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FACULTY OF ECONOMICS

MASTER`S THESIS

THE EFFECT OF WTO MEMBERSHIP ON CHINESE FOREIGN TRADE AND CAPITAL FLOWS

Ljubljana, June 2016 TEA LUKANČIČ

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The undersigned Tea Lukančič, a student at the University of Ljubljana, Faculty of Economics, (hereafter: FELU), declare that I am the author of the master's thesis entitled The effect of WTO accession on Chinese trade and capital flows, written under supervision of prof. dr. Črt Kostevc.

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INTRODUCTION

For most people, including renowned experts, the evolution of the People`s Republic of China is a phenomenon. Succeeding in such a short time, is practically impossible for most other countries; however, China managed to do exactly that. What is their key to success? If there were an easy answer to the question, other countries would not probably lag behind. Therefore, I have to presume that there are many reasons behind this story, although in this thesis, the focus will be on the extent to which a membership in the World Trade Organization (hereinafter: WTO) has helped in achieving these results.

WTO is primarily an organization that helps member countries improve their trade conditions and solve trade disputes. Special attention and help is given to countries that are underdeveloped or less developed. Potential members are aware of the fact that the accession process is presumed to be long and complicated, especially the negotiations with all the existing members. In order to enter WTO, a country must show that by becoming a member, the other participant countries shall gain larger exports, strategic position, low costs of materials and manufacturing goods.

Despite the organization's main focus is not on capital flows, opening up the country`s trade can cause an increase in cross-border capital flows as well. Bigger trade volume can be reflected in Gross Domestic Product (hereinafter: GDP) growth, which is one of the indicators that the potential investors monitor when investing in capital markets. Another aspect of larger capital flows are foreign trading companies. Many of them open subsidiaries or merge with a local enterprise after seeing the export-market potential of a target country. From a different perspective, this makes trade credits and loans increase and consequently capital flows in and out of the country increase. Due to enlarged trade and profit expansion, China became a desirable destination for inward foreign direct investments (hereinafter: FDI), however, advanced purchasing power leads to augmented portfolio investments and outward FDI.

Before the People`s Republic of China actually joined the World Trade Organization in December 2001, it had to overcome many obstacles. Their future membership was disputed in many areas which raised important concerns with the existing members. The areas, which had to be addressed, were non-discrimination principles, exchange rate regime, government involvement, customs, tariffs, quotas, licenses and trademark abuse. Therefore, many changes in trade laws and procedures were performed. The accession process was highly important, since it shaped the foundations of new and better trade as well as capital flows. The members' demands were the reason why laws and operational procedures started to change in China and helped to create an environment that may have pushed China towards the present-day success. Throughout the thesis, I will try to analyse if the WTO membership helped China evolve in capital flows and trade, covering both

inward and outward data. At the outset, we should take into consideration that better results in explored areas may also be the consequence of a normal progression of the country and not necessarily a result of the WTO membership. Both natural evolution and the real impact of the regressors will be examined in the analyses.

Not many studies analyse the issue of the WTO effect on trade and in addition, there are no analyses to my knowledge regarding a direct general WTO effect on China. There are some studies concerning the WTO effect on state-owned enterprises (hereinafter: SOE) or specific sectors, although none with a more broader view. In 2002, Andrew Rose built the foundation for future research with his work "Do We Really Know that the WTO Increases Trade?" His study was built on a gravity model. The same model and variables such as volume of trade between countries if both are members and if only one is a member, Generalised Scheme of Preferences (hereinafter: GSP), GDP, free trade agreement (hereinafter: FTA), common colonizer, currency union, landlocked, number of islands, were also used later by other researchers. Estimation was done using different groups of data. Rose did not find any proof that WTO has an effect on trade if all other factors are held constant. (Rose, 2006, 2007)

Regarding the result of his work, many studies have been done in response to his paper. Few years later, Subramanian and Wei (2006) attempted to refute Rose`s research with a slight alteration of the data. They introduced dummy variables that excluded country pairs belonging to the same FTA/custom union or GSP. Gravity model proved that WTO affected its members and informal participants with growing mutual trade. Their exports were subject to a much bigger liberalization than from the non-participants. The effect of the WTO membership was distributed unevenly and the majority of benefits merely involved the developed members.

Goldstein, Rivers and Tomz (2007) used a standard gravity model, although including a larger time frame and more countries in the sample. The main difference from the other studies was the use of dyadic fixed effects which included member countries and formal participants as well. They claimed the effect of WTO was minimized with preferential trade agreements (hereinafter: PTA`s). The authors found a significant effect of the organization on trade, however, they asserted that informal members were more positively affected by WTO than formal members.

Another study contradicting Rose's (2002) findings was conducted by Chang and Lee in 2011. Unlike other authors, they did not use the gravity model, but non-parametric techniques such as a permutation test, pair matching estimator, sensitivity analyses and signed rank test. The research included formal and informal participant, combined in dyads. All analyses showed a positive significant effect of WTO on participants involved. A significant WTO result was seen after 6 years into the accession. High income countries

were tested to have larger trading benefits than middle income or low income countries, which had the least benefits.

Boys and Grant (2012) focused their research mainly on agricultural trade. Moreover, they used the gravity model and similar variables as Rose. The difference was made by including groups of agricultural and non-agricultural sectors, which immediately provides us with different data distribution. Researchers found that WTO members had lower tariff rates, higher share of duty free rates and trade flows were increasing during the years in the organization.

The purpose of this master's thesis is to analyse Chinese trade and capital flows in order to prove they ware augmented due to foundations laid by the World Trade Organization membership. Various macroeconomic indicators should help pointing towards a positive correlation. In order to achieve my objective, I will attempt to determine the contribution of the WTO membership to the growth of Chinese trade and capital flows. Furthermore, I will establish the factors which have helped achieve Chinese results and determine the magnitude of their influence. Additionally, I will determine which of them were most affected or changed most significantly owing to changes that the WTO membership brought. With this thesis, I would like to make a step forward concerning this issue and try to shed some light on one of the reasons for Chinese success.

In order to verify whether the WTO membership had any effects on Chinese trade and capital flows, the first step is to determine two hypotheses that could confirm my presumptions.

1. **HYPOTHESIS: Trade in China has increased due to the WTO membership.**
2. **HYPOTHESIS: Capital flows in China have increased due to the WTO membership.**

In the thesis, econometric and statistical approaches will be used in order to verify links between the WTO membership, trade and capital flows. Analytical approach will contain a critical judgment and evaluation of the thesis problem. Literature on the topic will be analysed and synthesized. Furthermore, a regression model will be formed in order to evaluate the effect of macroeconomic variables on trade and capital flows. Statistical and econometric analyses of the data will be employed to determine the relationship between variables.

One way of explaining the relationship between the WTO membership, the growth of capital flows and trade is to make a multiple linear regression gravity model. More specifically, I will do an ordinary least squares (hereinafter: OLS) pooled regression model for both dependent variables and a seemingly unrelated model (hereinafter: SUR) which

combine both regressions and determine whether there is a correlation between them. All the data will relate to China and ten of its most important partners in the areas of trade and capital flows. If the positive effect exists, it should be seen in those countries. Variables that are determined to have an effect on trade and capital flows are GDP, exchange rate, real interest rate, distance and dummy variables such as the WTO membership, former colony, sea access, common language and border. The analyses will show how strong that connection is in reality. Having two different dependent variables, two regression models will be examined. Due to regressors being practically the same for both regressions and errors of the two equations are very likely to correlate, it would be wise to employ a seemingly unrelated model (SUR). Namely, there may be common immeasurable factors to both equations in question, requiring them to be estimated simultaneously. This way, I will be able to check for any correlation between errors of individual equations and gain efficiency.

For a better understanding of how trade and capital flows were moving across the studied period, a set of different indicators are explained, such as GDP, export and import of merchandise trade, services and agricultural products, FDI, portfolio and other investments.

The thesis is comprised of the introduction, which shortly describes the topic explored, purpose and methodology of the thesis. Secondly, I represent the World Trade Organization and the structure of the Chinese accession process, the problems they encountered as well as reasons for the membership. Forward on I explain how indicators of trade and capital flows changed over the studied period and if there was any correlation with the WTO membership. The last section provides results of the regression and conclusion.

1 WORLD TRADE ORGANIZATION

“The World Trade Organization deals with the global rules of trade between nations. Its main function is to ensure that trade flows as smoothly, predictably and freely as possible.” WTO is trying to help countries through better trade conditions, their further evolvement, raise welfare, decrease poverty, and ensure stability and peace (World Trade Organization, n.d.e).

The World Trade Organization was established on the 1st of January 1995 and was created as a result of the Uruguay Round negotiations (1986-1994) and earlier negotiations of the General Agreement on Tariffs and Trade (hereinafter: GATT).The headquarters are located in Geneva, Switzerland and are led by their general director, Roberto Azevêdo. WTO is run by 162 member countries and the Secretariat which coordinates all the activities (World Trade Organization, n.d.d).

The main purpose of the organization is to help countries with opening their markets, lowering trade barriers as well as helping and supporting the developing countries. One aspect of their involvement are the barriers to trade which include tariffs, quotas, dumping prices, bureaucracy, packaging and shipping regulations, permits, customs procedures, standards and subsidies. In some specific situations WTO can also limit or substantially close a market due to customer protection or higher epidemic possibility. The WTO agreements include goods, services and intellectual property. Most of them should be accepted in the spirit of liberalization; however, there are some granted exceptions. All major agreements have to be established in consensus with every member country which is represented by their ministers (Ministerial Conference) or ambassadors. Consensus must be ratified by the member’s parliament. Required information in order to make the best choice is submitted by the international experts working in the Secretariat. Agreements may be adjusted in time but only in accordance with everyone involved (World Trade Organization, n.d.e).

Sixteen multilateral agreements, in which all countries participate, and two plurilateral agreements, in which only some countries participate, are in force now.

The organization has four major tasks (World Trade Organization, n.d.c):

1. Trade negotiations: Negotiations are extremely important for every country involved in a potential agreement. Members express their opinions and lobby against each other to get as close as possible to what they desire. It is common that members with similar interests, custom areas and markets form one big alliance group (exp: EU, ASEAN, MERCOSUR, NAFTA, ACP, SELA, CAIRNS). In this respect, these members get a bigger bargaining power, even towards stronger countries. When negotiating, it is

crucial to know where the country's biggest interests lie, since one is often forced to sacrifice a smaller goal in order to get closer to a more important one (World Trade Organization, n.d.b).

2. Implementation and monitoring: All decisions that are made in the organization must be implemented by all the countries involved. The monitoring of international trade politics is carried out by the Secretariat. Agreements are legally binding rules in international trade. Country members are required to report on the progress they are making with the implementation. If the implementation is evolving in the wrong direction or it is too slow, the member is warned or even punished. In due course all WTO members have to submit a report of their trade policies and practices which is then reviewed by the Secretariat. Frequency of each country's review varies according to their share of world trade, for example, China was reviewed every two years.

3. Dispute settlements: It is extremely important that the trade and excepted agreements flow smoothly and with minor complications, meaning that all rules are executed precisely in the way that was determined in the agreement, without any stretching and tailoring of the rules. Although, a few misunderstandings in interpreting the agreements may still occur. Members of the organization, who think their rights, based on the accepted agreement, were violated, have the option of opening a dispute in WTO. After presenting all the evidence and opinions, the judgment is made by the unbiased experts, the Panel. Obtaining the knowledge and information which the organization provides, the Panel advises countries how to defend themselves when disputes are not solved in their favour. Parties may appeal to the Panel's ruling. The appeal is discussed by three members of the Appellate Body and should be solved in three months.

4. Building trade capacity: It refers to the help that WTO offers to countries in development. Experts advise them how to create skills, infrastructure and trade policies, which are also in compliance with WTO standards and basic agreements. By helping less developed countries, members will probably have a better relationship with them, which could ease their further trade. Help is additionally given to countries in the process of accession to the organization (World Trade Organization, n.d.a).

Owing to the openness, transparency and public status of the organization, countries and their residents are keen to trust them. WTO ensures that markets stay open, no product discrimination and allows for bigger consumer choice. Companies that make their business by exporting or importing goods feel secure, as their transactions are safe. WTO strives for a trade which is anticipated, transparent and competitive (World Trade Organization, n.d.e).

1.1 Studies of WTO effect on trade

"Almost nobody dares to doubt that the WTO and GATT have helped to boost global trade, by encouraging countries to lower their tariff barriers in successive rounds of trade negotiations" (Weighing Up the WTO: Does the World`s Free-Trade Club Actually Work?, 2002).

Only few studies were done on this topic, since measuring the impact of WTO on an economic area is extremely hard. To my knowledge, no direct research has been done on how WTO membership has affected Chinese trade or capital flows. Taking all the analyses below into consideration, the one from Goldstein, Rivers and Tomz (2007) covered the most detailed data. Looking at a more disaggregated level of trade data, might reveal the real effect of WTO on trade. It simply depends on whether a researcher is focusing on the results for a particular sector or for the whole country.

1.1.1 A. R. Rose – Do we really know that WTO increases trade?

One of the important initial research papers was written by Andrew Rose in 2002, exploring the effect of WTO/GATT on trade. Throughout the paper, he used several methods and aggregation of data in order to verify whether WTO had an effect on trade. He used a standard gravity model with ordinary least squares on bilateral trade and improved it by using several different variables as trade determinants. Used dependent variables were volume of trade between countries if both were members and if only one was a member, GSP. He included independent trade variables (GDP, FTA), value of bilateral trade. Dummy variables, such as culture (common language), geography (land border), history variables (common colonizer, being a colony, common country), currency union, landlocked states, number of islands and dependency were used. Rose also incorporated some instrumental variables as measures of democracy and policy, freedom, civil and political rights. Comparing trade patterns for members and the ones not included in the organization, members should have a much larger trade. Different calculations were done by using a set of diverse data. Rose combined the data by regional trade agreements (ASEAN, EU, NAFTA, CARICOM…), by rounds of trade negotiations, years of accession. With all the upper methods of research, Rose did not find any compelling empirical evidence that WTO had an effect on encouraging trade. Country members did not have different trade patterns or significantly increased trade than the ones not included in WTO/GATT if other things were held constant (lat. *ceteris paribus*). When other things were not held constant, WTO/GATT had an effect on trade (lat. *ceteris non paribus*).

Furthermore, other researchers, such as Subramanian, Wei (2006) and Goldstein, Rivers, Tomz (2007) tried to refute those conclusions and point out mistakes in Rose's research. They argued that informal GATT participants should have been included; data on trade

should have been split across different sectors and not aggregated due to sectors, such as agriculture and textiles, were hardly ever included in liberalization efforts. Countries had already been liberalized before accessions, tariff reductions had transition periods and the data taken should have been bilateral and not multilateral. Rose only acknowledged that he should have focused on extensive margins of trade (if a pair of countries traded at all), rather than leaving pairs of non-trading countries out of the research. Despite continuous work in this area, Rose did not find any real evidence that WTO increased trade, but recognized that: "It encourages the creation of trading linkages where none might otherwise exist" (Rose, 2006).

1.1.2 A. Subramanian, S. Wei - The WTO promotes trade, strongly but unevenly

In 2006 A. Subramanian and S. Wei published a research on a similar topic, in which they tried to discard A. Rose (2002) by claiming that WTO had an effect on trade. They tried to confirm the next hypotheses:

1. Trade among developed countries has increased substantially, but trade among developing countries has changed very little due to WTO membership.
2. Developed members discriminate between imports from other WTO members and non-members.
3. Manufactured products that are largely produced and exported by developed countries are highly liberalized.
4. Countries joining the WTO after the Uruguay Round (1995) are more trade liberalized.

Researchers used practically the same data and model as A. Rose (2002) but added the country's fixed effects to the regression. Dummy variables were coded to exclude the paring countries that belonged to the same FTA/custom union or GSP. PTA's were set up in hierarchical order. Their findings were quite opposite to the Rose research, all with the assumption of *ceteris paribus*. Industrial countries were statistically and significantly trading more with other developed countries than with developing countries. They claimed that inclusion of any developing member country would have diminished the WTO's positive effect on trade, because they were not members also in spirit. Imports between member countries were greater than between a member and a non-member country. On the other hand, imports in a developing country from WTO members were not larger than from a non-member. Products that were largely manufactured and exported by developed and powerful countries had a much more liberalized trade policy than products from a non-member country. Importations such as textiles, clothing or footwear were limited and encountered with more bureaucracy. Statistically significant were not the calculations of the fourth hypothesis. The research showed that countries after the Uruguay Round were given a longer period to liberalize their trade (up to 15 years) and therefore the results were lower after 1995. Members did not open more than non-members to liberalization of trade.

Overall outcome of this research was much more positive towards the WTO influence. The results showed that a positive effect was visible in trade of a member country, but the effect was distributed unevenly. Developed countries got more benefits with the membership than developing and less developed countries. This implied discrimination of the poor and smaller countries which was in contrast to the basic WTO principles of equality.

1.1.3 J. Goldstein, D. Rivers, M. Tomz - Institutions in international relations: understanding the effects of the GATT and the WTO on world trade

Resembling other studies on the topic, this one was likewise written in 2007 as a replica to Rose's study (2002). The most relevant differences between studies are the extension of observed countries and a larger time frame. Standard gravity model was used again, although with dyadic fixed effects. Authors claimed that in addition to formal WTO members, the non-member participants, such as former colonies and countries trading with the members, also had to be considered. The organization could give rights to countries and territories that had not signed yet or would in the future and consequently influenced their trading behaviour.

Another issue that can minimize the WTO effect are PTA's. Countries can agree on PTA which gives them even more preferential treatment than with WTO. Similar situation occurs when countries already belong to a common PTA and do not enhance mutual trading only because of WTO. Therefore, the organizations' effect is decreasing. GATT/WTO has to be evaluated along with other agreements, but not assuming that agreements are hierarchical. Not taking into consideration dyadic fixed effect, authors gained similar results as Rose (2002), collecting no evidence of WTO enhancing trade. While putting them in the equation and considering the participation of non-formal members, a significant effect is seen. Members and non-formal participants traded more than non-members. Results display that trade between industrial member countries increased more than 70%, 45% between industrial and developing members and 33% between developing countries. Formal members traded less than informal members. Colonial relations proved to have more influence on trade than PTA's.

In 2007 Rose published a reply to the above research, rejecting their results. This raises the question of how the non-formal members can have a larger effect on trade than formal members, particularly questioning the large effect on bilateral flows, which cannot even slightly be seen in aggregate trade. Treating de facto participation as non-participation, diminishes their results. Overall, the entry to WTO formally or informally seemed to have little effect on aggregate trade. Another issue raised is why participation of non-members did not show in their effect on trade policy. For the most part, Rose`s reply opened new questions, however, he did not entirely answer them.

1.1.4 P. Chang, M. Lee – The WTO trade effect

Rose's study in 2002 made a lot of fuss, since several people could not believe his results. Two of them were P. Chang and M. Lee (2011) who tried to refute his assertion with a different analysis. The main dissimilarity with other working papers was that they assumed treatment effects to be heterogeneous and varied with observed covariates and not homogenous as others were before. Non-parametric techniques, such as permutation tests, pair matching estimators, sensitivity analyses and a signed rank test were done. Pairs were determined using restricted matching kernel weighting.

They found a large WTO effect on trade in all cases, especially with dyads when both trading partners were WTO members (74%). In the early phases of the membership, the organizational effect was negligible, but rose after 6 years into the accession. Another interesting result they found was that high income countries benefited the most from the GATT/WTO membership, followed by middle income and small income countries which benefits were very little. Poor countries did not liberalize imports with the membership and faced difficulties with expanding their exports. In fact, they still deal with protectionism measures implemented in high income countries. Factors that enhanced trade were likewise GDP per capita, common language, colonial linkage and common currency union.

1.1.5 K. Boys, H. Grant - Agricultural trade and the GATT/WTO: Does membership make a difference?

In 2011 Grant and Boys did another relevant study, but focused more on agricultural trade. Like in the previous research papers, the gravity model with similar variables was used, but the focus was on agricultural trade. The gravity equation was formulated to allow the WTO/GATT membership effect to differ between agricultural and non-agricultural sectors. The research supported the presumptions that WTO members had more liberalized tariff policies, on average applied lower tariff rates and had a higher share of duty free tariffs. Member countries had 100% lower tariff rates than non-members, which was an enormous difference. The paper suggested that the membership in the World Trade Organization made a positive difference regarding the agricultural trade and its imports. Trade flows were significantly higher for members that were part of the organization for a longer period of time than the recent or non-members. On average, the membership increased the agricultural trade for 161% and the non-agricultural trade for 72%. What is more, the membership encouraged partners to trade more which led to the creation of new trading partnerships. Still, members were more likely to trade with other members than with the outsiders.

2 ACCESION PROCESS OF CHINA

Becoming a WTO member should not be taken for granted, as it is earned throughout a lengthy process of adjustment and adaptation. When China began with the accession process and negotiations with the WTO members, it became obvious that this would not be an easy process. A number of incumbent members wanted China to join the WTO but only after important changes had been made. China was one of the countries with the longest pre-accession period due to an extensive list of membership terms and expectations. If the existing WTO members had not demanded China to change, there would have been very little chance of enhancing the entire Chinese trade and capital flows. According to Rumbaugh and Blancher (2004), commitments were crucial for Chinese integration in the global trading system. China, as a fast growing economy, was predicted to overtake all the leading countries in trade. If China had been encouraged to join WTO, other members could have controlled the evolvement of their politics, trade procedures, height of tariffs, quotas and therefore created trade and capital flows in their favour. Another interest that the members had in opening China's market, was its huge trade potential. Enterprises saw the possibility of new exports, gaining market share and opening new jobs.

The areas which were subject to corrections:

1. Non-discrimination principles: more equal treatment of foreigners tended to increase imports to the country and capital inflows
2. Exchange rate regime: releasing the currency value could help towards more unpredictable value of capital flows and higher price for Chinese export products
3. Government involvement: less doubtful and protectionists interventions could influence on the trust of other trading partners, in the sense of international trade and capital flows
4. Customs, tariffs, quotas and licenses: fewer trading obstacles could encourage higher imports and exports of mainly merchandise trade
5. Trademark abuse: proper trademark protection could have an effect on imports of such products as well on better confidence in products sourcing from China (products were less perceived as fakes)

Each point helped shaping Chinese economy indirectly towards positive improvement of their trade and capital flows. Without liberalization and limited timelines for implementation of changes, the growth, which China experienced, would probably not have been as high as it was, which is what this paper is trying to indicate.

2.1 Time course of negotiations

The People's Republic of China was one of the 23 original signatories of the GATT in 1948. After their revolution in 1949 they decided to leave GATT in 1950. In the following years, when the political area stabilized in China, they requested to re-enter GATT (1986). Hong Kong, as a part of China, has been included in GATT since 1986 as a British colony. Although the Chinese have over taken it, it still remains a separate customs territory with the ability to decide on its trade and economic policies. Negotiations with China stopped due to the Tiananmen Square incident in 1989. In 1991, Portuguese colony Macao became a WTO member. When they were overtaken by China, they still remained independent in trade and economic policies. Negotiations for China's accession stopped until 1992. The initiative was made by Shanghai as one of the most developed cities in China. The biggest hindrance to China's entry into the WTO came from the U.S. Due to huge Chinese imports and their low prices, home companies in the U.S. were pushed out. After years of negotiating, they came to a mutual agreement that was signed by both countries on the 15th of November 1999. Subsequently, the agreement with the European Union was also ratified on the 19th of May 2000. The accession process was led by the Working Party and its Chairman ambassador Pierre-Louis Girard. China established Shanghai Research Centre on GATT and WTO Affairs Consultation Centre in 2000 which provided legal and policy consultations on WTO affairs during the accession and now (World Trade Organization, 2001b).

China became the 143rd member of the World Trade Organization on the 11th of December 2001. Before the membership was completed, China had to overcome many obstacles and non-consistencies with the WTO agreements. The negotiations were concluded on the 17th of September 2001 and were formally confirmed on the Ministerial conference in November. China was still a developing country, which meant they were entitled to a more differential and favourable treatment in comparison to developed countries. Although China was highly developed in some parts, the country was still overall poorly developed. The People's Republic of China joined WTO with the Marrakesh Agreement on the terms and conditions set in the Protocol (World Trade Organization, 2001a).

Table 1 represents important events in China and Taiwan's accession to GATT and WTO over the years, influencing the current of the accession.

Table 1. China and Taiwan Join the WTO: Major Milestones

Year of the event	Event
1947	The Republic of China is one of the original members of the GATT
1949	The People's Republic of China is established on the mainland and the Republic of China moves to Taiwan
1950	The Republic of China resigns from GATT; The People's Republic of China denounces GATT for ideological reasons
1986	The People's Republic of China applies to renew membership in GATT; Hong Kong joins as a customs territory
1990	Taiwan applies to join as a customs territory
1992	Taiwan gains observer status and informal agreement is reached that Taiwan would join after China
1995	GATT is replaced by the WTO
15th November 1999	U.S. & China announce bilateral agreement
19th May 2000	The European Union & China finish agreement
24th May 2000	U.S. House of Representatives vote 237 to 27 in favour of granting China Permanent Normal Trading Rights (PNTR)
19th September 2000	U.S. Senate vote 83 to 15 in favour of PNTR
10th September 2001	Required by U.S. law, President Bush certifies the U.S.-China bilateral WTO agreement
14th September 2001	WTO members finish agreement for China to join
11th November 2001	WTO ministers formally accept China as a member, followed by Taiwan the next day
11th December 2001	The People's Republic of China officially becomes the 143rd member of WTO
1st January 2002	Taiwan as "Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu (TPKM)" officially becomes the 144th member

Source: P. Prime, *China joins the WTO: How, Why and What Now*, 2002, p. 8, Table 1.

The following points below present the subjects that concerned the Working Party responsible for the China's accession. They pointed out some dangers and things that needed to be corrected in order to finalize the accession process. Important issues were also written in the Draft Protocol.

2.2 Non-discrimination principles

The most concerning for the Working Party was the application of non-discrimination principle in relation to foreign individuals and enterprises, that were trying or had already been doing business in China. Restrictions due to nationality and entity had to be forbidden. Equal treatment was needed for both imported and home products. Taxes and fiscal provisions were determined by the products origin and differentiated on a sub-national level, with higher expenses for non-Chinese products. Three years in the accession, China had to allow free trading for all companies in all goods throughout the entire customs territory. Imported or exported products, such as wood, wool and steel, were limited in quantity; however, in accordance with the non-discrimination principle, China had to abolish the limitations (World Trade Organization, 2001c).

2.3 Exchange rate regime

Many concerns pointed out by the Americans referred to the exchange rate regime. The Chinese currency Renminbi (hereinafter: RMB) was tied to the U.S. dollar. RMB had a very low value, comparing it to dollar, which meant that prices of Chinese products were artificially kept low. Authorities accumulated massive amounts of foreign exchange reserves and prevented them from gaining value. Additional reasons were the extensive U.S. trade deficit and Chinese purchases of American companies. In 2005 China was forced to change its fixed exchange rate from the U.S. dollars to floating exchange rate tide to a basket of world currencies (Goodman, 2005).

2.4 Government involvement

Chinese government greatly influenced the activities and decisions made by the state-owned or state-invested companies. Prior to the Chinese entrance to WTO, their government had used extensive price controls on certain products, especially agricultural and education services, which led to predetermined profits of companies. Also, all imported goods were included in government pricing. This sort of handling was for WTO member's unacceptable due to distorted competition and corruptive reasons. The government determined the prices at a public hearing, where companies were entitled to suggest their price preposition or invite consumers. Government prices could be corrected by the authorized agencies together with a strong reason (changed production costs, material prices, low sales). While determining new technical regulations and standards, the government had to establish timeframes for the public to comment on those proposals. Among other complaints, there was also that China competed unfairly with prohibited dumping prices, which was investigated but not confirmed (World Trade Organization, 2001c).

2.5 Customs, tariffs, quotas and licenses

The Working Party suggested China to bind tariffs for all products, which would facilitate procedures of doing business. Another issue was the lack of transparency and uniformity of the government in regards to tariff rate quota regime (hereinafter: TRQ). Quotas were divided based on the national supply and were not parallel with the consumer wishes. In order to get quota certificate, enterprises had to go through long and extensive procedures. Methods to determine customs value of goods were additionally questioned. The most concerning of all were reference and minimum pricing. China had to eliminate all of them and introduce prices, based on transaction value. Concerns of export licensing were pointed out. Number of licenses were covering about 10% of Chinese export trade, which was not in accordance with GATT and most likely meant that their requirements for acquiring the license ware not high. Import licenses had to be issued with the minimum duration of six months. Furthermore, all export subsidies had to be eliminated (World Trade Organization, 2001c).

2.6 Trademark abuse

China committed to control and regulate the existing trade, especially trade inspection agencies, which had to employ stricter customs controls. Copyrighting piracy and trademark abuse had to be considerably reduced. Controversial products were to be excluded from trading at import and export by the customs. Unequal treatment was noticed when foreign enterprises complained about copying. In addition, home enterprises could file a complaint directly with the China's Trademark Office, whereas foreign enterprises had to use designated trademark agents. This represented more time consuming bureaucracy and costs to foreign companies. Protecting intellectual property rights was one of the major issues for the U.S. (World Trade Organization, 2001c).

3 CHINESE REASONS FOR THE ACCESSION

Throughout the years, Chinese trading was expanding dramatically all over the world. Low product prices and relatively quick delivery were crucial for Chinese success. Due to their trade attracting numerous customers, some foreign companies became uncompetitive. For that reason, companies used anti-dumping prices, high quotas, tariffs and unfair treatments. Therefore, huge pressure was made on the governments to restrain Chinese imports. With all the obstacles and discriminatory treatment, China decided to join WTO, where they could achieve additional rights regarding trade and strengthen their multilateral trading system (Prime, 2002).

Another issue that China was dealing with, was low competitiveness of state-owned companies and banks. Becoming a member, they hoped to attract foreign enterprises and

banks which would set an example of superior functioning. Thus, home companies had to become more competitive or lose against them. New foreign investments were also expected together with technological development and growth, respectively. China's further development depended on foreign trade and investments. Joining the WTO, China would gain an equal right to decide on international trade and could influence decisions favouring their needs. China also wanted to overtake Taiwan, so that when they applied China would have an influence on shaping their economy (Prime, 2002).

China assumed that WTO membership would bring it (Prime, 2002):

1. 10 million jobs would be lost in autos, farming, aluminium, petrochemicals and steel,
2. 10 million jobs would be gained in textiles, garments, services and rural activities,
3. doubled international trade,
4. GDP would increase 1% per year.

Table 2 displays the expected winners and losers regarding the WTO membership. The consumers group is likely to gain the most. With the wider range of purchase possibilities and lower prices due to increased competition, their real income and purchasing power would increase. Private sector would enlarge their exports; therefore transport would suppose to evolve. On the other hand, services as banking, insurance and telecommunications would lower their successfulness due to high state-owned shares.

Table 2. Redistributed benefits

Winners	**Losers**
The private sector	Many state-owned companies
Consumers	Banking
Exporters	Insurance
Transport: containers	Telecommunications
Services: household and professional	Automobiles
Textiles and apparel	Heavy industry, e.g. steel, aluminium
Light manufactures, e.g. electronics, toys	Farmers; e.g., grain, soybeans & cotton
Non-farm activities in rural areas	State trading companies

Source: P. Prime, *China joins the WTO: How, Why and What Now*, 2002, p. 8, Table 2.

4 SIGNIFICANCE OF CHINESE MEMBERSHIP

WTO members were very keen on China's acceptance to the World Trade Organization. There were many reasons for that, however, the most obvious was China's sheer size and its huge population. China represented one of the biggest potential markets with around 1.3

billion consumers. During the accession process, China had the seventh largest GDP, which was still growing from 7% to 8% annually and was the seventh largest exporter in the world. China`s entry would end a successful transition of former socialist countries to market economies (Nakatsuji, 2001).

Due to China's huge market and trade potential, other members hoped for new possibilities in export and opening up a potentially interesting market. Home companies would amplify exports, which would lead to profit and opening of new working places. Owing to China's countless potential consumers, companies thought that gaining a market share (even a small one) with lower barriers would be rather easy.

5 REMAINING TRADE OBSTACLES

Although the People's Republic of China had to accept several conditions from the WTO members, there were some conditions that were opposing the free trade principle. Argentina, the European communities, Hungary, Mexico, Poland, the Slovak Republic and Turkey had the possibility to reduce their import limitations throughout the period of years (maximum 6 years). Limitations were eased for products like footwear, clothing, toys, ceramic, bicycles, textile and electrical appliances (World Trade Organization, 2001b).

When products of Chinese origin were imported into another WTO member in quantities which were large enough to cause market disruptions or endanger domestic producers, a member had the right to appeal. Then consultations in search of a satisfactory solution with China could begin. If within 60 days after receiving the request for consultation, they still were not finished, the member had the right to limit imports to the level they felt necessary. Such actions had to be forwarded to the Committee on Safeguards. Nevertheless, China would reserve the exclusive right in which only the home enterprises could sell cereals, tobacco, fuels and minerals. Furthermore, some restrictions remained on transportation and distribution of goods within the country (World Trade Organization, 2001a).

6 FINALIZING THE ACCESSION

All the inconsistencies that the Working Party pointed out had to be repaired ahead of accession, or a time limit was determined in the Draft Protocol. Most of the repairs had to be done in the relevant legislation and enforced in practice. New laws were there to facilitate doing business in China and to equalize home and foreign companies. Central government had to ensure that all the changes would also be enforced on the sub-national level, where other laws and practices had already been established. During the accession process, China had to deliver or make available documents which the Working Party requested. These mainly referred to standardization, sub-national laws and policies. All changes that had already happened as well as those that would be enforced in the future,

had to be promptly communicated to WTO and published in the official journal (World Trade Organization, 2001b).

Upon the accession, China had to eliminate or change all of their trade agreements concluded in the past if they were not compatible with the WTO agreement. In the following eight years, the General Council annually reviewed how the WTO agreement and Protocol were implemented in practice. The last review took place ten years after the accession.

7 SITUATION IN CHINA UP TO 2014

When the People's Republic of China entered the World Trade Organization numerous expectations and promises were made. Since China was growing immensely during the years, other members felt they were being left behind. China evolved faster than anyone had hoped.

China has scored remarkable achievements in economic terms (World Trade Organization, 2011):

1. 2nd largest economy in GDP terms,
2. 1st largest merchandise exporter,
3. 2nd largest merchandise importer,
4. 4th largest commercial services exporter,
5. 3rd largest commercial services importer,
6. 1st destination for Inward FDI among developing countries (2nd destination among all countries),
7. 1st investor for outward FDI among developing countries (3rd destination among all countries).

Other members felt that China was moving away from the organizational values and goals. Although they agreed that upon entering WTO, China had to change its industrial policies, privatize state-owned companies and stop with the huge protection measures on home technological companies; this was not entirely enforced. For foreign companies it was still hard to enter Chinese market due to complicated bureaucracy. Such protectionism did not necessarily violate the WTO rules, only the intention of them. In response, members had rather tighten their bilateral agreements, as opposed to filing an official dispute with the World Trade Organization. Commonly, this was considered more effective for bigger and stronger countries than for weaker ones. Many expectations were established in the area of legislation transformation. Social changes were made, although consequences that are shown today are referring to changes made during the accession time. All new trade laws and regulation propositions that wanted to be enforced, had to be available to any member,

who then also had the right to comment on it. The mistake, made by other members, was overestimating trading possibilities that could have opened when China entered WTO (China`s economy and the WTO: All change, 2011).

The following points evaluate some aspects of trade and how they changed after the WTO accession. Evaluations relate to the results of regression analysis in Chapter 12, forming a logical concept.

1. GDP: Indirectly reflects trade and capital flows situation in a country. Looking at the calculation components, a broader picture already depicts how consumption, trade and investments were changing. Furthermore, lower value of GDP should cause FDI and trade to decrease.
2. Export and import of merchandise, agricultural products and services: High value of export and import suggests that home and foreign residents were purchasing more. It is a direct indicator of trade.
3. Trade openness indicator: It can help evaluate the level of trade regarding how open and dependent China was on imports and exports relative to GDP, indicating a certain trade value. Results highly correlate with the GDP value.

7.1 Gross domestic product

Before the accession, China expected that GDP would rise around 1% per year, but in fact, the average growth was 9.9% per year. Figure 1 shows how real GDP growth rate was changing during the years 1998 and 2013. From 1998, when it was already obvious that China would enter WTO eventually, GDP could rise because of that. However, major changes started to happen only after the accession. The growth was not quick, but gradual. I expected China to be affected by the world crisis in 2007, but this was not shown on their GDP. Since then, the numbers have risen tremendously. Comparing the years 1998 and 2013, the GDP is about eight times higher, which should indicate better prosperity in China. Their growth was stimulated by strong domestic private consumption, rising income and credit availability (World Trade Organization, 2014).

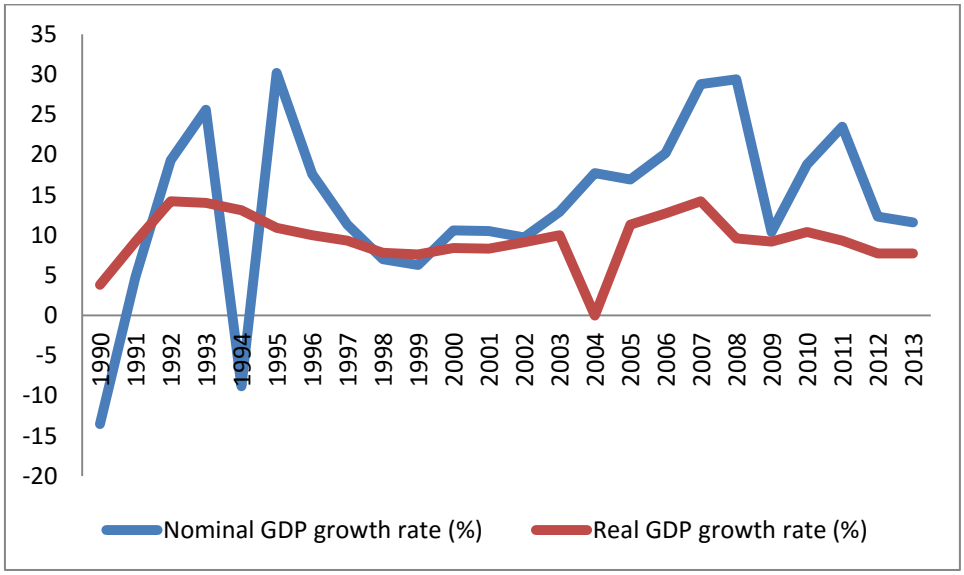
Gross domestic product can be calculated in two ways, with the income method or, more of ten employed, the expenditure method written in equation 1 (Economic growth rate, n.d.). To analyse GDP over the years we have to look at all public and private consumption in economy (C), the sum of government spending (G), the sum of business spending on capital, investments (I) and net exports, calculated as exports minus imports in a country (NX). GDP growth is extremely important to the investors and reflects healthy economy. Negative GDP growth would ensure a change in stock market for the worse.

$$GDP=C+G+I+NX \quad (1)$$

During the studied period, private consumption changed the most due to the government being actively involved in encouraging consumers with subsidies on purchasing home appliances, vehicles and motorcycles. Programs for encouraging consumption started in 2009. Consequently, the growth of net exports was negative in the past years due to strong consumption which led to a substantial increase in imports, despite high exports. Government expenditures were also increasing rapidly, together with savings and investments (World Trade Organization, 2014).

Nominal GDP growth rate was lower than real GDP rate in years 1990, 1994, 1998 and 1999 which indicated deflation. In the following years, China was dealing with inflation, peaking at 19.4% in 2008. Looking at the real GDP growth rate, the indicator was continuously rising and achieved its peak in 1992 and 2007 with the 14.2% growth. In 2013, the escalation was similar to the year 1998 when China was not in WTO, although first signs of future accession were visible. Figure 1 shows a much more steady real GDP growth, which indicates that nominal GDP was highly effected by inflation, especially in 1990 and 1994 with 13.5% and 8.8% fall.

Figure 1. Yearly growth rate of Chinese real GDP from 1990 to 2013



Source: *Gross Domestic Product: Total and per capita, current and constant (2005) prices, annual, 1970-2014*, n.d.

7.2 Export and import

Before China's accession to the World Trade Organization, huge positive expectations were made by the existing members, especially in the area of their export to China. Chinese export of merchandise trade was likely to enlarge substantially by cause of better trade openness of other members. Imports were estimated to increase, particularly in

services and not so much in merchandise trade. The People`s Republic of China was trying to evolve in the direction of self-sufficient care and did not favour imports as much. As a result, a great deal of criticism was made on this account. Initially, China mainly exported goods and services with low value added, however, their quantities increased during the years. Yet, it will be seen in the next paragraphs that imports to China were constantly increasing, while other members were still not satisfied with the quantities they exported. The category which was estimated to increase ahead of the accession was the service imports. Nowadays, China is working towards balanced development of foreign trade, the expansion of domestic demand, increasing imports and stabilizing exports. Real appreciation of their currency RMB should support these developments (World Trade Organization, 2014).

Main export destinations in 2013:

1. Hong Kong (17.4%)
2. United States (16.7%)
3. European Union (15.3%)
4. Japan (6.8%)
5. South Korea (4.1%)

Main imports destinations in 2013:

1. The European Union (11.3%)
2. South Korea (9.4%)
3. Japan (8.3%)
4. Chinese Taipei (8%)
5. United States (7.8%)

7.2.1 Merchandise trade

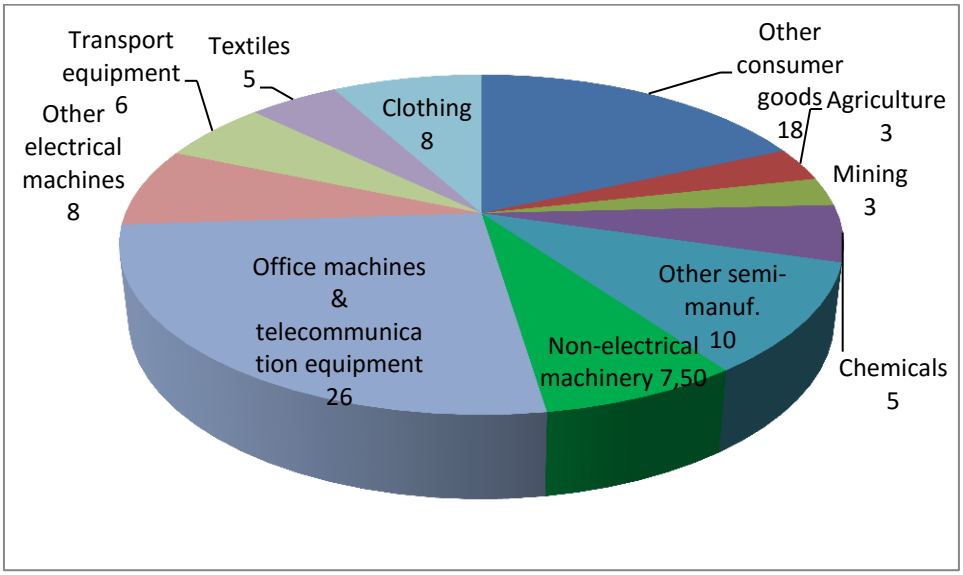
Before 2002 it was not expected that Chinese export would rise as a merit of future accession to WTO. Other members still had the right to limit China’s imports during the accession and some members were also entitled to do so after the process was finalized. At the same time, China had already been required to open and liberalize their market during the process, so that progress would be seen. Thus, imports to China could have increased prior to the accession.

The increase of exports and imports was tremendous during the years, even though in 2009 China encountered a negative growth in international trade. Trading partners were effected by the crisis, which is observed in their lower purchasing power. Since 2002, when the effects of the accession could first be seen, exports have increased seven times. Average growth of the export was 17.55% per year, which was proportionally large in comparison to other members. In 2012 and 2013 growth extremely decreased. We should predict that exports partially increased due to the WTO membership, which opened the international market for China. Values started visibly diverging after the accession, around 2004, which supports the predictions that the WTO membership enabled bigger export and overall trade. It is rather surprising how much the imports of merchandise trade increased, comparing to the exports. Overall, other members benefited in their exporting activities to China, although, it was felt in some articles that their gains were quite low. Even the U.S.,

which presented the biggest complainant over China's trade, had a positive export growth to China each year. Between 2002 and 2013 they increased their imports 5.5 times. Trade in advanced economies did not grow as fast as emerging ones like China. Nobody, not even China, expected the growth to be so great. Economy became dependent on the external demand.

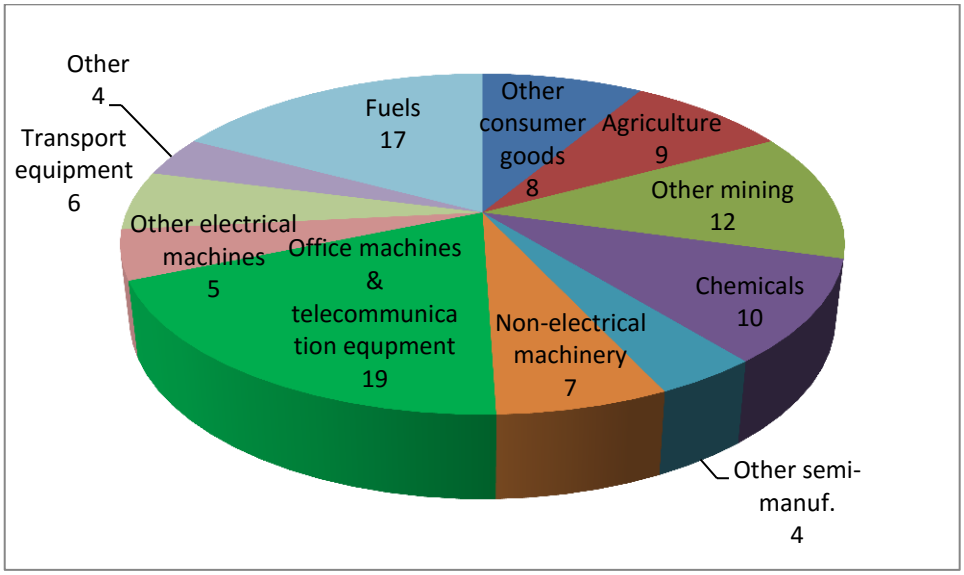
China managed to gain the title of the 1th merchandise exporter in the world, which was contributed by many factors. The country had a great advantage in its cheap, low skilled labour and expiration of some multilateral agreements, which benefits were mostly seen in apparel, textiles and furniture productions. State owned iron and steel industries recovered due to government help, reforms and low interest rates. Another important measure was the establishment of science parks and good timing. Parks encouraged exports of high-tech machinery, including mobile phones, laptops, LCD displays and integrated electronic circuits. In 2013, merchandise export represented 94% of all exports, with office machines and telecommunication equipment being the leading group. Important export products were also other consumer goods, semi-manufactured products and non-electrical machinery. Merchandise trade accounted for 58% of China`s imports in 2013. The largest imports were seen in office telecommunication and equipment, mining, chemicals and agriculture. Although China is the largest trader in the world, most of their products are sold with a low added value. Raw material or semi-finished goods are exported to China, where they are manufactured or composed for a very low price and then exported once again. Products with high added value are not typical for China's merchandise trade (World Trade Organization, 2014).

Figure 2. Export of merchandise trade in 2013 in %



Source: World Trade Organization, *Trade policy review, report by the secretariat, China*, p. 29, Chart 1.1.a, 2014.

Figure 3. Import of merchandise trade in 2013 in %



Source: World Trade Organization, *Trade policy review, report by the secretariat, China*, p. 29, Chart 1.1.b, 2014.

7.2.2 Services

After the accession, services were expected to increase the least in terms of export and import. Predictions implied that foreign companies would offer their services to local consumers; however, the implications of service export were not so high. Services were growing all over the world and China was no exception. Imports of services were always higher than exports, as it had been predicted before the accession. In accordance with the predictions, both categories are still growing. On the other hand, no improved leaps in imports had been noted before the finalized accession. In 2013 Chinese services represented 4.36 of world percentage, which is relatively small comparing to the U.S. (14.5%). In line with the yearly rate, China was constantly improving in this area. In 2013 services represented 8.7% of Chinese export and 14.4% of their imports.

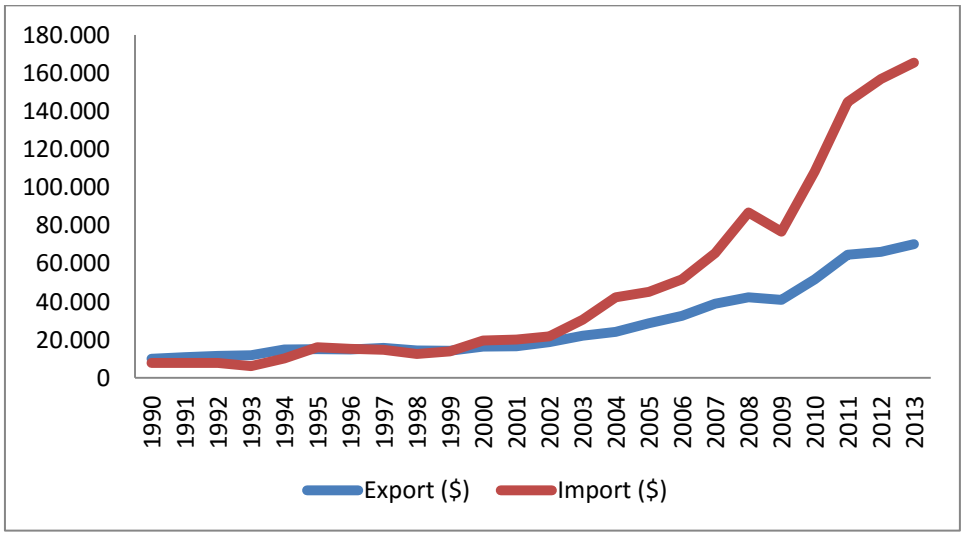
The category which was predicted to increase the most after the accession was transport. International merchandise trade was supposed to expand enormously, which was directly connected to the need of transport in export and import, respectively. Throughout the following years, the export and import of transport were increasing, with the exception of 2009 during the financial crisis peak. It could be observed that the values started to increase progressively after the WTO accession. Comparing to the year 1990, export of transport increased 35.17 times and import increased 75.96 times. Imports of transport were always higher than exports. Other services, which likewise increased their imports, were travelling, insurance, finance and computer and information services. Regarding export, differences were seen in constructions, finance and computer and information services.

7.2.3 Agricultural products

The group of agricultural products was presumed to be one of the less successful ones after the accession was finalized. Imports were rising over the years, especially soybeans and other food crops, in which China is the world's largest importer. For a few years now, China has been dealing with the rising trend of urbanization, which has already caused lower self-sufficiency in food supply. Agricultural trade was not liberalized to the extent of merchandise or service trade. China is still quite closed for foreign companies, since the country is afraid that complete market opening will cause enormous imports, which can lead to food market destabilization. Agriculture is supported by the government to ensure farmers income, develop rural areas, and ensure food security, price stability and self-sufficiency. In order to do so, credit access for farmers was facilitated (World Trade Organization, 2014).

Figure 4 portrays how agricultural trade was changing over time. Exports were commonly smaller than imports, excluding years before 2000. This was most likely due to the fact that export of Chinese agricultural products had already been limited in the accession process. Some of their products are still believed to be of lower quality, health endangering and lacking sanitation standards, which has resulted in limited export for some products in developed countries. However, China is improving in these areas which may be seen in increased exports. In 2009 both exports and imports slightly decreased, together with complete trade. Agricultural deficit is still growing and has already reached 95,301 million of dollars. By 2002 exports and imports had been flowing quite similarly, whereas after that year, imports surpassed exports and the difference is still growing. The most reasonable explanation for these changes after 2002 is the WTO membership. Joining WTO helped agricultural imports with lowering the trade barriers and tariff elimination.

Figure 4. Export and import of agriculture products in China in millions of dollars, 1990-2013



Source: *Merchandise trade by commodity*, n.d.

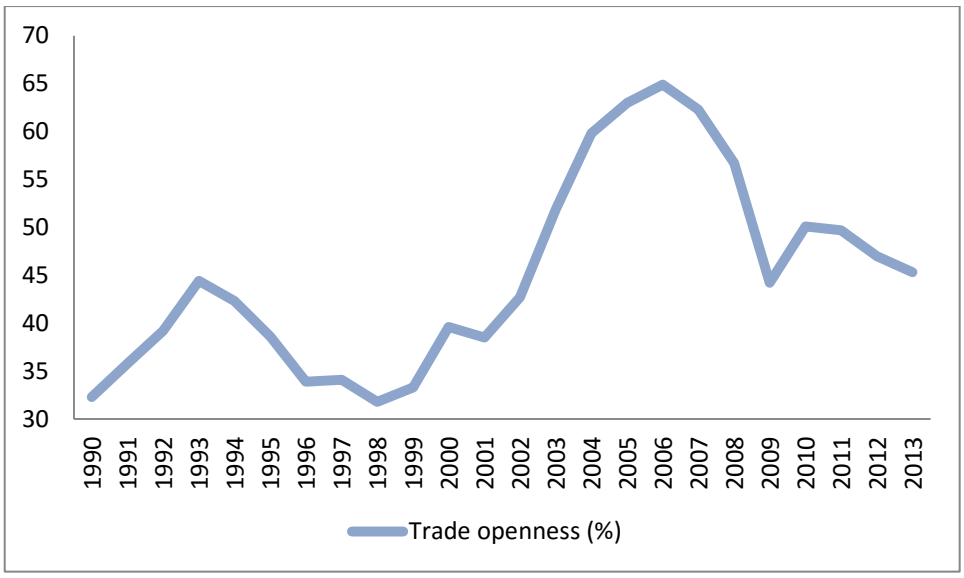
7.3 Trade openness indicator

Trade-to-GDP ratio or trade openness ratio reflects country's integration into the world economy. It indicates the dependence of domestic producers on foreign demands (exports) and dependence on domestic consumers and producers of foreign supplies (imports), relative to the country's economic size (GDP). Indicator is used to measure the importance of international transactions, comparing to home transactions. Calculations (equation 2) are made by looking at the mean of total trade, which is the sum of exports and imports of services and goods, relative to GDP (New data visualizers for trade data, 2010).

$$Foreign\ trade\text{-}to\text{-}GDP\ ratio = \frac{Exports + Imports}{GDP} * 100 \quad (2)$$

The ratio cannot go below zero, although, for some smaller countries the result can be above 100%. This would mean that a country imports and exports far more than it produces. A low ratio can imply that the country has high tariffs, barriers, it is self-sufficient or that it is geographically distant from its trading partners. Larger countries usually have smaller ratios due to bigger internal trade, but this is not the case for China. The number alone does not really tell the actual conditions in trading; therefore, we have to combine the data with the actual happenings in a particular country or a union (New data visualizers for trade data, 2010).

Figure 5. Trade openness indicator, 1990-2013 in %



Source: *Merchandise trade (% of GDP)*, n.d.

Surprisingly, China does not have a small trade openness indicator that is common for bigger countries. Their indicator changed quite a bit over the years. In 1998 China's foreign trade was at 31.8% of their GDP. By 2006 the indicator had been growing constantly and after that year, the first decline appeared. Due to lower trade and GDP, there

was also a decrease in 2009, from which they still have not recovered completely. China was initially more closed for trade, which was at that time mainly done within the country. Throughout the years, trade openness started to increase, which could also be contributed to their membership in WTO. Reasons for the indicator increasing only until the year 2007 are still unsure. One of the possible explanations is that a probable crisis was expected and China wanted to protect itself by encouraging the country's self-sufficiency. The government started to support local companies and issued laws for their protection. International trade is still extremely important for China.

8 CAPITAL FLOWS

Capital flow is a complicated financial concept which characterizes cross-border financial transactions in a country`s external financial account. This refers to money flows in and out of a certain stock, bond market, investments in real estate, mergers and acquisitions. Amongst all types of economies, they represent volatility and low persistence. Capital flows differ between types of economies (emerging, developing and advanced). They include companies, governments and private investors. Flows can be affected by the current economic (GDP growth**)** and political situation in a country as well as currency exchange rate regime. In China, international capital flows are measured using the Capital and Financial Account Balance of the Balance of Payments and are reported by the State Administration of Foreign Exchange, China. The country is making an effort to slowly liberalize their capital account but at the same time they are facing the challenge of maintaining domestic monetary and price stability. Globally, Chinese financial presence has increased dramatically in the area of providing loans, making investments and other flows. The People`s Republic of China was perceived as a closed country for a long time, especially in regards to capital outflows. With the introduction of QDII (the Qualified Domestic Institutional Investors) plan in 2006, China opened their capital outflows and allowed domestic households and firms to invest in global financial markets. Despite having many capital controls, which navigate all capital flows, there are some indications that the capital account also responds to existing market conditions. Capital controls have limited effectiveness (Federal Reserve Bank of San Francisco, 2008).

Capital flows can be viewed and explained from different aspects, such as net flows, gross flows, inflows and outflows (Bluedorn, et al. 2013).

1. Net flows: They are the difference between gross inflows and outflows. A positive value represents deterioration in the economy's external position and a negative value shows improvement in the external position. Net flows are one of the factors determining exchange rates.
2. Gross flows: are drivers of credit and asset prices, which effect domestic financial stability. Their moves are more pro-cyclic and volatile than net flows.

- Gross capital inflows: They are net sales of domestic financial instruments to foreigners (borrowing and investments). Inflows rise when the economy faces more

external liabilities or reduces them. The value of capital inflows can be negative when foreign investors sell more assets in a given country than they buy. Changes in inflows are reflected in account deficit, foreign reserves and outflows. The factor which effected inflows throughout the history is also the exchange rate for their currency, RMB. In other words, if the exchange rate is depreciating, inflows become larger, because they are cheaper to buy. Larger inflows create a demand for the local currency which pushes its value up.

- Gross capital outflows: They are net purchases of foreign financial instruments by domestic residents (lending and investments). Outflows rise when the economy obtains more external assets or reduces them. Their total value can also be positive or negative. Larger outflows create market supply of the currency and push its value down.

International capital flows are divided into several categories (Bluedorn, et al. 2013):

1. FDI: capital spending on operations, research and development in an organization
2. portfolio investments: bonds and equity which cover less than 10% of firm ownership
3. financial derivatives: future and forward contracts, swaps, options
4. international reserves
5. other investments: loans and deposits, banking capital, trade credits, and official government flows

9 FOREIGN DIRECT INVESTMENTS

Foreign direct investments are by definition net inflows of investments, inflows minus outflows. Inward FDI are flows that come into a certain country from outward investors. Outward FDI are flows that come from a certain country into a foreign economy. Their purpose is to acquire a lasting management interest, 10% or more of voting stock in a company operating in the economy different from the investors. FDI represents the sum of equity capital, reinvested earnings and intra-company loans (long and short term capital). Most likely it involves managing the company, joint ventures, mergers and acquisitions, transfer of technology and expertise to wholly owned subsidiaries. Therefore, it eases economic development and internalization of business. Investments can be made in a horizontal, vertical or platform direction (Financial Times Lexicon, n.d.).

Inward foreign direct investments, together with growing trade surplus, are causing structural imbalance in the country's balance of payments and consequently the increase in foreign reserves. This suggests that China will have to make additional efforts in encouraging outward FDI or enlarging their imports, knowing that exports will most likely not decrease. According to World Investments Report Overview 2014, Chinese outward FDI will surpass inward FDI in three years' time. China's net return on international investments has usually been negative, despite its status as a net international creditor (Federal Reserve Bank of San Francisco, 2008).

9.1 Inward FDI

FDI in China, also known as RFDI (Renminbi foreign direct investment) has increased substantially in the past years, making China the largest recipient of FDI. In 2013, the FDI inflows into China were $123.9 billion, resulting in a 34.7% market share of FDI into the Asia-Pacific region. Inward FDI are attracting manufacturing sectors (38.7%), real-estate (24.5%), wholesale and retail trade (9.8%), business services (8.8%). Table 10 displays that the number of projects in the past three years has been changing, together with the amount of FDI. The differences seen are not as great as I would predict. The biggest changes are visible in mining industries, wholesale and retail trade, leasing and business services. FDI mainly takes the form of wholly owned enterprises, which represent around 52% and is concentrated in the eastern region (World Trade Organization, 2014).

What makes China so attractive for investments? One of the reasons is their constantly improving trade and investment policy. With the public insight of their central and provincial governments Five-Year Plans, possible investors can easily see which sectors will get preferential treatment or would have to undertake serious examinations. Some local governments also established one-stop services to provide help with the registration processes. Investments can be encouraged, permitted, restricted or prohibited. China is encouraging joint ventures, especially in the area of research and development (hereinafter: R&D) activities or in other important strategic areas, for instance, high tech manufacturing, service industries and environmental protection. With the WTO membership, China had to release its restrictions in the field of lending to foreigners and buying shares in state controlled enterprises. Since 2011 all residents and non-residents can use RMB for FDI, but looking at the data, no changes are seen. Authorities will continuously try to enhance the RMB convertibility, establishing a capital flow management system and improving capital flow monitoring. With further liberalization, simplifying the procedures, scale and fluctuation of cross-border flows they are expected to grow. China is mainly developed in larger cities; therefore, the government is enforcing less restrictive policies and tax incentives for investments made in central and western regions (World Trade Organization, 2014).

Inward FDI flows grew tremendously throughout the represented period. The major decline in growth was in 2009, -12.3% growth, another in 1999 and in 2012. Since 1998, when China`s WTO entrance was only a matter of time, the inward FDI flows magnified for almost three times. Comparing to imports growth, this is a relatively small number, however, still in compliance with the initial China’s expectations when entering WTO. The highest leap was recorded in 2008, for 29.7%. Looking at the percentage growth, flows were increasing steadily, with no bigger deviations, so we can hardly say that the WTO membership had a huge impact on capital flowing into the country. I expected earlier increase of inflows before the accession, but as we can see, the growth in 1999 was -11.3%

and only 1% in 2000. Adding the trend line in Figure 7, the most appropriate growth is exponential, with a very flat curve.

Table 3 displays which nations were the ten largest FDI investors to China in 2013. Main investors were the neighbouring countries and autonomous provinces in Asia with U.S. and some bigger European countries.

Table 3. Largest FDI investors in China, 2013, in millions of $ and %

Hong Kong: $78.302 (67%)	Germany: $2.095 (2%)
Singapore: $7.327 (6%)	Holland: $1.281 (1%)
Japan: $7.064 (6%)	United Kingdom: $1.039 (1%)
Taiwan Province: $5.246 (3%)	France: $0.762 (0.7%)
U.S.: $3.353 (3%)	Others: $8.820 (7%)
R.O.K. (South Korea): $3.059 (3%)	

Source: Ministry of commerce People`s Republic of China, *Statistics of FDI in China in January-December 2013*, 2014c.

9.2 Outward FDI

Since 2005 investment outflows have been increasing rapidly despite the fact that many procedures and approvals are necessary. Chinese government has been encouraging potential investors since late 1999, with their "Going Out" campaign. Investments have to be approved by regulatory bodies, such as MOFCOM, SAFE and NDRC. Administrative procedures depend on wheatear the investment is private or made by a company, which sector they would like to invest in, size of the investment and the country. To help the investors, government has issued Outbound Foreign Investment Catalogue, where all the limitations and encouragements are determined (World Trade Organization, 2014).

Most investments are done by state owned enterprises and not by private ones, which shows a strong centralized state control. Investment decisions mostly reflect political objectives and goals and not just desire for maximum profit. Private investments, in a certain way, also reflect political objectives due to the financial incentives they get with investments in the "right" projects. Flowing capital out of the country is restrained by capital controls, which prevents external competition in the banking system as well as entering of foreign banks. Before China joined WTO, there was little interest and capacity of companies to invest offshore. First investments were done mainly in industries where companies had already been exporting to. Throughout the years, China gained large trade surpluses by dealing with other countries and one way to mitigate this surplus was outbound FDI and rebalancing it (Ritchie, 2013).

In the past, Chinese residents and institutions (with the exception of banks) were not allowed to invest directly in overseas securities; although, banks could only invest with their own dollars in fixed instruments. Researchers, like Kolstad and Wiig (2009), claim that Chinese investments were carefully planned. Some investments were done in offshore financial centres (tax heavens) or countries with other benefits and then returned to China with the purpose to exploit the benefits for foreign investors. At first, the enterprises were likely to invest in resource rich countries to get greater access of natural resources and energy while using poor institutions and low income countries to exploit their experience in labour extensive production.

Over time, when the emerging country is more experienced and has more knowledge, the company starts to produce more value-added goods and target larger markets with high income consumers. Chinese multinationals have invested loads in oil exploitation in countries like Sudan, Algeria, Angola, Kenya, Nigeria; copper exploitation in Congo, Zambia and iron in Gabon. These investments have been made primarily to support and ensure Chinese domestic growth. In the recent years, more visible shift to skill intensive activities (R&D, marketing, design), knowledgeable employees and advanced technology have been seen (Zhan &Roelfsema, 2014).

In 2013 Chinese investors invested in 5,090 foreign enterprises in 156 countries. By the end of 2013, 15,300 Chinese investors had established 25,400 enterprises overseas in 184 regions. Observing the data for outward FDI flows, their percentage growth is much more diverse and exponential than in inflows. In the years before 2001, expectations of the membership did not influence outward flows, as it is shown in their negative growth. In 2001, there was a tremendous growth, 651.9%, however, a new decline took place in 2002, -63.4%. It is interesting to see that Chinese enterprises were not effected as heavily during the world financial crisis and have even encountered growth from 2008 onwards. Years 2008 and 2012 were important for Chinese capital flows owing to huge changes in incoming capital flows. Foreign exchange assets were increasing rapidly thanks to higher deposit rates, expected appreciation of Yuan and surplus in money required for investments. In addition, Chinese firms were increasingly borrowing from abroad (Capital inflows to China: Hot and bothered, 2008).

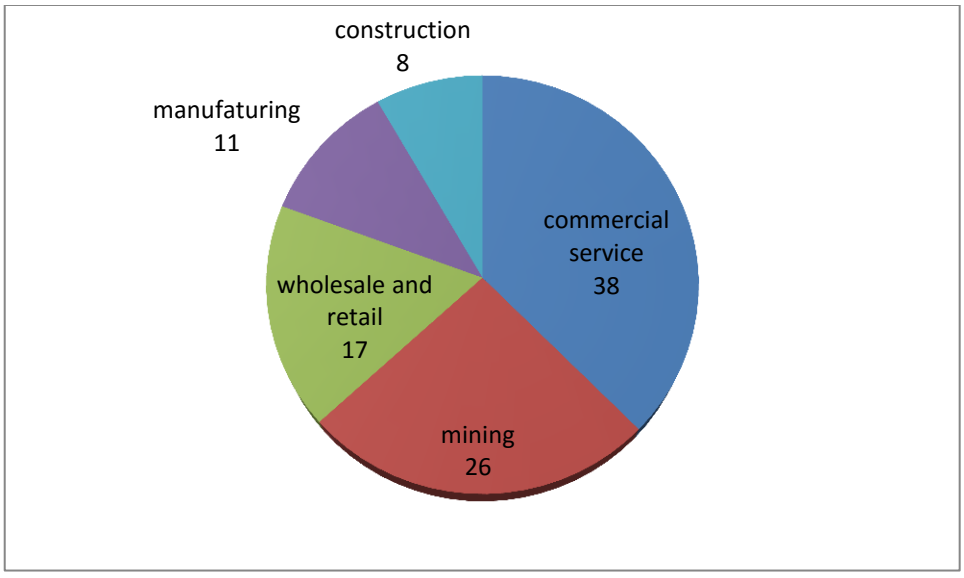
These results were a consequence of the WTO membership, pressures from other countries to balance the foreign currency reserves and the local enterprises' desire for earnings.
In 2013, China invested $5.95 billion in the EU, with a negative growth 15.4%. Investments in Latin America, Oceania, Africa and Asia grew for 132.7%, 51.6%, 33.9% and 16.7%. Investment in North America grew slightly for 0.4% compared with that of last year.

Table 4. Largest FDI recipients from China, 2013

Hong Kong $24.44 billion	The United States $4.2 billion
Japan $17.12 billion	Russia $4.1 billion
The European Union $5.95 billion	Australia $3.9 billion
ASEAN $5.74 billion	

Source: Ministry of commerce People`s Republic of China, *Joint Report on Statistics of China`s Outbound FDI 2013 Released*, 2014a.

Figure 6. Outward Chinese FDI in 2013 in %



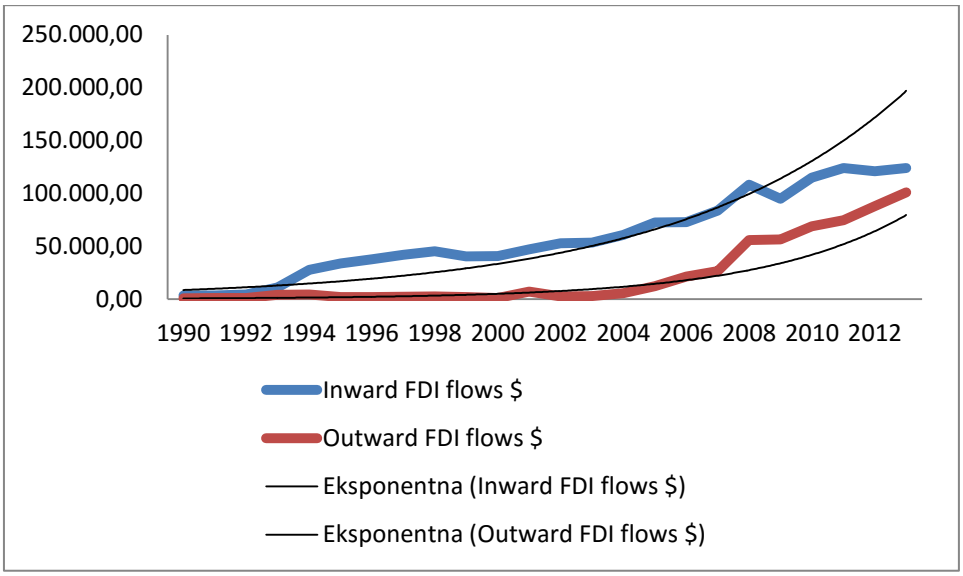
Source: Ministry of commerce People`s Republic of China, *Joint Report on Statistics of China`s Outbound FDI 2013 Released*, 2014a.

Major investment groups were leasing and business services, finance, mining, wholesale, retailing and manufacturing, which accounted for $54.86 billion and represented 83% of total OFDI in 2013. In commercial services $29.45 billion were invested, $20.16 billion in mining, in wholesale and retail $13.67 billion, manufacturing $8.68 billion and construction $6.53 billion. Outflows of non-financial OFDI accounted for $92.74 billion, with 16.8% growth. Construction and culture, sports and entertainment present the fastest growing investments, with increases of 129% and 102% (Ministry of commerce People`s Republic of China, 2014a).

Outward investments were not made equally throughout China, but mainly in few provinces like Beijing, Guangdong and Shandong province. Most investments from the non-financial sector were done by state-owned enterprises, 55.2%, and the difference by non-state-owned, 44.8%, which was 4.6% higher than in 2012. This implies that private enterprises, together with government incentives, were more open and willing to trade abroad. In 2013, non-financial enterprises overseas made revenue of $1.4268 trillion and

growth of 14.5% from the past year (Ministry of commerce People`s Republic of China, 2014a).

Figure 7. Inward and outward foreign direct investment flows in millions of dollars, annually, 1990-2013

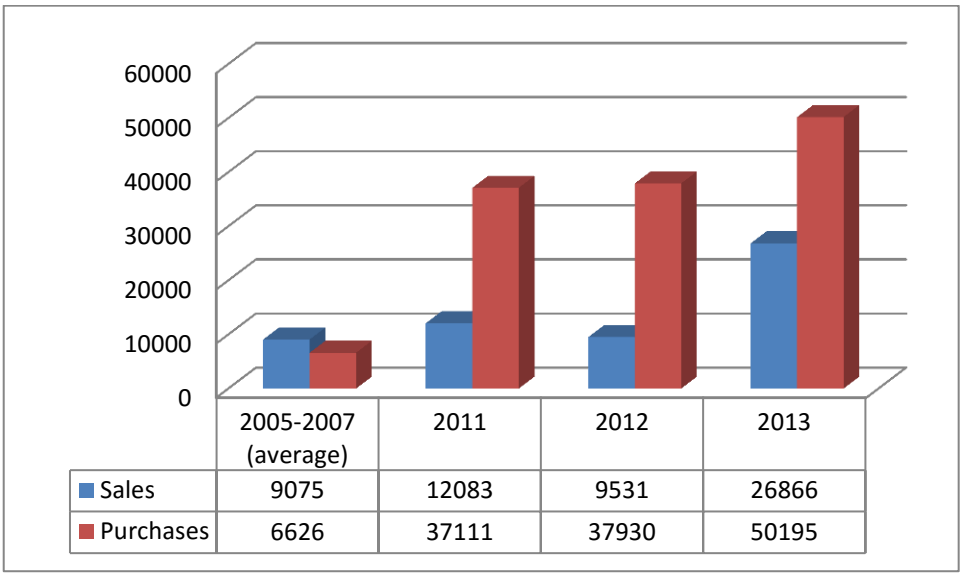


Source: *Inward and outward foreign direct investment flows, annual, 1970-2013*, n.d.

9.3 Mergers and acquisitions

In 2013, home companies performed 424 mergers and acquisitions (hereinafter: M&A) with the total value of $52.9 billion, $33.79 billion of which were direct investments (63.9%) and $19.11 billion in overseas investments (36.1%). Sectors, in which mergers and acquisitions were mostly done, were mining, manufacturing and real estate. In Figure 8 it is shown how cross-border M&A sales and purchases were growing throughout the studied period. The first column represents the average between 2005 and 2007, before the crisis. Sales grew in 2011, which was the consequence of poor performance of enterprises overseas. In 2012 the situation stabilized, but in 2013 deteriorated again due to unfriendly regulation. Purchases were only growing, which suggested that Chinese companies took advantage of the weakened foreign companies and bought them under their real value. Chinese purchasing power was growing fast, including the quantity of their purchases. Comparing sales and purchases, last ones are much higher, except the 2005 to2007 average; which implies that Chinese enterprises were growing fast and were taking over some major world company players. For example in 2003 M&A accounted for 18% of total OFDI and now around 66%.

Figure 8. Cross-border mergers and acquisitions, 2005-2007 average, 2011-2013 in millions of dollars



	2005-2007 (average)	2011	2012	2013
Sales	9075	12083	9531	26866
Purchases	6626	37111	37930	50195

Source: UNCTAD, *World Investment Report Overview*, 2014.

10 PORTFOLIO INVESTMENTS

Although China tried to liberalize its capital flows, one group still remains relatively limited, discouraged and closed. Portfolio inflows are controlled by quotas and can only be done by the Qualified Foreign Institutional Investors (hereinafter: QFII). On the other hand, portfolio outflows can only be done by the Qualified Domestic Institutional Investors (QDIIs). Short-term foreigner borrowing is limited with a ceiling and long-term borrowing with approval requirements. For most shares inward investment is locked for at least three months with the maximum ceiling of 80 million dollars. Outward portfolio investment is limited with a ceiling of 90 million dollars. To open up a cross-border account or to ensure the securities, an enterprise must get the approval of the State Administration of Foreign Exchange (SAFE) (World Trade Organization, 2014).

In 2011, China Securities Regulatory Commission issued the Guidelines for the Precipitation in the Stock Index Futures Trading by QFIIs which opened trading with onshore stock index futures. That represented the opening of their stock derivative market (China law and practice, 2011).

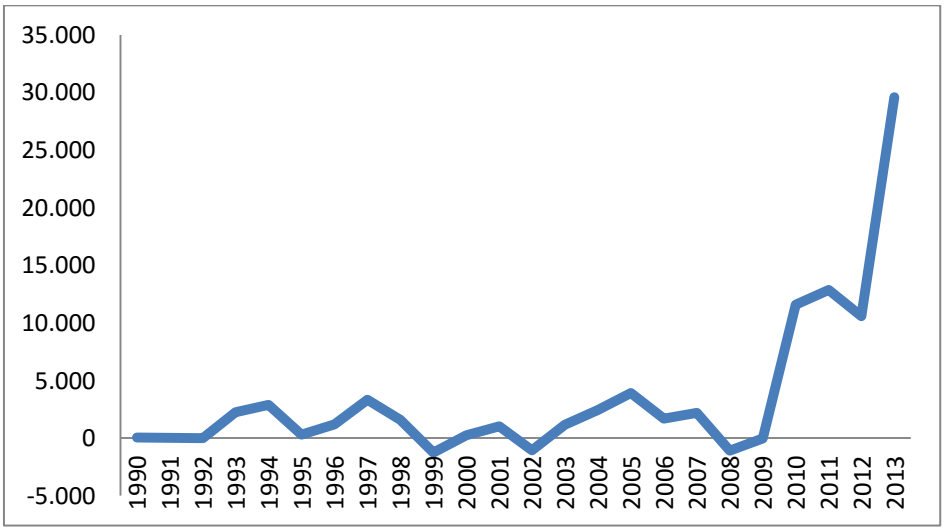
Private investors are more familiar with equity investments whereas companies lean more towards bond markets and have a greater effect on the currency value and the exchange rate. When a market is performing better than others, capital will flow into the country with the purpose to participate in the returns (Trading Point, n.d.).

Outward FDI stock is much smaller comparing to the inward FDI stock, although, it was growing faster. Inward investments enlarged 5.46 times between 1998 and 2013, while outward investments enlarged 24.47 times, which represents a huge difference. Inward portfolio flows were only increasing over time, which is also the result of a continuous GDP growth, catching the eye of an investor. The highest leap was in 2009 (25.1% growth), which is surprising due to the fact that world economies were barely recovering or were still in the financial crisis. This suggests that investments in China's stock were not affected as much as the other world economies. China being one of the rare countries not struggling with the crisis and constant GDP growth, investments were still flowing into the country.

Outward stock investments encountered much bigger growth than inward investments. The most productive year was 2007 when China recorded 57.2% growth. After the accession in 2003, a short decrease in investments was seen, -10.6% growth. The increase was a direct effect of the WTO membership and their requirements to open investments in and out of the country.

Figure 9 shows how the value of the Chinese bonds (PPG+PNG) moved between the years 1998 and 2013. The value was extremely volatile with huge ups and downs. In 2001, when China joined WTO, there was a slight increase in the value, which could be a direct consequence of membership expectations, but in 2002 a decrease took place one more time. From 2003 onwards, bonds were growing until the crisis when their values actually went below 0. Since 2009, a recovery in value occurred. Although bonds values were not stable in the studied period, it is obvious that after 2001 something happened. The bond market started to open after the accession and foreigners started to invest in China. Later on, purchasing power of Chinese residents rose drastically, which was also shown in the bonds bought.

Figure 9. Movement of bond value, 1990-2013 in millions of dollars



Source: *Portfolio investments bonds (PPG+PNG) 1990-2013*, n.d.

11 OTHER INVESTMENTS

The area of other investments represents cross-border loans, trade credits, currencies, deposits and other flows. All categories are highly tied to currency exchange rate and therefore exposed to fluctuations. However, financial instruments exist to secure the value of the currency and prevent deposits, loans and credits to change their value in either way. Financial instruments that are mostly used are swaps, options, future and forward contracts.

11.1 Currencies and deposits

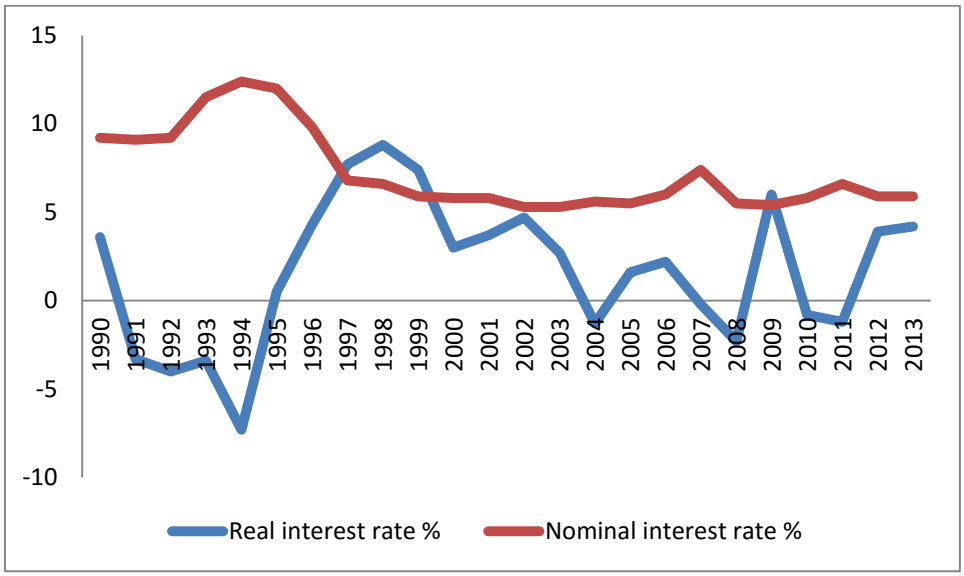
Before 2007 there was hardly any foreign currency in the country, because of their exchange regime. Enterprises and residents were forced to convert all income in other currencies directly to Renminbi. Since then, there have been some gradual improvements in this area. As a result, the exchange regime is now much more loosened and investors can hold on to foreign currencies they earn abroad. Investors' willingness of converting the currency is mostly tied to the value or expectation of RMB. For many years Chinese banks had a policy of lower rates for deposits in foreign currencies, which forced the depositors to convert to home currency. A huge difference in deposit interest rates was visible after 1998 when China was already trying to become a member of WTO. Before 1998 interest rates had been moving from 5.7% to 11% and after that year from 2.0% to 4.1%, which was drastically lower. In March 2014 the government finally discontinued the rate ceiling for deposits in foreign currencies (less than $3 million) in Shanghai and loosened the regulatory controls. China made a huge step towards liberalization and introduced more competition to their banking system (Bloomberg, 2014; Hanemann&Rosen, 2013).

11.2 Cross-border loans

Loans are similarly effected by the currencies exchange rate value. In July 2013 the Central bank removed the floor on most lending rates. Cross-border loans are divided into inbound and outbound financing. Each category is then divided to foreign invested enterprises (FIE) and the People`s Republic of China corporate (PRC). The conditions of borrowing depend on the type of the company and circumstances of the loan. Unprofitable state-owned companies in practice tend to receive more loans than better functioning private companies. Chinese enterprises can finance their loans from offshore companies (inbound financing) or Chinese enterprises lend to offshore companies (outbound financing). Comparing to inbound financing, outbound lending has always been far more restricted. The lender must satisfy some financial criteria, like positive cash flow, net profits and the local tax authority must approve their fitness for lending. Given loans must have a reasonable interest rate in order to prevent any suspicious transfers and it must be funded from the lenders own cash (Chen, Mazzochi & Siu 2013).

Figure 10 displays movements of real interest rate for loans adjusted for inflation. From the years 1997 to 1999 and in 2009, nominal interest rate was lower than real interest rate, which indicates deflation. Particularly real interest rates were drastically changing over time, which suggests a less stable inflation of the currency. Owing to nominal interest rate not being so volatile over the studied period, borrowers who had a fixed interest rate lost some money comparing to the lower real interest rate.

Figure 10. Real and nominal interest rate for loans in %, 1990-2013



Source: *Real interest rate (%), Inflation, GDP deflator (annual %)*, n.d.

11.3 Trade credits

They are credits from one company to another for the purchase of their goods or services. Trade credits are used only in B2B relationships. A buyer gets a limited time period in which the purchase has to be paid without immediate payment. Credits are used as a source of short term financing for companies that demonstrated in the past solid and punctual payments. In China it is common practice that state-owned enterprises (SOE`s) rather use loans and have bigger possibilities to get one. On the other hand, private companies are lean more towards trade credits, especially if they have fewer possibilities in accessing a loan (less stable business). Credits are used for investment and support of productive activities. When the credit is confirmed, both clients have to agree on the costs, interest rates and repayment conditions for each purchase. Private companies are very strict when selecting those customers and controlling their repayments. However, SOE`s are less strict on both conditions and repayments and therefore have lower success in this kind of financing. Companies that offer credits are mostly older or smaller profitable domestic firms that can afford the reduction of its current cash flow. Throughout the years, the quantity of trade credits is decreasing because the quality of Chinese banking system is increasing. More biased and efficient banking system with formal loans now represents a

substitute for trade credits. Banks enjoy more trust and, with their low interest rates, they have taken over potential clients (Cull, Xu & Zhu, 2007).

12 REGRESSION ANALYSIS

In this chapter I employ regression analyses in order to see whether WTO had a positive effect on trade and capital flows and which factors effected them the most. Firstly, I will explain what methodology is used, which partner countries are chosen and why. Furthermore, I will present the variables that are reviewed, what their part is in the analyses and expectations of possible significance. Afterwards, regression results for trade and capital flows will be presented separately and together with interpretations, following by the results of seemingly unrelated model (SUR).

12.1 Methodology

The most commonly used empirical approach to testing bilateral trade flows between economic units is the gravity model. It predicts trade flows based on economic sizes and distance between units and estimates the pattern on international trade. The basic concept derives from Newton's gravity model which asserts that the bigger the mass of a unit, the bigger its gravitational force is (Head, 2003). In 1962, Tinbergen was the first to use gravity model in order to explain trade flows. Anderson (2010) interprets a trade gravity model as: "A mass of goods or labour or other factors of production supplied at origin *i*, Y_i, is attracted to a mass of demand for goods or labour at destination *j*, E_j, but the potential flow is reduced by the distance between them, d_{ij}." Analogy is represented in equation (3) and should indicate a predicted movement of goods and labour (Anderson, 2010). On the other hand, equation (4) below represents a multiplicative form of a standard gravity model for trade.

$$X_{ij} = Y_i E_j / d_{ij}^2 \tag{3}$$

$$ln(F_{ij}) = \beta_0 + \beta_1 * ln(M_i) + \beta_2 * ln(M_j) - \beta_3 * ln(D_{ij}) + \varepsilon_{ij} \tag{4}$$

Variables used in equation 4 (Head, 2003):

- β_0 – constant or an intercept
- F_{ij} – trade flow from unit i to destination j
- D_{ij} – distance between units
- M_{ij} – economic dimensions of units, usually GDP
- $\beta_{1,2\ldots n}$ –coefficient for an independent variable
- ln – natural log
- εi = error variable

According to Baldwin and Taglioni (2006), many gravitational approaches that were published contain some methodological mistakes in the models. One of the defects is considering variable G as a constant that does not vary. More precisely G should be named gravitational un-constant and varies over time. Currency union, as a dummy variable, produces bias results due to existing correlation with bilateral trade cost, which is already determined as an independent variable. Another issue regards variables of economic mass and distance, explaining that measurement errors could lean economic mass and distance towards 0. When calculating bilateral trade and its logarithmic values, averaging has to be done after logarithms. Differences could be seen in countries with unbalanced trade and causing overestimations. Dummy variables tend to function better when using panel data, rather than cross sectional data.

In order to better understand how the WTO membership actually effected Chinese trade and capital flows, I will initially employ OLS pooled regression analysis. Regressors in both equations are practically the same because chosen factors are presumed to have an effect on both trade and capital flows. Besides standard OLS analysis, I will employ time dummies in each equation as well to control the phases of the business cycle and idiosyncratic temporal shocks. This will show whether there were some unobserved events that contributed to the variation of data during the years. Owing to the possible correlation between equations, a seemingly unrelated model (SUR) is also required beside a linear regression model. SUR model would allow for the correlation of estimation errors between the two equations.

Data is compiled for the period between the 1990 and 2013. All the nominal values in year *t* were compared to year *t-1* in order to explore the relationships of interest during growth rates. Furthermore, some growth rates were changed to logarithms. The variables of interest are the annual bilateral trade (average of imports and exports) and capital flows (inward and outward foreign direct investments) between China and its top ten most important trading partners, which are all members of the World Trade Organization. Partners were chosen with respect to the volume of their exports, imports of merchandise trade and inward, outward foreign direct investments in China. All together, the top ten partners cover around 70% of Chinese trade and 85% of capital flows. Since I will not research the general effect of WTO but solely the aspect of China, ten most important partners seem an appropriate sample. This is of great importance, especially when it comes to the export of merchandise trade. Remaining percentage is dispersed between the remaining partners and is unlikely to have greater impact if included in the analyses. The brackets present average percentages of their total merchandise trade with China throughout the studied period. The countries analysed were the United States (13%), Japan (11%), Hong Kong (10%), South Korea (7%), Taiwan (5%), Germany (4%), the United Kingdom (2%), Singapore (2%), the Netherlands (2%) and France (1%).

Variables in growth rates: They are measures of growth from period *t-1* to *t*. The difference between values in the year *t* and *t-1* is calculated and divided by the value in the year *t-1*. Consequentially, distinctions among years are much more perceivable and can be used for predicted future growth as well (Economic growth rate, n.d.).

For the purpose of this thesis, four multiple regressions were employed. One for trade controlling for inward FDI, the second analyses trade with outward FDI and the two others for capital flows, inward and outward FDI. Equations 5 to 8 show the primary factors which could have an effect on trade and capital flows. Dependent variables are bilateral trade, import-export average inward and outward capital flows of China. Independent variables that presumably have an effect on them are listed below the equations. Due to the fact that some are relevant for both dependent variables, they appear in each equation.

$$ln(T_{it}) = \beta_0 + \beta_1 * IFDI_{it-1} + \beta_2 * GDP_{it-1} + \beta_3 * ER_{it-1} - \beta_4 * ln(D_{it}) + \beta_5 * WTO_{it} + \beta_6 * CLANG_{it} + \beta_7 * LB_{it} + \beta_8 * FCOL_{it} + \beta_9 * SAAC_{it} \quad (5)$$

$$ln(T_{it}) = \beta_0 + \beta_1 * OFDI_{it-1} + \beta_2 * GDP_{it-1} + \beta_3 * ER_{it-1} - \beta_4 * ln(D_{it}) + \beta_5 * WTO_{it} + \beta_6 * CLANG_{it} + \beta_7 * LB_{it} + \beta_8 * FCOL_{it} + \beta_9 * SAAC_{it} \quad (6)$$

$$ln(IFDI_{it}) = \beta_0 + \beta_1 * T_{it-1} + \beta_2 * GDP_{it-1} + \beta_3 * ER_{it-1} + \beta_4 * RIR_{it-1} - \beta_5 * ln(D_{it}) + \beta_6 * WTO_{it} + \beta_7 * CLANG_{it} + \beta_8 * LB_{it} + \beta_9 * FCOL_{it} + \beta_{10} * SAAC_{it} \quad (7)$$

$$ln(OFDI_{it}) = \beta_0 + \beta_1 * T_{it-1} + \beta_2 * GDP_{it-1} + \beta_3 * ER_{it-1} + \beta_4 * RIR_{it-1} - \beta_5 * ln(D_{it}) + \beta_6 * WTO_{it} + \beta_7 * CLANG_{it} + \beta_8 * LB_{it} + \beta_9 * FCOL_{it} + \beta_{10} * SAAC_{it} \quad (8)$$

Abbreviations used in the regression analyses:

1. Common language – CLANG,
2. Distance – D,
3. Exchange rate – ER,
4. Former colony – FCOL,
5. Gross domestic product – GDP,
6. Inward foreign direct investments – IFDI,
7. Land border – LB,
8. Outward foreign direct investments – OFDI,
9. Real interest rate – RIR,
10. Sea access – SAAC,
11. Trade (average of export and import in a given year) – T,
12. WTO membership – WTO.

The following list presents my expectations of their possible incorporation in the equation and the reason they are included as a relevant indicator.

1. WTO membership: 0 values were appointed to countries in the years before becoming members of the organization and value 1 in the years of membership. China being a WTO member should be a significant factor which had a massive effect on trade and a less significant outcome on capital flows. The difference was in the measures that had to be accepted in each area, when entering WTO. This means that WTO was directly involved in shaping Chinese trade policy and indirectly with capital flows. Therefore, the WTO membership should be statistically significant in trade regression.

2. GDP: For China and each partner country a lagged value of GDP annual growth was calculated. After looking at historic values of GDP and its growth before and after the accession, I would predict it would have a statistically significant positive effect on trade and capital flows in both equations. GDP is extremely important for trade and capital flows, because its growing value is encouraging more FDI and consumption. When GDP is contracting in a country, one might expect trade and capital flows also taking a setback. During the studied period, partners' GDP was mainly growing, which should be seen in its significance.

3. Exchange rate: An end-of-year nominal exchange rate between China and each partner country was used. Moreover, I calculated the difference between the value in year *t* and year *t-1*, which was divided by the value in year *t-1*.
   Exchange rate was important for both trade and capital flows, but it will probably be significant only in trade regression. The reason lies in simplicity of changing trading partners when the exchange rate is not favourable enough, in addition, the offer of new possible associates is much broader. Consequently, trading should be more effected by changing exchange rate.

4. Real interest rate: This is calculated in yearly growth rates. In the original data, there were already some negative values due to high inflation rates, comparing to the nominal interest rates. Real interest rate was reckoned of nominal rate which was decreased by inflation rate.
   Interest rate is an indicator and regressor only in the capital flows regression, on which it should have a significant effect. Capital flows are highly dependent on interest rates. Even in this respect, if interests are too low in regards to equity and bonds, or too high in regards to trade credits and loans; the investor would move their assets to a more favourable market.

5. Trade: In order to construct the trade indicator, yearly data for merchandise trade was collected. In line with Baldwin, Taglioni (2006), values of exports and imports were firstly averaged in a given year and then annual growth rates were calculated. In the

first regression, trade appeared as a dependent and in the second as an explanatory variable. In the role of regressor it could have a small positive correlation with capital flows, but not large enough to present significance. As a dependent variable, trade is expected to be positively influenced by the WTO membership.

6. Capital flows: The difference in levels of inward, outward FDI was calculated for each year (difference between year *t* and *t-1*). Furthermore, the difference was compared with the value in year *t*-1. IFDI and OFDI were also analysed separately as an independent variable in trade regression. Two regression analyses for capital flows will be carried out, separately for IFDI and OFDI. One side of the capital flows are mergers and acquisitions of foreign enterprises with Chinese ones. This suggests that some trade was consequently done among them. IFDI were invested in order to encourage trade. From a different perspective, bigger trade also led to increased loans and trade credits. With bigger trade came larger profits and the possibility of investing abroad. Therefore, capital flows can be indirectly correlated with trade, encouraging or discouraging it. Capital inflows will most likely be significant as an independent variable in trade regression. Enormous investments from the United States and Europe to China were made in the analysed period, which boosted their trade operations. Capital flows variables will not likely be augmented on the account of the WTO membership since the WTO's primary focus was on trade, which took part in the majority of changes.

7. Land border: This is a binary dummy variable representing a mutual land border. Value of 1 is given to partners who share a land border with China and 0 if they do not. The partner countries with mutual land borders are Hong Kong and Taiwan. If there is no common border, this implies greater distance between the two countries and as a result, greater transport costs. In some cases this could have a negative effect on trade among partners. The land border, as an independent variable, appears in both regressions and is predicted to be statistically significant in trade regression. This prediction stems from the fact that China's goods are mainly sold at low price. Consequently, trade costs can be an important factor when deciding from where to import. Capital flows in general depend less on the distance and therefore land border is also not so important. Taking into account that the majority of Chinese capital flows represent Hong Kong and Taiwan, some significance might be seen, but probably not enough for capital flows to be significant.

8. Common language: This is a binary dummy variable which takes the value of 1 if a country speaks the same language as in China and value 0 if is otherwise. Language taken into account is the official one, standard Chinese or Mandarin. Partners with common language are Taiwan, Singapore and Hong Kong. Due to complexity of Chinese language, this could have an effect on transaction and communication costs. Difficulties can appear in communication with partners and cultural differences. Head

(2003) even claims that countries with a common language will trade two or three times as much as countries with different languages.
In my opinion, for enterprises doing business worldwide today, common language should not be significant in executing trade or managing capital flows.

9. Former colony: This is a binary dummy variable as well. Its value can take the number of 1 if the partner country was ever (a colony) or is still a part of China, otherwise it is 0. Countries that remain officially under China, but stay highly independent are Taiwan and Hong Kong. China was a colony of the United Kingdom in the past. Colonial connections are predicted to highly correlate with trade.
   Therefore, the variables should be statistically significant in trade regression, but not also in capital flow regression. All dummy variables probably do not effect capital flows as much.

10. Sea access: This binary dummy variable examines whether a country has access to the sea. It takes the value of 1 when a country has sea access, otherwise it is 0. All the countries which were analysed have access to the sea; therefore, all values are 1. Sea access is important to all countries, especially China, which performs most of its export through cargo ships. This reason will probably cause the variable to be omitted due to co-linearity.

11. Distance: The distance between units is usually measured from one centre to another (great circle distance). According to Head (2003), distance can be explained in multiple views:
    - transport costs
    - the necessary time to deliver a package and the probability of undamaged goods
    - transaction costs: finding new customers and building a trust worthy relationship with them
    - costs due to untimely delivery
    - communication costs: possibility of establishing personal contacts with partners
    - cultural distance: differences can block the market

    Distance should be statistically significant in both regressions. Countries that are closer to China are more likely to share habits and mentality of trading, which is extremely important when regarding capital flows (M&A). From the trading point-of-view, smaller distance means lower costs of transport and for their average buyer this is important.

12.2 Regression results - trade

After the description of methodology, regression results for trade are the following. In this chapter, I intend to present which hypotheses were tested and the equations for gravity model of trade. Due to divided capital flows in IFDI and OFDI, two regression analyses

were employed. Table 5 represents the values of coefficients, standard errors and significance of the regressors. Next, my explanation of the outcome is displayed, following by a linear trend line for trade.

Tested hypotheses:

H_0 = Trade did not increase due to the WTO membership.

H_1 = Trade increased due to the WTO membership.

Several variables were used for the regression, with abbreviations in the brackets:
Dependent (prediction) variable: trade (T)
Independent (explanatory) variables: inward foreign direct investments (IFDI), outward foreign direct investments (OFDI), gross domestic product (GDP), exchange rate (ER), distance (D), WTO membership (WTO), common language (CLANG), land border (LB), former colony (FCOL) and sea access (SAAC)

$$ln(T_{it}) = \beta_0 + \beta_1 * IFDI_{it-1} + \beta_2 * GDP_{it-1} + \beta_3 * ER_{it-1} - \beta_4 * ln(D_{it}) + \beta_5 * WTO_{it} + \beta_6 * CLANG_{it} + \beta_7 * LB_{it} + \beta_8 * FCOL_{it} + \beta_9 * SAAC_{it} \quad (5)$$

$$ln(T_{it}) = \beta_0 + \beta_1 * OFDI_{it-1} + \beta_2 * GDP_{it-1} + \beta_3 * ER_{it-1} - \beta_4 * ln(D_{it}) + \beta_5 * WTO_{it} + \beta_6 * CLANG_{it} + \beta_7 * LB_{it} + \beta_8 * FCOL_{it} + \beta_9 * SAAC_{it} \quad (6)$$

Table 5. Regression results for average value of exports and imports between the People`s Republic of China and its top ten trading partners

Variable	OLS pooled model	OLS pooled model with time dummy	OLS pooled model	OLS pooled model with time dummy
	IFDI		OFDI	
Inward FDI $_{t-1}$	0.023 (0.023)	0.032** (0.016)	-	-
Outward FDI $_{t-1}$	-	-	0.001 (0.001)	0.000 (0.001)
GDP_{t-1}	0.842*** (0.107)	0.440*** (0.081)	0.962*** (0.147)	0.379*** (0.108)
Exchange $rate_{t-1}$	-0.071 (0.097)	0.021 (0.060)	-0.011 (0.127)	0.089 (0.064)
Log $distance_t$	0.001 (0.027)	0.015 (0.017)	0.021 (0.035)	0.031* (0.019)
WTO $membership_t$	0.009 (0.034)	0.010 (0.024)	-0.024 (0.048)	-0.050 (0.081)
Common language	-0.034 (0.029)	-0.017 (0.017)	-0.073** (0.041)	-0.026 (0.020)
Land border	0.023 (0.048)	0.010 (0.029)	0.043 (0.069)	0.023 (0.033)
Former colony	-0.004 (0.030)	-0.002 (0.018)	0.031 (0.041)	0.022 (0.019)
Sea access	omitted	omitted	omitted	omitted
Intercept	0.114 (0.106)	0.072 (0.088)	0.059 (0.138)	-0.004 (0.080)
R^2	0.331	0.797	0.335	0.886
N	214	214	114	114

Note:

* Distinctive at the level of significance 10%

** Distinctive at the level of significance 5%

*** Distinctive at the level of significance 1%

Some variables were omitted because of co-linearity.

The general OLS pooled gravity model (included IFDI) shows us a significant positive correlation between trade and GDP. Due to the fact that both trade and GDP could be generated by the same (unmeasured) factors, this may be a possible cause for endogeneity. This would bias the estimates of the GDP and other variables in the regression. Usage of instrumental variables would be appropriate, but there were very few adequate instrumental variables for GDP. Remaining variables were not statistically significant and did not contribute to the model, but stayed only in the specification. According to the

results, the inclusion of China in WTO did not do much for their trade. Consequently, I cannot reject the H_0 hypothesis. I cannot prove the increase due to the WTO membership. The second model (IFDI) with included time dummies represents a different outcome as in regular OLS regression. Statistically significant were IFDI and GDP. Regressor IFDI was positively correlated with trade, which could be explained trough foreign investments (the U.S., the EU) which entered China in order to fund industrial plants. In addition, time dummies could relate to positive WTO effect and also show a leap down due to financial crisis and a significant recovery. Overall, the WTO membership was not proven to have a significant positive effect on trade; therefore I cannot reject the H_0 hypothesis.

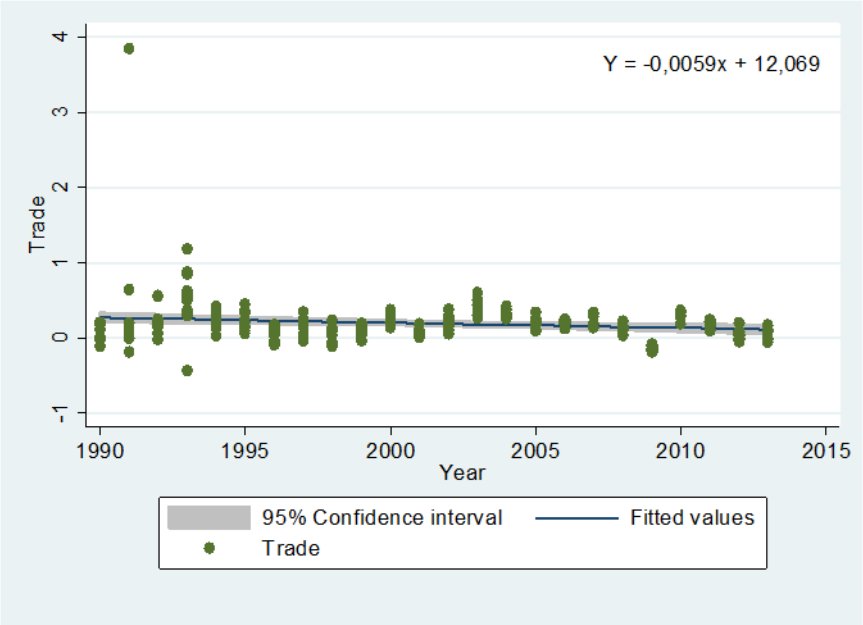
General OLS model, which included OFDI variable, showed significant effects of GDP and common language on trade. Common language negatively correlated with trade. This only shows that trade with partner countries that do not share the language is larger. Language does not represent a condition to trade. In conclusion, H_0 hypothesis could not be rejected. I cannot prove Chinese trade increased due to the WTO membership.

Looking at time dummies model with outward foreign direct investments, the only significant variables were GDP and the distance. Results are partially different from the regular OLS regression. Both regressors positively correlated with trade. In merchandise trade, distance played an important role. It seems strange that trade between partner countries and China were increasing with the distance, however, this was caused by Chinese disproportionately large trade with Europe. Consequently, this effected the augmented volume of Chinese trade with a relatively distant partner country. The unobserved events in time dummies are likely linked to positive effects in China's economy due to changes initiated by WTO, followed by some negative correlation of financial crisis. In conclusion, a positive effect of the WTO membership on trade could not be proven. Therefore, I cannot reject the null hypothesis.

General trade OLS regressions and time dummy models show partially different results. The WTO membership was not significant in any version. Still, the insignificant correlation of WTO was positive in both IFDI regressions and negative in OFDI regressions. OFDI results imply that WTO had a small negative effect on trade. What are the reasons for such outcome? The WTO membership enabled easier capital transfers; therefore, indirectly effected trade. Capital flows were/are invested abroad, instead of being used in domestic trade. China's OFDI volume was growing with a much higher growth rate as IFDI. With this substitution, OFDI negatively effected trade. Another possibility is diversion of trade to other WTO members not captured in the regression. Regression analyses on trade did not provide the expected results. I predicted more variables would have a positive significant effect on trade, in particular, the WTO membership.

Figure 11 represents a linear trend line for the variable trade, meaning the average of exports and imports and its growth throughout the years. The R^2 value of the trend is 0.0207 which indicates a weak fit to the data. It suggests that yearly growth of trade with China was slightly decreasing comparing to the years before. Trend line serves as a pointer to where trade (exports and imports) is going. As I have already mentioned, China was encouraging its self-sufficiency and again consequences of world financial crises are visible.

Figure 11. Linear trend line average of Chinese export and import in merchandise trade between 1990 and 2015



12.3 Regression results - capital flows

The next stages in this analysis are the regressions for capital flows. Accompanying trade, WTO could have an effect on capital flows as well, which is what I will try to examine below. Capital flows were divided in two groups, IFDI and OFDI, therefore also separated regressions. Results are represented in Table 6, following by its explanation and linear trend lines.

Tested hypothesis:
H_0 = Capital flows did not increase due to WTO membership.
H_1 = Capital flows increased due to WTO membership.

For the regression several variables were used with abbreviations in the brackets:
Dependent (prediction) variable: inward foreign direct investments (IFDI) or outward foreign direct investments (OFDI)

Independent (explanatory) variables: trade (T), gross domestic product (GDP), exchange rate (ER), real interest rate (RIR), distance (D), WTO membership (WTO), common language (CLANG), land border (LB), former colony (FCOL) and sea access (SAAC)

$$ln(IFDI_{it}) = \beta_0 + \beta_1 * T_{it-1} + \beta_2 * GDP_{it-1} + \beta_3 * ER_{it-1} + \beta_4 * RIR_{it-1} - \beta_5 * ln(D_{it}) + \beta_6 * WTO_{it} + \beta_7 * CLANG_{it} + \beta_8 * LB_{it} + \beta_9 * FCOL_{it} + \beta_{10} * SAAC_{it} \quad (7)$$

$$ln(OFDI_{it}) = \beta_0 + \beta_1 * T_{it-1} + \beta_2 * GDP_{it-1} + \beta_3 * ER_{it-1} + \beta_4 * RIR_{it-1} - \beta_5 * ln(D_{it}) + \beta_6 * WTO_{it} + \beta_7 * CLANG_{it} + \beta_8 * LB_{it} + \beta_9 * FCOL_{it} + \beta_{10} * SAAC_{it} \quad (8)$$

Table 6. Regression results for capital flows

Variable	OLS pooled model	OLS pooled model with time dummy	OLS pooled model	OLS pooled model with time dummy
	IFDI		OFDI	
Trade $_{t-1}$	0.209 (0.209)	0.662** (0.332)	-5.755 (10.955)	-1.723 (28.675)
GDP$_{t-1}$	0.154 (0.367)	-0.279 (0.398)	22.335 (19.838)	21.959 (31.056)
Exchange rate$_{t-1}$	0.448 (0.290)	0.130 (0.273)	4.899 (14.242)	6.666 (16.769)
Real interest rate $_{t-1}$	-0.004 (0.016)	-0.009 (0.014)	-0.184 (0.630)	-0.262 (0.756)
Log distance$_t$	0.110 (0.081)	0.029 (0.077)	2.702 (3.992)	3.357 (4.935)
WTO membership$_t$	-0.079 (0.103)	0.155 (0.107)	-1.002 (5.440)	-5.253 (21.266)
Common language	-0.001 (0.088)	-0.002 (0.078)	-5.322 (4.817)	-5.254 (5.491)
Land border	0.059 (0.144)	0.052 (0.131)	3.596 (7.843)	3.300 (8.922)
Former colony	-0.080 (0.089)	-0.062 (0.080)	0.649 (4.635)	0.423 (5.077)
Sea access	omitted	omitted	omitted	omitted
Intercept	-0.240 (0.319)	-0.168 (0.400)	-5.686 (15.487)	-3.739 (20.933)
R^2	0.031	0.326	0.026	0.099
N	214	214	114	114

Note:

* Distinctive at the level of significance 10%

** Distinctive at the level of significance 5%

*** Distinctive at the level of significance 1%
Some variables were omitted because of co-linearity.

In the first OLS gravity model for IFDI marginally significant variable is the exchange rate. For more than a decade PRC artificially preserved very low exchange rate on Yuan, which dictated high capital inflows. As expected, exchange rate positively influenced on IFDI values. Variable WTO membership is insignificant. Therefore, I cannot reject the null hypothesis (H_0), which says that Chinese capital flows did not increase because of the WTO membership.

OLS model IFDI with time dummies showed statistical significance for variable trade. Regressor WTO membership was marginally insignificant and positively correlated with trade. This suggests that time dummies explained some variation with unobserved events. Chinese membership was also conditioned with changes in capital inflows, which facilitated IFDI. In the trade regression, the influence of IFDI on trade was seen. Unexpectedly, the correlation went both ways; trade had a positive influence on capital inflows. Larger trading volume could result in higher profits which attracted possible investors, resulting in increased inflows. Years 1992 and 1993 stand out from the regression analyses due to Chinese dual exchange rate regime, which ended in 1994. Before that year, Yuan was depreciating persistently; from 1992 to 1994 it cut its value against dollar from 4.9 Yuan to 8.1 Yuan, meaning that foreign investor benefited from much bigger purchasing power, which encouraged capital inflows to the country. Therefore, I cannot reject H_0 hypothesis by saying that the WTO membership had a positive influence on the growth of capital flows in China.

General OLS model which included OFDI variable showed no significant regressors. Variable WTO membership was insignificant and negatively correlated with OFDI. Variable WTO membership was not significant in the analysis; therefore, I cannot reject the H_0 hypothesis. I cannot prove that the WTO membership had a positive effect on Chinese capital flows.

Regression, which included time dummies and OFDI as a dependent variable, had similar results as in the benchmark OLS analysis. Variable WTO membership was not significant; therefore, I cannot reject the null hypothesis H_0. Capital flows did not increase due to the WTO membership.

In contrast to my expectations, the WTO membership did not have a direct positive effect on capital flows, except a marginal significance in time dummy IFDI regression. WTO influence on flows was probably more indirect and therefore harder to prove. It is important to emphasize that the sample for bilateral outward foreign direct investment was quite small due to data inaccessibility. The small sample is the likely reason why none of the traditionally important variables were shown to impact outward FDI flows.

Figure 12 represents a trend line for capital inflows with the equation. R^2 is also extremely low 0.0185 and has lower significance than the trading model. The trend line has a lot of deviations and does not fit the markings well. Figure suggests that capital inflows have been decreasing slowly and will continue to do so in the future.

Figure 12. Linear trend line – capital inflows

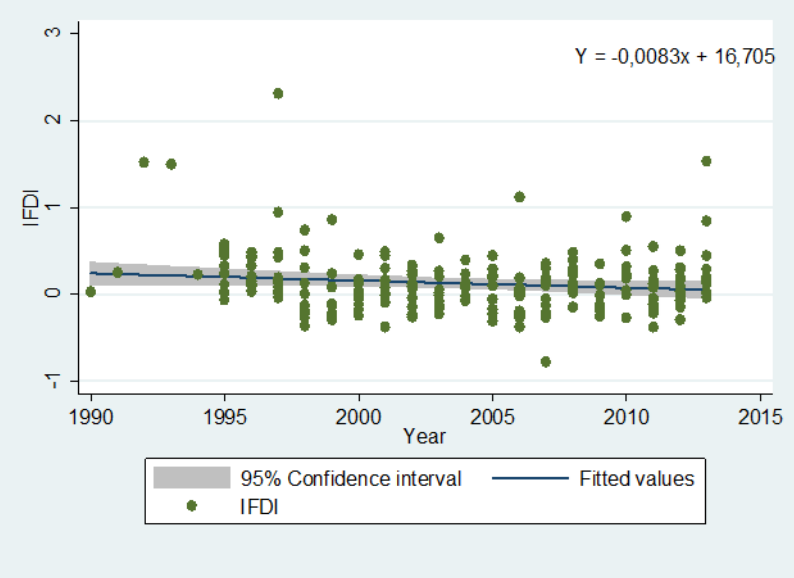
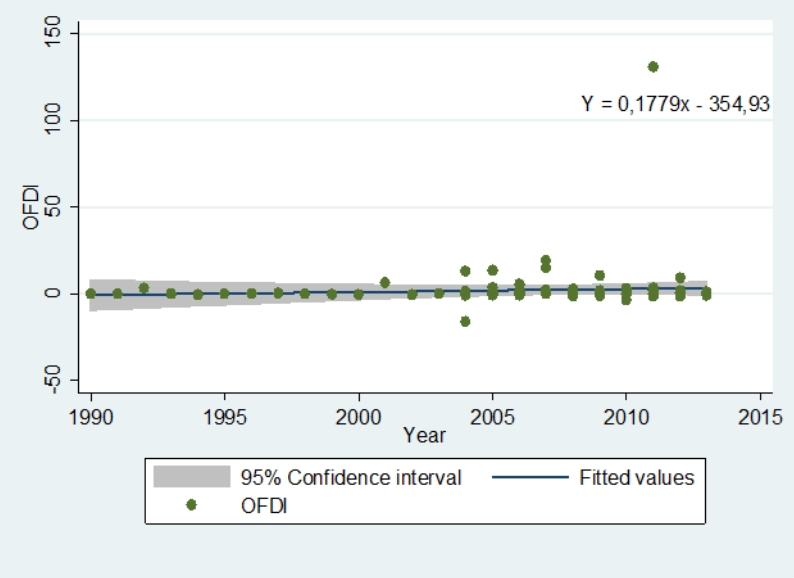


Figure 13 represents a trend line for capital outflows, with an inadequate fit to the data. R^2 is at a very low level 0.0049. Before 2003, there were little markings due to data inaccessibility of partner countries already mentioned in the text. Still, capital outflows were persistently growing during the years and are predicted to do so in the future.

Figure 13. Linear trend line – capital outflows



12.4 Seemingly unrelated regression model

As both trade and capital flows are highly correlated and influenced by some of the same determinants, the two equations should be estimated as a simultaneous system of equations. This would, in turn, allow for the error structure to be correlated between the equations and the variance-covariance matrix would be adjusted accordingly. The seemingly unrelated model (SUR) is used to gain efficiency in estimations by combining information in different equations (Katchova, 2013).

Tables 7 and 8 show the results of SUR model for trade and capital flows (IFDI, OFDI) regression. Comparing lower trade regressions with results seen in the OLS models, variables that proved to be statistically significant are quite similar. In general, all regressors have even higher confidence level than before. Regressor WTO membership was not statistically significant in any model, therefore, according to the results, had no influence on trade or capital flows.

Table 7. SUR model – regression results for average value of exports and imports between the People`s Republic of China and its 10 top trading partners and IFDI regression

Variable	Trade regression	IFDI regression
$Trade_{t-1}$	-	0.415 (0.203)**
$IFDI_{t-1}$	0.047 (0.023)**	-
GDP_{t-1}	0.834 (0.105)***	-0.022 (0.358)
Exchange $rate_{t-1}$	-0.081 (0.095)	0.460 (0.283)*
Real interest $rate_{t-1}$	-	-0.004 (0.015)
Log $distance_{t}$	-0.001 (0.026)	0.109 (0.079)
WTO $membership_{t}$	0.012 (0.034)	-0.081 (0.100)
Common language	-0.034 (0.028)	-0.001 (0.086)
Land border	0.022 (0.047)	0.054 (0.141)
Former colony	0.002 (0.029)	-0.078 (0.087)
Sea access	0.119 (0.104)	-0.263 (0.312)
Intercept	Omitted	Omitted
R^2	0.328	0.027
N	214	214

Note:

* Distinctive at the level of significance 10%

** Distinctive at the level of significance 5%

*** Distinctive at the level of significance 1%

Some variables were omitted because of co-linearity.

Table 8. SUR model – regression results for average value of exports and imports between the People`s Republic of China and its 10 top trading partners and OFDI regression

Variable	Trade regression	OFDI regression
$Trade_{t-1}$	-	-11.336 (10.451)
$OFDI_{t-1}$	-0.001 (0.001)	-
GDP_{t-1}	0.969 (0.141)***	27.659 (18.940)
Exchange $rate_{t-1}$	-0.009 (0.122)	4.824 (13.603)
Real interest $rate_{t-1}$	-	-0.182 (0.601)
Log $distance_{t}$	0.022 (0.034)	2.813 (3.813)
WTO $membership_{t}$	-0.025 (0.046)	-1.135 (5.196)
Common language	-0.075 (0.039)*	-5.718 (4.601)
Land border	0.044 (0.066)	3.825 (7.491)
Former colony	0.031 (0.039)	0.821 (4.427)
Sea access	0.056 (0.132)	-5.642 (14.792)
Intercept	omitted	omitted
R^2	0.333	0.024
N	114	114

Note:

* Distinctive at the level of significance 10%

** Distinctive at the level of significance 5%

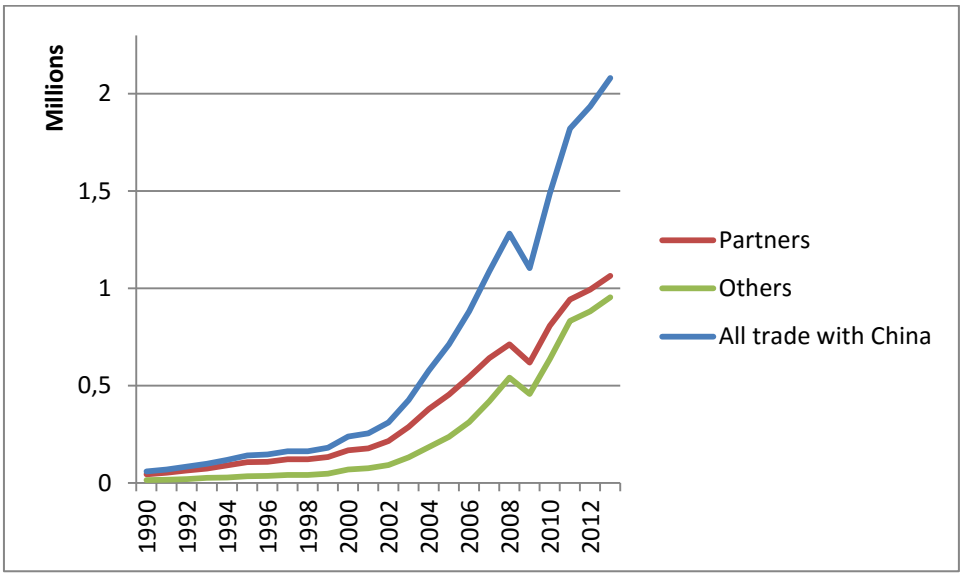
*** Distinctive at the level of significance 1%

Some variables were omitted because of co-linearity.

Taking all regressions into account, we can see that there are hardly any common factors which effect both trade and capital flows. There can still be some other alternative reasons why Chinese trade and capital flows grew so much, but the variables or data was not included in the regressions. In the analyses, all the essential variables were incorporated and I expected for most of them to be statistically significant in both regressions, but the regression results indicate that many of them do not show any effect or have an opposite impact on trade and capital flows as was expected. Overall, I can conclude that entering the World Trade Organization had little effect on Chinese trade and capital flows. The only regression that showed marginal significance was the model with capital inflows and time dummies. In my opinion, most of the gains in trade and capital flows are not visible at the first glance, but are consequences of many changes that needed to happen in order to enter WTO. Throughout the process of analysing the results for each model, it became obvious that regressor WTO membership would not provide the expected results especially when correlation showed a negative connection. Nevertheless, this type of correlation was never significant, but still, did the WTO membership really have a negative effect on Chinese trade and capital flows? Some results favour this suggestion, but looking at the big picture, a logical explanation appears. Figure 14 below represents trade movement for merchandise goods. The curve marked “All trade with China” represents an average of export and import of merchandise trade through years. The second curve “Partners” represents an

average of Chinese bilateral trade with 10 trading partners in a given year. The last curve "Others" represents bilateral trade average with all remaining world countries, except the previously analysed Chinese ten largest trading partners. Chinese trade starts to increase drastically after the WTO accession. From 1990 to 2001, curves "All trade with China" and "Partners" flow at similar values until 2001, 2002 when curves start to diverge. Prior to the membership, percentage of Chinese ten largest partners represented the absolute majority. Afterwards, complete Chinese trade started to expand more rapidly than its trade with ten largest partners, leaving them with a smaller percentage of their total trade. Additional remaining volume was then distributed within other, new partners, whose trade only started to grow intensively after the Chinese WTO membership.

Figure 14. Merchandise trade movement, in millions of $

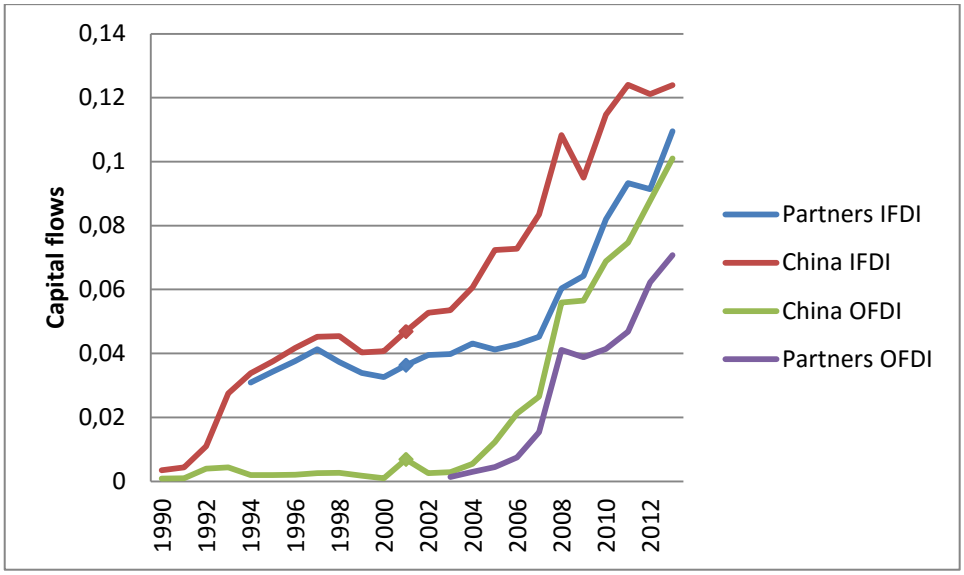


Source: *Exports and imports of goods and services, annual, 1980-2013*, n.d.

Chinese inward and outward FDI was extremely regulated and controlled. Enterprises investing abroad were mainly state-owned. Investments had to be approved by regulatory bodies, which can potentially be the reason why there are such odd results for OFDI. Variables that were not significant could have influenced the dependent variables more indirectly. Figure 15 represents Chinese and partner's bilateral capital flows, separately for inflows and outflows. In the years, for which data is available, China managed to surpass significantly the average of its partners. The gap between both curves from inflows or outflows represents capital flows that were distributed to other countries not analysed in this paper. Examining capital inflows, the difference between curves started to increase at a higher pace after 2001. This ought to suggest that the WTO membership had something to do with this divergence. On the other hand, it would be hard to say the same for capital outflows. Even though data for partner countries are available after 2003, the difference between curves before that year would be minimal. There is a leap of Chinese curve in 2001, which could suggest the effect of WTO accession, but its duration is short. After 2008, a more visible divergence is seen. Capital inflows and outflows curves both indicate

that analysed partners represent the majority. Still, I believe that the WTO membership enabled China to disperse its trading onto several countries.

Figure 15. Capital flow movement, in millions of $



Source: *Foreign direct investment: Inward and outward flows and stock, annual, 1970-2013*, n.d.

After reading the literature on the topic, I decided to follow the research done by Rose (2002). It seemed to have the most sense for me regarding his choice of analysed countries, used variables, methods and interpretation of the results. In addition, his work is one of the most cited studies on this topic. I recognize that some WTO effects might have been distributed among informal members. China does not cooperate with many informal members of WTO, because the majority of them are the members. Additionally, their percentage is negligible and would not effect the results. However, if the results change, why would the effect be seen in informal members rather than in formal ones? Of course, they benefit from the organization, although, would so many countries really go through all the trouble to gain the membership if the benefits were larger when they were just a close observer? These are the main questions that crossed my mind when researching.

Overall, performing all the analyses for trade and capital flows, I can see that my predictions for significant variables were mostly quite wrong. China is not really an ordinary country, where my general expectations would imply.

CONCLUSION

When China celebrated their 10th anniversary of the accession to the World Trade Organization in 2011, Chinese president HU Jinato said: "China`s accession to the WTO is a milestone in China`s reform and opening-up, bringing us in to a new era to further open up. To join the WTO was a major strategic decision based on our comprehensive analysis of the situation at home and abroad in order to push further China`s reform and socialist modernization drive."

There are many different opinions and aspects on whether China made a good choice in joining the World Trade Organization. Opinions on the merits of Chinese WTO entry vary and are often predicated on the author's geopolitical views and nationality. Still, we have to understand that, Chinese accession, of course, did not bring identical advantages or disadvantages to all the members which reflected in every opinion written. I believe that China could not be more satisfied with the advantages that the membership brought them. On the other hand, some advanced countries, like the U.S., may have felt that they incurred a loss, because their expectations were too optimistic and their aspirations with respect to the impact of Chinese membership were not completely fulfilled. Even though China had to change many procedures and trade policy in order to become a member, it is in my opinion, that the accession was only a matter of time. China is simply too large as a potential market that other members would miss the opportunity of expanding their business to. Overall, gains exceeded the risks for all the involved parties. In the 15 years that the People`s Republic of China has been in the World Trade Organization, they have strengthened their trade and capital flows. Studying all the data and reforms China did in the past, they have succeeded not only with the WTO help and guidance but also with their own knowledge and effort.

In my master's thesis I closely examined how Chinese trade and capital flows changed when China entered WTO. For this purpose, the precedent analysed variables should contribute towards the end result. Variables taken into account were trade, capital inflows and outflows as dependent variables. Chosen as independent variables were GDP, exchange rate, distance, real interest rate and dummies WTO membership, common language, sea access, former colony, mutual land border. Several regression analyses were made separately for trade with capital inflows and trade with capital outflows. Regular regressions and SUR models showed almost identical results. The outcome for trade and capital inflows showed a significant interaction between the stated regressors, along with GDP and exchange rate. The outcome for trade and capital outflows, on the other hand, displayed no correlation between the regressors. GDP, distance and common language were the only ones showing significance. The usage of time dummies resulted in higher significance of regressors. Variable WTO membership, with the highest importance for this thesis, showed no significance in any analyses.

There is no doubt that volume of trade and capital flows enhanced dramatically after the finalized accession, but still, this is not seen in the regression. Despite the results, I believe that the membership helped increase Chinese trade in some areas, although decreased it in others, for example, textiles, clothing and agriculture. Consequentially, the combined effect appears as negligible. Could I have done something to change that? Perhaps involving all the Chinese partners would have changed my results, although, this is not very likely, since the analysed ones still represented the majority and their bilateral trade and capital flows were magnified proportionally more than others. I could have focused my research only on few sectors which would have been thriving, but it was important for me to look at the overall WTO effect which represents a greater picture.

To conclude, the World Trade Organization was not the sole culprit of the Chinese success, but certainly one of them. China became a desirable trade and FDI destination, together with some successful home companies; it was enabled to become one of the strongest countries in the world. Now, we can simply look at the present and the future while observing how China is evolving with or without the help of the World Trade Organization.

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APPENDIXES

TABLE OF APPENDIXES

Appendix A: Thesis summary in Slovenian language

Ko je Kitajska praznovala svojo 10. obletnico pristopa k Svetovni trgovinski organizaciji v letu 2011, je kitajski predsednik Hu Jintao dejal: "Priključitev Kitajske k WTO je pomemben mejnik v transformaciji in odpiranju države. Pridružitev WTO-ju je bila pomembna strateška odločitev, ki je temeljila na celoviti analizi stanja doma in v tujini, da bi Kitajsko potisnili naprej proti reformam in modernizaciji socialističnega pogona."

Obstaja veliko različnih mnenj in vidikov o tem, ali se je Kitajska pravilno odločila z vstopom v Svetovno trgovinsko organizacijo. Mnenja so si nasprotujoča in pogosto temeljijo na avtorjevih političnih stališčih in državljanstvu. Razumeti moramo, da zagotovo kitajski pristop ni prinesel enakih prednosti ali slabosti za vse člane. Po mojem prepričanju Kitajska ne more biti bolj zadovoljna z ugodnostmi, ki ji jih je članstvo prineslo. Po drugi strani pa se nekatere napredne države, kot so ZDA, počutijo oropane, saj so bila njihova pričakovanja preveč optimistična in želje ne v celoti izpolnjene. Kitajska je bila primorana spremeniti številne postopke in trgovinsko politiko za pridobitev članstva. Kljub temu menim, da je bil pristop le vprašanje časa. Kitajska je le prevelika kot potencialni trg, da bi drugi člani zamudili priložnost za razširitev svojega poslovanja. Gledano v celoti, so za vse vpletene prednosti presegle tveganja. V teh 15 letih, odkar je Kitajska članica Svetovne trgovinske organizacije, je močno okrepila svoje trgovinske in kapitalske tokove. Ob pregledu vseh podatkov in reform Kitajske v preteklosti jim ni uspelo le s pomočjo, vodenjem WTO-ja, ampak tudi z lastnim znanjem in trudom.

V magistrski nalogi sem podrobno proučevala, kako so se trgovina in kapitalski tokovi spreminjali od časa vstopa v WTO. V ta namen sem analizirala spremenljivke, ki bi lahko prispevale h končnemu rezultatu. Kot odvisne spremenljivke so bili definirani trgovina, kapitalski prilivi in odlivi. Za neodvisne spremenljivke sem določila BDP, menjalni tečaj, razdaljo in realno obrestno mero, za neprave spremenljivke pa članstvo WTO, skupni jezik, dostop do morja, nekdanjo kolonijo in skupno kopensko mejo. Opravljenih je bilo več analiz regresij, ločeno za trgovino s prilivi kapitala in trgovino z odlivi kapitala. Običajna regresija in SUR-modeli so pokazali skoraj identične izide. Rezultat za trgovino in kapitalske prilive je pokazal pomembno interakcijo med omenjenima spremenljivkama, skupaj z BDP in menjalnim tečajem. Rezultat za trgovino in odlive kapitala pa na drugi strani ni pokazal korelacije med spremenljivkami. Statistično značilni so se izkazali le BDP, oddaljenost in skupni jezik. Uporaba nepravih, tako imenovanih »dummy« spremenljivk, je povzročila le boljšo razlago spremenljivk. Z vidika te magistrske naloge bistvena spremenljivka, tj. članstvo v WTO, ni pokazala korelacije s katero izmed odvisnih spremenljivk.

Nobenega dvoma ni, da se je obseg trgovine in kapitalskih tokov dramatično izboljšal po zaključenem pristopu, vendar to ne rezultira na regresijah. Pomagalo je k povečanju kitajske trgovine na nekaterih področjih, vendar ga je tudi znižalo na drugih (tekstil, oblačila, kmetijstvo). Zato se lahko skupni učinek kaže kot zanemarljiv.

Bi sama lahko naredila kaj, da se to spremeni? Ena izmed opcij bi predstavljala zajem vseh kitajskih partnerjev. Izboljšanje rezultatov je manj verjetno, saj so bili analizirani tisti partnerji, ki predstavljajo večino in katerih bilateralni trgovinski in kapitalski tokovi se sorazmerno povečajo več kot drugi. Svojo raziskavo bi lahko osredotočila na sektorje, ki so bili generalno uspešni, vendar je bila moja prioriteta ohraniti pogled na celotni učinek WTO.

Za zaključek lahko rečem, da Svetovna trgovinska organizacija ni edini krivec za kitajski uspeh, vendar zagotovo eden izmed njih. Kitajska je postala zaželena trgovinska in kapitalska destinacija, ki je skupaj z uspehom domačih podjetij ena izmed najmočnejših držav na svetu. V tem trenutku lahko le opazujemo sedanjost in prihodnost, kako se bo Kitajska razvijala z ali brez pomoči Svetovne trgovinske organizacije.

Appendix B: Terminological dictionary

ACP - The African, Caribbean and Pacific Group of States
AFTA - ASEAN Free Trade Area
ASEAN - The Association of Southeast Asian Nations
CAIRNS - Coalition of agricultural exporting countries
COMESA - The Common Market for Eastern and Southern Africa
EU – European Union
FDI - Foreign direct investment
GATT - General Agreement on Tariffs and Trade
GDP - Gross domestic product
M&A - Mergers and acquisitions
MERCOSUR - Southern Common Market in Latin America (MERcadoCOmún del SUR)
MFN – Most favoured nation
MOFCOM - Ministry of Commerce People's Republic of China
NAFTA- The North American Free Trade Agreement
NDRC - National Development and Reform Commission
OFDI - Outward foreign direct investment
PNG – Nonguaranteed long-term debt from bonds
PNTR - China Permanent Normal Trading Rights
PPG – Public and publicly guaranteed debt from bonds
PTA – Preferential trade agreement
QFII - Qualified Foreign Institutional Investors
QDII - Qualified Domestic Institutional Investors
RMB - Renminbi
SAFE - State administration of foreign exchange
SELA - Latin American Economic System
SOE - State owned enterprise
TPKM - Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu
TRQ - Tariff rate quota regime
USITC - U.S. International Trade Commission
WTO - World Trade Organization

Appendix C: Yearly growth rate of Chinese real GDP from 1990 to 2013

Table 9. Gross domestic product – nominal and real growth rate, annual, 1990-2013

Year	Nominal GDP growth rate (%)	Real GDP growth rate (%)
1990	-13.5	3.8
1991	4.8	9.2
1992	19.3	14.2
1993	25.6	14.0
1994	-8.8	13.1
1995	30.2	10.9
1996	17.6	10.0
1997	11.3	9.3
1998	7.0	7.8
1999	6.3	7.6
2000	10.6	8.4
2001	10.5	8.3
2002	9.7	9.1
2003	12.9	10.0
2004	17.7	10.1
2005	16.9	11.3
2006	20.2	12.7
2007	28.8	14.2
2008	29.4	9.6
2009	10.4	9.2
2010	18.8	10.4
2011	23.5	9.3
2012	12.3	7.7
2013	11.6	7.7

Source: *Gross Domestic Product: Total and per capita, current and constant (2005) prices, annual, 1970-2014*, n.d.

Appendix D: Chinese merchandise trade and yearly growth

Table 10. Merchandise trade matrix – exports, imports in millions of dollars, 1990-2013

Year	Export in $	Growth %	Imports in $	Growth %
1990	62,091.00	18.18	53,345.00	-9.80
1991	71,910.00	15.81	63,791.00	19.58
1992	84,940.00	18.12	80,600.00	26.35
1993	91,744.00	8.01	103,959.00	28.98
1994	121,006.00	31.90	115,637.00	11.23
1995	148,780.00	22.95	132,079.00	14.22
1996	151,048.00	1.52	138,943.00	5.20
1997	182,792.00	21.02	140,305.00	0.98
1998	183,808.99	0.56	140,236.77	-0.05
1999	194,930.78	6.05	165,699.07	18.16
2000	249,202.55	27.84	225,093.73	35.84
2001	266,098.21	6.78	243,552.88	8.20
2002	325,595.97	22.36	295,170.10	21.19
2003	438,227.77	34.59	412,759.79	39.84
2004	593,325.58	35.39	561,228.75	35.97
2005	761,953.41	28.42	659,952.76	17.59
2006	968,935.60	27.16	791,460.87	19.93
2007	1,220,059.67	25.92	956,115.45	20.8
2008	1,430,693.07	17.26	1,132,562.16	18.45
2009	1,201,646.76	-16.01	1,005,555.23	-11.21
2010	1,577,763.75	31.30	1,396,001.57	38.83
2011	1,898,388.44	20.32	1,743,394.87	24.88
2012	2,048,782.23	7.92	1,818,199.23	4.29
2013	2,209,699.59	7.85	1,950,162.29	7.26

Source: *Exports and imports of goods and services, annual, 1980-2013*, n.d.

Appendix E: Yearly value of Chinese services and transport

Table 11. Total service and transport trade matrix – exports, imports in thousands of dollars, 1990-2013

Year	Export ($)	Import ($)	Transport export ($)	Transport import ($)	World percentage
1990	5,855.00	4,352.00	2,706.00	3,245.00	0.70
1991	6,979.00	4,121.00	2,011.00	2,508.00	0.79
1992	9,249.00	9,434.00	2,079.00	4,325.00	0.95
1993	11,193.00	12,036.00	1,930.00	5,479.00	1.13
1994	16,620.00	16,299.00	3,079.00	7,621.00	1.53
1995	19,130.00	25,223.00	3,352.09	9,526.11	1.57
1996	20,601.00	22,585.00	3,070.00	10,312.00	1.56
1997	24,569.00	27,967.00	2,955.00	9,945.00	1.79
1998	23,895.00	26,672.00	2,300.00	6,763.00	1.72
1999	26,248.00	31,589.00	2,420.00	7,899.00	1.83
2000	30,430.50	36,030.60	3,670.96	10,396.11	2.00
2001	33,334.00	39,267.00	4,635.00	11,325.00	2.19
2002	39,744.50	46,528.00	5,720.21	13,611.90	2.43
2003	46,759.70	55,306.30	7,906.41	18,232.80	2.47
2004	64,912.90	72,720.80	12,067.50	24,543.80	2.82
2005	74,404.10	83,966.40	15,426.50	28,453.60	2.89
2006	92,006.00	100,833.00	21,015.30	34,369.00	3.16
2007	122,206.00	130,116.00	31,323.80	43,275.70	3.50
2008	147,110.00	158,924.00	38,417.60	50,328.70	3.76
2009	129,475.64	158,855.98	23,568.90	46,574.00	3.64
2010	162,165.07	193,321.05	34,210.50	63,256.70	4.16
2011	176,422.45	238,067.64	35,569.90	80,444.71	4.03
2012	191,430.42	281,203.77	38,912.17	85,861.60	4.28
2013	205,921.22	330,584.93	37,626.39	94,308.46	4.36

Source: *Exports and imports of service category, value, shares and growth, annual 1980-2013*, n.d.

Appendix F: Chinese trade of agricultural products

Table 12. Export and import of agriculture products in millions of dollars, 1990-2013

Year	Export ($)	Import ($)
1990	10,060	7,855
1991	10,895	7,834
1992	11,599	7,874
1993	11,852	6,224
1994	14,806	10,173
1995	14,997	16,099
1996	14,944	15,300
1997	15,732	14,633
1998	14,314	12,609
1999	14,209	13,852
2000	16,384	19,543
2001	16,625	20,124
2002	18,795	21,847
2003	22,157	30,482
2004	24,120	42,278
2005	28,711	45,189
2006	32,541	51,653
2007	38,862	65,368
2008	42,258	86,807
2009	40,882	76,616
2010	51,606	108,259
2011	64,612	144,724
2012	66,175	156,822
2013	70,158	165,459

Source: *Merchandise trade by commodity*, n.d.

Appendix G: Trade openness indicator

Table 13. Trade openness indicator, China, 1990-2013 in %

Year	Trade openness (%)
1990	32.3
1991	35.8
1992	39.2
1993	44.4
1994	42.3
1995	38.6
1996	33.9
1997	34.1
1998	31.8
1999	33.3
2000	39.6
2001	38.5
2002	42.7
2003	51.9
2004	59.8
2005	63.0
2006	64.9
2007	62.3
2008	56.7
2009	44.2
2010	50.1
2011	49.7
2012	47.0
2013	45.3

Source: *Merchandise trade (% of GDP)*, n.d.

Appendix H: Inward FDI by sector

Table 14. Inward FDI by sector, 2011-2013 in US$ million

	2011		2012		2013		
	Number of projects	**Amount of foreign capital actually used**	**Number of projects**	**Amount of foreign capital actually used**	**Number of projects**	**Amount of foreign capital actually used**	**% of total FDI**
Total	27,712	116,011.0	24,925	111,716.1	22,773	117,586.2	100.0
Agriculture, forestry and fisheries	865	2,008.9	882	2,062.2	757	1,800.0	1.5
Mining	87	612.8	53	770.5	47	365.0	0.3
Manufacturing	11,114	52,100.5	8,970	48,866.5	6,504	45,555.0	38.7
Production, distribution of electricity, gas, water	214	2,118.4	187	1,639.0	200	2,429.1	2.1
Construction	215	916.9	209	1,181.8	180	1,219.8	1.0
Transport, storage and post	413	3,190.8	397	3,473.8	401	4,217.4	3.6
Information transmission, computer and software	993	2,699.2	926	3,358.1	796	2,880.6	2.4
Wholesale and retail trade	7,259	8,424.6	7,029	9,461.9	7,349	11,511.0	9.8
Hotels and catering service	513	842.9	505	701.6	436	771.8	0.7
Financial intermediation	156	1,909.7	282	2,119.5	509	2,330.5	2.0
Real estate	466	26,881.5	472	24,124.9	530	28,798.1	24.5
Leasing and business service	3,518	8,382.5	3,229	8,211.1	3,359	10,361.6	8.8
Scientific research, technical services and geological prospecting	1,357	2,457.8	1,287	3,095.5	1,241	2,750.3	2.3
Water conservancy, environment, public facilities	151	864.3	122	850.3	107	1,035.9	0.9
Other	391	2,600.2	375	1,799.8	357	1,560.3	1.3

Source: World Trade Organization. *Trade policy review, report by the secretariat, China*, 2014, p. 32, Table 1.5.

Appendix I: Chinese inward and outward foreign direct investment

Table 15. Inward and outward foreign direct investment flows in millions of dollars, annual, 1990-2013

Year	Inward FDI flows $	Growth %	Outward FDI flows $	Growth %
1990	3,392.57	2.8	780.00	6.4
1991	3,487.11	25.2	830.00	10.0
1992	4,366.34	152.1	913.00	338.1
1993	11,007.51	150.0	4,000.00	10.0
1994	27,514.95	22.7	4,400.00	-54.5
1995	33,766.50	11.1	2,000.00	0.0
1996	37,520.53	11.2	2,000.00	5.7
1997	41,725.52	8.5	2,114.00	21.2
1998	45,257.00	0.5	2,562.00	2.8
1999	40,318.70	-11.3	1,774.31	-32.6
2000	40,714.80	1.0	915.78	-48.4
2001	46,877.60	15.1	6,885.40	651.9
2002	52,742.90	12.5	2,518.41	-63.4
2003	53,504.70	1.4	2,854.65	13.4
2004	60,630.00	13.3	5,497.99	92.6
2005	72,406.00	19.4	12,261.20	123.0
2006	72,715.00	0.4	21,160.00	72.6
2007	83,521.00	14.9	26,510.00	25.3
2008	108,312.00	29.7	55,910.00	110.9
2009	95,000.00	-12.3	56,530.00	1.1
2010	114,734.00	20.8	68,811.00	21.7
2011	123,985.00	8.1	74,654.00	8.5
2012	121,080.00	-2.3	87,804.00	17.6
2013	123,911.00	2.3	101,000.00	15.0

Source: *Foreign direct investment: Inward and outward flows and stock, annual, 1970-2013*, n.d.

Appendix J: Chinese inward and outward foreign direct investment stock

Table 16. Inward and outward foreign direct investment stock in millions of dollars, annual, 1990-2013

Year	Inward FDI stock $	Growth %	Outward FDI stock $	Growth %
1990	20,690.62	20.7	4.46	22.9
1991	25,056.96	21.1	5.37	20.5
1992	36,064.47	43.9	9.37	74.5
1993	63,579.42	76.3	13.77	47.0
1994	74.15	16.6	15.77	14.5
1995	101.10	36.3	17.77	12.7
1996	128.07	26.7	19.88	11.9
1997	154.00	20.2	22,444.49	12.9
1998	175.16	13.7	25,078.30	11.7
1999	186.19	6.3	26,852.60	7.1
2000	193.35	3.8	27,768.40	3.4
2001	203.14	5.1	34,653.80	24.8
2002	216.50	6.6	37,172.20	7.3
2003	228.37	5.5	33,222.20	-10.6
2004	245.47	7.5	44,777.30	34.8
2005	272.09	10.8	57,205.60	27.8
2006	292.56	7.5	75,025.60	31.2
2007	327.09	11.8	117.91	57.2
2008	378.08	15.6	183.97	56.0
2009	473.08	25.1	245.76	33.6
2010	587.82	24.3	317.21	29.1
2011	711.80	21.1	424.78	33.9
2012	832.88	17.0	512.59	20.7
2013	956.79	14.9	613.59	19.7

Source: *Foreign direct investment: Inward and outward flows and stock, annual, 1970-2013*, n.d.