UNIVERZITA KARLOVA V PRAZE

FAKULTA SOCIÁLNÍCH VĚD

Institut ekonomických studií

Bakalářská práce

2012   **Helena Krbilová**

Charles University in Prague

Faculty of Social Sciences

Institute of Economic Studies

The Impact of BASEL III on Trade Finance

Bachelor Thesis

Author**: Helena Krbilová**

Supervisor: **PhDr. Petr Teplý, Ph.D**.

Academic Year: **2011/2012**

Declaration of Authorship

The author hereby declares that he compiled this thesis independently, using only the listed resources and literature. The author also declares that he has not used this thesis to acquire any other academic degree.

The author grants to Charles University permission to reproduce and to distribute copies of this thesis document in whole or in part.

In Prague, July 31, 2012   Helena Krbilová

Acknowledgements

Bibliographic Entry

KRBILOVÁ, Helena (2012): *The Impact of BASEL III on Trade Finance.* Prague, 2012. 36 s. Bachelor Thesis (Bc.) Charles University in Prague, Faculty of Social Sciences, Institute of Economic Studies. Department of Finance and Capital Markets. Supervisor PhDr. Petr Teplý, Ph.D.

Length: 57 844

Abstrakt

Cieľom tejto bakalárskej práce je zhodnotiť vývoj BASEL regulatórneho rámca s ohľadom na financie obchodu. Toto je spracované zhodnotením doterajšej literatúry v tomto odbore, kritickým pohľadom na správy medzinárodných bankových a dozorových organizácií a konfrontáciou pohľadu profesionálov v odbore financií obchodu voči dátam. V záverečnej časti tejto práce robím empirickú analýzu verejne dostupných dát a prichádzam k záveru, že neexistuje dosť dát ku uskutočneniu relevantej analýzy dopadu navrhovaného BASEL III na financie obchodu, ale podporujem kritiku tohoto regulatórneho zámeru.

Klíčová slova

Abstract

The aim of this bachelor thesis is to discuss the evolution of BASEL regulatory framework with respect to trade finance. It does so by discussing existing literature in this field, critical review of the reports of the international banking and supervisory organization and confronting the view of trade finance professionals with the data. In the final part of the thesis I perform empirical analysis of the publicly available data, coming to the conclusion that there is not enough available data to perform relevant analysis of the impact of proposed BASEL III on trade finance, but supporting the critique of this regulatory plan.

Keywords

Institut ekonomických štúdií

Projekt bakalárskej práce

The Impact of BASEL III on Trade Finance

Název v anglickém jazyce:	The Impact of BASEL III on Trade Finance
Klíčová slova:	Dopad BASELU III na Financie Obchodu
Klíčová slova anglicky:	The Impact of BASEL III on Trade Finance
Akademický rok vypsání:	2010/2011
Typ práce:	bakalářská práce
Jazyk práce:	angličtina
Ústav:	Institut ekonomických studií (23-IES)
Vedoucí / školitel:	PhDr. Petr Teplý, Ph.D.
Řešitel:	Helena Krbilová - zadáno vedoucím/školitelem
Datum přihlášení:	28.05.2011
Datum zadání:	30.05.2011
Datum odevzdání elektronické podoby:	31.07.2012

Seznam odborné literatury

CHORAFAS, Dimitris N.. Economic Capital Allocation with Basel II: Cost, Benefit and Implementation Procedures . Elsevier Ltd., 2004. ISBN 0-7506-6182-8.

LELYVELD, Iman van. Economic Capital Modelling: Concepts, Measurement and Implementation. Risk Books, 2006. ISBN 1-904339-39-5.

MEJSTŘÍK, Michal; PEČENÁ, Magda; TEPLÝ Petr. Basic Principles of Banking. Univerzita Karlova v Praze: Nakladatelství Karolinum, 2008. ISBN 978-80-246-1500-4.

ICC COMMISION, Banking Technique and Practice. Report on Findings of ICC-ADB Register on Trade & Finance: Statistical Analysis of Risk Profile of Trade Finance Products. [online]. Document No. 470/1147 (Rev) – 21 September 2010. Avaliable on http://www.iccwbo.org/uploadedFiles/ICC/policy/banking_technique/Statements/1147%20Register %20Report%20ICC%20Final%20Draft%2021%20September%202010.pdf .

WORLD TRADE ORGANIZATION, Economic Research and Statistics Division. International Regulation

and Treatment of Trade Finance: What Are the Issues?. [online]. February 2010. Avaliable on http://www.wto.org/english/res_e/reser_e/ersd201009_e.pdf .

Předběžná náplň práce

Cieľom tejto bakalárskej práce je diskutovať o vývoji regulačného rámca v oblasti financovania obchodu. Opisuje hlavné rysy a chyby BASELu I a II v porovnaní s vylepšeniami a inováciami navrhovanými pre BASEL III. Ďalej zobrazuje dôležitú úlohu BASEL predpisov pre financovanie obchodu a rozdelenie ekonomického kapitálu v tejto oblasti. Tieto tvrdenia sú podporované empirickou analýzou dát, vrátane štúdií niektorých konkrétnych prípadov. Práca poskytuje všeobecný záver vplyvu nových regulačných opatrení na financovanie medzinárodného obchodu a ich zavedenie do bankových systémov.

Předběžná náplň práce v anglickém jazyce

The aim of this bachelor thesis discuss the evolution of the regulatory framework in terms of trade finance. It describes the main features and mistakes of BASEL I and II in comparison to the improvements and innovations suggested for BASEL III. Furthermore it shows an important role of BASEL regulations for trade finance and allocation of economic capital in this area. These claims are supported by the empirical analysis of data including some particular case studies. The thesis provides a general conclusion of an impact of new regulatory measures on financing of international trade and their processing by banking systems.

Contents

1 Introduction

One of the issues of recent economic discussions is implementation of Basel III regulatory framework. Experts agree that one of the most affected areas will be international trade. The new more stringent requirements on capital adequacy might have the wrong impact on the volume of provided trade finance, their prices and therefore on the international trade as well. The main aim of this thesis is to support this idea by theoretical background and the empirical analysis of available data. It also seeks to show how determining the trade capital for the economic growth is, especially in the case of emerging economies.

Chapter 2 introduces the basic notion of trade finance. It is mainly focused of the letter of credit, examines its historical background and defines transactions processed within the operation. Further on, it discusses various types of letter of credit as well as the rules and practices of its usage, known under UCP. The last part is focused on the situation in recent years and the volume of trade credit during the global financial crisis of 2008/2009.

Chapter 3 is focused on the theoretical background of economic capital, risk management associated with capital adequacy and a review of Basel I, II, III capital restrictions. It also brings several opinions of either professionals or businessmen on the proposal of Basel III regulation including the critical view of capital adequacy requirements.

Chapter 4 contains empirical analysis. This analysis is limited by unavailability of data. Therefore it relies to some extent on the data from trading houses and general banking data, instead of analysis of trade credit itself. In the first phase of empirical analysis, the causal linkage going from international trade and its impact on growth to credit contraction by major European banks from Asian markets is described. In the second phase of empirical analysis, panel data regression is performed on two timespans of data – one regression for the years 1991-2003, explaining export volume by trade credit provision, and one regression for the years 2004-2011, which depicts the relationship between insured export credit expenditures and export.

2   Trade finance

The aim of the first chapter is to present key terms of trade finance, their purpose and historical background. Further on, this chapter is focused on a letter of credit (L/C), standards of its usage and frequency of its usage during the past couple of years.

2.1   Trade finance

Globalization plays an imperative role in our modern world's structure. The beginnings of globalization emerged from a common need to expand opportunities by the method of selling goods further away. As a result of this, merchants looked not just to sell goods within their homeland, but instead reverted to the new-found opportunity of selling goods abroad. During the last century, international trade became one of the most important items on producers´ and consumers´ balance sheets. This development led to the creation of trade finance instruments, such as import letter of credit, export confirmed letter of credit, various types of guarantees and insurances, import and export loans etc. Their task is to support international trade by securing its transactions and ensuring its fluidity.

There are a number of institutions that provide such instruments that help sellers and buyers to maintain their liquidity. Mostly, the issuers of such instruments are banks, insurance companies, and public or private sector intermediaries. As an example of such a public sector intermediary operating in the Czech market is Czech Export Bank or Exportní garanční a pojišťovací společnost (EGAP).

2.2   Letter of credit

A letter of credit is an example of the most basic trade financing instrument. Technically, it represents an agreement between an exporter (beneficiary) and an importer (applicant) in presence of a third party, usually the importer´s bank that issues this document. The issuing bank commits to process the payment in favour of the exporter immediately after receiving documents as stated in the L/C. Mostly these documents involve a bill of exchange, an invoice, a packing list, a transport document, an insurance certificate, a bill of lading, a licence, etc.. In this case the bank is required to release funds if the documents are presented, despite the transaction not being carried out in order.

2.2.1   L/C transactions

This brief outline describing the function of an L/C can be supplemented by the following table that analyses in detail all of the processes that take part in the transaction between the beneficiary and the applicant.

In the beginning, the exporter arranges a contract with the importer (a) which results in an agreement between the importer and their bank in order to render an L/C that will cover this particular operation. The L/C will be sent to the exporter´s bank (b) which informs the exporter to forward the article of the commerce to the importer (c). Once the goods are sent, the exporter´s bank releases the required documents to the importer´s bank (d). After receiving the correct documents, the importer or their bank is required to release funds in favour of the exporter´s banking account (e).
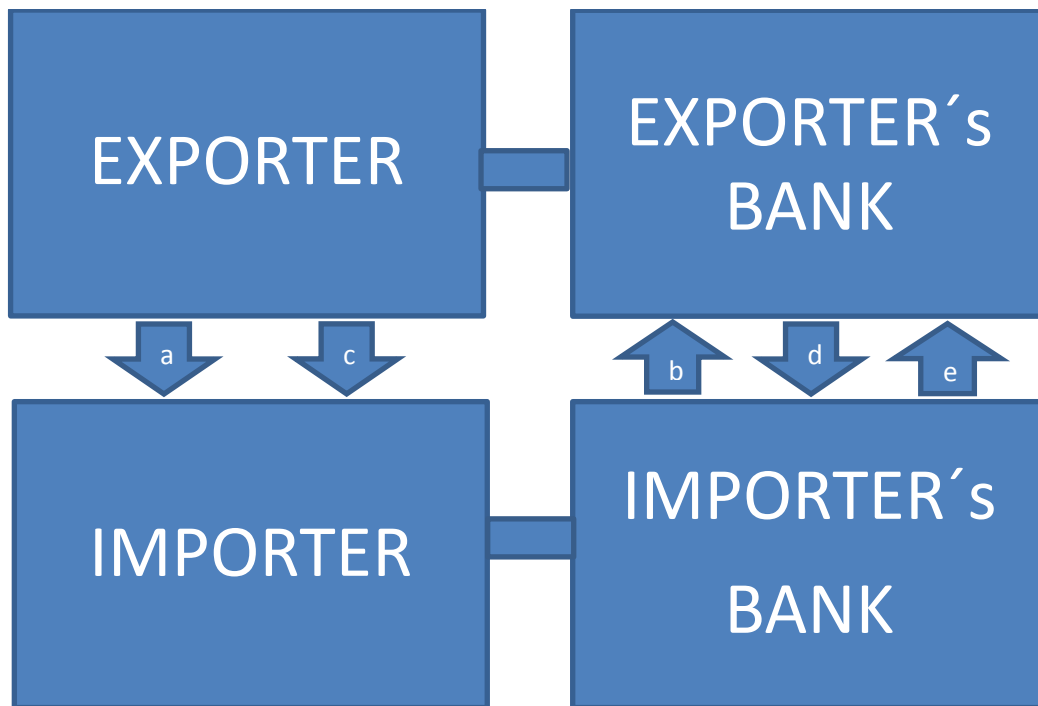
Figure 1: Scheme of letter of credit

Source: Bergami, R., UCP 600 rules changing letter of credit business for international trade?

Steps of the basic L/C transaction

a) arrangement of a contract

b) issuing and provision of L/C

c) shipment of goods

d) release of required documents

e) payment from the importer to the exporter

2.2.2   History of an L/C

The first document with the function of an L/C is known already from ancient Egypt, which was known for its first well-functioning banking system. It covered a payment for wheat and it was well secured against its failure by sanction such as payment of double value of the previous sum. However, people unable to pay were facing even an execution process. Signs of similar documents appeared also in the rest of the ancient nations, such as Greece or Babylon.

After the end of the age of ancient civilizations, trade was exhibiting a downward trend which caused an extinction of the first financial institutions. Banks were experiencing a rebirth again in 12th century. Renaissance Italy, with the richest cities such as Venice, Florence or Genoa, became a cradle for the modern banking system. They were spreading with their branches all over Europe and also inspired other countries such as the Dutch Republic to establish their own ones. With the rise of banks, an implementation of the L/C to the everyday life also came along. Merchants were experiencing problems with financing of their commerce. Two main reasons were inconvenient and

risky carrying of gold, which was used as a currency instead of a bare barter, but on the other hand there was no such thing that would satisfy the traders´ requirements and would be accepted in different regions. The solution came up with the L/C, whose function did not significantly vary from the ones used nowadays. The L/C obliged a third party, called a drawee, to pay for the goods. There were three specified methods of payment. Firstly, they could pay in gold, but such payment was not very comfortable and popular those days. Secondly, a term "clearing" was introduced. Clearing in principle means that contracting parties cancel out each other's liabilities in appropriate volume, which is evidently a very neat and tidy method on how to perform payments. The last method consists in returning the accepted draft to the issuer.

At the time, as L/Cs was taken as a standard in Europe, there also arose a need for such an instrument on the American continent as well. Because of the resources that America was able to provide, there was a huge pressure on construction of various types of mines. The investors from all over the world were seeking for a back-up of their investments. Therefore, L/Cs were used in such cases to minimize the risk which was connected to these operations. An example of this is the building of the Ridgeway Gold Mine in South Carolina.

The next important turning point for the L/C was the evolution of the situation after World War I. Most of the reliable business contacts and links were destroyed and merchants had to look for other trading partners. However, these new relationships were accompanied by uncertainty and lack of trust. Using L/Cs helped to build a new trade framework in the presence of an intermediary, usually a bank, which provided secure running of the commerce. After the satisfying period of usage, L/Cs remained in their steady position also after World War II. Actually, they showed an ability to change according to the needs of the international market, which even supported their position of a flexible and credible tool for the trade of the future.

2.2.3   Types of L/C

Using an L/C has also both a bright and a dark side. On the one hand, providing various forms of risk diversification or payment after shipping gives both participants the opportunity to process a trade without a fear of failure. On the other hand, there are significant transaction costs. Therefore L/Cs are mainly used for example such as the case of lack of information about a foreign buyer, unstable situation in a particular region or processing a large transaction.

Common practice determines specific types of L/Cs that match common situations and solve particular problems, which were not exactly involved in a basic form of L/C.

Export confirmed L/C

One of the most-used type of L/C is an export confirmed L/C. It can be described as a more strict form of L/C, that includes a confirmation from the exporter´s bank as well. After the importer´s bank issues the confirmed L/C, a security step of the exporter´s bank follows, which guarantees to pay to the exporter if the failure of payment is caused by inability of the importer´s bank to pay. Therefore the exporter is neither subject of the risk of the non-paying importer nor of its bank. For this product range, users cooperate with subjects on high-risk markets or in the presence of the chance of political revolution, economic shock etc.

Revocable L/C

Revocable L/C represents a very unique type of L/C, which does not require consent on both sides of a contract. It ensures trade among companies and their subsidiary companies. However, most of the L/Cs is irrevocable, which does not allow any changes or resignation from the agreement.

2.2.4 Rules of using the L/Cs

With an increasing number of transactions in international trade which were backed up by L/Cs, the need for rules that would determine a concept of the L/C and main laws of its usage that would be enforceable in most countries arose. This difficult task was undertaken by The International Chamber of Commerce (ICC), by creating a document known as Uniform Customs and Practice for Documentary Credits (UCP). The current version was released in 2007 under the name UCP 600.

The International Chamber of Commerce

However, although the governance of letters of credit seems more like a regulatory process, it is not directed by any government or absolutist power, on the contrary by merchants themselves.

The Chamber defines itself as "the world business organization, a representative body that speaks with authority on behalf of enterprises from all sectors in every part of the world."

The foundation of the ICC dates in 1919, followed by creation of International Court of Arbitration in 1923. Both institutions were created by a small group of businessmen, "the merchants of peace", who believed that international trade is the best way to reach peace and welfare in the world. These days, it connects hundreds of thousands of members from 120 countries of the world. Is also cooperates with the intergovernmental organizations such as the United Nations or the World Trade Organization. The residence of its international secretariat is in Paris led by Jean-Guy Carrier, Secretary General.

The main purpose of the ICC is to sustain international trade and investments, set the rules and solving conflicts associated with commerce. Further on, it tries to support the free movement of goods, services and capital. Among other things, the ICC also deals with the creation of formal rules for trade financing and introduction of uniform business and legal standards. The first objective is handled in the set of rules called Uniform Customs and Practice for Documentary Credits (UCP), whose first version was implemented in 1933 and is subsequently updated. The second of the goals was achieved by publishing International Commercial Terms (Incoterms) in 1936. Differences between the practices of the countries started to disappear and through the strong status of ICC the new set of rules was accepted by governments, legal authorities and entrepreneurs all over the world. The latest version is effective from 1 January 2011 under the name Incoterms 2010.

Operating in the Czech market on behalf of the ICC, is the Czech Republic office. Its aim is primarily to help Czech companies to participate in world trade events. Additionally, the Czech office participates in forming statements on issues that the ICC handles. It represents priorities and needs of the Czech Republic, which helps to create rules suitable and acceptable for our region as well as for the whole world. The latest achievement was by the ICC Czech Republic member JUDr. Miroslav Šubert cooperating on creation of the set of rules, Incoterms 2010.

The UCP

After the rupture of almost all previous business contracts during World War I., merchants were forced to arrange export and import with new and non-verified partners. This phenomenon led to an increasing trend in the usage of trade financial products. However, customs of banks in Europe, the United States or other parts of the world differed and there was no guarantee of acceptance of the L/Cs, therefore no guarantee of payment for goods. The solution of this problem was found by several U.S. banks that turned to ICC to implement standards of using the L/Cs that would be accepted by banks all over the world. ICC took up the challenge and in 1933 issued the first set of rules known under the name Uniform Customs and Practice for Documentary Credits. It took almost 20 years after publishing of this document to reach the adoption worldwide.

The most recent version of UCP is UCP 600 which entered into force from 1 July 2007. It consists of 39 articles which establish main rules determining the usage of the L/Cs. Withal it brought some innovations with both positive and negative impacts.

The positive aspects include a shrinking of time that a bank has to check and accept the required documents from a so called "reasonable" meaning a not exactly determined time of up to five banking days, where a banking day is defined as a regular day when a particular bank is opened. It specified a number of frequently used terms that were previously unclear. It also cancelled the usage of revocable L/C. It encourages the independent processing of payment from underlying transactions. On the other hand there are some issues that can cause a negative impact. An example of new problems is a mistakable definition of the international standard banking practices or unclear specification of various types of risks insurance.

2.2.5   Usage of L/C in recent years

In recent years was the volume of used L/Cs determined mainly by the global financial crisis 2008/2009. The situation ended up surprisingly in favour of L/C, which would mean that even though there was a sharp decline in international trade there was on the other hand rising percentage of transactions processed in presence of an intermediary. As well as the situation after the World War II., there is unsatisfactory volume of trust among the companies even the ones that were previously cooperating. This might be the reason why exporters look increasingly for the more secure way of processing their business even with the large transaction costs.

Changes in international trade were in recent years significant. Firstly there was a sharp decline in 2009 which represents the global financial crisis and is based inter alia by the decline of world HDP after the long period of sustainable growth. This unpleasant event was followed by a recovery in 2010, when world countries tried to support or revive their international trade and through it also their economies. Another problem brought year 2011 when so far the numbers declined again. However, countries publish the data sequentially and current information about the volume on international trade in 2011 may change, therefore the decline might not be so substantial.
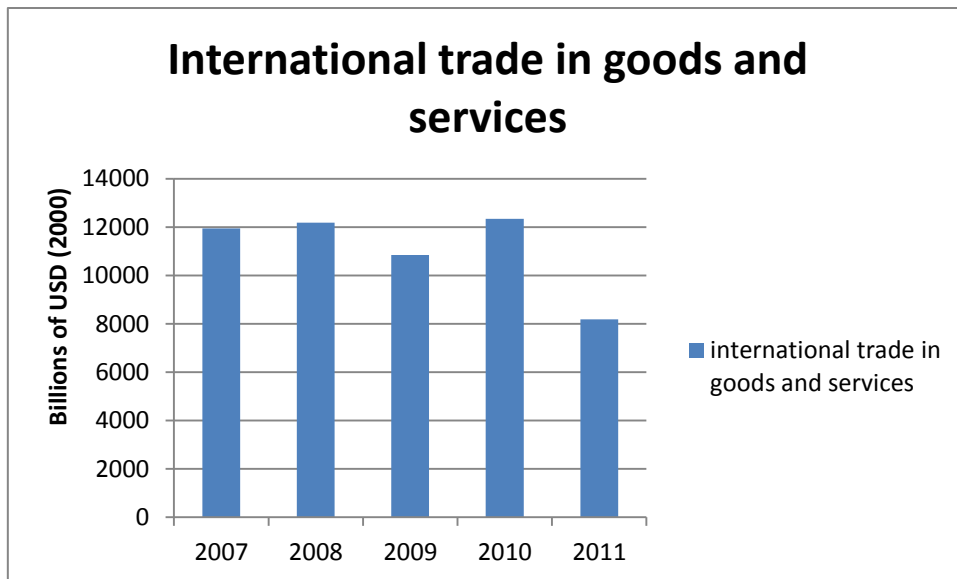
International trade in goods and services

Figure 2: International trade in recent years

Source: www.databank.worldbank.com

As a result of the trend in international trade, a lot of people would expect the decreasing number of issued L/C. Technically it is true, but there is another feature that is interesting, the share of by L/C intermediated merchandizes to the whole international trade. According to the International Monetary Fund and BAFT-IFSA surveys, the year that was critical for international trade brought an increasing percentage of bank-intermediated transactions. The changes of percentage growth of exported goods as well as trade finance are visible from Figure 3.
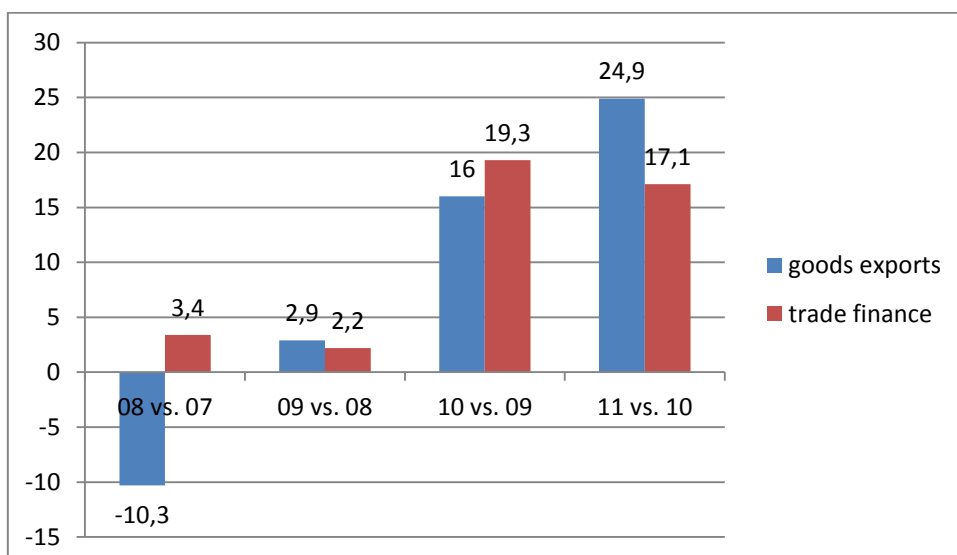

Figure 3: Overall changes in merchandise export and trade finance in percentage growth

Source: IMF Working Paper: Trade and Trade Finance in 2008-09 Financial Crisis, p.16; BAFT-IFSA 6th Annual Trade Finance Survey, p.4

3   Economic capital under Basel framework

This chapter deals with the question what is the economic capital and why there is a need to be concerned about it while speaking of Basel III. Further on, it will examine the changes carried out during the Basel evolution.

3.1   Introduction to economic capital

First of all, economic capital is the capital that firm needs to work properly. But the precise definition is mostly perplexing, as the (Chorafas, 2004) mentions some examples of different concepts of economic capital, highlighting the distinction between regulatory and economic capital. Regulatory capital is the capital you need to get license, but economic capital is the one you need to be "in the business" – might be said with 99% level of confidence. Last but not least, economic capital is also performance measure which defines what the success is and what is inefficient use of capital.

To look back into the past, economic capital as a term was created in the 1980s – it was the first time the regulators implemented explicit capital adequacy ratios for the institutions they oversee. It was the first time economic and regulatory capital diverged.

3.2   Definition of economic capital

Knowledge of this topic, based on literature review - (Dhaene, Goovaers, & Kaas, 2003), (Goovaers & Laeven, 2004) and on expert view from (Chorafas, 2004) is that economic capital forms major part of so called total economic equity, which includes both regulatory capital and on-balance sheet assets and liabilities as well as off-balance sheet assets and liabilities. It cannot be easily separated from these simplistic characteristics, as this is closest you can get in assessing what is economic capital of the company.

It is important to stay focused on what is economic capital and what is not economic capital. To complete classification of capital, we must define also entrepreneurial capital. It is easy to confuse economic and entrepreneurial capital, but the distinction is clear – economic capital is there to cover for unexpected scenarios, but entrepreneurial capital is there to fund company´s everyday functioning. This distinction is important because it is very often used ambivalently as there is no strict definition.

3.3   Economic capital in economic context

One of the best metrics for economic capital is risk-adjusted return on capital – RAROC. The definition is as follows:

$$RAROC = \frac{revenue - expenses - expected\ loss + income\ from\ capital}{capital}$$

This RAROC system was probably one of the inspirations for the 1988 Basel Accord – BASEL I as the development in economic capital modelling by financial institutions inspired regulators to do their own models to fulfil regulatory objectives.

This metric, following the line of RAPM – risk-adjusted performance metrics- was firstly introduced by the Bankers Trust´s (Guill, 2009), commercial bank association from New York, which also performed business considered as investment banking. Their achievement was widely appreciated and it lead to higher profitability than anyone else in the market - "Bankers Trust's stunning success in the securities area won it consulting work and provided solid bottom line profit."[1]

RAROC can be also seen in this way :

$$RAROC = \frac{Return}{Economic\ Capital}$$

– measuring empirical profitability with risk included, because by taking a position – buying bonds, selling credit – the bank brings risk into its capital.

Importance of RAROC was perfectly pointed out by John Drzik from Oliver Wyman: "All major banks today use some variant of RAROC and economic capital in their business. No bank that has ever adopted RAROC and economic capital has ever dismantled it." (Guill, 2009).

3.4   Trade finance under the Basel regulations

The following part of this chapter examines the role of Basel agreements in the world of international trade. It gradually discusses individually Basel I, II and III and their impact on trade finance. It is also looking for the most favourable one which allows a bloom of the international market.

3.4.1   Bank regulation

The first notion of banking regulation arose after The World War I and following crisis accompanied by the failure of Bretton-Wood system. Number of banks had to be closed because of unsecured contracts they had made. The voices in favour of the regulatory framework for bank institutions became laud enough in 1974 and supported a creation of The Basel Committee of Banking Supervision (BCBS). This institution is part of Bank of International Settlements (BIS) and its main aim according to the official web-page is "to enhance understanding of key supervisory issues and improve the quality of banking supervision worldwide". Its founder is The Group of Ten which stands for such dominant countries as the United Kingdom, Germany, Japan, the United States, Belgium, Canada, France, Sweden, Italy, and the Netherlands, and they are inter alia known as introducers of floating exchange rates. Nowadays, the Basel Committee unites members of more than twenty countries and under the leadership of the chairman Stefan Ingves.

The first published document connecting regulation processes in different countries is called Concordat. The main aim of this document is to support a process of cooperation between supervisors of banks´ foreign establishments. It also introduces an advisory plan on improvement of banks´ efficiency. As they claim the main purpose of Concordat is to keep an eye on each and every foreign banking establishment. This document was then followed by number of others that specify banking supervision under which the most discussed and well-known are Basel I-III.

However, the biggest discussion evoked Basel III. Opinions differ on the latest version of these supervisory rules. Many experts also turned to ICC in order to ask for analysis that investigates

---

[1] Business Week, April 13, 1981

an impact of recent proposals on trade finance and therefore international trade. A lot of them believe that Basel III, as it is designed, would harm the usage of trade finance as well as cause a significant raise in their prices. They also argue that the proposal makes no difference between a short-term L/C and long-term mortgage although trade finance, which are actually backed up by the real transaction of goods or services, are much less risky.

3.4.2   Trade finance under Basel I framework

The first set of rules known under the name Basel Capital Accord was published in 1988. The first of Basel regulatory frameworks did not contain such variety of rules and restrictions. The main aim of Basel I was to regulate credit risk. Banks had to hold capital of minimum 8% value of their risk-weighted assets. There were five categories of risk from 0% for cash or government debt to 100% for private sector debt or by other banks issued capital instrument. The implementation of the regulation would therefore mean, if an asset is 100% risk-weighted, the minimum amount of capital for this asset is 8% of its value. In the case of trade finance was applied a conversion factor of 20%, which means that instruments such as L/C or guarantees and insurances associated with international trade were places in 20% risk-weighted category. The capital that is supposed to protect the bank against payment failures and market risk is divided into Tier 1 and Tier 2 capital. Tier 1 capital represents bank´s equity or how financially strong a bank is. As measurement tool is used the Tier 1 capital ratio.

$$Tier\ 1\ capital\ ratio = \frac{core\ equity\ capital}{total\ risk - weighted\ assets}$$

On the other hand Tier 2 capital consists of reserves, that help a bank to offset the losses.

Basel I was directly implemented to the G-10 countries in 1992. However, the rules became used also by the rest of the world with internationally active banking system. The opinions of some experts agree that first Basel with limited number of regulations was the most international trade friendly. It provided sufficient field for banks and their risk management departments to set the volume of capital they held.

3.4.3   Approach of Basel II

The concept of Basel II framework is a little more complex than the previous one. The announcement of its publishing came in September 1998. The main objectives of new regulatory framework were supposed to support the safety of financial systems, to improve availability of competition on the markets and to set the complex rules for risk maintenance. However, the new regulations were not accepted until 2004.

The main idea of Basel II lied on three pillars, each with indispensable and irreplaceable aim.

FINANCIAL STABILITY

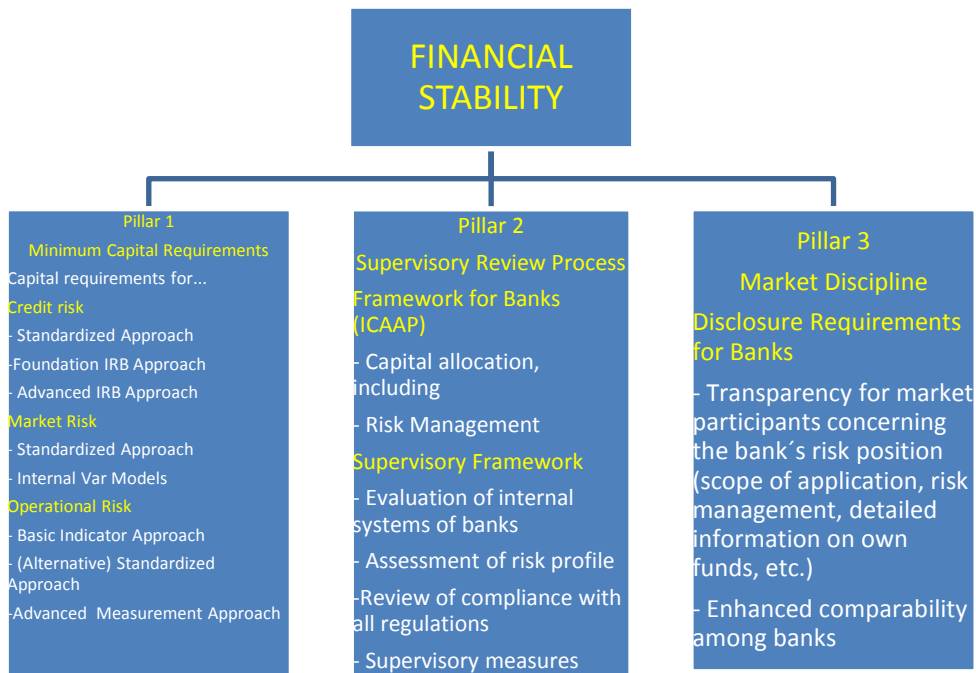| Pillar 1	Pillar 2	Pillar 3
Minimum Capital Requirements	**Supervisory Review Process**	**Market Discipline**
Capital requirements for…	Framework for Banks (ICAAP)	Disclosure Requirements for Banks
Credit risk	- Capital allocation, including	- Transparency for market participants concerning the bank´s risk position (scope of application, risk management, detailed information on own funds, etc.)
- Standardized Approach	- Risk Management	- Enhanced comparability among banks
- Foundation IRB Approach	**Supervisory Framework**	
- Advanced IRB Approach	- Evaluation of internal systems of banks	
Market Risk	- Assessment of risk profile	
- Standardized Approach	- Review of compliance with all regulations	
- Internal Var Models	- Supervisory measures	
Operational Risk		
- Basic Indicator Approach		
- (Alternative) Standardized Approach		
- Advanced Measurement Approach		

Figure 4: Three Pillars of Basel II

Source: Asymptotix; www.asymptotix.eu/content/basel-ii

As the most important part relative to trade finance can be chosen credit risk requirements. Almost all features remain the same. Capital adequacy remains at 8%. However, instead of five risk-weighted categories there is one new with 150% conversion factor which belongs to borrowers that have highly unsatisfactory credit rating.

Compared to Basel I, Basel II is enhanced by two new stages of regulation, supervisory review process and market discipline. The main aim of second pillar is to help banks estimate risk of their operation that might, except of credit, market and operational risk, experience for example liquidity, legal or systemic risk. The role of the last pillar is foster strong, healthy and stable financial system.

3.4.4 Proposal of Basel III

Recently there was a proposal of Basel III introduced by Basel Committee on Banking Supervision to the world. The purpose of this framework is to tighten the regulation of banking system and their risk management departments. It is the response to global financial crisis of 2008/2009, which was caused by large number of bankrupted banks because of outstanding credits and mortgages. However, the question is whether the stronger regulation could not affect global market negatively as well. For example criticism falls on capital regulation which does not distinguish between short term letter of credit (mostly maturity of 90 days) and years long mortgages, which can cause serious harm to providers of trade finance. Fortunately the implementation will take number of years which might allow making some changes in case of negative results.

	2011	2012	2013	2014	2015	2016	2017	2018	As of January 2019
Leverage Ratio	Supervisory monitoring		Parallel run 1 Jan 2013- 1 Jan 2017					Migration to Pillar 1	
Minimum Common Equity Capital Ratio			3,5%	4,0%	4,5%	4,5%	4,5%	4,5%	4,5%
Capital Conservation Buffer						0,625%	1,25%	1,875%	2,50%
Minimum common equity plus capital conservation buffer			3,5%	4,0%	4,5%	5,125%	5,75%	6,375%	7,0%
Phase-in of deduction form CET1				20%	40%	60%	80%	100%	100%
Minimum Tier 1 Capital			4,5%	5,5%	6,0%	6,0%	6,0%	6,0%	6,0%
Minimum Total Capital			8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%
Minimum Total Capital plus conservation buffer			8,0%	8,0%	8,0%	8,625%	9,125%	9,875%	10,5%
Capital instruments that no longer qualify as non-core Tier 1 or Tier 2 capital		Phased out over 10 year horizon beginning 2013							

Figure 5: Basel III implementation timetable

Source: Asymptotix, www.asymptotix.eu/content/basel-iii

    To connect this with the economic capital, there is a chart depicting the connection between economic capital and BASEL regulation.
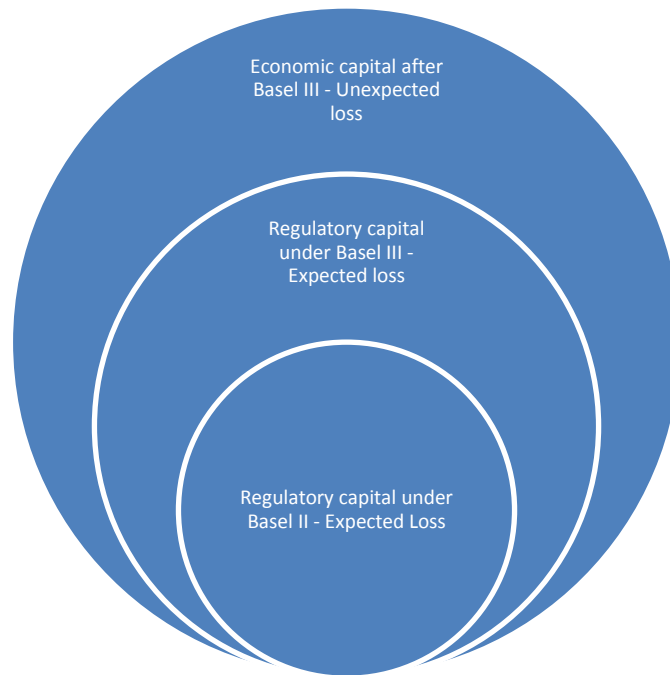
Figure 6: Basel and economic capital

In this chart, it is obvious what the relationship between Basel regulatory requirements and economic capital is – stricter regulation makes economic capital more expensive. The same business is more and more capital intensive as the regulator increases his mandatory capital.

To move forward with the analysis of BASEL framework, lest compare the differences between BASEL II and proposed BASEL III:

Measurement	BASEL II	BASEL III
Capital (%Risk Weighted Assets)	2% common equity 4% Tier I	4.5% common equity 6% Tier I 10.5% Total capital (including buffer)
Leverage ratio	None	3% minimum
Liquidity Coverage Ratio	None	(HQLA/30 day NCO)>=100%
Net Stable Funding Ratio	None	(ASF/RSF) >=100%

Figure 7: Regulatory capital under BASEL framework

Source: Basel Committee on Banking Supervision

As there are many open questions on what will be the impact of proposed regulation and what should the regulators do according to trade finance professionals and academics, move to the next part of the critique:

3.4.5 The questions surrounding BASEL III

Trade finance professionals do not in general share the view of the regulators, that the trade requires stronger regulation (Auboin, 2010). They even claim that even the less strict regulation in

BASEL II was much more severe than it should be – trade finance in general did not create any economic damage, and it can hardly create any systemic risk that the BASEL III attempts to prevent.

The regulator itself (Basel Committee on Banking Supervision) declares that the hardest obstacle it faces is the fact that there are no data available that could give the Committee historical insight in how did the trade finance fared in the past and what would be the proper weighting in capital requirements, adopting preventively conservative approach to its regulation.

The most important result of the discussion of BASEL III is the fact the banks involved in trade finance will publish their internal data to the regulator, launching Trade Finance Loans Default Register as the joint project of the International Chamber of Commerce and the Asian Development Bank. The Asian Development Bank may seem like an odd participant in this issue, but in the latter part of the thesis, namely in the empirical part it will be evident why is this bank so interested in this issue – Asian economies and their international trade is largely dependent on the trade credit and recently there was a huge outflow due to the critical situation of balance sheets of Eurozone banks.

Recent surveys on the banks opinion about BASEL III, namely 6th Annual Trade Finance Survey by International Monetary Fund[2] brings following opinion about the impact of the proposed BASEL III on trade finance:
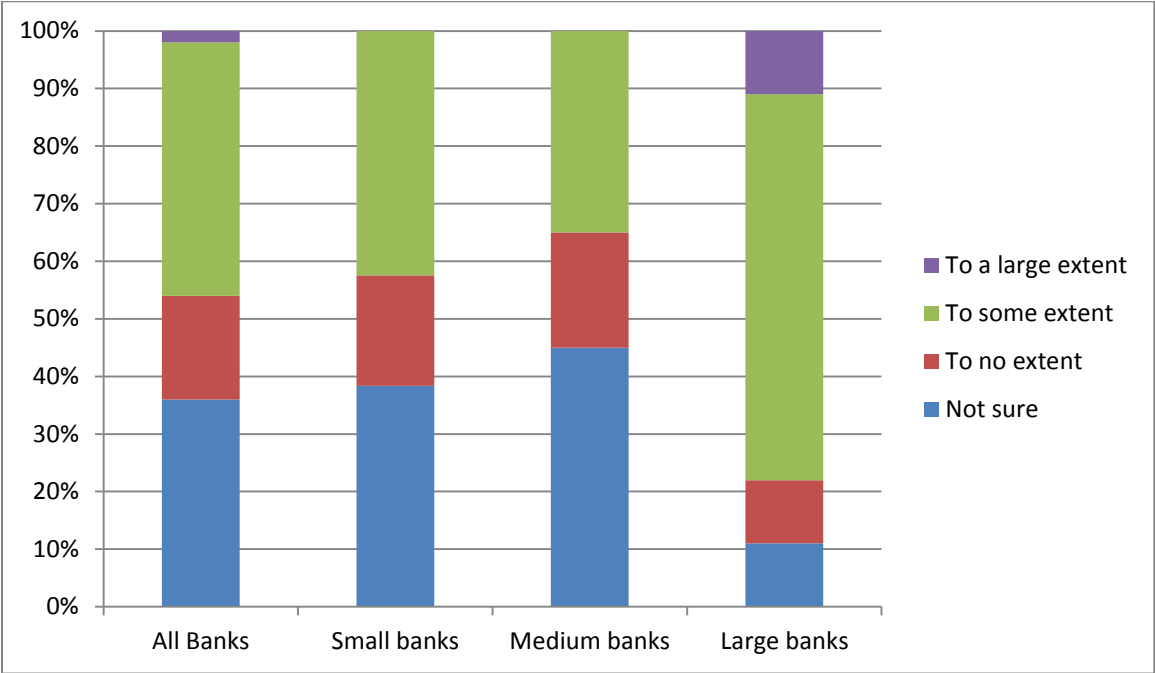

Figure 8: Survey of Impact of Basel III on Trade Finance

This graph depicts what the banking profession thinks about this proposal: majority is pretty sure that the effect on trade credit will be negative.

One of the most prominent people in trade finance globally, Ashtosh Kumar, Managing Director and Global Head of Trade Product Management of Standard CharteredTrade claims that trade credit is supposed to increase in price by 40%, leading to 6% decrease in international trade (Beck, 2010).

---

[2] http://www.baft-ifsa.com/eWeb/docs/Surveys/IMF_Survey_Results_Aug_2011.pdf

4 Empirical analysis

To start with empirical analysis of trade finance, there is hardly any better indicator to show how important the international is than steady rise in share of GDP that is traded. Almost univocally supported by economic theorists, no matter what their economic school is, international trade is one the most fundamental drivers of economic growth. This is nicely summarized in (Acemoglu, 2008), where the author says that "In addition to technology adoption, other interactions across countries, such as international trade, also play the same role of allowing for endogenous growth at the world level together with growth in each specific country that depends on technological and other developments at the world level." .

International trade fell sharply in 2008 – in this time, it was attributed to trade finance contraction (Asmudson, Dorsey, Khatchatryan, & Niculcea, 2011), even though the effect itself is definitely much more complex (decrease in demand, general financial contraction and surely many others).
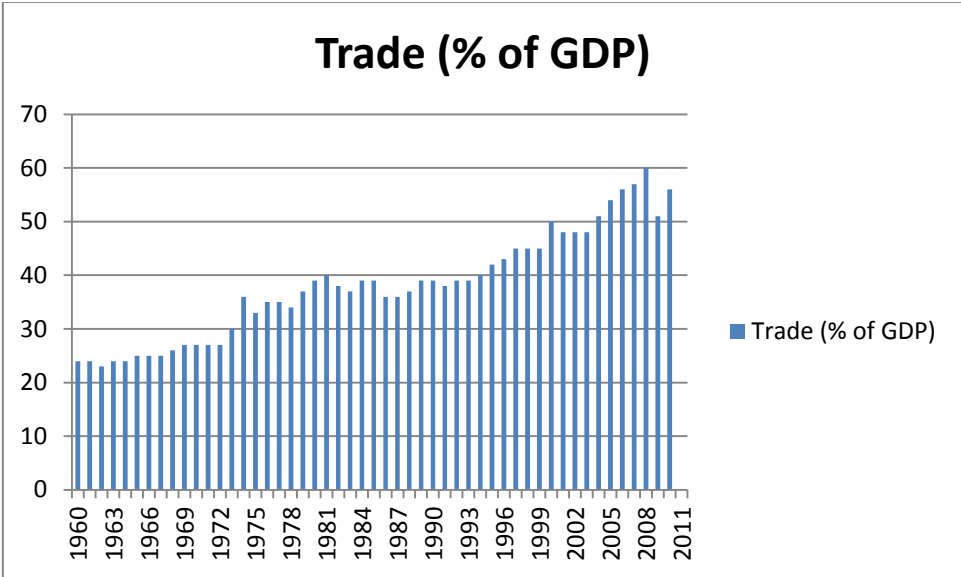

Figure 9: World trade

Source: www.databank.worldbank.org

The rest of the data says a lot about how do we see the international trade in its relative volume to GDP – the more we trade, the more peaceful and cooperative the world is. End of the Cold War in early 1990s started rapid growth in international trade, as well as the Oil Crisis in 1973 was followed by stagnation and steady decline in a couple of consequent years. Nowadays, it is popular to call this the crisis of confidence: the economic fundamentals remain solid, but the people are not willing to take part in transactions. However, it is hard to quantify this effect.

In line with is seen from the graph, move to the next graph, because this decline in international trade was often accompanied by decline in global GDP growth – even with GDP decline.
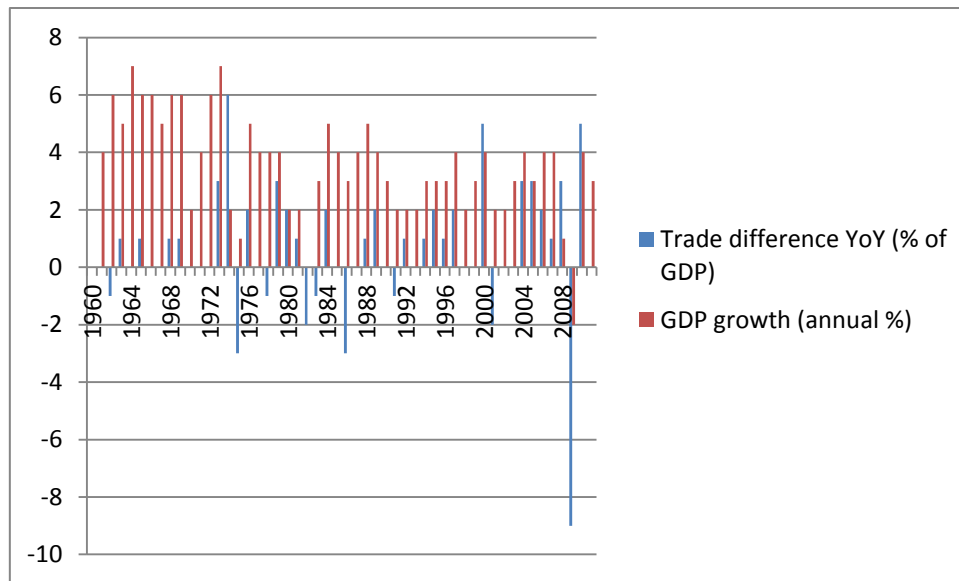
Figure 10: World Trade and global GDP Growth

Source: www.databank.worldbank.org

It can be seen that any slowing down in gross domestic product growth was followed by steep decline in trade growth – not even mentioning recessions, when the slight GDP downswing was accompanied by a much serious decline of the international trade.   Year 2008 be the best sign what might be the effect of GDP decline – 2% decline in global GDP led to 9% decline in international trade. It should be noted that these two effects amplify each other – less trade means less growth, less growth means less trade and so on.

For the basic statistics of this relationship, it can be seen that their correlation is 0,387657. But is it spurious correlation, or causal correlation? Hopefully, this is not the question to answer in this thesis, but should the correlation be causal in this case, then trade finance would play would be much more important public policy issue than it is now, when the view is perplexing.

The central issue of this thesis is trade finance, or its empirical relationships to international trade, regulatory requirements and so on – its role in the economy. The volume of trade finance – trade credit, was reported by the OECD in the years 1991-2003, when the amount of trade credit was stable, albeit slightly increasing:
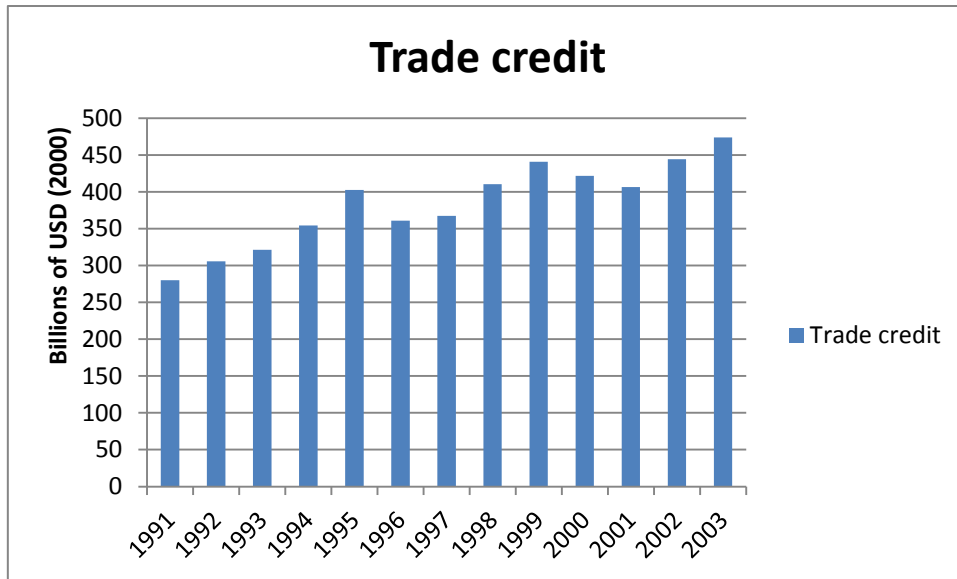
Figure 11: Trade credit

Source: www.jedh.org

The problem is that OECD, respectively Joint External Debt Hub (JEDH), suspended data compilation on trade credit due to resource constraints[3].

Therefore it was necessary to find a proxy for trade credit. The chosen proxy was insured export credit exposure. Information on this insurance is published by the Berne Union, the International Union of Credit & Investment Insurers. This data come in quarterly format, but it was chosen to transform them into yearly data due to the structure of other data. This dataset is broken into different maturities and it is country specific, so the data were transformed into global data regardless of maturity.
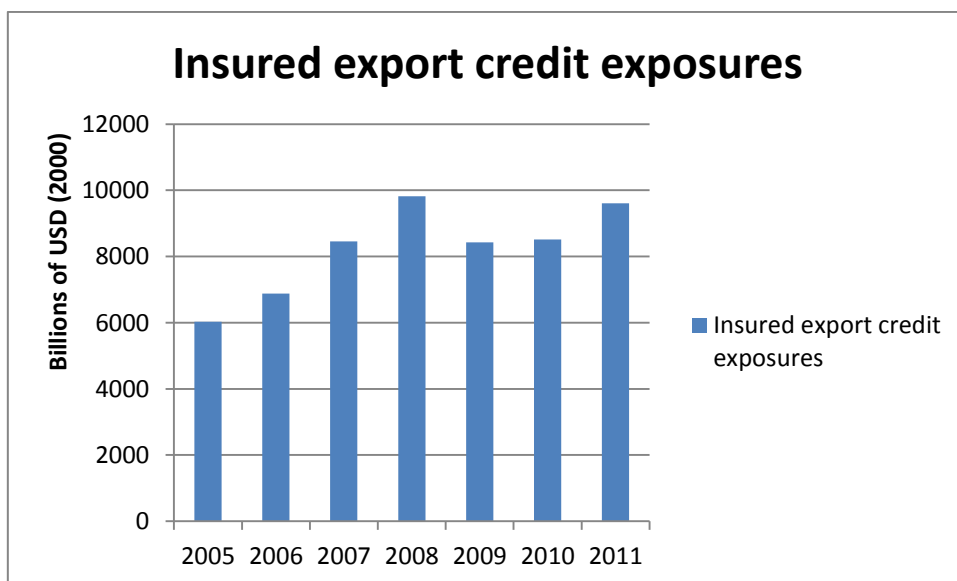

Figure 12: Insured export credit exposures

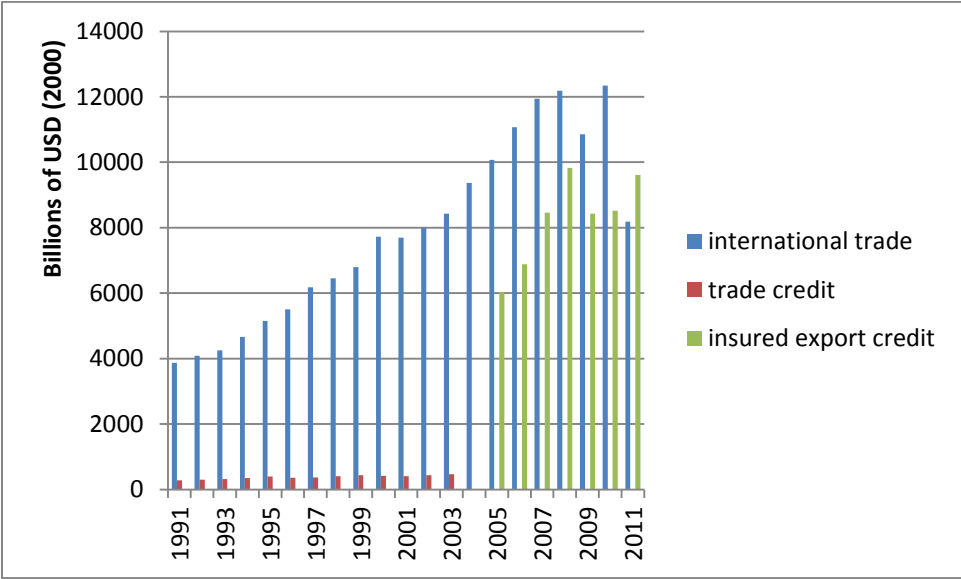[3] http://www.tffs.org/pdf/meet/2011/tffs1115.pdf

Figure 13: International Trade and Trade Finance

Source: www.jedh.org, www.databank.worldbank.com

These data, visualized in the graph, are part of the data that form the dataset for econometric analysis in the following section.

To outline some of the basic insights about international trade and trade finance, it is important to note that there was a steep decline in international trade volume firstly in 2008 and then in 2011, after temporary recovery in 2009-2010. This is the pattern that we nowadays call global economic recession, hitting double bottom. For the trade finance view it is fundamental to answer the question what is the role of trade credit in this decline. Does it matter, or not? To respond this question it would be much easier should the OECD keep reporting trade credit data, but it is not. Therefore we rely on insured export credit exposures as the proxy for trade finance.

This insurance protects exporters from the risks of nonpayments from the foreign buyers. This insurance covers variety of risks that the exporters face: insolvency, bankruptcy, wars, currency inconvertibility risk, expropriation and change in export and import regulation.

In the latter econometric analysis, there are two categories of insured export credit exposures – long term and short term. Short term insured credit exposure has year-long repayment period, while long term insured credit exposure has repayment period prolonged even to five years.

What is important for this thesis is the fact that the insurance agencies are often governmental and their pricing is pro-export, not for profit – it means that it could make trade credit cheaper even with the stiffer regulation.

The first one, opinion survey, is represented by the following graph:
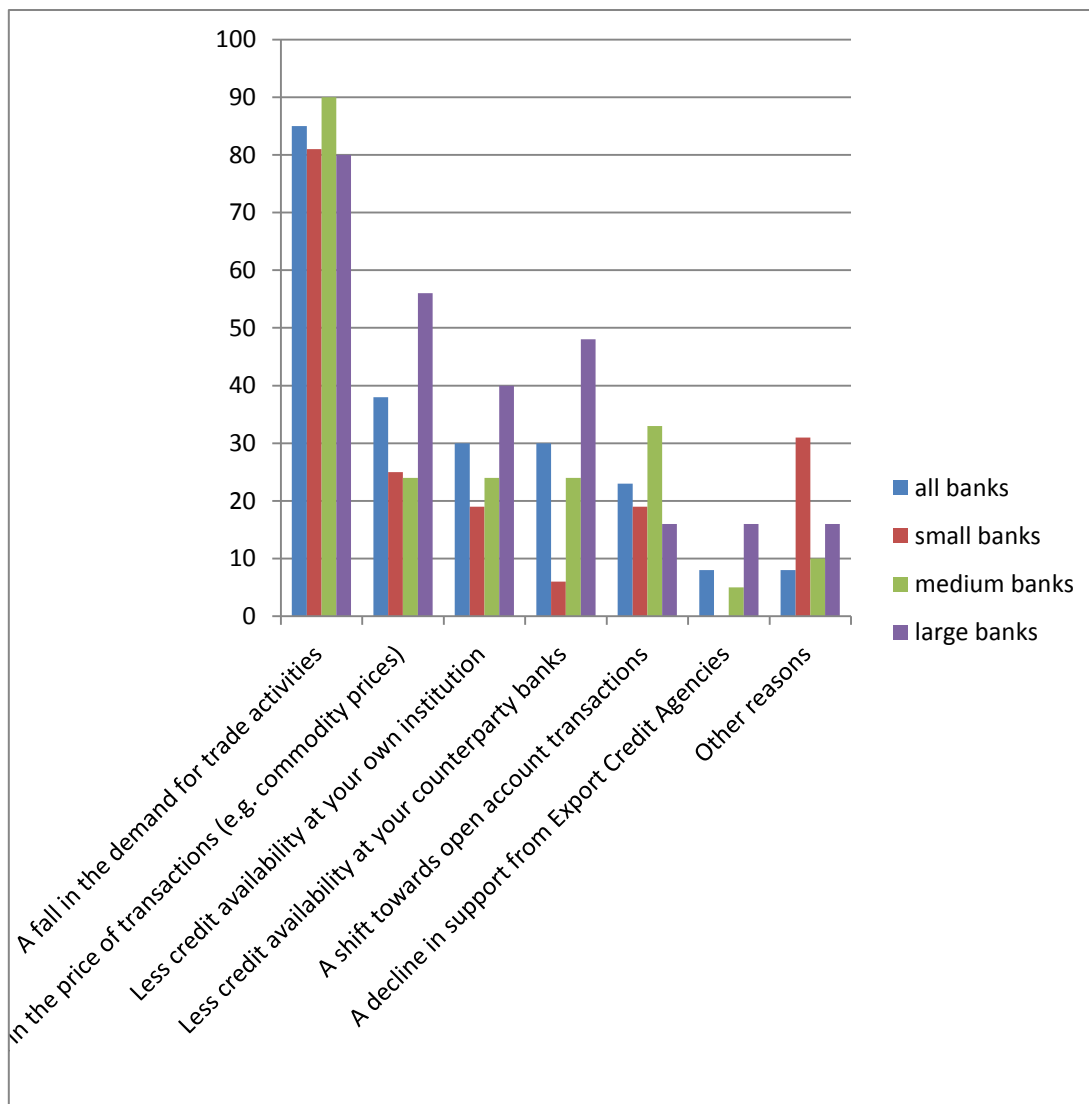
Figure 14: Reasons for the Decline in Value of Trade Finance

Source: IMF/BAFT-IFSA Trade Finance Survey, March 2010

Even though these survey data are not about hard numbers, but more about intuition of the professionals (people in the survey were trade finance professionals from both demand and supply side), it gives a strong hint what is suspected to hurt trade finance – less credit availability.

This is the reason I support in my thesis and it has direct connection to BASEL III discussion – it should lead to further decline in credit usable for trade finance.

The report of several trading houses and market-analysis company Dealogic is enumerating development of market share in the Asian trade finance, which is considered to be the most sensitive market in this regards:
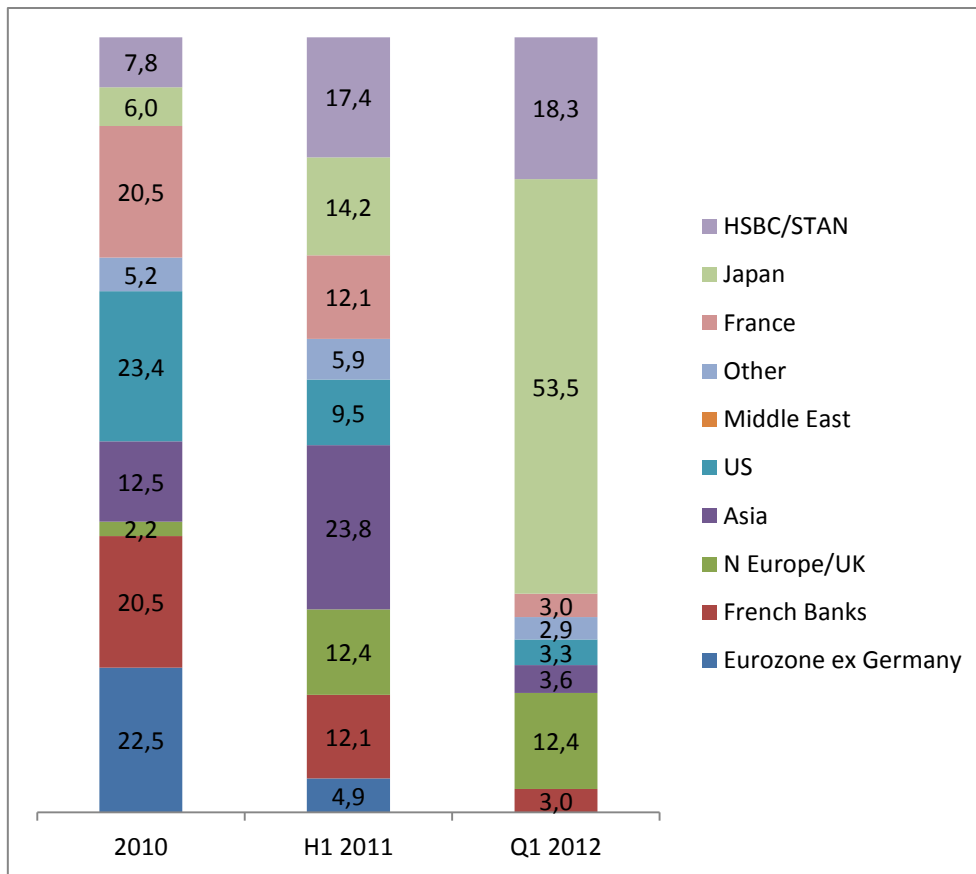
Figure 15: Development of market share in trade finance by supplying banks (%)

Source: Financial Times online, French banks say adieu to Asia, May 16, 2012[4]

This trend was also mentioned in another article, where one of the interviewees, Julien Garran, commodities analyst from UBS, said that "The European banks did not just lend to Europe, they were also among the largest trade finance and commodity finance banks in Asia. While the US and Asian banks may take some market share, [it] will probably be incomplete."[5]

The following graph could say a lot about what is going on in the banking sector in general – French banks are deleveraging and therefore reducing their claims in Asian countries – their position is afterwards taken by the Japanese banks, as it is seen in the graph above. Claims of French banks on big users of trade finance in Asia (billions of current USD)

---

[4] http://ftalphaville.ft.com/blog/2012/05/08/990341/french-banks-say-adie-to-asia/
[5] Commodities trade finance crisis deepens, Financial Times online edition, December 16, 2011 - http://www.ft.com/cms/s/0/0c012fba-27cc-11e1-9433-00144feabdc0.html#ixzz222SaR100
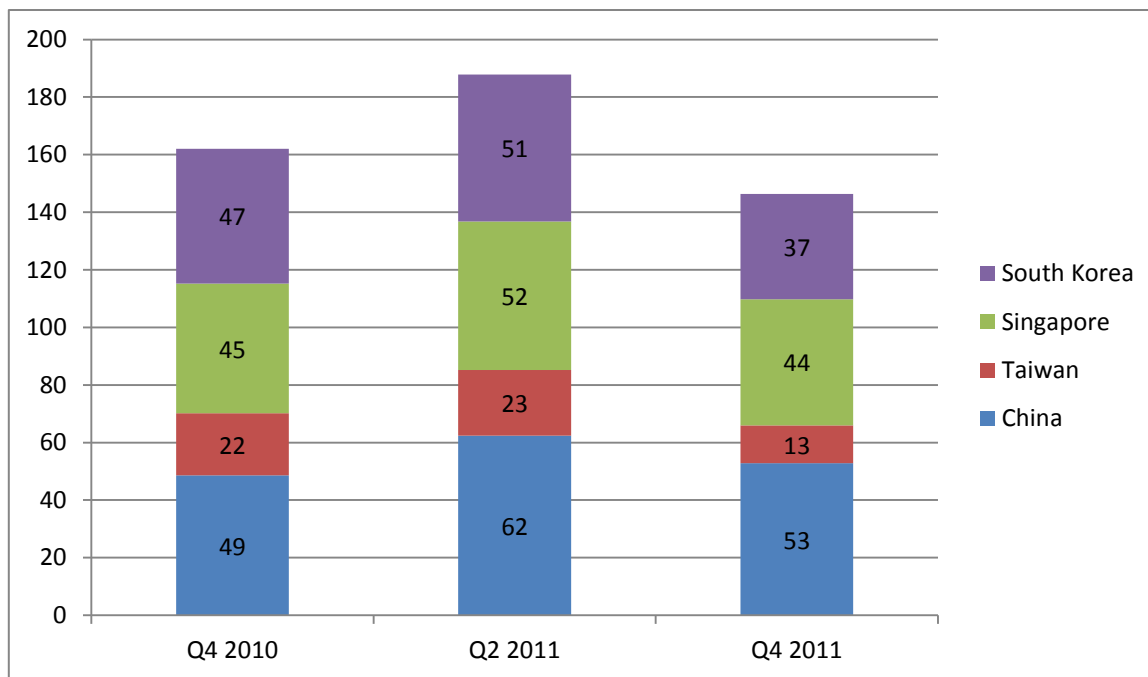
Figure 16: Credit contraction of French banks

Source: www.bis.org

This credit contraction is not due to lesser revenues from these positions – it is due to smaller amount of available capital in these banks. View of the professionals is best seen in the following quote : "There is a persistent market gap in trade financing, one that is exacerbated at the moment".. It was said on 4th May 2012 in the Emerging Markets online magazine[6] by Steven Beck, head of trade finance at the ADB. Another important view was presented by Andrew Swan, Managing Director, Head of Asian Equities at Blackrock : "This idea that the Japanese and Australian banks are filling all of the gaps left by European banks is mostly a myth," he says. "For local Asian banks, they are not filling most of the gaps. There is a credit culture which does not change overnight. I don't see the gaps being filled". This is exactly what is not captured in publicly available data: the professionals claim that trade finance is contracting and it hurts the trade, respectively economic growth.

4.1 Econometric analysis of Trade Finance

In this subchapter, the empirical relationships of trade finance related instruments are estimated.

Data

In the beginning of the analysis, there are two major problems – first of all, trade credit reporting by OECD stopped in 2003 and since then there are no direct trade finance data publicly available, apart from some of the basic banking statistic seen above. The second problem is that even though there is a huge panel dataset of OECD countries with unified reporting standards, the search for instrumental variables in the following analysis was unsuccessful.

---

[6] http://www.emergingmarkets.org/Article/3023191/Financial-Markets/TRADE-FINANCE-Into-the-void.html

The dataset itself come from Worldbank Database, trade finance come from Joint External Debt Hub database and the rest of data comes from World Development Indicators and Global Development Finance database. The data format was .xls, so I merged and formatted them in MS Excel, then importing to Stata 10.1 in .csv format and declaring them panel data, as well as transforming string variables to numerical.

The panel of 28 countries used for the econometric analysis represents more than 82% percent of global trade finance in 2003 (last recorded period), which was deemed to fulfill requirements of the regression analysis. Most of the data was necessary to transform manually as there is a huge problem with data transfer from one data format to another, especially when there is more datasets in different data formats.

Analysis

1991-2003

Basic equation, which accounts for trade-finance related variables, is the Random Effects model:

$$"export = \alpha + \beta * GDPgrowth + \gamma TradeCredit + \varepsilon"$$

With following table

----

export		Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
GDP growth	|	.0068669	.0621994	0.11	0.912	-.1150417	.1287754
Trade Credit	|	-.1551332	.09376	-1.65	0.098	-.3388994	.0286331
GDP per Capita	|	.0209351	.0596377	0.35	0.726	-.0959526	.1378229
Constant	|	297.0612	32.24923	9.21	0.000	233.8539	360.2685

However, even though it passed Hausman test, stating Random Effects model is more significant in its estimators than Fixed Effects model, it still contains some problems.

The first one is the fact that there are insignificant variables in the equation (GDP growth) and the remaining equation is strongly suspected of endogeneity – either from economic theory view (increase in trade credit is needed as value of export increases, not only increase export is a result of increase in trade credit) as well as from empirical point of view – it is strange that increase in trade credit leads to decrease in value of export.

There is n=539 observations and r= 0.0581, then test statistic in this case is:

$$t = \frac{r * \sqrt{(n-2)}}{\sqrt{(1-r^2)}} = 1.34$$

This t-statistic for 537 degrees of freedom accounts for p=0.05 level of 1.96, therefore we cannot reject null hypothesis that there is no relationship between export and trade credit.

The indirect approach to trade finance, through insured export credit exposures, is possible due to availability of these data since 2005. It should be remarked that there is no trade finance related publicly available statistic for year 2004. This data is much more important to this thesis as they cover crisis years and subsequent BASEL II/BASEL III era.

2004-2011

The equation which estimates the effect of Insured export credit exposure, is the Random Effects model in the following form:

$$"export = \alpha + \beta * GDPgrowth + \gamma * InsuranceST + \delta * InsuranceLT + \varepsilon"$$

----

export

GDP growth   0.006

(0.08)

GDP per Capita   -0.020

(0.39)

Insured Export Credit Exposures, ST   -0.237

(1.80)

Insured Export Credit Exposures, LT   0.340

(2.46)*

Constant   232.792

(6.27)**

Number of observations   196

----

* p<0.05; ** p<0.01

This model probably suffers from the same issues as the previous one (endogeneity), but its results are interpretable from the economic point of view – LT trade credit insurance is accompanied by increase in exports, while ST trade credit insurance is accompanied by decrease in exports. This can be due to the fact that each of these insurances has different characteristics from the banking view.

This leads to two hypotheses about export and export credit insurance:

$H_0 1$: "Long Term trade credit insurance is positively correlated with exports"

$H_0 2$: "Short Term trade credit insurance is negatively correlated with exports"

With respective alternative hypotheses:

$H_A 1$: "Long Term trade credit insurance is not positively correlated with exports"

$H_A 2$: "Short Term trade credit insurance is not negatively correlated with exports"

The results are as follows:

For hypothesis H1, export is negatively correlated with long-term insured export credit exposures –

-0.0957 with p-value of 0.0295. Therefore $H_0 1$ is rejected.

For hypothesis H2, export is negatively correlated with short-term insured export credit exposures –

0.0109 with p-value of 0.8041. This correlation is very weak (well below 0.1) and we must perform further computation to obtain relevant test statistic:

There is n=540 observations and r=0.0109, therefore test statistic in this case is:

$$t = \frac{r * \sqrt{(n-2)}}{\sqrt{(1-r^2)}} = 0.2528$$

This t-statistic for 538 degrees of freedom accounts for p=0.05 level of 1.96, therefore the result is well below critical value.

The result is that we cannot reject $H_A 2$, or better to say, there is no statistically significant correlation between the two variables.

To conclude the results of correlation analysis, long-term export credit exposure is slightly negatively correlated with export, while short-term export credit exposure has no statistically significant correlation with export.

5 Conclusion

The analysis of impact of Basel III on trade finance begins with the short introduction of trade finance and their purpose. The second chapter discusses various types of trade finance with focus of letter of credit. Further on, it defines operations connected to the L/C transaction, history of L/C and changes in usage in recent years starting with global financial crisis of 2008/2009.

The part on economic capital and Basel framework starts with the introduction to economic capital, stating what is the role of economic capital and foremost what the economic capital is and what is its relationship to regulatory capital. It continues with definition of economic capital, its demarcation to entrepreneurial as well as regulatory capital, discussing the problem of missing unification in terminology. The most important benefit of this part is putting economic capital into economic context. The ideas and mechanisms presented in this section lies on insight provide by one of the pioneers of economic capital, Gene Guill from Deutsche Bank, but formerly from Bankers Trust´s, institution that came up with the idea of economic capital, measuring its performance with risk factors. His presentation to the audience at the University of Toronto is the most complex view on this problematic to this date.

In the empirical analysis the impact of trade finance and was discussed in broad economic context. Firstly, there is a summary on available data for trade finance analysis, secondly, there is analysis itself. As there is huge gap in data availability, both in its timespan and completeness, meaningful reports from institutions that work in the area of trade finance as well as reports from regulators and international organizations are presented.

The line of analysis starts with the mechanism how trade finance channels into economic growth, going from the top to the bottom:

First, recent economic history of the World is described by the GDP growth, consequently linked to the growth of international trade in relative volume to the GDP. Then the analysis revolves about what is the relationship between GDP and relative volume of international trade, discussing crises and other major economic events. Afterwards the analysis moves to the trade credit issues, describing recent developments of the trade finance, first by trade credit itself, in the timespan 1991-2003, until the OECD stopped to record this data, and then by insured export credit exposures in 1995-2011, which was chosen as the proxy for trade credit due to its nature. These data are afterwards put in the context of international trade. Here the expert opinions and reports start: first, there is a survey from International Monetary Fund from March 2011, asking trade finance professionals what is their opinion why does the volume of trade credit decreases. The most reasonable determinant of this decline in their opinion is the fact that there is less credit available in general. This is further accompanied by the report from Dealogic data, showing that there is a huge credit contraction by the French and other Eurozone banks, which suggests that the reason might really be the need for credit, as it is widely known that French and other Eurozone banks are facing major balance sheet issues, which would be only worsened by stricter regulation due to the BASEL III. The last report, based on data obtained from the Bank for International Settlements, shows in absolute values (the previous one was only in relative values, they consider absolute values confidential) what is going on in the countries, that are stricken the hardest by credit contraction – these four Asian economies (China, Taiwan, Singapore, South Korea) lost 51 billion US dollars out of

188 billion US dollars during second half of 2011. The experts from the field of trade finance, interviewed on their opinion what did happen and what is going to happen in this region univocally claimed that the outflow of credit is not automatically filled in full by local banks (mainly Japanese) and it can hurt (in their opinion it definitely will hurt, but it can be considered an overstatement) these economies, as well as the emerging economies that depend on economic performance of their economically stronger neighbors.

Afterwards, econometric and statistical analysis is performed on the dataset merged from various datasets (Joint External Debt Hub for trade finance, World Development Indicator for macroeconomic variables and so on). In the first part of this analysis the data limitations are discussed, along with possible solutions to this problem. In the analysis itself, there are two regression equations and three statistical hypotheses. The regression equations are both performed as panel regression, in this case after performing Hausman test random effects model of panel regression was chosen. The panel consists of 27 countries over 21 periods, with 12 variables observed. This panel covers 82% of trade credit volume in year 2003 (last year observed). The first regression equation, which ranges over years 1991-2003 is regressing trade credit, along with other variables, on export. The result is that one USD of trade credit on 92% confidence level accounts for 0.155 UDS decrease in exports. This result is against theoretical explanation how does the trade credit influence exports, so I suspect this equation to suffer from endogeneity, as the effect is two-way (less trade credit follows decline in export and less export is due to less trade credit), but I was not able to find any instrumental variable to remedy for this issue. I also performed statistical hypothesis testing on this timespan and variables, obtaining the result that hypothesis with H_0 that there is no correlation between export and trade is not rejected, which is consider as a relatively strong result. The second regression equation estimates the effect of long-term and short-term insured export credit exposures, obtaining also mixed results. Long term insured export credit exposures are estimated to be statistically significant and slightly positive - 0.340 (in the same units – billion of USD) and short term insured export credit exposures are estimated to be statistically insignificant. Therefore I performed two more test of hypotheses, with H_0 that the correlation between export and long term insured export credit exposures is positive and for short term it is negative. For the first hypothesis, H_0 was rejected and the correlation is negative (-0.0957 , but statistically significant) and the second hypothesis was rejected as well, finding out that the correlation between export and short term insured export credit exposures is nonexistent at all.

Final conclusion on the empirical analysis is that there is not enough publicly available data to estimate the effect of BASEL III implementation on trade finance.

Bibliography

Trade Finance and Trade Flows: Panel Data Evidence from 10 Crises. (13. December 2004). *IMF Working Paper 04/225*.

Acemoglu, D. (2008). *Introduction to Modern Economic Growth.* Princeton University Press.

Ahearn, J. (2011). *Basel Impact on Trade.*

Allen and Overy. (4th July 2012). Trade Finance and Basel III. *Report*.

Asmudson, I., Dorsey, T., Khatchatryan, A., & Niculcea, I. (January 2011). Trade and Trade Finance in the 2008-09. *IMF Working Paper 11/16*.

Auboin, M. (1. February 2010). International Regulation and the Treatment of Trade Finance: What are the Issues? . *World Trade Organization Staff Working Paper ERSD-2010-09*.

Baicu, C. (3 2011). The Regulatory Framework of Trade Finance: From Basel I to Basel II. *Annals of Spiru Haret University, Economic Series*, stránky 39-50.

Basel Committee on Banking Supervision. (October 2011). Treatment of trade finance under the Basel capital framework.

Beck, J. (23. December 2010). Trade finance blown off course. *The Banker*.

Bergami, R. (2009). UCP 600 Rules: changing letter of credit business for international traders? . *International Journal for Economics and Business Research, Vol.1 No.2*, 191-203.

Dhaene, J., Goovaers, M., & Kaas, R. (2003). Economic Capital Allocation Derived from Risk Measures. *North American Actuarial Journal, Vol. 7, No. 2*, stránky 44-59.

Goovaers, M., & Laeven, R. (2004). An optimization approach to the dynamic allocation of economiccapital. *Insurance: Mathematics and Economics* , stránky 299-319.

Guill, G. (21. May 2009). *Bankers Trust and the Birth of Modern Risk Management.* Načteno z University of Toronto: http://www.fields.utoronto.ca/programs/cim/08-09/PRMIA/BankersTrustPresentation.pdf

Chauffour, J.-P., & Malouche, M. (66 (September) 2011). Trade Finance during the 2008-2009 Trade Collapse: Key Takeaways. *Economic Premise, World Bank*, stránky 1-6.

Chorafas, D. N. (2004). *Economic Capital Allocation with Basel III.* Burlington: Elsevier.

ICC Comission. (2010). Report on findings of ICC-ADB Register on Trade and Finance - Statistical analysis of risk profile of trade finance products. *Banking Technique and Practice, Document No.470/1147*.

ICC Commission on Banking Technique and Practice. (2010). *ICC Response to the Basel Committee Consultative Document on "Strengthening the Resilience of the Banking System".*

Lall, R. (2009). *Why Basel II Failed and Why Any Basel III is Doomed.*

Lall, R. (2009). Why Basel II Failed and Why Any Basel III is Doomed? *Global Economic Governance Working Paper no.52, Oxford University*.

Levit, J. K. (2007). *A Bottom-up Approach to International Lawmaking: The Tale of Three Trade Finance Instruments.*

Mejstřík, M., Pečená, M., & Teplý, P. (2009). *Basic Principle of Banking.* Praha: Univerzita Karlova v Praze, Nakladatelství Karolinum.

Schmidt-Eisenlohr, T. (2011). Towards a Theory of Trade Finance. *Working Papers 583, Oxford University Centre for Business Taxation*.

U.S. Department of Commerce. (2007). Letters of Credit. V *Trade Finance Guide.*

Internet Resources

Basel III: http://www.asymptotix.eu/content/basel-iii

Basel II: http://www.asymptotix.eu/content/basel-ii

Concordat: http://www.bis.org/publ/bcbs00a.pdf

BCBS: http://www.bis.org/bcbs/

History of letter of Credit: http://infodagang2u.blogspot.cz/2007/11/history-of-letter-of-credit.html

List of Figures