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FREE TRADE AREA BETWEEN CHINA AND EUROPEAN UNION: IDEA OR REALITY?

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TABLE OF CONTENT

LIST OF FIGURES AND TABLES

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

FTA	Free trade area (Free trade agreement)
EU	European Union
NAFTA	North American Free Trade Agreement
ASEAN	Association of Southeast Asian Nations
MNC	Multinational Corporation
RTA	Regional Trade Agreement
ASEAN	Association of Southeast Asian Nations
TPP	Trans-Pacific Strategic Economic Partnership Agreement
CAFTA	China-ASEAN Free Trade Area
WTO	World trade organization
GATT	General Agreement on Tariffs and Trade
GATS	General Agreement on Trade and Service
CEPA	Closer Economic Partnership Arrangement
GCC	Gulf Cooperation Council
RCEO	Regional Comprehensive Economic Partnership
MOFCOM	The Ministry of Commerce of the People's Republic of China
UNDP	United Nations Development Program
EUROSTAT	Statistical Office of the European Communities
NSBC	National Bureau of Statistics of China
SME	Small and medium enterprise

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ABSTRACT:

This study based on realistic economic cooperation between China and the European Union, made the comparative study respectively on the bilateral trade, investment and cooperative trends in other fields, tried to find out the possibility for both economies to establish a free trade area. On this basis, by adopted the theoretical methods like the economic and trade complementarity analysis, economic factor endowment analysis and intra-industrial trade analysis to explore the possible economical basis and the cost-benefit outcomes for the potential FTA. Finally basing on the results of analysis, this paper provided some suggestions and recommendations for further research and the establishment of the potential FTA. Moreover, the results of this study show that: the recently closed bilateral cooperation between China and the European Union has laid a solid economic foundation for the establishment of the FTA. Meanwhile, the strong economic complementarity of the two economies also contributes to a win-win situation under the FTA framework. Therefore, based on the view of economics, the bilateral FTA should not be just seen as an idea but a reality, both economies could start to study the feasibility of the potential FTA.

KEYWORDS: China-EU, Free trade area, Possibility, Economic basis

1. INTRODUCTION

Since the 1990s, worldwide regional trade agreements (RTA) and bilateral Free trade agreement (FTA) developed rapidly. Regional trade arrangements had broken through the traditional geopolitical limitations, there are more and more transcontinental and regional free trade area has been established. The World Trade Organization (WTO) released data shows that as of 31st July 2013, some 575 notifications of RTAs (counting goods, services and accessions separately) had been received by the General Agreement on Tariffs and Trade (GATT) and WTO, of these, 379 were in force (2013a).

Establishing FTA has become a new trend in the development of free trade. Meanwhile, China is the world's largest developing country and the European Union (EU) is the largest economic integration grouping of developed countries, the bilateral trade has developed rapidly and both economies face big opportunities and challenges for the further development. In 2012, the EU is the largest trade partner, the largest source of imports and the second largest source of exports for China (General Administration of Customs of P.R.C 2013). For the EU, China is the EU's second largest trade partner after the United States, largest import partner and second largest export partner (European Commission 2013a). Thus, closed trade relationship between China and the EU offers a potential possibility to establish a free trade area thereby further develop and implement China-EU Strategic Partnership and to achieve their respective interests.

1.1 Background of the study

Although there are many existed studies on the bilateral economic and trade relationship have been published as well as some research on FTA trends in worldwide has been studied in recent years. However, just few of them start to focus on if it is possible to establish a FTA between China and the EU which has already established a very closed economic and trade relationship. Actually, as the above content has already described, until to the end of 2012, the bilateral trade relationship has been one of the most important bilateral trade relationship in the worldwide, otherwise, the two economies is negotiating the bilateral investment agreement, it will be helpful to improve the bilateral investment in near future. Meanwhile, in the recent years, the bilateral cooperation in some fields, like in aspects of science and technology, energy, culture and education, urbanization and so on, improved very rapidly and going to widen.

What are the requirements for the establishment of a FTA? There are for two main theories to present the reason. According to the theory which Viner (1950) proposed and later enhanced by Meade, Lipsey, Johnson and others, FTAs or RTAs (Regional Trade Agreements) will have both trade creation effects and trade diversion effects. And the size of trade creation and diversion will be determined by the structure of comparative advantage among FTA member states. That is, if industrial structures of FTA member countries are complementary to each other, involving countries can expect efficient gains from trade creation effects. Meanwhile, if many of their industries are competing with each other, trade creation effects will be small. The degree of complementarity or competition depends largely on factor endowments (Kim 2008). Otherwise, as the development of intra-industry trade in recent decades, intra-industry trade complementarity has been a new element to improve pecuniary gains from trade creation effects.

Meanwhile, ‘gravity model’ is another theory to explain why FTA exists. The model proposes that economic size, distance, population size and per capita GDP affect the possibility and desirability of FTA formation. Depending on the model, large, developed and adjacent countries are fascinating FTA partners, because FTA in this case will expand business opportunities in larger markets, and because firms can utilize the economy of scale. In addition to these, common languages and cultural similarities are regarded as important factors which facilitate ‘natural’ trading blocs (Kim 2008).

In this paper, the bilateral trade structural complementarity will be analyzed by adopted some universal models and formulas in order to get if it is possible to establish the FTA in the near future from the economic view. As well as the bilateral investment status, characteristics and relative investment policy will be analyzed to find out the possible benefit for the bilateral FDI respectively if the FTA exists. Furthermore, the bilateral cooperative trends in other fields will be listed and analyzed as a potential helpful subsidiary element to establish the FTA. All of these analyzes, different with the traditional bilateral trade view, focus on how the current existed bilateral trade, investment and other cooperation will contribute to the potential FTA and how possible to establish the FTA based on the current bilateral relationship.

1.2 Research objectives and delimitation

The core question of the study will focus on the possibility for establishing the FTA between China and the EU from the view of economics, discussing about how possible to implement the FTA from an idea to reality in the near future based on the previous studies and relevant free trade theories and economic integration theories, in details, the bilateral comparative advantage, factor endowment and intra-industrial trade situation will be analyzed based on the relative economic models. Moreover, studying on the complementarity of the bilateral trade in merchandise and commercial service, as well as the bilateral trade policies and investment policies will be comparatively analyzed. Furthermore, while talking about the fields and methods of cooperation can be chose for establishing the FTA, analyzed on the bilateral trade policies and investment policies. Meanwhile, discussing possible cooperation between two economies in expected economic areas based on their respective characteristics of economic development and trade structure.

In the thesis, a large number of the latest data are collected, and the various typical indexes, formulas and models are adopted to analyze the China-EU bilateral economic interdependence and complementarity, and the potential benefits and costs in the process of establishment of the FTA will be expected as well. Finally, in order to improve effectiveness of regional cooperation between China and the EU, reducing cooperative costs, the thesis explores how to establish the cooperative institutions between the two economies under the FTA framework to achieve win-win situation, and making some policy proposal based on above analysis. In summarization, the main research objectives in this thesis are: firstly, analyzing current worldwide established situation and characteristics of FTA, summarizing the potential regional free trade trend and possible type of FTA; secondly, discussing the possible economic basis for building the FTA by studying the current China-EU bilateral economic and trade relationship, including the bilateral trade, investment and cooperative tendencies in other fields; finally, investigating the possible institutional arrangements under the FTA framework, discussing potential cooperative areas and collaborative approach, and making some policy suggestions accordingly for establishing the FTA .

1.3 Structure of the thesis

In this thesis, there are four sections will be considered. The first section will be presented the background of the study and its core research objectives, and point out the research limitation. The subsequent section is going to talk about the analysis of the relevant literature on current studies. In details, there are two main theoretical pillars in this paper, free trade theory and economic integration theory. On the one hand, this section will present three free trade theories, the Ricardian model, the Heckscher-Ohlin model and intra-industrial trade model. On the other hand, this section will also introduce detailed definition of free trade, current main categorizations of economic integration organization, the relationship between regional economic integration and economic globalization and some important theories of economic integration after the Second World War. Otherwise, current worldwide main FTA models and development status, as well as the main FTAs that have been signed by China and the EU, respectively will be discussed. In addition, some different characteristics of FTAs that were implemented by China and EU respectively will be analyzed in this chapter too.

The third section, the research methods of the paper based on research design will be submitted, including research methods, data collection and analysis, and research credibility and stability. And then, the fourth section is empirical research and principal findings of the paper. In this section, on the economic and trade base for the potential possibility to establish the FTA from three aspects, trade, investment and cooperation in other fields will be analyzed. In the trade part, the bilateral trade scale and interdependence, the bilateral trade structural complementarity in merchandise trade, trade structure complementary in commercial service trade and the bilateral trade policy will be analyzed. In the investment part, the bilateral investment scale, bilateral investment structure and comparative analysis of the bilateral investment policy will be introduced and comparative analyzed. And pointing out the current existed bilateral investment barriers and problems. Finally, the new bilateral cooperative trends in other fields, like in cultural aspects, aspects of energy and climate change, scientific and technological cooperation and so on will be mentioned and analyzed. The final part is going to talk about the main conclusion of the study and making some policy proposals, and making some suggestions for further deeper study.

2. LITERATURE REVIEW

On the previous chapter, according to the two main FTA theoretical pillars, the requirements of the establishment of FTA have been listed and explained. Built on the requirements and the two fundamental theories, in this chapter, the main theoretical basis of the study will be introduced. In details, there two main theoretical pillars in this study, international trade theory and economic integration theory, wherein, the three main international trade models and the development processes of the main economic integration theory would be introduced too. In addition, contemporary literature on regional trading agreements would be adopted to connect the two main theoretical pillars and to introduce the main development status and trend in this field. Otherwise, some information about worldwide FTA development status and characteristics will also be presented, wherein, the established and negotiating FTA in both economies, EU and China respectively, will be the most important parts, also, the main feature and trends of them would also be introduced and analyzed.

2.1 International Trade Theories

In this part, there are three main international trade theories will be introduced. The first one is the basic international trade model which proposed by David Ricardo in his book '*On the Principles of Political Economy and Taxation*' which published in 1817. The Ricardian comparative advantage theory is the basis of the modern international trade theory, explained the reasons for international trade, developed the absolute advantage theory which proposed by Adam Smith. The second theory is the factor endowment theory which proposed by Heckscher and Ohlin, two Swedish economists, which explain the international trade from view of difference of the factor endowment among nations. Otherwise, the other theory is intra-industrial trade, which explain why trade still exists among the countries that have same comparative advantage and factor endowment, which widely exists and develops after the second world war.

2.1.1 The Ricardian Model

Countries engage in international trade for two basic reasons, each of which contributes to their gains from trade. First, countries trade because they are different from each other. Nations, like individuals, can benefits from their differences by reaching an

arrangement in which each does the things it does relatively well. Second, countries trade to achieve economies of scale in production (Krugman & Obstfeld 2012: 24).

The difference in opportunity costs offers the possibility of a mutually beneficial rearrangement of world production (Krugman & Obstfeld 2012: 25). Opportunity costs mean the value of the next-highest-valued alternative use of that resource (Henderson, 2014). Thus, the reason that international trade produces this increase in world outputs is that it allows each country to specialize in producing the good in which it has a comparative advantage. A country has a comparative advantage in producing a good if the opportunity cost of producing that good in terms of other goods is lower in that country than it is in other countries (Krugman & Obstfeld 2012: 26). This theory is originally issued by British economist David Ricardo, which introduced the concept of comparative advantage in the early of 19th century. This approach, in which international trade is solely due to international differences in the productivity of labor, is known as the Ricardian model.

There is an case to explain how Ricardian model works. Assuming the world with only two countries, for instance, Britain and China. Each produces two goods, steel and cloth, and each uses one factor of production, China has 6000 units of labor and Britain has 1200 units of labor. Each country has different labor productivities. For making 1 tonne of steel, Britain needs 1 unit labor, but China needs 6 units. For making 1 km cloth, Britain needs 2 units labor and China needs 3 units. By calculated, China uses 6x more labor than Britain to produce 1 tonne of steel, and China uses 50% more labor than Britain to produce 1 km of cloth. Britain has an absolute advantage in the production of both steel and cloth (Strange 2013).

However, trade will be beneficial to both countries as long as the relative efficiency with which goods can be produced differs between the countries. Britain is 6 times better at producing steel, but only 1.5 times better at producing cloth. The opportunity cost of one tonne of steel in Britain is 0.5 km of cloth. Thus, Britain has a comparative advantage in steel production and comparative disadvantage in cloth production. China has a comparative advantage in cloth production and a comparative disadvantage in steel production. Both countries can gain from trade if they specialize in producing and exporting those goods in which they are under a comparative advantage and importing those goods in which they have a comparative disadvantage. This is a short example to show the basic law of comparative advantage theory.

The potential gains from trade can be shown graphically. If no trade happens (autarky), each country produces some combination of both goods, as constrained by factor endowments and also consumption in each country is limited by production possibilities, like the below figures show us.

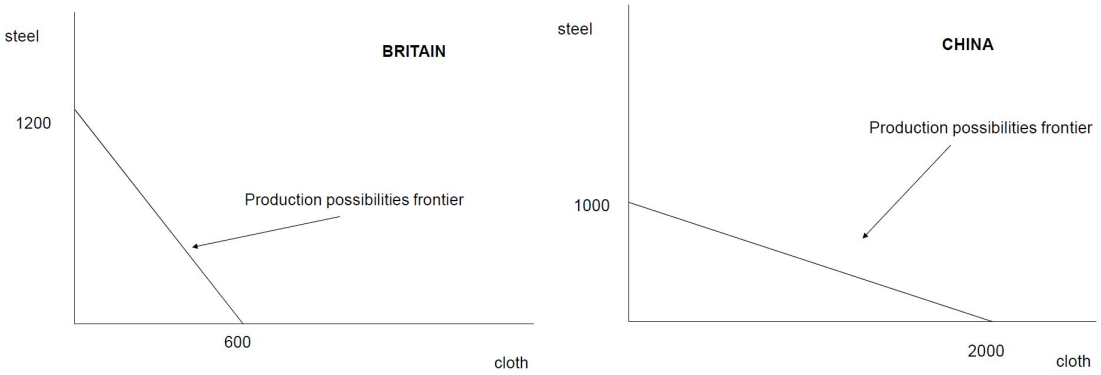


Figure 1: Production possibilities frontier before trade (Strange 2013).

If trade is possible, assuming terms-of-trade are that 1 tonne of steel may be exchanged for 1 km of cloth. For Britain, which specializes in steel production and exports steel to, and imports cloth from, China along the terms-of-trade line consumption possibilities in Britain are shown by the terms-of-trade line. And for China, specializes in cloth production exports cloth to, and imports steel from Britain along the terms-of-trade line, consumption possibilities in China are shown by the terms-of-trade line. Finally, world production of both goods increases, and both countries increase consumption which is no longer constrained by what each country can produce, like the figure 2 shows us below. Ricardo Model is an important theoretical foundation for modern international trade, it makes a great progress from absolute advantage theory which was supposed by Adam Smith in *The Wealth of Nations* (Strange 2013). Currently, it still could explain some realistic trade issues. However, there are still some problems in the theory, for example, it cannot explain why two countries that have same comparative advantage are still trading. Thus, in the followings, other succeed theories will be introduced.

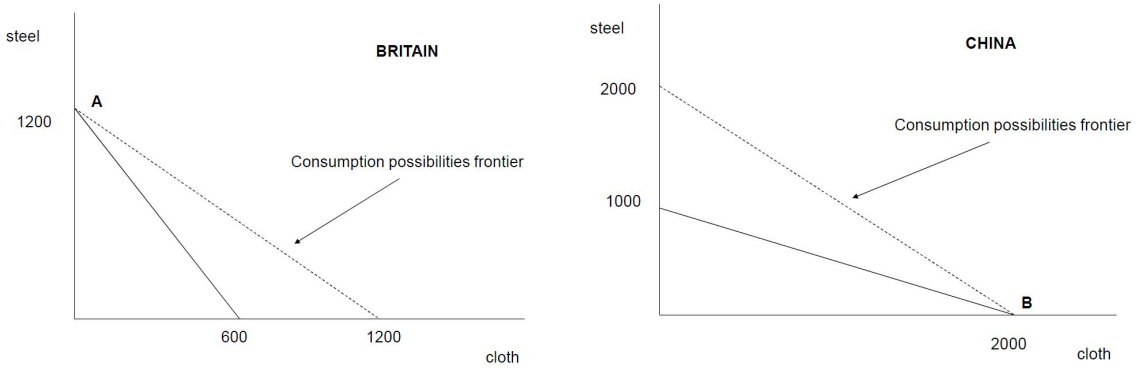


Figure 2: Production possibilities frontier after trade (Strange 2013).

2.1.2 The Heckscher-Ohlin Model

If labor were the sole factor of production, as the Ricardian model assumes, comparative advantage could arise only because of international difference in labor productivity. In the real world, however, while trade is partly explained by differences in labor productivity, it also reflects differences in countries' resource (Krugman & Obstfeld 2012: 80). For instance, Australia exports iron ore to China not because its mining productivity is higher than its Chinese counterparts, but because its per capita iron ore resource much more than China. A realistic view of trade must allow for the importance not just of labor, but of other factors of production such as land, capital, and mineral resources.

That international trade is largely driven by differences in countries' resources is one of the most influential theories in international economics. Developed by two Swedish economists, Heckscher and Ohlin, the theory is often referred to as the Heckscher-Ohlin theory. Because the theory emphasizes the interplay between the proportions in which different factors of production are available in different countries and the proportions in which they are used in producing different goods, it is also referred to as the factor-proportions theory (Krugman & Obstfeld 2012: 80). This theory recognize that countries differ in terms of their factor endowments (factor abundance), for example, China and India are labor abundant, US, Japan and Europe are capital abundant, and Australia and Canada are land abundant.

As well as commodities differ in terms of their factor requirements (factor intensity). In details, clothing and toys are labor-intensive, manufactures are capital intensive and agriculture and livestock are land intensive. Furthermore, comparative advantage is

influenced by the interaction between the resources of countries (their relative factor abundance), and the technology of production (the relative factor intensity of different goods/services), and then suggests that capital abundant country has comparative advantage in and will export the capital intensive good. Labor abundant country will be under a comparative advantage in, and will export the labor intensive good.

Meanwhile, the trade and the distribution of income will be discussed too. Trade produces a convergence of relative earnings of labor and land. For instance, a rise in the price of cloth raises the purchasing power of labor in terms of both goods while lowering the purchasing power of land in terms of both goods. A rise in the price of food has the reverse effect. Thus, international trade has a powerful effect on income distribution. In home, where the relative price of cloth rises, people who get their income from labor gain from trade but those who derives their income from land are made worse off. In foreign, where the relative price of cloth falls, the opposite happens: laborers are made worse off and landowners are made better off. The general conclusion about the income distribution effects of international trade is: Owners of a country's abundant factors gain from trade, but owners of a country's scarce factors lose (Krugman & Obstfeld 2012: 104).

2.1.3 Intra-industrial Model

In the previous parts, two different models of international trade, Ricardian model and Heckscjer-Ohlin model, have been introduced. Each of which makes different assumptions about the determinants of production possibilities. In this part, a more typical pattern of a trading world economy, intra-industrial trade model, which based on economies of scale and imperfect competition will be presented.

Ricardo and Heckcher-Ohlin models are built on the assumption of constant returns to scale. However, many industries are characterized by economies of scale which may be either internal or external to the firm. On the one hand, internal economies mean that large firms have an apparent advantage over small firms, and markets become imperfectly competitive. In details, there are internal economies of scale, each country specializes to keep costs low and both countries will produce differentiated varieties of all goods, and consumers like variety so that two-way (intra-industry) trade might happen in similar products. On the other hand, external economies are productivity gains that individual firms reap from the expansion of the industry, and many firms may

co-exist in a perfectly competitive market. In details, external economies often arise when industries are geographically concentrated in clusters or industrial districts which foster a range of specialized suppliers of equipment and/or services, and pooled markets for labor with specialized skills or spillovers of specialized knowledge. Strong external economies tend to confirm existing patterns of inter-industry trade which may have been established by the initial factor endowments, by luck, or active far-sighted government policy.

Otherwise, the pattern of intra-industry trade itself is unpredictable. *We have not said anything about which country produces which goods within the manufactures sector because there is nothing in the model to tell us. All we know is that the countries will produce different products. Since history and accident determine the details of the trade pattern, an unpredictable component of the trade pattern is an inevitable feature of a world where economies of scale are important. Notice, however, that the unpredictability is not total. While the precise pattern of intra-industry trade, for example, within the manufactures sector is arbitrary, the pattern of inter-industry trade, between manufactures and food is determined by underlying differences between countries. Also, the relative importance of intra-industry trade depends on how similar countries are. If home and foreign are similar in their capital-labor ratios, then there will be little intra-industry trade, based ultimately on economies of scale, will be dominant. On the other hand, if the capital-labor ratios are very different, so that, for example, foreign specializes completely in food production, there will be no intra-industry trade based on economies of scale. All trade will be based on comparative advantage* (Krugman & Obstfeld 2012: 152).

Intra-industry trade is a two-way exchange of goods within standard industrial classifications which plays an even more prominent role in the trade in manufactured goods among advanced industrial nations, which accounts for the majority of world trade (Krugman & Obstfeld 2012: 169). Over time, the industrialized countries have become increasingly similar in their levels of technology and in the availability of capital and skilled labor. Since the major trading nations have become similar in technology and resources, there is often no clear comparative advantage within same industry, and much of international trade therefore takes the form of two-way exchanges within industries, probably driven in large part by economies of scale, rather than interindustry specialization driven by comparative advantage.

In the recent years, intra-industry trade has been a main trend for trading between developed countries which locate at the same development level and even have similar comparative advantage and factor endowment. By engaging in intra-industry trade in a country can simultaneously reduce the number of producers and increase the variety of

goods available to domestic consumers. By producing fewer varieties, a country can produce each at larger scale, with higher productivity and lower cost. At the same time, consumers benefit from the increased range of choice. Meanwhile, intra-industry trade tends to be prevalent between countries that are similar in their capital-labor ratios, skill levels, and so on. Thus, intra-industry trade will be dominant between countries at a similar level of economic development. Gains from this trade will be large when economies of scale are strong and produces are highly differentiated.

2.2 Economic integration and economic globalization

This section will introduce the relationship between economic integration and economic globalization, defining the meaning of economic integration and analyzing the main types of economic integration and its development process.

2.2.1 What is economic integration?

Economic integration is the unification of economic policies between different states through the partial or full abolition of tariff and non-tariff restrictions on trade taking place among them prior to their integration. This is meant in turn to lead to lower prices for distributors and consumers with the goal of increasing the combined economic productivity of the States (Abdin 2013). Regional economic integration organizations first appeared in the 1950s. In the late 1990s, as globalization continues to develop and slowing down the process of multilateral trade negotiations, regional economic integration began to grow rapidly, regional trade agreements, particularly the bilateral FTA emerged around the world, continue to this day.

1950s, the famous Dutch economist Jan Tinbergen explained the concept of economic integration based on the relationship between the factor mobility and government agencies. And separated economic integration into “negative integration” and “positive integration”. Former refers to abolish all forms of discrimination and regulation institution, also means to remove obstacle of free flow of capital, labor and commodity between member states. Latter refers to establish new liberalization policies and institutions. And then John Pinder (1968) reference Tinbergen’s words and made his own explanation: he believes that “negative integration” is the abolition of difference,

and “positive integration” is to achieve economic and welfare goals by forming and use coordinated policies.

In the 1960s, American economists Bela A. Balassa in his book *Theory of Economic Integration* defined the economic integration both as a process and as a status. As a process, emphasizing dynamic nature of the state eliminates economic discrimination, and as a status, emphasizing static nature of the country completely non-existence of various economic discrimination, in the other words, the disappearance of discrimination between countries.

2.2.2 Main categorizations of economic integration

Mostly, economic integration can be categorized by the depth of cooperation, there are free trade area, customs union, common market, economic union and complete economic integration.

1. Free trade area. It is a type of trade group whose member countries have signed the free trade agreement, which eliminates tariffs, import quotas, and preferences on most goods and services that traded between them. Member countries join the economic integration when their economic and trade structures are interdependence and complementary.

2. Customs union. It is a type of trade bloc which is composed of a free trade area with a common external tariff. The participant countries set up common external trade policy, but in some cases they use different import quotas. Common competition policy is also helpful to avoid competition deficiency (Winters 1991: 528).

3. Common market. Group is formed by countries within a geographical area to promote duty free trade and free movement of labor and capital among its members. European community (as a legal entity within the framework of the European Union) is the best known example. Common markets impose common external tariff (CET) on imports from non-member countries.

4. Economic union. It is a type of trade bloc which is composed of a common market with a customs union. The participant countries have both common policies

on product regulation, freedom of movement of goods, services and the factors of production (capital and labour) and a common external trade policy. The countries often share a common currency.

5. Complete economic integration. It is the final stage of economic integration. After complete economic integration, the integrated units have no or negligible control of economic policy, including full monetary union and complete or near-complete fiscal policy harmonization.

Otherwise, according to the different member states of FTA, economic integration organizations can be also classified into three categories:

1. North-North economic integration organizations, all members of the organization are developed countries, like European Union.

2. North-South economic integration organizations (Manger 2008), the members of the organizations composed by developed and developing countries, like the North American Free Trade Agreement (NAFTA).

3. South-South economic integration organization (Wignaraja 2011), the composed countries of the organization entirely by developing countries, such as Association of Southeast Asian Nations (ASEAN) FTA.

2.2.3 The relationship between economic integration and economic globalization

Economic integration has emerged as the process of economic globalization. In addition, because of the imbalances in the global economic development and slow progress in the multilateral trading system. Economic integration, as a necessary stage under the process of economic globalization, is a realistic and reasonable way to promote the endless development of economic globalization. Currently, under the process of economic globalization, on the one hand, national economic systems develop convergent and Multinational Corporations (MNCs) operate continuously strengthened. On the other hand, the various countries did not achieve a balanced development yet, the goals and interests of their economic development are often different. In this case, the gradually intensify conflicts between the multilateral trading system under the economic globalization and domestic interests were very difficult to be solved by

traditional multilateral trading system. But the bilateral cooperation and regional economic integration are easier to be a realistic and feasible approach due to limited participating members. Therefore, regional economic integration has become an important supplement for multilateral trading system, promoting the development of economic globalization.

However, economic integration brings barriers effects for certain non-membership countries due to exclusivity of economic integration; it violates the equality principle of the multilateral trading system. But in generally, the regional economic integration not only played a positive role in the global trade, the international division of labor and technical cooperation, but also promoted the development of economic globalization. (Deng 2006)

2.3 Main theories of economic integration

In this section, the main theories of economic integration will be presented. In details, the theory of customs union, free trade and common market will be explained. Furthermore, all of the introduction will show the theoretical development process and the theoretical basis of the FTA based on the mainstream theories.

2.3.1 Theory of customs union

In the theories of regional economic integration, the greatest impact is the theory of customs union. The theory is made by American economist Viner in his book *Customs Union* which published in 1950. Thereafter, Lipsey developed this theory in his book *Customs Union Theory: An Overview* in 1960s, the theory indicates that an entirely customs union should be fully satisfied with the following three conditions: completely abolished tariffs among participating countries; setting common tariffs for non-membership countries or regions from the import; allocating tariff revenue among member states by negotiation.

Thus, based on the above assumptions, in case of the establishment of a customs union, both static effects and dynamic effects will be brought by eliminated domestic tariff, settled common external tariff. Main static effects include effects of trade creation and

trade diversion. In details, since customs union was created, it depends on the scope of the effects of trade creation and trade diversion, as well as amount of trade expansion. Furthermore, eliminating tariffs among the member states might bring two alternative effects: Internal transfer substitutes and Import transfer. If trade creation greater than trade diversion, the total welfare will be increased, and vice versa. As well as if after the internal transfer happened, each substitution occurs between the member states, and then the prices of imported products are relatively lower, finally, welfare will be positive improved due to expand the demand.

Meanwhile, in case of the establishment of a customs union, it would bring some dynamic effects. Firstly, market competition will be strengthened among member states due to the market enlarged so that the production factors and resource allocation will be more reasonable. Secondly, the member states within the domestic market will form a unified market. As the expansion of free market, member countries will achieve economies of scale. Thirdly, as the common domestic market expansion, the investment environment will be improved that will not only attract members to expand domestic investment, but also be able to attract capital and investment from non-member countries. Fourthly, production factors can be flowed freely among the member states to promote the expansion of research and development, which will accelerate economic development of the members. Finally, common domestic market can reduce the customs administrative cost, reduce smuggling and enhance the collective bargaining power for international affairs.

2.3.2 Theory of free trade area

In 1980s, British scholar Peter Robson (1984) presented the theory of free trade area, which based on theory of customs union. Moreover, compared with customs unions and other forms of regional economic integration, FTA has two typical features as followings:

1. While FTA members implement internal free trade, the external trade implements non-unified tariff and trade policies.

2. Strict rules of origin, the free trade only open to the products and service that originate in the region.

FTA is the most basic form of economic integration. It achieved trade liberalization by eliminating barriers of trade between member states. Mostly, this is a more widely used form of integration than the customs union.

2.3.3 Theory of common market

Customs union is just the basic theory of regional economic integration, the major assumption based on that production factors among members is not flowing. Common market is the higher level regional economic integration than the customs union; it is not only achieving the integration of markets through the formation of the customs union and the trade liberalization, but also achieve the integration of factor market within the region by eliminated barriers of factors free flowing. The concept of the common market was presented by *Spark Report,* in 1956.

In the common market, since the barriers of impeding the flow of production factors have been eliminated, making the production factors, driven by profit motive, move to the geographic areas that achieve the greatest possible benefits. However, due to the social, political and human habits reasons, labor force, as a production factor, does not have to flow large-scaled by this way. Nonetheless, the capital is different, as long as there are some differences in marginal productivity of capital in different regions, then the flow would not be stopped until the marginal productivity regress equal.

Otherwise, common market theory is to investigate, on the basis of the customs union, possible expected economic effects among members in case of eliminating barriers to the free mobility of production factors. When the evolution of economic integration progress to build a common market, in the region is not only to achieve trade liberalization so that production factors can flow freely in the region, but also create a big market that transcends national boundaries. In details, on the one hand, production within the common market may re-allocate along production possibility curve, thereby resource allocation effect could be improved. On the other hand, as the production and trade in the region is going to expand, the production possibility frontier is going to outward expansion, and then that will improve the growth of production in the region.

The main purpose of the common market is to eliminate trade protectionism and to build a big unified market by unified members' domestic market that was fragmented economy due to protectionism. Moreover, through fierce competition in the big market,

achieve production specialization, economies of scale and other welfares. Furthermore, theory of big market had been created by the deeply analysis of the common market theory. In details, the theory of common market analyzed, based on a dynamic point of view, economic effects of regional economic integration. Representative economists are T. Scitovsky and J. F. Deniau. The theory, based on the common market, is to discussing the international competitive effects of regional economic integration. The core idea is that expanding market is a precondition to obtain economies of scale and expansion of the market, by increased competition, will bring the benefits of economies of scale. Scitovsky and Deniau researched the economic effects of common market respectively, based on the angle of divided market and common market, Scitovsky thought divided market economy will lead to vicious cycle, thus, since establishing a common market, a unified common market economy would bring virtuous cycle. Deniau believed that in case of a common market established, economic expansion then begins to snowball (Frumkin 1969).

2.4 Contemporary literature on regional trading agreements

The main thrust for RTAs is both political and economic (Robson 1998). Wherein, the economic and trade relationship are most important elements for building RTA. According to classical and neoclassical trade theory, economies benefit when they reduce barriers to trade between them (Viner 1950). Thus, in theory, free trade will improve all participants. The more recent ‘domino theory’ suggests when one country joins a regional bloc it triggers a multiplier effect and gives an impetus to the nonparticipating countries to seek membership (Khorana & Perdikis 2010: 181-206). This lowers bilateral import barriers ‘like a row of dominoes’ to avoid losses from the trade diversion effect if they remain outside (Baldwin 1993; Baldwin & Venables 1995). That also means a regional trading agreement has two effects, on the one hand, it will decline the internal barriers for its participants and benefit for each other. On the other hand, for external nonparticipants, that means more barriers and reduces the welfare for nonparticipants. Meanwhile, we also could think this is the main contradiction between regional integration and globalization that have been already talked in above content.

Is that a fair system if there is a RAT established by developed countries and developing countries? Like Sangeeta Khorana and Nicholas Perdikis (2010) talked, on the one hand, The World Bank (2000) finds that a trade agreement between countries leads to welfare

gains (from trade creation) for the country that is at a lower level of development. On the other hand, United Nations Conference on Trade and Development (UNCTAD 2007: 87-118) suggests that market access gains for developing countries are likely to be limited because most agreements do not cover the reduction or elimination of agricultural subsidies in developed countries. It also finds that gains are further limited for developing countries by the restrictive rules of origin, non-tariff measures and supply-side constraints adopted or implemented by developed countries (Khorana & Perdikis 2010: 181-206). Thus, RAT between developed countries and developing countries looks like a double-edged sword for developing countries.

According to the neoclassical convergence hypothesis, countries at a lower level of development will catch-up with higher developed countries through absolute convergence will occur only when the structural conditions between partner countries are similar. That means having to analyze the economic and trade structure of both economies, find out the potential possibility to establish a FTA between them.

2.5 Worldwide Free trade agreements

In this section, the worldwide free trade agreement and the main free trade agreements which already signed by China and EU respectively will be introduced in order to find out the possible trend of FTA in recent years.

2.5.1 Free trade agreements with worldwide

In worldwide, regional economic cooperation developed rapidly and has been an important world economic development trends, countries are attempting to participate in the process of regional economic integration by signed regional trade and economic agreements. According to the WTO statistics(2013a):

In the period 1948-1994, the GATT received 124 notifications of RTAs (relating to trade in goods), and since the creation of the WTO in 1995, over 400 additional arrangements covering trade in goods or services have been notified. As of 31st July 2013, some 575 notifications of RTAs (counting goods, services and accessions separately) had been received by the GATT/WTO. Of these, 379 were in force.

So far, North American Free Trade Agreement (NAFTA) and the EU are most powerful economic integration organizations in the worldwide, and they are going to expand broader, bigger scale and higher level in the future. Meanwhile, the FTA was also expanding in other areas of the world. In Asia, China-ASEAN Free Trade Area (CAFTA) had been established in 2010, and they are negotiating to establish Asean-China-Japan-South Korea FTA in the future. Otherwise, Trans-Pacific Partnership Agreement (TPP) is developing rapidly in recent years.

As of 31 July 2013, some 575 notifications of RTAs (counting goods, services and accessions separately) had been received by the GATT/WTO. Of these, 408 notifications were made under Article XXIV of the GATT 1947 or GATT 1994; 38 under the Enabling Clause; and 129 under Article V of the GATS. The overall number of RTAs in force has been increasingly steadily, a trend likely to be strengthened by the many RTAs currently under negotiations. Of these RTAs, Free Trade Agreements (FTAs) and partial scope agreements account for 90%, while customs unions account for 10% (WTO 2013b).

Otherwise, with the continuous development of regional economic cooperation in recent years, the newly signed regional trade agreements presented some new trends and new features. In details, currently, the content of newly signed free trade agreements had over the traditional agreement fields, like trade liberalization and tariff reductions, expanded to the fields of market access, investment, environmental standards, intellectual property and other disputable aspects. That would improve the functions of the free trade agreement and solve some problems effectively which difficult to solve in the framework of the multilateral trades system. Meanwhile, content changes will promote regional economic cooperation and will be an impetus for establishing a broader economic integration.

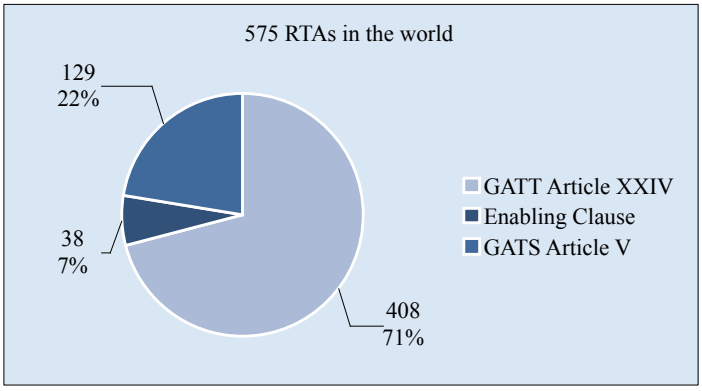


Figure 3: RTAs that had been received by the GATT/WTO
Source: The author made based on data from WTO Database, 2013

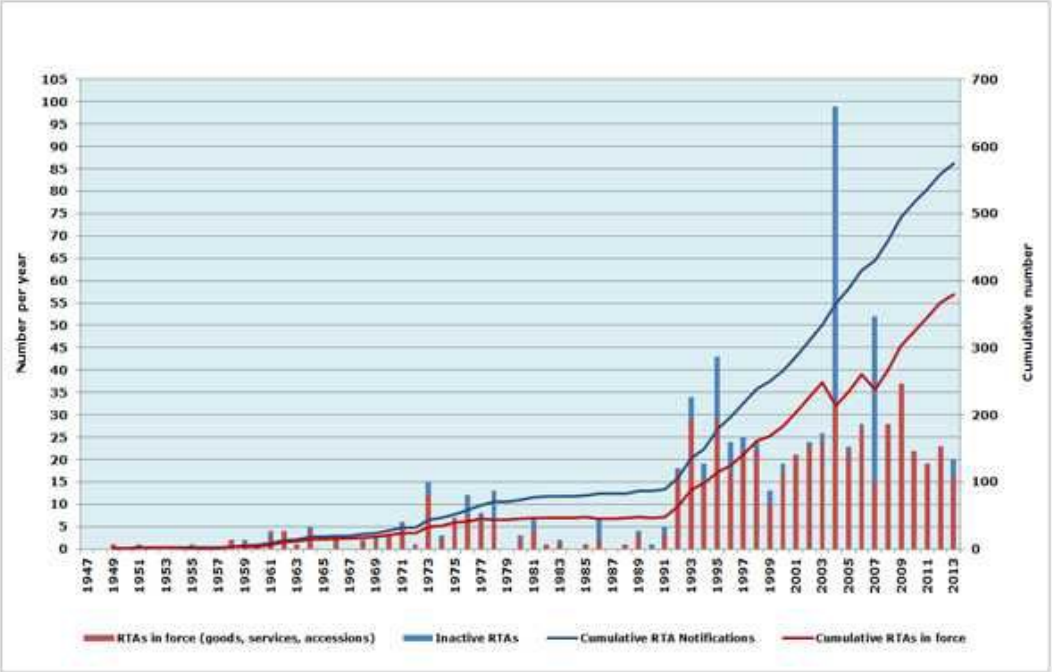


Figure 4: All RTAs notified to the GATT/WTO (1948-2013), including inactive RTAs, by year of entry into force.
Source: WTO Secretariat, 2013

2.5.2 Free trade agreements with China

China started to sign free trade agreement after 2001, while China joined WTO. So far, China has signed FTA with 10 countries (region and regional organization), they are respectively China-ASEAN, China-Pakistan, China-Chile, China-New Zealand, China-Singapore, China-Peru, China-Costa Rica, China-Iceland, China-Switzerland, Closer Economic Partnership Arrangement (CEPA) with Hong Kong and CEPA with Macao. Otherwise, China is negotiating FTA with the Gulf Cooperation Council (GCC), Australia, Norway, South Korea, China-Japan-Korea and Regional Comprehensive Economic Partnership (RCEP). Furthermore, China is considering building FTA with India and Colombia [The Ministry of Commerce of the People's Republic of China (MOFCOM) statistics 2013].

There are two typical characteristics with China free trade agreements. Firstly, characteristics of content. China's regional trade agreements signed almost all forms of the FTA, the main content of the agreements are to eliminate tariff barriers. For instance,

China has already reached *"Agreement on Trade in Goods"* with ASEAN for declining tariff barriers. Secondly, geographic feature. China's regional economic cooperation started in East Asia, and then gradually developed. Currently China had signed trade agreements mainly in the Asian region, such as the China-ASEAN FTA, CEPA, etc., while China is also negotiating signed the FTA with Japan and South Korea. After finished foothold in Asia, China began to be done intercontinental FTA, such as, China signed a bilateral free trade agreement with Chile in 2005 and with Switzerland in 2013. In addition, China is also working collaboratively with Australia, GCC and other bilateral negotiations. Thus, the current selected path of China for signed trade agreement is from adjacent areas to the rest of the world.

2.5.3 Free trade agreements with EU

In this section, the Free trade agreements with the EU will be analyzed, wherein, the Free trade agreements already in place, Free trade agreements finished but not yet applied and on-going negotiations and forthcoming negotiations will be discussed respectively. Otherwise, the main characteristics of the EU's free trade agreements will be analyzed as well.

1. Free Trade Agreements already in place

So far, the EU has already in place trade agreements with nearly 50 partners in worldwide. Including, Colombia and Peru in 2013, Central America (Costa Rica, El Salvador, Honduras, Nicaragua and Panama) in 2012, South Korea in 2011, Mexico in 2000 and Central America (except Guatemala), South Africa in 2000 and Chile in 2002. Furthermore, Economic Partnership Agreements are being implemented in with three regions: the Caribbean (fifteen CARIFORUM states), the Pacific (the only country currently applying is Papua New Guinea) and Eastern and Southern Africa (four ESA countries - Zimbabwe, Mauritius, Madagascar, the Seychelles). (European Commission 2013)

On top of these "classic" free trade deals, Free Trade Agreements are a core component of many Association Agreements as well as Customs Unions (Andorra, San Marino, Turkey). Hence the EU also has free trade deals in force with a number of countries and territories in Europe (Faroe Islands, Norway, Iceland, Switzerland, the former Yugoslav Republic of Macedonia, Albania, Montenegro, Bosnia and Herzegovina, Serbia) and the Southern Mediterranean (Algeria, Egypt, Israel, Jordan, Lebanon,

Morocco, Palestinian Authority, Syria, Tunisia) and three with African, Caribbean and Pacific countries (Caribbean, Pacific and Eastern and Southern Africa). Trade provisions of the agreement with Syria are currently not applied. (European Commission 2013b)

2. Free Trade Agreements finished but not yet applied

In total, the EU has finished negotiating eleven trade agreements that have yet to enter into force, including, *Eastern Neighborhoods* (Moldova, Armenia and Georgia) in 2013, Ukraine in 2011, Central America (except Guatemala) and Singapore in 2012. There are also five interim Economic Partnership Agreements with African, Caribbean and Pacific States that have been negotiated but have not yet entered into force. These are with Cote d'Ivoire, Central Africa (Cameroon), the Southern African Development Community, Ghana and the East African Community (European Commission 2013b).

3. On-going negotiations and forthcoming negotiations

The EU has eleven trade negotiations under way and several more trade and development negotiations (EPAs) ongoing, including, Canada, United States of America, Japan, ASEAN (except Singapore), Southern Mediterranean (Morocco, Tunisia, Egypt and Jordan), India, Mercosur, Gulf Cooperation Council, African, Caribbean and Pacific countries (European Commission 2013b).

Meanwhile, the EU is working for an agreement on investment with China. The European Council adopted the mandate which will allow the European Commission to start investment negotiations with China. Both sides expressed earlier their interest in participating in such negotiations when they met at the 14th EU-China Summit in February 2012 (European Commission 2013d).

The current level of bilateral investment is way below what could be expected from two of the most important economic blocks on the planet. Just 2.1% of overall EU Foreign Direct Investment (FDI) is in China. The main purposes for these negotiations are the progressive abolition of restrictions on trade and foreign direct investment as well as promoting the overall objectives of EU policy in the world. The EU-China investment agreement will improve access to the Chinese market and provide EU investors in China a high level of investment protection in a single, coherent text (European Commission 2013b).

4. The characteristics of EU's FTAs

On the one hand, EU has signed FTA with plenty of countries/regions in the worldwide. The content of FTAs is diversified, involves goods trade, service trade and investment agreement, etc.. However, on the other hand, EU has not achieved any FTAs with great powers, like U.S, China and Japan, so that these FTAs that EU had been finished has not yet achieve free trade with mainstream economies, even these FTAs are not such important based on global strategic view. Hence improving the trade environment with economic great powers would be an important trend in the future.

Figure 5: The EU's trade relationship with rest of world
Source: European Commission, 2013b

3. RESEARCH METHODS

3.1 Research designs

The research design section gives an overall view of the method chosen and the reason for this choice. The data collection section goes into much more detailed about how specifically the data are collected (Saunders, Lewis & Thornhill, 2009: 52). The composition of the research involves clear objectives from research questions, specified sources from which data were gathered, and a realistic list of impediments to the success of the project such as data access, time, location and money (Saunders, Lewis & Thornhill, 2009: 131). Maylor and Blackmon (2005) defined research design is "the general approach you will take to answer your research questions, as well as the specific techniques you will use to gather, analyze and interpret data". The main questions of this thesis are: if it is possible to establish a FTA between China and the EU? And if it is benefit to both economies in the case of the FTA establishes?

The research questions will be analyzed by empirical study and empirical evidence which include plenty practical data and relative data analysis. And in order to answer what the benefit for both economies, some economic models and formulas were adopted to test the author's assumptions. Furthermore, the deductive and inductive methods are the two approaches adopted in this research. A deductive element to the research design will be explained as following. The deductive aspect is also seen as a framework then the exploratory and explanatory research design with plenty of econometric empirical analysis was adopted to explore the research questions. For the deductive approach, a theory and an assumption are formulated and then tested by a research strategy (Akanyonge, 2010). By contrast, the inductive approach is data collection, data analysis and then expected results, in this study, plenty of data analysis are adopted by different ways to test the research questions and objectives. The use of an inductive approach may also involve you in a lengthy period of data collection and concurrent analysis in order to analyze a theme adequately or to derive a well-grounded theory (Saunders, Lewis & Thornhill, 2009: 503).

Meanwhile, partial equilibrium and general equilibrium analysis will be used to analyze trade creation effects and trade substitution effect of the possible FTA, the thesis adopts a combination of methods of partial equilibrium analysis and general equilibrium analysis. In details, not only analyzed the single economic structure and internal relationship among economic departments and sections, also considered the bilateral

cooperation in fields of trade, investment and others, and then the related expected economic benefits for both economies were analyzed. Moreover, in order to make research results more intuitive and clearer, the analysis of the economic model based on respective trade structural and economic characteristics of China and Europe was adopted.

3.2 Data collection and analysis

3.2.1 Data collection

As previous mentioned, secondary data was collected for this research. Secondary data include both raw data and published summaries (Saunders, Lewis and Thornhill: 2009, 258). The literature in the section of worldwide free trade area is the basic example of secondary data. Other more deeply and detailed secondary data in the form of annual trade report of WTO, European Commission, the Ministry of Commerce of the People's Republic of China (MOFCOM) and other related international/regional organizations. The collected methods is like the categories that Saunders, Lewis and Thornhill (2009) shows: documentary (books, reports, newspapers, transcripts, voice recordings, video recordings, etc.), survey-based (any data collected using survey strategy), and multiple source (documentary combined with survey-based combined) secondary data. Otherwise, other classifications are: internal and external sources (Ghauri & Gronhaug, 2010: 97).

Secondary data are the most important form of data collection in this thesis due to the research scope. This research is about macro economics and international trade, most raw data and statistics about this field are published by government agencies, some integration organizations and international organizations. As well as some published summaries have been adopted in this study, especially when the author starts to analyze the trade structure and trade complementarity, plenty of published summaries will be recorded. All of these secondary data is very helpful for this study, without them, it's impossible to ensure the reliability of the study.

Otherwise, primary data, in contrast with secondary data, is originally collected by the researcher with the aim of directly supporting the research topic at hand (Ghauri & Gronhaug: 2010: 90). Due to the limitation of the research topic, primary data is quite

difficult to collect by the author himself. Thus, in this thesis, raw secondary data and published summarized would be the key points rather than primary data.

3.2.2 Data analysis

Data analysis is the process of making sense out of the data (Sharan B. Merriam 2009: 175). In this thesis, both of quantitative and qualitative method adopted for analyzing data. Wherein, quantitative method is the main way to make data analysis, and qualitative method would be mainly used to make trade and investment policy comparative analysis.

Qualitative analysis was one of the main methods in this study. It tends to inductive and evolves the collected data during the study. Inductive approaches focus on developing the categories and interpretations as closely as possible to the related materials (Pia Pitkänen, 2012: 49). Content analysis is guided by the main concepts and the research problem of the study. The purpose of the analysis is to clarify the data and brings something new to the researched field (Hirsijärvi & Hurme, 1993: 114-116). In order to make the analysis, the author collected the related papers and data from different ways and makes the comparative analysis for the bilateral trade policy.

Quantitative data in a raw form, that is, before these data have been processed and analyzed, convey very little meaning to most people. These data, therefore, have to be processed to make them useful, that is, to turn them into information. Quantitative analysis techniques such as graphs, charts and statistics allow us to do this; helping us to explore, present, describe and examine relationships and trends within our data (Saunders, Lewis & Thornhill, 2009: 414). Quantitative analysis is main analytic way in this study. Author adopted this method to analyze the bilateral trade and economic complementarity and interdependence by analyzed the secondary raw data with some common economic models that explain why the FTA could be established from an economic view. Otherwise, the author used some typical formulas and models to calculate some related index and then analyze the correlation of them.

3.3 Reliability and validity

The credibility of the study depends on the reliability and validity. The measurements of the concepts in the theoretical framework are defining the "goodness" of the whole research (Sekaran 1992: 173). Saunders, et al (2007: 149) define reliability as the extent to which your data collection techniques or analysis procedure will yield consistent results. Easterby-Smith, et al (2002: 53) realize the reliability of data collection techniques and analysis procedure can be measured against the ensuing questions, namely:

1. *Will the measures yield the same results on other occasions?*
2. *Will similar observations be made by other observers?*
3. *Is there transparency in how sense was made from the raw data?*

External validity deals with the question of knowing whether a study's findings can be generalized (Yin, 1994: 35-36). That means if the result of the research has universal representativeness, rather than particularity. Thus, the researcher has to collect the universal data which not only from a special year or some special sections, but widely applicability that the real economic and trade environment can be reflected. Meanwhile, a good reliability of research means that other scholars could reach the same goals and results like previous study if they adopt same data and follow the same research processes. In this study, the reliability has been optimized by analyzed the raw data and summarizes with typical analyzed methods which proposed by mainstream international economic theories. Furthermore, all of indexes, models, formulas and other analyzed methods in this study are commonly adopted in economic research and already proven by previous studies.

4. EMPIRICAL RESEARCH AND MAIN FINDINGS

In this chapter, the author will analyze the potential possibility to establish the FTA from economic view based on three aspects, the bilateral trade, the bilateral investment and the bilateral cooperative trends in other fields. In details, in the part of the bilateral trade, the bilateral trade scale and interdependence will be analyzed, and there are three main models, comparative advantage model, factor endowments model and intra-industrial model, will be adopted to analyze the possibility of the FTA from the view of trade, including trade of merchandise and service. Meanwhile, the author will also make the comparative analysis to the bilateral trade policy, including tariff policy and no-tariff measures. Thereafter, in the part of the bilateral investment, the author will introduce the bilateral FDI scale and investment structure, making comparative analysis of the bilateral investment policy, and pointing out the existed and potential investment barriers and problems. In the part of the bilateral cooperative trends in other fields, the author will brief introduce the bilateral cooperative trends in aspects of science and technology, energy, culture and education, urbanization and so on, and talk about the potential influence to the establishment of the FTA by these cooperation.

4.1 The bilateral trade situation

In this section, the bilateral trade situation will be discussed. Furthermore, the bilateral trade scale and trade interdependence will be listed; meanwhile, the bilateral trade complementarity in merchandise and commercial service will be analyzed. Moreover, the bilateral trade policy will be made comparative analysis. By all of analysis, trying to find out the possible economic and trade basis for the establishment of the FTA.

4.1.1 The bilateral trade scale

Just two decades ago, China and the EU traded almost nothing. Today formed the second largest economic cooperation in the world. In a remarkably short timeframe, our economies have integrated to a point where it is difficult to imagine one without the other (European Commission 2013a). After China joint the WTO in 2001, the China-EU bilateral trade grew more rapidly. According to the latest statistical data from China Customs, during the recent ten years, the bilateral trade value grown more than six times, from $86.8 billion in 2002 rose to $546.04 billion in 2012. In 2002, the EU

was China's third largest trading partner after Japan and the United States (General Administration of Customs of P.R.C 2003). Meanwhile, EU had been the largest trade partner, the largest source of imports and the second largest source of exports of China (General Administration of Customs of P.R.C 2013). For the EU, China had been the EU's second largest trade partner after the United States, largest import partner and second largest export partner. Currently, China and the EU are trading more than €1 billion every day (European Commission 2013a).

After 2008, even during the euro-zone economic crisis, most of the time, the bilateral trade was still kept good situation. Like the figure 6 shows, even during the five "hard" years, except 2009 and 2012, the bilateral trade presented double-digit growth. In 2012 EU exports to China increased by 5.6% to reach a record €143.9 billion, and they have more than doubled in the recent five years, contributing to rebalancing the trade relationship. The EU is also China's biggest export destination, with €289.7 billion in goods field in 2012. That produced a trade deficit of €145.8 billion with China in the same year, down by 6.6% compared to 2011, and down by 13.9% compared to the 2010 record of €169.3 billion (European Commission 2013c).

Otherwise, a special phenomenon has to be issued; about half of China's exports are produced by foreign invested companies. Theses companies come from Japan, Taiwan, Hong-Kong and South Korea, etc. play a dominant role in China's so called "processing trade" process, where imported components are assembled in China and then exported as finished products. However, the role of European enterprises in China's processing trade regime is relatively limited, because European companies mainly invest in China to serve the Chinese market. On the other hand, companies in Europe do source part of their intermediate goods and input from China. In a world of global value chains, we need to import in order to be competitive and able to export (European Commission 2013e).

Meanwhile, China and the EU have agreed to negotiate the bilateral investment treaty to boost access to each other's markets in a sign their relationship remains steady. Under the deal - announced by Mr. Li, China's premier, Mr. Van Rompuy, European Council president, and Mr. Barroso, European Commission president at the end of the annual bilateral summit in Beijing in November of 2013 - leaders pledged to increase the bilateral trade from about $580 bn in 2012 to $1 tn by 2020 (Anderlini 2013).

However, a vital problem which existing in China-EU trade relationship is trade imbalances, the huge deficit of the EU since 1997. In 2012, EU's trade deficit to China was €146,041 million (European Commission 2013b). That is deeply concerned problem in the bilateral trade negotiations over the years. European commission thinks that EU's trade deficit is due to that Chinese governmental subsidies and the RMB is undervalued, therefore, it requests Chinese government to revalue the Chinese currency and appreciate it to a reasonable level. But China's government believes the deficits just because of the bilateral economic and trade sectoral differentiations and EU's partly exported restrictions to China.

millions of euro, %

Period	Imports	Variation (%, y-o-y)	EU Share of total Imports (%)	Exports	Variation (%, y-o-y)	EU Share of total Exports (%)	Balance	Trade
2008	90,415	11.8	11.5	200,235	12.1	19.4	109,820	290,650
2009	91,451	1.1	12.6	169,009	-15.6	18.5	77,558	260,460
2010	127,524	39.4	11.8	235,698	39.5	18.7	108,174	363,221
2011	151,783	19.0	11.5	255,951	8.6	17.7	104,168	407,734
2012	165,458	9.0	11.0	260,516	1.8	15.4	95,058	425,973
Average annual growth (2008-2012)		16.3			6.8			-3.5

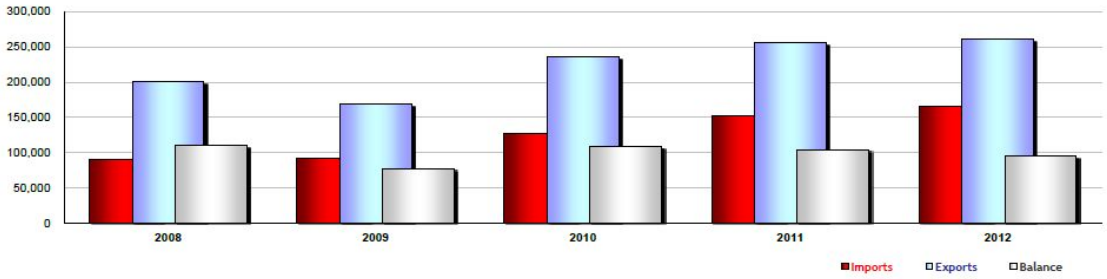


Figure 6: China, trades with the EU from 2008 to 2012
Source: European Commission, 2013

Otherwise, the bilateral trade interdependence between China and the European Union was going to tight in recent years (table 1 and table). In 2012, China was the biggest imports source for EU, up to 16.2% of total imports, higher nearly 5% than its second trade partner, Russia. As well as China was EU's second biggest exports partner, occupied 8.5% of total exports of the EU, but it was still sharply lower than EU's biggest exports partner, U.S., which took 17.3% of EU's total exports, more than twice in China's. Thus, there are huge spaces for improving EU's exports to China in the future. Meanwhile, China had been EU's second biggest trade partner, took 12.5% of total trade value, only after U.S.'s 14.3%. If EU improves its exports to China in years, China might seem to be its biggest trade partner in the future for sure. Furthermore, by

analyzed the bilateral trade value based on China's view. In 2012, China imported €165,458 million from EU, took 11.0% of total imports, EU had been the most important imports partner. Meanwhile, China exported €260,516 million to EU, took 15.4% of total exports, after U.S.'s 16.2%. Moreover, due to the huge value of imports and exports, EU had been the biggest trade partner of China, up to 13.3% of total trade value of China, the bilateral trade value up to €433,789 million.

Based on above analysis, the conclusion has been shown clearly, the bilateral trade relationship is very important for both economies; the bilateral trade interdependence was stronger and stronger in the recent years. Moreover, if considering the changes of the bilateral trade structure, the interdependence had been greatly reinforced in the past several years. The deeply analysis and discusses of the changes will be introduced in the following sections.

Table 1: EU's trade with main partners in 2012
Source: European commission, 2013a

The Major Imports Partners

Rk	Partners	Mio euro	%
	Extra EU27	1,791,727	100.0%
1	China	289,915	16.2%
2	Russia	213,212	11.9%
3	United States	205,778	11.5%
4	Switzerland	104,544	5.8%
5	Norway	100,437	5.6%
6	Japan	63,813	3.6%
7	Turkey	47,789	2.7%
8	South Korea	37,861	2.1%
9	India	37,295	2.1%
10	Brazil	37,090	2.1%

The Major Exports Partners

Rk	Partners	Mio euro	%
	Extra EU27	1,686,774	100.0%
1	United States	291,880	17.3%
2	China	143,874	8.5%
3	Switzerland	133,341	7.9%
4	Russia	123,262	7.3%
5	Turkey	75,172	4.5%
6	Japan	55,490	3.3%
7	Norway	49,821	3.0%
8	Brazil	39,595	2.3%
9	India	38,468	2.3%
10	South Korea	37,763	2.2%

The Major Trade Partners

Rk	Partners	Mio euro	%
	Extra EU27	3,478,501	100.0%
1	United States	497,658	14.3%
2	China	433,789	12.5%
3	Russia	336,474	9.7%
4	Switzerland	237,885	6.8%
5	Norway	150,258	4.3%
6	Turkey	122,961	3.5%
7	Japan	119,303	3.4%
8	Brazil	76,685	2.2%
9	India	75,764	2.2%
10	South Korea	75,624	2.2%

Table 2: China's trades with main partners in 2012
Source: European commission, 2013a

The Major Imports Partners

Rk	Partners	Mio euro	%
	World (all countri	1,509,916	100.0%
1	EU27	165,458	11.0%
2	Japan	138,363	9.2%
3	South Korea	129,658	8.6%
4	United States	100,062	6.6%
5	Australia	61,179	4.1%
6	Malaysia	45,336	3.0%
7	Saudi Arabia	42,685	2.8%
8	Brazil	40,621	2.7%
9	South Africa	34,737	2.3%
10	Russia	34,132	2.3%

The Major Export Partners

Rk	Partners	Mio euro	%
	World (all countri	1,696,463	100.0%
1	United States	274,694	16.2%
2	EU27	260,516	15.4%
3	Hong Kong	252,069	14.9%
4	Japan	117,926	7.0%
5	South Korea	68,215	4.0%
6	India	37,196	2.2%
7	Russia	34,386	2.0%
8	Singapore	31,394	1.9%
9	Australia	29,424	1.7%
10	Malaysia	28,457	1.7%

The Major Trade Partners

Rk	Partners	Mio euro	%
	World (all countri	3,206,380	100.0%
1	EU27	425,973	13.3%
2	United States	374,756	11.7%
3	Hong Kong	266,050	8.3%
4	Japan	256,289	8.0%
5	South Korea	197,873	6.2%
6	Australia	90,602	2.8%
7	Malaysia	73,793	2.3%
8	Russia	68,518	2.1%
9	Brazil	66,675	2.1%
10	Saudi Arabia	57,092	1.8%

4.1.2 The bilateral trade structural complementarity in merchandise trade

In the recent years, as the rapid development of China-EU economic and trade relationship, the trade structure of China-EU was further changed and optimized. From 2001 to 2012, the EUROSTAT's statistics show that the EU exports of machinery and transport equipment much more than other classes of goods to China. Food, Tobacco, Animal, vegetable oils and other low value-added exports were minimal. EU imported goods from China in machinery, transport equipment and other manufactured goods are far more than any other class of goods, which shows the bilateral trade structure has an exact improvement. The bilateral trade had been progressively updated from these primary low-grade products like raw materials, textile and agricultural products to electromechanical products and other high-tech products. Meanwhile, according to China Customs statistics, in 2004, EU-China's high-tech products trade reached nearly $54.96 billion, more than U.S.($ 54.79 billion) (2005). It was the first time that the EU became China's largest trade partner of high-tech products, mechanical and electrical products. Otherwise, in 2012 the EU exported €125,833 million machinery and transport equipment and other industrial productions to China, took almost 90% of total exports to China. Importing €281,183 million same products from China, more than 95% of total exports that China exported to the EU (European Commission 2013). That means bilateral exported products structure is going to closer and closer, the horizontal intra-industry specialization is substituting the vertical division of the industry chain. Therefore, on the following content, there are three typical indexes, index of comparative advantage, index of factor endowments and intra-industrial index will be adopted respectively to test the bilateral trade relations.

Table 3: European Union imported from China in 2012
Source: European Commission, 2013a

SITC Codes	SITC Sections	Value (Millions of euro)	Share of Total (%)	Share of total EU Imports
	TOTAL	289,915	100.0%	16.2%
SITC 7	Machinery and transport equipment	145,561	50.2%	32.2%
SITC 8	Miscellaneous manufactured articles	86,715	29.9%	39.6%
SITC 6	Manufactured goods classified chiefly by material	35,976	12.4%	21.4%
SITC 5	Chemicals and related prod, n.e.s.	12,931	4.5%	8.0%
SITC 0	Food and live animals	4,166	1.4%	4.9%
SITC 2	Crude materials, inedible, except fuels	2,832	1.0%	4.0%
SITC 9	Commodities and transactions n.c.e.	760	0.3%	1.0%
SITC 3	Mineral fuels, lubricants and related materials	315	0.1%	0.1%
SITC 1	Beverages and tobacco	158	0.1%	2.1%
SITC 4	Animal and vegetable oils, fats and waxes	74	0.0%	0.8%

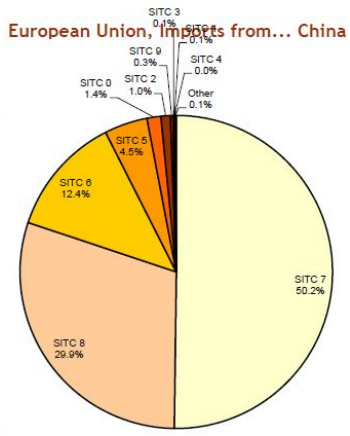
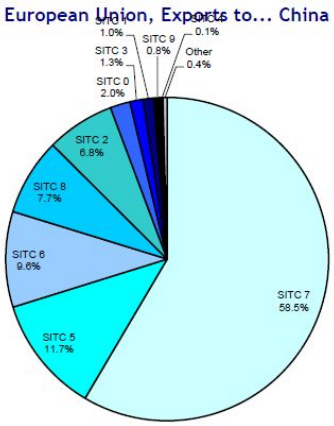


Table 4: European Union exported to China in 2012
Source: European Commission, 2013a

SITC Codes	SITC Sections	Value (millions of euro)	Share of Total (%)	Share of total EU Exports
	TOTAL	143,874	100.0%	8.5%
SITC 7	Machinery and transport equipment	84,150	58.5%	11.9%
SITC 5	Chemicals and related prod, n.e.s.	16,840	11.7%	6.1%
SITC 6	Manufactured goods classified chiefly by material	13,754	9.6%	6.7%
SITC 8	Miscellaneous manufactured articles	11,089	7.7%	6.3%
SITC 2	Crude materials, inedible, except fuels	9,830	6.8%	22.9%
SITC 0	Food and live animals	2,871	2.0%	4.1%
SITC 3	Mineral fuels, lubricants and related materials	1,917	1.3%	1.5%
SITC 1	Beverages and tobacco	1,488	1.0%	5.1%
SITC 9	Commodities and transactions n.c.e.	1,135	0.8%	2.3%
SITC 4	Animal and vegetable oils, fats and waxes	182	0.1%	3.9%



1. Analysis of comparative advantage

The Index of Revealed Comparative Advantage (RCA) will be expected to be adopted here, revealed comparative advantage, which proposed by American economist Balassa Bela in 1965. In brief, the revealed comparative advantage of exporting product k of countries i was measured by the proportion of the production k for the country's total exports compared with this product accounted for the relative share of world exports, which revealed comparative advantage index:

$$RCA^{k}_{xi} = (X^{k}_{i}/X_{i}) /(W^{k}_{x}/W)$$

Wherein: X represents exports, W represents the world export (or import); i represents the country, k represents the product classification. RCA index takes into account not only a country's exports of certain products, but also being taken into account the market share of these products in the world, which means the index considered the overall size of a country's exports. For practical feasibility considerations, the index calculation method is employed as an indicator of the most commonly used measure of comparative advantage. Generally, if the RCA index greater than 2.5 with a strong competitive advantage, if less than 2.5 but greater than 1.25 with a relatively strong competitive advantage; if between 0.8 to 1.25, a moderate competitive advantage; if less than 0.8, a weak competitive.

Table 5: China's export picture in 2012

Source: WTO Statistics Database

MERCHANDISE TRADE	*Value*	*Annual percentage change*		
	2012	2005-2012	2011	2012
Merchandise *exports*, f.o.b. (million US$)	2 048 714	15	20	8
Merchandise *imports*, c.i.f. (million US$)	1 818 405	16	25	4
	2012			2012
Share in world total exports	11.13	**Share in world total imports**		9.78
Breakdown in economy's total exports		**Breakdown in economy's total imports**		
By main commodity group (ITS)		By main commodity group (ITS)		
Agricultural products	3.2	Agricultural products		8.6
Fuels and mining products	2.7	Fuels and mining products		29.4
Manufactures	94.0	Manufactures		58.2

Table 6: EU's export picture in 2012

Source: WTO Statistics Database

MERCHANDISE TRADE	*Value*	*Annual percentage change*		
	2012	2005-2012	2011	2012
Merchandise *exports*, f.o.b. (million US$)	2 166 754	7	21	0
Merchandise *imports*, c.i.f. (million US$)	2 301 104	7	18	-4
	2012			2012
Share in world total exports	14.68	**Share in world total imports**		15.38
Breakdown in economy's total exports		**Breakdown in economy's total imports**		
By main commodity group (ITS)		By main commodity group (ITS)		
Agricultural products	7.5	Agricultural products		7.5
Fuels and mining products	9.9	Fuels and mining products		34.6
Manufactures	79.1	Manufactures		53.7

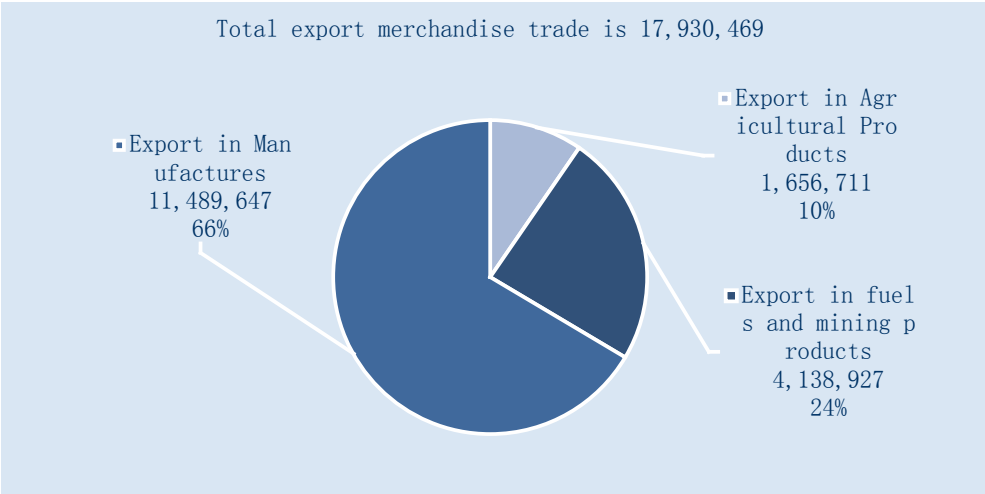


Figure 7: World Export Picture in 2012 (Value: millions of U.S dollars)

Source: Author's statistics based on data from WTO Statistics Database

Both Table 5 and Table 6 show us the export situation of China and the EU respectively. By analyzed the two tables, the manufactures sector are main export and import sectors in both of China and the EU, took the majority export share. Compared with the world average level (Figure 7), both two economies have advantage in manufactures sector. Otherwise, from the view of worldwide trade, the EU imported in merchandise trade much more than China, the imported share in worldwide is twice more than China. Thus, based on the merchandise trade structural analysis, both of China and the EU have same trade structure in merchandise trade. However, due to the negative influence of economic crisis, the EU's trade scale was going to slightly decrease in the recent years. By contrast, Chinese trade scale still keeps increasing.

Table 7: RCA index of EU and China in three economy breakdowns
Source: Author's calculation based on data from WTO Statistics Database

	Agricultural Products	Fuels and mining products	Manufactures
World export structure	10%	24%	66%
EU export structure	7.5%	9.9%	79.1%
RCA^{EU}	0.75	0.4125	1.1985
China export structure	3.2%	2.7%	94%
RCA^{CN}	0.32	0.1125	1.4242

Table 8: Export data statistics of EU and China in 2005 and 2012
Source: Author's calculation based on Data from WTO Statistics Database

	Export sections	Share in 2005	Share in 2012	Value, mn $ 2012
China	Agricultural Products	3%	4%	66,175
	Fuels and mining products	-	-	31,047
	Manufactures	10%	17%	1,924,928
EU	Agricultural Products	44%	37%	612,939
	Fuels and mining products	18%	16%	682,456
	Manufactures	45%	38%	4,384,529

Table 9: EU exports to China and to the World in 2012

Source: European Commission, 2013

European Union, Imports from the World

SITC Codes	SITC Sections	Value (millions of euro)	Share of Total (%)
	TOTAL	1,791,727	100.0%
SITC 3	Mineral fuels, lubricants and related materials	544,612	30.4%
SITC 7	Machinery and transport equipment	451,951	25.2%
SITC 8	Miscellaneous manufactured articles	218,852	12.2%
SITC 6	Manufactured goods classified chiefly by material	168,174	9.4%
SITC 5	Chemicals and related prod, n.e.s.	161,673	9.0%
SITC 0	Food and live animals	85,255	4.8%
SITC 9	Commodities and transactions n.c.e.	72,832	4.1%
SITC 2	Crude materials, inedible, except fuels	71,667	4.0%
SITC 4	Animal and vegetable oils, fats and waxes	9,186	0.5%
SITC 1	Beverages and tobacco	7,531	0.4%

European Union, Imports from... China

SITC Codes	SITC Sections	Value (Millions of euro)	Share of Total (%)
	TOTAL	289,915	100.0%
SITC 7	Machinery and transport equipment	145,561	50.2%
SITC 8	Miscellaneous manufactured articles	86,715	29.9%
SITC 6	Manufactured goods classified chiefly by material	35,976	12.4%
SITC 5	Chemicals and related prod, n.e.s.	12,931	4.5%
SITC 0	Food and live animals	4,166	1.4%
SITC 2	Crude materials, inedible, except fuels	2,832	1.0%
SITC 9	Commodities and transactions n.c.e.	760	0.3%
SITC 3	Mineral fuels, lubricants and related materials	315	0.1%
SITC 1	Beverages and tobacco	158	0.1%
SITC 4	Animal and vegetable oils, fats and waxes	74	0.0%

Table 10: EU imports from China and the World in 2012

Source: European Commission, 2013

European Union, Exports to the World

SITC Codes	SITC Sections	Value (millions of euro)	Share of Total (%)
	TOTAL	1,686,774	100.0%
SITC 7	Machinery and transport equipment	707,153	41.9%
SITC 5	Chemicals and related prod, n.e.s.	276,104	16.4%
SITC 6	Manufactured goods classified chiefly by material	205,052	12.2%
SITC 8	Miscellaneous manufactured articles	176,983	10.5%
SITC 3	Mineral fuels, lubricants and related materials	123,812	7.3%
SITC 0	Food and live animals	70,661	4.2%
SITC 9	Commodities and transactions n.c.e.	50,421	3.0%
SITC 2	Crude materials, inedible, except fuels	42,994	2.5%
SITC 1	Beverages and tobacco	28,933	1.7%
SITC 4	Animal and vegetable oils, fats and waxes	4,671	0.3%

European Union, Exports to... China

SITC Codes	SITC Sections	Value (millions of euro)	Share of Total (%)
	TOTAL	143,874	100.0%
SITC 7	Machinery and transport equipment	84,150	58.5%
SITC 5	Chemicals and related prod, n.e.s.	16,840	11.7%
SITC 6	Manufactured goods classified chiefly by material	13,754	9.6%
SITC 8	Miscellaneous manufactured articles	11,089	7.7%
SITC 2	Crude materials, inedible, except fuels	9,830	6.8%
SITC 0	Food and live animals	2,871	2.0%
SITC 3	Mineral fuels, lubricants and related materials	1,917	1.3%
SITC 1	Beverages and tobacco	1,488	1.0%
SITC 9	Commodities and transactions n.c.e.	1,135	0.8%
SITC 4	Animal and vegetable oils, fats and waxes	182	0.1%

When talking about the detailed export and import structure of China and EU, the Universal RCA index was modified a little bit therefore it will be better to explain the trade relationship between the two economies. In details, the formula will be like that:

$$RCA^{k}_{xi} = (X^{k}_{i}/X_{i}) / [EU(CN)^{k}_{x} / EU(CN)]$$

Wherein: X represents exports, EU (CN) representing the EU (CN) export (or import); i represents the country, k represents the product classification. Thus, the new and more detailed RCA index that calculated by the data from Table 9 and Table 10 will be like table 11 shows.

Table 11: RCA index of EU export to and import from China in top ten sections, 2012
Source: Author's calculation based on data from European Commission on-line database, 2013

SITC Code	SITC Sections	RCA^{CN}	RCA^{EU}
SITC 7	Machinery and transport equipment	1.99	1.396
SITC 3	Mineral fuels, lubricants and related materials	0.0038	0.178
SITC 8	Miscellaneous manufactured articles	2.45	0.73
SITC 6	Manufactured goods classified chiefly by material	1.31	0.78
SITC 5	Chemicals and related prod, n.e.s.	0.5	0.71
SITC 0	Food and live animals	0.29	0.024
SITC 9	Commodities and transactions n.c.e.	0.073	0.267
SITC 2	Crude materials, inedible, except fuels	0.25	2.72
SITC 4	Animal and vegetable oils, fats and waxes	0	0.33
SITC 1	Beverages and tobacco	0.25	0.588

Based on above analysis and RCA index of both economies (Table 7), in agricultural products and fuels and mining products export field, both economies have comparative disadvantage. However, in field of Manufactures export, both economies have comparative advantage, whereby, due to China's rapid industrialization in recent decades, as of 2012, compared with EU, China has more comparative advantage. Meanwhile, focusing on the data from table 8, in the manufacture export field, EU's export share takes 45% in 2005 and 38% in 2012, compared with China's 10% in 2005 and 17% in 2012, the EU still has huge export volume advantage. From Table 11, in the field of machinery and transport equipment, miscellaneous manufactured articles and manufactured goods classified chiefly by material, importing from China have comparative advantage. As well as in the field of machinery and transport equipment and crude materials, inedible, except fuels, EU exporting has comparative advantage. Otherwise, if considering the export value structure of the EU and China in manufactures, compared with China, EU exporting to China has a huge advantage in high-tech industry and higher value-added products. China exporting to EU has comparative advantage in labor-force intensive industry and partly capital-intensive and

tech-intensive industry. Thus, the major bilateral trading commodities belong to status of cross specialized comparative advantage; China and EU have highly complementary in terms of merchandise trade. Otherwise, according to the statistics, the products made by European FDI in China take a great percentage of China's export to EU.

2. Comparative analysis of the bilateral factor endowment

The factor endowment based on HECKSCHER-OHLIN international trade theory, this model builds on David Ricardo's theory of comparative advantage by predicting patterns of commerce and production based on the factor endowments of a trading region. The model essentially says that countries will export products that use their abundant and cheap factor of production and import products that use the countries' scarce factor (Blaug & Mark 1992: 288). When talking about the country's factor endowment, mostly, considering four main factors: capital, labor, land and technology, on the following content, the factor endowment of China and EU will be listed and analyzed.

Table 12: The factor endowment comparison of China and EU
Source: Author's edition based on data from EUROSTAT, UNDP and NSBC database

	Factors	China	EU
Labor-force	Population	1,353,821,000	503,492,041
	Labor Participation Rate	70.8%	71.32%
	Human Development Index (HDI)	0.700	0.899
Capital	GDP (Trillion of U.S.$)	8.250	17.577
	Per-capita GDP (U.S.$)	6,076	35,116
	Loan interest rate	6.00%	0.5%
Land	National territorial area (S.q. Km.)	9,634,057	4,324,782
Technology	R&D investment on its GDP	1.97%	1.96%
	Research personnel	3.2 million	1.56 million

The factor endowment of two economies listed and compared by the table 13, then all of them analyzed step by step. First of all, focusing on the labor-force. China is the most

populous country in the world, the size of population is more than twice than EU's. As well as both two economies have similar labor participation rate. However, EU's HDI index is much higher than China's, that means the labors in EU have better education and labor productivity, the quality of the labor-force is better than China's. Besides, for the capital factor, EU's both GDP and per-capita GDP are much higher than China's, wherein, the GDP is almost twice than China's, even considered about purchasing power, the data is still almost 1.5 times than China's. For the per-capita GDP, the EU's is more than fivefold than China's, there is very huge gap between them. Otherwise, loan interest rate in the EU is much lower than in China, that means the cost of capital and financing is much cheaper than China. Meanwhile, land resource is much more difficult to make a comparison analysis; there is some regional difference for land price in both China and EU. In China, that implies there is a huge gap between city and countryside, western and eastern. In the EU, as well as some variation between developed countries and emerging countries. Moreover, if considering the core cities in China and EU, like Paris in EU and Shanghai in China, both of them are in the world top 10 most expensive city lists. But generally, the China's land price is cheaper than EU's. Moving forward to technology part, as the China's development rapidly, the investment for R&D boomed after 2000, from 1% in 2001 to 1.97% of GDP in 2012, exceed EU's investment percentage, but if calculating the investment stock of R&D, EU is still ahead of China. In 2012, China had been the world top country for research personnel; even consider the research personnel in each million population, the data are catching up with the EU's level.

Overall, the EU has an advantage in factors of capital and quality of labor force and China has an advantage in quantity of labor force, the land price in China is cheaper than in the EU. Otherwise, although China has invested the same percentage of GDP to R&D field, but if considering total investment stock of R&D, EU is still much higher than China, thus EU could be thought has the advantage in the technology factor.

3. Intra-industry trade index and the intra-industry international division of labor

In the recent years, intra-industrial trade has been a new trend in international trade, in this section, the intra-industry trade of China and EU will be calculated and compared by intra-industry trade index, which reveals the industrial division of labor between China and EU.

First of all, introducing a little bit about what the intra-industry trade and intra-industry trade index. Intra-industry trade refers to the exchange of similar products belonging to the same industry. The term is usually applied to international trade, where the same types of goods or service are both imported and exported, representing the typical intra-industrial vertical division of labor. Intra-industry trade index is used to measure the extent of an intra-industry trade; it can help us to analyze the situation of industrial division between China and EU. The formula is like that:

$$T_i = 1 - \frac{|X_i - M_i|}{(X_i + M_i)}$$

Wherein, X and M denote exports and imports, $|X_i - M_i|$ means the industry, as the absolute value of the difference between imports and exports, *Ti* indicating the level of intra-industry trade, a value between 0 and 1, the closer to 0, it means that intra-industry trade the lower level; closer to 1, it indicates the higher the level of intra-industry trade.

Table 13: EU's main export commodities class to China and intra-industry trade index
Source: Author's calculation base on data from European Union Commission, 2013

(Value: millions of euro)

SITC Codes	SITC Sections	EU imports from China	Share of Total	EU exports to China	Share of Total	*Ti* index
Total		289,915	100.0%	143,874	100.0%	
SITC 7	Machinery and transport equipment	145,561	50.2%	84,150	58.5%	0.9236
SITC 5	Chemicals and related prod, n.e.s.	12,931	4.5%	16,840	11.7%	0.5556
SITC 6	Manufactured goods classified chiefly by material	35,976	12.4%	13,754	9.6%	0.8727
SITC 8	Miscellaneous manufactured articles	86,715	29.9%	11,089	7.7%	0.4096
SITC 2	Crude materials, inedible, except fuels	2,832	1.0%	9,830	6.8%	0.2564

SITC 0	Food and live animals	4,166	1.4%	2,871	2.0%	0.8235
SITC 3	Mineral fuels, lubricants and related materials	315	0.1%	1,917	1.3%	0.1429
SITC 1	Beverages and tobacco	158	0.1%	1,488	1.0%	0.1818
SITC 9	Commodities and transactions n.c.e.	760	0.3%	1,135	0.8%	0.5455
SITC 4	Animal and vegetable oils, fats and waxes	74	0.0%	182	0.1%	0.0000

Table 12 shows us the main merchandise structure of EU export to and import from China, and relative intra-industry trade index. According to the European Commission Trade statistics (2013d), the staff on the above table takes more than 90% of total trade volumes, thus the intra-industry situation based on the above staff will be analyzed. Then based on the data from Table 7, Table 8 and Table 12, the conclusion should be as followings:

Firstly, merchandise of comparative advantage takes the main bilateral trade volume. Based on the bilateral export volume, we could see main merchandises which China exports to EU are machinery and transport equipment, miscellaneous manufactured articles and manufactured goods classified chiefly by material, take 50.2%, 29.9% and 12.4% respectively. In total, they take 92.5% share. On the other hand, main merchandises that EU exports to China are machinery and transport equipment, chemicals and related prod, n.e.s. and manufactured goods classified chiefly by material, they take 58.5%, 11.7% and 9.6% respectively, in total, takes 79.8% share. Thus, the merchandises that China exports to EU concentrate on some main industries, but that EU exports to China spread over more industries, the concentration ratio is a little bit lower than China does. Meanwhile, from the above comparative analysis, the bilateral trade happens in same main industries which both economies have a comparative advantage. Thus, complementary trade structure helps to promote the development of the bilateral trade between China and EU.

Secondly, the bilateral intra-industry trade developed very well in recent years. The intra-industry trade index (Table 12) is very high in the field of machinery and transport equipment, manufactured goods classified chiefly by material, Food and live animals, chemicals and related prod, n.e.s. and commodities and transactions n.c.e.. The index of

all of them is higher than 0.5, wherein, machinery and transport equipment is 0.9236, manufactured goods classified chiefly by material and food and live animals are 0.8727 and 0.8235 respectively. That illustrates in these industries, China and EU have very strong intra-industry relationship, and furthermore, these industries' products are also belonging to the industries that China and EU have a strong comparative advantage in the bilateral trade and international trade.

Thirdly, there are existed typical intra-industrial vertical specialization in some industries. In the industries of machinery and transport equipment, manufactured goods classified chiefly by material and miscellaneous manufactured articles, some intra-industrial vertical specialization are existed. Overall, due to the excellent European industrial base and innovation ability, abundant capital and advance technology, they export more core component of manufactured goods and high-tech goods in the Chinese market. While China has a great cost advantage in labor force and industrial dusters, therefore, they main work at assembly and export them back to the European market. This kind of coordination could be regarded as intra-industrial vertical specialization.

Based on all of the above analysis, China and EU in their respective areas of comparative advantage not only has strong intra-industry trade relations, and the division of labor in the industries of China and EU also have some significant characteristics in intra-industry vertical specialization. All of them reflect there are highly trade and economic complementary between China and EU, and that will contribute to development of the complementary bilateral trade.

4.1.3 The bilateral trade structural complementarity in commercial service trade

The commercial service industry is an important pillar industry in the EU, its output has reached about 70% of EU's total GDP, much higher than Chinese commercial service industry which accounts for almost 40% of GDP, while in the trade of commercial services, the EU has become the largest exporter in the world. According to the latest WTO statistics, in 2012, the EU exported commercial services $830,608 million, imported $651,144 million, commercial trade volume took 24.80% of world total exports, net export volume was $179,464 million. While Chinese commercial service trade only took 4.38% of world total exports, exported only $190,440 million, imported $280,164 million, China is net imported country for commercial service, trade deficit was $89,724 million.

Meanwhile, the bilateral commercial trade developed very rapidly since 2001 while China joint WTO. In 2012, China was the EU's third largest exported market and third largest imported source after USA and Switzerland, the bilateral commercial service trade volume up to €49.9 billion. Wherein, EU exported €29.9 billion, took 5% share in EU exports to China, and imported €20.0 billion from China, accounted for 4% of share in EU imports (European Commission 2013b). As well as EU's commercial service trade surplus with China continue to enlarged, from €1.7 billion in 2004 grow to €9.8 billion in 2012 (Eurostat 2013b).

Table 14: China's commercial service trade in 2012
Source: WTO statistics Database

COMMERCIAL SERVICES TRADE	*Value*	*Annual percentage change*		
	2012	2005-2012	2011	2012
Commercial services *exports* (million US$)	190 440	14	9	8
Commercial services *imports* (million US$)	280 164	19	23	18
	2012			2012
Share in world total exports	4.38	**Share in world total imports**		6.75
Breakdown in economy's total exports		**Breakdown in economy's total imports**		
By principal services item		By principal services item		
Transportation	20.4	Transportation		30.6
Travel	26.3	Travel		36.4
Other commercial services	53.3	Other commercial services		32.9

Table 15: The EU's commercial service trade in 2012
Source: WTO statistics Database

COMMERCIAL SERVICES TRADE	*Value*	*Annual percentage change*		
	2012	2005-2012	2011	2012
Commercial services *exports* (million US$)	830 608	8	12	0
Commercial services *imports* (million US$)	651 144	6	10	-2
	2012			2012
Share in world total exports	24.80	**Share in world total imports**		20.13
Breakdown in economy's total exports		**Breakdown in economy's total imports**		
By principal services item		By principal services item		
Transportation	22.2	Transportation		23.6
Travel	15.0	Travel		18.7
Other commercial services	62.7	Other commercial services		54.0

Therefore, from the perspective of the overall situation of commercial service trade, the EU's competitiveness is much stronger than China's; there is a strong complementarity between China and EU in commercial services trade. Here adopts Trade Specialization Coefficient (TSC) to analyze the China-EU bilateral comparative advantage in commercial service trade and tries to analyze the bilateral structural complementarity in commercial service trade. The TSC index is a type of typical methods to calculate trade comparative advantage. The formula is that:

$$TSC_{ij} = (X_{ij} - M_{ij})/(X_{ij} + M_{ij})$$

Wherein, X and M mean exports and imports, i refer to a country and j means products. Range of trade specialization coefficient is (-1,1). If TSC index greater than zero, indicating that the country is a net exporter of product i, the production efficiency of their products higher than the world average level, i has very good international competitiveness, the index closer to 1, the stronger competitiveness; If TSC index is less than zero, indicates that the country is a net importer of i products, but also reflects the productivity of its overall i products below the world average level, does not have the international competitiveness, the index closer to -1, the weaker competitiveness.

Table 16: TSC index of China and EU in commercial service trade, 2012
Source: Author's calculation based on data from WTO statistics Database

(Value: millions of U.S$)

	Commercial services imports	Commercial services exports	Net exports in commercial services trade	TSC index
EU	651,144	830,608	179,464	0.1211
China	280,164	190,440	- 89,724	- 0.1907

Table 17: TSC index of China and EU in main sections of commercial service trade, 2012

Source: Author's calculation based on data from WTO statistics Database

(Value: millions of U.S$)

	EU			China		
	Commercial service imports	Commercial service exports	TSC index	Commercial service imports	Commercial service exports	TSC index
Transportation	153,670	184,395	0.0909	85,739	38,850	-0.3763
Travel	121,764	124,591	0.0115	101,980	50,086	-0.3413
Other commercial service	351,618	448,528	0.1211	92,174	101,505	0.0482

For the TSC index of China and EU (table 16), China's data is negative, that mean in commercial service industry, China is a net importer and less competitiveness. By contrast, EU is a net exporter and has powerful competitiveness in international market. Furthermore, In detailed these three main sections (table 17), EU is net exported country in all these three sections, but China only has a little bit weakness advantage in the section of other commercial service. In details, base on the TSC index analysis, in transportation section, EU has the huge volume of imports and exports, wherein, exported volume is almost fivefold than China's, as well as has comparative advantage, by contrast, China has apparent comparative disadvantage in the same section and also has huge trade deficit here. In the travel section, both China and EU are big importers, but the differences are: EU is also an important exporter and has a bit of comparative advantage, however, China's exports in this section also take half volume of imports, has apparent comparative disadvantage. In the section of other commercial service, both of EU and China are net exporters, but EU's exports is almost fourfold than China's, even for the TSC index, EU is significant greater than China's, thus, in this section, EU has very strong comparative advantage in world market, but China also has a bit of competitiveness.

Overall, based on the above analysis, in the aspect of commercial service trade, the EU, compared with China, has an apparent comparative advantage and stronger

competitiveness in the world market and in the bilateral trade. Thus, there is strong comparative advantage complementarity in the bilateral commercial service trade; the bilateral cooperation has a very bright future.

4.1.4 The bilateral trade policy analysis

In this section, the bilateral trade policy will be made a comparative analysis based on two aspects, tariff policy and non tariff measure. By the analysis, trying to find out the possible barriers and problems in this field and explore how improve the bilateral trade environment to close the requirements of FTA from the view of trade policy.

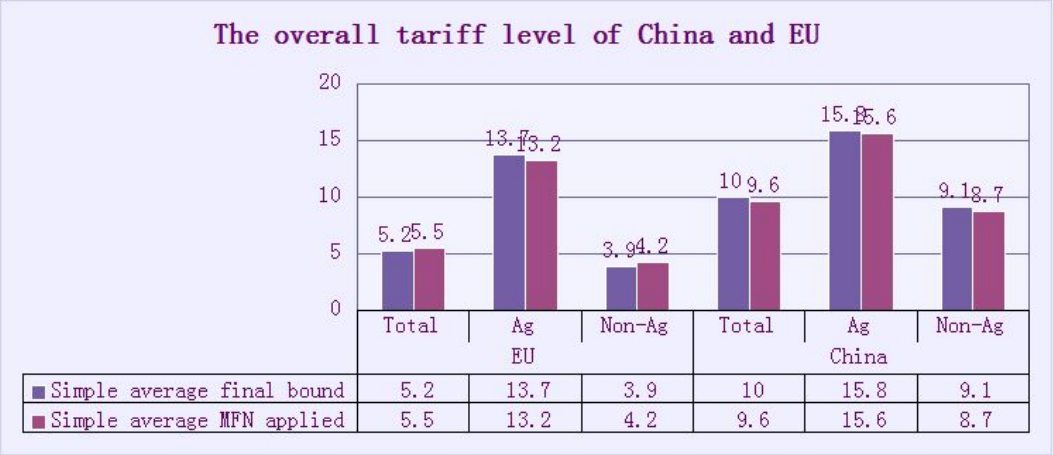
1. Comparative analysis of tariff policy

The most obvious feature to establish a free trade area is declining and eliminating the existed bilateral tariff by a series of bilateral agreements and negotiations. Thus, if building the China-EU free trade area, having to finish plenty of tariff reductions. Therefore, on the following content, analysis of the current bilateral tariff level and the possible influence for the bilateral relative industries if reducing or canceling the relative tariff will be introduced.

The overall tariff level of the EU is much lower than China's (Figure 8), that means the EU's tariff protection for the domestic market is weaker than China's, especially in non-agricultural goods field. That could show that as a mature and developed market, EU has very strong competitiveness in non-agricultural goods even without any tariff protection. By contrast, China sets comparatively higher tariff rate due to limited non-agricultural products competitiveness and protections for the domestic market and local enterprises. In the near future, however, as continually enhance competitiveness of local enterprises and their products, the market will be opened widely, China might have more space for reducing tariff level.

For agricultural goods, both of China and the EU have related higher tariff level and related stronger protection for domestic agricultural market compared with other industries. Wherein, EU's tariff level is a little bit higher than China's, because the protection policy for farmers. As well as EU, China also has a very high tariff rate for agriculture goods but due to the different reason, as a 1.3 billion-population's country,

China concerns more about grain self-sufficiency rate and food supply security, and avoiding to shock domestic agricultural market due to import large quantities of food.



	EU			China		
	Total	Ag	Non-Ag	Total	Ag	Non-Ag
Simple average final bound	5.2	13.7	3.9	10	15.8	9.1
Simple average MFN applied	5.5	13.2	4.2	9.6	15.6	8.7

Figure 8: The overall tariff level of China and EU, 2011
Source: Author's calculation based on data from WTO Statistics Database

Generally, that a country sets a high tariff level means strong production for relative domestic industry, meanwhile, that also means the products of this industry less international competitiveness compared with same imported goods. Thus, if China and EU build the FTA (first step is both of them reduce tariff level), that means some shocks for relative industries might not be avoided. The possible influence based on the current tariff level of relative industry if China and EU reduce the bilateral tariffs will be analyzed on the follow section.

By the statistics of tariffs of product groups (Table 18), generally, EU's tariff rate of agricultural products is higher than China's, especially in dairy products, EU has concentrated trade protection. In other agricultural products field, China has a high tariff rate for cotton industry, because China is an important cotton-produced country, external pressure probably will impact domestic market if with a low tariff level. Otherwise, in other agricultural products field, there is no obvious different tariff rate between China and EU. Meanwhile, wherein the above industries which have strong tariff protection, China is a dairy net imported country as well, and Europe is also not a cotton exported region. Thus, if the establishment of the FTA, it's impossible to impact each other in some protected agricultural industries.

To articles of daily use, like textiles, clothing and leather, footwear industries, China has a higher tariff rate than the EU, but the EU is not good at manufacturing for them, moreover, EU is one of biggest net importers in these products, while China is one of main exporters, having related strong international competitiveness in same fields. Therefore, reducing the bilateral tariff in above industries cannot hurt these industries in both domestic markets. By contrast, that will benefit to Chinese relative industries expand their market and compete with other competitors in the European market.

Table 18: Tariffs of China and EU by product groups
Source: WTO Statistics Database

Product groups	EU			China		
	MFN applied duties			MFN applied duties		
	AVG	Duty-free in %	Max	AVG	Duty-free in %	Max
Animal products	20.4	27.3	*134*	14.8	10.1	25
Dairy products	52.9	0	*605*	12.0	0	20
Fruit, vegetables, plants	10.7	19.4	*156*	14.8	5.8	30
Coffee, tea	6.2	27.1	*21*	14.7	0	32
Cereals & preparations	17.1	13.9	*61*	24.3	3.4	65
Oilseeds, fats & oils	5.6	48.1	*87*	10.8	5.3	30
Sugars and confectionery	32.1	0	*133*	27.4	0	50
Beverages & tobacco	19.9	19.0	*161*	22.3	2.2	65
Cotton	0.0	100.0	0	14.9	0	40
Other agricultural products	4.3	65.0	*103*	11.3	9.3	38
Fish & fish products	11.8	9.4	26	10.8	6.4	23
Minerals & metals	2.0	50.2	12	7.4	8.9	50
Petroleum	2.8	24.8	5	4.4	23.6	9
Chemicals	4.6	21.3	*17*	6.6	1.7	*47*
Wood, paper, etc.	1.0	80.8	12	4.4	35.3	20
Textiles	6.6	2.1	12	9.5	0	38
Clothing	11.5	0	12	16.0	0	25
Leather, footwear, etc.	4.2	22.8	17	13.1	0.6	25
Non-electrical machinery	1.9	21.3	10	8.0	8.9	35
Electrical machinery	2.8	20.5	14	8.3	24.0	35
Transport equipment	4.3	12.8	22	11.5	0.8	45
Manufactures, n.e.s.	2.7	20.9	14	11.9	9.6	35

In the sector of raw materials, like minerals and metals, petroleum, chemicals and wood paper. Both China and EU have related low tariff and both of them are main importers in the international market. Thus, open market to each other is not possible to hurt the domestic market of each other. Meanwhile in the field of manufacture, transport equipment, electrical machinery and non-electrical machinery, China has a higher tariff rate than the EU. Thus, reducing the bilateral tariff level will contribute to European

related enterprises in the Chinese market. But probably would bring potential negative influence for Chinese local enterprises, nevertheless, even it happens, the negative influence would be very limited, because on the one hand, products of Chinese local companies have occupied the low-end domestic market even international market in this sector, most high-level competitors come from Japan, USA and other developed countries. That means if tariff would be sharply reduced in this sector because of FTA establishment, the European companies might have stronger competitiveness than their competitors which come from other developed countries in the Chinese market.

Based on above analysis, as the gradual reduction and elimination of tariffs once the FTA establishes between China and EU, that would not have a huge negative impacts on both economies. On the contrary, the tariff reduction and cancellation will be conducive to the bilateral trade expansion in the competitive advantage products, promoting the development of related industries. However, there is a big different tariff protection range between China and EU, tariff reductions should adopt different types and schedules to ensure the two economies are not negatively impacted.

2. The bilateral non-tariff measures

A form of restrictive trade where barriers to trade are created and take a form other than a tariff. Common non-tariff measures include the imposition of anti-dumping duties, technical trade barriers, sanitary and phylogenetic issues, and operations of state-owned enterprises, customs process, export restrictions, and the protection of intellectual property rights. They are frequently used by large and developed economies. Compared with tariff barrier, the non-tariff barrier is more flexible and covert. Now that tariff barriers have been substantially reduced, there are increasing interest in the non-tariff barriers (NTBs) may distort and restrict international trade. (Deardorff & Stern 1985) Thus, if China and EU start to discuss the FTA, they just have to consider how to deal with the NTBs problem. Then, a comparative analysis for the current bilateral NTBs problems will be introduced.

Anti-dumping measures more often used non-tariff measure in the trade conflicts between the EU and China. From 1979 to 2008, EU trade remedy investigations against China launched the 153 cases, of which 139 cases of anti-dumping. In recent years, China has become the most frequent country under investigated for the EU's anti-dumping measures. By contrast, China is getting more and more use of

anti-dumping investigations to protect domestic related industries and against EU's anti-dumping investigations. For instance, European Commission declared the imposition of a maximum anti-dumping tariff of 42.1% on Chinese exporters of solar glass into the European Union in November of 2013. Meanwhile, Chinese government started anti-dumping and anti-subsidy probes on wines imported from the European Union following a request from domestic producers at the same period. Thus, in the future, both of the two economies will have plenty of works to deal with this problem.

Otherwise, in terms of technical standards, with toys, for example, in December 2008 the European Parliament adopted a new toy safety directive, safety standards and technical requirements had been a significantly improved. This would bring great negative impact on Chinese toy exported enterprises which had already taken about 80% of toys on sale in the EU. The EU internal market and consumer protection committee believes that the quality of Chinese toys have made great progress, but it could ban some Chinese products from entering the EU market unless they meet the bloc's criteria on health and safety by October (Vucheva 2008). However, as the Chinese state technical standard is getting closer and closer to the European standard. This function of the barrier is going to be weaker and weaker.

4.1.5 The conclusion of this part

In this part, the bilateral trade relations have been discussed from three aspects, merchandise trade, commercial service trade and trade policy. By calculated and compared with the bilateral comparative advantage, factor endowments and intra-industrial index, the bilateral trade relations present the typical complementarity, wherein, in the merchandise trade aspect, the bilateral trade reflects the typical intra-industrial trade trends and intra-industrial vertical division of labor. In the commercial service aspect, the bilateral trade reflects typical comparative advantage complementarity. Meanwhile, as an assumption, the potential influence after the FTA establishes has been discussed from views of tariff and non-tariff. By analyzed the possible impact after the tariff reduction even abolishment, the negative effects would be very limited for both domestic markets but positive effects would benefit to both of them. By contrast, the bilateral non-tariff measures should be focused and the existed and potential problems and barriers should be solved in the near future. In conclusion, due to the existed typical trade complementarity, if the FTA establishes, the welfare of both two economies will need to be improved and enhanced.

4.2 The current bilateral investment situation

In this section, the bilateral investment scale, investment structure and investment policy will be discussed. Otherwise, existed barriers and problems in the bilateral investment will be listed and analyzed too. By these analyses, trying to explore the possible economical basis and the possible benefits if establishing the bilateral FTA based on the investment view.

4.2.1 The bilateral investment scale

EU's investment in China takes just 2-3% of the overall European foreign investment in abroad; meanwhile, Chinese investment in Europe is rising rapidly but still stay in an even lower level (European Commission 2014). According to the latest data from Eurostat, Chinese investment in the EU accounted for 2.2% of the total foreign direct investment which inflows into the EU in 2012. By contrast, the overall share of the EU's FDI into China takes almost 20% of the all inflow FDI, belonged to the China's top 5 overseas investors with Taiwan, Hong Kong, U.S and Japan (Eurostat 2013a).

EU companies invested €9.9 billion in China in 2012, with Chinese FDI into the EU amounting to €3.5 billion in 2012. Although Chinese investment in the EU is rising rapidly, but it still starts from a very low base: total FDI stocks only amounted to 0.4% of the overall foreign direct investment in the EU. Part of Chinese outward investment may however be routed via Hong Kong (European Commission 2013). Thus, there is huge space for both sides to invest each other due to the current limited bilateral investment shares.

According to statistics, about half of China's exports are produced by foreign invested companies. Companies from Japan, Taiwan, Hong-Kong and South Korea play a dominant role in so-called "processing trade" process, where imported components are assembled in China and then exported as finished products. The role of European enterprises in China's processing trade regime, however, is relatively limited. European companies mainly invest in China to serve the Chinese market. On the other hand, companies in Europe do source part of their intermediate goods and input from China. In a world of global value chains, we need to import in order to be competitive and able to export. (European Commission 2013)

Otherwise, some new characteristics worthy of attention in the bilateral investment, In 2012, China became the largest country in the annual investment in Germany, as well as China invested in Belgium and many other EU countries more than their investment in China. According to PwC Statistics (2012), in 2011 the China's investment in the EU ($7.56 billion) has exceeded EU's investment in China ($2.29 billion). In 2012, Chinese enterprises created a total of 42,000 jobs in the EU by invested (MOFCOM Statistics 2013). Meanwhile, China's investment in EU raised very rapidly during the recent several years. Before 2008, China's annual investment in Europe was less than one billion U.S dollar, but in 2011 it up to $10 billion, expected to 2020, China's total cumulatively investment in EU will reach to 250 to 500 billion U.S. Dollars (Rhodium Group 2013).

Meanwhile, at their 16th China-EU Summit held on November of 2013, EU and China adopted the *EU-China 2020 Strategic Agenda for Cooperation*. This agenda includes key initiatives in the area of trade and investment policy, notably the negotiation of a comprehensive EU-China investment agreement (European Commission 2013). As the agreement negotiating progress, the bilateral investment would be encouraged and increased more rapidly.

4.2.2 The bilateral investment structure

The industrial and regional structural characteristics of the bilateral investment will be analyzed in the following sections respectively. By the analyzes, tried to find out the potential bilateral investment development trends in the future.

1. EU's FDI in China

There are some typical features which EU's FDI in China. First of all, introducing the investment sectoral features and industrial structure by TUSIAD report (2012).

Recent data showed more than 976 newly opened firms from EU own factories or stores in China from January to July 2011, an increase by 7.14%, while the FDI increased 1.36% to 4.08 Billion during this period. More than 60% of EU's investment were spend on manufacturing industry, however, the trend has been decreasing since 2005; this is as result of booming investment in service industry, which accounted for approximately 1/3 of total direct investment. In addition, China already has enormous Agriculture resources and most companies from EU are specializing in manufacturing and providing

services, so it is unnecessary to precede a further investment in Agriculture in China, which account only 0.3% and it is very likely to maintain at this level in the near future.

From 2004 to 2008 (Figure 10), before the economic crisis, FDI in the manufacturing industry was going down, but FDI in the service industry was increasing rapidly. The reasons would be approved as followings. Firstly, EU had very huge investment stock in manufacturing industry in China; most of these projects operate very well and earn great profits from Chinese domestic market, and then reinvest the profit and enlarge industrial scale. In other words, these FDI projects had been the investment subject by themselves, transferred the profits to new investment. Secondly, Chinese enterprises developed very rapidly in the latest decade, especially in manufacturing industry, as the technology upgrading and economic power building-up, more and more competitors entry in the Chinese domestic market, that had caused crowding-out effects on European foreign investment in manufacturing industry.

Meanwhile, like the Appendix 1 and Figure 9 show us, as of 2012, FDI stock in China is mostly focus on manufacturing and other sections in secondary industry, took more than 60% share. Meanwhile, real estate industry is second main FDI investment section, took 15.52% share. In author's opinion, FDI invests in these industries in China at this stage are mainly decided by these two factors: one is decided by Chinese domestic industrial policy, updating manufacturing industrial structure, improving the competitiveness of the manufacturing industry. For the FDI belongs to this industry, Chinese government offers more preferential policy, while Chinese market supplies relatively cheap labor, resources and other factors of production, making this industry more attractive to foreign investors. On the other hand, in the recent years, the Chinese domestic real estate market was booming, all over housing price continued to rise rapidly, as well as attracted a large number of foreign *hot money* into the industry to reap huge profits.

Otherwise, EU's FDI in Chinese service industry increased very rapidly after 2005. According to Chinese statistics, like the Table 19 shows, in 2012, service industry had taken the biggest share of FDI in China, more than half of total FDI, instead of secondary industry, wherein, EU's FDI took a great share. However, Service industry is still an emerging industry in China, according to the latest statistics (NSBC 2013), service industry in China only account 44.6% of GDP in 2012, compared with 70% of GDP in most developed countries even 60% for world average level (The World Bank 2014), service industry in China has huge space for further development, thus, more and

more EU's FDI in this industry is reasonable and might be a new trend. Otherwise, in the recent years, as the Chinese financial market gradually opens to foreign capital, there are increasing opportunity for FDI in the service industry, Chinese service industry will absorb more FDI in the next few years. Furthermore, according to the latest statistics (MOFCOM 2014), in 2013, service industry absorbed FDI first time over half of total FDI in China, the actual use of foreign investment was $61.451 billion, an increase of 14.15% over the same period, in the proportion of the national total FDI was 52.3%. Which the social welfare sector, electrical machinery repair industry, entertainment services grew rapidly, up by 368.63%, 308.8% and 117.42%, respectively.

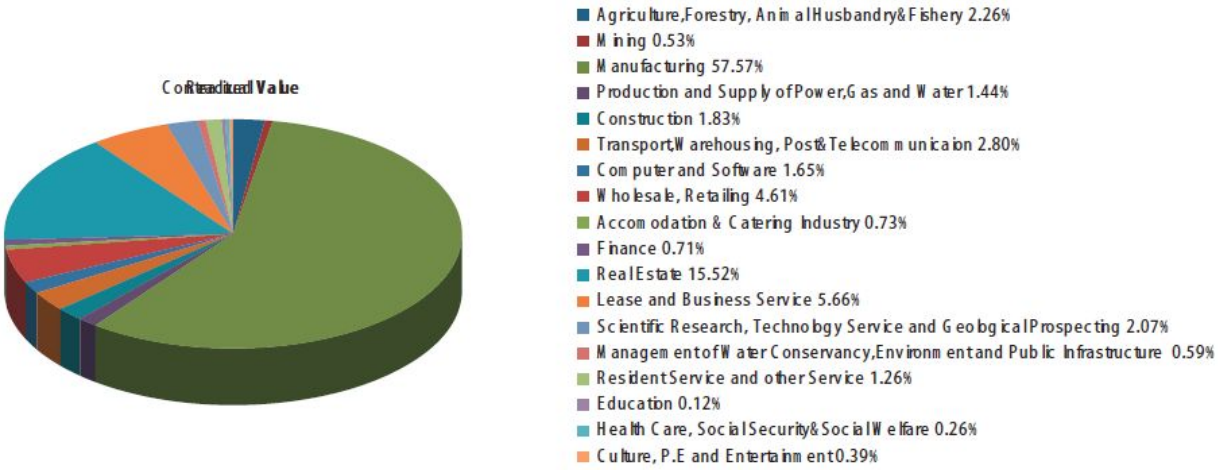


Figure 9: China's Sectoral Distribution of Cumulative FDI as of 2012
Source: MOFCOM FDI Statistics

Table 19: China's Industrial Structure of FDI in 2012
Source: MOFCOM FDI Statistics

Unit: US$100 million

Industry	No.of FIEs	Share%	Realized Value	Share%
Total	24934	100.00	1210.73	100.00
Primary Industry	882	3.54	20.62	1.70
Secondary Industry	9419	37.78	524.58	43.33
Tertiary Industry	14633	58.69	665.53	54.97

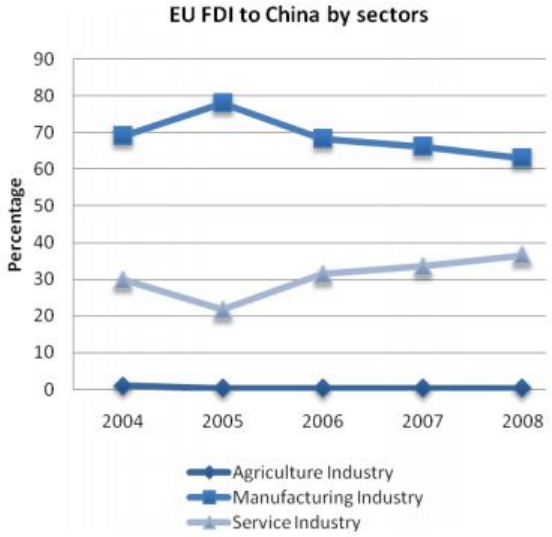


Figure 10: EU's FDI to China by sectors from 2004 to 2008, before Euro-zone economic crisis.
Source: TUSIAD, 2012

Besides, on the geographical distributing characteristic of EU's FDI in China. Most of EU's FDI located in eastern China, which covered 89% of investment, this region is considered as relatively more open and more developed than other regions. Although Central and Western China only undertake 7% and 4% respectively, the percentages are expected to increase because of the Chinese 12th five years plan specifically aimed to improve trade and investment in Central and Western area (TUSIAD 2012). Also, according to statistics of MOFCOM, as of 2012, the European FDI in China mostly comes from Germany, U.K. Netherlands and France. All of them located in top 15 investors in China.

2. China's FDI in EU

Service industry is mainly FDI investment orientation (Table 20), absorbed €1672.1 million FDI, took almost 60% of total FDI in the EU. Wherein, financial and insurance industries attracted €1054.8 million, was the most important core industry in the service industry for absorbing FDI. Otherwise, manufacturing industry obtained €537.5 million FDI, was the main FDI orientation in secondary industry. By author's opinion, European perfect manufacturing industrial base and strong competitiveness of its products in the international market are the main reason for FDI in this industry.

Meanwhile, as one of the most developed financial centers, the industry in the worldwide has strong competitiveness and huge profits, that is the reason why it would be most attracted industry for FDI.

Otherwise, although there is much year on year variation, European firms in the 'industrials' and 'materials' sectors have been the main targets for acquisition in the first decade of the twenty first century. The 'consumer staples' industry sector is a constant feature in the acquisition pattern, but 'high technology' firms have only recently become targets (Clegg & Voss 2012). Government, or state owned enterprises are often associated with investment in the natural resources sector, particularly in developing states. In the EU, the sectors in which the Chinese state owned acquirers are most active are industrials, materials, and energy and power. However, the profile shifts a good deal from one year to the next owing to the nature of acquisitions and the 'lumpiness' of investments (Clegg & Voss 2012).

There is a further dimension to Chinese acquisition. The evidence shows Chinese acquirers are going to buy the operations of firms in the EU, but in telecommunications and infrastructure sectors, also suggests that they are going to acquire the networks of operations of firms that have become multi-nationalized in Europe. Since 2000, the range of industries in which Chinese firms have acquired EU firms that have broadened appreciably, both at the Member State level and at the European level. From an early focus on superior technology, infrastructure and heavy industry, Chinese firms have now moved into the services sector, including healthcare, finance, media and entertainment, and into liberalized infrastructure sectors such as telecommunications equipment. This refers to the growing strength of Chinese firms outside the manufacturing sector (Clegg & Voss 2012).

In the recent years after 2000, Chinese government issued "'Out-Going' strategy" to encourage some powerful Chinese companies to invest in foreign. Some of them focus from traditional natural resource industry moves into advanced manufacturing industry even service industry in Europe. Meanwhile, as the industrial updating in China, more and more Chinese companies need more advanced technology and excellent brand to improve themselves. Thus, Europe has been a perfect target market for Chinese M&A, otherwise, compared with U.S. market, European market is much easier to entry without too many M&A barriers.

Table 20: Extra EU-27 FDI stocks by economic activity, end of 2009
Source: MOFCOM FDI Statistics (Value: EUR 1 000 million)

	Outward	Inward
Total	3662.1	2658.1
Agriculture, hunting and fishing	3.0	2.2
Mining and quarrying	233.6	59.2
Manufacturing	821.5	537.5
Food products, beverages and tobacco products	113.8	71.8
Textiles and wood activities	30.4	16.3
Petroleum, chemical, pharmaceutical products	319.8	216.2
Metal and machinery products	224.6	175.9
Vehicles and other transport equipment	58.0	18.4
Electricity, gas, steam and air conditioning	56.0	17.1
Water supply; sewerage, waste management	4.4	2.5
Construction	16.7	8.9
Services	2087.1	1672.1
Trade; repairs of motor vehicles and motorcycles	133.7	123.4
Transportation and storage	49.1	30.9
Accomodation and food service activities	22.2	13.1
Information and communication	108.7	76.7
Financial and insurance activities	1387.8	1054.8
Real estate activities	40.0	43.9
Professional, scientific and technical activities	295.4	243.0
Other services	50.2	86.3
Other	30.6	29.6
Activities not allocated	409.1	329.0

Government policy is another important impetus to accelerate Chinese enterprises invest in the EU in the recent years, according to a report (Hanemann & Rosen 2012), which had already shown:

Our detailed data support the view that Chinese direct investment in Europe is driven overwhelmingly by commercial motives. Chinese policy is playing a role, but mostly in terms of getting government out of the way so firms can make more rational judgments about locating operations. Direct political guidance has played a very minor role in Chinese investment in Europe thus far. China's industrial policies and encouragement (via offered low-interest capital) of going abroad are impacting investment decisions, but they are not the primary reasons why firms from China are appraising opportunities in the European Union. The mix of industries targeted, the high number of private enterprises making investments, and the competitive behavior of companies from the People's Republic after they arrive and set up shop in Europe all point to profit as the greatest motive in China's outward FDI story.

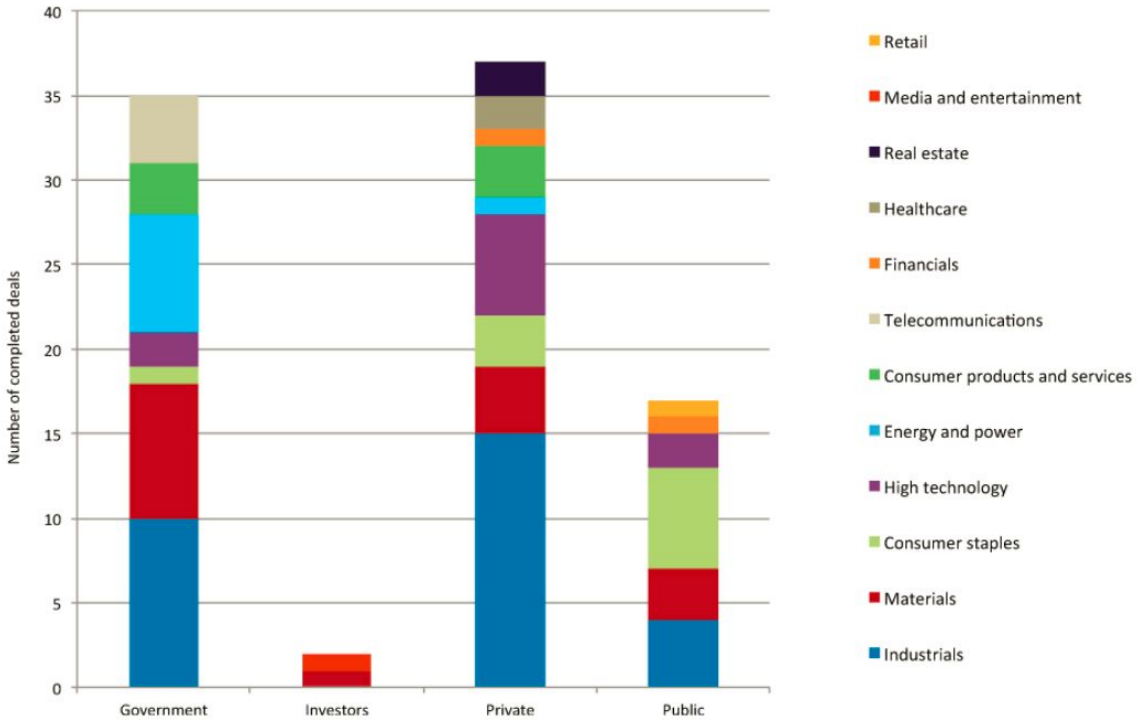


Figure 11: Industry sectoral distribution of Chinese acquisitions in the EU (2000-2010)
Source: Thomson Reuters (2011)

Otherwise, increasing M&A from China also because of their profit demand and brand demand. The profit drive of Chinese executives is colored by a broad range of considerations (Hanemann & Rosen 2012). For most of Chinese M&A in the EU, the acquisition of the rich international brand or top technological consideration is the key reasons for breaking away from the fiercely competition.

Often times, it has proven cheaper and more rewarding to situate higher value-added activities in advanced regulatory locations like Europe. For other Chinese buyers, the crisis in the West presents the prospect of discounted prices, while an increasingly stronger renminbi is making European (and American) assets look more attractive. For Chinese contract manufacturers of the labor intensive products Europeans consume, defending market share increasingly means expanding market presence. As a direct investor, Chinese exporters are able to relate directly with customers and deliver more of the value that makes up profits today. (Hanemann & Rosen 2012: 1)

Also, Chinese FDI has typical geographical feature in Europe. In details, the three biggest economies- France, the United Kingdom and Germany- in the lead. This pattern

supports the notion that China is investing like any other commercially motivated investor, not in some weird and idiosyncratic way. By coding the ownership patterns of Chinese deals, acquisitions are more frequent in the western European core; the new EU member states of eastern Europe see almost entirely Greenfield investments, with a few exceptions (Hanemann & Rosen 2012). Wherein, Chinese FDI in traditional western European countries has quite different investment type with them in new EU members in eastern Europe. In Western European countries, Chinese M&A main focus on brand-leading and technology-leading firms. For example, Chinese carmaker Geely Automobile acquired Swedish famous Volvo Personvagnar from Ford in 2010. In new EU members, Chinese M&A main work for Greenfield investments, utilizing the relatively cheaper labor-force and investment cost to manufacture and sell in the EU market. For instance, Chinese white goods manufacturers Haier invested a manufacturing base in Poland in 2013 and the base will be the manufacturing center of Haier Europe branch.

Otherwise, Chinese M&A structure in the EU is also different with other developing countries. Most of FDI concentrate on M&A with brand-leading and technology-leading firms. In details, the sectoral structure of Chinese M&A in Europe shows that a typical shift is in progress. Chinese deals become less dominated by natural resource objectives and trade facilitation but more concerned with the full range of industries and assets spread widely across Europe. Of the 30 sectors we track, 18 shows over $200 million in deals; 9 shows over $1 billion, several sectors show Greenfield projects at several hundreds of million dollars - unusual for a “developing country” (Hanemann & Rosen 2012).

The bottom line from the detailed analysis is there is breadth and momentum across the board. Another useful perspective is Chinese investment by ownership of the investing firm. While Europeans are somewhat less incensed about statism than many of their American cousins, it is nonetheless useful to discover that - as across the Atlantic - about two-thirds of all deals, or 359 of 573, are done by privately held or non-state publicly traded firms. Due to a handful of large-scale acquisitions in capital intensive sectors, this picture reverses when looking at ownership in terms of total deal value: 72% of the total $21 billion originates from state-owned enterprises. Not only is the ownership mix consistent with a benign model of China’s OFDI story, but it also makes European interests compatible with the United States in this regard. (Hanemann & Rosen 2012: 3)

4.2.3 Comparative analysis of the bilateral investment policy

Investment policy is a major factor affecting a country/region to absorb foreign direct investment. Here the investment environment of China and EU by perspective of investment policy will be discussed. In order to be more visually to understand the main differences between China and the EU in the field of investment policy, adopting an evaluation method which proposed by American economist Robert Stobaugh (1969). This method based on the governments' FDI policy which restricts or encourages FDI, and then divides the investment environment into eight categories: a. withdraw funding restrictions; b. foreign equity ratio; c. the extent of foreign control and discrimination; d. currency stability; e. political stability; f. the willingness to give tariff protection; g. local capital supply capacity; the rate of inflation in recent years. Then the bilateral investment policy by this method will be tried to analyze, like the Table 21 shows.

Table 21: Comparative analysis of the bilateral investment environment
Source: Author's edition based on information from MOFCOM Statistics, European Commission Taxation and Customs Union Customs statistics, IMF WEO Database

	China	European Union
Withdraw funding restrictions	Since China implemented foreign exchange controls, foreign funds withdrew has to report and obtain administrative approval, while corporate profits have to be imposed on the exported taxes.	Transfer of capital and profits of the enterprise is basically unlimited; on the repatriation of profits only charge a minimum withholding tax.
Foreign equity ratio	Sensitive industries (such as oil, mining, tobacco, postal, etc.) are prohibited with foreign investment. In some sectors (such as finance, insurance) regulations limit foreign ownership, but restrictions on foreign investment is gradually reducing.	Most of the economic sectors are opened to foreign investors (membership countries have different regulations), only some state monopolies and special industries (such as railways, postal services, television) to prohibit foreign investment involved (depends on the membership countries' regulation). Mostly, EU does not prohibit the acquisition of

		domestic enterprises by foreign companies.
The extent of foreign control and discriminati on	Foreign investment enterprises "national treatment" principle has been implemented, while in 2007 with the implementation of the new Enterprise Income Tax Law, foreign firms' super-national treatment in China enjoyed before gradually coming to end.	Promote equal competitive environment, emphasis on foreign adoption "national treatment", less set special restrictions.
Currency stability	Unilateral RMB appreciation trend is evident, since 2005 exchange rate reforms, the continued appreciation of the RMB against the U.S. dollar rate have closed to 30%. RMB internationalization process is accelerated in recent years, but has not yet become a universal international currency.	Euro is one of the main international currency, taking 26.2% of Global Foreign Exchange Reserves (2010). Even during the euro-zone financial crisis, the currency keeps stability.
Political stability	Establish diplomatic relations with over 160 countries, and political environment is stable.	The European Union is the biggest and most important regional integration organization, built diplomatic relations with most countries. Political environment is stable.
The willingness to give tariff protection	WTO statistics shows that in 2011 China's average tariff rate for Most Favored Nation (MFN) is 9.6%, which 15.6% for agricultural products and 8.7% for non-agricultural products, the country still has a comparative high tax rate; for some products (some agricultural and fertilizer products, etc.) are still implementing tariff quotas.	Widely opened to free trade and oppose trade protectionism (During the recent crisis, the trade protectionism has an increasing trend); import and export commodities are essentially free circulation, no quota restrictions; The tariff level is comparative low, tariff rates in the overall level is around 5%, wherein, 13.2% for agricultural products and 4.2% for non-agricultural products,

		respectively.
Local capital supplies capacity	Foreign enterprises enjoy national treatment; theoretically allows foreign goes public. As well as overseas enterprises could get loan from the bank system and the public market.	No special restriction for funding of overseas enterprises. Foreign enterprises enjoy widely national treatment in capital supply field.
The rate of inflation in recent years	IMF WEO database shows the recent five years China's average inflation rate at around 3.32%.	IMF WEO database shows the recent five years EU's average inflation rate at around 2.32%.

By the above analysis, as an integration organization of developed countries, European Union has more opened, transparent and fairness policies for attracting inward investment. Barriers to FDI are very few. By contrast, China as an emerging country, on the one hand, needing to attract more foreign investment by preferential policies, on the other hand, having to protect some start-up domestic industries by set some restricted policies. Otherwise, China's FDI policy trends more liberal and transparent for foreign investment in most of previously restricted sectors. Especially after Shanghai Free Trade Zone established in the end of 2013, Chinese financial industry, which had strong restrictions previously, is going to open to FDI. Meanwhile, according to the China's latest Reforming Scheme which published in end of 2013, in the next five years, the widely and deeply reforms will be re-started in almost all industries, and one of the core of the Scheme is opening the previous restricted fields to private enterprises and foreign investors. Also, reducing and abolishing the existed administrative examination and approval to FDI will be implemented, that means the FDI investment cost in China will be probably significantly decreased. The implementation of all these new policies will improve the investment environment of the Chinese market.

4.2.4 The existed bilateral investment barriers and problems

In this section, the existed bilateral investment barriers and problems will be analyzed respectively. By the analyses, the characteristics of the barriers and problems will be tried to summarize. Otherwise, based on the characteristics, their potential development trend and possible problem-resolving mechanism will be discussed as well.

1. Investment barriers in Chinese market

China increasingly adopts country specific standards which foreign competitors are hard to meet, also applying export restrictions on raw materials. Other issues like that concern international business in China are the absence of a level playing field for foreigners, subsidies and financing issues, transparency and predictability in government and rule making. According to a recent survey, 45% of EU companies operating in China reported missing business opportunities owing to market access and regulatory barriers (European Commission 2013e). Otherwise, China's public procurement market is very difficult to access for overseas companies. A recent study by the *European Chamber of Commerce in China* (2013) points out problems regarding lack of transparency, unfair implementation of public procurement awards, and unsatisfactory appeals procedures. Generally, from October 2008 to June 2013, there were 36 potentially trade-restrictive measures adopted by China, whereby, seven of them are about services and investment barriers. On the following part, some recent restrictions and barriers about investment in China from *TENTH REPORT ON POTENTIALLY TRADE RESTRICTIVE MEASURES* (European Commission Directorate-General for Trade 2013) will be listed and analyzed thereby the latest trends and status about FDI's living environment in China could be shown.

In February 2011, the China's State Council announced the setting up of a national security review process for mergers and acquisitions, to enter into force in March 2011. The review raises many questions with regard to the definition of national security, which is defined very broadly with many sectors being included. Furthermore, there is concern with the timeline of the review, possible retroactivity and third party complaints. It is feared that this review will considerably lessen legal security for foreign investor in China.

The revision process of the Investment Catalogue was officially announced in April 2010, when the State Council issued a Circular on investment, referring to the Catalogue and pledging to "open up more areas and encourage foreign investments in high-end manufacturing, new high-tech technology, modern services, energy-saving and environmental protection industries". The Catalogue, previously revised in 2007, is the equivalent of a framework legislation on foreign investments, classifying them according to three categories (encouraged, restricted, prohibited), and providing for incentives or limitations according to the category. Relatively few changes were made in the 2011 edition of the Catalogue in comparison to the 2007 version, though the changes made were mainly in the sectors highlighted in the 2010 Circular. In total, 3 items were moved to the "encouraged" category, 7 items were moved from the "restricted" category, 1 item was removed from the "prohibited" category. Two items - the construction

of villas and express delivery services - were added to the "prohibited" category, whereas the manufacture of automobiles was one of the key industries moved from the "encouraged" category. In December 2011, a revised Catalogue for Guidance of Foreign Investment was released for entering into force 30 January 2012.

Establishment of a National Security Review Process: In February 2011, the State Council announced the setting up of a national security review process for mergers and acquisitions, to enter into force in March 2011. On 1 September 2011, definitive implementing provisions came into force. Though the establishment of a system to review foreign mergers and acquisitions with a potential impact on national security is not uncommon, the Chinese system raises many questions with regard to the definition of national security, which is defined very broadly with many sectors being included. Furthermore, there is concern with the timeline of the review, possible retroactivity and third party complaints. It is feared that this review will considerably lessen legal security for foreign investor in China. To date, it does not seem that any mergers have been blocked as a result of the introduction of the review system

Based on the above analysis by the report, there are two kinds of typical characteristics for Chinese market access and investment restrictions, one is about national security, another one is about restrictions on high-tech industry. In the restrictions of high-tech industry, as the Chinese relative industry develops, the restrictions on access are going to change and elimination. Actually, after 2013, as the new Reform Scheme published, the previous restrictions on this field are going to open to foreign investment. By contrast, national security is always a perfect reason to restrict relative industry. In author's opinion, the bilateral agreement on investment and FTA investment framework would be helpful for eliminating the investment restrictions and market access restrictions.

2. Investment barriers in EU

EU technical barriers are set up in many areas, there are no unified foreign investment approval procedures for some acquisitions, acquisitions often abuse antitrust investigation, visas, residence policies and procedures are too harsh, severe lack of flexibility in labor laws and so on. In addition, the recent EU protectionism is on the rises, which are seriously affected Chinese enterprises to invest passion and project operation.

Meanwhile, there are still some potential investment barriers for FDI in EU, individual Member State policies and practices have had a more significant impact on FDI than EU-level policies. On the following content, we will list and analyze the most important stuff of them according to the *2013 National Trade Estimate Report on Foreign Trade Barriers* (The Office of the United States Trade Representative, 2013).

Prior to the adoption of the Lisbon Treaty in December 2009, the European Commission shared competence with Member States on investment issues. Member States negotiated their own bilateral investment treaties (BITs) and generally retained responsibility for their investment regimes, while the EU negotiated investment-related market access provisions in EU economic agreements. Article 207 of the Lisbon Treaty brings foreign direct investment (FDI) under the umbrella of Europe's common commercial policy, making it the exclusive competence of the EU. FDI is not defined in the Treaty, however, leaving many practical implications of the Treaty for EU external investment policy unclear.

In July 2010, the Commission issued two communications aimed at defining a comprehensive EU international investment policy and establishing transitional arrangements for investment agreements between Member States and third countries. Under these communications, which were presented to the European Parliament and EU Member State governments for endorsement under the co-decision process, the Commission will "authorize" the more than 1,200 BITs concluded by Member States to remain in force (though the Commission will evaluate their content to assess their conformity with EU law and the EU's common commercial policy). A regulation establishing transitional arrangements for existing BITs between Member States and third countries, based on the Commission's July 2010 communications, was agreed between the Council and the Parliament in July 2012, and went into effect in January 2013.

Otherwise, the EU and China are working for the bilateral agreement on investment. The Council adopted the mandate which will allow the European Commission to start investment negotiations with China. Both sides expressed earlier their interest in engaging in such negotiations when they met at the 14th EU-China Summit in February 2012. (European Commission, 2013) A win-win investment agreement will provide a fair and transparent institutional framework, promoting and facilitating the bilateral investment, as well as assisting to the further improvement of the rules of global investment.

4.2.5 The conclusion of this part

Based on above analysis, the bilateral investment increased rapidly in recent years, EU has been one of the most important FDI investors in China, as well as China's FDI in EU boomed after 2008. However, due to the existed investment barriers and market access restrictions, compared with the huge bilateral trade scale, the bilateral investment scale still stays at a very low level. Meanwhile, from the view of the bilateral investment sectoral structure, the bilateral investment concentrates on manufacturing industry respectively but based on the different investment purposes, China's investment in EU's manufacturing industry mostly in order to acquire advanced technology and well-known brands, also some new investment projects are about manufacturing in some new EU members in eastern Europe which has cost advantage, therefore closer and easier to sell in European market. EU's investment in manufacturing industry in China is focusing to utilize the Chinese cost-advantage to manufacturing and service for Chinese domestic market, also export some of the products back to the European market. Furthermore, the recent investment trend for both economies is more and more investment moves to service industry. From the view of the investment geographical feature, the main bilateral investment focuses on developed area respectively.

The policies on investment of the two economies are very different. Generally, EU has more fairness and transparent investment policy with fewer access restrictions than China. However, the EU and China are working for the bilateral agreement on investment since the end of 2013, which could be seen from the basic start before the FTA framework. Actually, the Bilateral Investment Treaty belongs to the basic investment agreement which is thought as a kind of shallow and negative economic integration (Schiff & Winters 2003), negotiating about reducing and eliminating the uncertainty relative about the bilateral investment, rather than promoting and improving the bilateral investment. The bilateral FDI under the FTA framework will produce apparent investment creation effect, China and EU, as a free trade area, will attract more investment from external countries/regions. Meanwhile, under the FTA framework, the bilateral investment barriers and access restrictions will be removed, thus, the FTA is beneficial to enlarge the bilateral investment scale.

4.3 The new bilateral cooperative trends in other fields

The FTA of establishment is not only sign a simple bilateral agreement, in order to create it, a matured bilateral relationship and cooperation in other aspects are necessary. EU and China established diplomatic relations in 1975 and the current EU-China Strategic Partnership, which is based on the 1985 EU-China trade and cooperation agreement, has grown to include foreign affairs, security matters and international challenges such as climate change and global economic governance. Annual EU-China summits and dialogues are the primary way for the EU and China to interact regularly. They are built around 3 'pillars' with more than fifty political, economic and sectoral, and people-to-people dialogues. Sectoral dialogues include diverse fields such as industrial policy, education, customs, social affairs, nuclear energy and consumer protection. The European Parliament and the European Economic and Social Committee also have annual gatherings with their opposite organization from China, including between European parties and the Chinese Communist Party (The Europe China Research and Advice Network 2014).

In recent 10 years, China and EU have established a strong relationship and cooperation in aspects of science and technology, energy, culture and education, urbanization and so on. On the following section, important bilateral cooperative agreements in recent 10 years will be retrospect, by analyzed them, trying to find out the development trends for the bilateral cooperative trends in the future.

In 2004, China and EU renewal of *'The agreement for scientific and technological cooperation between the EU and China'*. In 2003, China and EU signed the cooperation agreement of *'Galileo plan',* became the first participant from external of the EU. In 2009, China and EU signed *'The Science and Technology Fellowship Program'*. So far, China has ever participated more than 400 projects under *'The EU framework plan of science and technology'*. Otherwise, China and the EU signed an agreement on the bilateral scientific and technological cooperation in 1998. Afterward, held in Nanjing 12th China-EU Summit, the two sides decided to implement a new version of the original agreement over the next five years. After the United States and Russia, China has become the EU's third largest technology partners; Up to now, there are about 220 Chinese enterprises to participate in scientific research institutions and the seventh Research Framework Program (2007-2013) which is the main financial tool that EU funded joint project.

In the cooperation of energy and climate change, the bilateral *'Agreement for Cooperation in the Peaceful Uses of Nuclear Energy'* had been signed in 2004, and *EU-China Dialogue on Energy and Transport Strategies* had been established in 2005. Since 2009, their cooperation has started delivering concrete results by developing projects and fostering transfer of 'know how' (De Matteis 2010). For example, in this year, built Europe-China Clean Energy Center in China, and issued Joint Statement. And then, In May 2012, China and the EU held their first "high level meeting on energy", which resulted in the signing of a joint declaration on energy security. Meanwhile, while energy has received greater levels of diplomatic attention, the EU has yet to formally establish a China-specific energy strategy (Zha 2013). Otherwise, China and EU established a partnership on the issue of climate change during the China-EU summit in 2005. The partnership focuses reflected in speeding up the process of clean energy technology research and deployment of clean energy technologies reasonably specific measures.

In the field of culture and dialogue both peoples, in 2003, the bilateral issued a joint statement about to strengthen the bilateral cultural exchanges and cooperation. Since 2010, started to implementation The China-EU High-Level Cultural Forum, and hold EU-China Year of Youth in 2011 and China-EU Year of Cultural Dialogue in 2012. Meanwhile, May of 2011, President Mr. Rompuy and President Mr. Hu agreed to China-EU on the "*people to people*" issues to establish the third pillar. In details, high-level dialogue will be undertaken to strengthen the bilateral educational and cultural exchanges and promote exchanges and cooperation between peoples. The third pillar had been launched in the summit of 2012. Moreover, in the recent years, more and more students study in each other, according to statistics from the Chinese Ministry of Foreign Affairs (2013), there were 35.4 thousands of students from EU-27 studied in China in 2012. By contrast, as of 2012, more than 242.9 thousands of Chinese students were studying in the EU. Meanwhile, as of 2012, China has established 105 Confucius Institutes and 107 Confucius Classrooms in EU.

Meanwhile, the China-EU urbanization partnership has been a highlight and one of the crucial components of China-EU cooperation over recent years. It has been both beneficial and vital for the long-term economic and strategic development of both sides. The joint declaration on the China-EU partnership on urbanization was signed in 2012, started the beginning of our partnership (Li 2013), which aimed at strengthening cooperation and dialogue in the following areas: urban planning, urban energy supply, urban energy demand management, "Green Digital City" development, urban migration,

urban air and water quality, urban waste management, and social integration of urban migration. Otherwise, the establishment of the partnership also aims to enhance the bilateral cooperation in the development of low-carbon technologies and low-carbon technology transfer commercial, environmental technology and improve urban energy efficiency aspects. China now is right on the stage of rapid urbanization while Europe is a pioneer in this field and occupies a leading position in post-industrial urban development. Both sides are going through different development stages, with diverse advantages and desires (Li 2013).

All of these cooperation form the important cooperative base to establish the potential bilateral FTA, a closed bilateral cooperation in these fields will also contribute to the bilateral relationship. As well as under the FTA framework, the bilateral cooperation in these fields will be strengthened and improved, the cooperative channel could be widened, the cooperative range could be expanded.

5. CONCLUSION AND RECOMMENDATIONS

This is the last part of the thesis, in this part, the main findings of the paper will be discussed, and some policy proposals for the potential FTA will be issued. Also, in this part, the practical implications of the study will be considered too. Meanwhile, some suggestions for future research will be discussed as well.

5.1 Discussion of findings

In this previous chapter, the empirical study and the achieved main findings by analyzed the bilateral trade situation, bilateral investment situation and the bilateral new cooperative trends in scientific and technological, energy and climate change, culture and dialogue both peoples, and urbanization partnership have been discussed. All of these analyzes are in order to find out if the establishment of the FTA will bring common benefits for both economies and achieves a win-win situation. Thus, by previous studies, the findings will be focused on the following aspects.

First of all, on the one hand, by making analyzes in the bilateral merchandise and service trade. As the closer and closer the bilateral relations in economic and trade fields, the bilateral economic and trade interdependence are going to strengthen rapidly. Currently, China and the EU trade more than €1 billion every day (European Commission 2013). As the expectation, the bilateral trade will reach to $1tn by 2020 (Anderlini 2013). However, the trade imbalance is a prominent problem in the bilateral trade relations, overall, China always has significant trade surplus from the EU in recent years, in details, China has a huge surplus in merchandise trade field from EU much more than the EU's surplus in service trade field from China. This is the primary reason why there are some trade conflicts between the two economies.

On the other hand, due to the characteristics of the bilateral economic and trade structure, includes features of comparative advantage, differentiations of factor endowment and typical intra-industry specialization trends, the bilateral economic and trade structure reflects very strong complementarity. These interdependence and complementarity of the bilateral economic and trade are key elements for forming economic basis of the FTA. Otherwise, the bilateral trade policy has significant differences, which lead to another important reason for many bilateral trade conflicts. However, in author's view of point, the best way to cope with the difference of trade

policy is negotiations under the bilateral FTA framework. Also, the FTA framework might offer a completely new mechanism for dealing with the bilateral trade conflicts and existed trade imbalance.

Besides, from the view of the bilateral investment, the EU and China have very different FDI structure and FDI policy. From the view of sectoral differentiation, most FDI concentrates on service industry in EU but on the secondary industry in China (there is an apparent trend that FDI is moving from secondary industry to service industry in China during the recent years, but so far, considering the FDI stock, secondary industry is still the main sector for absorbing FDI). From the view of the policy differentiation, EU has more opened, transparent and fairness policies to FDI with few restrictions. By contrast, China still has some restrictions in sectoral and scale aspects of FDI but going to be more open in the near future. Otherwise, after 2008, the bilateral investment approach had been gradually positively changed from a single flow, which from EU flows to China, to bidirectional flow, which is benefit to solve the long standing bilateral investment imbalances.

However, the overall bilateral investment scale still stays in a very low level compared with the huge bilateral trade scale, existed and potential investment barriers are main reasons for restricting the further increasing of the bilateral investment. Meanwhile, China and EU have started to negotiate about the bilateral agreement on investment, it could be also seen a completely new start of the bilateral investment relations. Exactly, the bilateral agreement on investment will also be a part of potential free trade framework. Thus, in author's opinion, FTA's investment framework is benefit for further developing and improving the bilateral FDI, the negotiating bilateral investment agreement will be an important institutional basis for the probable bilateral FTA.

In conclusion, based on all of analysis, the interdependence and complementarity of the bilateral economic and trade, and the rapid increasing bilateral investment has already laid a very solid economic foundation for establishing the bilateral free trade area. Existed barriers and problems in the bilateral trade, investment and other fields also could be better negotiated and solved under the FTA framework. Therefore, founded on the view of economics, the bilateral free trade agreement negotiation has practical possibility and feasibility.

5.2 Practical implications and policy proposal

Based on above analysis, the conclusion has been reached: the bilateral FTA negotiation has practical possibility and feasibility. The establishment of the FTA will bring a win-win situation for both economies. However, considering the significant differentiations between the two economies, how to maximum the common benefits, taking the bilateral complementarity advantage and reducing the negotiation cost should be considered as important aspects for this study and further research. On the followings, some policy proposals based on author's understanding and study will be discussed, which will be helpful for practical implications of this study.

5.2.1 Taking the bilateral complementarity advantage

Firstly, based on the view of factor endowment. Potential China-EU FTA will be a typical North-south FTA, there is a big difference between the two economies on factor endowments aspect. Generally, the EU has abundant capital, more advanced technology and high-quality human resource. By contrast, China has more abundant labor force and a huge market. Thus, the closed bilateral economic relationship could utilize better the complementary in factor endowments, and improving allocation of resources on internal of the area, which would not only improve the efficiency in factors, but also improve the welfare of factors' owners in two economies.

Secondly, based on the view of the industrial structure. On the previous chapter, had already been talked about the complementarity on industrial structure. Wherein, in some fields, both of the two economies have same comparative advantage, as well as two economies have different comparative advantage in different fields, respectively. This feature reflects there is strong intra-industrial trade and intra-industrial specialization existed in the bilateral trade. Therefore, if China and EU establish the FTA, the two economies should not only utilize the complementarity on industrial structure, showing the comparative advantages, gaining the bilateral trade scale, but also showing the comparative advantage in intra-industrial specialization, especially for China, could seize the opportunity to upgrade its industrial structure by introduction of new technologies from the EU.

5.2.2 Promoting the bilateral cooperation for SMEs

SMEs have already been an important part of the economy in the EU and China, playing an important role in terms of promoting economic development and creating new jobs, even taking a great share of the bilateral trade scale. There are some differences in the development characteristics of SMEs in the EU and China. Chinese SMEs are mostly concentrated in the fields like agriculture and primary manufacturing with low labor productivity and relatively backward technology. By contrast, European SMEs, especially in Germany, are focused on high-tech manufacturing and services sectors with high production efficiency and advanced technology. Meanwhile, European SMEs are also famous for innovation, where has a strong market position in segment markets, so called 'hidden-champions'. Therefore, in my opinion, before the establishment of a free trade area, effectively promoting cooperation and exchanges of SMEs between the two economies, strengthening cooperation in the field of technology and research, and providing more supports for SMEs on industrial chain services and widen financing channels would be very helpful for both economies. Moreover, through the bilateral cooperation on SMEs, not only increasing vitality for the two economies to promote the technological innovation, but also benefit for SMEs from both economies, which learn from each other with its own characteristics, to jointly improve the enterprise competitiveness. The cooperation between SMEs would be also very helpful for solving the existed bilateral trade imbalance, showing the comparative advantages and factor endowment, laying the economical basis for the potential FTA.

5.2.3 Establishing an effective dispute resolution mechanism

The trade dispute is a core problem in the bilateral relations, once the two economies work for establishing a FTA, an effective dispute resolution mechanism and required institutions should be necessary. Therefore, the two sides need to consider set a dispute settlement mechanism that provides an effective solution to reduce the uncertainty in trade and investment. In author's opinion, that would be the basic step for FTA negotiation, even before starting the formal FTA negotiation. Both sides will decide together the institutions, agency and operation mode of the dispute resolution mechanism, delegating required power to it therefore it could solve the bilateral trade and investment dispute by legal and binding way.

Otherwise, if after the establishment of China-EU FTA, the tariff between the two economies will be progressively eliminated. However, due to the different economic development level and existed differences in the industrial and trade structure of the two economies, in the short term, potential impacts in some areas will be hard to avoid. Therefore, it is needed for some sensitive areas and sensitive products to make appropriate arrangements.

5.3 Suggestions for future research

By this paper, the possibility to accomplish the free trade between China and EU from three aspects, economic and trade, investment and cooperation in other fields have been analyzed, reached the basic result about the possibility of the FTA, However, there are still exist huge space for further research, in author's opinion, there are several suggestions for further and deeper studies:

Firstly, there are few studies about FTA between China and Europe so far therefore the literature collection is quite difficult. Moreover, most of previous studies just focus on the trade relationship between China and EU and how to improve the trade environment and reduce trade tensions, just few of them about the possible establishment of the FTA in the future. Therefore, even the author has already done a lot of studies about this field, but the theoretical basis of the thesis has to be strengthened by further research.

Secondly, establishing a FTA is not just depend on the closed economic and trade relationship, but also up to the bilateral political relationship and external political influence. Both EU and China are very important economies in the world; hence the political interference has to be considered when they make a significant decision together, like to build a FTA. However, due to the uncertainty in politics and author's research limitation, the political influence does not take account of the research. Meanwhile, Chinese government and European Commission did not start the FTA negotiation yet, thus, most of the studies in this field just based on theoretical analysis and expected research, lack of enough physical cases.

Thirdly, due to the author's research interest and limited capacity, in the fields of the bilateral economic and trade interdependence and complementarity, the paper just adopted some basic economic measurement models and methods to get results, which

based on plenty of assumptions. In author's opinion, the results from these methods cannot be seen perfectly valid. Thus, for further research in this field, the author suggests adopting newer and more credible methods to analyze the characteristics of the bilateral trade.

Fourthly, for the expected benefits of the potential FTA, the author just made some very limited expectations based on some basic economic models and their results, still needing more detailed data and theories to approve the result. Therefore, successors might work more in expected benefits and cost of the FTA therefore getting more comprehensive result and enhance the practicability of studies in this field.

Finally, trade and investment policy studies for the bilateral FTA would be strengthened in the succeed research, especially after Shanghai free trade zone and China-Switzerland FTA established. The possible effects for Chinese trade policy and possible policy benefits for China-EU trade and investment relations would be focused more than the current study. Otherwise, the bilateral relations are dynamic process, endless focus on latest varieties and new trends would also contribute to the study in this field.

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APPENDIX 1: Statistics of China's FDI from Selected Countries/Regions as of 2012
Source: MOFCOM FDI Statistics Database

Unit: US$100 million

Country/Region	No. of FIEs	Share %	Realized Value	Share %
Total	763398	100.00	13529.16	100.00
10 Asian Countries/Regions	586635	76.85	8745.96	64.65
Hong Kong	348884	45.70	5922.73	43.78
Indonesia	1737	0.23	21.67	0.16
Japan	47601	6.24	872.46	6.45
Macau	13142	1.72	108.89	0.80
Malaysia	5253	0.69	63.27	0.47
The Philippines	2816	0.37	30.25	0.22
Singapore	20231	2.65	592.61	4.38
Republic of Korea	54853	7.19	528.92	3.91
Thailand	4117	0.54	34.69	0.26
Taiwan Province	88001	11.53	570.46	4.22
European Union	34367	4.50	826.17	6.11
Belgium	881	0.12	12.95	0.10
Denmark	775	0.10	22.92	0.17
United Kingdom	7241	0.95	180.75	1.34
Germany	7820	1.02	197.61	1.46
France	4462	0.58	121.71	0.90
Ireland	262	0.03	7.53	0.06
Italy	4823	0.63	57.29	0.42
Luxembourg	349	0.05	19.11	0.14
the Netherlands	2733	0.36	128.22	0.95
Greece	115	0.02	0.93	0.01
Portugal	188	0.02	1.73	0.01
Spain	1984	0.26	26.34	0.19
Austria	1070	0.14	15.19	0.11
Finland	453	0.06	8.87	0.07
Sweden	1211	0.16	25.01	0.18
North America	74810	9.80	789.61	5.84
Canada	12441	1.63	87.71	0.65
United States	62369	8.17	701.90	5.19
Some Tax Heavens	34793	4.56	1906.88	14.09
Mauritius	2340	0.31	114.67	0.85
Barbados	307	0.04	40.86	0.30
Cayman Islands	2858	0.37	258.05	1.91
British Virgin Islands	22273	2.92	1294.02	9.56
Samoa	7015	0.92	199.28	1.47
Others	32793	4.30	1260.54	9.32

APPENDIX 2: Inward FDI of EU-27, 2008-2011

Source: Eurostat (2013). International trade and foreign direct investment 2013 edition

(Value: EUR 1 000 million)

	Inward FDI flows				
	2008	2009	2010	2011	Share in 2010 (%)
Extra EU-27	177.7	233.6	103.9	*225.3*	100.0
Europe (non-EU, including EFTA), *of which*	46.9	64.9	29.0	:	27.9
Switzerland	12.6	27.0	8.9	*34.3*	8.6
Russia	3.0	11.1	7.7	*1.4*	7.4
Croatia	−0.1	−0.1	−1.8	:	−1.7
Turkey	−0.3	1.5	0.8	:	0.8
Ukraine	0.8	0.2	0.3	:	0.3
Africa, *of which*	7.2	1.7	3.5	:	3.4
Egypt	0.8	0.1	−0.2	:	−0.2
South Africa	2.4	0.5	1.1	:	1.1
North America, *of which*	54.1	105.3	68.8	:	66.2
Canada	19.1	12.9	23.9	*6.8*	23.0
United States	35.0	92.4	44.9	*114.8*	43.2
Central America, *of which*	−17.9	29.0	−39.9	:	−38.4
Mexico	0.9	2.9	2.0	:	1.9
South America, *of which*	12.3	1.0	9.2	:	8.9
Argentina	−0.4	−0.3	0.2	:	0.2
Brazil	10.3	1.1	7.2	*4.7*	6.9
Asia, *of which*	75.8	24.7	30.4	:	29.3
Arabian Gulf countries	51.1	11.7	5.7	:	5.5
China (excl. Hong Kong)	−0.4	0.1	0.7	*3.2*	0.7
Hong Kong	3.1	1.3	14.3	*6.5*	13.8
Japan	4.1	5.1	−5.1	*5.4*	−4.9
India	3.6	0.8	0.5	*1.9*	0.5
Singapore	5.8	2.7	8.7	:	8.4
Oceania, *of which*	−0.2	4.6	−1.9	:	−1.8
Australia	−0.2	4.2	−1.9	:	−1.8
Offshore financial centres	19.1	45.1	−7.8	15.8	−7.5