazil has always remained sceptical of the need for BITs to attract foreign investment and has so far refrained from signing an IIA/BIT.
- In 2009, South Africa initiated a review of its BIT framework because of concerns about the risks BITs pose to sustainable development objectives and the government's capacity to regulate.
- Norway's progressive draft Model BIT was withdrawn in 2009 when it failed to gain parliamentary approval. However, Norwegian revised model BIT still contained: Market access provisions (national treatment on establishment; protection

[33] The paper uses the within estimator, the Difference-in-Difference estimator and the Arellano–Bond estimator to deal with the endogeneity problem, on panel data of bilateral FTA and outward FDI in 30 OECD countries and 32 non-OECD countries between 1982 and 2005.

[34] http://trade.ec.europa.eu/doclib/docs/2011/october/tradoc_148303.pdf.

[35] http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/korea/.

against expropriation without compensation); these market access provisions go beyond traditional BITs which only deal with the post-establishment phase.

Bringing together these results, we find that an EU-China investment agreement that goes beyond the admission, treatment and protection of foreign investment in a classic BIT and ensure improved conditions for EU pre- and post-establishment in China is likely to have a positive impact on FDI.

4.2. Survey of the importance of the EU-China BIT

With the assistance of the European Chamber of Commerce in China (EUCCC), Copenhagen Economics conducted a survey on behalf of DG Trade among EU investors in China (see Box 4.2 for more details). They survey thus covers companies that have either invested in China or established a representative office with the purpose of making investments in China in the near future. Also, the survey covers companies where there is already a BIT with China and the home country (with the exception of Ireland).

Box 4.2 Details of the EU-China investor survey

Who responded to the survey?

> Managing directors of EU firms with investments in China (or other relevant manager to whom competences have been delegated)

When?

> The survey was filled out online in August and September 2011.

How many firms were asked?

> The survey was distributed as an online survey through the European Chamber of Commerce in China and through EU Member States embassies in China. The population of EU firms in China within the relevant scope of the study is around 1,000 firms, and the survey sample is expected to be close to the entire relevant population and thus unbiased.

How many replied?

> We received more than 200 valid replies summing up to a response rate of 20 percent, which is judged to be a very satisfactory result.

Quality

> The respondents represent a 50-50 split between manufacturing and services and, consequently, the sector mix in the survey is representative of the composition of EU investments in China. In our judgement, the answers represent an unbiased and representative sample.

Note: For more information see Appendix 2
Source: Copenhagen Economics survey of Chinese investment barriers

However, using qualitative data to investigate the economic impact of BITs involves a number of limitations as well. Some of the most important are:

- While BITs can be important when disputes arise, they may not be factored into investment decisions in the first place. This is not accounted for in a number of early surveys.
- Surveys may overestimate the importance of BITs, as investors may have an incentive to skew their responses in order to encourage the adoption of the treaties.
- A few surveys have too small sample sizes to draw any credible conclusions.

In the EU-China investment survey, three questions have been asked about the investors' assessment of their home country's BIT with China:

1) *How familiar are you with the basic provisions of the Bilateral Investment Treaty between the country from which you have invested and China?*
2) *In your view, how effective is this Bilateral Investment Treaty at protecting your investments from the following? Please rate the following questions.*
    a. *Expropriation by the Chinese government?*
    b. *Regulatory change/legislation having a negative impact on your investment in China?*
    c. *Discrimination/unfair treatment having a negative impact on your investment in China?*
3) *How important was the presence of a Bilateral Investment Treaty to your company's decision to invest in China?*

Findings on the familiarity with provisions in the EU-China BIT

On the basis of the first question related to the companies' familiarity with the basic provision of their home country's BIT with China, the survey shows a majority share of 79 percent that are either not at all familiar or somewhat familiar with the BIT, cf. Table 4.1.[36] Only three percent of the respondents are either very familiar or extremely familiar with the BIT.

Table 4.1 The companies' familiarity with basic provisions of relevant BIT

Answer options	Response percent	Response count
Not at all familiar	46%	73
Somewhat familiar	33%	52
Familiar	11%	17
Very familiar	1%	2
Extremely familiar	2%	4
I don't know	7%	11
	Answered questions:	159
	Skipped questions:	44

Note: The answer options have a nominal scale for the degree of familiarity. The scale starts at "not at all familiar" and ends at "extremely familiar"

Source: DG Trade EU-China investment survey 2011

The importance of BITs may differ across sectors. If this is so, the companies' familiarity with BITs might also differ across sector. On the basis of the responses, it is possible to distinguish between companies' familiarity in the manufacturing and in the service sectors. We find that there are only minor differences in responses across sector. Fewer companies in the service sectors have replied "I don't know" to the question related to their familiarity with the EU-China BIT (4 percent in the service sector compared to 11 percent in the manufac-

[36] As with most other qualitative studies, one obvious problem with using answers from these questions to judge the effectiveness of the existing BITs is that it relies on the respondents' knowledge of the BIT. One risk is that the respondent mixes together a lack of knowledge about the BIT with a judgement that the BIT has not been effective.

turing sector). Also, more companies in the service sector are not at all or somewhat familiar with the EU-China BIT than in the manufacturing sector (83 percent in the service sector compared to 74 in the manufacturing sector), cf. Table 4.2.

Table 4.2 Companies' familiarity with BIT – across sector

Answer options	Manufacturing	Service
Not at all familiar	44%	45%
Somewhat familiar	30%	38%
Familiar	14%	8%
Very familiar	0%	3%
Extremely familiar	1%	4%
I don't know	11%	4%

Source: DG Trade EU-China investment survey

The importance of BITs may also differ across the different generations of BITs and we therefore also distinguish between 1st and 2nd generation in the companies' familiarity with the BIT between China and their home country. Responses do not seem to vary much for the two generations of BITs. The group of companies that are not at all familiar with the BIT is larger for the 2nd generation BIT (50 percent for the 2nd generation BITs compared to 31 percent for the 1st generation BITs). However, for both generations of BITs is it the case that 79 percent of the companies are either not at all or somewhat familiar with the BBIT between China and their home country, cf. Table 4.3.

Table 4.3 Companies' familiarity with BIT- across BIT generation

Answer options	1st generation BITs	2nd generation BITs
Not at all familiar	31%	50%
Somewhat familiar	48%	29%
Familiar	7%	11%
Very familiar	3%	0%
Extremely familiar	3%	2%
I don't know	7%	9%

Source: DG Trade EU-China investment survey

Findings on the effectiveness of the EU-China BIT in protecting investments

The second question is about the companies' perception of the effectiveness of BITs in regard to protecting the investments from of expropriation, negative regulatory/legislative changes and discrimination/unfair treatment. Overall, the survey responses indicate that 45-55 percent of the respondents find that BITs are not at all or somewhat effective in protecting investments, cf. Table 4.4. In addition, 9-18 percent of the respondents find that the BIT is either very effective or extremely effective. We also note that 20 percent of the respondents don't know if the BIT is effective in protecting BITs against expropriation whereas the share is lower for the protection against negative regulatory/legislatory change (9 percent) and discrimination/unfair treatment (12 percent).

Table 4.4Effectiveness of BITs in protecting investments

Answer options	Not at all effective	Somewhat effective	Effective	Very effective	Extremely effective	I don't know	Total
Expropriation by the Chinese government?	13%	32%	26%	9%	0%	20%	100%
Regulatory change/legislation having a negative impact on your investment in China?	17%	38%	18%	15%	3%	9%	100%
Discrimination/unfair treatment having a negative impact on your investment in China?	18%	35%	20%	7%	8%	12%	100%
						Answered questions:	66
						Skipped questions:	137

Source: DG Trade EU-China investment survey

For this question the total number of answers has fallen to 66. This decrease may be seen as a consequence of the companies' lack of familiarity with the basic provisions in the BITs, cf. Table 4.3 above.

Similar to familiarity, it is relevant to examine if the companies' perceived effectiveness of BITs in terms of protection differ across sectors and different generations of BITs. Again, grouping of the answers is necessary and for this answer "a not so effective" group is created by pulling together the answers from companies that perceive the BITs capability to protect investments is either not at all effective or somewhat effective, cf. Table 4.5 and Table 4.6 below.

Table 4.5 shows some variation in the companies' perception of the EU-China BITs across sectors. Companies seem to find the BIT to be more effective in protecting investments in the service sectors against expropriation and discrimination/unfair treatment than in the manufacturing sectors. However, the BIT seems to be more effective in protecting investments in the manufacturing sectors against regulatory change/legislation compared to the service sectors. Again, it should be recalled that the survey represents the perception of investor with actual experience of investing in China, or firms that are already present in China with a representative office. Consequently, the results may not be representative of the perception of potential European FDI-makers who have not invested in China (and who can be less well informed about the risk of investments in China).

Table 4.5 Effectiveness of BITs in protecting investments– across sectors

Answer options	Manufacturing	Service
Expropriation by the Chinese government?		
Not at all effective and some what effective	56%	58%
Effective	40%	27%
Exteremly or very effective	4%	15%
Regulatory change/legislation having a negative impact on your investment in China?		
Not at all effective and some what effective	58%	63%
Effective	19%	22%
Exteremly or very effective	23%	16%
Discrimination/unfair treatment having a negative impact on your investment in China?		
Not at all effective and some what effective	65%	57%
Effective	27%	20%
Exteremly or very effective	8%	23%
	Answered questions:	66
	Skipped questions:	137

Source: DG Trade EU-China investment survey

Table 4.6 shows that there is very little variation in the companies' perception in regard to the effectiveness of the different generations of BITs. Concerning the protection of investments against discrimination/unfair treatment, the 2nd generation BITs are perceived to be slightly less effective than the 1st generation BITs (14 percent perceive the 2nd generation BITs to be extremely or very effective and the numer is 31 percent for the 1st generation BIT).

Table 4.6 Effectiveness of BITs' in protecting investments – across BITs

Answer options	1st generation	2nd generation
Expropriation by the Chinese government?		
Not at all effective and some what effective	58%	52%
Effective	33%	36%
Exteremly or very effective	8%	12%
Regulatory change/legislation having a negative impact on your investment in China?		
Not at all effective and some what effective	57%	61%
Effective	21%	24%
Exteremly or very effective	21%	16%
Discrimination/unfair treatment having a negative impact on your investment in China?		
Not at all effective and some what effective	54%	64%
Effective	15%	22%
Exteremly or very effective	31%	14%
	Answered questions:	66
	Skipped questions:	137

Source: DG Trade EU-China investment survey

Findings on the importance of the EU-China BIT in the investment decision

The third and final BIT question in the survey concerns the importance of the presence of a BIT for the companies' decision to invest in China. The majority of companies – almost 70 percent - find that the presence of a BIT was *not at all* or *only somewhat* important for their

investment decision, while around 25 percent find that the presence of BIT was important or *very/extremely important* for their investment decision, cf. Table 4.7 below.

Table 4.7 Importance of a BIT to companies' decision to invest in China

Answer options	Response percent	Response count
Not at all important	42.4%	28
Somewhat important	25.8%	17
Important	18.2%	12
Very important	7.6%	5
Extremely important	1.5%	1
I don't know	4.5%	3
	Answered questions:	66
	Skipped questions:	137

Source: DG Trade EU-China investment survey 2011

The survey responses suggest that the existing BIT between China and the home country is slightly more important in the manufacturing compared to the service sectors. 13 percent of the manufacturing companies find that the BIT was extremely or very important to their decision to invest in China. In the service sectors, this is only the case for 6 percent of the companies, cf. Table 4.8.

Table 4.8 Importance of a BIT to companies' decision to invest in China – across sector

Answer options	Manufacturing	Service
Not at all important	31%	51%
Somewhat important	21%	29%
Important	24%	14%
Very important	10%	6%
Extremely important	3%	0%
I don't know	10%	0%

Note: Not important group include "I do not know", "Somewhat important", "Not at all familiar"
Source: DG Trade EU-China investment survey

Companies' judgement of the importance of the BIT to their decision to invest in China does not seem to differ much for the two generations of BITs between China and individual EU Member States. The 1st generation BITs seem to have been slightly more important to the investment decision compared to the 2nd generation BIT, cf. Table 4.9.

Table 4.9 Importance of a BIT to companies' decision to invest in China - across BITs

Answer options	1st generation BIT	2nd generation BIT
Not at all important	47%	37%
Somewhat important	20%	32%
Important	7%	22%
Very important	20%	5%
Extremely important	0%	2%
I don't know	7%	2%

Source: DG Trade EU-China investment survey

Overall, the survey shows almost half of the respondents are not familiar with the BIT and another third of the respondents are only somewhat familiar with the BIT. Only three per-

cent of the respondents are either very familiar or extremely familiar with the BIT. 45-55 percent of the respondents find that BITs are not at all or somewhat effective in protecting investments but also that BITs are slightly more effective in protecting investors against discrimination/unfair treatment than expropriation and regulatory change. Finally, almost 70 percent of the respondents find that the presence of a BIT was not at all or only somewhat important for their investment decision, while around 25 percent find that the BIT was important or very/extremely important for their investment decision.

4.3. Other surveys of BITs

The low familiarity with BITs among investors in the EU-China investor survey is in accordance with earlier results of a European survey. Thus, when the European Commission (2000) asked about the role of BITs for European investors, half of the 300 respondents had never heard of the treaties and only 10 percent had used them in their professional activity.

Also, Yackee (2010) asked a subsample of US Corporations on the Fortune 500 list and found that American firms generally are unfamiliar with BITs and that the treaties are not a great consideration in typical investment decisions. Yackee's results are particularly striking as US BITs include comprehensive market access provisions.

Finally, some risks covered by BITs are also covered by Political Risk Insurer (PRI). Thus, BITs look to decrease the risk of expropriation, transfer restrictions, discrimination and some types of contract violations. So does standard PRI products. It would therefore only be natural if PRIs took BITs into account when assessing the risk of investment projects. In that connection it is relevant to note that some public PRI programs (such as those of Germany and the World Bank) make explicit references to BITs in their pricing and coverage policies. In fact, several World Bank member objected to MIGA as it was seen as competitor to their BIT-programs.

So while PRI and BITs are obviously not perfect substitutes, the two instruments overlap to such an extent that makes them relevant to include in this context. In a survey of the Political Risk Insurance (PRI) industry conducted by Poulsen (2010), the results indicate that the vast majority of public and private agencies that price the risk of foreign investments rarely take the treaties into account. As long as a country like China adheres to the rule of law and foreign investments, the BITs are unlikely to have much importance for the coverage and pricing of guarantees offered by MIGA, most European government-sponsored agencies, or the private PRI market. As summarised by two of the interviewed underwriters:

> *"I would be very surprised if out of a sample of 10 underwriters any of them would mention BITs as being directly relevant for their risk-evaluations. … While the treaties are part of the backdrop to the investment regime, and will be relevant if claims arise, they don't play any direct role for the ranking or pricing of investment risks."*

> *"While they should perhaps have a role to play, I would say they are likely to be considered completely irrelevant by underwriters today and thus irrelevant for the pricing of risk insurance. ... Rather than having a role in the investment decision, they are just an extra arrow in the lawyer's quiver on the occasions where disputes arise."*[37]

As PRI underwriters are the group most likely to incorporate BITs into their risk-assessments, this feedback strongly indicates that the treaties play a minor role for the risk assessment for the majority of establishment decisions.

4.4. Conclusion

The bulk of qualitative and quantitative evidence suggests that investment treaties do not have a considerable impact on investment flows. This is not surprising, as foreign investors have many options apart from BITs to protect themselves when concerned with political risks. It implies, however, that an 'investment protection only' treaty is unlikely to have a substantial impact on the flow of investments between the EU and China. However, it is important to keep in mind that the survey carried out as part of this impact assessment covers mainly existing investors in China. As companies located in China have already overcome some of the investment barriers, these companies may have a tendency to underestimate the importance of the Chinese investment barriers.

[37] Ibid.

Chapter 5 OPTION 2 AND 3: A BIT WITH BITE

In Chapter 3 and 4, we came to the conclusion that a single "investment protection only" BITs with China will provide benefits by increasing the certainty of the investment protection. We also found that an "investment protection only" BIT should not be expected to lead to a considerable increase in investment flows. A BIT with more bite would need to improve market access by reducing investment barriers and restrictions on investment in the two countries. In this chapter, we show that there are significant investment barriers and that barriers for EU investors in China are higher than investment barriers for Chinese investors in the EU.

In Section 5.1, we describe the overall investment environment in China including the recently adopted 12th Five-year Plan on the Utilisation of Foreign Investments and the 2011 Chinese Investment Catalogue. In Section 5.2, we characterise some of the barriers EU investors face when they invest in China. In Section 5.3, we bring together hard data on EU investment flows with qualitative data from our inventory of Chinese investment barriers and our investor survey in order to identify sectors of particular interest to the EU. We find that the following sectors are of particular interest: Financial services, construction services, automotives and electrical machinery. Finally, in Section 5.4, we provide a description of the main barriers facing EU investors in the selected sectors and, to the extent possible, we quantify the potential for increasing EU investments if the main barriers were to be removed. In Section 5.5, we present the mirror picture and provide a summary of the barriers Chinese investors face when they invest in the EU.

5.1. DESCRIPTION OF THE OVERALL INVESTMENT ENVIRONMENT IN CHINA

China's most recent policy actions related to FDI include the 12th Five-year Plan on the Utilisation of Foreign Investments and the 2011 Investment Catalogue that supports the practical implementation of the 12th Five-year Plan. Besides the legislative and regulatory barriers that face foreign investors in a particular sector, the Investment Catalogue adds restrictions (and in some cases benefits) to the investment project depending on whether the project belongs to an encouraged, permitted, restricted or prohibited industry. In this section, we will shortly present the investment barriers that arise from these two policy tools and recent changes therein.

The 12th Five-year Plan on the Utilisation of Foreign Investments

Continuing a practice established in 1953, the Chinese Government has outlined its investment priorities, economic strategies and guidelines for achieving medium and long-term growth in the 12th Five-year Plan on the Utilisation of Foreign Investments.[38]

[38] The summary of the 12th Five-year Plan draws on http://www.finnode.fi/files/39/The_12th_Five-Year_Plan_China_s_Economic_Transition.pdf among others.

Some of the elements in the 12th Five-year Plan of particular interest to EU investors are:

(1) Transformation of traditional manufacturing to high-end manufacturing by encouraging foreign investment in new technology, new manufacturing processes, new materials and new equipment to transform and elevate traditional manufacturing industry;
(2) Cultivation of new strategic industries by encouraging foreign investment in energy efficiency, new generation information technology, biotechnology, high-end equipment manufacturing, new and alternative energy, new materials, and alternative energy automobile production; and
(3) Promotion of the development of modern service industries that have a direct, practical value to the Chinese people or to China's industry.

The practical implementation of the 12th Five-year Plan is reflected in the 2011 Investment Catalogue described underneath.

The 2011 Investment Catalogue

The Chinese Investment Catalogue divides domestic industries into three categories that determine the access to the Chinese market: Encouraged, restricted and prohibited industries. *Encouraged industries* enjoy benefits such as lower levels of required governmental review[39], tax breaks and other financial incentives. Foreign firms involved in *restricted industries* are subject to greater scrutiny (and at higher levels of government) and face restrictions such as ceilings on foreign ownership and limitations on the choice of corporate forms (e.g. foreign investment is more likely to be limited to joint ventures instead of wholly foreign-owned enterprises). Foreign companies belonging to *prohibited industries* are barred from foreign investment in China. FDI in unlisted industries belong to the *permitted industries* by default.[40]

Underneath, we provide a summary of key changes in the encouraged, permitted, restricted and prohibited categories, respectively, under the 2011 Investment Catalogue compared to the 2007 Investment Catalogue.

[39] Although China is bound under the rules of the WTO to open its industries to foreign players, the government has established a security review system for mergers and acquisitions involving foreign investment, integrating its administration of foreign investment, anti-monopoly merger review and its national security review into one procedure.
[40] The comparison is based on various sources: http://www.faegrebd.com/13212, http://www.mondaq.com/x/161086/International+Trade/China+Releases+New+Foreign+Investment+Catalogue+2011+Edition,

Encouraged industries

- Several sectors have been newly added to the encouraged category to promote the development of energy efficient technologies (e.g. electric and hybrid car fuelling and power charge stations) and environmentally-friendly and pollution control industries (e.g. marine oil spill cleanup/control technologies) as well as high-end manufacturing using advanced technologies (including new products/technologies in the production of textiles, chemicals and machinery and equipment)
- Venture capital enterprises have been moved from the permitted to the encouraged category, which is consistent with government policy to encourage foreign investment in onshore private equity and venture capital investment funds
- Intellectual property service entities (e.g., patent and trademark agents and consulting firms) have been moved from the permitted to the encouraged category
- Vocational education and training has been added to the encouraged category
- The manufacture of key components of new-energy vehicles has been added to the encouraged category, which is consistent with the government's policy to develop energy-efficient and alternative energy vehicles
- Production of special textile products with high and new technology has been added to the encouraged category, which reflects the government's efforts to upgrade and transform traditional manufacturing to high-end manufacturing and
- Several service sectors such as household/family care services have been added to the encouraged category
- To curb perceived overcapacity, certain sectors such as automobile manufacture (foreign investment still capped at 50 percent) and the establishment of automotive R&D institutions have been shifted back from the encouraged to the permitted category
- Certain high energy-consumption and high pollution sectors such as polycrystalline silicon (PSC) production and coal chemical processing have also been downgraded from the encouraged to the permitted category
- The qualification thresholds for certain encouraged sectors have been raised to encourage a shift to more advanced higher end products, e.g., production of only sixth or higher generation LCD panels will be treated as encouraged

Permitted industries

- Medical service institutions have been removed from the restricted category, which means that foreign investors no longer need to do business in the form of equity or cooperative joint ventures. Wholly foreign-owned enterprises are now permitted in this sector
- While foreign investment in banking and other financial institutions (including insurance companies) remains restricted, financial leasing companies have been removed from the restricted category and have therefore become permitted
- Carbonated soft drink production has been removed from the restricted category and has therefore become permitted while the production of wine and liquor remains restricted

- The production of certain medical devices, such as disposable injectors, blood transfusion instruments and blood bags, has been removed from the restricted category and has therefore become permitted
- The foreign investment ceiling in certain basic telecommunications services sectors (including domestic and international services) has been raised from 35 percent to 49 percent, which is consistent with China's WTO commitment
- Commercial companies engaging in franchising, commission business and business management and consulting are now in the permitted category, reflecting the government's efforts to develop a modern services sector
- Companies engaged in the distribution of audio/video products are no longer required to be controlled by the Chinese parties, although they must still take the form of joint ventures
- Commodity auctions have been moved from the restricted to the permitted category
- Import and general distribution of books, newspapers and magazines and the import and production of audio/video products and electronic publications have been removed from the restricted category and have therefore become permitted while publishing itself remains prohibited. This is in compliance with a recent WTO ruling against China

Restricted and prohibited industries

The Catalogue also reveals a few decisions to limit foreign investment:

- Letter courier services within China have been moved from the permitted to the prohibited category
- The construction of golf courses and villas has been moved from the restricted to the prohibited category in an attempt to prevent illegal conversions of farmland to commercial and residential uses and cool the real estate market

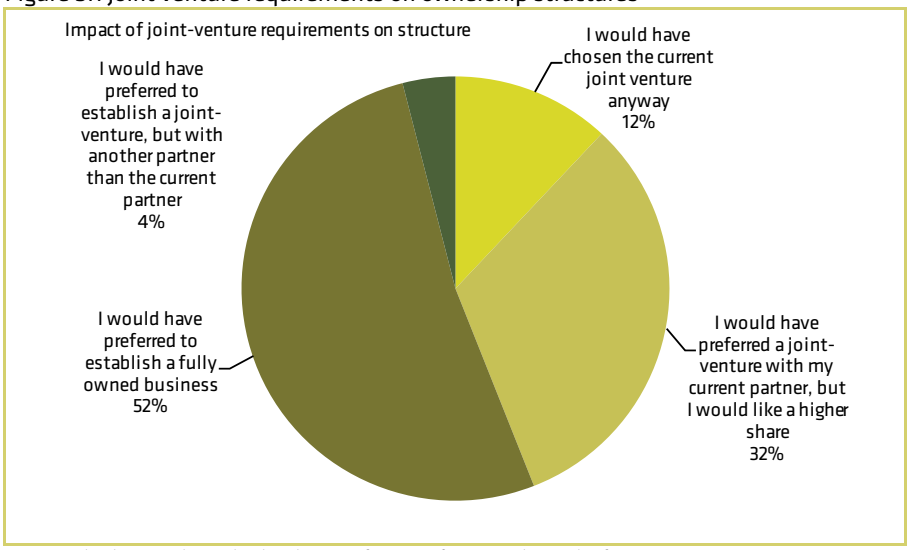
Overall, the 2011 Investment Catalogue increased the total number of items in the encouraged category by three, reduced the number of items in the restricted and prohibited categories by seven and one, respectively, and reduced the number of items subject to a foreign ownership ceiling in the encouraged and permitted categories by 11.

Besides categorising the domestic industries under encouraged, restricted and prohibited industries, the 2011 Investment Catalogue limits the organisational form and ownership structure that can be chosen by foreign companies. The ownership structures vary between three different forms of joint ventures (be it equity or contractual joint ventures):

- with no limit on the foreign share (the foreign company can be majority owned)
- with limit on the foreign share so that the Chinese party shall hold the relative majority share
- with limit on the on the foreign share where the Chinese party shall hold the majority of shares (49 percent foreign equity cap)

Responses from our survey of Chinese investment barriers stress that the joint venture requirements defined in the 2011 Investment Catalogue should not be taken lightly. In the majority of cases, the company would have chosen a different ownership structure and in more than half of the cases the company would have preferred to establish a fully owned business, cf. Figure 5.1

Figure 5.1 Joint venture requirements on ownership structures

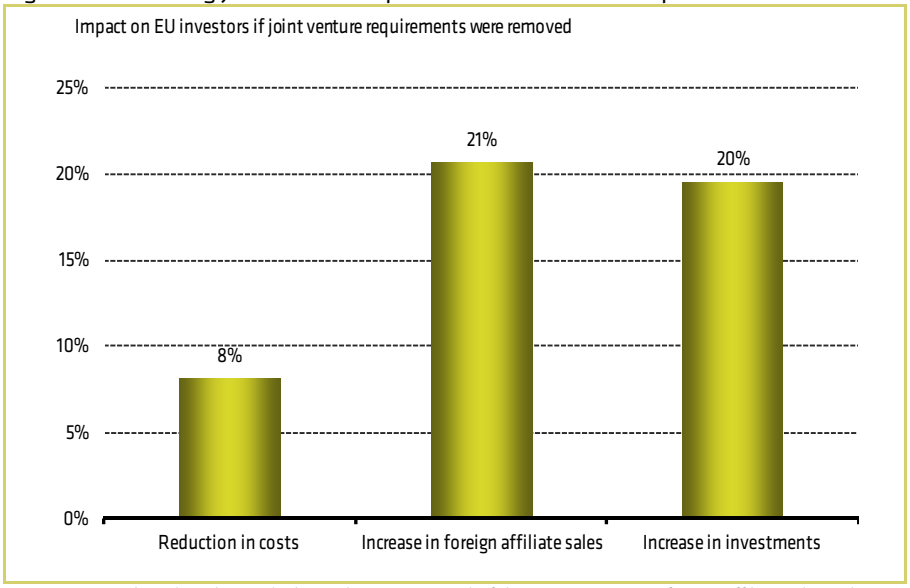


Note: The diagram shows the distribution of answers for respondents who face joint venture requirements. Responses are left blank when the company belongs to an industry where joint venture requirements are not prevalent. The figure is based on 25 responses

Source: Copenhagen Economics survey of Chinese investment barriers facing EU investors

Respondents have also been asked to quantify the impact on joint venture requirements on costs, foreign affiliate sales and on investments. The collected responses suggest that, on average, removing joint venture requirements would lower costs by eight percent and would increase foreign affiliate sales and investments by more than 20 percent, cf. Figure 5.2. However, it is important to notice that the estimates are based on responses from companies that have already invested in China and, consequently, that do not find the joint venture requirements prohibitive. We would therefore expect that our numbers underestimate the impact of EU FDI into China in case joint-venture requirements were removed.

Figure 5.2 Removing joint venture requirements benefit EU companies



Note: Respondents have been asked to indicate an interval of the impacts on costs, foreign affiliate sales and investments if joint venture requirements were removed. The impacts reported in the figure have been calculated as the response-weighted average of the middle of the relevant interval. In the case where the respondent has stated that the impact would be above 100 percent, we have used 110 percent to be conservative

Source: Copenhagen Economics survey of Chinese investment barriers

5.2. CHINESE INVESTMENT BARRIERS

In this section, we provide an overview of the most important regulatory or legislative investment barriers that face EU investors in China.[41] Investment barriers have been defined as specific barriers that affect companies when they wish to invest in China but that do not affect companies when they wish to export to China (trade barriers). We also discuss their actionability (i.e. the actions required to remove the barriers) and the likely impact on EU investments if barriers were removed. The information is based on two sources. *First*, we have built an inventory of Chinese barriers that have been identified by international organisations and relevant stakeholders.[42] For each of the barriers, we have assessed the "actionability" of the barrier, i.e. the extent to which we expect the barrier to be removable (see Box 5.1). *Second*, we have drawn on the survey of Chinese investment barriers that we have carried out as part of this impact assessment, cf. Section 4.3. The survey includes information about how EU investors perceive the Chinese investment barriers.

[41] Other issues (such as language and cultural differences) may be equally or perhaps even more restrictive for EU investors. However, such issues are not actionable within a BIT and have been excluded from the analysis.

[42] EU-China Trade Project: EU-China Bilateral relations Review of China's Investment Policies - Considerations for future EU-China trade negotiations, EU Chamber and Commerce: European Business in China Position Paper 2009-2010, EU Chamber and Commerce: European Business in China Position Paper 2010-2011, World Trade Organization: Trade Policy review - Report by the secretariat – CHINA, OECD Investment Policy Reviews: CHINA - Encouraging Responsible Business Conduct, Future Opportunities and Challenges in EU-China Trade and Investment Relations 2006-2010.

Box 5.1 Definitions of actionability used in the study

Our judgement of actionability in this study refers to the degree to which an investment barrier can realistically be reduced (via various means and techniques) if policy makers in the EU and China agree to do so. Examples of investment barriers that are not actionable include barriers related to consumer taste, language and cultural differences.

We apply a comprehensive assessmentof what might constitute an actionable barrier, and in cases where there is doubt whether a barrier could be negotiated away or not, we include it as actionable in order not to limit the scope and to ensure that no barriers are being overlooked in the assessment. It also implies that we shall make relatively modest assumptions about the share of actionable barriers that can be removed.

Furthermore, we distinguish between different degrees of actionability.

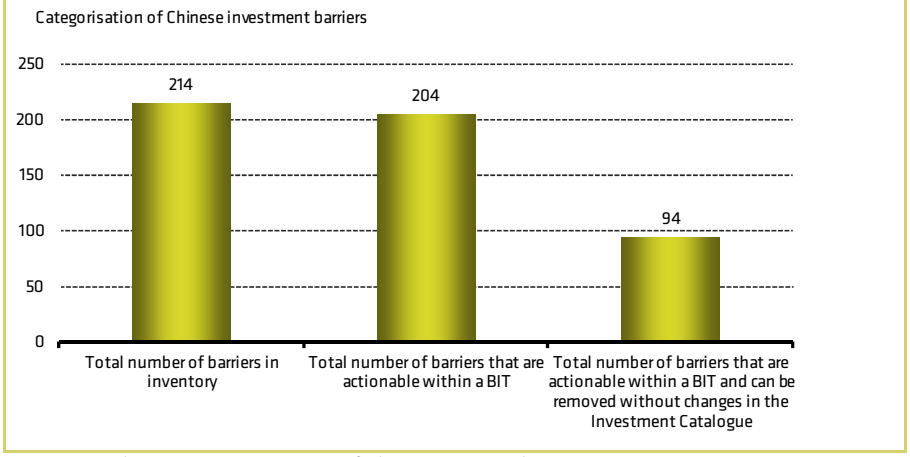
Investment barrier is actionable within a BIT
The scope of the BIT puts limits on the types of investment barriers that are actionable within a BIT. Some examples of Chinese investment barriers that we find not to be actionable within an EU-China BIT relate to weak land use rights, the national tax system and State subsidies.

Investment barrier is actionable within a BIT without changes in the 2011 Investment Catalogue
Many of the Chinese investment barriers are related to the 2011 Investment Catalogue (e.g. joint venture requirements and classifications of restricted and prohibited industries). Only negotiations will show if China is willing to make changes to the Investment Catalogue but if no changes should be expected, the number of actionable investment barriers will be greatly reduced.

Source: Copenhagen Economics

The inventory of Chinese investment barriers identifies 214 investment barriers of which 204 barriers are judged to be actionable within a BIT between the EU and China, cf. Figure 5.3. This is a fairly high number of actionable barriers, which in part reflects that the investment climate in China is rather complex with many types of barriers, but in part also that we are comprehensive in our assessment of actionable barriers, cf Box 5.1. The 11 non-actionable investment barriers are related to state subsidies, special funds and favourable loans (four barriers), the Chinese tax or VAT system (three barriers), the Chinese carbon market (two barriers) and land use (one barrier).

Figure 5.3 Categorisation of Chinese investment barriers



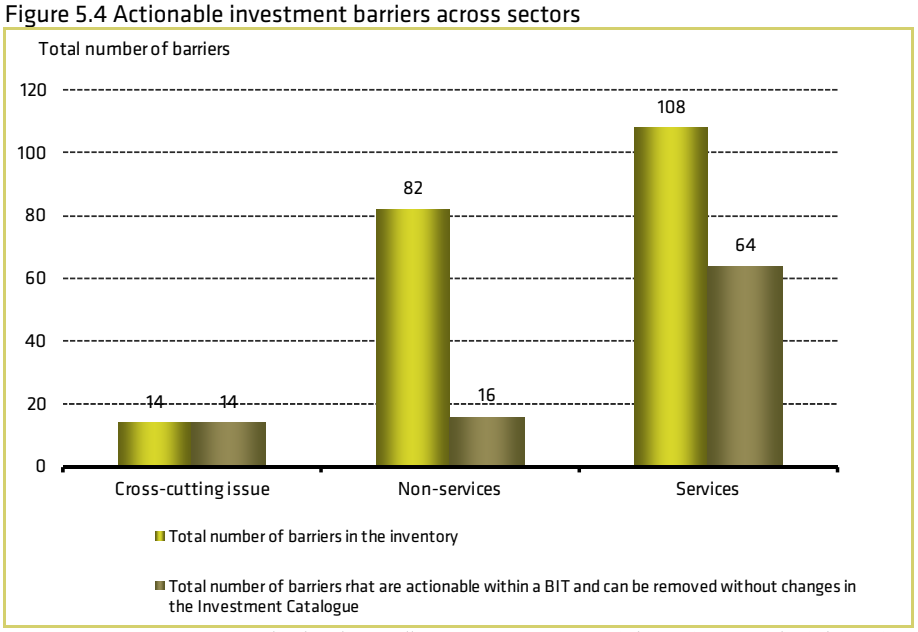
Source: Copenhagen Economics inventory of Chinese investment barriers

Of the 204 barriers that in our assessment are actionable within a BIT, 110 barriers are due to joint venture requirements on ownership structures as defined in the 2011 Investment Catalogue and 94 barriers pose other types of restrictions on EU investments.

In which sectors are investment barriers more frequent?

Almost half of the investment barriers listed in the inventory affect the service sectors (108 barriers), 82 barriers have been listed in the non-service sectors and 17 barriers are cross-cutting issues since they affect all sectors, cf. Figure 5.4. In the service sectors, 64 out of the 108 investment barriers are unrelated to the 2011 Investment Catalogue, but only 16 out of the 82 barriers in non-services can in our assessment be removed without changes in the 2011 Investment Catalogue. This is so because investors in many non-service sectors face joint venture requirements as investments belong either to the restricted or prohibited industries. Consequently, an EU-China BIT without changes in the Investment Catalogue may not convey significant reductions in investment barriers in many non-service sectors.

Figure 5.4 Actionable investment barriers across sectors

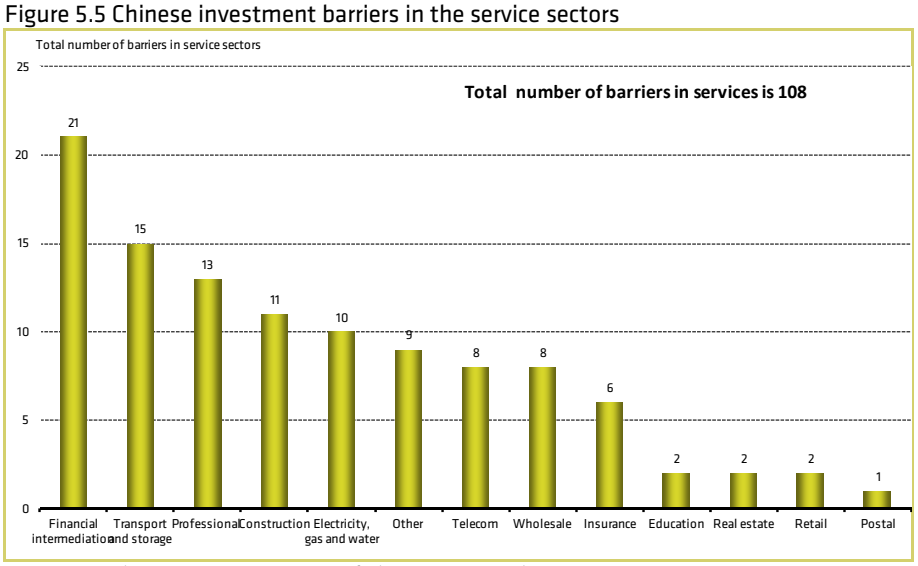


Note: Cross-cutting issues are related to the overall investment environment (8 barriers), M&A rules (3 barriers), SME issues (2 barriers) and public procurement (1 barrier)

Source: Copenhagen Economics inventory of Chinese investment barriers

Looking more into the barriers listed in the service sectors, we find that it is mainly barriers to investment in financial services that are mentioned (21 barriers) and to transport and storage (15 barriers), cf. Figure 5.5.

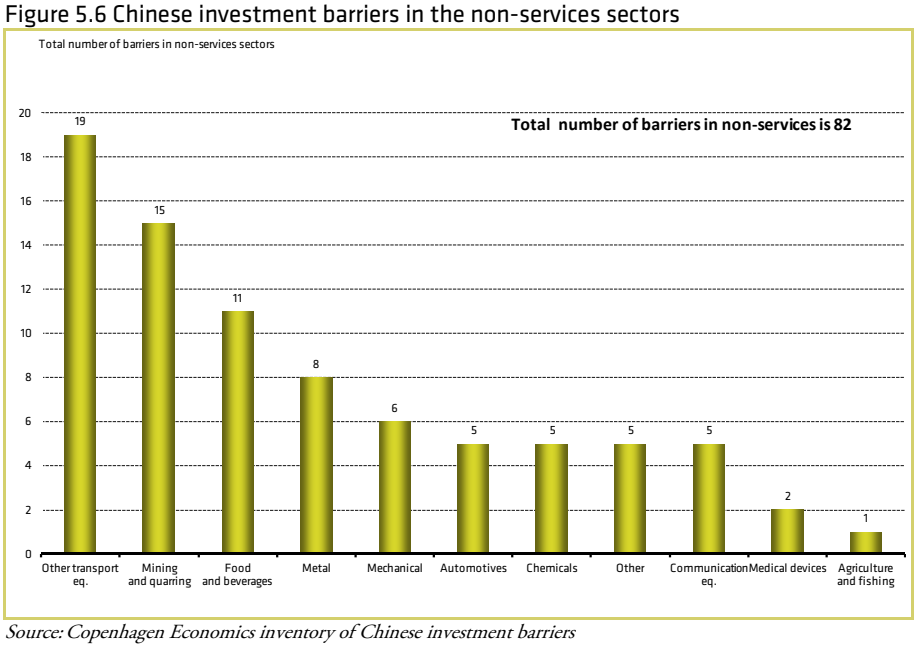
Figure 5.5 Chinese investment barriers in the service sectors



Source: Copenhagen Economics inventory of Chinese investment barriers

Doing the same exercise with investment barriers in the non-service sectors, we find that there are most barriers in the non-automotive industry ("other transport equipment", 19 barriers), mining and quarrying (15 barriers) and food and beverages (11 barriers) facing EU investors in China, cf. Figure 5.6.

Figure 5.6 Chinese investment barriers in the non-services sectors



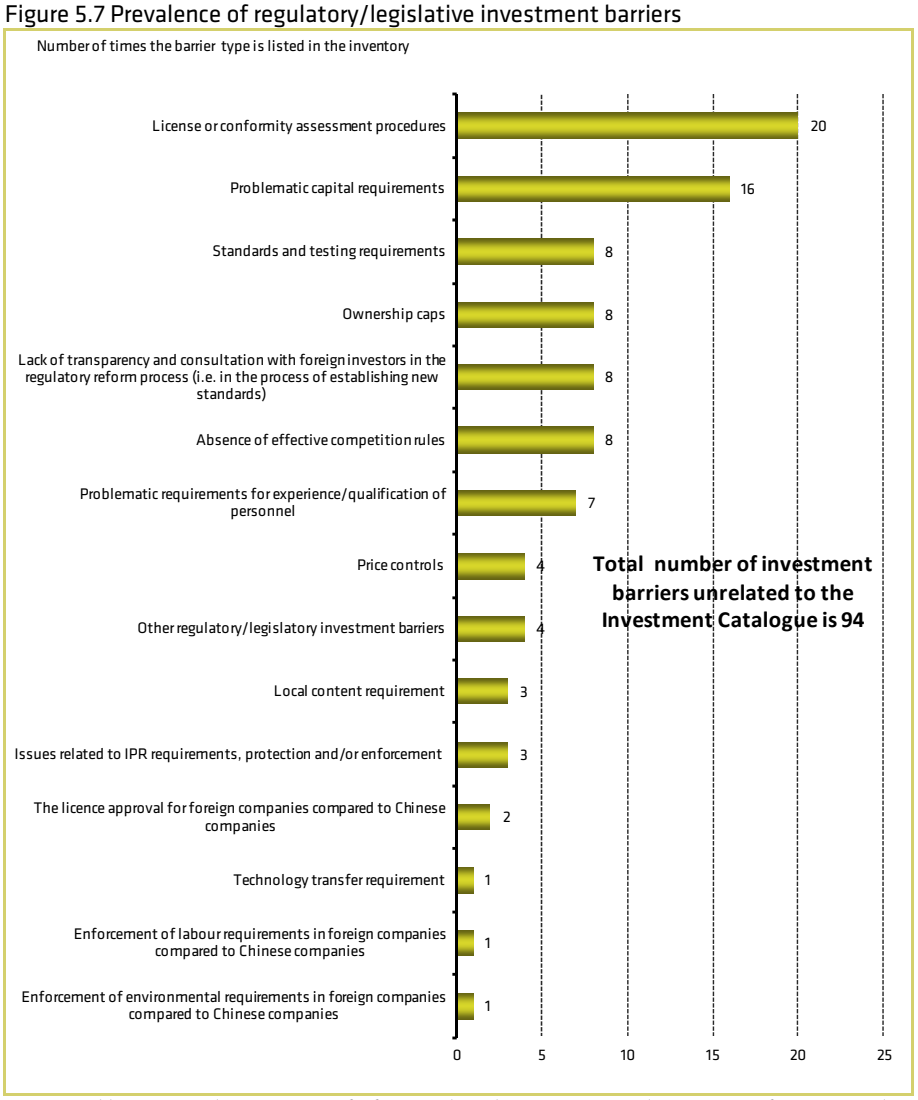
Source: Copenhagen Economics inventory of Chinese investment barriers

What type of barriers hold back EU investments in China?

Besides barriers related to the 2011 Investment Catalogue, license or conformity assessment procedures (21 barriers) and problematic capital requirements (16 barriers) are the most frequent type of investment barriers in China, cf. Figure 5.7.[43]

[43] In certain sectors, such as construction and financial services, foreign companies are required to have certain levels of available capital and/or assets to be able to register the company, to obtain a licence or to expand their business in China.

Figure 5.7 Prevalence of regulatory/legislative investment barriers



Note: Problematic capital requirements refer for example to the minimum capital requirement of RMB 100 million to 1 billion depending on the nature of the activity, and the Chinese law stating that the lower the total initial investment, the higher the percentage required as minimum registered capital

Source: Copenhagen Economics inventory of Chinese investment barriers

What are the consequences for EU investors?

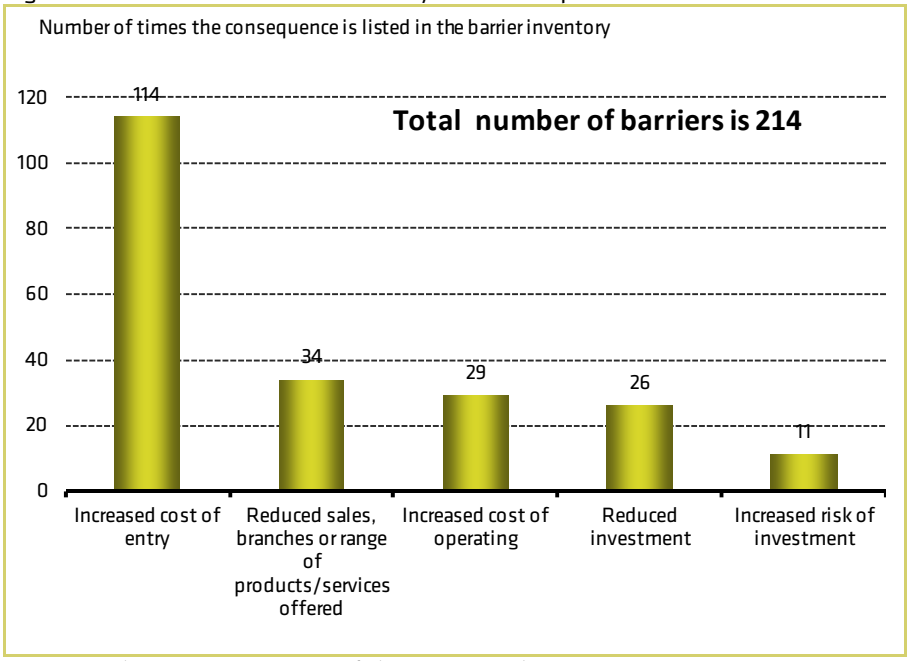
We have grouped the Chinese investment barriers according to the consequences for EU investors. Here, we distinguish between five types of consequences:

- **Reduced investments:** Barriers that limit the access of EU investors to the Chinese market and directly reduce investment. One example is the reduced investments in prohibited sectors listed in the Chinese Investment Catalogue
- **Increased cost of entry:** Barriers that increase the costs of investing in China. One example is the joint venture requirements in the encouraged and restricted sectors listed in the Investment Catalogue which force foreign investors to create sub-optimal ownership and organisational structures
- **Reduced sales, branches or range of products/services offered:** Barriers that limit the EU investors' opportunities to expand their activities in China and increase foreign affiliate sales. Strict certification requirements have been listed as an example in the inventory
- **Increased cost of operating:** Barriers that make it difficult or costly for EU investors to operate in the Chinese market. One example is when EU firms experience discrimination with respect to the enforcement of environmental or labour regulations
- **Increased risk of investment:** Barriers that make it more risky or uncertain to invest in China. One example is the lack of regulatory transparency and consultation in regulatory processes

It is important to draw this distinction since the impact of barrier reduction will be different depending on which type of barrier is reduced. A reduction of an entry barrier is likely to make China more attractive for new EU investors and FDI in China will increase. A reduction in barriers to operation is likely to reduce costs and foreign affiliates sales should be expected to increase. Over time, this may also trigger increased investments in China. It is also important to notice that a barrier may impact foreign investors in several ways. Joint venture requirements pose an entry barrier for the initial investment but may also increase costs of operating in the Chinese market if, for example, the imposed partnership with a Chinese company slows down decision processes. Also, if the cost of a particular barrier becomes prohibitively high it will effectively reduce investments.

Out of the 214 barriers, we find that almost half of the barriers (114 barriers) increase the cost of entering the Chinese market, 34 barriers limit the scope of EU companies' activities in China and 29 barriers increase the cost of operating in China. 26 barriers directly reduce investment and 11 barriers increase the risk of investing in China, cf. Figure 5.8.

Figure 5.8 Chinese investment barriers by main consequence



Source: Copenhagen Economics inventory of Chinese investment barriers

What would be the impact if barriers were removed?

The Chinese investment barriers appear to limit both EU FDI in China and the sales of foreign affiliates located in China. In our survey, we asked EU firms already present in China (either by a representative office or by a foreign affiliate) what would happen if the five most important barriers were removed. This provides one important way of assessing the impact on FDI and foreign affiliate sales if BIT negotiations succeeded in removing the barrier being perceived as most important for businesses already having invested in China. Responses can be used to corrobate and supplement the quantitative impacts on the aggregate level, which we shall explore in Chapter 7 using econometric techniques.

When being asked, EU firms in China are generally very positive about the impact if the most important barrires could be removed. Those firms answering the question indicate quite high increases if the five most important investment barriers were removed. On average, the respondents indicate increases in their FDI inflow to China and their foreign affiliate sales of between 30 and 40 precent. This indicates a strong expected impact of barrier reduction for those answering that question. However, this might not be representative of all EU firms in China, and we would expect bias towards getting more replies from those who experience many barriers to be answering the question on barriers, and consequently we would not expect aggregate impacts on FDI flows of this order of magnitude. As will be shown in Chapter 7, our estimates of the aggregate impact of barrier removal are substantially smaller than these firm level replies indicate. This is perfectly consistent with our expecta-

tion, that those replying to a questionnaire on barriers are those that are most impacted by these barriers.

The most important investment barriers will be different across sectors. In the next section, we select a number of sectors with the purpose of going into more details with the exact barriers facing investors in each of the selected sectors. The number of responses per sector is too low and responses too widely spread to allow for sector-specific results on expected increases.

5.3. Selection of sectors

In this section, we have combined several indicators that will enable us to select four sectors for further analysis:

- Importance in extra-EU investments (EU outward FDI stock in China per sector)
- Relative FDI performance (EU outward FDI stocks in China relative to EU global outward FDI stock per sector)
- Actionability of barriers with an amended Investment Catalogue (total number of barriers that are removable within a BIT)
- Actionability of barriers within the 2011 Investment Catalogue (number of barriers that are removable within a BIT and likely to be removable without changes in the Investment Catalogue)
- EU investor's perceived restrictiveness of China compared to home country (average response per sector). Box 5.2 describes the survey index of perceived restrictiveness in more details

Box 5.2 Description of the survey index of perceived restrictiveness

The database on perceived barriers to trade and investment has been compiled during the period 2009-2012 through three studies carried out by Copenhagen Economics and others on behalf of the European Commission:

- Copenhagen Economics and Ecorys (2009): Non-Tariff Measures in EU-US Trade and Investment – An Economic Analysis
- Copenhagen Economics (2010): Assessment of Barriers to Trade and Investment between the EU and Japan
- Copenhagen Economics (forthcoming): EU-China Investment Study

All three studies encompassed a survey, where respondents were asked the same questions related to the level of restrictiveness of the foreign country compared to the home country. In this study, the questions asked were:

"Consider investing in your domestic market in your sector. If 0 represents a completely 'barrier free investment' environment, and 100 represents an entirely closed market due to investment barriers, what value between 0 - 100 would you use to describe the overall level of restrictiveness of your home market to your operations in this sector? (Please write a number between 0 and 100)"

And the following question was asked for China and other partner countries:

"Consider investing in China, keeping in mind your domestic market. If 0 represents a completely 'barrier free investment environment, and 100 represents an entirely closed market due to investment barriers, what value between 0 - 100 would you use to describe the overall level of restrictiveness of the Chinese market to your investments in this sector? (Please write a number between 0 and 100)"

The survey index is therefore based on three large-scale surveys of more than 6.000 companies' perceived barriers to trade and investment in their main export and investment destinations relative to their home markets. The three surveys include almost 2.200 observation of perceived restrictiveness by 40 home countries (origin of the investment) in 146 host countries (location of investment) across 19 sectors. A summary table has been provided in Appendix 2.

The survey index reflects both EU and non-EU investors' perception of Chinese investment barriers as well as Chinese investors' perception of investment barriers in EU and non-EU countries. Although there continues to be many missing observations in the data set, the survey index is bilateral and is particularly useful in gravity model regressions where variations in FDI across both host and home countries are used to identify investment barriers. There are 65 observations on Chinese companies' perception of EU barriers but only 9 observations on EU companies' perception of Chinese investment barriers. The EU includes EU27 except for Latvia and Malta.

Source: Copenhagen Economics

Based on these indicators, we have selected four sectors that we will describe in more details:

Financial services have been included since the sector accounts for a significant share of EU FDI in China although it still appears to be underrepresented compared to EU global FDI in financial services.[44] 17 percent of EU FDI in China is in the financial services but as the sector accounts for 27 percent of EU global FDI, the relative FDI performance index is 0.62 suggesting that there may be a potential to increase FDI. The 2011 Investment Catalogue imposes important ownership caps on foreign companies in the financial sector but there are also many barriers (e.g. current restrictions on capital requirements and numbers of banks/branches) that are actionable without amendments to the Investment Catalogue. In spite of the large number of barriers listed in the inventory of Chinese investment barriers, EU companies in the financial sector do not perceive China to be as restrictive as other sectors (average index of perceived restrictiveness is 67). One explanation may be that the sur-

[44] Financial services include banking and financial intermediation but exclude insurance.

vey reflects only EU companies that have already established themselves in China and therefore to not perceive barriers to be prohibitive.

Construction services have been selected due to the attractive business opportunities prevalent in the world's largest building and construction market combined with a large number of barriers (mainly related to minimal registered capital and assets, minimum yearly turnover, minimum permanent personnel and qualification requirements) that are actionable without changes in the 2011 Investment Catalogue. However, EU FDI in this sector is at a very low level (amounting only to €158 billion in 2009) which may suggest that the investment barriers pose severe limits to entry in this sector.

Automotive and automotive components will be discussed in more details due to its importance in EU manufacturing FDI in China. Here, the limiting barriers are mainly related to the de facto technology transfer and joint venture requirements (e.g. for electric vehicles brands) specified in the 2011 Investment Catalogue. Also, EU investors feel that labour and environmental requirements are more strictly enforced on foreign companies than local companies.

Electrical machinery (composed of the radio, television and telecommunication equipment sector in addition to the office machinery and computer sector) has been included due to is importance in manufacturing FDI and since our CGE results at a sectoral level suggest that a reduction of bilateral investment barriers should be expected to have a large long-run impact on EU companies' business opportunities in China.

In the following, we provide a description of the barriers identified in the four selected sectors.

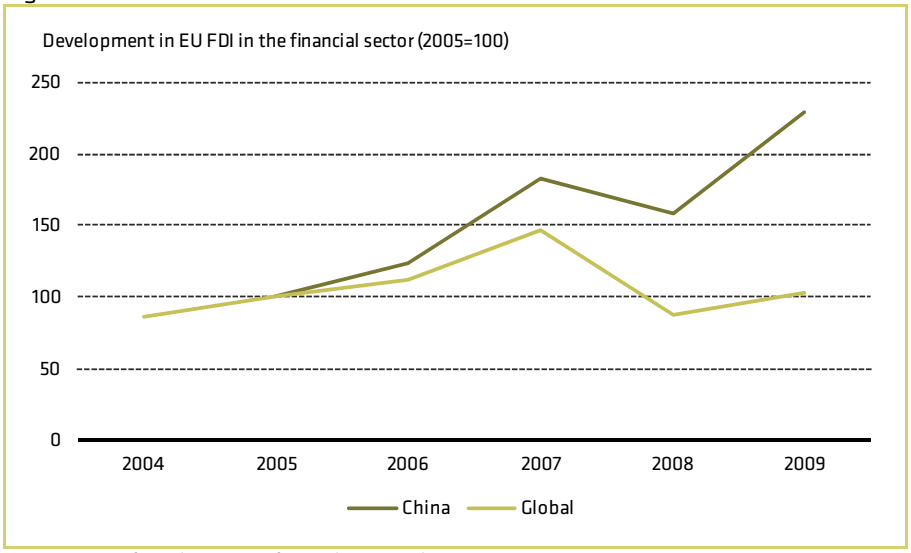
5.4. CHINESE INVESTMENT BARRIERS IN THE FINANCIAL SECTOR

The financial sector in China is comprised of around 30,000 financial institutions and has grown to a significant market in Asia.[45] In the period 2003 to 2007, assets in the Chinese financial sector have shown annual growth rates at almost 18 percent, and the increasing financial needs of the growing economy can be expected to support positive growth rates also in the future. However, foreign banks have a market share less than two percent, and only a few foreign banks have established stand-alone presences in China.[46]

Starting out from a low level, the EU FDI stock in China has increased by more than 200 percent during the period 2004-2009 whereas global EU FDI in financial services has stagnated in the same period, cf. Figure 5.9.

[45] See http://www.chinaknowledge.com/Business/CBGdetails.aspx?subchap=4&content=15.
[46] See http://www.chinaknowledge.com/Business/CBGdetails.aspx?subchap=4&content=15.

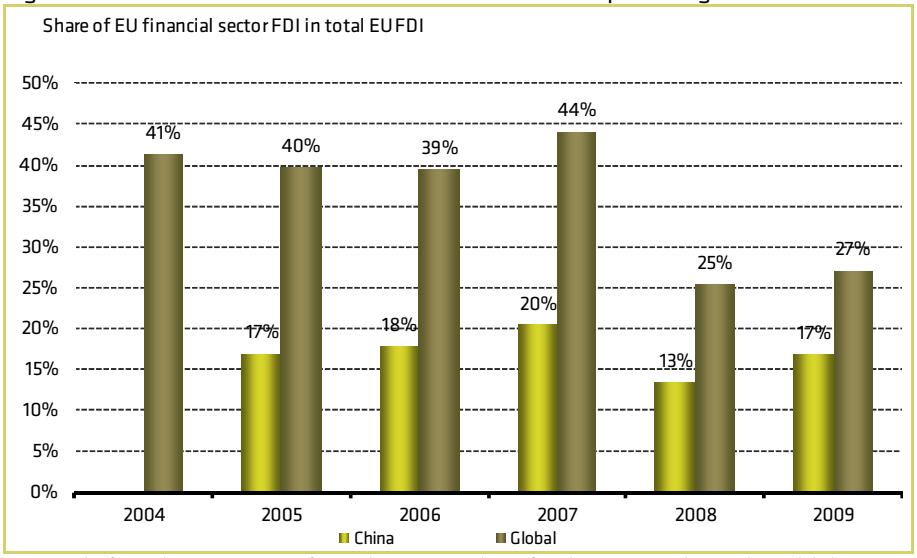
Figure 5.9 EU FDI in the financial sector has increased



Source: Data is from the Eurostat financial account, direct investment

In spite of the high growth rates, the share of financial services in total EU FDI in China remains lower than the sector's share in global EU FDI, cf. Figure 5.10. The low foreign market share and the underperformance of the EU financial sector in China suggest that there could be a potential for increasing FDI and foreign affiliate sales in this sector.

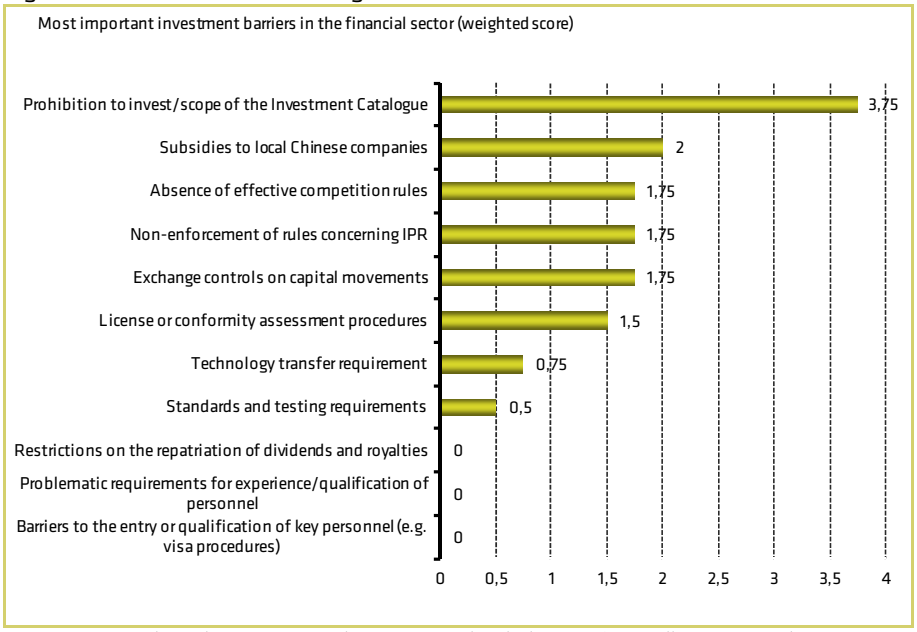
Figure 5.10 Low EU share of financial services in China compared to global



Note: The figure depicts EU FDI in financial services as a share of total EU FDI in China and EU global FDI
Source: Data is from the Eurostat financial account, direct investment

There are a number of regulatory obstacles to entering, operating and expanding in the Chinese financial sector. The 2011 Investment Catalogue is the most serious barrier to increased EU FDI in China, cf. Figure 5.11. Among other barriers cited, subsidies to local Chinese financial institutions also constitute a barrier to EU FDI in this sector followed by absence of effective competition rules, exchange controls on capital movement and non-enforcement of rules concerning IPR.[47]

Figure 5.11 The Investment Catalogue is the main barrier



Note: Responses lie in the range 1 to 5, where 1 suggests that the barrier is 'not at all restrictive' and 5 suggests that the barrier is 'extremely restrictive'. The weighted score is calculated as the number of responses weighted by their attached restrictiveness. The higher the weighted score, the more restrictive the barrier

Source: Copenhagen Economics survey of EU investors in China

On a more detailed level, capital and liquidity requirements increase the cost of entering the Chinese financial sector, cf. Table 5.1. Also, EU companies find that limitations to ownership structures in security and futures companies are important barriers to their access to the Chinese financial sector.

[47] See, among others, http://eng.hi138.com/?i152233 and further references listed. The banking sectors' concern of IPR in China is also mentioned here http://www.ceeman.org/publications.php/88/off-shoring-and-outsourcing-in-the-banking-sector-evidence-from-poland-and-china.

Table 5.1 Investment barriers increase costs of entry in the financial sector

Investment barrier that increase the cost of entry	Importance attached by respondents in survey
Foreign banks can only incorporate if they have had a representative office in China for 2 years	Very important
Foreign banks can only incorporate if their total assets exceed $1bn	n.a.
In recent years the SAFE (and the National Development and Reform Commission (NDRC) for the medium/long term quota) has significantly cut short-term foreign debt quota limits and stabilised (or slightly reduced) them for the current year. The trend for quota reduction goes against a trend of increasing foreign direct investment (FDI) that is the core activity of foreign banks	n.a.
Security companies confined to A share consignment-in, B share, H share and government and company bonds consignment-in and transaction, the foreign-capital is less than one-third	Very important
For security investment fund management companies the foreign-capital must be less than 49 percent	Very important
For futures companies Chinese should hold the majority of shares	Very important

Note: n.a. means that the survey of EU investors in China has not touched upon this issue so there is no information on the importance of the issue

Source: Information about the investment barriers has been collected from the inventory of Chinese investment barriers. The assessment of the importance of this type of barrier is taken from the Copenhagen Economics survey of Chinese Investment Barriers

In their operations in China, EU companies also face requirements on their working capital, deposit ratios and local lending restrictions that increase costs and make them less competitive relative to their Chinese counterparts, cf. Table 5.2.

Table 5.2 Investment barriers increase costs of operating in the financial sector

Investment barriers that increase the cost of operating	Importance attached by respondents in survey
30 percent of working capital of a direct branch needs to be deposited in a Chinese bank (non-FIE). This 30 percent is not incorporated into the liquidity ratio calculations	n.a.
Long-term borrowings from oversees bank branches is treated as current liabilities thus reducing the liquidity ratio	n.a.
Loan-deposit ratio of 75 percent will have a negative effect on SME banks after 2011 when grandfarthering will end	n.a.
Data onshoring requirement for banks	Very important
RMB funds with Chinese investors-only enjoy a "domestic enterprise" legal framework. RMB funds, where foreigners can participate, are the "foreign-invested venture capital enterprise" or "FIVCE" regulation. Additionally, the FIVCE's investments in China, in spite of the FIVCE status as a PRC registered entity, are subject to the same industry access limitation as foreign investors' investments. This does not create a level playing field between funds	Very important
Foreign invested funds are often, in practice, hampered by several technical and legacy regulations that are not compatible with the newer, more favourable, policies favouring private equity investments	Very important
Local lending restrictions hinder the development of banks	n.a.

Note: n.a. means that the survey of EU investors in China has not touched upon this issue so there is no information on the importance of the issue

Source: Information about the investment barriers has been collected from the inventory of Chinese investment barriers. The assessment of the importance of this type of barrier is taken from the Copenhagen Economics survey of Chinese Investment Barriers

Regulatory and legislative factors also limit the financial companies' ability to pursue their preferred business model and be in control of the scope of their business. There are limitations to the number of services that can be offered (e.g. RMB services and electronic payment systems), and the opportunity to pursue organic growth is severely limited since all

branches of foreign banks are treated as separate entities and since foreign banks may only open one new branch per year, cf. Table 5.3.

Table 5.3 Investment barriers reduce scope of business in the financial sector

Investment barriers that reduce sales, branches or range of products/services offered	Importance attached by respondents in survey
Following the issuance of foreign currency licence, foreign bank branches can only offer RMB-denominated services if they have operated in China for 3 years and have had 2 consecutive profitable years	Very important
Direct branches are not allowed to provide RMB services to Chinese citizens, having a limited list of services they may engage in foreign currency business	Extremely important
Although foreign banks are allowed to open branches, regulatory treatment remains discriminatory. Unlike in the international context, all branches of foreign banks in China are treated as if they were separate legal entities, and not as part of a consolidated network. The system increases the associated costs of opening more branches in China and it is costly in terms of capital requirements for each branch, complexity of balance sheets and general management	Very important
There is a (20 percent) 25 percent cap on foreign ownership of a Chinese bank, i.e., foreign ownership above that threshold classifies the bank as a foreign bank, with the attendant limitations in business scope	Very important
Foreign bank services suppliers cannot operate electronic payment systems for RMB-denominated credit cards (only UnionPay is authorised)	Extremely important
Only the Public Security Bureau (the "PSB") is entitled to establish a guarding service company. The establishment of a guarding service company requires the approval by the PSB at provincial level. So far, such approvals have only been issued to companies established by the PSB	Very important
Limitations to open one branch per year: foreign banks may only open one new branch per year, this is another way of limiting the branch network expansion of foreign banks in China	Very important
The minimum asset requirements remain higher for the establishment of branches than for locally incorporated entities	n.a.

Note: n.a. means that the survey of EU investors in China has not touched upon this issue so there is no information on the importance of the issue

Source: Information about the investment barriers has been collected from the inventory of Chinese investment barriers. The assessment of the importance of this type of barrier is taken from the Copenhagen Economics survey of Chinese Investment Barriers

In the CGE modelling in Chapter 8, total EU MNE turnover in the service sectors is expected to increase by €50-739 million in different scenarios of EU-China investment liberalisation. Under the assumption that (i) FDI and turnover are similarly distributed across sectors, and (ii) that turnover responds to barrier reductions in a similar way across sectors, we can use the sector's share in EU service FDI to get a rough estimate on how turnover and employment in the individual service sectors would be affected.[48] EU FDI in the financial sector accounts for around 35 percent of total EU FDI in the Chinese service sectors. We would therefore expect turnover in EU MNEs in the financial sector to increase by €17-257 million, cf. Table 5.4. The largest impact should be expected in a non-reciprocal scenario with ambitious cuts in Chinese investment barriers and large spillovers to third countries. The reason is that financial companies in China originating from third countries buy services from EU financial companies that operate in China (intra-industry spillovers). Using the same methodology, we find that employment in EU financial companies located in China increases by 119-1762 employees.

[48] It will be the case that investments in certain service sectors are more restrained than investment in other service sectors. The removal of barriers should thus trigger a greater increase in investment activities in the more protected service sectors in China. However, as the CGE results do not convey detailed results for the service sector we consider this to be the only alternative.

Table 5.4 Impact of reducing investment barriers in the financial sector

	Reciprocal				Non-reciprocal			
	Ambitious		Modest		Ambitious		Modest	
	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers
Increase in turnover (million Euro)								
Short run - Fixed labour closure	177	79	53	24	130	78	40	22
Long run - Flexible labour closure	183	53	55	17	131	257	40	28
Increase in employment (number of employees)								
Short run - Fixed labour closure	1211	539	360	164	893	533	271	152
Long run - Flexible labour closure	1251	365	376	119	898	1762	272	192
Impact on output (% change)								
Short run - Fixed labour closure	0.012	0.055	0.044	0.017	-0.002	-0.007	-0.001	-0.001
Long run - Flexible labour closure	0.021	0.093	0.006	0.028	0.003	-0.041	0.001	0.001

Note: Impacts on turnover and employment refer to EU MNEs located in China and impacts on output refer to EU companies located in the EU

Source: Impacts on turnover and employment are based on sector-specific CGE results in Table A4.2 and Table A4.3 and data on the share of EU FDI in the Chinese financial sector in total EU FDI in China from Eurostat. Impacts on output are from Table A4.4 and Table A4.5

We also found that output in the financial sector in the EU will increase both in the short run (fixed labour closure) and in the long run (flexible labour closure) when EU investment barriers are reduced (the reciprocal scenario). The largest increase should be expected in the ambitious scenario (barriers are reduced by 10 percent) with high spillovers, where output in the EU should be expected to increase by almost 0.1 percent. This is so because investors in third countries also get an incentive to invest more in the EU and, over time, resources should be expected to flow to this sector. When EU investment barriers remain and Chinese barriers are unchanged (the non-reciprocal scenario), there will be a negative impact on output in the short run but a small positive impact in the long run.

The most important investment barriers in the financial sector are due to prohibitions to invest and to the scope of the 2011 Investment Catalogue. A revised EU-China BIT that does not involve changes in the Investment Catalogue is therefore unlikely to bring forward the large impacts in the ambitious scenarios. Here, the modest impacts on turnover worth €19-61 million should be expected.

5.5. CHINESE INVESTMENT BARRIERS IN THE CONSTRUCTION SECTOR

Due to the Chinese urbanisation, there is a need to construct more than 10 million new apartments every year up until 2020, and China is this currently the world's largest building

and construction market.[49] In addition, China will need to invest in expanding and upgrading its physical infrastructure (e.g. metros, rail and harbours) and utilities (e.g. power generation) to support the urbanisation process, and non-building construction is expected to be the fastest growing sector. Construction expenditures in China are expected to grow 9.2 percent annually through 2012.[50]

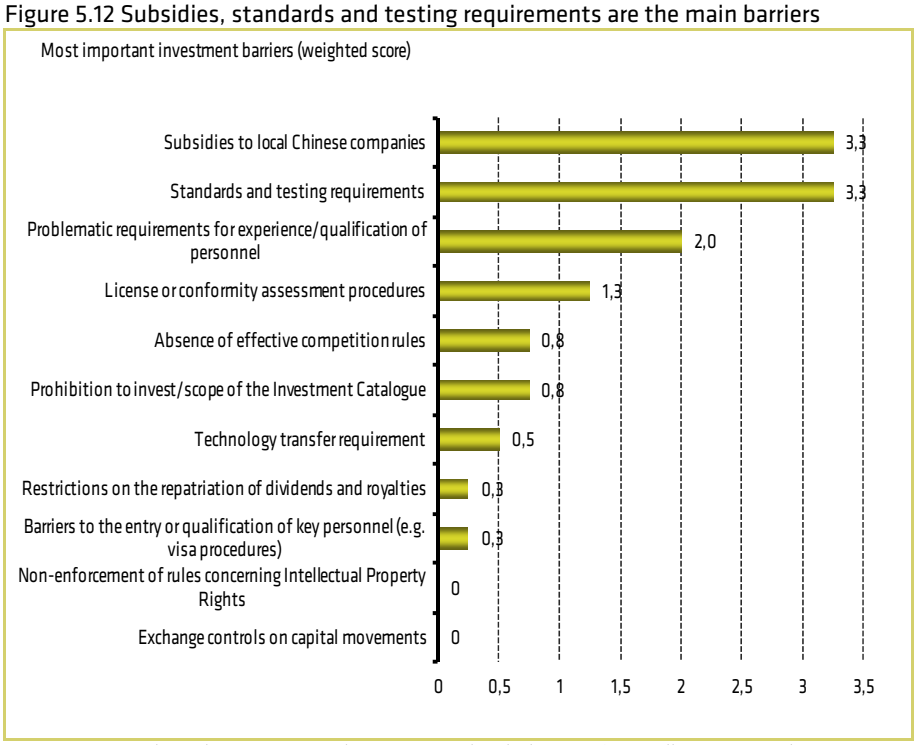
Starting out from an extremely low level (€44 million in 2006), EU FDI in China has increased by more than 350 percent during the period 2006-2009 whereas the EU global FDI in the construction sector has grown only by 50 percent. However, the share of construction services in total FDI in China remains extremely low and amounts to only about half of the sector's share in global FDI (0.25 percent in China compared to 0.49 percent globally). Thus, there appears to be a potential for further catching up.[51]

The most frequently listed barriers to increased EU FDI in the construction sector are subsidies, standards and testing requirements, cf. Figure 5.12. Subsidies are related to the heavy involvement of SOEs in the construction sector, which makes it difficult for EU companies to compete and build relations with local companies.

Standards and testing requirements for building components as well as quality control during the planning and construction phases also cause problems for EU companies, partly because standards are sometimes loosely enforced.[52]

[49] See European Commission (2005), Study on the Future Opportunities and Challenges of EU-China Trade and Investment Relations, Study 9: Construction.
[50] See Freedonia (2008), Construction in China to 2012 - Demand and Sales Forecasts, Market Share, Market Size, Market Leaders.
[51] Figures are based on Eurostat balance of payment data on direct investments in 2009.
[52] European Business in China Position Paper 2011/2011, Construction Working Group.

Figure 5.12 Subsidies, standards and testing requirements are the main barriers



Note: Responses lie in the range 1 to 5, where 1 suggests that the barrier is 'not at all restrictive' and 5 suggests that the barrier is 'extremely restrictive'. The weighted score is calculated as the number of responses weighted by their attached restrictiveness. The higher the weighted score, the more restrictive the barrier

Source: Copenhagen Economics survey of EU investors in China

The third most frequently listed barrier to increased EU FDI in construction services is problematic requirements for experience and/or qualification of personnel. The Chinese qualification system does generally not take into consideration those references obtained outside of China (e.g. parent companies outside China), and there is no systematic recognition of their performance gained outside China. This leaves a large amount of discretion to the competent Chinese authorities as they "may" recognise foreign experience. Also, to be registered under Class A, the number of technical and management workforce with professional title must not be less than 300, of which the technical must not be less than 200. Importantly, only locally hired personnel are taken into account, cf. Table 5.5.

Table 5.5 Investment barriers in the construction sector

Investment barrier	Importance attached by respondents in survey
Increased cost of entry	
Capital and net assets: to register as a Super Grade construction company, for instance, a firm has to hold EUR 30 million of capital and EUR 36 million of net assets	n.a.
The Chinese qualification system does generally not take into consideration those references obtained outside of China, and there is no systematic recognition of their performance gained outside China	Very important
The man power requirements are very high. For instance, to be registered under Class A, the number of technical and management workforce with professional title must not be less than 300, of which the technical must not be less than 200. Only locally hired personnel are taken into account	Very important
Foreign investor and service provider involvement in China's property sector, are impeded by regulations that restrict the sharing of technical knowledge and best market practice, which would benefit the domestic industry	n.a.
For grade A, capital requirements are respectively of EUR 5 million and EUR 6 million	n.a.
Increased cost of operating	
Residency requirements: expatriates of construction companies are subject to residency requirements (3 months per year)	Very important
Increased risk of investment	
The implementation rules for "Regulations on the Administration for Foreign-Invested Construction Engineering Service Enterprises" (Joint Decree 155) are not yet published and clarification is needed on whether foreign-invested construction services enterprises (FICSEs) qualified under Joint Decree 155 are able to undertake project management services as described in "Trial Measures on Construction Project Management" (Circular 200)	n.a.
Reduced sales, branches or range of products/services offered	
Construction companies are limited to undertake contracts worth up to 5 times their registered capital and 2 times their net assets	n.a.
Under the Degree 113, qualified wholly foreign-owned construction companies are limited to undertaking projects that: 1) are financed (entirely or partially) by international institutions, 2) are Sino-foreign projects where the foreign investment is greater than 50 percent, 3) cannot be undertaken by a domestic enterprise for technical reasons	Extremely important
The failure to apply the Engineering Procurement Construction (EPC) contracting rules is in practice preventing foreign-invested design or construction companies from undertaking EPC contracting	Very important

Note: *n.a. means that the survey of EU investors in China has not touched upon this issue so there is no information on the importance of the issue*

Source: *Information about the investment barriers has been collected from the inventory of Chinese investment barriers. The assessment of the importance of this type of barrier is taken from the Copenhagen Economics survey of Chinese Investment Barriers*

EU FDI in the construction sector accounts for less than one percent of total EU FDI in the Chinese service sectors. Using the methodology applied to the financial sector above to get an estimate of how turnover and employment in EU construction sector may change if Chinese investment barriers were reduced would predict only minor impacts on turnover and employment. This is so because the CGE results capture only impact of barrier reduction on existing investors in China and do not reflect that turnover and employment may also increase because more EU companies decide to establish themselves in China. For the construction sector, the latter impact may be particularly important due to the low current level of EU FDI. As a result, the assumptions behind the methodology used to split up the overall impact on the service sector are unlikely to hold for the construction sector. For this reason, we do not report these numbers.

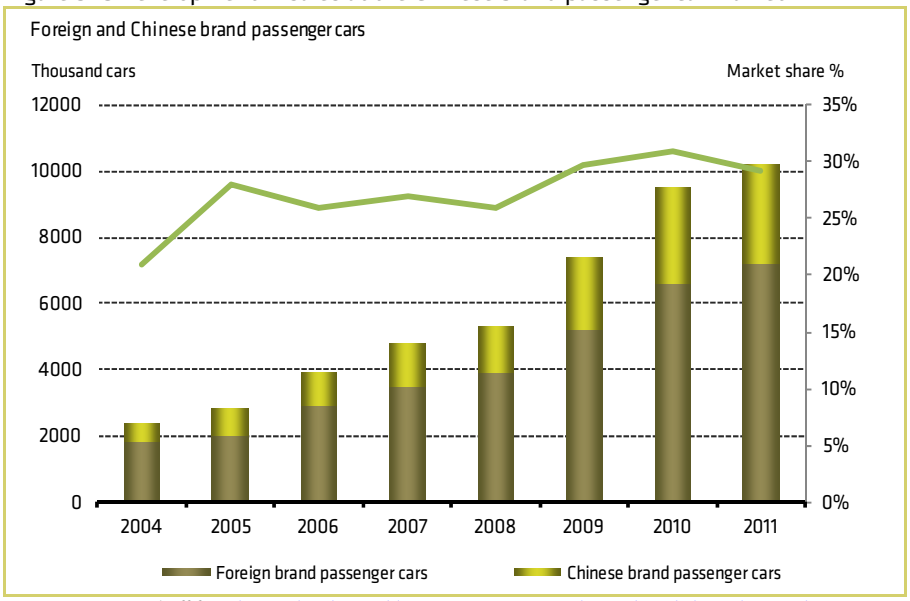
We note that the listed investment barriers in the construction sector are actionable without changes in the Investment Catalogue. We also note that one of the challenges in negotiating barriers in the construction sector in China is the prevalance of barriers relating to State sub-

sidies to Chinese companies. Another part of the barriers relate to discriminatory requirements for experience and qualification of personnel.

5.6. CHINESE INVESTMENT BARRIERS IN THE AUTOMOTIVE SECTOR

The Chinese automotive sector grew at around 32 percent in 2010 composed of a 33 percent increase in brand passenger car sales and a 30 percent increase in commercial vehicles.[53] The automotive sector is dominated by the brand passenger cars, and sales in this segment have experienced an average annual growth rate of 27 percent over the period 2004-2010. Sales of foreign brand passenger cars have only increased by 24 percent per year in the same period, and the Chinese market share has gone up from 21 percent in 2004 to 31 percent in 2010, cf. Figure 5.13.

Figure 5.13 Development in sales at the Chinese brand passenger car market



Source: Data is read off from http://chinabizgov.blogspot.com/2012/01/chinese-branded-cars-lost-market-share.html

As expected by the European Chamber of Commerce, growth was stalled in 2011 due to a number of regulatory changes, cf. Box 5.3. From 2010 to 2011, total sales of brand passenger cars increased by seven percent but the drop hit Chinese brand passenger cars harder than foreign passenger cars where an increase of 9 percent was recorded. This caused the Chinese market share to drop to a little more than 29 percent in 2011, cf. Figure 5.13. This is slightly lower than the 30 percent target set out in the Chinese 5-year plan.

[53] European Business in China Position Paper, Automotive Working Group.

Box 5.3 Expectations of the automotive sector in 2011

The purchase tax on vehicles with engine displacement of less than 1.6 L, temporarily lowered when the economic crisis struck, has been restored to its former level (10 percent). Fuel prices are on the rise; they have already been raised twice this year, and are now 30 percent higher than in 2008, yet are still below the international market price. Moreover, the explosive growth of car sales in the past two years has put strains on the ability of urban infrastructure to cope; as a consequence, Beijing Municipality decided to drastically reduce vehicle registrations to only 20,000 units per month from January 2011 (a measure meant to stay in effect for three years), a number only about one-third of car sales in the previous two years. This number does not include existing car owners who wish to buy new cars, or incentivised vehicles such as electric or other alternative fuel cars.

Source: European Business in China Position Paper, Automotive Working Group

EU automotive companies have invested heavily in China, and the sector alone accounts for more than eight percent of total EU FDI in China (almost 20 percent of FDI in the manufacturing sectors). For comparison, the automotive sector accounts only for a little more than one percent in global EU FDI.[54]

The Copenhagen Economics investor survey conveys very little information about investment barriers in the automotive sector and we therefore also draw on the barrier inventory and other available information.

EU automotive companies find that ownership limitations specified in the 2011 Investment Catalogue are very important, cf. Table 5.6. For a foreign automobile company wanting to invest in China, the only permissible business structure is a joint venture with a Chinese partner where the EU investor's equity share is limited to 50 percent. In addition, a foreign investor is limited to establishing no more than two such joint ventures for the production of passenger cars and two for commercial vehicles.

Table 5.6 Chinese barriers to investment in the automotive sector

Investment barrier	Importance attached by respondents in survey
Increased cost of entry	
Ownership limitation - Chinese party shall hold the majority of shares (49 percent equity cap)	Very important
Increased cost of operating	
Enforcement of environmental requirements more strict in foreign companies compared to Chinese companies	Important
Enforcement of labour requirements more strict in foreign companies compared to Chinese companies	Very important
Reduced investment	Very important
Ownership caps - a foreign investor is limited to establishing no more than two Sino-foreign joint ventures for the production of passenger cars, and two for commercial vehicles ("2+2")	Very important

Source: Information about the investment barriers has been collected from the inventory of Chinese investment barriers. The assessment of the importance of this type of barrier is taken from the Copenhagen Economics survey of Chinese Investment Barriers

The automotive companies that participated in this survey also point out that environmental and labour requirements are enforced more strictly on foreign companies than on Chinese

[54] FDI data is from 2009 and is taken from Eurostat. Data is only available for 2008 and 2009 which makes it difficult to assess the development in EU FDI in the automotive sector over time.

companies. The discrimination of foreign companies increases costs of operating in the Chinese market and put them at a disadvantage compared to their local competitors.

The CGE modelling in Chapter 8 includes the automotive sector as an individual sector (see sector-specific impacts in Appendix 4). The results suggest that EU MNE turnover in the Chinese automotive sector may increase by €5-19 million or decrease by €2-47 million depending on the scenario, cf. Table 5.7. The large descrease in turnover should be expected in a non-reciprocal scenario with ambitious cuts in Chinese investment barriers and large spillovers to third countries. The results indicate that turnover in this sector is very sensitive to giving competing companies from third countries improved market access in China. Impacts on employment in EU MNEs in China show the same pattern and employment should be expected to increase by 59-217 employees or drop by 25-541 employees.

Table 5.7 Impact of reducing investment barriers in the automotive sector

	Reciprocal				Non-reciprocal			
	Ambitious		Modest		Ambitious		Modest	
	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers
Increase in turnover (million Euro)								
Short run - Fixed labour closure	16	-14	5	-4	-11	-47	-3	-14
Long run - Flexible labour closure	19	-8	6	-2	-8	-6	-2	-12
Increase in employment (number of employees)								
Short run - Fixed labour closure	190	-161	59	-47	-131	-541	-38	-165
Long run - Flexible labour closure	217	-94	66	-25	-92	-65	-25	-134
Impact on output (% change)								
Short run - Fixed labour closure	0.058	0.598	0.016	0.178	-0.065	0.057	-0.019	0.024
Long run - Flexible labour closure	0,066	0,696	0,018	0,205	-0,056	-0,211	-0,017	0,025

Note: Impacts on turnover and employment refer to EU MNEs located in China and impacts on output refer to EU companies located in the EU

Source: Impacts on turnover and employment are based on sector-specific CGE results in Table A4.2 and Table A4.3. Impacts on output are from Table A4.4 and Table A4.5

Impacts on EU output are large and positive in the reciprocal case where both China and EU reduce their investment barriers in the automotive sector. In the case where only China improves market access, the impact on output produced in the EU should be expected to be negative since resources are shifted towards more profitable sectors with less intense competition from third countries.

Removing joint venture requirements and ownership caps require changes in the Investment Catalogue and would probably need to be addressed in an ambitious investment liberalisation scenario where 10 percent of the barriers were to be removed. However, avoiding dis-

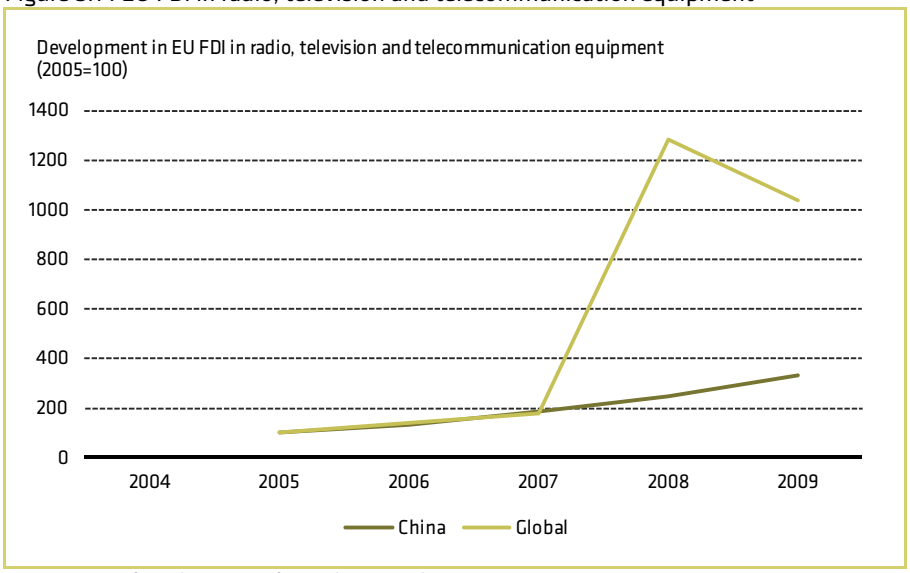
crimination of EU companies would also be important to EU investors and would be actionable in a modest scenario, where the Investment Catalogue remains unchanged.

Chinese investment barriers in electrical machinery

Electrical machinery in the CGE modelling is composed of (1) Manufacture of office, accounting and computing machinery; and (2) Manufacture of radio, television and communication equipment. The manufacture of radio, television and communication equipment sector accounts for 80-90 percent of FDI in electrical machinery (depending on the year), and we will therefore concentrate on investment barriers in this sector.[55] The Chinese market is already enormous but huge potentials remain. To take an example, the 457 million internet users and the 859 million mobile phone users represent penetration rates of around 30 percent of the Chinese market, which means there is still room for much more growth.[56]

FDI in the radio, television and communication equipment sector has grown by 330 percent over the period 2004-2010, cf. Figure 5.14. However, the EU's global FDI stock in this sector has increased by more than 1000 percent.[57]

Figure 5.14 EU FDI in radio, television and telecommunication equipment

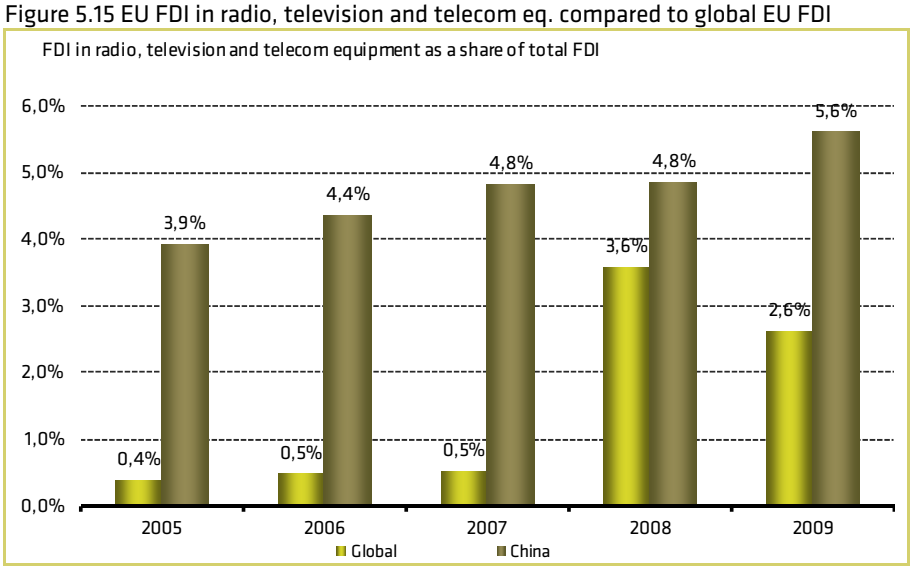


Source: Data is from the Eurostat financial account, direct investment

The moderate growth rates in EU FDI in China compared to global EU FDI appear to reflect a convergence of EU global FDI rather than poor performance of the sector in China. EU FDI in radio, television and telecom equipment accounted for 5.6 percent of EU FDI in China in 2009 but only 2.6 percent in global EU FDI, cf. Figure 5.15.

[55] Data on EU FDI stocks is from the Eurostat financial account, direct investment.
[56] See EU SME Centre (2011), ITC Market in China.
[57] Figures are based on Eurostat balance of payment data on direct investments in 2009.

Figure 5.15 EU FDI in radio, television and telecom eq. compared to global EU FDI



Source: Data is from the Eurostat financial account, direct investment

Although the sector seems to perform well in China compared to its global FDI performance, Chinese investment barriers continue to hold back EU investments and reduce sales by EU companies located in China. Respondents in our survey find that the 2011 Investment Catalogue is an important barrier to EU investments in the radio, television and telecommunication equipment sector. The design and manufacture of civil satellites fall under the encouraged classification but joint venture requirements nevertheless dictate that the Chinese partner shall hold the majority of shares, cf. Table 5.8. Also, the manufacture of certain cells and batteries is prohibited in China.

Table 5.8 Investment barriers in radio, television and telecommunication equipment

Investment barrier	Importance attached by respondents in survey
Increased cost of entry	
For design and manufacture of civil satellites Chinese partner shall hold the majority of shares	Very important
Increased risk of investment	
Overregulation, complicated type approvals and unnecessary national standards (overlapping with similar international standards)	Very important
Reduced investment	
Manufacture of open-lead-acid cells, mercury Button Type Silver Oxide Cells, mercury-containing button type alkaline manganese/zinc battery, paste manganese/zinc battery and nickel cadmium cells is prohibited	Extremely important
Reduced sales, branches or range of products/services offered	
There is a large share of the market where public spending can be allocated, straight away to local bidders only	Very important

Source: Information about the investment barriers has been collected from the inventory of Chinese investment barriers. The assessment of the importance of this type of barrier is taken from the Copenhagen Economics survey of Chinese Investment Barriers

But there are also barriers that are actionable without changes in the Investment Catalogue. A non-transparent and complicated regulatory environment increases the risk of investing in China and makes it more costly to operate in the Chinese market. Only in some cases are foreign companies allowed to have a representation in Chinese technical committees, and even then they are most often limited to have observer status. In cases where foreign companies are allowed to sit in on the drafting process, they do not have a voting right when the technical committees vote on a draft standard.[58]

The CGE modelling in Chapter 8 includes the electrical machinery sector as an individual sector (see sector-specific results in Appendix 4). The results suggest that EU MNE turnover in the Chinese electrical machinery sector may increase by €7-382 million or decrease by €391 million depending on the scenario, cf. Table 5.9. In scenarios with low spillovers (i.e. where most investment barriers are reduced for EU investors only), a BIT between the EU and China will give EU companies located in China a greater advantage than in scenarios with high spillovers to third countries, and impacts on EU turnover in China will be larger when spillovers are small. Likewise, in the reciprocal liberalisation scenario Chinese investors get better access to EU markets and EU MNEs in China get more room to increase their turnover. In the non-reciprocal scenario with large cuts in investment barriers and high spillovers, however, resources will be shifted away from the electrical machinery sector and into other sectors with better business opportunities.

Employment in EU MNEs located in China should be expected to increase by 54-2.833 employees or drop by 2.902 employees depending on how the negotiations settle. A reduction of investment barrers should be expected to increase output in the EU by 0.07-0.84 percent in the reciprocal scenarios but may lead to a drop in EU output in the non-reciprocal scenario with large spillovers to third country investors.

[58] http://web.ita.doc.gov/ITI/itiHome.nsf/9b2cb14bda00318585256cc40068ca69/473d375d186b10e085256f42005caef5?OpenDocument.

Table 5.9 Impact of reducing investment barriers in the electrical machinery sector

	Reciprocal				Non-reciprocal			
	Ambitious		Modest		Ambitious		Modest	
	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers
Increase in turnover (million Euro)								
Short run - Fixed labour closure	382	228	112	68	351	44	103	21
Long run - Flexible labour closure	372	270	109	78	346	-391	102	7
Increase in employment (number of employees)								
Short run - Fixed labour closure	2833	1690	830	502	2605	325	767	156
Long run - Flexible labour closure	2762	2001	812	578	2571	-2902	758	54
Impact on output (% change)								
Short run - Fixed labour closure	0,292	0,563	0,084	0,158	0,348	-0,450	0,102	-0,099
Long run - Flexible labour closure	0,234	0,844	0,067	0,230	0,306	-3,530	0,089	-0,200

Note: Impacts on turnover and employment refer to EU MNEs located in China and impacts on output refer to EU companies located in the EU

Source: Impacts on turnover and employment are based on sector-specific CGE results in Table A4.2 and Table A4.3. Impacts on output are from Table A4.4 and Table A4.5 (electronic equipment)

5.7. Barriers on China's investments in Europe

The analysis of barriers for Chinese investors in Europe is a more complicated one because there are restrictions on outward investment by Chinese firms being imposed both when leaving China (by the Chinese government) and when entering the EU (by individual EU member states). An assessment of the impact of a BIT with China needs to take both these types of barriers into account.

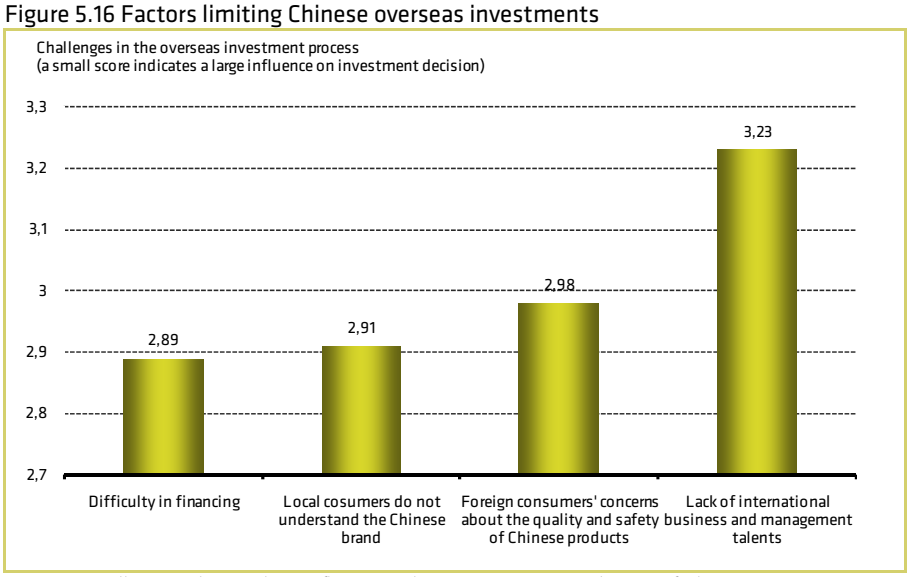
China's outward FDI has reached commercially and economically significant levels. With the economic crisis depressing asset prices worldwide, Chinese firms bid for EU firms, and the Chinese government has promoted outbound investment by easing and decentralising regulatory procedures, broadening financing channels for firms with overseas ambitions and openly announcing China's interest in undertaking international investments.[59] Realised and planned foreign direct investment deals indicate that China's government encourages Chinese enterprises to invest overseas in order to gain access to raw materials and advanced technology from abroad.[60] A recent policy move which can be expected to further increase China's investment outflows is the creation of a sovereign wealth fund, the Chinese Investment Corporation (CIC). The CIC, launched in October 2007 is placed under the direct

[59] See Rosen and Hanemann (2009), China's Changing Outbound Foreign Direct Investment Profile: Drivers and Policy Implications, http://www.iie.com/publications/pb/pb09-14.pdf.
[60] See http://www.uscc.gov/researchpapers/2011/GoingOut.pdf.

supervision of the State Council and is mandated to invest some of China's huge foreign reserves.

These initiatives will have profound impacts on Chinese outward FDI since the main concern of Chinese companies in their considerations to invest abroad is difficulties in financing their overseas investments, cf. Figure 5.16. However, one should note that restrictions imposed by the Chinese Government still remain. Private companies, for instance, are still denied access to the state Foreign Aid Fund,[61] which is reserved for state-owned enterprises alone.

Figure 5.16 Factors limiting Chinese overseas investments



Note: A small score indicates a large influence on the overseas investment decision of Chinese companies. Barriers are not specific to the EU

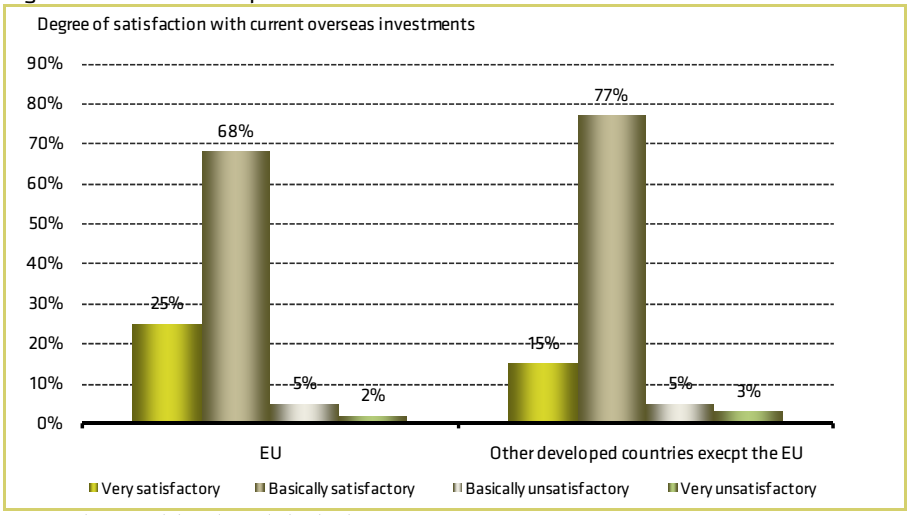
Source: Copenhagen Economics based on data from CCPIT (2010)

Another concern for Chinese companies when investing abroad is that local consumers do not understand the Chinese brand and that they are concerned about the quality and safety of Chinese products.[62] Lack of international business and management talents is also a concern. It is important to notice that these none of these factors can be regarded as barriers are not caused by EU policy and that these factor, while restricting FDI flows, are by no means to be considered as actionable barriers within an EU-China BIT.

On the overall level, most Chinese companies are satisfied with their overseas investments in a developed country, and the satisfaction seems to be slightly higher with investment in the EU than in other developed countries, cf. Figure 5.17.

[61] See http://userwww.sfsu.edu/~yywong/Zhang.pdf, p. 5.
[62] According to analysis by PwC economist Allan Zhang, http://userwww.sfsu.edu/~yywong/Zhang.pdf.

Figure 5.17 Chinese companies' satisfaction with their overseas investments

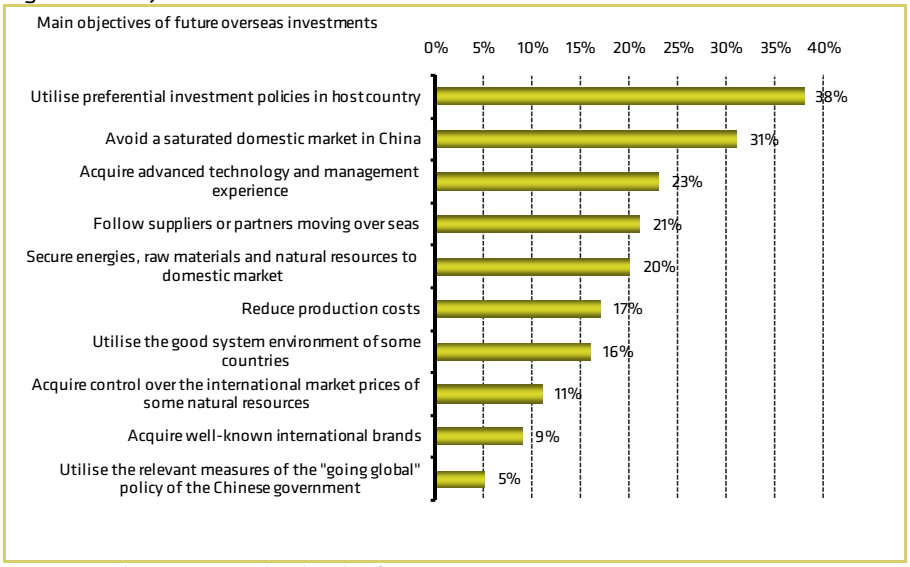


Note: The original data also includes developing countries
Source: Copenhagen Economics based on data from CCPIT (2010)

However, as we saw in Chapter 2, the high level of satisfaction has not yet materialised in large inflows of Chinese FDI to the EU.

One explanation of the low inflow of Chinese FDI to the EU may be found in the way Chinese companies respond to investment policies in the host country. The China Council for the Promotion of International Trade (CCPIT has carried out a survey of more than 3.000 small and medium-sized Chinese companies in order to collect more precise information about the overseas investments made by Chinese enterprises in 2009 and their future investment plans. The survey finds that the main objective of the future overseas investments of Chinese enterprises is to utilise preferential investment policies established in host countries in order to attract investors and to avoid the saturated domestic market in China. Other objectives include acquiring advanced technology and management experience, following partners moving overseas and securing raw materials and natural resources for the domestic market, cf. Figure 5.18.

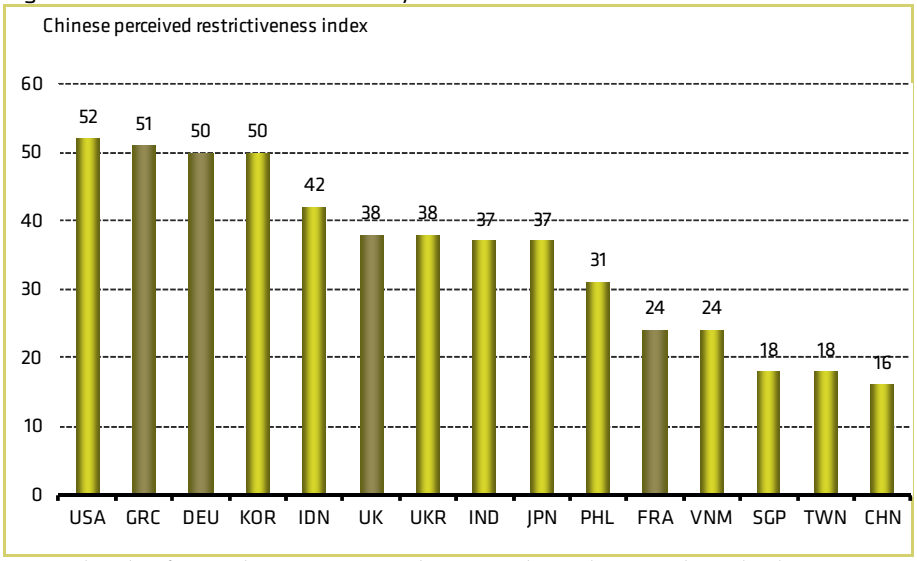
Figure 5.18 Objectives of Chinese investors abroad



Source: Copenhagen Economics based on data from CCPIT (2010)

Another explanation may relate to the how easy Chinese investors perceive it to be to invest in the EU countries. The survey index of perceived restrictiveness to FDI also contains some information, albeit from a small sample, about Chinese investors' perception of FDI restrictiveness in the EU and in other countries, cf. Box 5.2. The survey results indicate that the EU is perceived by Chinese investors to be more restrictive than, for example, other Asian countries (Taiwan, Singapore and Vietnam), cf. Figure 5.19. Compared to investing domestically (restrictiveness index of 16), Chinese investors perceive France to be the least restrictive EU country (restrictiveness index of 24) ahead of the United Kingdom (restrictiveness index of 38), Germany (restrictiveness index of 50) and Greece (restrictiveness index of 51). Of the countries covered in the survey index of perceived restrictiveness, the US is the country perceived to be the most restrictive receiving an average score of 52.

Figure 5.19 Perceived FDI restrictions by Chinese outward investors



Note: The index of perceived restrictiveness ranges between 0 and 100, where 100 indicates that the country is completely closed to inward FDI and where 0 indicates that the country is completely open to inward FDI.

Source: The figure is based on 26 responses from Chinese companies originally collected from the Ecorys and Copenhagen Economics (2009) study, cf. Box 5.2

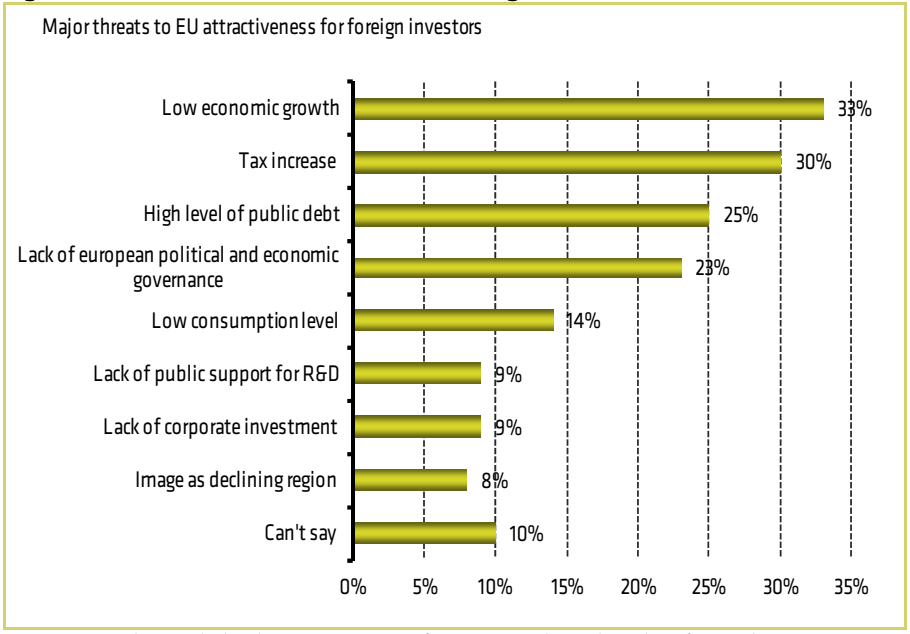
We note, however, that the perceived restrictiveness may not reflect actual restrictiveness. One source of information finds that Chinese investments are facing concerns about nationalism, IPR protection and national security, all factors that can be argued to pose a challenge to Chinese investments in the EU[63]

> *When it comes to the key barriers for Chinese companies setting up in the European Union (EU), analysts said that while regulations in the EU are fairly open to Chinese investment, the biggest hindrances are nationalism, intellectual property rights, and national security concerns.*

A recent Ernst and Young European Attractiveness Survey, points to the lack of European political and economic governance as being a major threat to EU attractiveness for foreign investors as mentioned by 23 percent of respondents, cf. Figure 5.20. A BIT with with China with better investment protection at the EU level (instead of 26 different BITs) may be important for Chinese investors in addressing this concern.

[63] See http://en.china.cn/content/d955741,f0e99a,1899_15505.html.

Figure 5.20 Threats to EU attractiveness for foreign investors



Note: Respondents ranked each criterion in terms of importance. The total number of respondents was 812
Source: Ernst & Young's 2011 European Attractiveness Survey, p.28

There are few investment barriers at the common EU level. The challenges to Chinese investors identified above are very general in nature and offer little information about concrete investment barriers. These are rather found that the individual Member States level. This will be the focus in the next section.

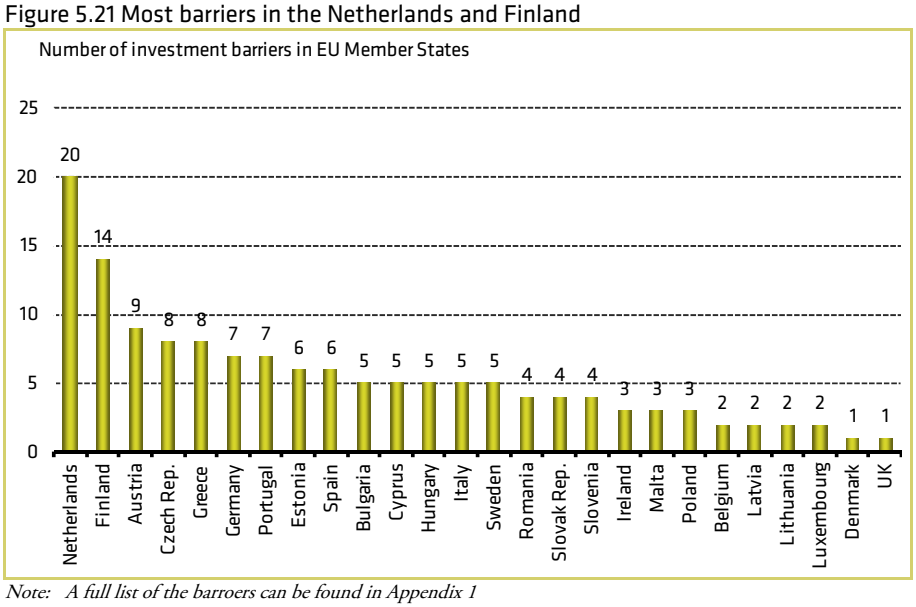
Investment barriers in individual Member States

The Treaty of Lisbon (in effect from December 2009) means that questions on investment barriers are now Community competence. The Chinese authorities find that laws, policies and practices in individual Member States continue to have a greater impact on Chinese investors than the EU common investment policy.[64] This implies that negotiations on reductions of investment barriers should also comprise the barriers at member state level if an agreement shall comprise reductions of the barriers of greatest importance to Chinese investors.

As part of this study, we have built an inventory of EU investment barriers perceived by Chinese authorities (a full list of barriers can be found in Appendix 1). Out of the 141 barriers, the Netherlands (20 barriers) and Finland (14 barriers) are the Member States where most barriers are listed, cf. Figure 5.21. Denmark and the UK seem to be the least restrictive. However, one should keep in mind that the number of barriers may not necessarily reflect the seriousness of the listed barriers.

[64] MOFCOM (2010), Foreign Market Access Report 2010, p. 76.

Figure 5.21 Most barriers in the Netherlands and Finland

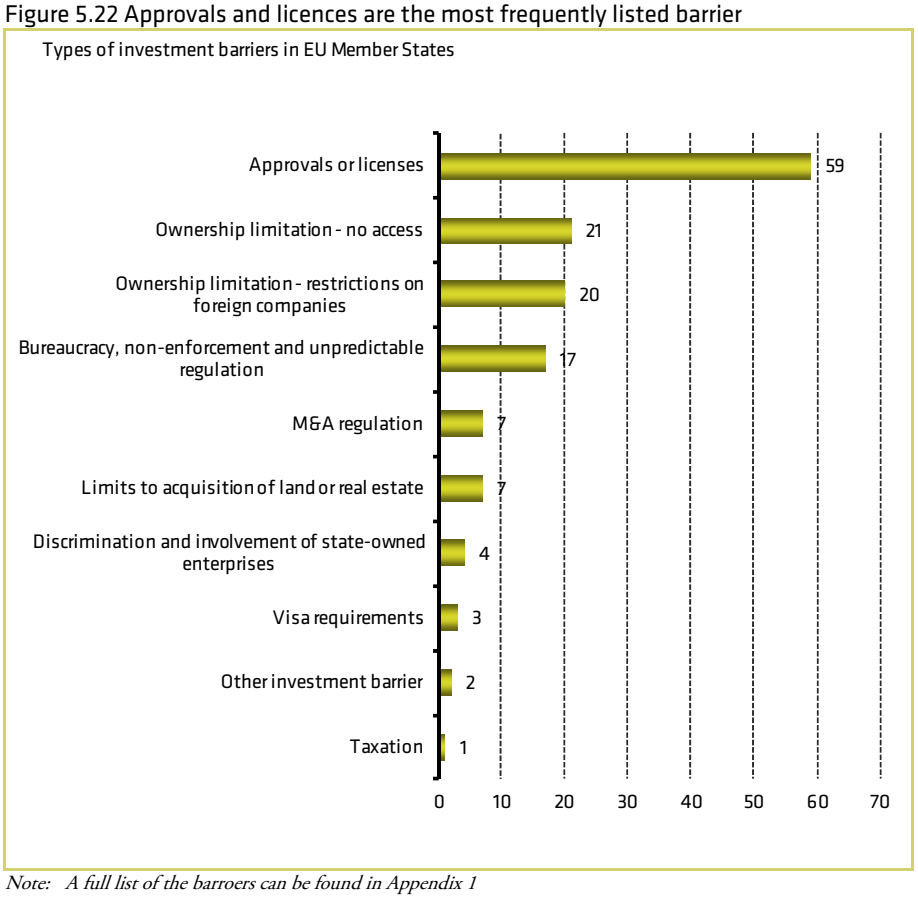


Note: A full list of the barroers can be found in Appendix 1

Source: Copenhagen Economics inventory of EU investment barriers listed in MOFCOM (2010), Foreign Market Access Report 2010

Approvals and licences are the most frequently EU investment barrier listed by Chinese authorities (59 barriers), cf. Figure 5.22. Ownership limitations are also frequently listed with no access in 21 cases and restrictions on foreign ownership in 20 cases.

Figure 5.22 Approvals and licences are the most frequently listed barrier

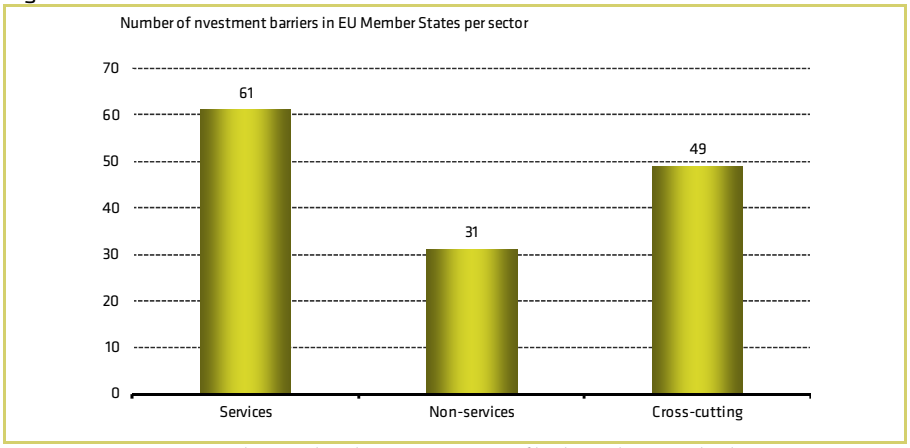


Note: A full list of the barroers can be found in Appendix 1

Source: Copenhagen Economics inventory of EU investment barriers listed in MOFCOM (2010), Foreign Market Access Report 2010

Out of the 141 investment barriers, 61 barriers are in the service sectors, 31 barriers are in the non-service sectors and 49 barriers are cross-sectional issues, cf. Figure 5.23.

Figure 5.23 Chinese investors face most barriers in the service sectors

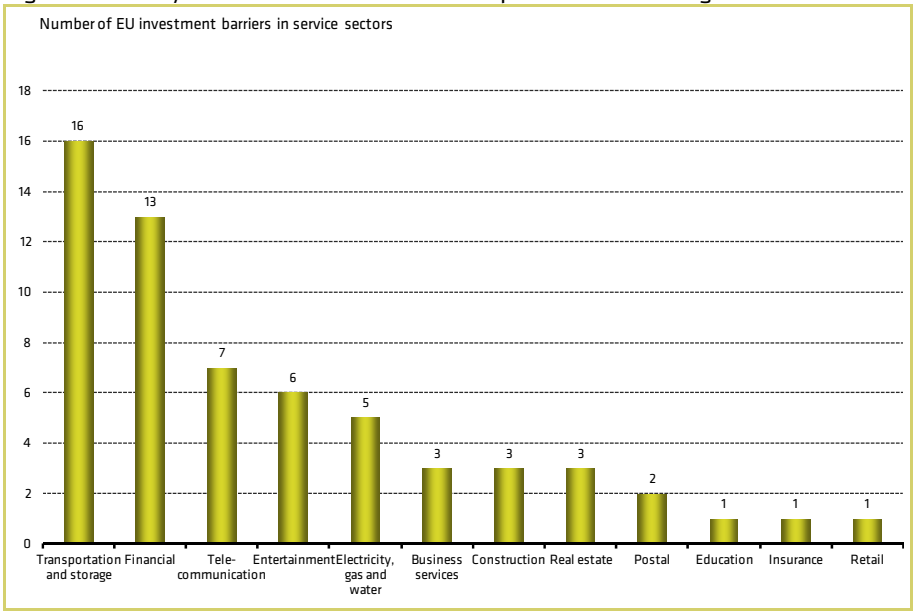


Note: Cross-cutting issues relate mainly to limits to acquisition of land or real estate and to bureaucracy, non-enforcement and unpredictable regulation. A full list of the barroers can be found in Appendix 1

Source: Copenhagen Economics inventory of EU investment barriers listed in MOFCOM (2010), Foreign Market Access Report 2010

On a more detailed level, we find that 16 of the 61 investment barriers in the service sectors are in transportation and service, as Chinese investors need to acquire a licence to being able to operate in the transportation sector, cf. Figure 5.24. Also, Chinese investors express concerns over encountering barriers in the financial sector.

Figure 5.24 Many barriers to investment in transportation and storage

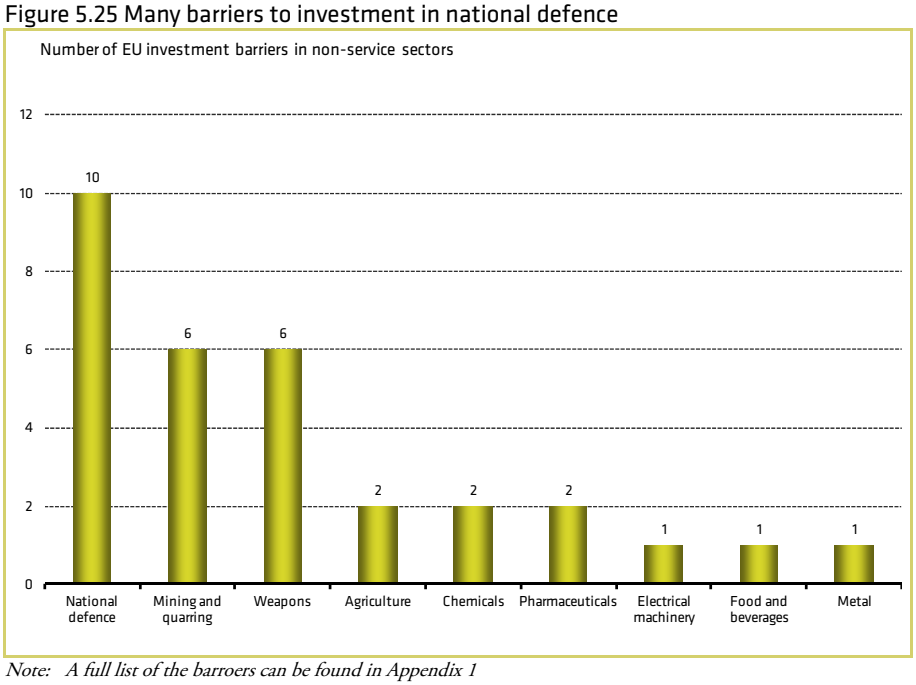


Note: A full list of the barroers can be found in Appendix 1

Source: Inventory of EU investment barriers listed in MOFCOM (2010), Foreign Market Access Report 2010

Almost a third of the 31 barriers in the non-sectors are in national defence, and the mining and quarrying and the weapons industries account for six barriers each, cf. Figure 5.25.

Figure 5.25 Many barriers to investment in national defence



Note: A full list of the barroers can be found in Appendix 1

Source: Copenhagen Economics inventory of EU investment barriers listed in MOFCOM (2010), Foreign Market Access Report 2010

Chapter 6 IMPACTS OF INCREASED INWARD AND OUTWARD FDI

In the previous chapters, we have found that there are substantial barriers to investment which hold back investments between the EU and China. In this chapter, we take the argument one step further and discuss the economic impacts of increased FDI in case these investment barriers are reduced. We do so in three ways.

First, we discuss what Chinese FDI in Europe means for the EU economy (inward FDI). We review the existing findings from the literature on the spillovers from inward FDI on the host country and we discuss if there may be reasons to expect spillovers from Chinese FDI to be different from FDI from other countries.

Second, we discuss what EU FDI in China means for the EU economy (outward FDI). We review existing empirical analyses of how EU outward FDI impacts on productivity, employment, wages and skill structures in the EU economy. To the extent possible, we highlight findings that are particularly relevant for EU investments in China.

Third, we discuss how increased FDI interact with trade flows. We review recent empirical findings on the relationship between FDI and trade, and we discuss whether trade and investments should be expected to be substitutes or complements, i.e. whether increased FDI will tend to reduce or increase trade between the home and the host country. Here, we also draw on literature that is particularly relevant to the EU-China investment relationship.

6.1. IMPACTS OF INCREASED INWARD FDI ON PRODUCTIVITY AND EMPLOYMENT

Increased inward FDI into Europe in general will not only bring scarce capital into the EU economy but will also have the potential to enhance economic growth through productivity gains and higher employment. This will happen since these investments bring knowledge and new technologies to the EU firms and enhance competition.

Foreign investors may, however, also consider emptying the acquired firm for knowledge and technology, in which case the longer term impacts on the EU economy may be overall negative.

This part of the study takes the quantitative analysis carried out by Copenhagen Economics (2006) on behalf of the Directorate-General for Regional Policy as a starting point and adds more recent and relevant studies.[65] Copenhagen Economics (2006) finds strong empirical support for the economic benefits of inward FDI across all types of regions and industries:

- **Productivity:** Host region productivity spillovers from inward FDI are generally positive and significant suggesting that local firms increase productivity as a result of foreign investment in their region.
- **Employment:** Labour demand is not negatively affected by inward FDI implying that, over time, inward FDI leads to more demand for labour, not less.

[65] Copenhagen Economics (2006), Study on FDI and Regional Development.

The positive impacts of inward FDI summarised above are based on large-scale quantitative analyses and thus provide an average impact across a large number of countries. The positive impact is confirmed by a large number of empirical studies and we make reference to a selection of studies that include EU countries.

Haskel et al. (2005) use a plant-level panel covering UK manufacturing from 1973 through 1992 and find a positive spillover impact of foreign-affiliate on local firm productivity. ECB (2008) presents empirical evidence of the effect of FDI inflows on productivity convergence in central and Eastern Europe, using industry-level data. The paper finds that there is a strong convergence effect in productivity, both at the country and at the industry level, and that FDI inflow plays an important role in accounting for productivity growth.

However, there may be reasons to believe that Chinese investments may entail less positive stimulus. Underneath, we therefore summarise a selection of papers that have analysed the characteristics of Chinese outward FDI.

Impacts of Chinese FDI on productivity

The positive productivity impacts on the host economy can arise for a number of reasons such as:

- Forward and backward linkages to the foreign company induce learning effects to local firms
- The foreign company is a source of inspiration for its local competitors
- Learning-by-doing in the foreign company combined with job mobility between the foreign company and local companies creates knowledge diffusion
- Increased competitive pressures reinforce the selection process of the most productive local firms

The extent to which the host country benefits from positive productivity spillovers will thus depend on the technological, organisational and managerial competences of the foreign company. Compared to FDI from more advanced countries such as the US and Japan, the productivity spillovers from Chinese FDI should be expected to be smaller. This is so because the bulk of Chinese FDI comes from SOEs. According to the 2010 Mofcom Statistical Bulletin for 2009 figures, centrally owned SOEs provided 67.5 percent of total Chinese outward FDI and privately owned companies only provided 10.6 percent. Li, Lin and Selover (2010) find that Chinese industrial SOEs are less efficient than privately held firms and pay less attention to costs, inventories, accounts receivables, investment, employee welfare, financing and administration, and this adversely affects their performance.[66]

However, the increasing sophistication of Chinese companies suggests that EU companies may benefit from Chinese FDI in the future. In fact, in the case of Chinese FDI into China, Rosen and Hanneman (2011) argue that Chinese FDI brings benefit like FDI from other countries. Inward FDI from China has the same positive macroeconomic effects in terms of increased competition, lower prices and higher consumer welfare as FDI from other coun-

[66] The paper can be downloaded from http://www.econ.sinica.edu.tw/upload/file/0607_2.pdf.

tries. Also, Chinese firms operating in liberalised markets develop their own manufacturing insights and positive spillovers are likely to materialise in the longer run. At the same time, Rosen and Hanemann (2011) acknowledge the risk that the Chinese investors may bring back technological know-how to China and use the knowledge to build Chinese companies that, over time, will be able to compete on the global market. This is a risk for all inward FDI projects but taking China's sheer size, the extent of state intervention and manipulation of prices, and the distorting effect of financial transfers within the Chinese system make China a special case. Domestic subsidies affecting trade are actionable under the WTO but domestic subsidies affecting direct investment are not disciplined by a multilateral regime. If Chinese outward FDI increases significantly in size, this should be a real concern in the longer run.

Impacts of Chinese FDI on employment

Copenhagen Economics (2006) and OECD (2003) find that employment increases when foreign multinational enterprises (MNEs) establish a foreign affiliate in an EU country.[67] The impact of inward FDI on job creation may differ depending on the type of investment. So-called *greenfield investments* where the foreign company sets up a completly new entity may have larger job-creating impacts that an investment of a similar amount but taking over an existing firm. Therefore, in general, the job impacts will be smaller when the inward FDI takes the shape of a merger or an acquisition, where the foreign company makes an investment in an existing EU company, but jobs impact may still occur as the foreign investment may make the entity more productive and better enable it to compete globally. In addition, Piscitello and Rabbiosi (2005) find that MNEs act as a device to transfer firm-specific proprietary assets, thus causing their subsidiaries to exhibit better performance than their host country rivals. Specifically, the results show that foreign acquisitions generally increase the local target companies' labour productivity in the medium term after the acquisition. In the case of Chinese investments, it may be possible that the European firm can increase its export to China as a result of the Chinese capital and knowledge being invested in the firm.

In Chapter 2 we found that the number of people employed in Chinese owned enterprises in the EU is relatively small. Howver, as Chinese FDI in the EU increases, employment should also be expected to go up. The deal database used in Rosen and Hanemann (2011) suggests that most Chinese manufacturing investment in the US is focused on establishing long-term operations that will create jobs locally. In general, US localities acknowledge the benefits of inward FDI in terms of employment, tax bases and competitiveness, and an increasing number of states and municipalities in the US have set up investment promotion agencies to court foreign investors.

[67] OECD (2003), Measures of restrictions on Inward foreign direct investment for OECD countries, OECD Economic Studies 36.

6.2. Impacts of increased outward FDI

Rising levels of outward FDI concern many policy makers and some parts of the European public. These concerns stem from the perception that the foreign activities of European MNEs might depress economic activity and reduce employment within the EU.

In this section, we summarise the likely impacts of increased outward FDI from the EU to China. The summary builds on an in-depth survey of the existing empirical literature on how EU outward FDI impacts on productivity, employment, wages and skill structures in EU firms. Due to the lack of studies that link EU FDI directly to China, we include all destinations for EU outward FDI. However, the location of the investment may in some cases have an impact on expected impacts in the home country, e.g. whether the investment location is a developed or a less developed country. We therefore also look at studies that distinguish between foreign affiliates in advanced and less-advanced countries.

The findings in the existing empirical literature suggest that:

- EU outward FDI has made a positive and significant contribution to EU firms' competitiveness in the form of higher productivity. The productivity gains appear to be less pronounced for investments in less developed countries.
- EU outward FDI has had no measurable impact on aggregate employment so far. In fact, EU firms' investments out of the EU appear to be good for their employment and, over time, there is no indication that employment in the parent company is put under pressure by low wages in the host country of the foreign affiliate.
- Outward FDI has real redistributive impacts where skilled workers gain relative to unskilled workers. The few studies that compare redistribute impacts of FDI in developed and developing countries appear to be inconclusive.

More details of these findings are provided underneath.

The impact of outward FDI on productivity

Outward FDI can improve the productivity of individual EU firms by reducing costs and allowing for economies of scale. The most recent empirical studies at the firm level confirm that outward FDI improves the productivity and competitiveness of EU firms.

First, we find that firms who invest abroad have higher productivity than comparable firms who have not established foreign affiliates.[68] *Second*, we find that firms improve their competitiveness through outward FDI by splitting up the value chain and importing intermediate goods from other firms abroad. A recent study by Halpern, Koren and Szeidl (2011) finds that increasing the share of imported goods from 0 to 100 percent increases productivity by 12 percent. The estimates imply that during 1993-2002 one-third of the productivity growth in Hungary was due to imported inputs (see also Criscuolo and Leaver, 2006).

[68] See for example Navaretti and Castellani (2004) and Navaretti, Castellani and Disdier (2006).

The benefits from outward FDI depend on the location of the new foreign affiliate. While the general finding is that the parent company experiences a productivity boost from establishing a foreign affiliate, the gains appears to be smaller or even to disappear when the foreign affiliate is located in a less developed country (LDC), cf. Table 6.1. Navaretti, Castellani and Disdier (2006), for example, find that the positive impacts of investing in less developed countries are only short run. One year after the investment has been made there is no measurable difference in productivity between a firm with establishments in less developed countries and a firm that did not make such international investments. The productivity gains from investments in developed countries are positive both in the short and long run. Based on data from French firms, however, Hijzen, Jean and Mayer (2009), find that manufacturing firms experienced productivity gains both from investing in developed and less developed countries.

Table 6.1 Productivity gains from establishing a new foreign affiliate

Author(s)	Industry	Home country	Location of new foreign affiliate (host country)	Impact on productivity in the parent company
Navaretti and Castellani (2004)	All	Italy	All	Positive
Castellani and Navaretti (2004)	All	Italy	DC	Positive
			LDC	Positive
		France	DC	Neutral
			LDC	Neutral
Navaretti, Castellani and Disdier (2006)	All	Italy	LDC	Positive (short run)
				Neutral (long run)
			DC	Positive
		France	LDC	Neutral
			DC	Neutral
Hijzen, Jean and Mayer (2009)	Manufacturing	France	All	Positive
			LDC	Positive
			DC	Positive
	Services	France	All	Positive
			LDC	Neutral
			DC	Positive
Kleinert and Toubal (2007)	All	Germany	All	Neutral
Jäckle (2006)	All	Germany	All	Positive
		Germany	All	Positive

Note: LDC = less developed country and DC = developed country
Source: Adapted from Copenhagen Economics (2010)

Overall, these studies find that EU firms in the manufacturing as well as in the service sectors have improved their productivity by establishing foreign affiliates although the gains in the service sector seem to be slightly smaller and take longer to materialise.

We find that outward FDI has had a positive impact on overall productivity in the EU manufacturing industry as a whole. However, the findings of a competitive gain from outward FDI should be interpreted with care. Outward FDI may not be good for all EU firms, and positive past experiences may not carry over to future investments. Vahter and Masso

(2007) find that it is only the most productive firms who become MNEs and only the most talented firms that have the knowledge and managerial skills to undertake profitable outward FDI projects. This means that the results cannot be directly transferable to all EU firms. Also, it is likely that the firms which stood to benefit the most from investing abroad did so first and reaped the greatest benefits – perhaps the remaining firms will not gain so much from investing abroad.

The impact of outward FDI on employment

One of the main worries about outward FDI and international sourcing is the effect on employment- not least for investment in China. When EU firms choose to invest abroad it may be at the expense of investment at home, but the alternative to investing abroad might also be not to invest at all.[69] Therefore the impact of outward FDI on employment is not self-evident. Even in cases where outward investments led to a decline in employment in the short run, longer run effects may actually save jobs and increase overall employment.

Most of the empirical evidence we have reviewed find that outward FDI at the firm level may have a negative immediate impact on employment in the individual firm, but has a positive medium to long run impact on employment in the firm.

The positive employment impact seems to be larger for foreign affiliates established in high income countries, which is probably because improved access to foreign markets gives rise to positive scale effects (market-seeking FDI), cf. Table 6.2. The smaller (or even neutral) impact of outward FDI on employment in developing countries may be because the investment is driven mainly by a cost-reduction motive (resource-seeking FDI).

[69] A team of American economists, Desai, Foley and Hines (2005) has investigated this, and they found that one dollar of additional foreign capital spending is associated with 3.5 dollars of additional domestic capital spending, implying that foreign and domestic capital are complements in the production by multinational firms.

Table 6.2 Impact of establishing a foreign affiliate on parent company employment

Author(s)	Industry	Home country	Location of new affiliate	Impact
Hijzen, Jean and Majer (2009)	Manufacturing	France	All	Positive
			LDC	Neutral
			DC	Positive
	Services	France	All	Positive
			LDC	Neutral
			DC	Positive
Navaretti and Castellani (2004)	All	Italy	All	Neutral
Navaretti, Castellani and Disdier (2006)	All	Italy	LDC	Positive
			DC	Positive
		France	LDC	Positive
			DC	Positive
Kleinert and Toubal (2007)	All	Germany	All	Neutral
Masso, Varblane and Vahter (2007)	Manufacturing	Estonia	All	Neutral
				Positive
	Services	Estonia	All	Positive
				Positive
Jäckle (2006)	All	Germany	All	Neutral

Note: LDC = less developed country and DC = developed country
Source: Adapted from Copenhagen Economics (2010)

A recent survey by Eurostat (2011) confirms China's importance as the "world's factory" as manufacturing EU companies in particular have been sourcing there and because the most important motive for sourcing to China is to cut costs.[70] We would therefore expect EU outward FDI in China to have a smaller positive impact on employment than in developed countries. At the same time, taking the size and growth prospects of the Chinese market into consideration we would expect a larger positive impact on employment then in other developing countries.

Over time, however, there is no indication that employment in the parent company is put under pressure by low wages in the host country of the foreign affiliate irrespective of whether the level of development in the host country (see Navaretti, Castellani and Disdier, 2006).

We also find that EU outward FDI in general does not appear to have any measurable negative effect on aggregate EU employment in the industry. Frederico and Minerva (2007) find no impact of outward FDI on employment in the Italian manufacturing industry, Amity and Wei (2005) find no impact of outward FDI on manufacturing and service industries in the United Kingdom, and Amity and Ekholm (2008) find no overall impact of outward FDI on employment growth in Finnish, German, Italian and Swedish manufacturing firms. These findings suggest that the productivity effect is sufficiently strong that new jobs created by increased sales (the scale effect) offset jobs lost because production becomes less labour intensive (the relocation effect).

[70] See Eurostat (2011) at http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Global_value_chains_-_international_sourcing_to_China_and_India.

Another group of studies have analysed the relationship between workers in the foreign affiliate and the parent company. These studies find no evidence of such a relationship suggesting that low-cost workers in the foreign affiliate replace workers in the home country. On the contrary, workers in the parent company and the foreign affiliate seem to complement each other, cf. Table 6.3. Results on the impact of FDI in developing countries are rather mixed. Using data on Swedish firms, Braconier and Ekholm (2000) find that low wages in foreign affiliated i a developing country do not seem to squeeze out workers in the parent company. Falzoni and Grasseni (2005), using data on Italian manufacturing companies, find that employment in the parent company is positively related to employment in the foreign affiliate in a developing country. But Mariotti, Mutinelli and Piscitello (2003) find that employment growth in foreign affiliates in developing countries takes place at the expense of employment growth in Italian parent companies.

Table 6.3 Relationship between workers in the foreign affiliate and the parent company

Author(s)	Industry	Employment measure in foreign affiliate	Employment measure in parent firm	Home country	Location of new affiliate	Impact
Braconier and Ekholm (2000)	Manufacturing	Wage in affiliate	Employment in parent company	Sweden	DC	Replacement
					LDC	Neutral
Hatzius (1998)	Manufacturing	Wage in affiliate	Employment in parent company	Sweden	All	Replacement
Marin (2004)	Manufacturing	Wage in affiliate	Employment in parent company	Austria	CEE	Complementary
					SEE	Neutral
					FSU	Neutral
				Germany	CEE	Complementary
					SEE	Neutral
					FSU	Neutral
Monteagudo (2005)	Manufacturing	Wage in affiliate	Employment in parent company	Belgium	NEE	Neutral
					SEE	Neutral
					CEE	Replacement
				Germany	NEE	Complementary
					SEE	Complementary
					CEE	Replacement
Pfaffermayr (1999)	Manufacturing	Parent wage relative to affiliate wage	Parent employment to affiliate employment	Austria	Non-CEE	Replacement
					CEE	Complementary
Falzoni and Grasseni (2005)	Manufacturing	Share of employment in foreign affiliate	Employment in parent company	Italy	All	Complementary
					DC	Complementary
					LDC	Complementary
Mariotti. Mutinelli and Piscitello (2003)	All	Employment growth in affiliate	Employment growth in parent company	Italy	DC	Complementary
					LDC	Replacement
					CEE	Replacement
Molnar, Pain and Taglioni (2007)	All	Employment growth in affiliate	Employment growth in parent company	Germany	All	Neutral

Note: LDC = less developed country, DC = developed country, CEE = Central East Europe, SEE = South East Europe, FSU = Former Soviet Union and NEE = North East Europe

Source: Adapted from Copenhagen Economics (2010)

Impact of outward FDI on skill structure and wages

There appears to be real distributive effects from outward FDI in individual firms. When firms expand abroad it is mainly the skilled workers' employment share in the home company which increases. A study by Geishecker and Görg (2007) also finds that expanding abroad reduced the real wage for unskilled workers by up to 1.8 percent while it increased the real wages for skilled workers by up to 3.3 percent. Outward FDI has therefore increased inequality between unskilled and skilled workers.

A large body of empirical studies have analysed how outward FDI impacts on the industry's demand for skilled and unskilled labour. The majority of the studies analysed find that outward FDI has a negative impact on the demand for *unskilled* labour in the manufacturing industries. Straus-Kahn (2003), for example, finds that the import of intermediate goods accounted for 11-15 percent of the decline in the share of unskilled workers in French manufacturing employment for the period 1977-1985 and for 25 percent of the decline in the period 1985-1993.

A large number of wage/cost share studies are summarised in Table 6.4. The literature generally finds that unskilled workers' share of total wages decreases due to outward FDI. This result indicate that unskilled job at home are being laid off as EU firms invest abroad. In the case of skilled workers, Ekholm and Hakkala (2006) and Hansson (2005) find that skilled workers gain from outward FDI in developing countries suggesting that skilled job replace unskilled jobs in the parent company.

Table 6.4 Impact on skilled and unskilled workers' wage/cost shares in industry

Authors	Industry	Wage/cost measure	Home country	Host country	Impact
Hijzen, Görg & Hine (2005)	Manufacturing	Skilled workers	UK	All	Neutral
		Unskilled workers	UK	All	Negative
Görg, Hijzen and Hine (2004)	Manufacturing	Skilled workers	UK	All	Neutral
		Skilled workers	UK	All	Neutral
Hijzen (2003)	Manufacturing	Skilled workers	UK	All	Neutral
		Unskilled	UK	All	Negative
		Skilled workers	UK	All	Neutral
		Unskilled workers	UK	All	Positive
Ekholm and Hakkala (2006)	All	Skilled workers	Sweden	LDCs	Positive
		Unskilled workers	Sweden	LDCs	Neutral
		Skilled workers	Sweden	DCs	Negative
		Unskilled workers	Sweden	DCs	Neutral
Hansson (2000)	Manufacturing	Skilled workers	Sweden (1970-1993)	Non-OECD	Positive
			Sweden (1993-1997)	Non-OECD	Neutral
Hansson (2005)	Manufacturing	Skilled workers	Sweden (1990-1993)	OECD	Neutral
		Skilled workers	Sweden (1993-1997)	OECD	Neutral
		Skilled workers	Sweden (1990-1993)	Non-OECD	Neutral
		Skilled workers	Sweden (1993-1997)	Non-OECD	Neutral
Geishecker and Görg (2007)	Manufacturing	Skilled workers hourly wages	Germany	All	Positive
		Unskilled workers hourly wages	Germany	All	Negative
		Skilled workers hourly wages	Germany	All	Positive
		Unskilled workers hourly wages	Germany	All	Negative
Helg and Tajoli (2004)	Manufacturing	Skilled workers	Italy	All	Positive

Note: LDC = less developed country and DC = developed country
Source: Adapted from Copenhagen Economics (2010)

6.3. THE RELATIONSHIP BETWEEN TRADE AND FDI

If a new BIT between the EU and China will include investment liberalisation chapters, which can be expected to spur investments, how would trade between the two partners be affected? Will more EU investments in China also lead to more trade between EU and China, or will more investments, on average, lead to less trade? The following two possible linkages between FDI and trade have been intensively discussed in the empirical literature:

1. Is FDI a substitute for or a complement to international trade?
2. If FDI and trade are complements, i.e. does FDI cause international trade or the other way around?

Both questions are relevant for this report. If FDI and trade are substitutes, increased investments between the EU and China should be expected to take place at the expense of trade between the two countries. If, however, trade and FDI are complements, more investment could lead to more trade, and it becomes relevant to find out which comes first. If it is trade between the two countries that is the main driver for investments, then pure investment liberalisation without trade liberalisation may stimulate trade but not necessarily investments. The CGE model results in this report are based on there being a complementary relationship between trade and investments: When barriers to investments go down, trade increases. The size of the impact varies across sectors, cf. Appendix 4 Table A4.1.

We find that the relationship between trade and investment is best described as complements. In other words, we find the most likely outcome of increased EU investments is that EU exports to China will also go up. In Appendix 4, there is explicit discussion of econometrics linking cross-border trade to barriers to MNE activities.

To illustrate, this could for example happen when EU car manufactures invest in a production plant in China with the purpose of selling more cars on the Chinese market. While some of the inputs for the car manufacturing would be sourced locally in China (and may indeed be required to do so), other parts could be sourced outside China, including from Europe. As car sales in China by the EU car manufacturer increase, so does the imports of intermediate inputs from Europe and elsewhere. In this example, increased investments would lead to more EU exports. This is supported by the fact that a large share of imported goods to China is destined for intermediate use, i.e. as input for further processing in China, cf. Table 6.5.

Table 6.5 Disposition of imported manufacturing goods, China 2007

Sector	Intermediate use	Final use
Food beverages tobacco	9.9	5.5
Textiles and wearing apparel	15.2	1.8
Leather products	2.8	1.0
Wood products	2.8	0.1
Paper products, publishing	11.6	0.1
Petroleum, coal products	16.3	1.8
Chemical, rubber, plastic prods	126.7	4.1
Mineral products nec	3.7	0.0
Ferrous metals	17.7	0.0
Metals nec	33.6	0.0
Metal products	7.3	0.2
Motor vehicles and parts	20.4	1.4
Transport equipment nec	9.8	1.0
Electronic equipment	136.2	6.5
Machinery and equipment nec	133.8	3.7
Total	**682.4**	**28.6**

Note: Billion Euros
Source: GTAP8 database

In addition, as the EU car manufacturer strengthens its presence in China with a production plant for models A, B and C, it might also increase its sales of models that are being produced back in Europe and investments may therefore spur trade. This is a second channel of indirect impact of the increased investment. Again, such impacts would reinforce the exports from Europe and add to the complementarity of investments and trade. If on the other hand, the investment in the car manufacturing plant is at the expense of a similar production plant in Europe, from which cars to China were exported, then the impact on economic activity may be negative. This is however not the result we find in general.

The same mechanism may also hold in services sectors, although it would generally be less strong as services are less tradable across borders than goods. An example could be in the banking sector. Here the parallel story would be that as European banks invest more in China, e.g. in retail banking, they would at the same time also sell more banking services delivered from their headquarters in Europe.

In the modelling in Chapter 8 we build in this relationship and we present results of a range of possible investment liberalisation scenarios. Below we present the empirical results on which we base the conclusion that trade and investments are likely to be complements rather than substitutes. It should be noted that there will be cases of the opposite, but our assessment is that trade and FDI would best be captured as a complementary relation.

Empirical results on complements or substitutes

There is a vast amount of empirical studies that have analysed the relationship between trade and FDI. There is overwhelming results showing that trade and FDI are complements, cf. Table 6.6. Although some exports may be replaced by FDI, the findings suggest that FDI may stimulate exports of other goods or services either from the parent company (intra-firm trade) or from other companies (inter-firm trade).

Table 6.6 Complementarity vs. substitutability of trade and FDI

Author(s)	Findings
Clausing (2000)	The study finds a strong complementary relationship between intra-firm trade and FDI (multilateral activity may stimulate exports of parts or related products), and a weaker complementary relationship between inter-firm trade and FDI, since some exports may be displaced. **Conclusion: Trade and FDI are complementary**
Grubert and Mutti (1991)	The study finds that trade and FDI are complementary in a bilateral perspective, but possibility of substitution in a multilateral case. **Conclusion: Trade and FDI are substitutes multilaterally but complements bilaterally**
Brainard (1997)	By applying instrumental variable, the study confirms the positive relationship between FDI and trade. **Conclusion: Trade and FDI are complementary**
Head and Ries (2001)	On average, firms that increase their investments abroad also increase their exports. However, the relationship varies across firms. In fact, for a group of firms that are not vertically integrated (that are unlikely to ship intermediates to overseas production affiliates) the foreign productive facilities seem to substitute their own exports. **Conclusion: Trade and FDI are complementary except when firms are not vertically integrated**
Mucchielli et al.(2000)	The main finding points to a strong complementarity between FDI and intra-firm trade and a substitution between FDI and inter-firm trade (for exports and for imports). **Conclusion: FDI and intra-firm trade are complementary and FDI and inter-firm trade are substitutes**
Martens (2008)	Based on 21 studies, the study concludes that FDI and trade are mainly complementary in emerging economics. **Conclusion: Trade and FDI are complementary**
Bajo-Rubio and Montero-Munoz (2001)	By using Spanish quarterly data for the period 1977-1998, the study finds that outward FDI and exports are complementary. **Conclusion: Trade and FDI are complementary**
Fillat-Castejon et al.(2008)	For the OECD countries over the 1994-2004 a robust complementary effects (between service trade and FDI) in the short-run is found, reinforced in the long run by an increased potential for cross-border imports based on previous FDI inflows, highlighting business, communication and financial services. **Conclusion: Trade and FDI are complementary**

Amiti and Walkelin (2001)	The study finds that investment liberalisation stimulates exports when countries differ in relative factor endowments (skilled labour and capital) and when trade costs are low. Investment liberalisation reduces exports when countries are similar in relative factor endowments and trade costs are high. **Conclusion: Vertical FDI is complementary to trade whereas horizontal FDI is a substitute for trade**
Jinping and Wenjun (2008)	Japanese direct investment in China has contributed not only to the increase of Chinese exports to Japan, but also to the increase of Chinese imports from Japan **Conclusion: Trade and FDI are complementary**
Chaisrisawatsuk and Chaisrisawatsuk (2007)	The study finds that international trade, either measured by exports or imports, is found to be complementary to FDI inflows. **Conclusion: Trade and FDI are complementary**

Source: Copenhagen Economics

Does FDI drive trade or is it the other way around?

Some empirical papers that have analysed the direction of the empirical relationship between FDI and trade, i.e. whether is it FDI that drives trade or the other way around. We have restricted the survey to studies on China or the EU. Overall, the empirical papers seem to suggest that the causal relationship between FDI and trade goes either both ways or that FDI drives trade, cf. Table 6.7. We would therefore expect trade between the EU and China to benefit from an EU-China BIT that succeeds in stimulating FDI between the two economies.

Table 6.7 Direction of the causal relationship between trade and FDI

Author(s)	Finding
Liu, X et al. (2001)	The main findings are as follows: 1. There is a one-way complementary causal link from the growth of China's imports to the growth of the inward FDI stock from the home country/region. 2. There exists a one-way complementary causal link from the growth in the inward FDI stock in China to the growth of China's exports to the home country/region. 3. There is a one-way complementary causal link from the growth of China's exports to imports. The empirical results indicate a virtuous procedure of development for China: more imports into China will lead to more inward FDI from the home country, which, in turn, will lead to more exports from China to the home country. Furthermore, more exports will lead to more imports. **Conclusion: FDI drives trade**
Bajo-Rubio and Montero-Muñoz (2001)	In the short run, outward FDI lead to more FDI but in the long run, causality runs in both directions.
Chiappini (2011)	There are two main findings: 1. There is a causal relationship from outward FDI to exports of goods and services for all countries in the sample. However, after three years the causal relationship is rejected at 10 percent level. 2. There is a strong heterogeneity for the causal relationship from export of goods and services to outward FDI among our panel. If some countries like Germany or Netherlands benefit from a bi-directional causal relationship between FDI and trade, there is no evidence of a causal relationship from exports to FDI for France and Italy over the recent period. **Conclusion: In the short term, the causal relationship goes both ways for Germany and the Netherlands but FDI drives trade for France and Italy. There is no causal relationship in the long run**
Aizenman and Noy (2005)	Most of the linear feedback between trade and FDI (81 percent) can be accounted for by Granger-causality from FDI gross flows to trade openness (50 percent) and from trade to FDI (31 percent). The rest of the total linear feedback is attributable to simultaneous correlation between the trade and FDI. **Conclusion: FDI drives trade**
Chaisrisawatsuk and Chaisrisawatsuk (2007)	FDI inflows have feedback effects with exports of the trading partners and of the other trading partners. Similar linkages between FDI inflows and import of the trading partners and of the other trading partners are also discovered. **Conclusion: Causal relationship goes both ways**
Cheng and Xiao-Jun (2011)	The findings suggest that in financial service sectors there is a positive relationship between FDI Inflow and import-export of service trade, but the results subject to Granger causality test do not show significant cause-and-effect differences between them. **Conclusion: Causal relationship goes both ways**
Pfaffermayr(1996)	The study finds that an increase in FDI influences positively exports while the positive impact of an increase in exports on FDI is confirmed only at lower significant levels. **Conclusion: FDI drives trade**
Dash and Sharma (2010)	The finding shows that there is a bi-directional causality between FDI and trade. Specifically, the analysis indicates for interrelations between export and FDI as well as between import and FDI. **Conclusion: Causal relationship goes both ways**

Source: Copenhagen Economics

Chapter 7 QUANTIFYING IMPROVED INVESTMENT CONDITIONS – GRAVITY MODEL

In this chapter, we use a gravity model to quantify the impact of reducing investment barriers on FDI between the two countries. We measure investment barriers by including different indicators of the investment climate in China and the EU, including the index of perceived restrictiveness based on survey data described in Box 5.2. In Section 7.1 we describe the gravity model specification and we compare the survey index of perceived restrictiveness with three other measures of investment barriers. In Section 7.2 we describe the scenarios of investment liberalisation, and we use the gravity model to quantify the possible order of magnitude for the impact of investment liberalisation on EU-China FDI.

7.1. THE GRAVITY MODEL SPECIFICATION

We estimate the impact of investment barriers on FDI using a gravity model specification. The gravity model explains the stock of bilateral FDI in 35 countries over the period 2000-2009 by means of a set of geographic and economic factors that are expected to have an impact on FDI. Details of the gravity model can be found in Appendix 3.

The gravity model specification is based on recent research by Bergstrand and Egger (2007, 2011) who have developed the theoretical foundation for applying a gravity model on bilateral investments. In their specification, the stock of FDI depends on different sets of explanatory variables: Gravity variables (including common border, language and distance), variables that describe the size of the markets and the economic similarity of the two countries, variables that describe the relative endowments of capital and skills, a trade cost variable to account for tariff-jumping FDI, openness to outward FDI in the home country and a time trend. In this specification, investment barriers are proxied by indices from the World Competitiveness Report.

Our preferred method to measure FDI restrictiveness is based on the survey index of perceived restrictiveness to FDI described in Box 5.2 but we compare the country rankings with three other methods in order to assess the robustness of our results. Each of the four methods has their own pros and cons which are shortly discussed underneath:

- **Survey index of perceived restrictiveness:** An index based on several surveys of foreign investors' perception of barriers to investments in various countries. This data is unique in the sense that it is the only bilateral index available and the index is therefore particularly suitable for the gravity model specification.[71] In this way, the survey index takes into account the fact that a host country may treat investors differently depending on their country of origin. One explanation for this could be the prevalence of a BIT between the home and the host country. However, the index is not available over time. The index is described in more details in Box 5.2.
- **OECD FDI Restrictiveness Index:** An index that reflects restrictions on FDI in the host country. The index is closely related to investment barriers and is expected to provide the most precise estimate of investment barriers. However, the index is not available over time for the full estimation period and the index is not available on a bilateral level.
- **Indices from the Global Competitiveness Report:** A set of factors that reflect the investment environment in the host country, and we refer to Carr, Markusen and Maskus for further discussion of the appropriateness of using the selected indices.[72] The great advantage of using this approach is that the indeces vary over time and therefore take into account that some countries have greatly reduced investment barriers over the time period while others have not.
- **Host dummy variable method:** A time-invariant host dummy is included to take the multilateral level of openness to inward FDI into account. This approach captures all barriers to FDI that to not vary over time and that face all investors irrespective of their country of origin. In this regard, this approach gives an indication of the multilateral openness of the host country and its historic treatment of foreign investors.

All four methods point to China as being one of the most restrictive countries when it comes to inward FDI and the survey index of perceived restrictiveness seems to be in line with the other measures of FDI restrictiveness.

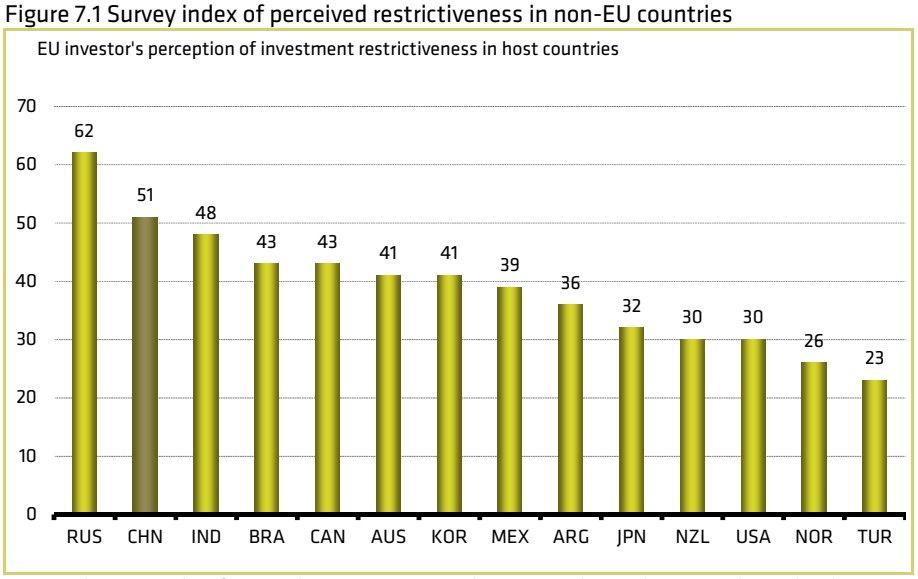
FDI restrictiveness in China and the EU

Measured by the survey index of perceived restrictiveness, China is the second most restrictive country with Russia being the only country perceived more restrictive by EU investors, cf. Figure 7.1.

[71] Since the index is based on three studies as described in Box 5.2, it includes not only EU investors' perception of Chinese investment barriers but also non-EU investors' perception of Chinese investment barriers (and the other way around).

[72] See Carr, Markusen and Maskus (2001), "Estimating the Knowledge-Capital Model of the Multinational Enterprise," American Economic Review 91(3), pages 693-708.

Figure 7.1 Survey index of perceived restrictiveness in non-EU countries



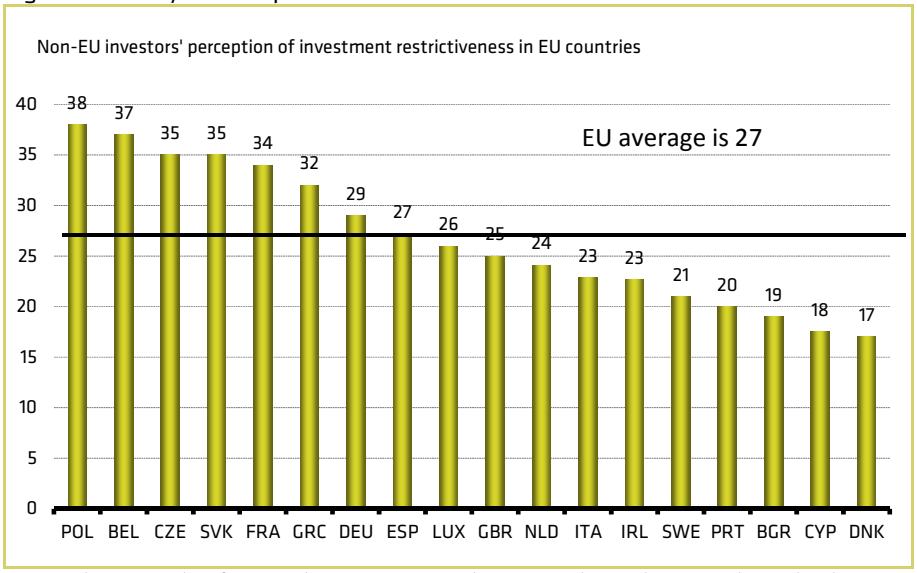
Note: The survey index of perceived restrictiveness ranges between 0 and 100, where 100 indicates that the country is completely closed to inward FDI and where 0 indicates that the country is completely open to inward FDI

Source: Various surveys of investment barriers, See Box 5.2

Having an average of 27, non-EU firms perceive EU countries as less restrictive than non-EU countries, cf. Figure 7.2. Poland is perceived to be the most restrictive EU country and Denmark and Cyprus are perceived to be the least restrictive.[73]

[73] As can be seem from the summary table in Appendix 2, the index of perceived restrictiveness in some countries are based on very few observations (e.g. 9 for Denmark and 4 for Cyprus) and one should be careful with interpreting the index for these countries.

Figure 7.2 Survey index of perceived restrictiveness in EU countries

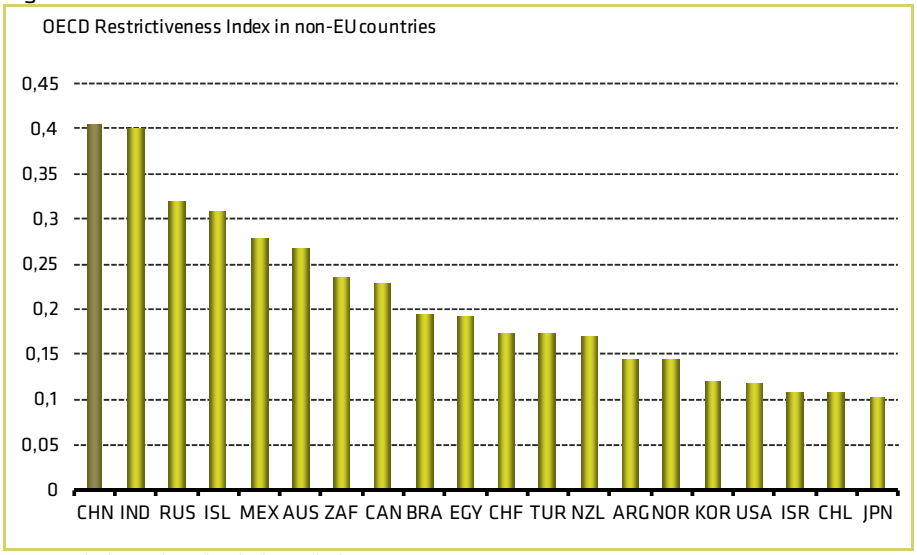


Note: The survey index of rperceived estrictiveness ranges between 0 and 100, where 100 indicates that the country is completely closed to inward FDI and where 0 indicates that the country is completely open to inward FDI. The survey data is only available for 18 EU Member States

Source: Various surveys of investment barriers, See Box 5.2

Measured by the OECD Global Restrictiveness Index, China is more restrictive than both India and Russia, cf. Figure 7.3. Japan is the least restrictive non-EU country.

Figure 7.3 OECD FDI Restrictiveness Index in non-EU countries

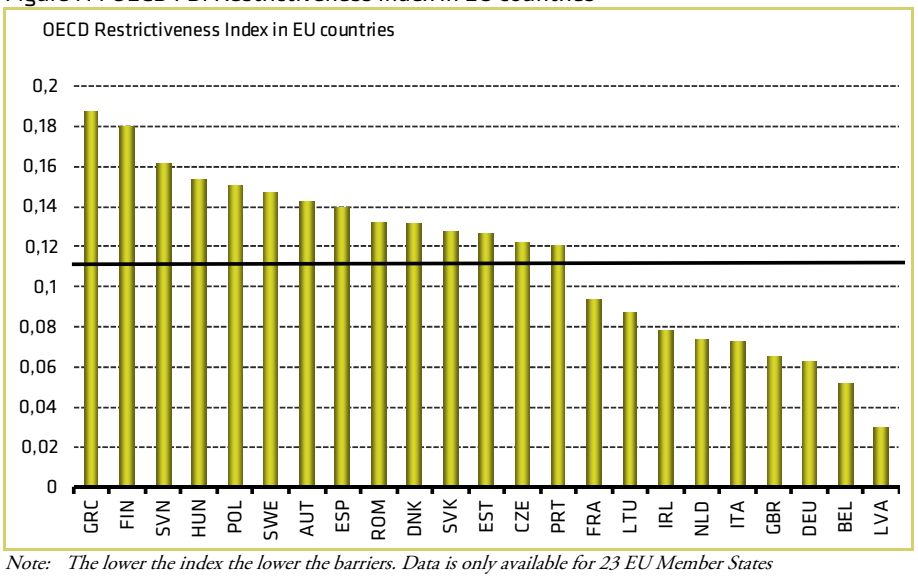


Note: The lower the index the lower the barriers

Source: Copenhagen Economics based on OECD data on FDI restrictiveness

In general, firms perceive EU countries to be less restrictive than non-EU countries, where the average OECD FDI Restrictiveness Index is 0.11, cf. Figure 7.4. Based on this measure of FDI restrictiveness, Greece appears to be the most restrictive EU country.

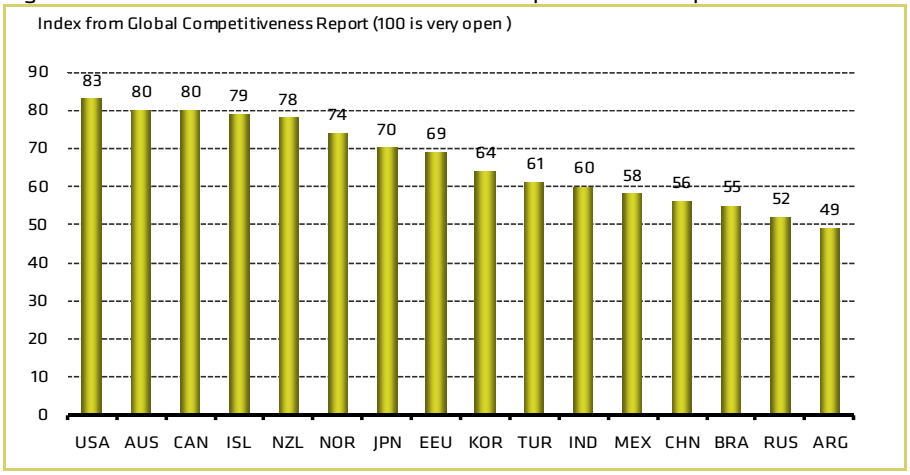
Figure 7.4 OECD FDI Restrictiveness Index in EU countries



Note: The lower the index the lower the barriers. Data is only available for 23 EU Member States
Source: Copenhagen Economics based on OECD data on FDI restrictiveness

Using indices from the Global Competitiveness Report, China (index is 56) appears to be less restrictive than India (index is 60) but slightly more restrictive than Russia (index is 52) and Brazil (index is 55), cf. Figure 7.5. Having an index of 83, the US is the least restrictive country.

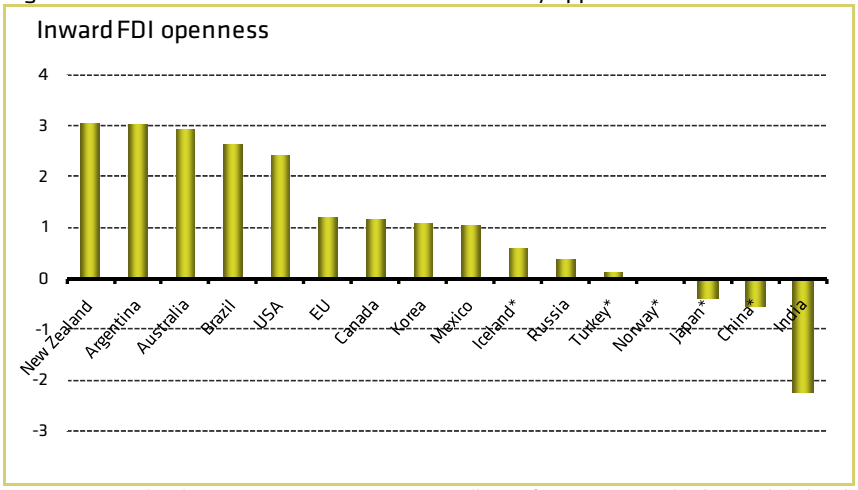
Figure 7.5 Investment barriers based on Global Competitiveness Report



Note: An index of 100 means little barriers to investment
Source: Copenhagen Economics based on index from Global Competitiveness Report (various years)

Finally, using the host dummy variable approach to measure investment barriers, we find that China is the second most restrictive country where India is the only country more restrictive than China, cf. Figure 7.6. Here, a negative dummy variable indicates that the country receives less inward FDI than predicted by the model, and the dummy variable therefore captures all time-invariant factors that restrict FDI inflow in the host country irrespective of the home country (the degree of multilateral openness in the home country).

Figure 7.6 Investment barriers based on host dummy approach



*Note: * Means that the parameter estimate is not statistically significant. A constant has been included in the regression and the baseline country is India*
Source: Copenhagen Economics gravity model estimations on bilateral FDI stocks

7.2. QUANTIFYING THE IMPACT OF INVESTMENT LIBERALISATION

In this section, we quantify the impact of investment liberalisation on bilateral investments between the EU and China using the survey index of perceived restrictiveness. We describe the investment liberalisation scenarios and we present the results.

Scenarios for EU-China investment liberalisation

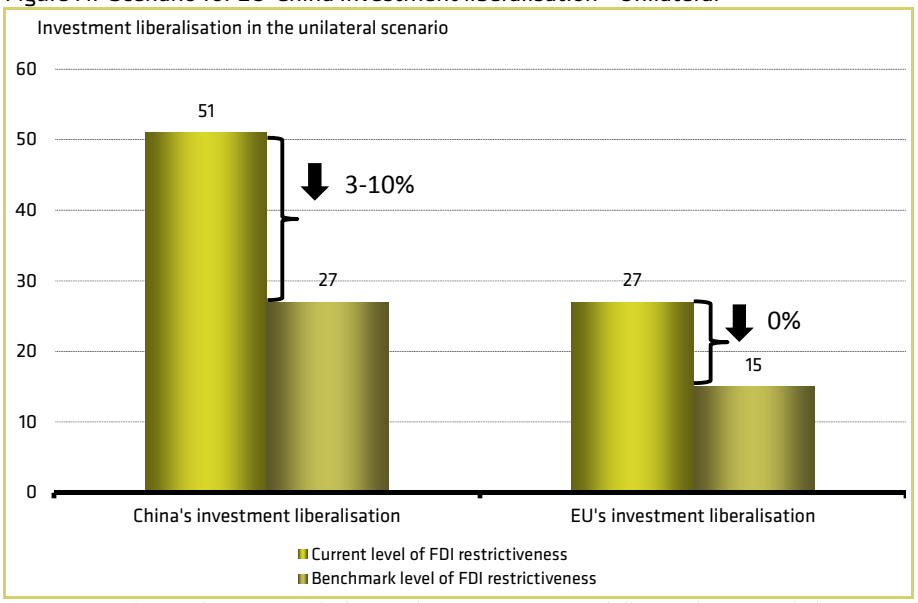
In the gravity model, we have analysed four different scenarios that vary in the scope of investment liberalisation. These scenarios have been defined in agreement with the European Commission and are similar to the scenarios analysed in the CGE model in the next chapter. As regards the definition of the scenarios, the only difference is that the gravity model does not allow us to take spillovers to third countries into account. Therefore, an implicit assumption in the gravity model is that investment barriers can be removed on a bilateral basis, i.e. that the reduction of investment barriers in the EU-China BIT will only benefit investors from the two countries.

First, we distinguish between modest liberalisation (a 3 percent reduction in the index of perceived restrictiveness) and ambitious liberalisation (a 10 percent reduction in the index of perceived restrictiveness). *Second*, we distinguish between unilateral liberalisation (where China reduces its restrictiveness to foreign investments) and reciprocal liberalisation (where both China and the EU reduce restrictiveness).

To make the scenarios operational in a gravity model, we need to define a benchmark level of restrictiveness that is expected to be attainable by reducing investment barriers. For China, the benchmark level of restrictiveness applied is the level of restrictiveness facing non-EU countries who wish to invest in the EU (external restrictiveness). A reduction in the Chinese investment barriers therefore means that China gets closer to being as open to FDI as the EU. For the EU, the benchmark level of restrictiveness is the level of restrictiveness facing other EU countries (internal restrictiveness). A reduction in the EU investment barriers therefore means that the EU offers more equal treatment of foreign investors compared to investors from other EU Member States.

In both the unilateral investment liberalisation scenario, China therefore moves closer to the level of restrictiveness facing foreign companies in the EU. China's index of perceived restrictiveness by EU companies is 51, whereas the EU index of perceived restrictiveness by non-EU companies is 27, cf. Figure 7.7. The gap between the two indices reflects the scope of manoeuvring in the negotiations between the EU and China to cut investment barriers improve investment protection. The gap should not be expected to be fully actionable within the framework of a BIT between the EU and China since many other factors besides investment barriers (e.g. language, culture and central planning) may explain why China is perceived to be more restrictive to FDI than the EU. In the modest liberalisation scenario, three percent of the gap is closed, and in the ambitious scenario, 10 percent of the cap is closed. In the unilateral investment liberalisation scenario, EU investment barriers remain in place.

Figure 7.7 Scenario for EU-China Investment liberalisation - Unilateral

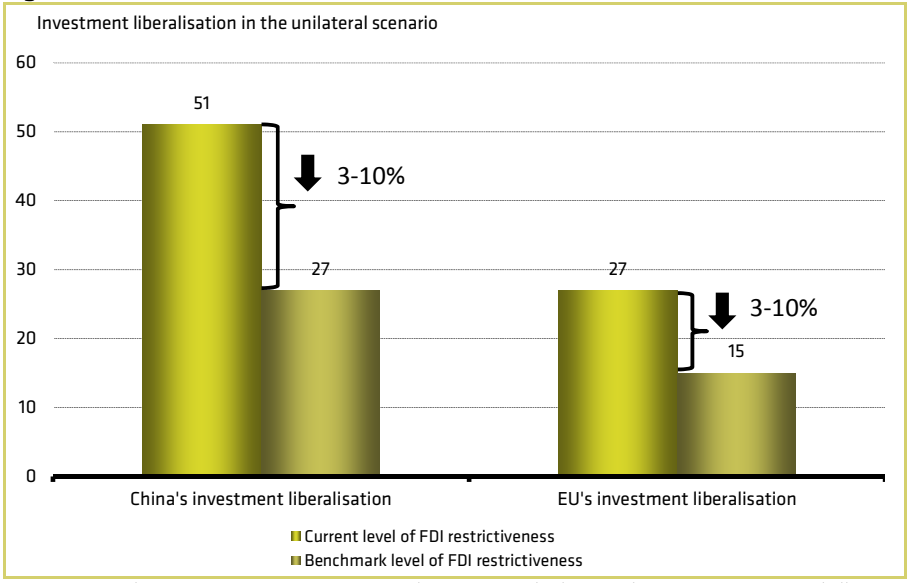


Note: Respondents in the survey were both EU and non-EU companies and all respondents were asked to give their perception of their home country in addition to their perception of investment barriers in important partner countries. Non-EU companies perceived EU investment barriers to be higher than EU countries perception of EU investment barriers (27 compared to 15)

Source: Various surveys of investment barriers, See Box 5.2

In the reciprocal liberalisation scenario, China's investment liberalisation is the same as in the unilateral liberalisation scenario whereas the EU moves closer to the level of restrictiveness facing companies from other EU countries. The EU's index of perceived restrictiveness (internal restrictiveness) by EU companies is 15, whereas the EU index of perceived restrictiveness by non-EU companies (external restrictiveness) is 27, cf. Figure 7.8. The gap between the two indices reflects the functioning of the Single Market where EU companies have better market access and better investment protection than non-EU companies. The gap should therefore not be expected to be fully removed within the framework of a BIT between the EU and China. In the modest liberalisation scenario, three percent of the gap is closed. In the ambitious scenario, 10 percent of the cap is closed.

Figure 7.8 Scenarios for the EU's investment liberalisation



Note: Respondents assessing EU restrictiveness in the survey were both EU and non-EU companies and all respondents were asked to give their perception of their home country in addition to their perception of investment barriers in important partner countries. Non-EU companies perceived EU investment barriers to be higher than EU countries perception of EU investment barriers (27 compared to 15)

Source: Various surveys of investment barriers, See Box 5.2

Gravity model results

We use two different estimators to estimate the scenarios in the gravity model: the OLS estimator and the Poisson quasi-maximum likelihood estimator.[74] In the modest caseis Using the OLS estimator to assess the impact of the investment liberalisation scenarios described above, we find that the EU stock in China increases by 0.6 percent in the moderate scenario and by 1.9 percent in the ambitious scenario, cf. Table 7.1. In the reciprocal case, the Chinese FDI stock in the EU increases by 0.3 percent in the moderate scenario and by 0.9 percent in the ambitious scenario. We find that these impacts are in line with the CGE results in the next chapter.

[74] The reason for applying two different estimators is that the impact of investment barrier reduction on the FDI stock depends on the gravity estimates reported in Appendix 3. If the parameter estimate of the survey index in the gravity model was twice as large, the impact of a reduction in the index would also be twice as large. We have therefore used a Poisson quasi-maximum likelihood estimator to test the robustness of our results.

Table 7.1 Impact of FDI from investment liberalisation (OLS estimator)

	Moderate scenario		Ambitious scenario	
	% increase in the EU FDI stock in China	% increase in the Chinese FDI stock in the EU	% increase in the EU FDI stock in China	% increase in the Chinese FDI stock in the EU
Non-reciprocal scenario	0,6%	0,0%	1,9%	0,0%
Reciprocal scenario	0,6%	0,3%	1,9%	0,9%

Note: The semi-elasticity of the FDI stock with respect to the perceived index of restrictiveness is -0.008 suggesting that a unit reduction in the index will increase the FDI stock by 0.8 percent. This coefficient stems from the gravity regression using the survey index and the OLS estimator (last column in Table A3.1. in Appendix 3)

Source: Copenhagen Economics gravity of bilateral investment stocks

Using the Poisson estimator, we find that the impact of the survey index increases from 0.008 to 0.02.[75] This means that the EU stock in China would increase by 1.4 percent in the moderate scenario and by 4.6 percent in the ambitious scenario. Also, the Chinese FDI stock in China increases by 0.7 percent in the moderate scenario and by 2.4 percent in the ambitious scenario (in the reciprocal scenario).

Table 7.2 Impact of FDI from investment liberalisation (Poisson estimator)

	Moderate scenario		Ambitious scenario	
	% increase in the EU FDI stock in China	% increase in the Chinese FDI stock in the EU	% increase in the EU FDI stock in China	% increase in the Chinese FDI stock in the EU
Non-reciprocal scenario	1,4%	0,0%	4,6%	0,0%
Reciprocal scenario	1,4%	0,7%	4,6%	2,4%

Note: The semi-elasticity of the FDI stock with respect to the perceived index of restrictiveness is -0.02 suggesting that a unit reduction in the index will increase the FDI stock by 2 percent. This coefficient stems from the gravity regression using the survey index and the Poisson quasi-maximum likelihood estimator (last column in Table A6.1. in Appendix 3)

Source: Copenhagen Economics gravity of bilateral investment stocks

In summary, we find that EU investments could increase by 0.6 percent to 1.4 percent in the moderate liberalisation scenario where Chinese investment barriers are reduced by 3 percent. In the ambitious scenario, EU investments increase by 1.9 percent to 4.6 percent. In the reciprocal scenario with moderate investment liberalisation in both the EU and in China, Chinese investments in the EU should be expected to increase by 0.3 percent to 0.7 percent. In the ambitious scenario, Chinese investments in the EU will increase by 0.9 percent to 2.4 percent. The survey index of perceived restrictiveness is not available for all country pairs, and the estimation sample is therefore smaller when we use this index compared to us-

[75] One explanation is that the OLS estimator excludes zero observations as a result of the log-linearisation of the model. If FDI flows are zero because investment barriers are prohibitively high (high index of perceived restrictiveness) then the OLS estimator will tend to underestimate the impact of the investment barrier.

ing other indices. As a test for robustness, we have therefore limited the estimation sample to be the same across all four measures of host country restrictiveness. Our empirical findings appear to be robust to limiting the estimation sample as parameter estimates do not vary much when the number of observations is reduced (see Appendix 3).

Chapter 8 QUANTIFYING IMPROVED INVESTMENT CONDITIONS – CGE MODEL

In this chapter we analyse the impact of improved access conditions for EU MNEs in China. The analysis is based on the survey index of perceived restrictiveness (as described in Box 5.2) combined with Eurostat data on operations of EU affiliates in China. The two pieces of information are integrated into a model-based assessment, where econometric analysis of trade and FDI barrier data is mapped into a computable general equilibrium (CGE) model of the world economy. The model is based on the final (unreleased) version of the GTAP 8 database. In the econometrics and CGE model, we treat trade and FDI as complements. This approach is supported by the econometric results presented Appendix 4 and the review of the empirical evidence on trade and FDI as substitutes or complements provided in Chapter 6.

8.1. EU MNE TURNOVER AND EMPLOYMENT IN CHINA

Table 8.1 and Table 8.2 below summarise the operations of EU affiliates in China. In 2007, turnover of EU MNEs in China amounted to €48.7 billion, representing 7.4 percent of the global (extra-EU) total for manufacturing. In services, turnover was €52.6 billion, representing 3.3 percent of that global (extra-EU) total. These firms employed around 582 000 people in China in the manufacturing sector, representing 17.1 percent of the total extra-EU employment of EU MNEs. They employed around 360 000 in servcies, representing 5.8 percent of total extra-EU MNE employment. In other words, the MNE activities in China are substantially more labour intensive than the global average for both goods and services, as reflected in an employment share that is over twice the size of the share of total turnover in manufacturing, and almost twoce the size in services.

Table 8.1 Baseline turnover of EU MNEs in China, 2007

Sector	Million Euros	Global share
Manufacturing	48,721	7.4
Other goods	199	0.1
Services	52,600	3.3
Total	**101,520**	**4.2**

Source: Eurostat, 2012 FATS data

The employment in Table 8.2 understates total employment linkages to EU MNEs in China, as it does not include the employment in local and non-EU foreign firms supplying EU affiliates.

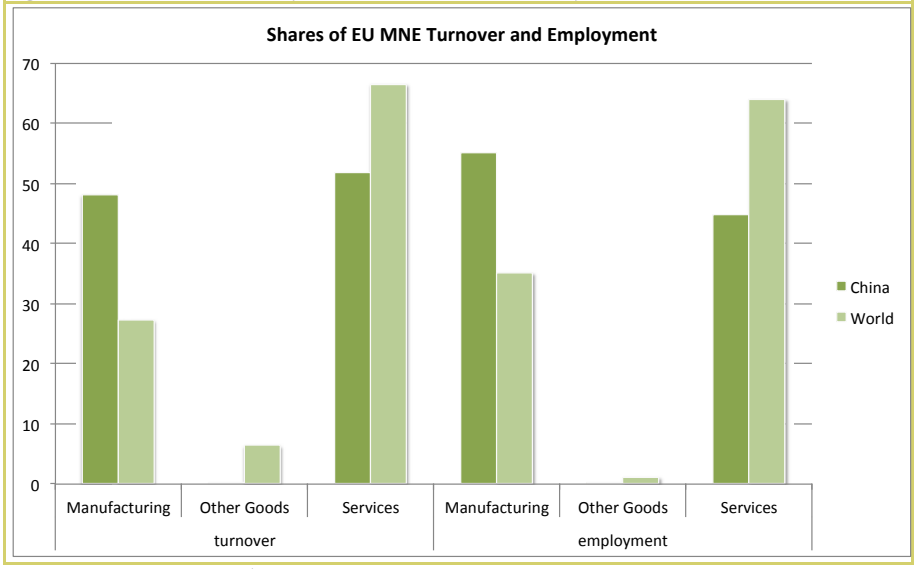
Table 8.2 Baseline employment of EU MNEs in China, 2007

Sector	Thousands Euros	Global share
Manufacturing	582.6	17.1
Other goods	1.1	1.0
Services	360.5	5.8
Total	**944.2**	**9.7**

Source: Eurostat, 2012 FATS data

Another aspect of the EU MNE activities in China is illustrated in Figure 8.1 below. EU MNE activities in China are much more focused on manufacturing activities than they are for operations in the rest of the world. In particular, services accounted for 66.4 percent of global turnover and 63.8 percent of employment in extra-EU operations of European MNEs in 2007. However, in China, the greatest share of turnover is in manufacturing (48 percent of the total) while 55.2 percent of MNE employment is in manufacturing. The operations of European MNEs in China are more labour intensive than the global average and are more highly concentrated in manufacturing relative to services than the global average.

Figure 8.1 EU shares of European MNE turnover and employment, China and World



Source: Eurostat, 2012 FATS data

8.2. Market access conditions in China for EU MNEs

Before modelling the impact of changes in the Chinese market access conditions that face EU MNEs, we first need to benchmark these conditions in a manner that can be implemented in the model. This includes both benchmarking the status quo in terms of the impact of barriers on operating costs and specifying experiments for the CGE model based on

these. The status quo, based on the firm surveys discussed in earlier sections of this report, is summarised in Table 8.3 below.

Table 8.3 Survey index of perceived restrictiveness (0=open, 100= closed)

Sector	EU	China	BRICs
Average	29	50	46
Manufacturing			
ISIC 15-35	31	47	45
Services			
ISIC 45,60-67,71t74	25	56	47

Note: See earlier discussion in this report and in Appendix 2. The indices of perceived restrictiveness reported in this table are based on the full set of responses from EU and non-EU companies in the three surveys described in Box 5.2. The indices of perceived restrictiveness reported in Figure 7.7 and Figure 7.8 are slightly different since they are based on a subset of responses and include only responses by EU companies.

Source: Copenhagen Economies index of perceived restrictiveness

From the survey we find that China is perceived to be more restrictive than the average for the BRIC countries. This reflects substantially greater restrictions in services than in the other BRIC countries. China is perceived to be far more restrictive than non-EU countries perception of investment restrictiveness in the EU.

On the basis of the indexes in Table 8.3, we have estimated the impact of MNE restrictions in China on the cost of operation of EU MNEs econometrically, including both production activities within China and the ability of EU firms to sell goods and services from home through those same affiliates. These estimates are discussed in detail in Appendix 4. They are based on an econometric model where the impact of variations in these indexes is translated into estimates of increased cost of the combined operation of MNEs engaged in a mix of both importing (sale of home market activities) and local activities (operations of foreign affiliates).

To reiterate, on the basis of the data on trade and FDI MNE restrictiveness the indexes in Table 8.3 have been translated into estimated operating cost impacts (higher prices and costs) for EU MNEs operating in China. These are summarised in Table A4.1 in Appendix 4, where we report estimated cost reductions linked to a move from the current market access levels to those the EU itself provides to extra-EU firms, on the basis of the levels summarised in Table 8.3. This move toward the EU level of access, comparable to what the EU itself provides to third countries, is treated as a benchmark upper-bound for plausible concessions and improved market access conditions that can be expected from China.

It should be stressed that in this chapter we are focusing on the overall conditions of market access for EU MNEs in China. This is reflected in the summary measures we are using. Of course, how this is realised depends on what goes into the overall levels of access – the individual policies that map into general conditions affecting costs and the ability to operate in China. We do not have the data on hand to estimate the cost impact of each individual poli-

cy (and indeed they can be expected to interact, and so cannot be viewed as additive in any event). However, Chapter 5 provided a discussion, based on interviews and surveys, of the sets of policies that determine the overall access conditions, and the likely relative importance of these policies (and their relevance for targeted reductions on overall costs).

Table 8.4 Estimated potential saving from moving China to EU market access levels

Sector	EU
Average	11.9
Manufacturing	
ISIC 15-35	7.3
Services	
ISIC 45,60-67,71t74	16.5

Note: Percent change
Source: Estimates from firm survey data and econometric model as discussed in Appendix 4

In the actual CGE experiments, as discussed below, we model changes in market access for EU MNEs on the basis of the cost estimates reported in Table A4.1. In particular, we have implemented the same set of scenarios as in Chapter 7 using a gravity model. The first scenario implies a very modest liberalisation (a three percent reduction in the estimated barriers reported in Table 8.3). The second scenario implies a more ambitious reduction (based on a 10 percent reduction in the barriers reported in Table 8.3).

Elimination of regulatory barriers may also yield improved access for third countries, when barrier reductions involve generic changes in regulatory barriers. In the CGE model, we therefore extend the modelling approach to also include third country spillovers. For a given level of liberalisation, we examine two possibilities for third country spillovers – high spillovers (so that 60 percent of any cost savings also accrue to third countries) and low spillovers (so that 10 percent of any cost savings also accrue to third countries). What this means in practice is that, in the example with an ambitious liberalisation of barriers and high rates of spillover, we will have a 1.19 percent (= 10 percent of 11.9) reduction in operating costs for EU MNEs, with spillovers yielding a 0.714 percent (= 60 percent of 1.19) reduction in operating costs for third country MNEs operating in China.

As was the case in the gravity model, we consider both cases where there is unilateral liberalisation by China under a new treaty as well as reciprocal liberalisation with comparable concessions by the EU. The reciprocal concessions relate to possible further concessions by the EU itself, moving its own restriction indexes for China closer to those facing EU firms operating within the EU (i.e. in the Single Market).[76] This is based on intra-EU openness rankings relative to EU openness rakings vis-à-vis third countries based on the survey data re-

[76] As a cross-check, we also checked the level of concessions that would be realised if the EU concessions to China mirrored the cost savings modelled for EU firms in China. The implied scenarios are very close to those modelled on the basis discussed above.

sponses on overall market access discussed in Chapter 7. The empirics are discussed further in the CGE-annex.

Figure 8.2 Summary of CGE experiments

	Reciprocal	Not reciprocal
Ambitious (10% reduction)		
low spillovers	Experiment A	Experiment E
high spillovers	Experiment B	Experiment F
Modest (3% reduction)		
low spillovers	Experiment C	Experiment G
high spillovers	Experiment D	Experiment H

Note: The quantification of the EU NTMs is based on intra-EU openness rankings relative to EU openness rankings vis-à-vis third countries based on the survey index of perceived restrictiveness
Source: As agreed with DG Trade

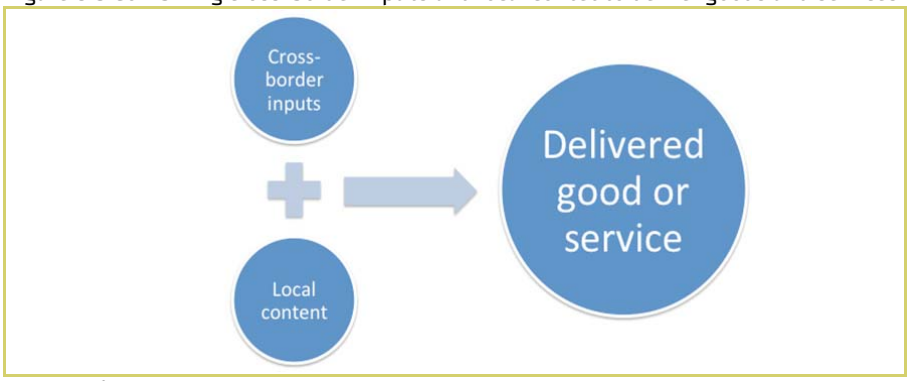
8.3. ESTIMATED MACROECONOMIC EFFECTS OF LIBERALISATION

We next turn to the estimated effects of investment liberalisation. In the CGE model, we have modelled FDI following an approach where MNEs sell a combined package of goods/services through a local affiliate that includes both local activities and imported goods/services from the EU parent. Even when the MNEs sell goods/services directly (without further processing) we assume that there are still local, affiliate activities linked to sale and distribution. Technically, this means MNEs are modelled as selling goods and services in China through a mix of local presence (the operation of foreign affiliates) and cross-border sales. The size of these local activities and the turnover linked to them are reflected in Table 8.1 and Table 8.2 above. This is a major element of what MNEs do. Indeed, based on

regression results (see the Appendix 4) there appears to be a direct link between cross-border sales and the restrictions on local MNE activities.

The basic approach is illustrated in Figure 8.3 below. More technical details are provided in Appendix 4. We model improved costs conditions, linked to changes like those in Table A4.1, as applied to the delivered good or service supplied by the EU MNE. This is similar to the approaches followed in the FTAP model, the Michigan model, and the WorldScan model (see for example Lejour, Rojas-Romagosa and Verweij, 2008; Hanslow et al.,2000; and Brown and Stern, 2001).

Figure 8.3 Combining cross-border inputs and local contet to deliver goods and services



Source: Prof. J. F. Francois

Comparing macroeconomic impacts in China and the EU

The broader macroeconomic impacts in China and the EU are summarised in Table 8.5 Here, we see that greater spillovers linked to concessions by China (experiments B, D, F and H) imply greater gains for the EU in terms of real income than under the corresponding scenarios with lower rates of spillover (experiments A, C, E and G). This is also reflected in greater trade gains by the EU under the spillover scenarios. This pattern holds regardless of whether concessions are reciprocal or whether the policy experiments only involve improved market access concessions for MNE operations in China.

One basic message from the pattern of results is that ambitious liberalisation yields more substantial benefits than the very modest scenario, not only for the EU but also for China. Indeed, in the extreme case of modest scenarios with very limited liberalisation and almost no spillovers, there is also basically no substantive effect on GDP in either for the EU or China. It is also the case that, for the EU, estimated gains are actually larger when the spillover effects are also larger. This follows from better demand conditions globally with greater spillovers, as well as better intermediate supply conditions in China with greater spillovers. The modest scenarios yield little benefit by the measures in the tables.

Table 8.5 Macroeconomic effects in the EU and China - experiments A-H

	Reciprocal				Non-reciprocal			
	Ambitious		Modest		Ambitious		Modest	
	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers
	A	B	C	D	E	F	G	H
Change in real income, % (based on welfare)								
European Union	0.02	0.05	0.01	0.02	0.01	0.02	0.00	0.01
China	0.04	0.07	0.02	0.02	0.02	0.09	0.00	0.03
Change in real income, million Euros								
European Union	2,361.0	7,010.9	698.7	2,095.7	1,311.0	2,720.0	393.4	773.4
China	1,443.2	1,405.4	431.0	424.5	265.3	2,029.1	81.2	542.5
Consumer prices, %								
European Union	-0.01	-0.05	0.00	-0.01	0.01	0.02	0.00	0.01
China	-0.02	-0.15	-0.01	-0.04	-0.06	-0.10	-0.02	-0.03
Total exports, %								
European Union	0.05	0.12	0.02	0.03	0.03	0.05	0.01	0.01
China	0.18	0.11	0.05	0.03	-0.02	0.12	-0.01	0.04
Total imports, %								
European Union	0.05	0.11	0.02	0.03	0.03	0.05	0.01	0.01
China	0.22	0.19	0.07	0.06	0.00	0.19	0.00	0.06

Source: Estimates from CGE model results

The estimated impact on European MNEs is summarised in Table 8.6. There is almost no MNE activity reported in "other goods" in China, and as such the reported effects are also negligible. The estimated impact on the annual turnover of EU MNEs ranges from an increase of €195 million in the modest scenario (experiments G and H) to €1.683 billion in the ambitious scenario with low spillovers.

The employment effects also range from 2.000 new employees in experiment H to 17.500 new employees in experiment A. Reflecting the base of EU MNE activity, which is concentrated in manufacturing, most of the growth in turnover and local employment is also concentrated in manufacturing.[77] In Table 8.6 we also report implied changes in FDI stocks. These estimates are based on estimated changes in the employed capital stock. These effects, which range from 0.19 to 1.85 percent, correspond closely to the changes estimated in the econometric model in Chapter 7. In that chapter, using comparable changes in MNE access

[77] It should be noted that the experiments reported on here are themselves relatively modest, even under the ambitious scenario. Based on Table 8.4 and Table 8.6, a full move toward cost savings like those in Table 8.4 implies at the upper bound increased local turnover of approximately, €16.8 billion annually, with a 154.000 increase in the local labour force working for EU MNEs.

conditions, estimated changes in FDI stocks are in precisely the same range when using our econometric analyses based on the gravity model (OLS estimator). On a sector basis, the greatest effects on FDI stocks are for manufacturing with ambitious (non-reciprocal and reciprocal) liberalisation with low spillovers. Under these scenarios, manufacturing FDI stocks increase between 1.46 and 1.85 percent. Services effects are consistently smaller, ranging as high as 0.96 percent (roughly half the effect for goods).

Table 8.6 Impact on European MNEs in China - experiments A-H (fixed labour supply)

	Reciprocal				Non-reciprocal			
	Modest		Ambitious		Modest		Ambitious	
	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers	low spillovers	high spillovers
	A	B	C	D	E	F	G	H
Turnover in China, million Euros								
Manufacturing	1,175	686	348	205	981	434	290	131
Other Goods	0	0	0	0	0	0	0	0
Services	508	226	151	69	374	224	114	64
Total	1,683	911	499	274	1,356	657	404	195
Employees in China, thousands								
Manufacturing	14.0	8.2	4.2	2.5	11.7	5.2	3.5	1.6
Other Goods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Services	3.5	1.5	1.0	0.5	2.6	1.5	0.8	0.4
Total	17.5	9.7	5.2	2.9	14.3	6.7	4.3	2.0
Percent change in FDI stocks								
Manufacturing	2.41	1.27	0.71	0.38	1.96	0.81	0.58	0.24
Other Goods	0.02	-0.32	0.01	-0.10	-0.13	-0.15	-0.04	-0.06
Services	0.96	0.29	0.29	0.09	0.65	0.35	0.20	0.10
Total	1.85	0.89	0.55	0.27	1.46	0.64	0.43	0.19

Source: Estimates from CGE model results

One pattern of interest is the difference in macroeconomic implications of low and high spillovers for the EU. Recall that the idea behind these is that the mix of MFN clauses in BITs, and the nature of regulatory changes, means that bilateral concessions may in effect benefit third countries as well. In the case of reciprocal concessions, the EU is better off if it extends such concessions (which map to efficiency gains for foreign firms operating in the economy) to third countries, as they are larger suppliers and there is less scope for diversion of trade and investment linked to such concessions. This is consistently the case for the EU. For China, there are some cases where low spillovers and high spillovers are comparable (in

particular the reciprocal experiments). In the non-reciprocal cases, China also is clearly better off with broad based improvements of access conditions, also spilling over to third countries.

Export and Output Effects

The greater benefits to the EU, in terms of production, employment, and exports, are not specific to the Chinese market. In particular, if we examine changes in total exports, and compare these to changes in exports to China in Table 8.7 and Table 8.8 below, we see that the additional "kick" in the high spillover scenarios follows not from greater EU MNE activity in China itself. Indeed from Table 8.7 this is greater under the low spillover case, as with high spillovers there is some pressure from third country activity. Rather, with more generic (non-EU specific) improvements in access to China, there is an increased third country demand for intermediate imports from the EU as well, to better serve the Chinese market.

With low spillover rates, almost all export growth is directly tied to the Chinese market (and indeed the results are suggestive that without spillovers, it would be limited almost entirely to China). This can be seen by comparing the values for Experiment A in Table 8.7 (EU exports to China) and Table 8.8 (EU exports to World). However, with high spillovers, there is substantially more export growth, although this is not directed to China itself. From Experiment B in Table 8.7 and Table 8.8, for example, we have less direct export gains linked to China, but substantially more export growth oveall (linked to third countries) when China's liberalisation is more broad-based (closer to MFN, or at least with higher rates of spillover to third countries).

Table 8.7 Impact on EU exports to China - experiments A-H

	Reciprocal				Non-reciprocal			
	Modest		Ambitious		Modest		Ambitious	
	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers
	A	B	C	D	E	F	G	H
Exports f.o.b., million Euros								
Manufacturing								
(base: € 75.5b)	1,833	1,071	543	321	1,534	675	454	204
Other Goods								
(base: €1.6b)	1	-3	0	-1	-1	-1	0	-1
Services								
(base: €19.7b)	191	85	57	26	141	84	43	24
Total	**2,024**	**1,153**	**600**	**345**	**1,673**	**758**	**496**	**228**

Source: Estimates from CGE model results

Table 8.8 Impact on EU exports to World - experiments A-H

	Reciprocal				Non-reciprocal			
	Ambitious		Modest		Ambitious		Modest	
	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers	low spillovers	high spillovers
	A	B	C	D	E	F	G	H
Exports f.o.b., million Euros								
Manufacturing								
(base: €1,057.2b)	1,963	4,530	573	1,344	1,167	1,929	349	539
Other Goods								
(base: €30.0b)	2	-7	0	-3	-29	-41	-8	-13
Services								
(base: €401.2b)	214	384	64	109	56	27	18	6
Total	**2,178**	**4,907**	**638**	**1,450**	**1,193**	**1,916**	**358**	**532**

Source: Estimates from CGE model results

Table 8.9 summarizes the impact on EU output. (More detailed results are reported in the annex). The pattern is consistent with the export effects in Table 8.8. For example, the greatest expansion in manufacturing exports is realized in Scenario B, and this is also where the greatest expansion in manufacturing output, approximately 0.1 percent, is also under experiment B. In general, high spillover experiments yield greater benefits to EU industry (goods and services both) than the corresponding low-spillover cases. Also, under experiments B and D the output gain to manufacturing is substantially greater than to services. In the other experiments however, it is generally the service sector that benefits most. This is consitent with the interpretation that EU supplier linkages to third countries in manufacturing yield stronger benefits in the ambitious, high spillover scenarios.

Table 8.9 Change in EU Output experiments A-H, percent

	Reciprocal				Non-reciprocal			
	Ambitious		Modest		Ambitious		Modest	
	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers	low spillovers	high spillovers
	A	B	C	D	E	F	G	H
Manufacturing	0.018	0.086	0.005	0.026	0.007	0.024	0.002	0.007
Other Goods	0.009	0.040	0.003	0.012	-0.012	-0.013	-0.003	-0.005
Services	0.021	0.057	0.006	0.017	0.012	0.030	0.003	0.007

Source: Estimates from CGE model results

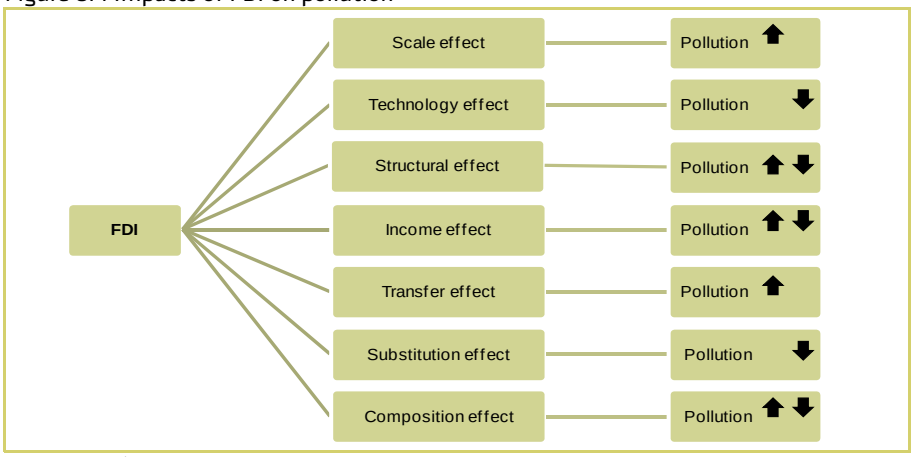
Impacts on Third Countries

Annex 5 provides details on third country effects. A key point to take away from the table is that for third countries, in aggregate, there is vertually no measurable impact found in our scenarios - as a percent of GDP, the overall impact on third countries (collectively) is 0.00%. The value in euros ranges from -€47.6 million to €1.735 million. On the positive side, the greatest benefits to third countries accrue, logically, under the case of ambitious mutual liberalization with spillovers, so that third countries also gain from improved market access. This does not hold, however, when only China liberalizes, implying that the source of third country gains actually hinges on better access conditions to the EU, rather than changes in access conditions for China. When only China liberalizes, the impact is negative in all cases. However, it should be stressed that there is effectively no impact in relative terms.

8.4. FDI AND THE ENVIRONMENT

In this section with assess the possible environmental effects of FDI in the host country, and our analysis focus on the impact in China from increased FDI from the EU. The academic literature on trade and the environment has decomposed environmental impacts down to several effects. The strength of these effects will determine whether FDI should be expected to increase or decrease pollution. The net impact is a priori indeterminate, cf. Figure 8.4.

Figure 8.4 Impacts of FDI on pollution



Source: Copenhagen Economics

The first effect is named the **scale effect**. When FDI increases production in the host country, pollution will ceteris paribus increase. If no changes occur in the production process (i.e. the composition of production in the host country remains unchanged), increased production will mean that total pollution in the host country will increase.

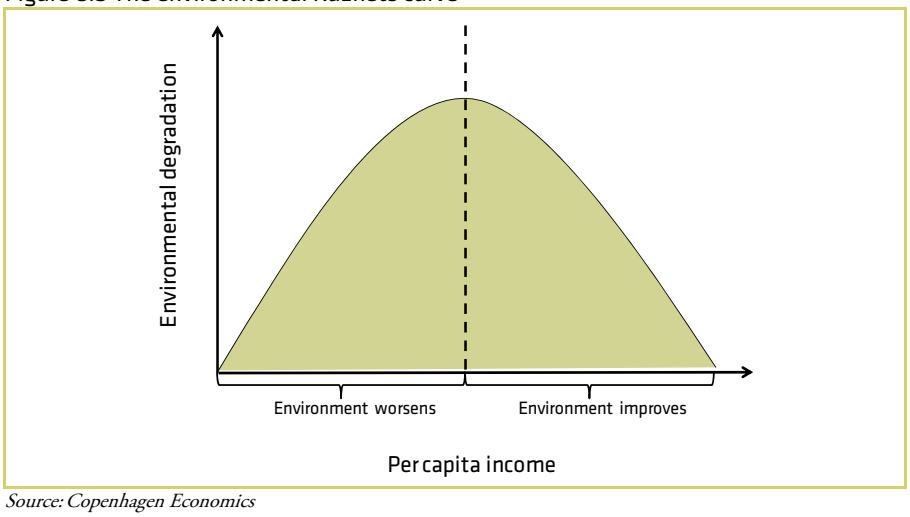
The second effect is called the **technology effect**. FDI is often carried out by global MNEs. These companies often bring more efficient and less polluting capital equipment with them.

When the production uses more efficient equipment, pollution will often decrease for a given amount of production.

The third effect is the **structural effect**. FDI could affect the environment by changing the industry structure. FDI will often occur in specific sectors, some of whom may be more or less pollution intensive than the average. FDI will change the industry structure, but whether it is towards more or less pollution intensive industries is a priori unknown.

The fourth effect is the **income effect**. When FDI increases, income of the host country is also likely to increase. According to the environmental Kuznets curve (EKC), environmental degradation will increase at low levels of income since people won't demand a clean environment relative to consumptions goods. Also, it is argued, that a clean environment will be valued more highly at higher income levels. This has the implication that people will start demanding a better environment when income rises past a certain point. Whether there actually exists an EKC is under much debate, but even if it does exist it is not possible to determine whether the income effect on the environment is positive or negative, cf. Figure 8.5.

Figure 8.5 The environmental Kuznets curve



Source: Copenhagen Economics

The fifth effect is the **transfer effect**. Much pollution has a local nature (e.g. pesticides in a water reservoir) and not a global nature (e.g. CO2). When pollution is of local nature, outsourcing of a factory from an EU country will transfer pollution from the EU country to the host country. The transfer effect will be negative and thereby, ceteris paribus, worsen the environment of the host country.

The sixth effect is the **substitution effect**. While much FDI in China is carried out with the purpose of exporting the goods produced, some production of the European MNE in China will be sold in China and will substitute production by local Chinese firms. Since the Euro-

pean MNEs are, on average, more environmental friendly than their local Chinese competitors with the same industry, then an overall improvement of the environment will result as more efficient MNEs increase their market share. Whereas the technology effect describes the reduction in pollution related to the use of new technologies, the substitution effect relates to the substitution towards more MNE production (with lower pollution intensity) and less production by local firms (with higher pollution intensity).

The seventh effect is the **composition effect**. FDI often shifts production towards becoming more capital intensive and less labour intensive. If capital intensive production is associated with more pollution than labour intensive production, increased FDI will increase pollution. The composition effect differs from the structural effect, since it describes what happens within the sector receiving FDI and not what happens between sectors.

The empirical literature on FDI and the environment tends to focus on only one or few effects at a time, but does not give a definitive answer about whether FDI improves or deteriorate the environment.

The most frequently described effect is the income effect and thereby the EKC. Several studies, e.g. He (2009), find that rising income is often associated with more pollution. This gives rise to the assumption that China is on the left half of the environmental Kuznets curve. Diao et al (2008), however, finds, that there is no significant relationship between pollutants and income and therefore no empirical support for the EKC.

Dean (2002) sets out to describe the structural effect of international trade in China. He performs a counterfactual study, which shows that pollution would have been higher if there had been less international trade. This lends support to the assumption that there is a positive effect on the environment with more international trade and investment, which could be explained by a positive technology and structural effect.

He (2009) finds the composite effect to be positive, which support the notion that labour intensive production is more polluting than capital intensive production. Furthermore, he finds that the scale effect is positive, which means that ceteris paribus more production in China gives rise to more pollution.

Empirical assessment based on polution intensities

In this part, we analyse the environmental impacts of the EU-China BIT by analysing output changes for European MNEs in China in pollution-intensive and less polution-intensive industries. This analysis can give an indication to assess whether pollution is likely to increase or decrease as a result of EU investments in China.[78]

[78] It should be noted that the present analysis is an initial scoping assessment to provide a first assessment of identifiable environmental concerns, and it does not replace the need for an eventual in-depth sustainability impact assessment (SIA) of such an agreement.

Overall, EU MNEs will expand their production and activity in China as a result of the FDI experiments analysed. Overall this expansion might be beneficial from an environmental point of view for the reasons mentioned in the previous section. It may however also be the case that the expansion brings overall negative environmental impacts if the most polution intensive industries expand. Table 8.10 shows the minimum, maximum and average effect on EU MNEs turnover in China, stemming from the model estimations.

Table 8.10 Impact on output from EU MNEs in China, turnover in China

Sector	Maximum effect	Minimum effect	Average effect
Manufacturing	**1,192**	**131**	**553**
Motor vehicles	19	-47	-5
Other transport equipment	-4	-99	-33
Chemicals, rubber, plastics	43	-97	-30
Petrochemicals	4	-2	0
Machinery	548	-196	238
Electrical machinery	382	-391	138
Other machinery	195	34	101
Other manufactures	902	142	383
Other goods	2	-1	0
Services	**739**	**50**	**245**
Trade	100	-138	-35
Other services	639	90	281
Total	**1,717**	**195**	**798**

Note: The table gives the minimum, maximum and average effect across all experiments (A-H) including both fixed and flexible labour market closures. Data is in million Euros
Source: Own estimates from model results

As the table shows, there will be a positive effect on output in both manufacturing and services. So, there is no generally conclusion that services expand and manufacturing contracts. The average effects however show a decline in chemicals, rubber and plastics, in other transport equipment and in the trade related services (retail and wholesale trade).

The increase in manufacturing output is generally more than twice the size of the increase in service sector output except in experiment F, where the output increase in services is slightly higher than in manufacturing (manufacturing increase is 90 percent of service increase), cf. Table 8.11.

Table 8.11 Increase for EU MNEs: manufacturing output relative to service sector output

	Reciprocal				Non-reciprocal			
	Ambitious		Modest		Ambitious		Modest	
	Low spill-overs	High spill-overs	Low spill-overs	High spill-overs	Low spill-overs	High spill-overs	Low spill-overs	High spill-overs
	A	B	C	D	E	F	G	H
Fixed closure	2.3	3.0	2.3	3.0	2.6	1.9	2.6	2.1
Flexible closure	2.3	4.7	2.2	4.3	2.7	0.9	2.6	1.8

Note: The table shows the change in manufacturing output relative to the change in service output. A factor of 1 indicates that both increase with same amount. A factor of 2 shows that manufaturing output increase twice as much as service

Source: Own estimates from model results

Thus on the overall level most of the scenarios shifts the output structure of EU MNEs in China in the direction of the generally more polluting manufacturing sector relative to the generally less polluting services sectors. It cannot, however, be concluded on this basis that there will be negative environmental impacts from the estimated changes in output.

As mentioned in the previous section, the new investments from the EU might bring new and better environmental standards and technologies with them that give rise to general improvements in environmental quality compared, also compared to the Chinese production it eventually replaces. The structural effect is only one of many effects that need to be assessed to provide an assessment of the environmental impacts.

In order to assess the impacts at a more detailed sector level, we perform an analysis based on pollution intensities at the sector level. Grether et al (2011)[79] reports "dirty" and "clean" sectors (based in ISIC 3-digit classification) based on Copeland and Taylor (2003). While the labels "dirty" and "clean" sound very black and white they are to be understood as industries that are relatively more polluting ("dirty") and relatively less polluting ("clean").

The "dirty sectors" according to the paper are:

- Paper and production (341)
- Industrial Chemicals (351)
- Other non-metallic mineral products (369)
- Iron and Steel (371)
- Non-ferrous metals (372)

The "clean" sectors in Grether et al (2011) are:

- Textiles (321)
- Machinery except electrical machinery (282)
- Machinery electrical (383)

[79] "Unrawling the Worldwide Pollution Haven Effect".

- Transport equipment (384)
- Professional and scientific equipment (385)

Using the Grether et al classification ("dirty" vs. "clean"), we can qualify the direction of the change in sector output composition for EU firms in China in the various experiments. Since not all sectors in Grether's classification can be match to model sectors there is a large degree of uncertainty in the assessment, which needs to be taken into account. What the comparison shows is that the identifiable "dirty" sectors contract, while the so-called "clean" sectors expand. This indicate, that for the identifiable "dirty" and "clean" sectors in the model point to a positive structural effect for EU MNEs in China. We find the biggest relative decline in "dirty" industries in Experiment H (last column), where output in "dirty" industries decline by €31million while "clean" industies increase by €17 million, which implies a positive structural effect, cf. Table 8.12. At the other end of the scale, we find Experiment A, which has a small decline in "dirty" industries, but a large increase in "clean" industries, which despite being relatively "cleaner" are still polluting to some extent, and a large overall increase in output which overall indicates the least attrative scenario from an environmental point of view. We underline that since there are not pollution indicators available for all sectors, there is a large degree of uncertainty in these assessments.

Table 8.12 Change in manufacturing output by EU MNEs in China by industry

	Reciprocal				Non-reciprocal			
	Ambitious		Modest		Ambitious		Modest	
	Low spil-lovers	High spil-lovers	Low spil-lovers	High spil-lovers	Low spil-lovers	High spil-lovers	Low spil-lovers	High spil-lovers
	A	B	C	D	E	F	G	H
"Dirty"	-7	-82	-2	-25	-58	-97	-18	-31
"Clean"	549	270	162	81	466	32	138	17
Undetermined	633	497	188	149	573	499	170	145
Total change	**1175**	**686**	**348**	**205**	**981**	**434**	**290**	**131**

Note: Results for fixed closure. There is not a 100 percent match between GTAP model sectors and the ISIC codes used in Grether et al (2011). We consider the following model sectors as "dirty": 'chemicals, rubber, plastics' and 'petrochemicals' and the following as "clean": 'motor vehicles', 'other transport equipment', 'electrical machinery' and 'other machinery'. Remaining sectors cannot be classified and is "undetermined" in the table

Source: Own estimates from model results based on categories in Grether et al (2011).

We have also evaluated the global impacts on carbon emissions in all scenarios (through the use of the CGE-model). This is based on changes in the pattern of production globally in each experiment, mapped to data by model sector and country on the emissions intensity of production. These estimates reflect current technology. To the extent FDI in China brings technology that is less CO2 intensive, the estimates in the table will overstate increases in emissions, and understate reductions. On the basis of current patterns, however, the net impact is estimated to be negligible (roughly -.01 to .03 across scenarios.)

Table 8.13 Change in global CO2-emissions - experiments A-H

	Reciprocal				Non-reciprocal			
	Ambitious		Modest		Ambitious		Modest	
	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers	Low spillovers	High spillovers
	A	B	C	D	E	F	G	H
Change in CO2-emissions globally								
million metric tons	2.9	-2.2	0.8	-0.7	2.4	8.3	0.7	1.9
percent	0.01	-0.01	0.00	0.00	0.01	0.03	0.00	0.01

Source: Estimates from CGE model results

While some of the important environmental impacts have been considered above, there are many other environmental aspects that could possibly be considered. This comprises for example, but not exclusively, possible impacts on[80]:

- Air quality
- Water quality
- Land use
- Biological diversity
- Eco-systems
- Endangered species
- Natural resource stocks

EC (2009)[81] identifies energy-intensive sectors (NACE 3-digit). These only include manufacturing sectors.[82] Dean et al (2009) focus on water-pollution and find that the most polluting sector is Paper and production (ISIC 341). The second most polluting sector is food/beverages, followed by chemicals, non-ferrous metals and leather. The rest of the industries are reported as low water-polluting sectors.

Elliot (2007) provides pollution intensities for the four most pollution intensive industries (on 2-digit ISIC level). These are 1) Basic Metal Industries, 2) Manufacture of Non-Metallic Mineral Products, 3) Manufacture of Chemicals and Chemical, Petroleum, Coal, Rubber and Plastic Products and 4) Manufacture of Paper and Paper Products, Printing and Publishing.[83]

[80] See DG Trade (2006), Handbook for Trade Sustainability Impact Assessment, page 21 for an example from a past assessment.
[81] Study on European Energy-Intensive Industries – the usefulness of estimating sectoral price elasticities" (http://ec.europa.eu/enterprise/policies/sustainable-business/climate-change/energy-intensive-industries/carbon-leakage/files/cl_literature_review_en.pdf).
[82] NACE codes 265, 271, 231, 232, 211, 241, 274, 262, 261, 263, 264, 273.
[83] "Trade and Specialisation in Pollution Intensive Industries: North-South Evidence.

These are many of the same sectors as identified by Dean et al. Again not all of these sectors match with our model sectors, but as before we note that one of the pollution intensive sectors in Elliot (2007) is chemicals, which is predicted to decline in all experiments except experiment F.

8.5. FDI AND LABOUR STANDARDS

The literature in the field of labour standards and FDI gives grounds for both a pessimistic and an optimistic view.

Pessimistic view on FDI and labour standards

The pessimistic view centres on a concern for a 'race to the bottom'. Following this view, FDI sources are limited while potential host countries are many. According to this theory, increased openness to FDI could trigger a race to the bottom with regard to labour standards as countries compete for attracting FDI.

The view is a classical application of the prisoners dilemma, where developing countries should coordinate common labour rules but don't. It can be argued that the higher wages paid by large MNEs are only due to the fact, that they tend to hire more skilled workers. Part of this literature shows that non-wage working conditions are unchanged after increase in FDI.[84]

Optimistic view on FDI and labour standards

According to the optimistic view, FDI often brings new technology and thereby more efficient capital equipment to the host country, which enhances workers' productivity. Since increased capital per worker increases productivity, foreign firms are willing to pay higher wages.[85]

It is further argued that FDI is often undertaken by MNEs that are concerned about their reputation and therefore insist on enforcing higher labour standards at the MNE's own factories and at subcontractors.

The empirical literature shows that when local firms are bought by foreign firms, wages tend to increase by a statistically significant amount. Furthermore, since MNEs often have higher monitoring cost, compared to local firms, some observers argue that MNEs will pay a higher wage to ensure worker loyalty. Also, if MNEs bring better capital equipment, workers will often need some training before they can start working. This will tend to improve labour conditions and to increase productivity and wages. Finally, to minimise turnover costs, MNEs have an incentive to offer relative more attractive working conditions than local competitors.

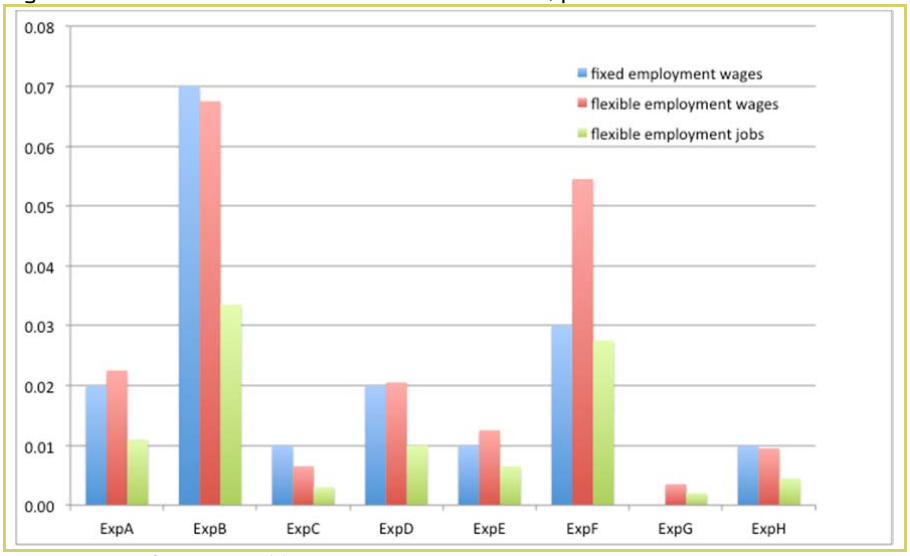
[84] See OECD (2008), The impact of foreign investment on wages and working conditions.
[85] See OECD (2008) idem.

Impacts from the CGE model

This section reports the average labour market effects in the EU under each scenario. It also reports effects under an alternative labour market specification. The main specification here assumes that, in the long-run, labour employment levels are not affected by the agreement modelled. As such, all labour market adjustment takes place through the wage. In the alternative specification, labour supply in the long-run is modelled as a function of the wage rate. This means that aggregate productivity gains mean higher wages, which also bring greater employment levels. Further alternative closure results are provided in the annex.

From the simulations we find small overall impacts on EU employment of a maximum of 0.03 percent increase. The greatest of these small effects on labour markets is in the ambitious, high spillover scenarios, cf. Figure 8.6. Basically, the wage effects in the fixed labour supply model point to the same ranking of scenarios in terms of labour market effects that is realized with jobs in the flexible labour supply scenario. This is linked to greater economic expansion and greater demand for EU exports in the case of high spillovers, when compared to the low spillover case. It is also linked to scope for concessions (improved access) by the EU as well, because when extended to third countries, the efficiency gains lead to stronger demand for labour (and so higher wages) in the EU.

Figure 8.6 Estimated labour market effects in the EU, percent



Source: Estimates from CGE model

Comparison of Experiments B and F with the rest makes it clear that the bulk of the labour market gains for the EU are linked to the level of concessions by China, and whether these are reciprocal or not. Both B and F are high ambition scenarios with higher spillovers. In this context, the more broad-based these concessions are (MFN rather than strictly bilateral), the more European firms benefit. This follows not only from better direct access, but also from supply chains linking EU firms to other non-EU firms benefitting from better access to

China in the high spillover scenarios. The difference between Scenarios B and F then highlight the benefit of reducing European barriers on a relatively broad country basis. The positive gains from spillovers in Scenario B are not specific to China, really, but rather reflect a result known from recent work on other NTMs as well (like work on trans-Atlantic NTMs and Japanese NMTs). Because such barriers reduce efficiency (they are not taxes), reducing them vis-à-vis major trade and investment partners yields efficiency or productivity gains. Even if we view the largest set of effects as implausible (in particular if we are simply moving to the EU level of access as a benchmark) spillovers still provide positive labour market effects (Scenarios F and H) compared to strictly bilateral concessions. Because existing BITs often contain MFN provisions, to the extent these yield spillovers in the case of China, this ought to yield further positive employment gains for the EU.

Sectoral labour market impacts in the EU

While there is only a very small positive or no impact on overall employment levels in the EU, the changes at the sector level are estimated to be more pronounced, but still moderate. Below we discuss the sector employment results in experiment B and F in some detail. These are the two experiments with the most pronounced effects. Results for all experiments are found in annex and are more moderate than experiment B and F. At the end of the section we present the results for wages across experiments.

Experiment B, the reciprocal and ambitious experiment with high spillovers, yields an overall positive employment impact. In this case, we predict the following positive sector employment impacts in the EU (with the higher estimates relating to the flexible closure):

- +0.5 to +0.6 percent in the EU motor vehicle sector
- +0.3 to +0.4 percent in the EU transport equipment sector
- +0.5 to +0.7 percent in the EU electronic equipment sector

A number of other sectors are seeing more moderate positive effects of zero to 0.1 percent increase. In experiment B, this is the case for agriculture, paper products, mineral products, utilities, financial services and insurance. As is also shown, impacts in all sectors are very similar for both skill groups in the model, although they are not identical by definition.

Some sectors are shown to be negatively affected in Experiment B (see Appendix 4 for further details). In this case, we predict the following negative sector employment impacts in the EU (with the higher estimates relating to the fixed closure):

- - 0.2 percent in the EU ferrous metals sector
- - 0.4 percent in the EU other metals sector
- - 0.2 to -0.1 percent in the EU metal products sector
- - 0.2 percent in the EU communication services sector

A number of other sectors are seeing more moderate negative effects of zero to -0.1 percent change. In experiment B, this is the case for four goods sectors: wearing apparel, leather products, wood products, and machinery and equipment. And two services sectors namely

sea transport and air transport. Ten sectors are unaffected in experiment B, which yields the greatest positive impacts of the analysed experiments.

Turning to Experiment F, the non-reciprocal and ambitious experiment with high spillovers, sector results looks different (see Appendix 4 further details). The experiment still yields an overall positive employment impact of 0.03 percent as in experiment B above, but in the non-reciprocal case we predict bigger positive sector employment impacts in the EU, but in fewer and bigger sectors compared to experiment B. Specifically we find (with the higher estimates relating to the flexible closure):

- +0.1 to +0.9 percent increase in the EU chemicals, rubber and plastics sector
- +0.2 to +0.7 percent in the EU machinery and equipment sector

These two sectors are relatively big sectors and represent 9 percent of overall EU employment (3 percent and 6 percent, respectively).

The EU wearing apparel sector shows a mixed impact with a small decrease of -0.1 percent in the case of the fixed closure and a small increase of 0.2 percent with flexible closure. The less skill group in the petroleum and coal sector is seeing a moderate positive effect of zero to 0.1 percent increase in the flexible closure. Again, impacts are otherwise identical across both skill groups in the experiment.
We also find that 14 sectors are largely unaffected in experiment F (compared to ten unaffected sectors in experiment F).

Some sectors are shown to be negatively affected in Experiment F. In this case we predict the following negative sector employment impacts in the EU (with the higher estimates relating to the flexible closure), cf. Appendix 4:

- 0 to - 0.2 percent in the EU metals sector
- 0 to - 0.2 percent in the EU motor vehicles sector
- - 0.4 to -0.9 percent in the EU transport equipment sector
- - 0.4 to -3.2 percent in the EU electronic equipment sector
- - 0.2 percent in the EU 'other manufacturing' sector

These five sectors are relatively smaller and in combination they make up 9 percent of total EU employment, so while the percentage changes on the negative side is more pronounced in the non-reciprocal experiment, the overall employment impact is identical in experiments B and F.

The model used is a general equilibrium model, and in such models all markets clear in equilibrium. This implies that wages across sectors are identical for each skill group both in the benchmark equilibrium and in the equilibria in the experiments analysed. For this reason, the percentage change in the wage for each skill group is identical across sectors, and consequently no sector results for wage changes are reported since they, by design, are identical.

We can however look at the differences between skill groups in the different closures and experiments. Wages are either unaffected or positively affected in all cases. In addition, we note that none of the experiments have any skill bias, and the percentage increases are identical for both skill groups. Further analyses show that the wage impacts are greatest (but still small) in experiment B (reciprocal, ambitious with high spillovers) of 0.07 percent increase. Experiment F (non-reciprocal, ambitious with high spillovers) yields a slightly smaller increase of 0.03 percent (with fixed closure) 0.06 percent (with flexible closure), cf. Table 8.14.

In the reciprocal experiments (A-D) there are no measurable differences between the fixed and the flexible closures, while in the non-reciprocal experiment F the fixed labour supply closure has a small effect.

Table 8.14 Impact on EU wages

	reciprocal				non-reciprocal			
	ambitious		modest		ambitious		modest	
	low spill-overs	high spill-overs	low spill-overs	high spill-overs	low spill-overs	high spill-overs	low spillo-vers	high spill-overs
Fixed labor supply								
more skilled workers	0.02	0.07	0.01	0.02	0.01	0.03	0.00	0.01
less skilled workers	0.02	0.07	0.01	0.02	0.01	0.03	0.00	0.01
Flexible labor supply								
more skilled workers	0.02	0.07	0.01	0.02	0.01	0.06	0.00	0.01
less skilled workers	0.02	0.07	0.01	0.02	0.01	0.05	0.00	0.01

Source: Own estimates from CGE model

REFERENCES

Literature on Bilateral Investment Treaties

Aisbett, E., "Bilateral investment treaties and foreign direct investment: correlation versus causation," in Sauvant & Sachs, eds., op. cit. The effect of treaties on foreign direct investment: bilateral investment treaties, double taxation treaties, and investment flows (New York: Oxford University Press, 2009).

Baier, S.L. and J. Bergstrand, "Do free trade agreements actually increase members' international trade?", Journal of International Economics, Vol. 71, pp. 72-95, 2007.

Bergstrand, J. H. and P. Egger (2007), "A Knowledge-and-Physical-Capital Model of International Trade Flows, Foreign Direct Investment, and Multinational Enterprises", *Journal of International Economics*, 73, 278-308.

Bergstrand, J. H. and P. Egger (2011), *What Determines BITs?*, CESifo Working Paper Series 3514, CESifo Group Munich.

Broches A., 'Bilateral Investment Protection Treaties and Arbitration of Investment Disputes' in A Broches, *Selected Essays: World Bank, ICSID and Other Subjects of Public and Private International Law* (Dordrecht, Martinus Nijhoff Publishers, 1995) 447, 457.

Choi, W-M, 'The Present and Future of the Investor-State Dispute Settlement Paradigm' (2007) 10 *J Intl Economic L* 725, 732.

Piscitello, L. And L. Rabbiosi (2005), "The impact of inward FDI on local companies' labour productivity: evidence from the Italian case", *International Journal of the Economics of Business* 12(1).

Denza, E. and S. Brooks, 'Investment Protection Treaties: United Kingdom Experience,' 36 International and Comparative Law Quarterly 4 (1987).

ECB (2009), FDI and productivity convergence in Central and Eastern Europe: An industry level investigation, Working Paper 992.

Egger, P. and M. Pfaffermayr, "The impact of bilateral investment treaties on foreign direct investment", Journal of Comparative Economics, Vol. 32, No. 4, pp. 788-804, 2003.

European Commission, Survey of the Attitudes of the European Business Community to International Investment Rules, conducted by T. N. Sofres Consulting on behalf of the European Commission, DG Trade, 2000.

Franck, Susan D., Foreign Direct Investment, Investment Treaty Arbitration and the Rule of Law. McGeorge Global Business and Development Law Journal, Vol. 19, p. 337, 2007. Available at SSRN: http://ssrn.com/abstract=882443

Guerin, Selen Sarisoy, "Do the European Union's Bilateral Investment Treaties Matter? The Way Forward After Lisbon", CEPS Working Document No. 333/July 2010.

Haftel, Yoram Z., "Ratification counts: U.S. investment treaties and FDI flows into developing countries", Review of International Political Economy (forth).

Hallward-Driemeier, Mary, "Do bilateral investment treaties attract FDI? Only a bit … and they could bite", World Bank Policy Research Working Paper, no 3121, 2003.

Halpern, L., M. Koren and A. Szeidl (2009), *Imported inputs and productivity*, downloadable from http://128.32.105.3/~szeidl/papers/imports_productivity.pdf.

Harten, Gus van, *Investment treaty arbitration and public law* (New York: Oxford University Press, 2007).

Haskel, J. E,. S. C. Pereira and M. J. Slaughter (2005), Does Inward Foreign Direct Investment Boost the Productivity of Domestic Firms?

London Economics, 'Analysis of developments in the fields of direct investment and M&A (Mergers and Acquisitions) - 2011 - Part II', report prepared for the European Commission, DG Internal Market and Services.

MOFCOM (2010), *Foreign Market Access Report 2010: EU*.

Neumayer, Eric & Laura Spess, "Do bilateral investment treaties increase foreign direct investment to developing countries?," 33 *World Development* 1567 (2005).

Paparinskis, Martins, The Limits of Depoliticisation in Contemporary Investor-State Arbitration (October 1, 2010). Select Proceedings of the European Society of International Law, Vol. 3, 2010. Available at SSRN: http://ssrn.com/abstract=1716833.

Paulsson, J., 'Arbitration without Privity' (1995) 10 *ICSID Rev – Foreign Investment Law Journal,* 232, 255-256.

Poulsen, Lauge S., "The Importance of BITs for Foreign Direct Investment and Political Risk Insurance: Revisiting the Evidence" in K. Sauvants, *Yearbook on International Investment Law and Policy 2009/2010* (New York: Oxford University Press, 2010).

Rosen, D. H. and T. O. Hanemann (2011), An American Open Door? Maximising the Benefits of Chinese Foreign Direct Investment, Special Report, Rhodium Group.

Salacuse, Jeswald & Nicholas Sullivan, "Do BITs really work? An evaluation of bilateral investment treaties and their grand bargain," 46 Harvard International Law Journal 67 (2005).

Sauvant, Karl & Lisa Sachs, "BITs, DTTs, and FDI flows: an overview," in Karl Sauvant & Lisa Sachs, eds.,The effect of treaties on foreign direct investment: bilateral investment treaties, double taxation treaties, and investment flows (New York: Oxford University Press, 2009).

Shishi, L., 'Bilateral Investment Promotion and Protection Agreements: Practice of the People's Republic of China,' in: P. De Waart, P. Peters, and E. Denters (eds.), International Law and Development (Dordrecht: Martinus Neijhoff, 1988), at 166.

UNCTAD, "Bilateral investment treaties in the mid-1990s", (New York and Geneva), 1998.

UNCTAD, "Latest developments in investor-state dispute settlement," IIA Monitor 1 (2008a), p. 2

UNCTAD, "The impact on foreign direct investment of BITs", in Sauvant & Sachs, eds., op. cit. The effect of treaties on foreign direct investment: bilateral investment treaties, double taxation treaties, and investment flows (New York: Oxford University Press, 2009), p. 347-8.

UNCTAD, "The Role of International Investment Agreements in Attracting Foreign Direct Investment to Developing Countries", UNCTAD report 2009.

Yackee, Jason Webb, "Sacrificing sovereignty: bilateral investment treaties, international arbitration, and the quest for capital," PhD-dissertation, University of North Carolina at Chapel Hill, 2007, ch. 4.

Yackee, Jason Webb, "Do BITs Really Work? Revisiting the Empirical Link between Investment Treaties and Foreign Direct Investment," in Sauvant & Sachs, eds., op. cit. The effect of treaties on foreign direct investment: bilateral investment treaties, double taxation treaties, and investment flows (New York: Oxford University Press, 2009).

Yackee, Jason Webb, "Do Bilateral Investment Treaties Promote Foreign Direct Investment? Some Hints from Alternative Evidence", 51 Virginia Journal of International Law 2 (2010).

Literature on impact of FDI

Aizenman and Noy (2005), *FDI and Trade – Two Way Linkages?,* NEBR Working Paper 11403

Amiti, M. and K. Ekholm (2008), *The Effect of Offshoring on Employment in Rigid Labour Markets: Evidence from EU Countries*, downloadable from http://people.su.se/~kekho/offshoring_resubmit_6055.pdf.

Amiti, M. and S. Wei (2005), *Service Offshoring and Productivity: Evidence from the United States*, NBER Working Paper 11926.

Anderson, L., P. Karpaty and R. Kneller (2008), *Offshoring and Productivity: Evidence Using Swedish Firm Level Data*, Svenska Nätverket för Europaforskning Paper 436.

Arndt, C., C. M. Buch and M. Schnitzer (2007), *FDI and Domestic Investment: An Industry-level View*, CEPR Discussion Paper 6464.

Bajo-Rubio, O. et al.(2001), "Foreign Direct Investment and Trade: A Causality Analysis", *Open Economies Review* 12, 305-323.

Bardhan, A. D. and C. A. Kroll (2003), *The New Wave of Outsourcing*, Fisher Centre for Real Estate and Urban Economics, University of California.

Belderbos, R. A. (1992), "Large Multinational Enterprises Based in a Small Economy: Effects on Domestic Investment", *Weltwirtschaftliches Archiv/Review of World Economics* 128(3), 543-557.

Bitzer, J. and H. Görg (2009), "Foreign Direct Investment, Competition and Industry Performance", The World Economy 32(2), 221-233.

Blomström, M., G. Fors and R. E. Lipsey (1997), "Foreign Direct Investment and Employment: Home Country Experience in the United States", *The Economic Journal 107*, 1787-1797.

Blonigen, B. (2001), "In Search of Substitution between Foreign Production and Exports", *Journal of International Economics* 53(1), 81-104.

Böckerman, P. and E. Riihimäki (2009), *International Outsourcing and Labour Demand: Evidence from Finnish Firm-level Data*, MPRA Paper 16903.

Braconier, H. and K. Ekholm (2000), "Swedish Multinationals and Competition from High- and Low-Wage Locations", *Review of International Economics* 8(3), 448-461.

Brainard, L. (1997) "An Empirical Assessment of the Proximity-concentration Trade-off between Multinational Sales and Trade", *The American Economic Review*, 87(4), 520-544.

Braunerhjelm, P. and L. Oxelheim (2000), "Does Foreign Direct Investment Replace Home Country Investment", *Journal of Common Market Studies* 38(2), 199-221.

Buckley, P. J. J. Clegg, A. R. Cross, X. Liu, H. Voss, and P. Zheng (2007), "The Determinants of Chinese Outward Foreign Direct Investment", *Journal of International Business Studies* 38 (4), 499-518.

Castellani, D. and G. B. Navaretti (2004), *Investments Abroad and Performance at Home: Evidence from Italian Multinationals*, CEPR Discussion Paper 4284.

Castellani, D., A. Disdier and G.B. Navaretti (2008), *How Does Investing in Cheap Labour Countries Affect Performance at Home? France and Italy*, CEPR Discussion Paper 5765.

Chaisrisawatsuk, S. and Chaisrisawatsuk,W. (2007), "*Imports, exports and foreign direct investment interactions and their effects*", Asia-Pacific Research and Training Network on Trade, pp.97-115, Chapter IV in ESCAP.

Chiappini,R. (2011), ''FDI and Trade: A Granger Causality Analysis in a Heterogeneous Panel'', *Economics Bulletin* 31(4), 2975-2985.

Clausing, K. (2000). "Does Multinational Activity Displace Trade?", *Economic Inquiry*, 38(2), 190-205.

Criscuolo C. and M. Leaver (2006), "Offshore Outsourcing and Productivity", OECD and ONS.

Cuyvers, L., M. Dumont, G. Rayp and K. Stevens (2005), "Home Employment Effects of EU Firms' Activities in Central and Eastern European Countries", *Open Economies Review* 16, 153–174.

Danish Ministry of Economic and Business Affairs (2008), *Danske Virksomheders Outsourcing*, Økonomisk Tema 6.

Dash. R, and Sharma, C. (2010), "Does Causality between FDI and Trade Exist: Evidence from South Asia?", *International Journal of Trade and Global Markets* 3(4).

Daveri, F., M. Iommi and C. Jona-Lasinio (2006), *Quantifying the Productivity Counterpart of Outsourcing in the Italian Manufacturing Industries*, paper presented for the OECD Productivity Workshop in Bern.

Desai, M. A., C. F. Foley and J. R. Hines Jr. (2005), *Foreign Direct Investment and Domestic Capital Stock*, NBER Working Paper 11075.

Driffield, N., J. H. Love and K. Taylor (2005), *Productivity and Labour Demand Effects of Inward and Outward FDI on UK Industry*, Aston University Research Paper 0511.

Egger, H. and P. Egger (2001), "Cross-border Sourcing and Outward Processing in EU Manufacturing", *North American Journal of Economics and Finance* 12(3), 243-256.

Egger, H. and P. Egger (2005), "Labour Market Effects of Outsourcing under Industrial Interdependence", *International Review of Economics and Finance* 14, 349-363.

Egger, H. and P. Egger (2006), "International Outsourcing and the Productivity of Low-skilled Labour in the EU", *Economic Inquiry* 44(1), 98-108.

Egger, P., M. Pfaffermayr, and Y. Wolfmayr-Schnitzer (2001), "The International Fragmentation of Austrian Manufacturing: The Effects of Outsourcing on Productivity and Wages", *North American Journal of Economics and Finance* 12(3), 257-272.

Ekholm, K. and K. N. Hakkala (2006), *The Effect of Offshoring on Labour Demand: Evidence from Sweden*, CEPR Discussion Paper 5648.

Eurostat (2008), *European Union Foreign Direct Investment Yearbook 2008*, European Commission, Eurostat Pocketbooks.

Falk, M. and B. M. Koebel (2002), "Outsourcing, Imports and Labour Demand", *Scandinavian Journal of Economics* 104, 567-586.

Falk, M. and Y. Wolfmayr (2008*), The Impact of Outward FDI in Central and Eastern Europe on Employment in the EU-15 Countries*, FIW Research Report 16.

Falzoni, A. M. and M. Grasseni (2005), *Home Country Effects of Investing Abroad: Evidence from Quantile Regressions*, CESPRI Working Paper 170.

Feldstein, M. (1994), *The Effects of Outbound Foreign Direct Investment on the Domestic Capital Stock*, NBER Working Paper 4668.

Fillat-Castejón, C. et al.(2008), *Trade Through FDI: Investing in Services*, Documento de Trabajo 2008-06, Facultad de Ciencias Economicas y Empresariales Universidad de Zaragoza.

Forte, R.(2004), *The Relationship between Foreign Direct Investment and International Trade Substitution or Complementarity? A Survey*, CETE- Research Center on Industrial, Labour and Managerial Economics, Faculidade de Economia, Universidade do Porto.

Fu, X. (2008), *Managerial Knowledge Spillovers from Foreign Direct Investment*, downloadable from http://ssrn.com/abstract=1339832.

Garner, C. A. (2004), *Offshoring in the Service Sector: Economic Impact and Policy Issues*, Federal Reserve Bank of Kansas City Economic Review, Third Quarter.

Geishecker, I. and H. Görg (2007), *Winners and Losers: A Micro-Level Analysis of International Outsourcing and Wages*, CEPR Discussion Paper 6484.

Girma, S. and H. Görg (2004), "Outsourcing, Foreign Ownership, and Productivity: Evidence from UK Establishment", *Review of International Economics* 12(5), 817-832.

Global Insight and ITAA (2004), *Executive Summary: The Comprehensive Impact*.

Goedegebuure, R.V. (2006), "The Effects of Outward Foreign Direct Investment on Domestic Investment", *Investment Management and Financial Innovations* 3(1), 9-22.

Görg, H. (2000), "Fragmentation and Trade: US Inward Processing Trade in the EU", Weltwirtschaftliches Archiv 136(3), 403.

Görg, H. and A. Hanley (2003), Does Outsourcing Increase Profitability?, Working Paper 1, Nottingham University Business School.

Görg, H. and A. Hanley (2005), "International Outsourcing and Productivity: Evidence from the Irish Electronics Industry", North American Journal of Economics and Finance 16(2), 255-269.

Görg, H., A. Hanley and E. Strobl (2008), "Productivity Effects of International Outsourcing: Evidence from Plant-Level Data", Canadian Journal of Economics 41(2), 670-688.

Görg, H., A. Hijzen and R. C. Hine (2004), International Outsourcing and the Skill Structure of Labour Demand in the United Kingdom, IZA Discussion Paper 1249.

Görzig, B. and A. Stephan (2002), Outsourcing and Firm-level Performance, German Institute for Economic Research Discussion Paper 309.

Grubert, H. and Mutti, J. (1991), "Taxes, tariffs and transfer pricing in multinational corporate decision making", *The Review of economics and Statistics*, 73, 285-293.

Hansson, P. (2000), "Relative Demand for Skills in Swedish Manufacturing: Technology or Trade?", Review of International Economics 8(3), 533-555.

Hansson, P. (2005), "Skill Upgrading and Production Transfer within Swedish Multinationals", Scandinavian Journal of Economics 107(4), 673-692.

Hatzius, J. (1998), "Domestic Jobs and Foreign Wages", Scandinavian Journal of Economics 100(4), 733-746.

Head, K. and Ries, J. (2001) "Overseas Investment and Firm Exports", *Review of International Economics* 9(1), 108-122.

Hejazi, W. and Safarian, E. (2001), "The Complementarity Between U.S. Foreign Direct Investment Stock and Trade", *Atlantic Economist Journal* 29 (4), 420-437.

Helg, R. and L. Tajoli (2004), "Patterns of International Fragmentation of Production and Implications for the Labour Markets", *North American Journal of Economics and Finance* 16(2), 233-254.

Herzer, D. (2008), "The Causal Relationship Between Domestic and Outward Foreign Investment: Evidence for Italy", *Applied Financial Economics Letters* 4(5), 307-310.

Hijzen, A. (2003), Fragmentation, Productivity and Relative Wages in the UK: A General Equilibrium Approach, paper presented at the Royal Economic Society Annual Conference 2003.

Hijzen A., H. Görg and R. C Hine (2003), International Fragmentation and Relative Wages in the UK, IZA Discussion Paper 717.

Hijzen, A., H. Görg, and R. C. Hine (2005), "International Outsourcing and the Skill Structure of Labour Demand in the United Kingdom", Economic Journal 115, 860-878.

Hijzen, A., S. Jean and T. Mayer (2009), The Effects of Initiating Production Abroad: Evidence from Matched French Firms, University of Nottingham Discussion Paper 24.

Hijzen, A. and P. Swaim (2007), Does Offshoring Reduce Industry Employment? University of Nottingham Research Paper 24.

Hijzen, A. R. Upward and P. Wright (2007), Job Creation, Job Destruction and the Role of Small Firms: Firm-level Evidence for the UK, GEP Research Paper 1, University of Nottingham.

Jang, Y. J. (2011), The Impact of Bilateral Free Trade Agreements on Bilateral Foreign Direct Investment among Developed Countries, The World Economy 34(9), 1628–1651.

Jäckle, R. (2006), Going Multinational: What are the Effects on Home Market Performance?, Deutche Bundesbank Discussion Paper Series 1: Economic Studies 3.

Jensen, J. B. and L. G. Kletzer (2005), Tradable Services: Understanding the Scope and Impact of Services Offshoring, paper presented for Brookings Trade Forum 2005: Offshoring White-Collar Work – The Issues and the Implications, May 12-13, 2005.

Jinping Y. and Wenjun Z. (2008), "The impacts of Japanese direct investment in China on the Sino-Japanese bilateral trade", *Journal of Chinese Economic and Foreign Trade Studies* 1(3), 185 – 199.

Kleinert, J. and F. Toubal (2007), The Impact of Locating Production Abroad on Activities at Home: Evidence from German Firm-Level Data, University of Tübingen Mimeo.

Kokko, A. (2006), The Home Country Effects of FDI in Developed Economies, EIJS Working Paper 225.

Kolstad, I. and A. Wiig (2010), *What Determines Chinese Outward FDI?*, http://www.cmi.no/file/?778

Konings, J. (2004), *The Employment Effects of Foreign Direct Investment*, EIB Papers 9(1).

Konings, J. and A. Murphy (2001), Do Multinational Enterprises Substitute Parent Jobs for Foreign Ones? Evidence from Firm-Level Panel Data, LICOS Discussion Paper 100.

Lipsey, R. E., E. D. Ramstetter and M. Blomström (2000), Outward FDI and Parent Exports and Employment, Japan, the United States and Sweden, NBER Working Paper 7623.

Lipsey, R. and Weiss, M. (1981), "Foreign Production and Exports in Manufacturing Industries", *The Review of Economics and Statistics*, 63, 488-494.

Lipsey, R. and Weiss, M.(1984), " Foreign Production and Exports of Individual Firms", *The Review of Economics and Statistics*, 66, 304-308.

Liu, X. et al. (2001), "Causal Links between Foreign Direct Investment and Trade in China", *China Economic Review* 12, 190-202.

Mann, C. L. (2003), "Globalisation of IT Services and White Collar Jobs: The Next Wave of Productivity Growth", in International Economics Policy Briefs 03-11, Washington, D.C.: Institute for International Economics.

Marin, D. (2004), A Nation of Poets and Thinkers – Less so with Eastern Enlargement? Austria and Germany, University of Munich, Department of Economics.

Mariotti, S., M. Mutinelli and L. Piscitello (2003), "Home Country Employment and Foreign Direct Investment: Evidence from the Italian Case", Cambridge Journal of Economics, 27, 419-431.

Masso, J., U. Varblane and P. Vahter (2007), The Impact of Outward FDI on Home-country Employment in a Low-cost Transition Economy, University of Tartu.

McKinsey Global Institute (2005), The Emerging Global Labour Market, San Francisco: McKinsey and Company.

Molnar, M., N. Pain and D. Taglioni (2007), The Internationalisation of Production, International Outsourcing and Employment in the OECD, OECD Economics Department Working Papers 561.

Monteagudo, J. (2005), A Brief Review of the Literature on Offshoring, the European Commission, Directorate General for Enterprise and Industry, Brussels.

Morck, R., B. Yeung and M. Zhao, *Perspectives on China's Outward Foreign Direct Investment*, http://www.kdi.re.kr/data/download/attach/8249_5.pdf

Mucchielli, J et al. (2000), " Investissements directs à l'étranger des multinationales françaises et relations commerciales avec leurs filiales: une analyse sur données individuelles d'entreprises*", Revue Économique*, 51, 747-760.

Namini, E. J. and E. Pennings (2009), Horizontal Multinational Firms, Vertical Multinational Firms and Domestic Investment, Tinbergen Institute Discussion Paper 2009.

National Academy of Public Administration (2006), Off-shoring: An Elusive Phenomenon, a report prepared for the US Congress and the Bureau of Economic Analysis.

Navaretti, G. B. and D. Castellani (2004), Investments Abroad and Performance at Home: Evidence from Italian Multinationals, CEPR Discussion Paper 4284.

Nordas, H.K., S. Miroudot and P. Kowalski (2006), Dynamic Gains from Trade, OECD Trade Policy Working Paper 43, TAD/TC/WP(2006)34/FINAL.

OECD (2005), Potential Offshoring of ICT-intensive Using Occupations, OECD Digital Economy Papers 91, Paris.

OECD (2006), Potential Impacts of International Sourcing on Different Occupations, Directorate for Science, Technology and Industry, Paris.

OECD (2007a), Offshoring and Employment: Trends and Impacts, Paris.

OECD (2007b), Staying Competitive in the Global Economy: Moving up the Value Chain, Paris.

OECD (2008), Chinas Outward Foreign Direct Investment, Investment News, Issue 6.

Pfaffermayr, M. (1996), " Foreign outward direct investment and exports in Austrian manufacturing: substitutes or complements?" *Weltwirtschaftliches Archiv*, 132/3, 501-522.

Pfaffermayr, M. (1999), Employment in Domestic Plants and Foreign Affiliates: A Note on the Elasticity of Substitution, Austrian Institute of Economic Research.

Roeger, W. (2006), The Production Function Approach to Calculating Potential Growth and Output Gaps Estimates for EU Member States and the US, the European Commission, Directorate General for Economics and Financial Affairs, Brussels, downloadable from http://eemc.jrc.ec.europa.eu/EEMCArchive/Publications/2006/Roeger2006%5B3%5D.pdf.

Sauramo, O. (2008), Does Outward Foreign Direct Investment Reduce Domestic Investment? Macro Evidence from Finland, Labour Institute for Economic Research Discussion Paper 239.

Strauss-Kahn, V. (2003), The Role of Globalisation in the Within-industry Shift Away from Unskilled Workers in France, NBER Working Paper 9716.

The Economist (2008), Offshoring: So Much for the Scare Stories, June 6th.

USCC Staff Research Report (2011), *Going Out: An Overview of China's Outward Foreign Direct Investment*, http://www.uscc.gov/researchpapers/2011/GoingOut.pdf.

Vahter, P. and J. Masso (2005), Home versus Host Country Effects of FDI: Searching for New Evidence of Productivity Spillovers, Working Papers of Eesti Pank 13.

van Welsum, D. and G. Vickery (2005), Potential Offshoring of ICT-Intensive using Occupations, DSTI Information Economy Working Paper 19, Paris.

Van Pottelsberghe de la Potterie, B. and F. Lichtenberg (2001), "Does Foreign Direct Investment Transfer Technology across Borders?", The Review of Economics and Statistics 83(3), 490-497.

For CGE-modelling

Brown, D., Stern, R. (2001), "Measurement and modeling of the economic effects of trade and investment barriers in services", Review of International Economics, 9(2), 262-286.

Hanslow, K., Phamduc, T., Verikios, G. (2000), "The Structure of the FTAP Model", Melbourne: Productivity Commission Research Memorandum MC-58.

Lejour, A., Rojas-Romagosa, H., Verweij, G. (2008), "Opening services markets within Europe: Modelling foreign establishments in a CGE framework", Economic Modelling, 25(5), 1022-1039.

Appendices