Online ISSN : 2249-4588
Print ISSN : 0975-5853
DOI : 10.17406/GJMBR

Global Journal

of Management and Business Research: C

Finance

Effect of Debt Financing

Financial Crises are Occasional

Highlights

Extent of Corporate Social

Comprehensive Literature Review

Discovering Thoughts, Inventing Future

VOLUME 17 ISSUE 2 VERSION 1.0

Global Journal of Management and Business Research: C
Finance

Global Journal of Management and Business Research: C
Finance

Volume 17 Issue 2 (Ver. 1.0)

Open Association of Research Society

Incorporation No.: 0423089
License No.: 42125/022010/1186
Registration No.: 430374
Import-Export Code: 1109007027
Employer Identification Number (EIN):
USA Tax ID: 98-0673427

Global Journals Inc.

*(A Delaware USA Incorporation with "Good Standing"; **Reg. Number: 0423089**)*

Sponsors: *Open Association of Research Society*
Open Scientific Standards

Publisher's Headquarters office

Global Journals® Headquarters
945th Concord Streets,
Framingham Massachusetts Pin: 01701,
United States of America
USA Toll Free: +001-888-839-7392
USA Toll Free Fax: +001-888-839-7392

Offset Typesetting

Global Journals Incorporated
2nd, Lansdowne, Lansdowne Rd., Croydon-Surrey,
Pin: CR9 2ER, United Kingdom

Packaging & Continental Dispatching

Global Journals
E-3130 Sudama Nagar, Near Gopur Square,
Indore, M.P., Pin:452009, India

Find a correspondence nodal officer near you

To find nodal officer of your country, please email us at *local@globaljournals.org*

eContacts

Press Inquiries: *press@globaljournals.org*
Investor Inquiries: *investors@globaljournals.org*
Technical Support: *technology@globaljournals.org*
Media & Releases: *media@globaljournals.org*

Pricing (Including by Air Parcel Charges):

For Authors:

22 USD (B/W) & 50 USD (Color)

Yearly Subscription (Personal & Institutional):

200 USD (B/W) & 250 USD (Color)

Contents of the Issue

Global Journal of Management and Business Research: C
Finance
Volume 17 Issue 2 Version 1.0 Year 2017
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

How Informationis Transmitted Across the Nations? An Empirical Investigation of the US and Chinese Commodity Markets

By Zi-Yi Guo

Abstract- This paper studies how information is transmitted across nations by focusing on three types of commodities: copper, soybean and wheat. The paper utilizes Johansen cointegration model, vector error correction model (VECM) and the generalized autoregressive conditional hetero skedastic model (GARCH) to investigate the price discovery and volatility spillover process of informationally-linked futures markets. The empirical results indicate that the models provide evidence to support the long-term equilibrium relationships and significant bidirectional information flows between copper futures markets in China and in the United States. Although innovations in one market can predict the futures volatility in another market, the volatility spillovers from U.S. futures to Chinese futures are more significant than the other way around. As for the soybean futures, there is a one-lag price transmission across markets, while no volatility spillover has been detected. As for the wheat futures, no information transmission is found across markets.

Keywords: *information linkage; spillover effect; cointegration.*

GJMBR-C Classification: *JEL Code: C32; G12; G13*

HOWINFORMATIONISTRANSMITTEDACROSSTHENATIONSANEMPIRICALINVESTIGATIONOFTHEUSANDCHINESECOMMODITYMARKETS

Strictly as per the compliance and regulations of:

How Informationis Transmitted Across the Nations? An Empirical Investigation of the US and Chinese Commodity Markets

Zi-Yi Guo

Abstract- This paper studies how information is transmitted across nations by focusing on three types of commodities: copper, soybean and wheat. The paper utilizes Johansen cointegration model, vector error correction model (VECM) and the generalized autoregressive conditional hetero skedastic model (GARCH) to investigate the price discovery and volatility spillover process of informationally-linked futures markets. The empirical results indicate that the models provide evidence to support the long-term equilibrium relationships and significant bidirectional information flows between copper futures markets in China and in the United States. Although innovations in one market can predict the futures volatility in another market, the volatility spillovers from U.S. futures to Chinese futures are more significant than the other way around. As for the soybean futures, there is a one-lag price transmission across markets, while no volatility spillover has been detected. As for the wheat futures, no information transmission is found across markets.

Keywords: information linkage; spillover effect; cointegration.

I. Introduction

The recent financial crisis had witnessed the importance of global coordination for the world economy recovery. Therefore, it would be valuable to study how information is transmitted and shared across the nations. Recently, the term "informationally linked markets" has gained much attention in academia (see Gao and Liu, 2007 and Li and An, 2011). The term refers to markets within which traded assets are fundamentally related to each other. While informationally linked markets are interrelated, they have distinct factors, such as regulations, liquidities, transaction costs, that can affect the price discovery process. Thus, it is important to understand how those informationally linked markets interact with each other through the price discovery process, especially in nowadays when the world economy has never been as integrated. The research in this paper is based on two informationally linked markets: Chinese futures market and U.S. futures market.

Being the world's two major economies, markets in the two countries are, without doubt, interrelated. U.S.-China economic ties have expanded substantially over the past three decades. Total U.S.-China trade rose from $2 billion in 1979 to $579 billion in 2016[1]. China is currently the largest U.S. trading partner, its third-largest export market, and its biggest source of imports. Frequent import and export activities between the two trading partners have significant impact son their spot markets, which, in turn, influence the futures markets. Apart from the international trading connections, there are other reasons that make the futures markets of the two countries interrelated. One is that the futures exchanges in the two countries have more similar than different technological trading system and management arrangement. At the very beginning of China establishing its first futures exchange, it frequently sends expertise to the Chicago Board of Trade and other exchanges to learn both the executive of exchanges and the technology of futures trading from the US. This grants not only the successful establishment of several major futures exchanges in China, but also the two counterparts correlated in many ways. However, there are still significant governmental and legal barriers regarding China's financial market. Studying such a relationship could shed light on the openness of the Chinese commodity markets and on the nature of cross-market information transmission. It could also provide important lessons for various market participants, including commodity traders, hedgers, arbitrageurs, exchanges and regulatory agencies.

II. Literature Review

Without doubt, information spill-over across different markets aroused the interest of researchers in the past few years. Much of the empirical research has focused on the relationship between two countries' equity markets. Garbade and Silber (1979) first conduct the research of short run price behavior of identical assets traded on dominant and satellite markets: NYSE and regional stock exchanges. The results indicate that the regional exchanges are best characterized as satellites, but not pure satellites of the New York Stock Exchange. That is to say, transactions price son regional exchanges do contain information relevant for NYSE traders, but knowledge of the prices of their transactions has effect on the New York market, too. Booth et al. (1996) have studied the relationship among the cross-

Author: e-mail: zachguo0824@gmail.com

[1] Source: US-China Business Council.

exchange prices of Nikkei 225 Index futures that are traded on the Singapore International Monetary Exchange (SIMEX), London International Financial Futures Exchange (LIFFE) and Chicago International Money Market (IMM). They find that the prices of Nikkei 225 Index futures are cointegrated across all of these exchanges. More recent researches on information transmissions are conducted cross border. Grammig and Hujer (2001) analyze equity price quotes originating in New York and Frankfurt to examine the price discovery process. The evidence suggests that there may be some roles for U.S. market price discovery, but the evidence is strongly supportive of prices largely being determined in the home market. Berument and Ince (2005) use a block recursive vector auto regression (VAR) model to capture the dynamic effect of S&P500 return on the Istanbul stock returns. They find that returns on S&P500 affect returns on ISE100 but not vice versa. By using the same model and two out-of-sample tests, Lin (2008) found that the US stock returns have predictive ability for four Asian emerging equity markets. The estimates from weekly data suggest that returns on S&P positively predict stock returns of emerging markets up to three weeks.

Similar factors that provide unique opportunities for the study of equity markets also apply to futures markets, and the same reasons that make this issue of interest to equity investors also make this issue of interest to hedgers and speculations in the future markets. However, not as many studies have analyzed the relationship between two countries' futures markets. Within this limited research, Booth, Lee and T se (1996) studied the relationship among the cross-exchange prices of Nikkei 225 Index futures that are traded on the Singapore International Monetary Exchange, London International Financial Futures Exchange and Chicago International Money Market. They found that the prices of Nikkei 225 Index futures are con integrated across all of these exchanges. Booth, Brockman and T se(1998) also investigated the price discovery and information transmittal process between US and Canadian wheat market using cointegration analysis and error correction models. The results show that both the US and Canadian wheat futures prices are an integrated series of order one, and that the two series are co-integrated. The evidence shows an equilibrium relationship only in long run, while short run dynamics exhibit no such dependencies. Two previous articles have employed the GARCH-type models to examine the daily volatility spillovers between the S&P 500 Index cash and futures markets. Chan, Chan and Karolyi (1991) use abivariate GARCH model with a sampling interval of five minutes. They find the extent of volatility spillover from the futures to stock market similar to that of the stock to futures market and the futures and stock markets serve important and equal price discovery roles. In another article, Koutmos and Tucker(1996) use daily closing prices from 1984 to 1993 and a bivariate EGARCH model. In contrast to the current article and Chan, Chan, and Karolyi (1991), they report aunivariate directional spillover from futures to index, and conclude that the information from the futures market can be used to predict the volatility in the stock market but not vice versa. Tse (1999) has investigated the minute-by-minute price discovery process and volatility spillovers between the DJIA index and the index futures recently launched by the Chicago Board of Trade (CBOT). By examining the volatility spillovers between the markets based on a bivariate EGARCH model, a significant bidirectional information flow is found. Then, Tse and So (2004) have examined the price discovery and spillovers effects among the Hang Seng Index, Hang Seng Index futures, and the tracker fund markets using the Hasbrouck and Gonzalo and Granger common-factor models and the M-GARCH model. The empirical results show that the three markets have different degrees of information processing abilities, although they have cointegrating relationship between each other.

Despite its late introduction into China, Chinese futures markets have grown rapidly and are now playing a significant role in the world commodity markets. Only in the past few years have we seen the emergence of some research. Among those studies, few have focused on the relationship of price discovery among internationally linked markets.

Hua and Chen (2007) studied the relationship between the Chinese and world futures markets of copper, aluminum, soybean and wheat, using Johansen's cointegration test (1988), error correction model, the Granger causality test and impulse response analyses. They discovered that the futures prices in the Shanghai Futures Exchange are cointegrated with the futures prices on the London Metal Exchange (LME) for copper and aluminum. They also find that a cointegration relationship exists for the Dalian Commodity Exchange and CBOT soybean futures prices, but no such relationship for the Zhengzhou Commodity Exchange and CBOT wheat futures prices. Li and Zhang (2009) examined the relationship between the Chinese copper futures market and its London counterparts by constructinga three-regime Markov switching-VECM model. They found that the influence of LME on SFE is bigger than that of SFE on LME. More recently, Hou and Li (2015) used an asymmetric DCC GARCH model to investigate information transmission between U.S. and China index futures markets, and Chen and Weng (2017) applied a VAR-BEKK-Skew-t Model to investigate information flows between the U.S. and China's agricultural commodity futures markets.

In this paper, I use three important futures contracts that are similarly listed on both the U.S. and China markets (copper, soybeans and wheat) to examine the pattern of information flows across the two countries. This study will help us understand more about the role of the U.S. market as a global player in transmitting information flows as the Chinese financial market is becoming an important emerging market in commodity futures trading. With the growth of world trade and globalization of the futures market, we would expect futures prices for the same commodity in different parts of the world to move closely together to reflect the information flows underlying the commodity price.

This paper is different from previous researches in the following ways. First, instead of using market index, as did by most previous research, I choose daily information of individual commodity futures contracts. Market Index is, to some degree, smoothed because it contains different trading products that may be negatively correlated. Individual data can be more volatile than market index. Second, I investigate information transmission not only from developed markets to emerging markets but also the other way around. The financial markets of emerging countries play a more and more crucial role in price discovery process of international markets. China's futures market is steadily expanding, and has become the second largest in the world after the US since 2009.This market presents an interesting case for research.

The remaining part of the paper is structured as follow. Section two provides a brief description of the Chinese futures markets and of the futures contracts that I choose to study. In Section three, I describe the data. Specifically, I select three commodity futures in the Chinese futures exchanges: copper, soybean and wheat. The Chinese copper futures contracts are traded on the Shanghai Futures Exchange (SFE), soybean futures contracts on the Dalian Commodity Exchange (DCE) and wheat futures contracts on the Zhengzhou Commodity Exchange (ZCE). For the corresponding world futures, I use copper, soybean and wheat futures contracts traded on the Chicago Mercantile Exchange (CME). In Section four, I test whether the Chinese and world futures prices are cointegrated. By introducing a Vector-Error-Correlation Model, I study the cointegration of commodity prices in the Chinese futures exchange and its U.S. counterparty. Section five concentrates on volatility spillovers and Section six concludes.

III. Chinese Agricultural Futures Markets and Contracts

a) *Chinese agricultural futures exchange*

There are three futures exchanges in China: the Zhengzhou Commodity Exchange (ZCE), the Shanghai Futures Exchange (SFE) and the Dalian Commodity Exchange (DCE).

Zhengzhou Commodity Exchange was the first experimental futures market which was approved by the State Council, established on October 12, 1990. ZCE, which started with forward contract trading, launched its first futures contracts on five agricultural products - wheat, corn, soybean, green bean and sesame on May 28, 1993. Wheat futures dominated trading on ZCE. Though China's tariff rate on wheat imports is set at a very low level (1% since 1999), its import quota is highly restrictive. Quota and permits are required to import wheat. All imports have to go through the China National Cereals, Oils and Foodstuffs Import and Export Corp.ZCE now specializes in agricultural and chemical product futures, including hard white wheat, strong gluten wheat, sugar, cotton, rapeseed oil and PTA, a petroleum-based chemical product.

SFE was formed from amalgamation of the Shanghai Metal Exchange, the Shanghai Foodstuffs Commodity Exchange, and the Shanghai Commodity Exchange in December 1999. At present, futures contracts underlying commodities, i.e., gold, copper, aluminum, lead, steel rebar, steel wire rod, natural rubber, fuel oil and zinc, are listed for trading. These commodities are regarded by the Chinese government as strategically important industrial inputs and are thus subject to no import quotas or duties. Export of these commodities is still restricted, though export duties have been reduced significantly since 1999.

DCE trades futures contracts underlined by a variety of agricultural and industrial products on a national scale. So far, futures contracts on agricultural products including soybean, soybean oil, corn, palm oil, and soy meal, petroleum-based products including LLDPE and PVC, and energy product coking coal are traded on the Dalian bourse. Soybean futures dominate trading volume son DCE.

All three exchanges use electronic trading systems. Each exchange also maintainsa trading floor. Trades are cleared by each exchange's clearing department. The trading systems all utilize high-capacity optical cables, dedicated datelines and two-way satellite to ensure real time, security and reliability of order processing. I choose representative contracts from each of the three exchanges for studying cointegration of the Chinese futures market and the U.S. futures market.

b) *Chinese agricultural futures underlying products*

i. *Copper*

During the last 10 years, the Chinese copper consumption has grown at about 2.4 times the world average. China is now the largest copper consumer in the world. Consequently, the trading volume in terms of tonnage on the SFE has grown to a level that almost rivals that of the NYMEX, the second largest copper futures exchange next to the LME. In 2010, the ratio of trading volume in the three exchanges is 0.5: 1: 2.9. Prices of copper futures traded on SFE, together with the prices on LME and NYMEX, are now important indicators to copper mining companies around the world.

ii. *Soybean*

China abolished its import quota on soybeans in 1996, but its export quota still exists. China is now the world's largest soybean importing country, while the USA is the largest soybean producer and exporter. Conditions in the USA soybean market, combined with USA agricultural trade policy, can presumably have a significant impact on soybean prices in the Chinese market. The Dalian Commodity Exchange is the largest futures exchange for non genetically modified (non GM) soybeans in the world. In 2002, the trading volume of soybean futures on DCE was over$250 billion, about 25% of the CBOT soybean futures volume but seven times that of the third largest market, the Tokyo Grains Exchange. In 2010, however, DCE exceeds the Chicago Mercantile Exchange (CME) in terms of soybean (both GM and non GM) futures trading volume. Therefore, it is reasonable to hypothesize that US soybean futures prices can also influence Chinese soybean futures prices in a significant way.

iii. *Wheat*

China produces approximately 108,712 TMT[2] (thousand metric tons) of wheat annually. This makes China the world's largest wheat producer. At the same time, China is the world's seventh largest importer of wheat, importing an average of 4,247 TMT of wheat. This is because China has a population of over 1.3 billion people, and domestic consumption in China may surpass its production. Another reason is that variability in production and quality issues also compel China to import a certain quantity of wheat.

Winter wheat is the kind that China imports from the U.S. The United States is the third largest producer of wheat in the world. On average, the United States produces 62,550 TMT of wheat. United States imports, on average, 2,584 TMT and it exports 28,547 TMT, making the U.S. the largest wheat-exporting nation in the world.

The futures market of wheat indicates the demand and supply in the spot market. The futures prices are even more sensitive to import. For example, on December 20th, 2001,a U.S. exporter claimed to have sold 200TMT soft red winter wheat to China. The price of soft wheat futures traded in CBOT soured and reached a historical high level. The characteristics of the wheat markets in China and U.S. represent a possible interactive relationship between the two markets.

Government policy affects patterns of information flows. The commodities copper, soybean and wheat are subject to different levels of government regulation in China. Table 1 displays the import duty and value added tax for copper, soybean and wheat imports to China. Agricultural products such as soybean and wheat evidence stronger protection from government compared with copper. Moreover, different from soybean and copper, wheat has an import quota that has been set at 9.64 million tonnes. The import duty that excess quota is 65%.

Table1: Import duty and value added tax of copper, soybean and wheat in China.

Commodity	Import duty			
	most favored nation		Regular	Valued added
	within quota	excess quota		
copper	No quota	0%	0%	17%
soybean	No quota	3%	180%	13%
wheat	1%	65%	180%	13%

IV. Data and Summary Statistics

a) Data

I chose copper, soybean and wheat futures contract traded on SFE, DCE and ZCE respectively and all three contracts traded on CME. The three contracts are all among the first futures contracts listed in the futures exchanges and they have been very actively traded since then. Table 2 summarized the characteristic of futures contracts traded in different exchanges.

Using daily settlement prices, similar as in Guo (2016) I constructed a nearby futures price series. Futures' series are different from equity's because futures are of different contracts and equity is a continuous time series itself. The method is as following: first, identify the nearby futures contract, which is the nearest actively traded contract to spot month. Then use the settlement prices of the nearby contract until it reaches the first day of delivery month. At this point, we use the contract of the next nearby month. The reason to use nearby contracts is that they are the most actively traded and liquid contracts.

[2] (source: http://www.fao.org/statistics/en/)

Table 2: Structures of the futures contracts of copper, aluminum, soybean and wheat traded in CME, SFE, DCE, and ZCE

Commodit	**Copper**		**Soybean**		**Wheat**	
Exchange	CME	SFE	CME	DCE	CME	ZCE
Trading Unit	25,000 pounds	5 tons	5,000 bushels	10 tons	5,000 bushels	10 tons
Pricing Unit	U.S. Cents/pound	Yuan/ton	U.S. Cents/pound	Yuan/ton	U.S. Cents/pound	Yuan/ton
Tick Value	0.05 Cents/pound	10 Yuan/ton	0.025 Cents/pound	1 Yuan/ton	0.025 Cents/pound	1 Yuan/ton
Daily Price limit	N/A	< 3% of previous settlement price	N/A	< 4% of previous settlement price	N/A	< 4% of previous settlement price
Contract Month	January-December	January-December	January, March, May, July, August, September, November	January, March, May, July, August, September, November	March, May, July, September, December	January, March, May, July, August, September, November
Termination of Trading	3rd last business day of the trading month	15th of the trading month	15th of the trading month	10th of the trading month	15th of the trading month	last 7th trading day of the trading month
Delivery Period	Any business day beginning on the first day of delivery month	16th to 22th of the trading month	2nd business day folling the last trading day of the delivery month	7th day after the last trading day of the trading month	2nd business day following the last trading day of the delivery month	1st to last trading day of the trading month
Settlement Type	Physical delivergy	Physical delivergy	Physical delivergy	Physical delivergy	Physical delivergy	Physical delivergy
Trading Hours	CME Globex:		CME Globex:		CME Globex:	
	Sunday-Friday, 6:00pm-5:15pm (5:pm-4:15pm Central Time) with a 45-minute break each day beginning at 5:15pm (4:15 CT)	Monday-Friday, 9:00am-11:30am, 1:30pm-3pm	Sunday-Friday, 6:00pm-7:15pm, 9:30am-1:15pm	Monday-Friday, 9:00am-11:30am, 1:30pm-3pm	Sunday-Friday, 6:00pm-7:15pm, 9:30am-1:15pm	Monday-Friday, 9:00am-11:30am, 1:30pm-3pm
	CME ClearPort:		Open Outcry:		Open Outcry:	
	Sunday-Friday, 6:00pm-5:15pm (5:pm-4:15pm Central Time) with a 45-minute break each day beginning at 5:15pm (4:15 CT)		Monday-Friday, 9:30am-1:15pm Central Time		Monday-Friday, 9:30am-1:15pm Central Time	
	Open Outcry:					
	Monday-Friday, 8:10am-1:00pm (7:10am-12:00pm Central Time)					

Because of the availability of data, the time periods I chose for the three contracts are not the same. Data of copper futures used by this paper are the daily settlement prices from 2 January 2008 to 15September 2011 obtained from the website of the Shanghai Futures Exchange and Wiki posit. Data of soybean futures are the daily settlement prices from 4 January 2006 to 30December 2011 obtained from the website of the Dalian Commodity Exchange and Wiki posit. As of wheat futures, I used the daily settlement prices from 4 January 2006 to 30 October 2009 obtained from the website of the Zhengzhou Commodity Exchange and Wiki posit.

In order to make the data comparable, I deleted non matching data caused by different holidays and consolidated the quotation units of the data. Quotation unit for copper futures contracts traded on CME is US cents/pound and quotation units for soybean and wheat on CME are US cents/bushel. All Chinese futures contracts are quoted as Yuan/ton. I converted the quotations for copper to US dollar/pound and quotations for soybean and wheat to US dollar/ton. I use daily exchange rate to convert Chinese Yuan to US dollar. The historical exchange rate data is obtained from Wiki posits.

Table 3: Symbols

CCU	Copper futures traded on Chicago Mercantile Exchange (CME)
SCU	Copper futures traded on Shanghai Futures Exchange (SFE)
CSS	Soybean futures traded on Chicago Mercantile Exchange (CME)
DSS	Soybean futures traded on Dalian Commodity Exchange (DCE)
CWT	Wheat futures traded on Chicago Mercantile Exchange (CME)
ZWT	Wheat futures traded on Zhengzhou Commodity Exchange (ZCE)

b) Summery Statistics

Table 4 presents the descriptive statistics of copper, soybean and wheat contracts traded in China and the US. We notice that the prices are not normally distributed. Rather, copper and soybean prices are negatively skewed and wheat prices are positively skewed. All the excess kurtosis of the six time series is negative, which is at odds with conventional wisdom of heavy-tailed distribution for financial data, such as in Babbs and Guo (2016). Copper and soybean futures in China and US are significantly positively correlated.

Table 4: Descriptive statistics

Commodity	Copper		Soybean		Wheat	
Location	US	China	US	China	US	China
Mean	3.6739	3.2288	372.2443	536.2280	218.8540	223.6881
Standard Error	0.0308	0.0289	2.6595	3.5463	2.4161	1.2557
Standard Deviation	0.8928	0.8367	99.7564	133.0219	72.3209	37.5869
Kurtosis	-0.5095	-0.5798	-0.9677	-0.5761	-0.0007	-1.3925
Skewness	-0.5681	-0.5784	-0.0458	-0.2057	0.8735	0.1238
Correlation	0.99057285□		0.938801729		0.3734	

Figure 1 to Figure 3 plot the price moving trend of copper, soybean and wheat futures. From the trend above, we can see similar moving patterns for copper and soybean futures, which indicate a long run relationship. However, there seems to be no such pattern in wheat futures.

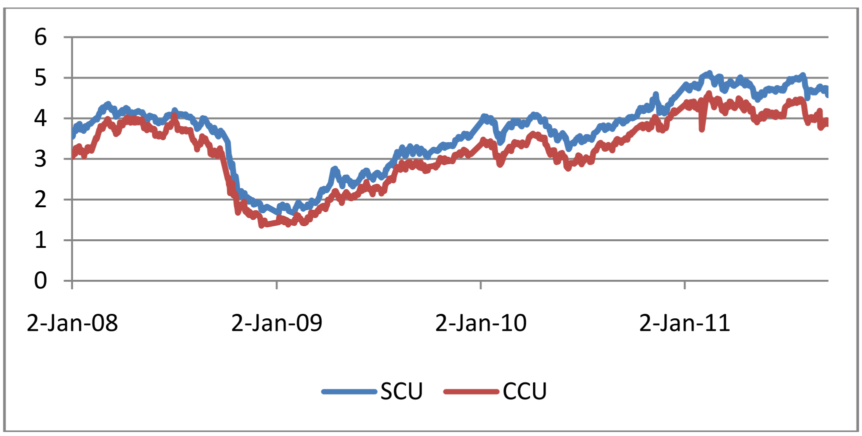


Figure1: Price dynamics of copper futures

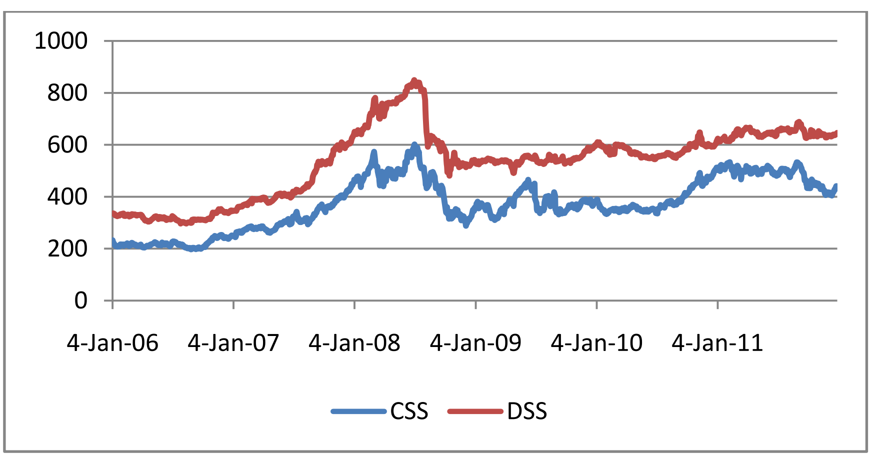


Figure 2: Price dynamics of soybean futures

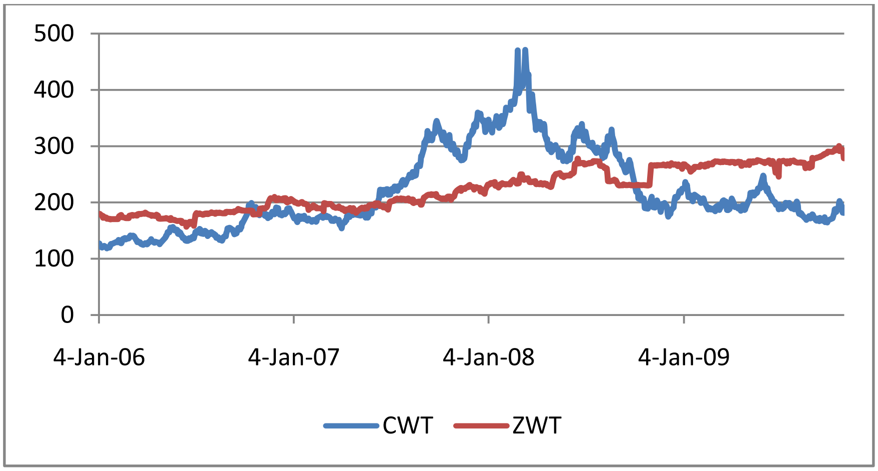


Figure 3: Price dynamics of wheat futures

IV. Methodology

a) Cointegration Test

Before testing for cointegration, each individual price series should be examined for I(1) first. The commonly used methods to test for the presence of unit roots are the Augmented Dickey-Fuller (ADF) unit root tests (1981). ADF test correlation by assuming that the series follow an AR(p) process and adding lagged difference terms of the dependent variables. Unit root can be tested by the ADF model, which is primarily concerned with the estimate ofθ. In the following equation, wetest the null hypothesis of $\theta = 0$ against the alternative hypothesis of$\theta < 0$:

$$\Delta y_t = \mu + \delta t + \theta y_{t-1} + \sum_{i=1}^{k} \rho_i \, \Delta y_{t-1} + \varphi_t,$$

Where Δ denotes the first difference, $y_t$is the time series being tested, *t* is the time trend variable, and *k* is the number of lags which are added to the model to ensure that the residuals, φ_t are white noise. The result of not rejecting the null hypothesis implies that the series is non-stationary; whereas rejection of the null indicates the time series is stationary. If the series is non-stationary and the first difference of the series is stationary, the series contains a unit root.

If the futures prices are integrated of the same order, in this case, I (1), Johansen's cointegration tests can then be conducted.

$$\Delta Y_t = c + \exists Y_{t-1} + \sum_{i=1}^{k-1} \cup_i \, \Delta Y_{t-i} + \delta_t,$$

Where Δ is a symbol of difference operator. $\delta_t$is a 2*1 vector of residuals. The VECM has information about the short-and long-run adjustment to changes in Y_t via the estimated parameters $\exists$and $\cup_i$. Here, the expression $\exists Y_{t-1}$ is the error correction term and $\exists$ can be factored into two separate matrices$\alpha$and β, such as $\exists = \alpha\beta'$ where β' denote the vector of cointegrating parameters while α is the vector of error correction coefficients measuring the speed of convergence to the long run steady state.

Johansen suggested two test statistics to test the null hypothesis that there are at most *r*cointegration vectors. The null hypothesis is the rank of the coefficient matrix: $\exists$, is at most r, for r = 0, 1, L … n -1 . The cointegration test is done by applying the methodology proposed by Johansen (1988) based on the trace and maximal eigen value statistics.

$$\tau_{trace} = -T \sum_{i=r+1}^{n} \ln(1 - \tau_i)$$

$$\tau_{max-eigen} = -T\ln(1 - \tau_{r+1})$$

where$\tau_1 \ldots \tau_r$ are *r* largest squared correlations between the residuals obtained by regressing ΔY_t andΔY_{t-1}on $\Delta Y_{t-1}, \Delta Y_{t-2}, \ldots \Delta Y_{t-k-1}$ and 1. In this case, the null hypothesis should be tested for r≤0 and r≤1. If r≤0 cannot be rejected, we will conclude that there is no co integration. If r≤0 is rejected and r≤1 is not rejected, it says that there is a co integration relationship.

b) Vector Error Correction Model

This section presents the Vector Error Correction model (Engle and Granger, 1987) to analyze price transmission between markets in the two countries. If futures contracts traded in China and US are co integrated, they can be represented by the following model:

$$\Delta UF_t = a_1 + b_1 Z_{t-1} + \textstyle\sum_{i=1}^{p} c_{1,i} \, \Delta UF_{t-i} + \sum_{i=1}^{q} d_{1,i} \Delta CF_{t-1} + \epsilon_{1,t} \quad (1)$$

$$\Delta CF_t = a_2 + b_2 Z_{t-1} + \textstyle\sum_{i=1}^{p} c_{2,i} \, \Delta CF_{t-i} + \sum_{i=1}^{q} d_{2,i} \Delta UF_{t-1} + \epsilon_{2,t}. \quad (2)$$

UF and CF represent the daily prices of futures traded in Chinese and US futures markets respectively. $Z_{t-1} = UF_{t-1} - \vartheta CF_{t-1}$, is the error correction term and $\epsilon_{1,t}$ and $\epsilon_{2,t}$ are white noise.

This approach is widely used in the literature to describe price interactions among various informationally linked markets (see Booth et al., 1999), as it captures both short and long term effects of information flow across markets. In particular, short term effects are captured by cross market lagged returns in the equations and long term effects are reflected long term equilibrium error correction terms, defined as the difference in the last period's price between the two markets. One important thing is to understand that price discovery refers to the impounding of new information into the price. When one market is considered leading the other in information transmission, it means information disseminates first in this market. However, it does not necessarily imply that this market is the original source of information.

c) Volatility spillovers

Volatility is another important source of information. An examination of volatility spillover can help us further in understanding information transmission process across markets. Considering a multivariate GARCH (1,1) model:

$$\sigma_{1,t}^2 = \omega_1 + \alpha_1 \sigma_{1,t-1}^2 + \beta_1 \varepsilon_{1,t-1}^2 + \gamma_1 \varepsilon_{2,t-1}^2 \quad (3)$$

$$\sigma_{2,t}^2 = \omega_2 + \alpha_2 \sigma_{2,t-1}^2 + \beta_2 \varepsilon_{2,t-1}^2 + \gamma_2 \varepsilon_{1,t-1}^2. \quad (4)$$

The terms ε_1 and ε_2 in the above equations are residuals from equation (1) and (2). In equation (3) and (4), the conditional volatility is influenced not only by past residual shocks from its own market, but also by those from the other market. Volatility spillover are measured by coefficients γ_1 and γ_2.

V. Empirical Results

Cointegration analysis is conducted to detect long-run and short-run relationship before examining the price discovery process and volatility spillover. Based on the AIC criterion, I find the model has lowest AIC at two lags. ADF unit root tests are done before the cointegration tests.

Table 5 presents the result of ADF unit root tests. It indicates the existence of unit root in each of the log futures price series. Further, test result shows that all the series are stationary after the first order difference, which indicates that all the time series follow *I*(1) process.

Table 5: The Augmented Dickey-Fuller (ADF) unit root tests

	copper		soybean		wheat			critical values		
no trend	CCU	SCU	CSS	DSS	CWT	ZWT		1% level	5% level	10% level
log prices	0.0418	0.3050	0.8052	1.2143	0.3601	1.207		-2.567	-1.941	-1.617
First difference	-33.5057	-27.6224	-36.7441	-17.9937	-29.815	-34.238				
with trend	CCU	SCU	CSS	DSS	CWT	ZWT		critical values		
log prices	-1.4007	-1.2911	-1.7931	-1.3637	-1.1956	-3.938		-3.965	-3.413	-3.129
First difference	-33.4824	-27.6187	-36.7486	-17.0552	-29.860	-34.252				

Since all the time series of futures prices follow I (1), I can test the cointegration relationship across markets. The results of cointegration test for the copper, soybean and wheat futures price data series are presented in table 6. For copper futures, both the trace and maximal eigen value tests significantly reject the null hypothesis of none cointegration vectors, whereas the test fails to reject the null hypothesis of one cointegration. For soybean futures, there is one cointegration equation at 5% significant level according to the trace test, but no cointegration relationship has been detected based on the maximal eigen value test There is no cointegration relationship for Wheat futures.

Global Journal of Management and Business Research (C) Volume XVII Issue II Version I Year 2017

Table 6: The Johansen con integration test

	Null Hypothesis	Statistics		5% critical value	
		trace	max-eigen	trace	max-eigen
copper	r≤0	28.56144*	27.57577*	15.4947	14.2646
	r≤1	0.985674	0.985674	3.8415	3.8415
soybean	r≤0	16.09256*	13.9663	15.4947	14.2646
	r≤1	2.126257	2.126257	3.8415	3.8415
wheat	r≤0	4.651628	3.57155	15.4947	14.2646
	r≤1	1.080078	1.080078	3.8415	3.8415

This result is consistent with results from previous research. Hua and Chen (2007) examine the co integration relationship using data ranging from January 1998 to 31 December 2002 and January 1998 to 31 December 2004. They both receive that result of no cointegration of wheat futures between China and US. Since wheat is the staple food in China and the government has more control over it than other commodity products, it is not hard to understand the non-cointegration relationship.

Estimation result from the VECM model for copper futures series are reported in Table 7. A number of observations can be derived from the estimation results. First of all, at a 5% significant level, only the coefficient of error correction term in SCU equation is significant. This implies that the error correlation term is important in explaining the price discovery process for Chinese copper futures market. This demonstrates the leading role of US copper futures market in processing information. In equation (2), the coefficients of both lags of US copper futures market are significant at 1%. We can interpret from this result that US market has an impact on the price discovery process of Chinese copper futures market. In equation (1), the coefficient of first lag of SCU is significant at 1% and the coefficient of second lag is not. This implies that Chinese copper futures market has a shorter term lagged impact US copper futures market than US to China. Another interesting finding is the impact that the past information has to its own country is negative whereas the impact to the other country is always positive.

Table 7: VECM estimation results for copper futures; ** refers to 5% level of significance.

Dependent Variables	Explanatory variables			
	ΔCCU		ΔSCU	
	Coefficient	t-stat	Coefficient	t-stat
Z_{t-1}	-0.032	-1.190	0.069**	3.879
ΔCCU_{t-1}	-0.207**	-4.727	0.360**	12.476
ΔCCU_{t-2}	-0.085	-1.912	0.170**	5.797
ΔSCU_{t-1}	0.159**	2.745	-0.218**	-5.725
ΔSCU_{t-2}	0.072	1.480	-0.008	-0.250
c	0.001	0.308	0.001	0.465

Table 8 presents the VECM result of soybean futures market. At a 5% significant level, coefficients of error correction term in both equations are significant, -0.012 (t-value = -1.981) and 0.008 (t-value = 2.516). This indicates a bidirectional error correction process between the two futures markets. In both equations, only coefficients of first lag across market impact are significant. The impact from U.S. soybean market to Chinese soybean market is bigger than the other way round.

Global Journal of Management and Business Research (C) Volume XVII Issue II Version I Year 2017

Table 8: VECM estimation results for soybean futures; ** refers to 5% level of significance.

Dependent Variables	Explanatory variables			
	ΔCSS		ΔDSS	
	Coefficient	t-stat	Coefficient	t-stat
Z_{t-1}	-0.012	-1.981**	0.008**	2.515
ΔCSS_{t-1}	0.048	1.699	0.213**	14.503
ΔCSS_{t-2}	0.007	0.218	0.026	1.663
ΔDSS_{t-1}	-0.124**	-2.366	-0.633**	-2.292
ΔDSS_{t-2}	0.090	1.836	0.053**	2.071
c	0.0005	0.916	0.0004	1.326

The overall results of VECM in both copper and soybean futures markets show that the U.S. and Chinese markets are informationally linked on daily price basis. There is a bidirectional relationship between the two markets and the relationship is asymmetric. US copper and soybean futures market has a stronger impact to Chinese soybean and copper futures market than Chinese market to U.S. market.

Table 9: GARC Hestimation results for copper futures; **refers to 5% level of significance.

copper			
Variable	Coefficient	z-Statistic	Prob.
ω_1	0.000114**	6.864283	0.00000
β_1	0.134492**	3.090528	0.00200
α_1	0.420052**	7.938181	0.00000
γ_1	0.699133**	8.77136	0.00000
ω_2	-0.0000012	-0.736315	0.46150
β_2	0.023959	1.448998	0.14730
α_2	0.739359**	35.63051	0.00000
γ_2	0.105589**	8.721536	0.00000

The coefficients of importance in the bivariate GARCH (1, 1) model are γ_1 and γ_2. They capture the volatility spillover from one market to the other. In Table 9, the corresponding volatility-spillover coefficients are all significant at 5% significance level. This result implies strong interactions between the two countries' copper futures markets. Table 10 represents the volatility spillover for the soybean markets. Different from copper futures, we can see that there is no significant feedback effect between the two markets for soybean futures.

Table10: GARCH estimation results for soybean futures; **refers to 5% level of significance.

soybean			
Variable	Coefficient	z-Statistic	Prob.
ω_1	0.000132**	5.057478	0.00000
β_1	0.737435**	7.579515	0.00000
α_1	0.259663**	5.343434	0.00000
γ_1	0.000136	0.255335	0.79850
ω_2	0.000127**	5.184467	0.00000
β_2	0.791866**	7.241912	0.00000
α_2	0.213742**	3.485253	0.00050
γ_2	0.001048	0.804272	0.4212

VI. Conclusion

Given the rapid development of the Chinese futures market and the competition and cooperation among futures exchanges, it is important to understand the international linkage between the Chinese futures market and other international futures markets. This paper examines the price discovery process and volatility spillover in the Chinese futures market and the U.S. futures market. In particular, I investigate the lead-lag relationships using the VECM model and the GARCH (1,1) models. By choosing one representative futures contract, I find a consistent result with previous research about the information transmission process. It shows that the price series of copper futures and soybean futures are cointegrated across markets. For copper futures, there is a bidirectional relationship between the two markets and the relationship is asymmetric. The US copper futures market has a stronger impact on the Chinese copper futures market than the other way around. As for the soybean futures, there is a one-lag price transmission across markets. However, no volatility spillover has been found for soybean futures markets. Wheat futures traded in the two countries are not cointegrated. The Chinese wheat futures prices are more likely to be determined by domestic demand and supply condition. This is consistent with the observation that imports and exports of wheat are highly restricted with high tariff rates and quotas in China.

References Références Referencias

1. Babbs, S. Guo, Z. (2016) "Empirical performance of GARCH models with heavy-tailed innovations," mimeo.
2. Berument, H., Ince, O. (2005) "Effect of S&P500's return on emerging markets: Turkish experience," *Applied Financial Economics Letters* 1, 59-64.
3. Beck, S. (1994) "Cointegration and market efficiency in commodities futures markets," *Applied Economics* 26, 246-257.
4. Booth, G., Lee, T., Tse, Y. (1996) "International linkages in Nikkei stock index futures markets," *Pacific-Basin Finance Journal* 4, 59-76.
5. Booth, G., Brockman, P., Tse, Y. (1998) "The relationship between US and Canadian wheat futures," *Applied Financial Economics* 8, 73-80.
6. Booth, G., So, R., T se, Y. (1999) "Price discovery in the German equity index derivatives markets," *Journal of Futures Markets* 19, 619-643.
7. Chan, K., Chan, K., Karolyi, A. (1991) "Intraday volatility in the stock index and stock index futures markets," *Review of Financial Studies* 4, 657-684.
8. Chen, Q., Weng, X. (2017) "Information flows between the US and China's agricultural commodity futures markets – based on VAR-BEKK-Skew-t Model," *Emerging Markets Finance and Trade*, forthcoming.
9. Dickey, D., Fuller, W. (1981) "Likelihood ratio statistics for autoregressive time series with a unit root," *Econometrica* 49, 1057-1072.
10. Engle, R., Granger, C. (1987) "Co-intragration and error correction: representation, estimation, and testing," *Econometrica* 55, 251-276.
11. Gao, J., Liu, Q. (2007) "The information transmission between LME and SHFE in copper markets," *Journal of Financial Studies* 2, 63-73.
12. Garbade, K., Silber, W. (1979) "Dominant and satellite markets: a study of dually-traded securities," *Review of Economics and Statistics* 61, 455-460.
13. Grammig, J., Hujer, R. (2001) "Forecasting intra-day return volatility using ultra-high-frequency GARCH: does the duration model matter?" *Econometric Studies: A Festschrift in Honor of Joachim Frohn* 8, 203-245.
14. Guo, Z. (2016) "Models with short-term variations and long-term dynamics in risk management of commodity derivatives," mimeo.
15. Hua, R., Chen, B. (2007) "International linkages of the Chinese futures markets, "*Applied Financial Economics*17, 1275-1287.
16. Hou, Y., Li, S. (2016) "Information transmission between U.S. and China index futures markets: an asymmetric DCC GARCH approach," *Economic Modelling* 52, 884-897.
17. Johansen, S., (1988) "Statistical analysis of cointegration vectors," *Journal of Economic Dynamics and Control* 12, 231-254.
18. Koutmos, G., Tucker, M. (1996) "Temporal relationships and dynamic interactions between spot and futures stock markets," *Journal of Futures Markets* 16, 55-69.
19. Li, X., Zhang, B. (2009) "Price discovery for copper futures in informationally linked markets," *Applied Economics Letters* 16, 1555-1558.
20. Lin, J.(2008)"Are stock returns on the US used as an exogenous predictor to the Asian emerging equity markets," *Applied Economics Letters* 3, 235-237.
21. Liu, Q., An, Y. (2011) "Information transmission in informationally linked markets: Evidence from US and Chinese commodity futures markets," *Journal of International Money and Finance* 30, 778-795.
22. Tse, Y. (1999) "Price discovery and volatility spillovers in the DJIA index and futures markets," *Journal of Futures Markets* 8, 911-930.
23. Tse, Y., So, R. (2004) "Price discovery in the hang seng index markets: Index, futures, and the tracker fund," *Journal of Futures Markets* 24, 887-907.

This page is intentionally left blank

Global Journal of Management and Business Research: C
Finance
Volume 17 Issue 2 Version 1.0 Year 2017
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

The Extent to Which Financial Crises Are Occasional and the Role of Collateralised Derivatives in the Global Financial Crisis

By Stanyo Dinov

Abstract- The article aims to explore to which extent financial crises occur periodically and under what particular conditions, or whether they are occasional and unpredictable. By recalling some of the financial crises from the last century, using historic and systematic approach of investigation the article analyses the factors and the events which stimulate a financial crisis. Particular attention is pointed at the last global financial crisis and one of its reasons, namely the collateralisation of the derivatives of mortgage loans on the US property market. In this regard, different factors are compared, such as the partabolishment of the Brett on Woods agreement and its replacement with a floating currency system, the development of new innovative financial products, the deregulation of the financial markets and the increase of debt in the private sector. The work examines common patterns stimulating financial crises and at the end gives answers to what extend financial crises can be predictable.

GJMBR-C Classification: JEL Code: F65

THEEXTENTTOWHICHFINANCIALCRISESAREOCCASIONALANDTHEROLEOFCOLLATERALISEDDERIVATIVESINTHEGLOBALFINANCIALCRISIS

Strictly as per the compliance and regulations of:

The Extent to Which Financial Crises Are Occasional and the Role of Collateralised Derivatives in the Global Financial Crisis

Stanyo Dinov

Abstract- The article aims to explore to which extent financial crises occur periodically and under what particular conditions, or whether they are occasional and unpredictable. By recalling some of the financial crises from the last century, using historic and systematic approach of investigation the article analyses the factors and the events which stimulate a financial crisis. Particular attention is pointed at the last global financial crisis and one of its reasons, namely the collateralisation of the derivatives of mortgage loans on the US property market. In this regard, different factors are compared, such as the part-abolishment of the Brett on Woods agreement and its replacement with a floating currency system, the development of new innovative financial products, the deregulation of the financial markets and the increase of debt in the private sector. The work examines common patterns stimulating financial crises and at the end gives answers to what extend financial crises can be predictable.

I. Introduction and Purpose

In the following paper, it is investigated whether financial crises (FCs) follow are depended pattern on certain factors. In this regard, attention is paid to the reasons for the FC of 2007/8 and to events and changes inevitable in the modern market system. Representing the facts of the last global financial crisis and comparing some of the past FCs with the most recent one, the article tries to outline factors and characteristics which lead to the outbreak of the FC. The most important conclusions and new regulatory proposals will be outlined at the end.

II. Financial Crises, Dependency and Factors Causing Them

FCs are common in market economies, and relatively frequent.[1] They are the norm in emerging and advanced industrial economies. FCs are a commonplace and creatures of habit.[2] Most of the industrial western societies were troubled by cycles of FCs during the last century.

Author: e-mail: stdinov@abv.bg.

[1] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 29.

[2] Roubini N. and Mihm S., *Crisis Economics*, (London 2010), 4, 16.

a) Definition

There is no exact definition of a FC. FCs are defined in different ways, nevertheless all the definitions include common *inherent* features. FC can be determined as a ´disturbance to financial markets associated typically with falling assets prices and insolvency among debtors and intermediaries, which spreads through the financial system, disturbing the market's capacity to allocate capital within the economy´.[3]

A FC in its pure form is an exit from bank debt.[4] Such an exit can lead to a massive deleveraging of the financial system. It is not the asset side of banks which is the problem, but the liability side.

After all, financial systems are built on belief.[5] Therefore, financial intermediaries cannot possibly honor these short-term debt obligations if they are withdrawn or not renewed.[6] Consequently, when the whole bank-system cannot honor its contractual demands, it is a systemic problem.[7] In an international FC, disturbances spread over national borders, disrupting the market's capacity to allocate capital internationally.[8]

b) Past financial crises

FCs have always been with the market oriented economies. FCs predate the rise of capitalism and have a particular relation to it, as it gives them its their vitality of innovation, power and tolerance for risk.[9] Under the system of modern markets should be understood the free market economic model formulated by Adam Smith that countered the existing mercantilism. 'No regulation of commerce can increase the quantity of industry in any

[3] Eichengreen, B. and Poters R., *The Anatomy of Financial Crises*, (Stockholm 1987), 2. The authors differentiate between generalized FCs on the one hand and asset-market linkages among bank failures, debt defaults and foreign-exchange market disturbances on the other.

[4] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 5.

[5] Geithner F. Timothy, *Stress Test, Reflection on Financial Crises*, (London 2014), 7. "That's why the word *credit* is derived from the Latin for *believe*, why we say we can ´bank´ on things we believe true and why financial institutions often call themselves ´trusts´. (…) But when people lost confidence in a bank, … the result was a run on the bank (…). A FC is a bank run writ large, a run on an entire financial system."

[6] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 5.

[7] Ibid.

[8] Ibid.

[9] Roubini N and Mihm S, *Crisis Economics*,(London 2010), 4.

society beyond what its capital can maintain.'[10] Nevertheless, it is idealistic to assume that markets can be left to run by themselves without any regulation, assuming also that some of the Asian markets which are integral parts of the global market are driven by purposeful state interests.[11] The last FC confirmed the view oppositely of a market's self-regulation.

Examples of FCs producing horrendous losses and collapses are: the first global FC in 1825 and the panic in 1907; the 1929 stock market crash in New York and the Great Depression in the 1930s; the Third World Debt Crisis during the 1980s; the Asian Financial Crisis from 1997; the Russian crisis and the fall in stock market prices following the end of the technological 'bubble' in 2000 and the last global FC leading to a European debt crisis and a post crisis recession.

All these examples show that FCs have been a consistent part of the last century. FCs are not occasional, because there are particular reasons for their outbreak. Therefore, it is important that they are properly analysed. As the former British prime minister Gordon Brown said: 'If we do not understand fully the biggest economic shock of our generation we are destined to repeat its mistakes'.[12] For this purpose, in the following will closely explore the causes of the last global FC.

c) *The global FC in 2007/8*

As already mentioned FCs have the same root causes and therefore have something in common, however much each FC may have some different features. The last FC of 2007/8's special feature which distinguishes it from other FCs is financial innovation.[13]

The FC 2007/8 started with the collapse of liquidity on the US real estate market. It developed into a solvency crisis with the bankruptcy of Lehman Brothers in 2008, [14] and a dislocation in the market which resulted in a global recession in 2009.

There are many opinions and explanations about the causes of the FC. However, here will be assumed

Macroeconomic factors such as:

- Global finance imbalance with capital flowing from emerging to industrial countries;
- Long period of low interest rates and

Microeconomic factors, including:

- Massive accumulation of debt by companies and households unaware of the taken risk;[15]
- Rating agencies underestimating risk in order to make hefty fees by accessing the securitization;
- Trend of company policy to stimulate managers going over the allowed risk;
- Excessive innovation leading to overly complex financial products and opaque markets which undermined transparency leading to 'shadow banking';
- Mixing of super senior debts with bonds, securities and other low risk products and sending them overseas with high credit rating;[16]
- Lack of existing appropriate market legislation and regulation.

All these factors played a crucial role as causes of the crisis, yet, in this paper particular attention will be given to the role of the new derivative products such as

[10] Smith A, *An inquiry into the nature and the causes of the wealth of nations*, (Oxford 2005), 361.

[11] South Korea as well as China among others are good examples where the whole state consolidates its power with the goal to create a strong market and economy.

[12] Brown, *Beyond the Crash*, (London 2010), vii.

[13] Cf. Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 30; Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 67. The innovation was heralded as a significant step in the direction of financial democracy, given the miserly returns available on bank accounts. However, later after the FC, the view was completely different.

[14] Before Lehman Brothers, Bear Sterns, the seventeen-largest US-bank was completely enmeshed in the fabric of the system. It had borrowed about $ 80 billion in the tri-party repo market. About a third of the bank's repo was collateral in the form of mortgage securities and it had 750,000 open derivatives contract. The bank was saved from insolvency through purchase by JPMorgan Chase.

[15] Cf. Valdez S and Molyneux P, *An introduction to global financial markets*, 7th edn., (London 2013), 276f. Gorton, G. B., *Misunderstanding* Financial Crises, Why we Don't See Them Coming, (Oxford 2012), 63ff, 67; Dewey, David Rich, (New York 1918), *Financial History of the United States*; Geithner F. Timothy, *Stress Test, Reflection on Financial Crises*, (London 2014), 107, 110. Four of sixty million American homeowners with mortgages had fallen behind on their payments. A further ten to fifteen million households were encumbered with mortgages debts that now exceed the value of their homes. Between 1985 and 2008, in the United States, the borrowing in the household sector had risen from 50% to about 95%. In the financial sector, mortgage-related securities also grew enormously. As of 1980, the amount of mortgages-related securities per capita was $ 487,78, in 2006 it was $ 25,839. This presents two trends. Firstly, more and more people were getting mortgages. Secondly, more and more mortgages were being financed through mortgage-backed securities insurance, rather than by banks holding the mortgages on their balance sheets. The trend also shows the combined effect of the credit boom in mortgages and a financial innovation used to facilitate the credit creation. See also Geithner F. Timothy, *Stress Test, Reflection on Financial Crises*, (London 2014), 150. Everyone could see there was ´froth´ in some housing markets, as Greenspan put it. Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 316; To some extend the US real estate boom can be compared to the boom of sales in public land prior to the panic of 1837. In 1836, eight times more land was sold than in 1832. Borrowers found ready accommodation at local banks, and with their purchases from the land receiver; the purchase money in many instances was thereupon re-deposited by the government in the bank whence it came, where it once more served as a loan to another or even the same land speculator. These local banks and the government surplus thus become involved in a common network of credits; banks were established to meet this temporary demand, so that the lender leaned upon the borrower. Contemporary observers noted the growth of bank credit.

[16] Brown G, *Beyond the Crash*, (London 2010), 53. Half of the US securities assets, including mortgage backed securities were send to European banks.

credit default swaps (CDSs) introduced by JP Morgan Chase in 1994.

The lowered interest rates in the USA fuelled a credit boom attracting many people to invest in the property market by taking cheap loans. In fact, Word War II made possible the whole transformation of the world's financial system with the new post-war economic order created at Brett on Woods.[17] The breakdown of the Brett on Woods system,[18] with the replacement of the gold standard with a floating currency system led to the start of a new phenomenon, financial innovation[19] and, in particular, derivatives.[20] All raw materials and commodities influencing a currency moderate in the future and the derivatives valued them. Actually, the FC in 2007/8 can be described as a derivative crisis on mortgages loans on the US real estate market. Derivatives were invented in the 1970s and they boomed, with the opportunity to apply them to a loan in order to diversify the risk. The danger of the derivatives trading was that they created wider systematic risk.[21] Nobody was able to predict the market development. CDOs were created from economic models based on positive market development.[22] According to the International Swaps and Derivative Association (ISDA), by 2005, the value of CDOs exceeded $ 1,5 trillion by one estimate.[23] They were a novelty. A few experts in this area have knowledge about them and they are not reluctant to talk about it.[24] They were non-transparent and the buyer as well as the broker had no idea how this product would be transformed and where it would finally land. Derivatives had a commercial boom, however, they have been criticised for the risk of losses using leverage or borrowing, as well as for not working smoothly.[25] The American investor Warren Buffett compared them in his Berkshire Hathaway annual report in 2002 to investors as: 'time bombs, both for the parties that deal in them and for the economic system', 'financial weapons of mass destruction', 'with mind-boggling complexity', depending on creditworthiness, that, while now latent, are potentially lethal' sent from the bankrupt energy company Enron for many years into the future rather being kept on their books'.[26]

The Asian crisis in 1997 highlighted the problem with CDOs. A lot of capital flooded from Asia to the USA and financed the huge US current account deficit, fuelling excessive demand for credit and mortgage loans.[27] This capital was repackaged later into mortgage-backed securities and other credit derivatives like CDOs[28] and sent to investors outside the USA, who were attracted by the high yields of these structured products in the blind faith that the underlying parties had AAA credit ratings.[29] The American Commodity Futures Modernization Act 2000 (CFMA) contributed to the whole process as it eliminated federal and state regulatory oversight of financial derivatives and enabled the process of their placement.[30] In 2003 the Bank of International Settlement (BIS) warned that not all

[17] Roubini N and Mihm S, *Crisis Economics*, (London 2010), 25.

[18] The Bretton Woods agreement replaced the existed international gold standard fixed to the GBP with a new currency standard. All national currencies become fixed to the US dollar. Its value was ecuate to 35 ounce gold.

[19] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, 132. Financial innovation includes General Collateral Finance (GCF) repo by the Depository Trust and Clearing Corporation (DTCC). The innovation mostly hidden from the public eye, are part of long history of innovation, including the development of checks, clearinghouses clearinghouse loan certificates, electronic registration of securities, and the development of safe and efficient payment and settlement systems.

[20] Roberts R, *Inside International Finance*, (London 1999), 27.

[21] Tett G, *Fool's Gold*, (London 2012), 43.

[22] In paticulr: CDS.

[23] Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 76. In truth no one really know. The value of CDOs outstanding, much less who held them. One survey conducted by the ISDA suggested that there were $ 17 trillion of CDSs outstanding in 2005.

[24] Tett G, *Fool's Gold*, (London 2012), xiiif.

[25] Cf. *Deutsche Bank AG v ANZ Banking Group Ltd* 2000 WL 1151384; *Peregrine Fixed Income Ltd* (In Liquidation) v *Robinson Department Store Plc* [2000] CLC 1328.

[26] See http://www.berkshirehathaway.com/2002ar/2002ar.pdf, 13, accessed 26 January 2015.

[27] Cf. Bank of India, *Asia and the Subprime Crises*, <http://www.rbi.org.in/scripts/bs_viewcontent.aspx?Id=2250> accessed 23 January 2015; Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 86. The Alan Greenspan's rebuttal (2009) to Taylor's indictment that loose Fed policy with low interest rate in 2003/04 had caused the housing bubble, was that there was a ´tectonic shift´ in China and other parts of the developing world from central planning to market-led growth.

[28] Credit default swaps or super senior swaps protecting depositors and eliminating potential deposit insurance.

[29] Bank of India, *Asia and the Subprime Crises*, <http://www.rbi.org.in/scripts/bs_viewcontent.aspx?Id=2250> accessed 23 January 2015.

[30] Cf. Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 70ff. CFMA relieved issuers of CDSs from having to hold reserves against the possibility that they would have to make payments to purchases of those instruments. CDSs had been designed to allow investors in mortgages-backed securities to insure themselves against default on the mortgages in the underlying pool. Interestingly, the CFMA and the Riegle-Neal, Gramm-Leach-Bliley Act 1999 (GLB) were all signed into law by a president affiliated with a party that had once, but no longer, opposed deregulation of the financial sector - the same party that was responsible during the presidency of Franklin Delano Roosevelt for putting in place the elements of modern financial regulation. The legislation issued during the presidency of F.D. Roosevelt after the Great Depression and within 100 days, the Glass-Steagall Act changed four special provisions of the Banking Act 1933 and separated the investment banking of commercial banking and prevented deposit-taking commercial banks from engaging in security and insurance underwriting. The Act was euthanized by GLB, which repealed residual restrictions on combining commercial, investment banking and insurances. Also in 1933, the Fed adopted ´Regulation Q´, prohibiting banks from paying interest on demand deposits. The contemporary perception was excessive competition for funds on the part of commercial banks had driven up the cost of attracting demand deposits and encouraged the banks in risky investments, contributing to the crisis. In addition, Regulation Q was seen as a means of enabling community banks to compete for deposits and lend to their local communities.

Global Journal of Management and Business Research (C) Volume XVII Issue II Version I Year 2017

financial innovations were good.[31] Up to the time of the 2007 FC there were no existing regulations to control the issue of derivatives.[32] However, the instruments were attractive for investors because they were exotic, complex, illiquid and profit-promising. The securitisation of the loans achieved a bizarre level of complexity. [33] Basel I and II did not anticipate securitizing assets.[34] CDOs were combined with other CDOs to reduplicate triple, square cube many times, so that it was difficult to value them by conventional means and only mathematical models were able to value them on the bases of optimistic assumptions minimizing the measured risk.[35] Thanks to securitisation, the credit risk was transferred from retail to investment banks, then, combined with other financial instruments, it was spread around the globe.[36] Via structured investment vehicles (SIVs), the CDSs were diversified, extending bank credits.

Two points were emphasized and repeated by the last FC. The first is its scale; it included a large part of the banking system, basically: investment banks. Therefore, the crisis was called ´systemic´.[37] Second, the bank liability holders demanded cash, rather than holding the bank debt. Because of that, a large amount of short-term bank debt was turned in for cash at the same time.[38]

In comparison with the crisis in 1980 when some banks went bankrupt, because they were not able to share the credit risk, in 2007 the credit risk was widely dispersed.[39] For that reason, the chairman of the Federal Reserve (Fed) Ben Bernanke[40] and his predecessor Alan Greenspan hoped that any 'attendant price fall' would not lead to financial collapse because the 'blow would be softened by financial innovation'.[41] In reality, the bubble was stimulated by financial innovation.[42] The transformation of credit risk in the future had created 'shadow banking',[43] enabling banks to keep the SIVs, not showing them on the official balance sheets until the crisis forced banks to acknowledge their losses.[44] The potential danger of the derivatives in 2000 was not so obvious, not only to politicians but for regulators too.

In 1998, Brooksley Born, the chairwoman of the US Commodity Futures Trading Commission (CFTC), floated the idea of regulating private OTC-derivatives, customized deals that are not posted on public exchanges, however, all the other US regulators and the Treasury were deeply concerned that this plan could create dangerous legal uncertainties about trillion of

[31] Tett G, *Fool's Gold*, (London 2012), 179.

[32] Tett G, *Fool's Gold*, (London 2012), 70.

[33] Cf. Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 47, 50, 63, 129, 190; Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 75, 171. **Securitization** involves financing loans by selling them. Since a loan or mortgage is a legal commitment of the borrower to repay the loan over some years, the loan contract is a legal commitment of cash coming in over a future period. Rather than holding mortgage, student, auto or corporate loans on their balance sheets, where they had to be funded, banks pooled their loans and transformed them into securities and sold them to other investors. The pool was split into tranches, with the senior tranche receiving a first claim on the cash claim from the underlying loans. The junior tranches received payment after the senior tranch. The subsequent payments were referred to as the ´cash-flow waterfall´. The façade of security allowed the senior tranche to obtain AAA rating and to be sold off to pension funds and insurance companies. The resulting securities were known as collateral debt obligations (CDOs). Securitization meets the need for **collateral**, which often took the form of asset-backed securities. Collateral can be used to back repo and asset-backed commercial paper (ABCP). Therefore, one kind of long-term debt, asset-backed securities (ABSs) becomes the backing for the short term debt. Money must be backed with collateral that is riskless, o near riskless, to minimize the problem of suspicion that someone will think that other party have information about the market, and can take advantage of it.Prior to the crisis, there was a shortage of collateral, which was needed for purposes of mitigating counterparty risk in **derivatives** for clearing and settlement systems, and for repo. Securitization also create high debt that is used as collateral. Since 1980, securitization has become an enormous banking activity. In the United States during the FC 2007/8, securitization funded between 30% and 75% of lending in various consumer lending markets and around 64% of outstanding home mortgages. In total, securitization provided over 25% of outstanding consumer credits.

[34] Roubini N and Mihm S, *Crisis Economics*, (London 2010), 204f. This failure led to Basel II, but Basel II did not protect major banks from the kind of disruption that attend a major FCs, because it assumed that the financial system was more stable that it actually was. First, banks needed more high-quality capital. Second, the capital buffer established for the banks was not enough to shelter them from the shock delivered by the housing bust and the credit crisis. Third, the quality of the capital defined by Tier I and Tier II could deteriorate significantly in time of crisis. Rather than relying on a Tier I definition the bank capital might be measured as a Tangible Common Equity (TCE).

[35] Roubini N and Mihm S, *Crisis Economics*, (London 2010), 33f.

[36] Roubini N and Mihm S, *Crisis Economics*, (London 2010), 34.

[37] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 33, 45. There were 124 systemic crises around the word from 1970 to 2007. Banks and bank debt were at the root of every one of them.

[38] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 33.

[39] Tett G, *Fool's Gold*, (London 2012), 179.

[40] Cf. Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 1; Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, 148. Lehman Brothers was allowed to fail. `Bernanke maintained that Lehman did not have the collateral to justify a loan from the Fed of sufficient size to save them.` However, "during a crisis it is very hard, even impossible, to determine the value of assets. (…) Until `Lehman's failure many economists and regulators said during the crisis that a big bank must be allowed to fail. No one admits this now.`

[41] Tett G, *Fool's Gold*, (London 2012), 179.

[42] Roubini N and Mihm S, *Crisis Economics*, (London 2010), 17.

[43] Geithner F. Timothy, *Stress Test, reflection of Financial crises*, (London 2014), 82. The tremendous growth in financial sector credit between 1995 and 2007 was almost entirely outside the traditional banking system which lead to the rise in ´shadow banking´.

[44] Cf. Roubini N and Mihm S, *Crisis Economics*, (London 2010); Tett, *Fool's Gold*, (London 2012), 116. SIVs were not mentioned in the official reports of the Bank of England or the Financial Services Authority (FSA).

dollars of existing derivative contracts and precipitate a financial chaos.[45]

In addition, as stated above, the Basel II rules obliged banks to set aside 8% of their assets in order to guarantee potential losses. Nevertheless, the capital reserves were set against a small portion of the banks' true exposure, because much of the risk was tucked into shadow banks and only measured by very narrow and flattering tools.[46] As a result, as the first signal of the crisis, with the fall of German IKB, bank politicians and regulators could not really understand what had happened.[47] The crisis was sudden and invisible,[48] because most banks had not declared their losses of toxic or distressed assets, hoping up to the end that something would happen. In this regard, the UK prime minister Gordon Brown offered to recapitalise the banks only after a declaration of their losses.[49]

The crisis became significantly more serious in 2008 following the difficulties experienced at the US Government Sponsored Entities (GSEs) Fannie Mae and Freddie Mac, which were put into conservatorship. In all, of the twenty-five largest US financial institutions at the start of 2008, thirteen either failed (Lehman, Wa Mu), received governmental help to avoid bankruptcy (Fannie, Freddie, AIG, Citi. Bo sfA), merged to avoid insolvency (Countrywide, Bear, Merril, Wachovia), or transformed their business structure to avoid failure (Morgan Stanley, Goldman).[50] The US authorities supported American International Group (AIG), but decided to force Lehman Brothers into liquidation. The failure of Lehman led to massive instability in global stock markets.

The UK government first announced a three-stage plan including: market liquidity, wholesale market guarantees and recapitalisation. Similar to the UK and the USA, most European countries announced financial packages supporting the affected banks.[51] The ECB put 700 billion Euros through the Target II system for more liquidity and assistance for the indebted member states which caused outraged from others, because this way the ECB tolerated misconduct from vulnerable states, monetized their debt and endangered the whole system.[52]

On the whole, the response to the FC was similar. The German measures to save IKB were similar to those of the Japanese government in the Asian crisis of 1990. The US idea to create a superfund: 'Master Liquidity Enhancement Conduit' or 'bad banks' to buy SIVs,[53] the nationalisation of banks and insurance corporations and financial packages, was followed in Europe as well. Europe conducted additional reforms for centralised finance supervision and resolution via the ECB. Nevertheless, in the USA there was additional support for the banks and industry in order to overcome the post-crisis recession;[54] in Europe, with the exception of the UK, this was not the case.[55]

d) Common factors stimulating financial crises

It is assumed that FCs can arise when firms fail to manage their risk effectively, or some other source of

[45] Geithner F. Timothy, *Stress Test, Reflection on Financial Crises*, (London 2014), 86.

[46] Tett G, *Fool's Gold*, (London 2012), 191.

[47] Tett G, *Fool's Gold*, (London 2012), 191.

[48] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), viii. The economists and bank regulators did not see the possibility of a systemic crisis. They did not see how capital markets and the banking system had evolved in the last thirty years and they did not know of the existence of new financial instruments or the size of certain money markets, like sale and repurchase market.

[49] Brown G, *Beyond the Crash*, (London 2010), xix, 31.

[50] Geithner F. Timothy, *Stress Test, reflection of Financial crises*, (London 2014), 255f. The stock market also dropped 40% from its peak in 2007.

[51] Cf. Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 8, 63, 92, 136, 285f.; Dinov S., *Maßnahmen gegen die Schuldenkrise in Europa und die Finanzkrisen in Deutschland und Japan*, JSE № 4, 2013, 440, 444f. In contrast to the catastrophe in 1930, where Central Banks were blamed for not intervening as a Lender of Last Resort (LLR), in FC 2007/8 they did the opposite, however with controversial repercussions. On November 25, 2008, in response to evidence of distress in securitization markets, the Fed announced it would purchases up to $ 100 billion of direct obligation of Fannie Mae, Freddie Mac, and the Federal Home Loan Banks and $ 500 billion of their mortgage-backed securities with the goal to restarting mortgage and housing markets. Nonetheless, lending directly to hedge funds reflected a delayed recognition, following Lehman's failure, of the importance of the shadow banking system. And if the Fed was reluctant to do more, the ECB was anxious to do less. The ECB pumped € 700 billion through the Target-2 system in order to compensate debts of some member states. The balance sum reached € 3 trillion, on March 12, 2012. The restrictions of Article 123 ESCB-Statute which prohibits the purchase of newly issued government bonds, had to be circumvented in 2011/12 and the Bank of France might have done the same. The ECB agreed to buy bonds only on secondary markets and only of countries that had agreed to a programme with the European Stability Mechanism (ESM). And what was problematic politically was problematic economically. The FC and the Great Recession opened the debate in Europe, if the monetary union as well as the banking, fiscal and capital market union could proceed without a political union. The EU construct is still incomplete. A smoothly functioning monetary union requires an interstate system of taxes and transfers. A single currency and single market requires a single regulator. Robert Halver, *Brexit – Hard und Schmutzig*, <https://www.linkedin.com/pulse/brexit-hart-und-schmutzig-halver-robert>, accessed 29 January 2017. To support the free monetary policy, the ECB engaged its autopilots – the purchases of bonds until the end of 2017.

[52] Dinov S., *Maßnahmen gegen die Schuldenkrise in Europa und die Finanzkrisen in Deutschland und Japan*, JSE № 4, 2013, 440. The EU-member states with high budget deficits used this refinancing in order to issue more governmental bonds.

[53] However, European superfunds and bad banks were supported with governmental help, whereas in the USA, this had to be done by private banks.

[54] Such as TARP, Public Private Investment Programme (PPIP) and HARP-programmes. HARP reduced the mortgage payments of 3 to 4 million homeowners

[55] Here, the ECB policy of years-long low Euro interest rate for support of the Greece budget deficit, is not considered, along with the Greek bail out. See Geithner F. Timothy, *Stress Test, Reflection on Financial Crises*, (London 2014), 447. As the German Chancellor Merkel told the US president and Treasury secretary ´ we won´t do a Lehman`.

external instability occurs and the operation of a particular sector, market or the system is disrupted. This is distinct from more general market volatility or specific scandals which affect a particular firm. FCs are influenced from market-internal and external factors which lead to the banks' illiquidity. By comparing past FCs with the last one, there can be found some similarities, such as: savings imbalances (the FCs in 1929 and in 2007); rapid growth in bank loans (the FC in 1929, the collapse of Brett on Woods, the technological 'bubble' in 2000; the last FC); hazard eagerness or speculative boom presented by all FCs; deficiency of confidence between the market players and bank/customer; lack of appropriate regulation; timely support from the Central Banks as a lender of last resort,[56] refusing government bail outs.[57]

A common external factor of every FCs is a panic. Panics happen when information arrives about coming recessions.[58] It is the fact that there are potential problems that can cause a run.[59] For example, in the UK 'the institutional run which comes from the social media belief that the financial system is not safe, caused some UK banks to become bankrupt despite having credit, such as the Royal Bank of Scotland'.

III. Events and Continuities Which Influence the Financial Market System

These days a new regulatory agenda based on complex financial relations is emerging. It faces a growing need to protect the continuing stability of financial markets within an increasingly single integrated and interdependent global marketplace. As an open place, giving commercial initiative for many players under equal conditions, the markets are vulnerable in many predictable and unpredictable ways.

There are two main goals which the financial system has to ensure. Its primary goal is to guarantee stability and confidence in the system; its further objective is to protect investors.

Because financial markets are connected to each other the instability, events and crises in one place reflect on others and therefore, it is necessary to foresee the systemic risk. In this regard, economic and financial dependency obligates the industrial and the emerging countries to work together by solving financial challenges, or to put it in other words: 'global problems need global solutions'[60].

There is an undisputed fact that stability builds confidence.[61] However, the events of the last FCs are too close to the picture which Hyman Minsky drafted 50 years ago in his economic analysis about developments of financial markets.[62] He predicted the increase of debt in the private sector and the development of financial innovation which would avoid regulation. Financial markets today have become too vulnerable and fragile. The market stability has been destabilised. Via the much greater participation of national governments and central banks in assuring that the financial system will not degenerate, societies today get too quickly out of FCs,[63] without learning their lesson from the previous ones.

Political instability or terrorism influence the market system negatively. Financial markets have been at any time related to the exchange of goods, raw materials, currency, securities and, since 1849 (invented by the Chicago Board of Trade), with derivatives. The products change their value constantly considering different circumstances. The complexity of financial derivatives, for instance, could, via their supply and demand, cause artificial increase or decrease on the price of certain raw materials and therefore affect some national economies.

An issue related inevitably with the modern financial market system is the Janus-faced question about to what extent the market should be regulated. As the last FC showed, regulation has been a step behind financial innovation. The opinions of derivatives

[56] Paul K, *Managing Extreme Financial Risk*, (London 2014), 9, Credit policy function of the Central Banks used to be a shield against extreme risk when credit was the primary financial risk for financial institutions.

[57] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 81f. Looking back to the financial crises' history of 1932, it could be seen that „the Federal Reserve's discount window is not effective during crises. Individual banks simply do not want to step up to the window, because this is taken as a sign of weakness." By the last FC in the United States, the nine biggest banks were forced by the US Treasury Secretary Hank Paulson to take the bail-out or money from the Troubled Asset Relief Program (TRAP). In the FC 2007/8, one study showed that banks were willing to pay thirty-seven basis points more than the discount rate to avoid using the discount window.

[58] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 5. "Panics are not irrational events.

[59] Ibid., 6f. Whatever the form of the bank money, FCs are en masse demands by holders of bank debt for cash - panics. The FC of 2007-8 was also a bank run, but it was not people who ran to their banks but firms running in investment banks.

[60] Brown G, *Beyond the Crash*, (London 2010), vii.

[61] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 9. Yet in the early nineteenth century a policy evolved of not liquidating the banking system during the FC. In the case *Livingston v. The Bank of New York*, the courtclarified that in times of crisis, bank debt should not be enforced, and banks should not be forced into insolvency.

[62] Kinderber Charles/Aliber Robert Z., *History of financial crises*, 33, (New Jercy 2005). Hyman Minsky saw cycles in economic development and financial crises. Nevertheless, such a cyclical model of crises has the disadvantage that every crisis is for itself unique and there are changes in the environment and business conditions. The panic of 1929 did not know about CDOs, asset-backed commercial paper and other complexities of twenty-first-century finance. In addition, an asset price bubble is highly improbable, because ´all the information is in the price´.

[63] Minsky H, *The Financial Instability Hypothesis*, <http://www.levyinstitute.org/pubs/wp74.pdf>, 5, accessed 29 January 2017.

regulation and the preoccupation that the market has 'the self-halting power' itself had been confronted to each other.[64] In the end, the last view prevailed and the banks were allowed to reduce their capital reserve, where the potential losses of the derivatives should be covered from the profit at the end.[65] This economic orthodoxy was proving irrelevant, because the market seemed intent not on self-correction but on self-destruction.[66] Sale and repurchase agreements,[67] commercial paper,[68] and prime broker[69] balances were run on.[70]

Later, during the climax of the crisis, the banks did not lent credit to each other because they did not trust each other,[71] or because they needed the financial resources for themselves. So called 'free-market fundamentalism' made regulators in the USA, including the Fed, unaware and wilfully ignorant and circumvent the real dangers.[72] The final result was a refutation of free market logic, replaced by 'socialist banking' in the form of banks' nationalisation.

Until the Great Depression, most economists clung to a vision of capitalism as a perfect or nearly perfect system.[73] The years between 1934 and 2007 demonstrated a ´Quiet Period´[74] or as macroeconomists called it, ´the Great Moderation`, where properly designed bank regulators could prevent financial crises for a significant period of time until innovation and change necessitated their redesign.[75]

FCs are an internal part of business circles.[76] As the economy nears a business-cycle peak it is weak, and maybe there are imminent problems with banks.[77] Therefore, to some extent, financial crises can be intense scrutiny and manage.[78]

In this regard, high yield opportunities without any specific regulation are attractive to some extent, but they cannot be considered a panacea for advanced modern markets where the credit guarantees play a vital political role. On the other hand, however, an overregulated market loses its appealing power for investors and for the industry.[79]

It is therefore, a matter of political sensibility where the balance should be. There is no doubt, that a free room for commercial activities should be left. To some degree, financial markets could be regulated through private contractual law and additionally be protected from macro prudential risks via public law.

[64] Cf. Tett G, *Fool's Gold*, (London 2012), 36, 45; Geithner F. Timothy, *Stress Test, reflection of Financial crises*, (London 2014), 85. Greenspan did have an almost theological belief that markets were rational and efficient, as well as deep scepticism that government supervision and regulation could make them safer.

[65] Tett G, *Fool's Gold*, (London 2012), 36, 45.

[66] Brown G, *Beyond the Crash*, (London 2010), xix.

[67] Repurchase agreements (repos) are like demand deposits. One party deposits (lends) money in a bank, usually overnight, and will receive interest. To make the deposit safe, the depositor is provided with collateral in the form of a bond.

[68] Commercial paper is short-term debt issued by firms, but also by asset-backed commercial paper conduits, managed vehicles that buy asset-backed securities (bonds backed by pools of loans) using commercial paper.

[69] Prime brokerage is a type of banking provided to hedge funds and other large investors. Prime brokers are typically large banks that clear trades that provide leverage, and issue credit lines to hedge funds and other investors.

[70] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 32, 38f.

[71] Ibid. Banks suspend convertibility, they do not pay out cash. Firms tried to sell assets to raise the cash that was needed to repay repo deposits. But doing so, they drove asset prices down and eventually the Fed had to buy assets and the U.S. Congress passed the Emergency Economic Stabilisation Act of 2008 with an allocation of $ 700 billion for the TARP programme to bail out firms.

[72] Roubini N. and Mihm S., *Crisis Economics*, (London 2010), 32.

[73] See in Gorton, G. B., *Misunderstanding* Financial Crises, Why we Don't See Them Coming, (Oxford 2012), ix, Krugman, Paul, 2009 *How Did Economists Get It So Wrong?*, Ney York Times, September 6. The economists mistook beauty, clad in impressive-looking mathematics, for truth. That vision was not successful in the face of mass unemployment. The memories of the Depression faded, economists fell back in love with the old, idealized vision of an economy in which rational individuals interact in perfect markets

[74] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 4. However, the period is a counterexample to the widespread view that governments cannot help but cause problems. In the UK, taking advantage of the freedom conferred by Margaret Thatcher's big-bang financial reforms, Northern Rock followed the example of building societies like Abbey National and the Halifax, converting itself into abank and enabling management to float shares on the London Stock Exchange. The bank borrowed money from the Central Bank System and landed them high and promised huge interest rates using the predictable increase in the real estate prices in the UK.

[75] Cf. Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 4; Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 73. The shares of the financial-services industry in GDP doubled from 4% in 1970 to 8,3% in 2006. It can be seen as the financial sector reasserting its role in helping to allocate resources in a complex modern economy. But the remainder, and especially the breakneck financialization of the years leading to the crisis, is not adequately explained by standard models of the efficiency advantages of a well-functioning financial sector. Moreover, the growth of the sector was financed not with equity - not by banks raising more capital - but with debt. The debt was incurred by borrowing for a fixed, usually short term from corporations, mutual funds, state and municipal governments, government agencies, and other banks. Large banks have the best access to this wholesale market. Having diversified their business and invested in internal controls, they could argue that they were in the best position to manage the risk of relying on borrowed funds. Large investment banks such as the Big Five (Merrill Lynch, Bear Stearns, Morgan Stanley, Lehman Brothers and Goldman Sachs) were also in the best position to create SPVs used to shift risky assets off their balance sheet, minimizing the amount of capital the parent institution had to raise. They were further incentivized to reduce capital ratios and increase their leverage by the knowledge that they are systemically significant. Because they are too big and too important to fail, they were apt to be bailed out in the event of trouble. This encouraged them to take on additional leverage and risk.

[76] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 74.

[77] Ibid.

[78] Eichengreen, B. J., *Hall of Mirrors*, (Oxford 2015), 178f.

[79] Smith A, *An inquiry into the nature and the causes of the wealth of nations*, (Oxford 2005), 361.

IV. Conclusion

It has been shown that FCs follow the same script and are caused by similar events. Consequently, knowing the causes of FCs, it could be supposed that some FCs can be predicted,[80] because market economies have an *inherent* feature that can lead to financial crises if not checked.[81] Nevertheless, FCs can accrue suddenly, unpredictably, by different circumstances and ways,[82] despite the fact that the level of systemic fragility may be observable.

The impact of the last FC in comparison with the previous crises was wider and more drastic, due to the advanced technology and the process of globalisation. In this regard, regulations should develop and apply simple principles in order to avoid made mistakes.

There are suggestions about redesigning new bank regulation along with commercial and investment banks; new banks, called narrow funding banks (NFBs) should be created and those banks would not engage in any activity other than purchasing asset-backed securities, government and agency bonds.[83] The NFBs would not be allowed to take deposit but would have access to the discount window of the Fed.[84] The repo market would be regulated as well, without any restrictions regarding the amount that banks could engage in. On the other hand, there will be a limit on repo agreements for nonbanks. This system would place the government in an oversight role in the securitization and repo markets, and ensure that safety of the collateral for repo be observed.[85]

Such suggestions come from a critic to the Dodd-Frank bill, aiming to re-create confidence in the shadow banking system and stimulate economic growth. However, there is no exact formula which can guarantee bank efficiency and safety.

The oversight standard of a single country is not enough to prevent an FC and therefore an international cooperation in the form of the G 20, the Basel Committee or the IMF is necessary.

[80] Roubini N. and Mihm S., *Crisis Economics*, (London 2010), 4, 16.
[81] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, (Oxford 2012), 4.
[82] Paul K, *Managing Extreme Financial Risk*, (London 2014), 38. For instance, the Basel III countercyclical capital buffer is imperfect simply because economic crisis is beyond normality. A crisis is inherently unpredictable and nonlinear.
[83] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, 197f.
[84] Ibid.
[85] Gorton, G. B., *Misunderstanding Financial Crises, Why we Don't See Them Coming*, 198.

Global Journal of Management and Business Research: C
Finance
Volume 17 Issue 2 Version 1.0 Year 2017
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

A Comprehensive Literature Review of Islamic Finance Theory from 2011 To 2016

By Mohamed Wajdi Triki & Younes Boujelbène

FSEG-Sfax

Abstract- This article aims to give a quantitative synthesis of the literature related to the performance of Islamic banks. Like conventional finance, Islamic Finance deals with 100% Halal investment, trade, transactions, lending and financial products. Thus, as its name suggests, Islamic Finance respects the precepts of the Muslim religion while addressing an audience without distinction of religion and color. Concretely, the consumer who chooses to entrust his money to Islamic finance is protected from interests (Ribâ), speculation (Maysir and Qimâr), uncertainty (Gharar) and the illicit (Haram). In Islamic Finance, banks are forbidden to invest their money in Haram domains such as the tobacco industry, pornography, eroticism, the alcohol and wine industry (And of course drugs), gambling, the hog industry and unlicensed food, armaments (except for states), the banking industry (except the Islamic banking industry), and so on. More clearly, Islamic Finance seeks to simplify access to money for Muslims and non-Muslims.

Keywords: literature review; islamic banks, conventional banks, performance.

GJMBR-C Classification: JEL Code: G00

A Comprehensive Literature Review of Islamic Finance Theory from 2011 To 2016

Mohamed Wajdi Triki [α] & Younes Boujelbène [σ]

Abstract- This article aims to give a quantitative synthesis of the literature related to the performance of Islamic banks. Like conventional finance, Islamic Finance deals with 100% Halal investment, trade, transactions, lending and financial products. Thus, as its name suggests, Islamic Finance respects the precepts of the Muslim religion while addressing an audience without distinction of religion and color. Concretely, the consumer who chooses to entrust his money to Islamic finance is protected from interests (Ribâ), speculation (Maysir and Qimâr), uncertainty (Gharar) and the illicit (Haram). In Islamic Finance, banks are forbidden to invest their money in Haram domains such as the tobacco industry, pornography, eroticism, the alcohol and wine industry (And of course drugs), gambling, the hog industry and unlicensed food, armaments (except for states), the banking industry (except the Islamic banking industry), and so on. More clearly, Islamic Finance seeks to simplify access to money for Muslims and non-Muslims.

To summarize, Islamic Finance is an alternative that allows the fair distribution of wealth and prosperity through commercial activities and morally acceptable investments in a participatory and ethical manner. This principle comes together under the name of 3P: sharing - losses – profits.

Despite the widespread literature on this topic, efforts to review and analyse research on Islamic finance theory and practice are very limited. This literature review paper proposes a new conceptual classification scheme, in order to classify past and current developments in Islamic finance research. More than 90 papers published on Islamic finance studies from 2011 to 2016 were classified and analyzed. For better Islamic finance-theory applications, researchers need to focus their effort on the empirical studies beside the theoretical developments, which are reached in advanced stages. Finally, this paper discusses some other future research directions.

Keywords: literature review; islamic banks, conventional banks, performance

I. Introduction

The method of synthesizing knowledge in a given field is still one of the researchers' concerns. For this, several techniques exist. The most important are: classical literature review, expert consensus and meta-analysis. Meta-analysis has the advantage of being based on an exhaustive literature review, assuming the objectivity of the meta-analyst and proposing a rigorous methodology to achieve an efficient quantitative synthesis of previous studies Laroche (2004).

The monetization of assets through the securitization of real sphere and the financial sphere of the economy in a capitalist system. Global accounts for 2.5% of global financial activity, this financial fragility of contemporary capitalism is unfavorable to the real economy. The crisis is a crisis of a system based on speculation in virtual assets, which violently destroyed the global economy. After this critical system, ethics becomes the ultimate weapon of the proper functioning of modern financial activity. This research tries to demonstrate that an alternative system based on ethical or moral principles could compete with the current banking system.

To conduct this demonstration, we will try to answer two questions:

- What does the Islamic banking ethics?
- How can the Islamic bank attract non-Muslim customers?

II. Aims of this Paper

Glass (1976) was the first to introduce the term "meta-analysis". It defines it as: "the statistical analysis of a large series of results from individual studies in order to integrate their conclusions". A more general definition is proposed by Muller (1988) and Laroche (2004): "Meta-analysis is the application of a set of statistical analysis methods to empirical results from singular studies in order to integrate, synthesize and give them one direction ". It is therefore a quantitative statistical analysis of a set of results from previous individual studies, sufficiently numerous, obviously belonging to the same field and observing the same effect.

In conventional finance, decisions are made to optimize the principle of risk-profitability, better known as "performance", Novethic (2009).

In addition, a conventional bank pays interest to its savers while collecting interest in turn, on the loans it lends: it is the bank's income!

To sum up, conventional finance practice:

- Financial derivatives
- The speculation
- Interest (on savings, credits and penalties)
- Derivatives that play the role of insurance

Author α; Faculty of Economics and Management of Sfax, University of Sfax, Road of Aeroport km 4, Sfax PB 1013, Sfax 3018, Tunisia.
e-mail: mohamedwajditriki@yahoo.com
Author σ: Faculty of Economics and Management of Sfax, Higher Institute of Business Administration, University of Sfax, Road of Aeroport km 4, Sfax PB 1013, Sfax 3018, Tunisia.
e-mail: younes.boujelbene@fsegs.rnu.tn

- Short-term profit

Concretely, the main objectives of this review are:

1. *Classifying* and summarizing research relevant to identify the research trends in *Islamic* finance theory
2. *Prescribing* a conceptual classification of the key content
3. *Deriving* principal suggestions for Islamic finance researchers based on the literature review.

Like conventional finance, Islamic Finance welcomes all those who want to consume in an ethical and participatory way, where speculation has no place. At a time when we are beginning to heal the wounds left by the subprime crisis, it is urgent to turn to a simple alternative, which allows the largest number of people to save and access their money.

If you are one of those consumers eager to invest their money in the real economy, if you are a Muslim willing to protect their money from the Haram, with a 100% Halal solution, check out the Noor Assur range of Banking & Takafuls 100 solutions % Halal, El khamlichi (2009, 2013).

Noor Assur is a French start-up, specializing in Islamic Finance. She opened her first agency in Chelles (Seine-et-Marne), in the Paris region. Ambitious, it has set itself the goal of opening 20 additional branches in the hexagon in 2016.

Broadly speaking, the principle of Islamic finance is to draw up a short list of standard contracts, which list the types of transactions authorized. Speculative transactions, transactions where "money generates money", and transactions where one of the two parties is considered dominant are mostly prohibited. Within the bank, a commission reviews the bank's activities to certify that its contractual relations are comparable to the authorized contracts. These commissions are called Sharia board, Dhanker (2014).

Before we see a real change in the way the bank does business, we must remember a number of points. First of all, even in classical finance, members of guidance or administrative boards may object to the bank engaging in certain activities because of ethical considerations. It would be illusory to think that in the classical bank the executive is a maximizing homo economics without faith or ethics. The directors of the banks make decisions, and in these decisions some moral pretensions inevitably infiltrate. And this without even extending to the existence of socially and ecologically responsible finance, and other products already ethically and morally laden. Taking into account certain moral, religious and ethical criteria is therefore not something new for the bank.

One of the main characteristics of Islamic finance is not to use the interest rate. One can be unconvinced about this claim for several reasons. First, the refinancing of Islamic banks is problematic; How to obtain liquidity without interest rate or securitization, or any other modern tool? The question arises as to whether, in the face of liquidity crises, the Sharia board will not allow the use of money markets, at interest rates, to find liquidity. And even if this is not the case, Islamic finance operates in a world where its clients and pairs source, finance and operate at interest rates. Imagine an Islamic bank refusing to get supplies of office supplies because the transaction implies an implicit commercial credit? When we look at the phenomenon more closely, it is not clear what remains of the difference between Islamic finance and conventional finance.

Another reason why the distinction is overused is that Islamic banks compete with traditional banks, and that the conditions of their operations necessarily take as a reference the cost of traditional loans. In the end, the difference lies in accounting manipulations that are invisible to the client, and not really in the conditions of financing or in their cost. But again, one of the typical operations of the Islamic bank is buy-buy, where the bank buys a property in your name and sells it back gradually to avoid using the interest rate, has existed for a long time In conventional finance in the form of leasing or repo contracts.

For all these reasons, it seems to me that the difference between classical finance and Islamic finance is rather superficial and a marketing device than a real financial revolution. Fears of communitarians are absurd; The Islamic bank does not sit on the margins of the system but has many contractual relations with organizations that do not respect Sharia. In the end, the tools that characterize Islamic finance are tools that the classic finance uses every day.

III. Theoretical Background

The notion of Islamic finance covers all trade, investment, lending and transactions carried out by means of financial mechanisms and products in accordance with the principles of Shari'a prohibiting usury (riba), deception (Gharar), monopoly (ihtikar), speculation (maycir) and trade and investment in sectors considered illicit such as tobacco, alcoholic beverages, gambling, livestock, trade Pork, weapons, pornography, etc.

Among its characteristics: the simplification of access to money, the prohibition of hoarding and all that contributes to the paralysis and the misuse of financial resources, Hussein and Omran (2014).

In the interests of development, Islamic finance tends to favor trade and investment operations, either through the interest-free loan or through a credit with participation in losses and profits between the bank and the operator economic.

Islamic finance is exempt from the flaws and defects of classical finance such as illicit gains, individualism, monopolies, socio-economic imbalance.

It is driven by moral and humanitarian considerations according to which money is not an end in itself but a mere means intended to serve man and not to enslave him, which explains his rejection of contingencies, uncertainties, Nuisances, in short, any act likely to harm life, health and the economy in general.

In other words, Islamic finance does not treat man as an object or a commodity, nor the people as a consumer society. Conscious of the right to life of creatures, it takes care of the environment and protects the fauna and the flora.

It does not lead to systemic crises such as inflation, unemployment and even less economic bankruptcies.

The benefits of Islamic finance are explained by the fact that it is based on Shari'ah and this is a divine mercy for creatures in general and man in particular. It contains a panoply of principles and values intended to satisfy the material and spiritual needs of man by protecting him from satanic drifts and traps.

The ultimate goal of Shari'a is to make people happy by the equitable distribution of wealth, the establishment of social justice and financial legislation aimed at eradicating poverty and ill-living.

It is enough for the success of Islamic finance that it is distinguished from classical finance by prohibiting certain practices deemed harmful such as gharar (deceit), riba (usury), speculation, monopoly...

a) The gharar

The concept of gharar means " danger ", " deceit ", Satan is called " gharor " deceiver; All that is beautiful, attractive in appearance but which has a lack, defect or hidden vice is called gharar. The sale of a non-existent, uncertain or illusory product, such as the sale of a product before its manufacture, the sale of the small ones in the bellies of the cattle, the crops before their maturity, the sale of Fish at sea or milk in the breasts, etc.

b) Le riba

The riba is usury or interest. This is generally an increase or a surplus of money collected on the occasion of a loan or the sale of a commodity on credit.

Usury is a practice that Islam does not just prohibit; He condemned it in the most severe manner, blaming it for several evils, including the ruin of the economy. He devotes to Gehenna those who make use of it, the witnesses, and even his writers. Besides the fact that the latter are cursed, wear is deprived of blessing and its profit is reduced to nothing.

In fact, the disastrous effect of wear and tear on the economy, such as inflation and unemployment, has yet to be demonstrated.

Wear is a brake on investment; The capital holders abandon trade and industry knowing that they can get rich by practicing the rent of money.

Instead of investing, the usurer will speculate with his money without realizing that he is helping to create purchasing power, that is, currency without consideration, if not Time and time belongs to no one. This way of creating money without a counter party causes inflation, that is, rising prices and unemployment.

Without being an expert in economics, it is enough to think a little about the bad consequences of usury on society. Again, wear creates a situation where production decreases as a result of the decline in investment. Hence the high cost of living and rising unemployment.

Also, the detriment of wear and tear falls on consumers and it is the poor who suffer. Take, for example, an industrialist, a trader, or a breeder who borrows a sum of money with interest; It will pass on these interests to the prices of the products that we are going to buy or consume. So it is the consumers (finally ourselves) who bear the interest.

c) Speculation

Speculation (al-mayçir) is a purchase and sale of products based on forecasts in relation to economic conditions, price fluctuations and market uncertainties. It is a sort of bet on the future that is not without risks. It resembles gambling.

It is a financial or commercial transaction whose purpose is to realize a gain of money by betting on the fluctuation of the market prices.

It consists of selling goods that are not yet available, or buying goods that are often non-existent and sold directly afterwards, or speculating on large amounts with a small starting sum; And all this in order to earn more.

The speculator is betting on future price developments and agrees to take the risk of losing money if the evolution is contrary to what he predicted. Wheat, rice, sugar, soybean, maize, oil, stocks, commodities, or commodities that are not yet available in the market are being speculated on the value of money).

Many experts like Heiner Flassbeck acknowledge that speculation on commodities is very dangerous.

The least that can be said about speculation is that it constitutes unjust enrichment and produces disastrous effects on commodity prices and on the cost of living.

Speculation was repeatedly criticized during the hunger riots in Africa, Asia and Latin America. The prices of foodstuffs continue to rise because of speculation.

The decline of the fundamental principles of Islamic finance into instruments has to the emergence of products and concepts that are specific to it. On the one hand, financial instruments, mainly referred to as "Al Mourabaha", "Al Salam", "Al Istisnaa "," Al Ijara ".

Global Journal of Management and Business Research (C) Volume XVII Issue II Version I Year 2017

On the other hand participatory instruments such as "Al Moudharaba "and" Al Moucharaka".

Two concepts will also be presented Non-bank Islamic financial institutions which are: "Al

"Al Mourabaha" assumes that the creditor (the bank) buys a given asset at a known price of both parties on behalf of its client, Lee, K, & Ullah, S (2011), Abduh, M (2012), Siraj, KK, & Pillai, PS (2012). Then, the creditor (the bank) resells to the customer by means of installments or not over a given period, to one Price agreed between the two parties above the purchase price. This financial product, although singularly close to a conventional debt contract, it differs from it, nevertheless, on some essential points. Indeed, the bank became owner of the underlying asset; the transaction is effectively backed by a real asset. It's not about not a loan, but a sale on credit (cash purchase and sale to term). Moreover, in this transaction, the bank therefore bears the risks associated with the Holding and is the main justification for its margin. On the other hand, there is no explicit reference to an interest rate.

Usman, A, & Khan, MK (2012) show that creditor shall remunerate the purchase price of the property. The amount of the profit margin does not vary in the Time: it is fixed in advance and does not vary during the duration of the financing. It is one of the most widely used financial instruments by Islamic financial institutions, as it is a very flexible and easily adaptable financial instrument. Traditionally, "Al Mourabaha" is the basis of large variety of Islamic financial arrangements, ranging from real estate financing to financing of projects. "Al Ijara" transaction is for the creditor (the bank) to buy goods he leases to a customer who can benefit from the possibility of redemption at the end of the contract. The Ijara is very close, in form and spirit, to a leasing contract. However, there It is necessary to point out differences, albeit in detail, but important:

- In case of delay in payments, it is not possible to provide for payment Interest rate, first, because the fixed penalty is equivalent to interest. But also, because Muslim philosophy condemns all provision in a financial contract that penalizes a bona fide debtor already difficulty.
- In a leasing contract, it is possible, if necessary, to reschedule payments.
- According to Islamic law, the character of a contract is sacred:
- Any Contractual terms can only be achieved through the Signature of a new contract.
- In a contract of Ijara, payments can not start before he has taken possession of the property in question, whereas in a contract of Leasing, payments may begin from the the lesser buys the underlying asset.
- In a conventional lease, the risk of destruction or loss of the asset May be carried by the lesser or the lessee. In a contract of "Ijara", it is the less or who continues to have the responsibility of the property, except in the case of malice or negligence of the lessee.
- In the event that the underlying asset ceases to exist, certain leasing contracts provide for the maintenance of payments. This clause is contrary to the Islamic: financial contract and underlying assets are inextricably linked; the Disappearance of the latter automatically leads to the nullity of the former.
- In a contract of "Ijara", it is possible to determine the amount of each Payment not in advance but on the expected date of delivery of the asset underlying. This flexibility makes this instrument particularly useful in the case of project financing, an activity where uncertainty about the future profitability of an investment project can be important.
- In an "Ijara", since the receivable and the asset are inseparable, any Securitization must cover both. Unlike the case of where the company can securitize the receivable without Loss of ownership of the underlying asset.
- In a Ijara contract, the residual price must be zero to avoid any uncertainty Arising from the determination of a future price unknown to the parties.

IV. Potential Contributions of Finance Islamic to the Economic and Social Problems

In an analysis objective, the Islamic economy in general and Islamic finance in particular could bring, alternatives, of the solutions with certain problems highlighted in different regions. This is valid for many suffering countries of the same problems: unemployment, degradation of the purchasing power, problems involved in the development and the infrastructure. Constitute a favorable framework for the mobilization of resources, interns and external. Indeed, internal resources were hoarded money in the form of cash in the safes, jewelry or of real goods in the absence of instruments answering the convictions of a great fringe of the population. Moreover, the formulas of investments based on the participative techniques, such as "Al Moudharaba" or "Al Moucharaka" are strongly juicier than the classical banking placements, in particular in period of fall of rate. The subscription for the "Sukuk" could be a good transmitter. On the other hand, this same mechanism of "Sukuk" could be used to mobilize resources for the State, the private operators, the banks and to this finance projects of scale and mega projects: projects of infrastructure, refineries, car steel-works, The Islamic investment fund is also an attractive framework for draining resources, in particular near the money-lenders, who are interested by the investment. "Al Moudharaba" could make a solution, where the money-lender places himself in "Rab Al Mel" and the promoter as A manager or "Moudharib". On the other hand, the market of the insurances did not reach,

Global Journal of Management and Business Research (C) Volume XVII Issue II Version I Year 2017

because of the obstacles of a charaic nature. This market could be strongly instigated to the "Takaful" solution. The 10 So Islamic financial institutions could be raised for the financing of the growth. Other institutions not-financial following the example of those of "Al Waqf" (donation made with perpetuity with a work of public utility, pious or charitable) and those of "Zakat" (alms) would bring an excellent palliative to the financing of the Budget deficit, through the assumption of responsibility for the financing of development. Zakat "and" Waqf ", and especially founding the rules of control and good governance, the possibilities of mobilization of resources by these institutions are colossal. These resources could be directed to support the efforts of the State as regards the assumption of responsibility of the needy families of the fight against poverty, the improvement of the living conditions in the most disadvantaged regions, even the implication in the financing of the goods of Public utility, the schools, the universities, the hospitals.

V. Conclusion and Policy Recommendations

Despite the number of studies focused on the comparison between Islamic and conventional indices, most of them failed to document overall statistically performance difference. For this reason, many researchers tried to add explicative variables such as studying the differences during crisis and non-crisis periods. Also some of them assessed whether big, medium or small size firms are the drivers of the performance. Others attributed the performance either to the index family or the performance measures.

The contribution of our article is threefold. The first one is the use of a wide range of Islamic indices (many emerging markets located in different regions), and we assess whether the performance is country dependant in a long run analysis, covering the period of data from 2011 to 2016. The second contribution is the use of comprehensive performance evaluation on the Emerging Markets Islamic indices, divided into three regions (Asia, Latin America and Africa).The third contribution is that we have examined whether there are some differences between the ranking results that are used in this study.

To make a success of the promotion of Islamic finance Everyone is interested in Islamic finance: Governments, investors, researchers, savers.

Conditions must be joined to this opportunity. We can quote some:

- The definition of a comprehensive strategy for the promotion of Islamic financial industry through the various components of the system: banks, Takaful company, investment fund ... with an implication of the public authorities in this strategy, in particular central banks;
- The need to set up a management plan for the management of financial institutions
- Need for avoiding transposing of the ready experiments all of other countries without taking account of specificities and the local context.
- The preparation of the various actors by an adequate training in the various fields of is engaged Islamic, as well as the technical plan.
- In addition, other accompanying measures must be initiated and the aim of the rules of good governance, Of taxation in the companies, and in order to encourage the Islamic financial institutions to privilege the participatory instruments, which, at the same time, answer the precepts of Chariaa better and constitute an interesting alternative for the other forms of financing by the Debt.

References Références Referencias

1. Awan, HM, & Bukhari, K Shahzad (2011). Customer's criteria for selecting an Islamic bank: evidence from Pakistan. *Journal of Islamic Marketing*. emeraldinsight.com.
2. Cevik, S, & Charap, J (2011). The behavior of conventional and Islamic bank deposit returns in Malaysia and Turkey. papers.ssrn.com.
3. Hasan, SA, Subhani, MI, & Osman, M (2012). Consumer criteria for the selection of an Islamic Bank: Evidence from Pakistan. mpra.ub.uni-muenchen.de.
4. Abedniya, A, Zaeim, MN, & Hakimi, BY (2011). Investigating the relationship between customers' perceived service quality and satisfaction: Islamic bank in Malaysia. *European Journal of Social Sciences*.
5. Sobhani, FA, Zainuddin, Y, & Amran, A (2011). Religion as an emerging institutional factor behind sustainability disclosure practices in Bangladesh: the case of an islamic bank. *World Journal of Social sciences*.
6. Jaffar, M, & Manarvi, I (2011). Performance comparison of Islamic and Conventional banks in Pakistan. *Global Journal of Management and* business
7. Halkias, D, Bukhari, K Shahzad, & ... (2013). An evaluation of corporate governance practices of Islamic banks versus Islamic bank windows of conventional banks: A case of Pakistan. *Management* …. emeraldinsight.com.
8. Usman, A, & Khan, MK (2012). Evaluating the financial performance of Islamic and conventional banks of Pakistan: A comparative analysis. … *Journal of Business and Social Science*.
9. Firmansyah, I (2015). Determinant Of Non Performing Loan: The Case Of Islamic Bank In Indonesia. *Buletin Ekonomi Moneter dan Perbankan*. journalbankindonesia.org.

10. Ahmad, K, Rustam, GA, & Dent, MM (2011). Brand preference in Islamic banking. *Journal of Islamic Marketing*. emeraldinsight.com.
11. Abduh, M, & Chowdhury, NT (2012). Does Islamic banking matter for economic growth in Bangladesh. *… Journal of Islamic Economics, Banking and finance*.
12. Abdullah, AA, Sidek, R, & ... (2012). Perception of non-Muslims customers towards Islamic banks in Malaysia. *International Journal of Islamic banks*
13. Siraj, KK, & Pillai, PS (2012). Comparative study on performance of Islamic banks and conventional banks in GCC region. *Journal of Applied Finance and Banking*.
14. Akhtar, MF, Ali, K, & Sadaqat, S (2011). Factors influencing the profitability of Islamic banks of Pakistan. *International Research Journal of ….* joc.hcc.edu.pk.
15. Idris, FFA Asma 'Rashidah, Asari, H, Taufik, NAA, & ... (2011). Determinant of Islamic banking institutions' profitability in Malaysia. *World Appl. Sci. J*. Citeseer.
16. Abduh, M, Omar, MA, & Duasa, J (2011). The impact of crisis and macroeconomic variables towards Islamic banking deposits. papers.ssrn.com.
17. Beck, T, Demirgüç-Kunt, A, & Merrouche, O (2013). Islamic vs. conventional banking: Business model, efficiency and stability. *Journal of Banking & Finance*. Elsevier.
18. Anwar, S, & Mikami, Y (2011). Comparing accuracy performance of ANN, MLR, and GARCH model in predicting time deposit return of Islamic bank. *International Journal of Trade*.
19. Lee, K, & Ullah, S (2011). Customers' attitude toward Islamic banking in Pakistan. *International Journal of Islamic and Middle east*.
20. Yahya, M Hisham, Muhammad, J, & ... (2012). A comparative study on the level of efficiency between Islamic and conventional banking systems in Malaysia. *… Journal of Islamic banks*
21. Choong, YV, Thim, CK, & Kyzy, BT (2012). Performance of Islamic commercial banks in Malaysia: an empirical study. *Journal of Islamic Economics, Banking and finance*.
22. Abdullah SA, Al Zyoud MKA, Al-smadi AA (2014) Islamic Finance Modes in Jordanian Economy: A Comparative Study.
23. Echchabi, A, & Olaniyi, O Nafiu (2012). Malaysian consumers' preferences for Islamic banking attributes. *International journal of social ….* emeraldinsight.com.
24. Hidayat, SE, & Abduh, M (2012). Does financial crisis give impacts on Bahrain Islamic banking performance? A panel regression analysis. *International Journal of Economics and Finance*.
25. Ika, SR, & Abdullah, N (2011). A comparative study of financial performance of Islamic banks and conventional banks in Indonesia. *… Journal of Business and Social Science*.
26. Khalid, S, & Amjad, S (2012). Risk management practices in Islamic banks of Pakistan. *The Journal of Risk Finance*
27. Akram, M, Rafique, M, & Alam, HM (2011). Prospects of Islamic Banking: Reflections from Pakistan. *Australian Journal of Business*.
28. Abduh, M (2012). Islamic banking service quality and withdrawal risk: The Indonesian experience.
29. Ansari, S, & Rehman, A (2011). Financial performance of Islamic and conventional banks in Pakistan: A comparative study. *8th international conference on Islamic economics and finance.*
30. Khrawish, HA, Siam, WZ, & Khrawish, AH (2011). Determinants of Islamic bank profitability: Evidence from Jordan. *Middle Eastern Finance and Economics*.
31. Ergeç, EH, & Arslan, BG (2013). Impact of interest rates on Islamic and conventional banks: the case of Turkey. *Applied Economics*. Taylor & Francis.

Global Journal of Management and Business Research: C Finance
Volume 17 Issue 2 Version 1.0 Year 2017
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

The Extent of Corporate Social Responsibility Disclosure Practices: Evidence from the Banks, Finance and Insurance Sector in Sri Lanka

By J. Aloy Niresh & Dr. W. H. E. Silva
Vavuniya Campus

Abstract- Corporate Social Responsibility is increasingly becoming popular nowadays as the corporate performance is not merely measured by financial performance. It implies that Corporate Financial Performance along with Corporate Social Performance defines the success of organizations. The sustainability reporting agenda is now thinking beyond the basic environmental, social and governance reporting view and the future now lies in Integrated Reporting, which links the non-financial performance of a company with its financial status by making clear how its sustainability performance impacts the future viability of the business. This study examined the extent of CSR reporting of the firms which belong to the Banks, Finance and Insurance sector in Sri Lanka. For the purpose of the study, data is collected from 33 companies and for the selection of this sample purposive sampling technique is utilized. It is found that reporting on CSR was high among the sampled firms representing the CSRDI value of 64.77. Reporting on community CSR was high whereas health CSR was the least disclosed dimension.

Keywords: corporate social responsibility, corporate financial performance, corporate social responsibility disclosure.

GJMBR-C Classification: JEL Code: E50

THEEXTENTOFCORPORATESOCIALRESPONSIBILITYDISCLOSUREPRACTICESEVIDENCEFROMTHEBANKSFINANCEANDINSURANCESECTORINSRILANKA

Strictly as per the compliance and regulations of:

The Extent of Corporate Social Responsibility Disclosure Practices: Evidence from the Banks, Finance and Insurance Sector in Sri Lanka

J. Aloy Niresh [α] & Dr. W. H. E. Silva [σ]

Abstract- Corporate Social Responsibility is increasingly becoming popular nowadays as the corporate performance is not merely measured by financial performance. It implies that Corporate Financial Performance along with Corporate Social Performance defines the success of organizations. The sustainability reporting agenda is now thinking beyond the basic environmental, social and governance reporting view and the future now lies in Integrated Reporting, which links the non-financial performance of a company with its financial status by making clear how its sustainability performance impacts the future viability of the business. This study examined the extent of CSR reporting of the firms which belong to the Banks, Finance and Insurance sector in Sri Lanka. For the purpose of the study, data is collected from 33 companies and for the selection of this sample purposive sampling technique is utilized. It is found that reporting on CSR was high among the sampled firms representing the CSRDI value of 64.77. Reporting on community CSR was high whereas health CSR was the least disclosed dimension.

Keywords: corporate social responsibility, corporate financial performance, corporate social responsibility disclosure.

I. Introduction

a) Background of the Study

Corporate Social Responsibility (CSR) is increasingly becoming popular nowadays as the organizational performance is not merely measured by financial performance. CSR is considered as the indicator of social performance as most of the organizations realized this and started creating a separate report called sustainability report to show how they contribute to the betterment of society. Business organizations have become aware of the importance of presenting information about the broader range of activities including both their financial performance and non-financial performance such as corporate social performance (Aksik & Gal, 2011). After corporate scandals and financial crises, regulators, academicians, investors and other stakeholders called for greater transparency from the business world. Greater corporate transparency means decreasing information asymmetry between managers and stakeholders by better information disclosure by means of media, websites, prospectuses, annual reports and sustainability reports.

Author α: Lecturer (Probationary), Department of Finance and Accountancy, Faculty of Business Studies, Vavuniya Campus.
Author σ: Senior Lecturer, Department of Accounting, Faculty of Management Studies & Commerce, University of Sri Jayewardenepura.
e-mail: aloy157@gmail.com

Carroll is the most representative among scholars studying CSR. According to Carroll's viewpoint, CSR is the society's expect of company in economy, law, ethics and freedom at a particular time. Society not only requires companies to fulfill their economic mission, but also to obey the law, value the ethics, and do charity work. Therefore, CSR should be the sum of economic responsibility, legal responsibility, ethical responsibility, and discretionary responsibility (Carroll, 1979, 1991). Carroll (1979) also argued that economical responsibility was the most fundamental and important responsibility of a company, which reflected the essence of company as a profit making business organization.

A company cannot be considered to be a good corporate citizen, or to be engaging in responsible corporate practices, if it treats its employees in a less than satisfactory manner, exploits its customers, cheats its investors, uses more than its fair share of energy and water, or continues to destroy the natural environment by expelling vast quantities of harmful pollutants into the surrounding area. The true definition of corporate responsibility is that a company takes all these factors into account when making its business decisions that minimizes all the negative impacts that it creates as a result of its business activities, whilst at the same time ensuring that it creates significant long term benefits for all its stakeholders.

b) Research Problem

It is generally acknowledged that CSR is more often implemented and studied in developed countries. There exists a limited number of studies on CSR being carried out using the context of developing countries (Simpson and Kohers, 2002; Hossain et al., 2006; Rashid et al., 2010). Although various stakeholders have pushed companies to implement CSR in developing countries, it seems many firms do not have sufficient knowledge to actualize it (Fernando, 2007).

According to Senaratne (2009), there was a tendency in Sri Lankan companies to engage in social reporting. However, the reporting was more qualitative and greatly diverse in the types and extent of disclosures made. The author questioned the adequacy and quality of social disclosure practices and noted that social reporting was at a primitive level in Sri Lanka. In line with this, Bedde wela and Herzig (2013) examined the status and pressures which drove corporate social reporting of Sri Lankan subsidiaries of Multi-National Companies (MNCs). They came to know that only three out of ten MNCs subsidiaries examined published an external stand-alone social report and the majority provided information related to social and environmental activities within Sri Lanka to their head offices to publish global corporate social reports. This study also noted that interviewees perceived the quality of social responsibility of other Sri Lankan companies as deficient and concluded that social responsibility was still at an early stage in Sri Lanka. Overall, prior studies in developing countries in general, and Sri Lanka in particular, have shown an increasing but still inadequate level of CSR.

c) *Research Questions*

This study is directed towards answering the following research question:

To what extent the companies lie under the Banks, Finance and Insurance sector are practicing CSR?

d) *Research Objective*

To examine the extent of CSR disclosure practices of the listed companies under the Banks, Finance and Insurance sector in Sri Lanka over the years from 2010 to 2014.

e) *Significance of the Study*

Profitability is no longer the key factor driving business success. Instead, social and environmental standards determine a company's ability to reap profits. In the light of this, it is important to ascertain the status of Sri Lankan firms and their preparedness for facing challenges of doing business in the future in a world which is increasingly more networked and has seen a shift of power from governments and corporates, to the people that make up society.

This study is expected to contribute a further understanding of the practices of CSR disclosures in developing countries and more specifically in Sri Lanka. This would be considered an important contribution as most of the existing studies about CSR disclosure have been conducted in developed countries, with fewer studies focused on developing countries especially Sri Lanka.

f) *Limitations of the Study*

The following limitations are identified in this study:

1. The data was collected from a representative sample of the firms belong to the Banks, Finance and Insurance sector in Sri Lanka. This limits the generalizability of the findings to all organizations in Sri Lanka.
2. The CSR data for the estimation of issues in this study depended largely on the quality of data available in the annual reports and sustainability reports. Unerman (2000) argues that only a small proportion of an organization's total corporate social responsibility disclosure might be captured exclusively via annual reports. Moreover, this research did not use other mass communication mechanisms such as advertising, promotional leaflets and websites. Hence, the results are limited to the information obtained from the two data sources namely annual reports and sustainability reports.
3. The sample of this study is likely to be considered small as the sample was collected from only one sector. Moreover, the companies were selected only if they disclosed CSR information over the period from 2010 to 2014.
4. This study is based on the CSR framework adopted from a study which is tailored to fit for the Sri Lankan context. The adopted CSR checklist is based on six dimensions with twenty-eight CSR activities to capture CSR practices from company annual reports. Some companies might not have practiced what is being laid down in the CSR checklist items. Hence, the CSR framework may not fully capture the actual picture of the CSR practices of the sampled companies.

II. Corporate Social Responsibility Disclosure Practices in Sri Lanka

The corporate world has experienced an increased focus on the ethical behavior and responsibilities of businesses. This is evident in the shift in focus from shareholder value creation to stakeholder value creation, where companies are striving to balance their interactions with people, planet and profit. Sri Lanka is also no exception to it. This new tendency is a consequence of the fact that progressively more power has been vested in stakeholders who demand transparency in organizational communications and expect companies to be accountable for their impacts. Companies must look at CSR a term which encompasses both sustainability and good governance in a fully integrated manner.

The Institute of Chartered Accountants of Sri Lanka together with the Securities and Exchange Commission (SEC) launched the revised Code of Best Practice on Corporate Governance recently. It has been aimed at incorporating recent developments in the best corporate governance practices in the context of Sri Lanka. Good corporate governance is considered fundamental to an organization's competitiveness, growth and most importantly its sustainability. The revised code includes seven principles of sustainability reporting including economic sustainability, environmental sustainability, sustainable labor practices, society, product responsibility, stakeholder identification and formalization of sustainability reporting and disclosure. It aims to promote formal and regular reporting built on various established national and international reporting guidelines. Even though it is not mandated implies that corporates are encouraged to adopt this code in discharging their corporate governance responsibilities.

The researches in relation to CSR in Sri Lanka are found to be minimal. Even though, the evidence exists for CSR engagement (Fernando and Pandey, 2012; Khan and Beddewela, 2008; Thoradeniya et al. 2012; Visser, 2008).

Rajapakse and Abeygunasekera (2008) investigated the motives, benefits, and barriers of CSR reporting in Sri Lanka by employing the case study approach together with a content analysis method. The annual report data and interview data were collected from three listed companies. The study concluded that two of the three companies engaged in CSR reporting, because the "stakeholders want them to be transparent about their activities" (Rajapakse & Abeygunasekera, 2008). However, they have not revealed what kind of stakeholders; consequently, it is not possible to checkwhetherthisfindingisonlyrelevanttoeconomicallypowerfulstakeholders. Rajapakse and Abeygunasekera identified the third case company's CSR reporting motive by means of legitimacy theory, as the company tries to conform to the norms of society (Rajapakse & Abeygunasekera,2008).

Senaratne (2009), investigated CSR disclosure practices in Sri Lanka, and found that, although it is not mandatory, there is strong evidence that companies tend to engage in CSR reporting. However, she found a significant variation between companies with regard to the level of such reporting.

Collecting data from listed companies through a questionnaire survey, Sheham and Jahfer (2011) tried to examine the relationship between CSR activities and financial performance in Sri Lanka. They found significant positive correlations only in employee relations and customer/supplier relations, when these were compared between companies' financial performance. However, they did not make any differentiation between local and foreign customers/supplier relations.

Moving away from CSR disclosure, Rathnasiri tried to explore the state of CSR understanding, commitment, and practices of Sri Lankan companies which covered different industry sectors (Rathnasiri, 2003). Using a questionnaire survey as the main research instrument, he used company management, employees, and civil society to identify various perspectives in exploring the level of CSR engagement. Rathnasiri (2003) concluded that CSR was still a novel concept in Sri Lanka and the most common perspective was centered on philanthropic activities. He found that"most people are ignorantof the broader objectives of CSR. Inaddition, Sri Lankan civil society including employees of organizations is also not aware of the true meaning of CSR" (Rathnasiri, 2003).

Using the Sri Lankan research evidence, Rathnasiri (2003) argues that the survival of most of the companies depends on the level of relationship they maintain with the existing government, because "the corporate sector in many ways has been subjected to political maneuvering which has affected society" (Rathnasiri, 2003, p. 224). He noted that the respondents were reluctant to comment on such matters as they were sensitive concerning their companies' survival. Although the researcher (Rathnasiri, 2003) did not consider mainstream CSR theories in analysing the data, these results support the managerial perspective of stakeholder theory which gives prominence only to powerful stake holders, in this case the government.

Thoradeniya et al. (2012) surveyed a relatively different aspects of CSR reporting in Sri Lanka. They employed the theory of planned behavior in order to examine the influence of managers' attitudes and other psychological factors on CSR reporting behavior from the perspective of Sri Lanka as a developing country. Collecting 233 usable questionnaires by achieving a nearly 25 percent response rate, they tested the hypothesis using the partial least square model. The findings indicate that the managers' attitudes and other psychological factors influence managers' intentions to engage in CSR reporting. However, they found that in most of the companies this intention is not translating to the actual practice of CSR reporting mainly because of the managers' lack of a sufficient degree of control over the CSR reporting process. Normatively, the authors suggest that by considering the role of psychological variables in the CSR process, the companies need to invent more effective corporate strategies in order to promote CSR reporting in Sri Lanka.

A survey in 2003 revealed that lack of knowledge and understanding of CSR with regard to companies in Sri Lanka; nevertheless, it revealed that most of the companies are engaged in social activities (Ceylon Chamber of Commerce, 2005).

Fernando and Pandey (2012) carried out a survey by collecting data through corporate reports of Sri Lankan listed companies and from questionnaire survey in order to investigate the nature of CSR practices using content analysis method. Through analysis they found that only 34% of 232 companies had adopted CSR reporting practice. Moreover, they found that firms operating in the sectors called Construction and Engineering, Information Technology, Oil palms, Services and Stores Supplies were not adopting CSR reporting. Further, they found that the CSR reporting that was done was often unsatisfactory with regard to the quantity and quality of company CSR reporting and, in agreement with the findings of Senaratne (2009), the level of disclosure varied significantly among reporting companies. It was found that only 12 companies had followed GRI G3 guidelines for CSR reporting. Finally, the authors highlighted the current low level of reporting in Sri Lanka and raised a question as to why companies are not interested in engaging in CSR reporting in Sri Lanka, and called for further researches on this aspect (Fernando &Pandey,2012).

Sri Lanka is a fairly neglected country in terms of CSR research and the topic receives relatively little attention in Asia (Fernando and Pandey, 2012; Khan and Beddewela, 2008; Visser, 2008). Moreover, prior researches have reported an upward trend social responsibility, but the level and quality of reporting remain low (Abeysekara and Guthrie, 2005; Senaratne and Liyanagedara, 2009; Senaratne, 2009; Bedewela and Herzig, 2013).

Sri Lanka has a longstanding culture and the societal, environmental and religious values are deeply rooted in it. But, how such values are reflected in corporate setting through corporate reporting is unclear. The literature reveals that most of the Sri Lankan firms are unaware of reporting CSR and the outcomes of reporting. Therefore, it is imperative that there is a scope for more researches in this arena. Hence, no one can repudiate the inevitability of an exclusive research in this area.

III. Methodology

a) *Operationalization*

Table 3.1: Operationalization

Construct	Dimensions	Indicators	Source	Measurement
Corporate Social Responsibility Disclosure	Community	Community outreach activities such as creating awareness on respect to each other and road safety	Tilakasiri (2012)	Total score of the dimensions / Maximum possible score obtainable * 100 (The adopted framework consists of 28 CSR check list items. Hence, maximum possible score obtainable for a firm is 28)
		Public projects like houses for homeless people		
		Sponsor for sports activities		
		Supporting services for elders and children		
		Organizing mental relief activities		
		Maintaining parks and towns		
	Education	Organizing education seminars		
		Donation of books, uniforms and foods to schools		
		English language support program for the rural area students and school leavers		
		Organizing disability support activities for the disabled children		
		Skill development programs		
		Support for day care centers and pre-school children		
	Environment	Organizing programs for caring the environment		
		Applicable environment rules		

		Planting trees		
	Customers	Quality products and services		
		Provides information that is truthful and useful		
		Respects the rights of consumers		
	Health	Dengue and HIV preventing programs		
		Supporting services to government hospitals		
		Scholarships to the medical students for further education		
	Employees	Training and development		
		Health and safety programs		
		Trade union development		
		Employee benefits-insurance, share option plans		
		Formal recruiting, promotion and firing system		
		Equal employment opportunity		
		Disclosing policy on company's remuneration schemes		

Source: Author's own systemization

b) *Sample Design*

The target population of this study is the number of firms which belong to the Banks, Finance and Insurance sector. This population sample could be the most useful for the study as relatively little academic research has been undertaken focusing on CSR disclosure by banks, finance and insurance companies in Sri Lanka. The selection of the sample for this study is restricted to those firms who disclosed the information in relation to sustainability over the years from 2010 to 2014. Hence, purposive sampling method has been utilized in this study so as to select the sample from target population. As a result, 33 companies were selected as sample for this study.

c) *Data Collection*

Annual reports are predominantly used in this thesis to collect the data required for the study. Annual reports are read by a range of different stakeholders and therefore the information contained in the annual reports has the power to influence the readers (Deegan and Rankin, 1997). Information in relation to CSR was collected from the companies' annual reports over the years from 2010 to 2014.

d) *Measurement of Corporate Social Responsibility Index (CSRDI)*

The present study employed disclosure scoring methodology so as to calculate the CSRDI. Disclosure index study is considered as the form of content analysis which measures CSR disclosures against a set of pre-determined items to assess the comprehensiveness of CSR reporting. This involves the analysis of annual reports to determine how well firms score on a set of pre-determined factors. There is an established accounting literature that examines annual report disclosures using this method (Guthrie and Abeysekera, 2006).

The first step involved in this study under this method was the selection of reliable items relating to CSR disclosure known as CSR check list. The thesis adopted the disclosure framework which has been developed by Tilakasiri, (2012) for the study named Corporate Social Responsibility and Company Performance: Evidence from Sri Lanka. Table 3.2 provides the snapshot view of the disclosure assessment framework used in the study.

Table 3.2: Disclosure assessment framework

Dimensions of Corporate Social Responsibility Disclosure Index	Number of Indicators
Community	6
Employees	7
Customers	3
Education	6
Health	3
Environment	3
Total number of reporting elements	28

Source: Author's own systemization based on the adopted framework

The second step involved in this study was scoring of CSR checklist items. The present study employed un weighted scoring method to arrive at the CSRDI. The un weighted method also known as dichotomous approach which assigns equal values to the check list items irrespective of how the items appear either in annual reports or sustainability reports (Boesso and Kumar, 2007). The un weighted approach is regarded as more objective and largely avoids any degree of subjectivity commonly known in other content analyses approaches. Contrary to the dichotomous approach, the weighted approach goes beyond what is said and identifies how it is said (Guthrie and Parker, 1990). However, the present study employed un weighted approach based on the assumption that each disclosure item is equally significant for all stakeholders. A score of 1 was assigned if the check list items appeared in the annual reports and a score of 0 was awarded for the absence of information.

The third and final step involved was the calculation of corporate social responsibility index. Subsequent to the second step, total score values CSR disclosure were aggregated from all sub scores of the six dimensions of named community, employees, customers, education, health and environment. The overall CSRD scores were the summation of the scores for all the CSRD items. Finally, the extent of reporting represented by Corporate Social Responsibility Index (CSRDI) was computed as the ratio of actual scores to the maximum possible obtainable score as follows:

$$\text{CSRDI} = \frac{\text{Actual score}}{\text{Maximum possible obtainable score}} \times 100$$

IV. Analysis & Findings

a) *Measures of central tendency*

Table 4.1 presents the descriptive statistics of the variables used in the study across the 165 observations collected.

Table 4.1: Measures of central tendency of the sampled firms

Variables	Mean	Minimum	Maximum	Standard Deviation
Employee CSR	14.35	7.14	25	3.67
Community CSR	17.41	7.14	21.43	3.42
Health CSR	6.12	3.57	10.71	2.26
Educational CSR	12.61	7.14	21.43	3.53
Environmental CSR	7.10	3.57	10.71	2.16
Customer CSR	7.18	3.57	10.71	2.52
Corporate Social Responsibility Disclosure Index	64.77	39.28	92.85	11.93

As far as the Corporate Social Responsibility Index (CSRDI) is concerned, the maximum CSRDI is found to be 92.85 whereas the minimum is realized to be 39.28. The mean of CSRDI is observed to be high as 64.77 for the entire sample. The adoption of country specific framework could be the underlying reason for this high level of disclosure index. Another reason might be the selection of sample as firms which were lacking or not reporting on CSR from 2010 to 2014 were omitted to increase the validity of the findings. The standard deviation of CSRDI is 11.93 which reflects a high level of dispersion from the mean. It suggests that the level of disclosure practices of the sampled firms extremely vary.

When it comes to the dimensions of CSR, community CSR has the highest mean value of 17.41 followed by employee CSR, educational CSR, customer CSR, environmental CSR and health CSR with the mean values of 14.35, 12.61, 7.18, 7.10 and 6.12 respectively. Even though, it cannot be interpreted as community CSR is practiced by most of the firms and followed by other dimensions of CSR based on the mean values. The CSR check list items vary across the dimensions of CSR as they are not equally scattered among the six dimensions used in this study. Therefore, to provide a meaningful interpretation, these mean values should be compared with the maximum obtainable value on each dimensions of CSR (refer table 4.2).

b) The extent of reporting on CSR based on the dimensions

The following table provides a snapshot view on the extent to which the sampled firms practicing the varying forms of corporate social responsibility disclosure.

Table 4.2: The extent of CSRD practices across its dimensions

Dimensions of Corporate Social Responsibility Disclosure	Mean (%)	Maximum obtainable score (%)	The extent of achievement (%)	Ranking
Employee CSR	14.35	25.01	57.38	5
Community CSR	17.41	21.43	81.24	1
Health CSR	6.12	10.71	57.14	6
Educational CSR	12.61	21.43	58.84	4
Environmental CSR	7.10	10.71	66.29	3
Customer CSR	7.18	10.71	67.04	2

The table 4.2 shows the degree of CSR practices of the sampled firms based on the dimensions of corporate social responsibility disclosure. This study adopted a framework which consists of 28 CSR check list items. The breakdown of the total CSR check list items in relation to each of the dimension is as follows: Employee CSR, 7; Community CSR, 6; Health CSR, 3; Educational CSR, 6; Environmental CSR, 3; and Customer CSR, 3. By referring to these, the maximum obtainable mean value for the CSR dimensions were computed. For example, the maximum obtainable score for the community CSR was calculated as the ratio of the number of CSR check list items fall under this category to the total number of CSR check list items as in this study 28. Hence, the maximum obtainable mean value for the community CSR is 21.43 (6/28*100).

The extent to which the sampled firms practicing the dimensions of CSR was computed as the ratio of the actual mean value to maximum obtainable mean value. The maximum obtainable mean value varies since the CSR check list items were not scattered evenly across the six dimensions. Prioritization has been done based on the extent of achievement and it can be seen from the table 4.2 that community CSR was the most disclosed and the least disclosed dimension was health CSR. Customer CSR, Environmental CSR, Educational CSR and Employee CSR fall in between Community CSR and Health CSR having the degree of achievement values of 67.04%, 66.29%, 58.84% and 57.38% respectively.

c) Location of Corporate Social Responsibility Disclosure in Annual Reports

The CSR check list items were identified from several locations scattered throughout the annual reports. Table 4.3 illustrates that the location of CSR disclosure in annual reports varied across the five-year period from 2010 to 2014.

Table 4.3: Location of CSR reporting

Location of reporting	Number of firms disclosing CSR									
	2010		2011		2012		2013		2014	
	Firms	%	Firms	%	Firms	%	Firms	%	Firms	%
Sustainability report	20	61	22	67	17	52	14	43	12	37
Management discussion and analysis	1	3	1	3	5	15	8	24	11	33
Corporate Social Responsibility	12	36	8	24	8	24	8	24	4	12
Stewardship					1	3	1	3	2	6
Other sections			2	6	2	6	2	6	4	12

As it can be seen from the table 4.3 that sustainability report is the section where most of the firms disclosed the information on CSR throughout the period from 2010 to 2014. Even though, the number of firms reporting under sustainability report showing a declining trend from 2012 to 2014 despite a marginal increase in the year of 2011. The number of firms reporting under management discussion and analysis increased from only one firm in the year of 2010 to a whopping amount of 11 in the year of 2014. The number of firms reporting under the section named Corporate Social Responsibility was quite stable during the years of 2011, 2012 and 2013 but showing a declining trend. Only a very few companies are reporting under the section called stewardship. In addition to the aforementioned sections, firms are reporting under variety of other sections too for example, the cause of society; corporate governance; the bank and the Triple Bottom Line (TBL); rewarding, recognizing and rejuvenating; governance and sustainability; business model; and business philosophy. These are grouped into a category called other sections.

V. Conclusion & Future Research Directions

a) *Conclusion*

The future of business is intrinsically linked to strategic corporate responsibility. CSR can take three forms namely philanthropic CSR, transactional CSR and transformational CSR. Organizations are increasingly moving towards transformational CSR nowadays which has seen a shift from charity driven CSR to strategy driven CSR. It enables organizations to internalize a culture of corporate responsibility into their core business operations. This study is built upon the notion that stakeholder engagement is the starting point for effective corporate social responsibility. The main purpose of CSR is to manage stakeholder relationships to ensure that business operations give rise to significant long term benefits for them, whilst at the same time minimizing the negative impacts that are created due to daily business activities.

The research question of the study is focused on the extent of CSR disclosure practices of the firms which belong to the Banks, Finance and Insurance sector in Sri Lanka. The main results of the descriptive statistics show that CSR reporting is at a high level among the sampled firms used in the study. The findings show that community CSR was the most disclosed theme followed by customer CSR, environmental CSR, educational CSR, employee CSR and health CSR. These results indicate that the firms which belong to the Banks, Finance and Insurance sector did not give priority to health CSR during the period from 2010 to 2014. By referring to the above, it can also be concluded that banks, finance and insurance companies prioritized community CSR in order to ascertain the views of community which are considered to be most critical to address first. This study's findings seem to be consistent with previous studies (Deegan, 2000; Deegan and Blomquist, 2006) which supported the application of stakeholder theory in CSR disclosure. The expectation and pressure of particular stakeholder groups can influence the level of disclosure. Furthermore, Deegan (2000) emphasize that the volume of CSR disclosure is related to the expectations of stakeholders. Hence, it can be concluded that the expectations of community are high among the banks, finance and insurance companies in Sri Lanka.

b) *Directions for Future Research*

Some limitations of this research should be investigated in the future research. The data required for this study is sourced from annual reports. Future research could include other means of reporting to look into the extent of CSR disclosure practices. Because, companies may report CSR activities in other medias for example newspapers, promotional leaflets, websites and brochures. The information from other means of communication may show a comprehensive image of CSR disclosure in the Sri Lankan context. Further, this study is limited to the firms which belong to the Banks, Finance and Insurance sector in Sri Lanka. Therefore, further researches can be done by differentiating sector. The sample size is considered to be small and it limits the generalizability of the findings to Sri Lanka. Therefore, anyone can take it to the next level by widening the number of firms included in the study.

References Références Referencias

1. Abeysekara, I and Guthrie, J 2005, 'An empirical investigation of annual reporting trends of intellectual capital in Sri Lanka', *Critical Perspectives on Accounting*, vol. 16, pp. 151-163.
2. Adams, CA 2002, 'International organizational factors influencing corporate social and ethical reporting: Beyond current the orising', Accounting, Auditing and Accountability Journal, vol. 15, no. 2, pp. 223-250.
3. Akisik, O and Gal, G 2011, 'Sustainability in business, corporate social responsibility, and accounting standards: An empirical study', *International Journal of Accounting and Information Management*, vol. 19, no. 3, pp. 304-324.
4. Alsaeed, K 2006, 'The association between firm specific characteristics and disclosure: The case of Saudi Arabia, *Managerial Auditing Journal*, vol. 21, no. 5, pp. 476-496.
5. Andrikopoulos, A, Samitas, A and Bekiaris, M 2014, 'Corporate social responsibility reporting in financial institutions: evidence from Euronext', *Research in International Business and Finance*, vol. 32, pp. 27-35.
6. Beddewela, E and Herzig, C 2013, 'Corporate social reporting by MNCs' subsidiaries in Sri Lanka', *Accounting Forum*, vol. 37, pp. 135-149.
7. Beddewela, ES and Khan, F 2006, 'Corporate Social Responsibility Practices: A comparative study of local and multinational companies in Sri Lanka', *Sri Lankan Journal of Management*, vol. 13, pp. 1-21.
8. Carroll, AB 1979, 'A three-dimensional conceptual model of corporate performance', *The Academy of Management Review*, vol. 4, no. 4, pp. 497-505.
9. Carroll, AB 1991, 'The pyramid of corporate social responsibility: toward the moral management of

organizational stakeholders', Business Horizons, vol. 34, no. 4, pp. 39-48.
10. Carroll, AB 1999, 'Corporate social responsibility: evolution of a definitional construct', *Business and Society*, vol. 38, no. 3, pp. 268-295.
11. Carroll, AB 2000, 'A commentary and an overview of key questions on corporate social performance measurement', *Business and Society*, vol. 39, no. 4, pp. 466-478.
12. CCC 2005, The CSR handbook, Colombo, Sri Lanka: Ceylon Chamber of Commerce.
13. Deegan, C 2000, 'The triple bottom line What the good guys are putting in the annual report', *Journal of the Securities Institute of Australia*, vol. 3, pp. 12-14.
14. Deegan, C 2002, 'The legitimizing effect of social and environmental disclosures: A theoretical foundation', *Accounting, Auditing & Accountability Journal*, vol. 15(3), pp. 282 - 311.
15. Deegan, C 2009, Financial accounting theory (3rd ed.). North Ryde, NSW, Australia: McGraw Hill.
16. Deegan, C and Blomquist, C 2006, 'Stakeholder influence on corporate reporting: an exploration of the interaction between WWF-Australia and the Australian minerals industry', *Accounting, Organizations and Society*, vol. 31, no. 4-5, pp. 343-372.
17. Deegan, C, and Gordon, B 1996, 'A study of environmental disclosure practices of Australian corporations', *Accounting & Business Research*, vol. 26(3), pp. 187-199.
18. Deegan, C and Rankin, M 1997, 'The materiality of environmental information to users of annual reports', *Accounting, Auditing & Accountability Journal*, vol.10, no. 4, pp. 562-583.
19. Deegan, C, Rankin, M and Voght, P 2000, 'Firms' disclosure reactions to major social incidents: Australian evidence', *Accounting Forum*, vol. 24, no. 1, pp.101-130.
20. Fernando, M 2007, 'Corporate Social Responsibility in the Wake of the Asian Tsunami: A Comparative Case Study of Two Sri Lankan Companies', *European Management Journal*, vol. 25, no. 1, pp. 1-10.
21. Fernando, M 2010, 'Corporate Social Responsibility in the Wake of the Asian Tsunami: Effect of time on the genuineness of CSR initiatives', *European Management Journal*, vol. 28, no. 1, pp. 68-79.
22. Fernando, AAJ, and Pandey, IM 2012, 'Corporate social responsibility reporting: A survey of listed Sri Lankan companies', *Journal for International Business and Entrepreneurship Development*, vol. 6, no. 2, pp. 172-187.
23. Guthrie, J and Abeysekera, I 2006, 'Content analysis of social, environmental reporting: what is new?', *Journal of HRCA: Human Resource Costing &Accounting*, vol. 10, no. 2, pp. 114-126.
24. Jitaree, W 2015, 'Corporate social responsibility disclosure and financial performance: evidence from Thailand', Doctor of Philosophy thesis, School of Accounting, Economics and Finance, University of Wollongong.
25. McWilliams, A and Siegel, D 2000, 'Corporate social responsibility and financial performance: correlation or misspecification?', *Strategic Management Journal*, vol. 21, no. 5, pp. 603-609.
26. McWilliams, A and Siegel, D 2001, 'Corporate social responsibility: a theory of the firm perspective', *Academy of Management Review*, vol. 26, no. 1, pp. 117-127.
27. McWilliams, A, Siegel, D, and Wright, PM 2006, 'Corporate social responsibility: strategic implications', *Journal of Management Studies*, vol. 43, pp. 1-18.
28. Menard, S 1995, 'Applied logistics regression analysis, Sage University Paper Series on Quantitative Applications in the Social Sciences', Thousand Oaks, CA: Sage.
29. Menassa, E 2010, 'Corporate social responsibility: an exploratory study of the quality and extent of social disclosures by Lebanese commercial banks', *Journal ofapplied accounting research*, vol. 11, no. 1, pp. 4-23.
30. Michelon, G 2011, 'Sustainability disclosure and reputation: a comparative study', *Corporate Reputation Review*, vol. 14, no. 2, pp. 79-96.
31. Mishra, S and Suar, D 2010, 'Does corporate social responsibility influence firm performance of Indian companies?', *Journal of Business Ethics*, vol. 95, no.4, pp. 571-601.
32. Munasinghe, MATK and Kumara, DCU 2013, 'Impact of Disclosure of Corporate Social Responsibility on Corporate Financial Performances of Plantations Companies in Sri Lanka', *Journal of Emerging Trends in Economics and Management Sciences*, vol.4.
33. Murray, A, Sinclair, D, Power, D and Gray, R 2006, 'Do financial markets care about social and environmental disclosure? further evidence and exploration from the UK', *Accounting, Auditing & Accountability Journal*, vol. 19, no. 2, pp. 228-255.
34. Perrault Crawford, E and Clark Williams, C 2010, 'Should corporate social reporting be voluntary or mandatory? Evidence from the banking sector in France and the United States', *Corporate Governance*, vol. 10, no. 4, pp. 512-526.
35. Peters, R and Mullen, MR 2009, 'Some evidence of the cumulative effects of corporate social responsibility on financial performance', *Journal of Global Business Issues*, vol. 3, no. 1, pp. 1-14.
36. Rajapakse, B, and Abeygunasekera, AWJC 2008, 'Social reporting practices of corporate entities in Sri Lanka', Available at: http://archive.cmb.ac.lk:8080 /research/handle/70130/1616.

37. Rathnasiri, H 2003, 'Corporate Social Responsibility Practices of Sri Lankan Private Sector: An Exploratory Study', *Sri Lanka Journal of Management*, vol. 8, no. 3-4, pp. 195-228.
38. Reverte, C 2012, 'The impact of better corporate social responsibility disclosure on the cost of equity capital', *Corporate Social Responsibility and Environmental Management*, vol. 19, no. 5, pp. 253-272.
39. Scholtens, B 2008, 'A note on the interaction between corporate social responsibility and financial performance', *Ecological Economics*, vol. 68, no. 1-2, pp. 46-55.
40. Scholtens, B 2009, 'Corporate social responsibility in the international banking industry', *Journal of Business Ethics*, vol. 86, no. 2, pp. 159-175.
41. Schreck, P 2011, 'Reviewing the business case for corporate social responsibility: new evidence and analysis', *Journal of Business Ethics*, vol. 103, no. 2, pp.167-188.
42. Senaratne, S 2009, 'Corporate social responsibility reporting in Sri Lanka', *Sri Lanka Journal of Humanities and Social Sciences*, vol. 1, no. 1.
43. Senaratne, S and Liyanagedara, K 2009, 'Corporate sustainability reporting in Sri Lanka', Proceedings of the Sixth International Conference on Business Management, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura, Sri Lanka, Vol. 6.
44. Simpson, WG and Kohers, T 2002, 'The link between corporate social and financial performance: evidence from the banking industry', *Journal of BusinessEthics*, vol. 35, no. 2, pp. 97-109.
45. Thoradeniya, P, Lee, J, Tan, R, and Ferreira, A 2012, 'The factors influencing sustainability reporting in a developing nation: An empirical test of theory of planned behavior', Paper presented at the RMIT Accounting Sustainability Conference, Melbourne, Australia, Available at: http://mams.rmit.edu.au /ubrs34fnkivw1.pdf.
46. Tilakasiri, KK 2012, 'Corporate social responsibility and company performance: evidence from Sri Lanka', Doctor of Philosophy, Faculty of Business and Law, Victoria University.
47. Tilt, CA 1994, 'The influence of external pressure groups on corporate social disclosure: some empirical evidence', *Accounting, Auditing, & Accountability Journal*, vol. 7, no. 4, pp. 47-72.
48. Tilt, CA 2001, 'The content and disclosure of Australian corporate environmental policies', *Accounting, Auditing, & Accountability Journal*, vol. 14, no. 2, pp.190-212.
49. Tsoutsoura, M 2004, 'Corporate social responsibility and financial performance', Working Paper Series (7), Center for Responsible Business, University of California, Berkeley, CA.
50. Turker, D 2009, 'How corporate social responsibility influences organizational commitment', *Journal of Business Ethics*, vol. 89, no. 2, pp. 189-204.
51. Udayasankar, K 2008, 'Corporate social responsibility and firm size', *Journal of Business Ethics*, vol. 83, no. 2, pp. 167-175.
52. Ullman, A 1985, 'A Data in Search of a Theory: A Critical Examination of the Relationship Among Social Performance, Social Disclosure, and Economic Performance', *Academy of Management Review*, vol. 10, no. 3, pp. 540-577.
53. Unerman, J, and Bennett, M 2004, 'Increased stakeholder dialogue and the internet: Towards greater corporate accountability or reinforcing capitalist hegemony?' ,*Accounting, Organizations and Society*, vol. 29, no. 7, pp. 685-707.
54. Unerman, J 2000, 'Methodological issues: reflections on qualification in corporate social reporting content analysis', *Accounting, Auditing & Accountability Journal*, vol. 13, no. 5, pp. 667-680.
55. Visser, W 2006, 'Revisiting Carroll's CSR Pyramid: An African Perspective', *Corporate Citizenship in Developing Countries: New Partnership Perspectives*, Copenhagen: Copenhagen Business School Press, pp. 29-56.
56. Visser, W 2008, 'Corporate social responsibility in developing countries', *The oxford Handbook of Corporate Social Responsibility*, Oxford University Press, Oxford, pp. 473-479.
57. Waddock, SA 2003, 'Myths and realities of social investing', *Organization and Environment*, vol. 16, pp. 369-380.
58. Waddock, SA and Graves, SB 1997, 'The corporate social performance-financial performance link', *Strategic Management Journal*, vol. 18, no. 4, pp. 303-319.
59. Wickramasinghe, 2006, 'Corporate social responsibility: Does it matter?', paper presented to ICBM, University of Sri Jayewardenapura, Sri Lanka.
60. Wijesinghe, KN and Senaratne, S 2011, 'Impact of Disclosure of Corporate Social Responsibility on Corporate Financial Performance in Banks, Finance and Insurance Sector in Sri Lanka', Available at: www.kln.ac.lk/uok/ICBI2011/A&F%20141.pdf.

Global Journal of Management and Business Research: C
Finance
Volume 17 Issue 2 Version 1.0 Year 2017
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Effect of Debt Financing on Business Performance: A Comparative Study between I&M Bank and Bank of Kigali, Rwanda

By Jean Bosco Harelimana

Institut d'Enseignement Superieur de Ruhengeri Musanze

Abstract- The effect of debt financing on firm performance is of considerable importance to all bank business. The study is focussed on establishing the effect of debt financing on firm performance, a comparative study between I&M Bank and Bank of Kigali within a period of six years from 2010. The study was descriptive and correlative in nature. The study found a strong positive relationship between debt level and profitability for both I&M bank and Bank of Kigali. This tends to be less expensive and increasing it with a relatively low interest rate which leads to the increase in profit levels and hence performance. The sustainability indicators shows that, Bank of Kigali was very stable in internal financial health with average SGR of 21% and IGR of 1.7% than its competitor I&M Bank with average SGR of 10% and IGR of 0.6%. However, the debt levels is not influenced by the variation on both SGR and IGR. The study concludes that Bank of Kigali was the best financial performer than its competitor I&M Bank. These were shown by the fact that during the period of last six years, the average ROE is 21% for BK against 26% for I&M Bank , average ROA is 4% for BK against 3% for I&M Bank, average LA is 51% for BK against 47% for I&M Bank, average LD is 74% for BK against 60% for I&M Bank, average SGR is 21% for BK against 10% for I&M Bank and finally average IGR is 3% for BK against 2% for I&M Bank.

Keywords: *debt financing, business performance, banking institution.*

GJMBR-C Classification: *JEL Code: G19*

EFFECTOFDEBTFINANCINGONBUSINESSPERFORMANCEACOMPARATIVESTUDYBETWEENIMBANKANDBANKOFKIGALI,RWANDA

Strictly as per the compliance and regulations of:

Effect of Debt Financing on Business Performance: A Comparative Study between I&M Bank and Bank of Kigali, Rwanda

Jean Bosco Harelimana

Abstract- The effect of debt financing on firm performance is of considerable importance to all bank business. The study is focussed on establishing the effect of debt financing on firm performance, a comparative study between I&M Bank and Bank of Kigali within a period of six years from 2010. The study was descriptive and correlative in nature. The study found a strong positive relationship between debt level and profitability for both I&M bank and Bank of Kigali. This tends to be less expensive and increasing it with a relatively low interest rate which leads to the increase in profit levels and hence performance. The sustainability indicators shows that, Bank of Kigali was very stable in internal financial health with average SGR of 21% and IGR of 1.7% than its competitor I&M Bank with average SGR of 10% and IGR of 0.6%. However, the debt levels is not influenced by the variation on both SGR and IGR. The study concludes that Bank of Kigali was the best financial performer than its competitor I&M Bank. These were shown by the fact that during the period of last six years, the average ROE is 21% for BK against 26% for I&M Bank , average ROA is 4% for BK against 3% for I&M Bank, average LA is 51% for BK against 47% for I&M Bank, average LD is 74% for BK against 60% for I&M Bank, average SGR is 21% for BK against 10% for I&M Bank and finally average IGR is 3% for BK against 2% for I&M Bank.

Keywords: debt financing, business performance, banking institution.

I. Introduction and Background

In any business enterprise, the sources of funds depend on the relative ease with which funds of different types are obtainable, and this in turn affected by the character of the company's assets, the seasonal and cyclical fluctuations in its volume of business, its rapidity of growth, its demonstrated or anticipated stability of profits and continuity of operations, its size, and any other aspect of its operations which affects its position as a potential borrower. These factors also determine its financial policy, causing the management to choose one source of financing rather than another (Adam, 2014).

Debt financing is one of financing options most commonly pursued by companies. According to Tirole (2006), debt financing takes many forms. The essence of debt is that the borrower must repay the funds along with agreed-upon service charges such as interest and loan origination fees. If the money is not repaid as promised, the lender can start collection proceedings. This process can become very uncomfortable for the entrepreneur, who could stand to lose the business and any non-business assets pledged to secure the loan. A long-term loan usually has a payback period between one and five years. Depending on the deal negotiated, these loans are normally secured (collateralized by assets) and guaranteed by the entrepreneurs. Rates and terms on long-term loans vary greatly based on the lending institution's policies and the business's age and financial status (Bichsel& Blum, 2005).

Assessing the health of an economy can be accomplished by studying the financial performance of its banks, (Haque& Sharman, 2011). Then banking and financial industry have become a reality in today's economy, as it is witnessing a growing both in terms of the number of such institutions, or in terms of the amount of money managed by or diversity activities. In spite of this progress and successes achieved by the banking and financial institutions, it still has challenges which will require further intensive efforts on the part of these institutions. Such to enhance the quality of its products and services and diversity and to keep pace with the rapid developments taking place in the world in this field (Adam, 2014). The widely used measures to assess commercial banks' performance return on total assets (ROA) and return on total equity (ROE). These measures have been used by analysts and bank regulators in (a) assessing industry performance (b) forecasting market structure trends (used to predict bank failures and mergers) and (c) other purposes where a profitability measure is wanted (Gilbert & Wheelock, 2007). Over the past several years, an increased attention has been received by financial institutions (particularly commercial banks) on performance analysis. As a result, the research focus has been shifted from characterizing performance in simple ratios as ROA or ROE to a multidimensional systems perspective (Seiford& Zhu, 1999).

Indeed, researchers analyze the debt ratio and try to determine whether an optimal debt ratio exists or not. The optimal debt ratio is the one which maximizes the profitability of the company (Muchugia, 2013).

Besides, the divergence between research can be observed in a theoretical strand of literature. There

Author: Institutd 'Enseignement Superieur de Ruhengeri Musanze, Rwanda, P.O.B. 155 Musanze. e-mail: harelijordan@yahoo.fr

are three essential theories which highlight the influence of debt on corporate profitability, namely: trade-off theory, pecking order theory and market timing theory. First, according to trade off theory, states that there is an advantage to financing with debt (namely, the tax benefit of debts) and that there is a cost of financing with debt (the bankruptcy costs of debt). According to the agency costs theory, internal debt is used first; when that is depleted, then debt is issued; and when it is no longer sensible to issue any more debt, equity is issued. According to market timing theory; perceives that managers issue securities depending on the time-varying costs of relative equity and debt and thus issuance decisions have a long-term effect on capital structure because the observed capital structure at any particular date is the outcome of prior issuance decision thus firms prefer to issue equity when the relative cost is low and prefer to issue debt when equity cost is high (Muchugia, 2013).

The Rwanda financial sector is largely dominated by banking sector which holds around 66.9% of the total financial sector assets. The pension sub-sector comes second, with 17.1%, insurance institutions hold 9.7% and microfinance institutions account for 6.3% of total financial sector assets. The National Bank of Rwanda (BNR) is the sole regulator of the above mentioned financial sector sub-sectors. Other integral components of the financial sector in Rwanda are forex bureaus; capital market and; payment system (BNR, 2015).

Currently, the number of banks increased from 14 in June 2014 to 17 in June 2015. Three banks: AB Bank, Crane Bank, and BRD commercial joined the Rwandan banking industry. In total, the Current Rwandan banking system is composed of 11 commercial banks, 4 microfinance banks, 1 development bank and 1 cooperative bank. Microfinance sub-sector constitutes 13 limited companies, 64 SACCOs, and 416 UMURENGE SACCOs. There are also 88 foreign exchange bureaus. Non-Bank Financial Institutions include 10 private insurers, 2 public insurers, 8 loss adjusters, 6 brokers, 155 insurance agents and 1 public pension fund and 54 private funds. Rwandan banking system is more privately and domestically owned. As of June 2015, close to 61 percent of banking assets were domestically owned. Foreign assets were 39 percent. Private ownership stood at 55 percent of the total banking system assets. Three of the foreign banks are subsidiaries of Kenyan big banks which were ranked among top 100 banks by return on assets in Africa (BNR, 2015).

The relationship between debt financing and firm performance is an important unsolved issue in the field of finance. It is vital to know how low market cap companies handle their capital structure towards the growth of business. Gleason *et al.,* (2000) stated that the manager's decision on different debt and equity level in a capital structure is a specific strategy for improved performance. However, most firms struggle to reach an optimal capital structure in order to minimize the cost of capital and maximize firm value while improving its competitive advantage in the marketplace.

The intimacy suspected between debt level and the performance of firms is a vital unsolved issue in the area of finance. Lack of studies on debt financing and financial performance on commercial banks in Rwanda has motivated my study. Currently most of the commercial banks have engaged in the expansion program which require huge some of capital. The way to access this capital have made me to do research of effect of debt financing on firm financial performance of commercial banks here in Rwanda. The utilization of debt financing shows mixed and conflicting results on business performance. For instance, Ross (1977), revealed that the increasing leverage by taking debt enables the firm to have positive implications on firm performance. Hadlock& James (2002) strongly agree with Ross through their study on undervalued firms where they found a positive relationship between the use of debt finance and firm performance. On another hand, Fama& French, (1998) reported the negative relationship between business performance and debt financing. Based on those contradictory findings, it is very challenging to financial decision makers and other users of financial information to decide whether the use of debt finance in the capital structure is better for business performance or not.

This research sought to address this gap in knowledge by conducting a comparative research on two commercial banks in Rwanda. The extent to which the debts influence the bank's financial performance was explored. The study is focussed on the following Hypothesis:

H_0: There is no relationship between debt indicators and financial performance indicators for BK and for I&M Bank.

H_1: There is relationship between debt indicators and financial performance indicators for BK and for I&M Bank.

II. Objectives

The primary objective of this study is to analyze the effect of debt financing on the financial performance by comparing the commercial banks in Rwanda, BK and I & M banks. Specifically

1. To assess indicators of financial performance of BK and I&M Bank,
2. To examine the indicators of the debt of BK and I&M Bank,
3. To measure the relationship between debt level and financial performance for BK and for I&M Bank.

III. Literature Review

Debt financing refers to the borrowing of loans from other companies, banks, or financial institutions in order to support a business's operations. The loan principal is repaid at a later point in time, with some interest expenses being paid before the debt's maturity (Cheong, 2015).

Financial performance refers to the act of performing financial activity. In broader sense, financial performance refers to the degree to which financial objectives being or has been accomplished. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Meigs, 1978).

Vedran & Robin (2012) investigated the relationship between capital structure and firm performance of Australian. They found a significant and robust quadratic relationship between capital structure and firm performance of Australian ADIs. At relatively low levels of leverage an increase in debt leads to increased profit efficiency hence superior bank performance. This can most likely be attributed to financial distress outweighing any gains made from managerial performance improving.

Abor(2005) investigated the relationship between capital structure and profitability of listed firms on the Ghana Stock Exchange (GSE) during a five-year period. The regression analysis was used in the estimation of functions relating to ROE with measures of capital structure. The study found that there is a significantly positive relation between the ratio of short-term debt to total assets and ROE. However, a negative relationship between the ratio of long-term debt to total assets and ROE was found. With regard to the relationship between total debt and return rates, the results show a significantly positive association between the ratio of total debt to total assets and return on equity.

Abor (2007) investigated how macroeconomic factors affect the relationship between capital structure and bank performance from 2004 to 2014 to selected samples of banks in Ghana. The study adopted panel data methodology and used two models: fixed effect regression estimation and Hausman chi-square test conducted in each equation. The study have found that macroeconomics variables and GDP growth were registered to be significant. This signifies that macroeconomics matter in the bank's capital structure and performance. Inflation however was found to be insignificant.

Sabin & Miras (2015) investigated the impact of debt level on firm profitability and liquidity of low market capitalized firms listed on the Kuala Lumpur Stock Exchange (Bursa Malaysia) with a sample of 50 low cup firms chosen using quota sample. The study used secondary data (annual reports) from 2010 to 2013. Results have shown that debt level has a negative correlation with CR, QR, ROE, ROA and NPM. The study found that debt level have a significant positive impact on QR. The gearing level has a significant negative impact on ROE, ROA and NPM. The study also explained the results with the support of various capital structure theories and showed the mixture of debt and equity that has a significant impact on the profitability and liquidity of low-cap firms. This was simply to help managers of low cap firms in considering the debt level that could improve the profitability and liquidity.

Mazen (2014) conducted a study on the impact of dept on profitability. The study was empirical in nature and used a method of generalized moments (GMM) on an unbalanced panel of 2240 French companies of service sector observed over the period 1999-2006. The study concluded that debt has no influence on profitability either in a linear way, or in a non-linear way and this was consistent with that of Baum et al. (2007) on American industrial companies. and there is no impact regardless the size of enterprise. Researcher also presented the analysis using different size classes and found there is no impact regardless the size of enterprise.

Harc & Šarlija (2009)investigated the impact of liquidity on the capital structure of Croatian firms where Pearson colleration coeffiecient was applied measure to what extent is the relationship between liquidity ratios and debt ratios, the share of retained earnings to capital and liquidity ratios and the structure of current assets and leverage. A survey conducted on 1058 Croatin firms found that there are statistically significant correlations between liquidity ratios and leverage ratios. Also, there are statistically significant correlations between leverage ratios and the structure of current assets. The relationship between liquidity ratios and the short-term leverage is stronger than between liquidity ratios and the long-term leverage. The study concluded that the more liquid assets firms have, the less they are leveraged. Long-term Leveraged firms are more liquid. Increasing inventory levels leads to an increase in leverage. Furthermore, increasing the cash in current assets leads to a reduction in the short-term and the long-term leverage.

Holz (2002), the liability-asset ratio of China's industrial state-owned enterprises (SOEs) has increased dramatically in the course of the economic reform period. Western observers point out the inherent dangers to enterprise solvency. Chinese policymakers view today's level as exceedingly detrimental to enterprise profitability and are introducing measures to reduce it. Yet the increase in the liability-asset ratio of industrial SOEs is the inevitable result of systemic changes; since the early 1990s, the liability-asset ratio has stabilized. The perceived negative impact of the current level of the liability-asset ratio on enterprise profitability does not hold up in regression analysis. It is true that low-profitability SOEs tend to have a high liability-asset ratio, perhaps due to government-ordained support through bank loans. However, once the endogeneity of the liability-asset ratio is controlled for, a high liability-asset ratio tends to imply a high level of profitability. This suggests that current industrial SOE reforms in China that focus on debt alleviation are misguided.

IV. Methodology

The study aims to assess the effect of debt financing on firm financial performance in Rwanda. This study used the comparative, descriptive and correlative study to realize stated objectives. A comparative research design has been used to enable the researcher to examine the effect level detected on both BK and I&M. Furthermore, the quantitative approach as data collection maintains the assumption of an empiricist paradigm. The study is also descriptive because the characteristics of area of the study must be described. The description has been used for frequencies, averages and other statistical calculations. The researcher has two quantitative ntitative variables from the same subjects group. The reseacher needs to find out if there is association on similarity between debt level and firm financial performance. Method such as explanatory have been used under this study and secondary data only have been used.

a) *Data collection*

Since the study is using only secondary data, there is no specified method to collect them. The data were sourced from the concerned organizations and are available to everyone. Data related to BK, was collected from the web site of BK and data related to I&M Bank, was collected from the web site of I&M Bank.

b) *Models*

To measure the relationship between debt level and firm financial performance, the multiple regression models was formulated as follows:

$$LA_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 DTE_{it} + \mu_{it}$$
$$LD_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 DTE_{it} + \mu_{it}$$
$$ROE_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 DTE_{it} + \mu_{it}$$
$$ROA_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 DTE_{it} + \mu_{it}$$
$$SGR_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 DTE_{it} + \mu_{it}$$
$$IGR_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 DTE_{it} + \mu_{it}$$

Where β_1 to β_2 are the coefficients of the variables and μ_{it} is the random error term. B_0: stands for the intercept term. Others are described in section je ne saisou?

V. Data Analysis, Findings and Results

Debt ratio (DR) shows the portion of money financed the total assets by outsource. The higher the ratio, the more of a firm's assets are provided by creditors relative to owners. Creditors prefer a low or moderate ratio, because it provides more protection in case a firm experience financial problems. The high ratio indicates the weak financial structure. The mean measurement in table above indicates that Bank of Kigali with 81% Debt ratio is more financially stronger than I&M Bank with an average debt ratio of 86% for Debt ratio. Additionally, Bank of Kigali has managed to control its liabilities over the years as it has less standard deviation of 0.7 comparing to I&M Bank with standard deviation of 1.9.

Debt to Equity ratio (DTE) structures the relation between two types of finances; outsource finance represented by total liabilities and inside finance represented by shareholder's equity. The high ratio indicates the weak financial structure. Table above demonstrates that the Bank of Kigali has a low ratio than I&M Bank, as the means indicate. On average, Bank of Kigali creditors provided 4.5 Rwf in financing for every Rwf contributed by owners, comparing to 6.3 Rwf for I&M Bank. On the other hand, I&M Bank with standard deviation of 0.4 has managed to control the variability of this ratio better than its competitor bank with standard deviation of 0.6.

The loan to asset ratio (LA) measures the total loans outstanding as a percentage of total assets. The higher this ratio indicates a bank is loaned up and its liquidity is low. The higher the ratio, the riskier a bank may be to higher defaults, but based on results, it is moderate is the case of Bank of Kigali (with an average of 51% for LA) and weak to I&M Bank (with an average of 47% for LA) which is not a good signal on liquidity of the bank if it continues to keep non-profitable asset, it will slow down its profitability hence its performance. Based on standard deviation, the analysis also shows that I&M Bank has a higher level of dispersion and high rate of instability with a standard deviation of 8.7 than Bank of Kigali standard deviation of 5.7.

The loan-to-deposit ratio (LD) shows the ability of a bank to use the customer's deposit in offering loans. Based on the mean measure, table shows that Bank of Kigali with average LD of 73.5% is able to use the customer's deposits to offer loans more than I&M Bank with average LD of 60%. Again, a high ratio reflects a lower level of liquidity. On the other hand, and based on standard deviation and coefficient of variation, this table indicates a high dispersion and instability levels of this ratio in I&M Bank with standard deviation 10 than Bank of Kigali with standard deviation of 7. *The ROAE* measures the average contribution of net income per a 1 Rwf invested by the firms' stockholders; a measure of the efficiency of the owners' invested capital. The study found the mean score of 26% of net income which returns to shareholders investment in I&M Bank with a standard deviation of almost 4 while 21% of net income return to investors of Bank of Kigali with a standard deviation of 2. This means that during six years ago, investment in Bank of Kigali returned small amount comparing to I&M Bank, but it is also much secured in terms of instability and dispersion due to the lower value of its standard deviation of 2.3 for Bank of Kigali comparing to 3.8 for I&M Bank. The stability is good signal for the security investment in future. This means that Bank of Kigali should attract more investors to invest in their money by using its low standard deviation than I&M Bank even if it could return a high dividend to its shareholders than Bank of Kigali.

ROA indicates how profitable a company is relative to its total assets. The higher the return, the more efficient management is in utilizing its asset base. Based on this, Bank of Kigali with average ROA of 3.8 percent, it seems to have a good management which is employing the bank's total assets to make a profit more than it is done at I &M Bank with average ROA of 3.4 percent.

Sustainable growth tells us how fast the firm can grow, without increasing financial leverage (Adam, 2014). This means that it the growth by considering that resources a company are finite and that the rate of resource depletion must be slowed in order to have long-term growth. So, based on the results appear in the table above, Bank of Kigali is able to continue operating and expansion on its retained earnings up to the rate of 21% rather than 10% for I&M Bank. This means that, I&M Bank seems to be not stable enough on its side of equity source of finance as it cannot resist as its competitor in case their Debt level remained constant. In that case, Bank of Kigali can resist two times the period I&M Bank can resist. As a conclusion, without increasing the leverage, Bank of Kigali can financially grow fast at the rate of 11% more than I&M Bank.

*Internal Growth Rate*is the highest rate a business can increase or expand but not considering or not using the external sources of funding. It indicates the growth produced by cash flows retained by the firm. The highest rate of internal growth shows that a given firm is capable to reach high financial level without external sources of funding (Adam, 2014). Based on the result from the table above, Bank of Kigali with IGR of 2.8% is stronger internally in finance than its competitor I&M Bank with IGR of 1.7% as it can grow or expand its business at 1.1% more than I&M Bank without using any external fund either equity or debt.

a) *Correlation*

The results show that debt level has a significant negative correlation to Liquidity of I&M Bank with -0.915 and -0.603 Pearson correlation value for DR to LD and LA respectively, and -0.181 and -0.535 Pearson correlation value for DER to LD and LA respectively, contrary, to Bank of Kigali, Debt level has a significant weak positive correlation with its liquidity with Pearson correlation value of 0.055 and 0.015 for DR to LD and LA respectively and Pearson correlation value of 0.061 and 0.095 for DER to LD and LA respectively. This explains that if I&M Bank continues to raise the level of debt, the consequence will be poor liquidity position as cash will be utilized to pay interest on debts. On the other hand, it means that when I&M Bank is highly liquid, it seems to lower debts as the need to raise short-term debt finance is low, the high liquidity could be used to gradually decrease debt levels. For Bank of Kigali, the weak correlation appeared is explaining that the debt level has a relatively weak effect on the liquidity means that bank's operations are funded by the larger portion of another source of funds rather than borrowings. This would be a good sign to Bank of Kigali than to I&M Bank if the costs of those extra sources of fund are cheaper than borrowing funds. These giving rooms for further researches to investigate on the cost of the source of fund.

b) *Regression analysis*

Regression analysis has been conducted by using Time series data in SPSS 16 to test the research hypothesis. The impact of debt level on financial performance was determined with a cross-section fixed effects model.

Debt level on Profitability: Recall that ROE refers to the rate measures on return on the own ship interest (shareholders' equity) of common stockholders. It shows how well a company uses investiment funds to generate the growth of earnings.

For I&M Bank, an R-square of 0.614 and an adjusted R-square of 0.52 meaning that 52 % of the variance in ROE can be explained by variations in debt level. Durbin-Watson statistic is 2.20 meaning that the data are acceptable because the results are indicating no auto correlation. The strength of corresponding of regression refers to the value of the F-statistic which is 5.30 and significant. For Bank of Kigali, the debt level has a strong effect to ROE by 81 percent of R^2 and 69 percent of Adjusted R^2 with no autocorrelation in the model. If the debt results in increased earnings, the return on shareholder investment is exponential. However, increased debt favors ROE during boom times but hurts ROE during recessions. Based on this, we can confirm that Bank of Kigali is in boom period rather than I & M Bank.

I & M Bank	Bank of Kigali
ROE = -132.33 + 2.1 DR + 4.4 DER + μ_{it}	ROE = 168.24 + 12 DR + 8.4 DER + μ_{it}

According to Mazen (2014), his study underlined that debt has no influence on profitability either in a linear way or in a non-linear way. But, the results of these two models contradict Mazen's findings for instance, 1% change for DR, provokes an increase of 12% to ROAE of Bank of Kigali and 2.1% to I&M Bank and an increase of 1% for DER could make a raise of ROE up to 8% for Bank of Kigali and 4.4% to I&M Bank. The result is also in contradictory with Abor (2005) who found that negative impact of long-term debt on ROE, but a positive impact from short-term debts. Arbiyan and Safari (2009) also had identified negative impact of financial liabilities on ROE for 100 companies in Iran. This study strongly agrees with Hadlock and James, (2002) through their study on undervalued firms where they found a positive relationship between the use of debt finance and firm performance. Similarly, Holz (2002) found that the rising liability-asset ratio in the determination of profitability is significantly positive with debt enabling firm managers to finance their project and maximize the performance.

Debt level on Return Average Asset: Return on assets shows how profitable a company's assets are in generating revenue. ROA is one of the most widely used profitability ratios because it is related to both profit margin and asset turnover, and shows the rate of return for both creditors and investors of the company. ROA shows how well a company controls its costs and utilizes its resources.

Multiple regressions were conducted to examine whether debt level could impact on overall profitability as ROA level of I&M Bank and Bank of Kigali. The result obtained from the regression equations show a significantly positive relationship between Debt level and ROA of two commercial banks under the study. The overall model explained 63 percent changes to ROA of Bank of Kigali are from Debt financing comparing to 54 percent changes from I&M Bank. The Durbin-Watson values of 2.24 and 1.91 indicate that there is no sign of autocorrelation. Hence debt fund is spent to increase production of banking products and it leads to significantly increased revenues, therefore, the increased debt increases ROAA, it's meaning that Bank of Kigali uses debt to invest the borrowed funds in the profitable project than I&M Bank does.

I&M Bank	
ROA = 21.717 + 0.24 DR + 0.008 DER + μ_{it}	ROA = 3.23 + 0.16 DR + 0.748DER + μ_{it}

The output shows that debt level has a positive impact on return on asset and statistically significant at 5% (P=0.000<0.05) meaning that the increase of debt level will weakly increase the ROA. For instance, an increase of 1% on DR explains an increase of ROA up to 0.24% for I & M Bank and 0.16% for Bank of Kigali. This study is in conformation with Ross (1977), revealed that the increasing leverage by taking debt enables the firm to have positive implications on firm performance. Contrary to the results of Abor (2007) which is all the measure of capital structure including debt to equity and Debt ratio have a significantly negative impact on ROA. The increase in long-term debt will lead to a decrease in ROA because of the higher cost of interest compared to short-term debt (Abor, 2005). Also Sabin & Miras (2015), investigate the impact of debt level on firm profitability (ROA) and found that the increase in debt fund significantly reduces the net earnings of firms and effect on the profitability of companies and it becomes more severe with high debt level as expenses increase and profitability decreases.

Debt level on Liquidity: The loan to deposit ratio is used to calculate a lending institution's ability to cover withdrawals made by its customers. A lending institution that accepts deposits must have a certain measure of liquidity to maintain its normal daily operations. Loans given to its customers are mostly not considered liquid meaning that they are investments over a longer period of time.

Liquidity performance measures the ability to meet financial obligations as they become due and is crucial to the sustained viability of banking institutions. The regression output shows that debt level is statistically insignificant to LD of Bank of Kigali due to the *p-value* of 0.130 which is greater than 0.05. Contrary to I&M Bank, the result shows that debt level is statistically significant (P-value of 0.000 < 0.05) and positively influence the LD. These are explained by the fact that 1% change of DR would result to 43% of LD and one percent increase on DER will increase about 14% of LD. The Durbin-Watson values indicate that there is no autocorrelation (2.24 for I&M Bank and 1.790 for Bank of Kigali).

I&M Bank	Bank of Kigali
LD = -848.23 + 43.553 DR + 14 DER + μ_{it}	LD = -670.58 + 9.5 DR + 4.5 DER + μ_{it}

Based on the positive significance found on the side of I&M Bank, we could say that the bank borrowed money are reloaned at higher rates so that I&M Bank is no longer only relying entirely on its own deposits. This contradicts with the findings of Sarlija and Harc (2012) that the increase in debt-to-equity ratio will reduce firm liquidity. On another hand, bank use the customers' deposit to create credit where bank profits by borrowing at one rate of interest and lending at a higher rate. The customer deposits are the cheapest source of funds for a bank, therefore, if 75% of changes on LD are explained by debt level, it means that 25% are explained by customer deposit. This is not a good signal on financial health of I &M Bank because in the case of bad debt, I&M Bank will lose money lent and in addition it will be obliged to repay its creditors the loan which was reloaned to its bad debtors. For better health, I&M Bank must keep down that excessive influence of debt level to LD in order to become illiquid in near future.

Debt level and Loan to Asset Ratio: Debt level is statistically insignificant to LA for both I&M Bank and Bank of Kigali as the P-values are 0.620 and 0.052 and all are greater than to 0.05. The conclusion is that Debt level has no statistical influence on LA of both I&M Bank and Bank of Kigali. Generally, liquidity problems are solved by the debt fund or equity fund or even combination of the both. But based on the analysis results, it seems that another source of fund like equity financing is used to solve the issue of liquidity in the commercial banks under the study.

c) Debtlevel and Sustainability

Debt level and Sustainable growth rate (SGR): Sustainable grow this the rate of growth that is most realistic estimate of the growth in a company's earnings, assuming that the company does not alter its capital structure. The results shows that the combined influence of indicators of debt level is statistically not significant to SGR of both I&M Bank with P-value of 0.120 which is greater than 0.05 and Bank of Kigali with P-value of 0.450 also greater than 0.05.

Debt level to the internal growth rate (IGR): Debt level is not statistically influencing IGR for both I&M Bank and Bank of Kigali since the P-values are 0.077 and 0.351 and all are greater than to 5 %.

d) Hypothesis testing

The interpretation is relying mostly on correlation effect and significances. Correlation effect indicates the sense and direction of the relationship between variables where Significance indicates the statistical significance and acceptance and it helps to show the eligibility of independent variables to predict variation in dependent variables. Based on findings, there is an existence of a relationship between debt level and financial performance for I & M Bank a Bank of Kigali. Hence the correlation effect appears on LA, SGR and IGR are statistically not significant (P-value of both I&M Bank and Bank of Kigali are greater than 5%) and automatically it was ignored, the existed relationship between debt level and financial performance is positive due to the fact that the correlation effects are significant and positive for all of two commercial banks under the study. From these, the null Hypothesis is rejected as the existence of the relationship between debt level and financial performance for I &M Bank and Bank of Kigali where detected.

Financial indicators	ROA	ROE	LA	LD	SGR	IGR
P-Value	.022 IM Bank .000 BK	.000 IM Bank .000 BK	.620 IM Bank .052 BK	.000 IM Bank .130 BK	.120 IM Bank .450 BK	.077 IM Bank .351 BK

Authors' calculation, November 2016

These findings are in confirmation with Holz (2002), found that the rising liability-asset ratio in the determination of profitability is significantly positive with debt enabling firm managers to finance their project and maximize the performance. Similarly, Dessi and Robertson's (2003) study on debt, incentives and performance found a positive correlation between debt and firm performance. About the strength ness, Bank of Kigali profit more from debt financing, especially on ROA where 63.5% of variation explained by borrowed funds, means that the effectiveness and efficiencies use of borrowed fund in the profitable asset is more than it is done from I&M Bank and about the sustainability, Bank of Kigali is very stable than I&M Bank where the results shows that if Bank of Kigali continue to earn the ROE of 21% And 25% for I&M Bank, the expansion and growth of Bank of Kigali will be 11% more fast than it is on I&M Bank.

e) Findings

The first part was financial effect situation analysis of debt level to profitability in terms of ROAE and ROAA. The regression output indicated the statistical significance and positive correlation due to the P-value of 0.000 < 0.05 appeared for all banks under the study. About the financial effect, it was come into view that ROAE of Bank of Kigali is highly positively affected by debt level with R square of 81.3 percent comparing to 61.4 percent of I&M Bank. Means the use of borrowed funds benefit more shareholders of Bank of Kigali than I&M Bank. For the ROAA, the results shown the same significance and correlation as on ROAE, therefore, Bank of Kigali with R square of 90% is using borrowed fund in profitable project than I&M Bank with R square of 63%.

The second part was on effect analysis of debt level to liquidity in terms of LA and LD. Analysis output shown the statistical insignificance of debt level to LA for both I&M Bank and Bank of Kigali with P-value of 0.620 and 0.052 which are greater than to 0.05 this means that the debt level in terms of DR and DE is not a good statistical predictor of LA. However, debt level is only statistically significant to LD for I & M Bank with P-value of 0.000 < 0.05 and positive effect level of 75%. These indicate that liquid assets of I&M Bank are highly financed by borrowed funds which dispose the bank on risk of become illiquid in case bad debt whereas Bank of Kigali is remain insensible on the use of debt fund to solve liquidity issues.

The third part was to assess the effect of debt level to the financial sustainability of commercial banks under the study in terms of SGR and IGR. The results shows that the debt level indicators used in this study are not good predictors of variations on both SGR and IGR. This was explained by the P-values greater than 5% as shown in tables above. So that, the sustainability levels of both I&M Bank and Bank of Kigali are not affected by the level of borrowed funds.

Finally, we have tested the hypothesis which states that there is no relationship between debt level and financial profitability for commercial banks under the study. Based on results, we found that there is positive relationship and consequently, we rejected the null hypothesis.

VI. Conclusion and Recommendations

a) Conclusions

The analysis done so far have been related to the analysis on the effect of debt financing on the financial performance by comparing the commercial banks in Rwanda, BK and I&M banks. The results obtained from research models showed there is a significant positive relationship between debt level and financial performance. The results indicate that the overall bank performance in terms of profitability, sustainability and liquidity has been improving since 2010 up to and including 2015. The findings show that both banks are financially viable as both have used the appropriate financial tools and policies to manage their organizations and to adapt with their environment, to become more competitive and maximizing their profits.

The study further concludes that profitability increases more with the control variables that are DR and DE for Bank of Kigali than I&M Bank and the liquidity shows that I &M Bank is positively sensible with Debt level than Bank of Kigali. Therefore, debt level will positively impact on firm financial performance. For more clarification, the study showed that debt level has positive impact on firm profitability referring to ROE, and ROA the case of Bank of Kigali with R-square of 81.3% more than it is on I&M Bank with R-square of 61.4%. It means that the high debt level has been used in profitable projects; High positive effect will result to bank profitability that directly will raise the level of firm financial performance. Also the research results showed that the liquidity of a bank, which is reflected in the ongoing ability to pay financial obligations, affects the bank's capital structure for the case I&M Bank rather than Bank of Kigali.

The results also shows how Bank of Kigali is stable than its competitor I&M Bank on the side of sustainability where it can financially grow fast than I&M Bank whether by relying only on their retained earnings or only on their internal sources of fund. It is important to emphasize the importance and role of money in the liquidity. Money or its cash equivalent, which are used for paying obligations, seems to be the best indicator of liquidity for commercial banks. This explained by the fact that the Null hypothesis is not accepted hence the existence of the influence of debt financing to the financial performance was discovered and statistically justified among commercial banks under the study and these confirm the achievement of research objectives as ROE, ROA, SGR, IGR, LA and LD are used as indicators of financial performance in terms of profitability, sustainability and liquidity and on other side DR and DTE are used as indicators of debt level. All of these indicators were the node of the research results and conclusion.

b) Recommendations

From the analysis done, we recommend the following:

- It is very crucial to managers of business to learn and use the optimal capital structure in order to balance their source finance efficiently.
- In order to maintain liquidity, and thereby influence on the capital, company managers must be aware of the importance of managing liquid assets.
- Companies have to maintain good networks and collaborative relationships with financial companies for the sake of future fundraising, by regarding their wish to pursue equity or debt issuance.
- For researchers who have a willing to pursue this area of the study, I recommend them extend their scope so that they can be expanded to investigate debt level in different context such as analyzing the impact of debt level on cost of capital and its impact on firm performance.
- The study recommends that further research should be on capital structure, industry pricing, and firm performance since a capital structure is influenced by the industry valuation.

References Références Referencias

1. Šarlija, N., & Harc, M. (2012). The impact of liquidity on the capital structure: a case study of Croatian firms. *Business Systems Research*, *3*(1), 30-36.
2. Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. *The journal of risk finance*, *6*(5), 438-445.
3. Abor, J. (2007). Debt policy and performance of SMEs: Evidence from Ghanaian and South African firms. *The Journal of Risk Finance*, *8*(4), 364-379.
4. Adam, M. H. M. (2014). Evaluating the Financial Performance of Banks using financial ratios-A case study of Erbil Bank for Investment and Finance. *European Journal of Accounting Auditing and Finance Research*, *2*(2), 156-170.
5. BNR. 2015, '*Annual Financial Stability Report 2014-2015*', Annual report, National Bank of Rwanda, Kigali.
6. Fama, E. F., & French, K. R. (1998). Value versus growth: The international evidence. *The journal of finance*, *53*(6), 1975-1999.
7. Fong Chun Cheong (2015). '*Equity Financing and Debt Financing*', PBE Paper II – Management Accounting and Finance, 30 April 2015.
8. Gilbert, R. A., & Wheelock, D. C. (2007). Measuring commercial bank profitability: proceed with caution. *Networks Financial Institute Working Paper*, (2007-WP), 22.
9. Gleason, K. C., Mathur, L. K., & Mathur, I. (2000). The interrelationship between culture, capital structure, and performance: evidence from European retailers. *Journal of Business Research*, *50*(2), 185-191.
10. Hadlock, C. J., & James, C. M. (2002). Do banks provide financial slack?.*the Journal of Finance*, *57*(3), 1383-1419.
11. Haque, I., & Sharma, R. B. (2011). Benchmarking financial performance of Saudi banks using regression. *International Journal of Business Economics and Management Research*, *2*(1), 78-84.
12. Kebewar, M. (2012). The effect of debt on corporate profitability: Evidence from French service sector. *Availableat SSRN 2191075*.
13. Meigs, WBAO 1978, *Intermediate Accounting*, McGraw – Hill, New York.
14. Miras, DSAH 2015, 'Debt level and firm performance: A study on low-cap firms listed on the Kuala Lumpur stock exchange', *International journal of Accounting, Business and Management*, vol 1, no. 1.
15. Muchugia, L. M. (2013). *The Effect Of Debt Financing On Firm Profitabilty Of Commercial Banks In Kenya* (Doctoral dissertation, University of Nairobi).
16. Ross, S. A. (1977). The determination of financial structure: the incentive-signalling approach. *The bell journal of economics*, 23-40.
17. Seiford, L. M., & Zhu, J. (1999). Profitability and marketability of the top 55 US commercial banks. *management science*, *45*(9), 1270-1288.
18. Skopljak, V., &Luo, R. (2012). Capital structure and firm performance in the financial sector: Evidence from Australia. *Asian Journal of Finance & Accounting*, *4*(1), 278-298.
19. Holz, C. A. (2002). The impact of the liability-asset ratio on profitability in China's industrial state-owned enterprises. *China Economic Review*, *13*(1), 1-26.

Global Journals Inc. (US) Guidelines Handbook 2017

www.GlobalJournals.org

FELLOW OF ASSOCIATION OF RESEARCH SOCIETY IN BUSINESS (FARSB)

Global Journals Incorporate (USA) is accredited by Open Association of Research Society (OARS), U.S.A and in turn, awards "FARSBA" title to individuals. The 'FARSBA' title is accorded to a selected professional after the approval of the Editor-in-Chief/Editorial Board Members/Dean.

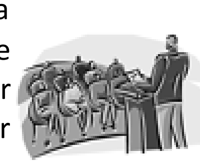
- The "FARSB" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., FARSBA or William Walldroff, M.S., FARSBA.

FARSBA accrediting is an honor. It authenticates your research activities. After recognition as FARSBA, you can add 'FARSBA' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, and Visiting Card etc.

The following benefits can be availed by you only for next three years from the date of certification:

FARSBA designated members are entitled to avail a 40% discount while publishing their research papers (of a single author) with Global Journals Incorporation (USA), if the same is accepted by Editorial Board/Peer Reviewers. If you are a main author or co-author in case of multiple authors, you will be entitled to avail discount of 10%.

Once FARSBA title is accorded, the Fellow is authorized to organize a symposium/seminar/conference on behalf of Global Journal Incorporation (USA).The Fellow can also participate in conference/seminar/symposium organized by another institution as representative of Global Journal. In both the cases, it is mandatory for him to discuss with us and obtain our consent.

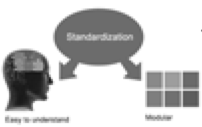


You may join as member of the Editorial Board of Global Journals Incorporation (USA) after successful completion of three years as Fellow and as Peer Reviewer. In addition, it is also desirable that you should organize seminar/symposium/conference at least once.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The FARSBA can go through standards of OARS. You can also play vital role if you have any suggestions so that proper amendment can take place to improve the same for the benefit of entire research community.

As FARSBA, you will be given a renowned, secure and free professional email address with 100 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders,Auto-Responders, Email Delivery Route tracing, etc.



The FARSBA will be eligible for a free application of standardization of their researches. Standardization of research will be subject to acceptability within stipulated norms as the next step after publishing in a journal. We shall depute a team of specialized research professionals who will render their services for elevating your researches to next higher level, which is worldwide open standardization.

The FARSBA member can apply for grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A. Once you are designated as FARSBA, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria. After certification of all your credentials by OARS, they will be published on your Fellow Profile link on website https://associationofresearch.org which will be helpful to upgrade the dignity.

The FARSBA members can avail the benefits of free research podcasting in Global Research Radio with their research documents. After publishing the work, (including published elsewhere worldwide with proper authorization) you can upload your research paper with your recorded voice or you can utilize chargeable services of our professional RJs to record your paper in their voice on request.

The FARSBA member also entitled to get the benefits of free research podcasting of their research documents through video clips. We can also streamline your conference videos and display your slides/ online slides and online research video clips at reasonable charges, on request.

The FARSBA is eligible to earn from sales proceeds of his/her researches/reference/review Books or literature, while publishing with Global Journals. The FARSBA can decide whether he/she would like to publish his/her research in a closed manner. In this case, whenever readers purchase that individual research paper for reading, maximum 60% of its profit earned as royalty by Global Journals, will be credited to his/her bank account. The entire entitled amount will be credited to his/her bank account exceeding limit of minimum fixed balance. There is no minimum time limit for collection. The FARSC member can decide its price and we can help in making the right decision.

The FARSBA member is eligible to join as a paid peer reviewer at Global Journals Incorporation (USA) and can get remuneration of 15% of author fees, taken from the author of a respective paper. After reviewing 5 or more papers you can request to transfer the amount to your bank account.

MEMBER OF ASSOCIATION OF RESEARCH SOCIETY IN BUSINESS (MARSBA)

The ' MARSBA ' title is accorded to a selected professional after the approval of the Editor-in-Chief / Editorial Board Members/Dean.

The “MARSBA” is a dignified ornament which is accorded to a person’s name viz. Dr. John E. Hall, Ph.D., MARSBA or William Walldroff, M.S., MARSBA.

MARSB accrediting is an honor. It authenticates your research activities. After becoming MARSBA, you can add 'MARSBA' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, Visiting Card and Name Plate etc.

The following benefitscan be availed by you only for next three years from the date of certification.

MARSBA designated members are entitled to avail a 25% discount while publishing their research papers (of a single author) in Global Journals Inc., if the same is accepted by our Editorial Board and Peer Reviewers. If you are a main author or co-author of a group of authors, you will get discount of 10%.

As MARSBA, you will be given a renowned, secure and free professional email address with 30 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders,Auto-Responders, Email Delivery Route tracing, etc.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The MARSBA member can apply for approval, grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A.

Once you are designated as MARSBA, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria.

It is mandatory to read all terms and conditions carefully.

Auxiliary Memberships

Institutional Fellow of Open Association of Research Society (USA)-OARS (USA)

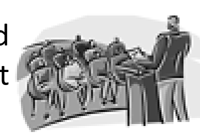
Global Journals Incorporation (USA) is accredited by Open Association of Research Society, U.S.A (OARS) and in turn, affiliates research institutions as "Institutional Fellow of Open Association of Research Society" (IFOARS).

The "FARSC" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., FARSC or William Walldroff, M.S., FARSC.

The IFOARS institution is entitled to form a Board comprised of one Chairperson and three to five board members preferably from different streams. The Board will be recognized as "Institutional Board of Open Association of Research Society"-(IBOARS).

The Institute will be entitled to following benefits:

The IBOARS can initially review research papers of their institute and recommend them to publish with respective journal of Global Journals. It can also review the papers of other institutions after obtaining our consent. The second review will be done by peer reviewer of Global Journals Incorporation (USA) The Board is at liberty to appoint a peer reviewer with the approval of chairperson after consulting us.
The author fees of such paper may be waived off up to 40%.



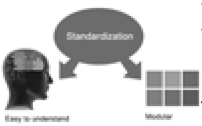
The Global Journals Incorporation (USA) at its discretion can also refer double blind peer reviewed paper at their end to the board for the verification and to get recommendation for final stage of acceptance of publication.

The IBOARS can organize symposium/seminar/conference in their country on behalf of Global Journals Incorporation (USA)-OARS (USA). The terms and conditions can be discussed separately.

The Board can also play vital role by exploring and giving valuable suggestions regarding the Standards of "Open Association of Research Society, U.S.A (OARS)" so that proper amendment can take place for the benefit of entire research community. We shall provide details of particular standard only on receipt of request from the Board.

The board members can also join us as Individual Fellow with 40% discount on total fees applicable to Individual Fellow. They will be entitled to avail all the benefits as declared. Please visit Individual Fellow-sub menu of GlobalJournals.org to have more relevant details.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time. This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.



After nomination of your institution as “Institutional Fellow” and constantly functioning successfully for one year, we can consider giving recognition to your institute to function as Regional/Zonal office on our behalf.
The board can also take up the additional allied activities for betterment after our consultation.

The following entitlements are applicable to individual Fellows:

Open Association of Research Society, U.S.A (OARS) By-laws states that an individual Fellow may use the designations as applicable, or the corresponding initials. The Credentials of individual Fellow and Associate designations signify that the individual has gained knowledge of the fundamental concepts. One is magnanimous and proficient in an expertise course covering the professional code of conduct, and follows recognized standards of practice.

Open Association of Research Society (US)/ Global Journals Incorporation (USA), as described in Corporate Statements, are educational, research publishing and professional membership organizations. Achieving our individual Fellow or Associate status is based mainly on meeting stated educational research requirements.

Disbursement of 40% Royalty earned through Global Journals : Researcher = 50%, Peer Reviewer = 37.50%, Institution = 12.50% E.g. Out of 40%, the 20% benefit should be passed on to researcher, 15 % benefit towards remuneration should be given to a reviewer and remaining 5% is to be retained by the institution.

We shall provide print version of 12 issues of any three journals [as per your requirement] out of our 38 journals worth $ 2376 USD.

Other:

The individual Fellow and Associate designations accredited by Open Association of Research Society (US) credentials signify guarantees following achievements:

- The professional accredited with Fellow honor, is entitled to various benefits viz. name, fame, honor, regular flow of income, secured bright future, social status etc.

- In addition to above, if one is single author, then entitled to 40% discount on publishing research paper and can get 10%discount if one is co-author or main author among group of authors.
- The Fellow can organize symposium/seminar/conference on behalf of Global Journals Incorporation (USA) and he/she can also attend the same organized by other institutes on behalf of Global Journals.
- The Fellow can become member of Editorial Board Member after completing 3yrs.
- The Fellow can earn 60% of sales proceeds from the sale of reference/review books/literature/publishing of research paper.
- Fellow can also join as paid peer reviewer and earn 15% remuneration of author charges and can also get an opportunity to join as member of the Editorial Board of Global Journals Incorporation (USA)
- • This individual has learned the basic methods of applying those concepts and techniques to common challenging situations. This individual has further demonstrated an in–depth understanding of the application of suitable techniques to a particular area of research practice.

Note :

"

- In future, if the board feels the necessity to change any board member, the same can be done with the consent of the chairperson along with anyone board member without our approval.
- In case, the chairperson needs to be replaced then consent of 2/3rd board members are required and they are also required to jointly pass the resolution copy of which should be sent to us. In such case, it will be compulsory to obtain our approval before replacement.
- In case of "Difference of Opinion [if any]" among the Board members, our decision will be final and binding to everyone.

"

Process of submission of Research Paper

The Area or field of specialization may or may not be of any category as mentioned in 'Scope of Journal' menu of the GlobalJournals.org website. There are 37 Research Journal categorized with Six parental Journals GJCST, GJMR, GJRE, GJMBR, GJSFR, GJHSS. For Authors should prefer the mentioned categories. There are three widely used systems UDC, DDC and LCC. The details are available as 'Knowledge Abstract' at Home page. The major advantage of this coding is that, the research work will be exposed to and shared with all over the world as we are being abstracted and indexed worldwide.

The paper should be in proper format. The format can be downloaded from first page of 'Author Guideline' Menu. The Author is expected to follow the general rules as mentioned in this menu. The paper should be written in MS-Word Format (*.DOC,*.DOCX).

The Author can submit the paper either online or offline. The authors should prefer online submission.<u>Online Submission</u>: There are three ways to submit your paper:

(A) (I) First, register yourself using top right corner of Home page then Login. If you are already registered, then login using your username and password.

(II) Choose corresponding Journal.

(III) Click 'Submit Manuscript'. Fill required information and Upload the paper.

(B) If you are using Internet Explorer, then Direct Submission through Homepage is also available.

(C) If these two are not convenient, and then email the paper directly to dean@globaljournals.org.

Offline Submission: Author can send the typed form of paper by Post. However, online submission should be preferred.

MANUSCRIPT STYLE INSTRUCTION **(Must be strictly followed)**

Page Size: 8.27" X 11'"

- Left Margin: 0.65
- Right Margin: 0.65
- Top Margin: 0.75
- Bottom Margin: 0.75
- Font type of all text should be Swis 721 Lt BT.
- Paper Title should be of Font Size 24 with one Column section.
- Author Name in Font Size of 11 with one column as of Title.
- Abstract Font size of 9 Bold, “Abstract” word in Italic Bold.
- Main Text: Font size 10 with justified two columns section
- Two Column with Equal Column with of 3.38 and Gaping of .2
- First Character must be three lines Drop capped.
- Paragraph before Spacing of 1 pt and After of 0 pt.
- Line Spacing of 1 pt
- Large Images must be in One Column
- Numbering of First Main Headings (Heading 1) must be in Roman Letters, Capital Letter, and Font Size of 10.
- Numbering of Second Main Headings (Heading 2) must be in Alphabets, Italic, and Font Size of 10.

You can use your own standard format also.
Author Guidelines:

1. General,

2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript’s Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

1. GENERAL

Before submitting your research paper, one is advised to go through the details as mentioned in following heads. It will be beneficial, while peer reviewer justify your paper for publication.

Scope

The Global Journals Inc. (US) welcome the submission of original paper, review paper, survey article relevant to the all the streams of Philosophy and knowledge. The Global Journals Inc. (US) is parental platform for Global Journal of Computer Science and Technology, Researches in Engineering, Medical Research, Science Frontier Research, Human Social Science, Management, and Business organization. The choice of specific field can be done otherwise as following in Abstracting and Indexing Page on this Website. As the all Global

Journals Inc. (US) are being abstracted and indexed (in process) by most of the reputed organizations. Topics of only narrow interest will not be accepted unless they have wider potential or consequences.

2. ETHICAL GUIDELINES

Authors should follow the ethical guidelines as mentioned below for publication of research paper and research activities.

Papers are accepted on strict understanding that the material in whole or in part has not been, nor is being, considered for publication elsewhere. If the paper once accepted by Global Journals Inc. (US) and Editorial Board, will become the copyright of the Global Journals Inc. (US).

Authorship: The authors and coauthors should have active contribution to conception design, analysis and interpretation of findings. They should critically review the contents and drafting of the paper. All should approve the final version of the paper before submission

The Global Journals Inc. (US) follows the definition of authorship set up by the Global Academy of Research and Development. According to the Global Academy of R&D authorship, criteria must be based on:

1) Substantial contributions to conception and acquisition of data, analysis and interpretation of the findings.

2) Drafting the paper and revising it critically regarding important academic content.

3) Final approval of the version of the paper to be published.

All authors should have been credited according to their appropriate contribution in research activity and preparing paper. Contributors who do not match the criteria as authors may be mentioned under Acknowledgement.

Acknowledgements: Contributors to the research other than authors credited should be mentioned under acknowledgement. The specifications of the source of funding for the research if appropriate can be included. Suppliers of resources may be mentioned along with address.

Appeal of Decision: The Editorial Board's decision on publication of the paper is final and cannot be appealed elsewhere.

Permissions: It is the author's responsibility to have prior permission if all or parts of earlier published illustrations are used in this paper.

Please mention proper reference and appropriate acknowledgements wherever expected.

If all or parts of previously published illustrations are used, permission must be taken from the copyright holder concerned. It is the author's responsibility to take these in writing.

Approval for reproduction/modification of any information (including figures and tables) published elsewhere must be obtained by the authors/copyright holders before submission of the manuscript. Contributors (Authors) are responsible for any copyright fee involved.

3. SUBMISSION OF MANUSCRIPTS

Manuscripts should be uploaded via this online submission page. The online submission is most efficient method for submission of papers, as it enables rapid distribution of manuscripts and consequently speeds up the review procedure. It also enables authors to know the status of their own manuscripts by emailing us. Complete instructions for submitting a paper is available below.

Manuscript submission is a systematic procedure and little preparation is required beyond having all parts of your manuscript in a given format and a computer with an Internet connection and a Web browser. Full help and instructions are provided on-screen. As an author, you will be prompted for login and manuscript details as Field of Paper and then to upload your manuscript file(s) according to the instructions.

To avoid postal delays, all transaction is preferred by e-mail. A finished manuscript submission is confirmed by e-mail immediately and your paper enters the editorial process with no postal delays. When a conclusion is made about the publication of your paper by our Editorial Board, revisions can be submitted online with the same procedure, with an occasion to view and respond to all comments.

Complete support for both authors and co-author is provided.

4. MANUSCRIPT'S CATEGORY

Based on potential and nature, the manuscript can be categorized under the following heads:

Original research paper: Such papers are reports of high-level significant original research work.

Review papers: These are concise, significant but helpful and decisive topics for young researchers.

Research articles: These are handled with small investigation and applications

Research letters: The letters are small and concise comments on previously published matters.

5.STRUCTURE AND FORMAT OF MANUSCRIPT

The recommended size of original research paper is less than seven thousand words, review papers fewer than seven thousands words also.Preparation of research paper or how to write research paper, are major hurdle, while writing manuscript. The research articles and research letters should be fewer than three thousand words, the structure original research paper; sometime review paper should be as follows:

Papers: These are reports of significant research (typically less than 7000 words equivalent, including tables, figures, references), and comprise:

(a)Title should be relevant and commensurate with the theme of the paper.

(b) A brief Summary, "Abstract" (less than 150 words) containing the major results and conclusions.

(c) Up to ten keywords, that precisely identifies the paper's subject, purpose, and focus.

(d) An Introduction, giving necessary background excluding subheadings; objectives must be clearly declared.

(e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition; sources of information must be given and numerical methods must be specified by reference, unless non-standard.

(f) Results should be presented concisely, by well-designed tables and/or figures; the same data may not be used in both; suitable statistical data should be given. All data must be obtained with attention to numerical detail in the planning stage. As reproduced design has been recognized to be important to experiments for a considerable time, the Editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned un-refereed;

(g) Discussion should cover the implications and consequences, not just recapitulating the results; conclusions should be summarizing.

(h) Brief Acknowledgements.

(i) References in the proper form.

Authors should very cautiously consider the preparation of papers to ensure that they communicate efficiently. Papers are much more likely to be accepted, if they are cautiously designed and laid out, contain few or no errors, are summarizing, and be conventional to the approach and instructions. They will in addition, be published with much less delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and to make suggestions to improve briefness.

It is vital, that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

Format

Language: The language of publication is UK English. Authors, for whom English is a second language, must have their manuscript efficiently edited by an English-speaking person before submission to make sure that, the English is of high excellence. It is preferable, that manuscripts should be professionally edited.

Standard Usage, Abbreviations, and Units: Spelling and hyphenation should be conventional to The Concise Oxford English Dictionary. Statistics and measurements should at all times be given in figures, e.g. 16 min, except for when the number begins a sentence. When the number does not refer to a unit of measurement it should be spelt in full unless, it is 160 or greater.

Abbreviations supposed to be used carefully. The abbreviated name or expression is supposed to be cited in full at first usage, followed by the conventional abbreviation in parentheses.

Metric SI units are supposed to generally be used excluding where they conflict with current practice or are confusing. For illustration, 1.4 l rather than 1.4 × 10-3 m3, or 4 mm somewhat than 4 × 10-3 m. Chemical formula and solutions must identify the form used, e.g. anhydrous or hydrated, and the concentration must be in clearly defined units. Common species names should be followed by underlines at the first mention. For following use the generic name should be constricted to a single letter, if it is clear.

Structure

All manuscripts submitted to Global Journals Inc. (US), ought to include:

Title: The title page must carry an instructive title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) wherever the work was carried out. The full postal address in addition with the e-mail address of related author must be given. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining and indexing.

Abstract, used in Original Papers and Reviews:

Optimizing Abstract for Search Engines

Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art.A few tips for deciding as strategically as possible about keyword search:

- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

References to information on the World Wide Web can be given, but only if the information is available without charge to readers on an official site. Wikipedia and Similar websites are not allowed where anyone can change the information. Authors will be asked to make available electronic copies of the cited information for inclusion on the Global Journals Inc. (US) homepage at the judgment of the Editorial Board.

The Editorial Board and Global Journals Inc. (US) recommend that, citation of online-published papers and other material should be done via a DOI (digital object identifier). If an author cites anything, which does not have a DOI, they run the risk of the cited material not being noticeable.

The Editorial Board and Global Journals Inc. (US) recommend the use of a tool such as Reference Manager for reference management and formatting.

Tables, Figures and Figure Legends

Tables: Tables should be few in number, cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g. Table 4, a self-explanatory caption and be on a separate sheet. Vertical lines should not be used.

Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.

Preparation of Electronic Figures for Publication

Even though low quality images are sufficient for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit (or e-mail) EPS (line art) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings) in relation to the imitation size. Please give the data for figures in black and white or submit a Color Work Agreement Form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution (at final image size) ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs) : >350 dpi; figures containing both halftone and line images: >650 dpi.

Color Charges: It is the rule of the Global Journals Inc. (US) for authors to pay the full cost for the reproduction of their color artwork. Hence, please note that, if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a color work agreement form before your paper can be published.

Figure Legends: Self-explanatory legends of all figures should be incorporated separately under the heading 'Legends to Figures'. In the full-text online edition of the journal, figure legends may possibly be truncated in abbreviated links to the full screen version. Therefore, the first 100 characters of any legend should notify the reader, about the key aspects of the figure.

6. AFTER ACCEPTANCE

Upon approval of a paper for publication, the manuscript will be forwarded to the dean, who is responsible for the publication of the Global Journals Inc. (US).

6.1 Proof Corrections

The corresponding author will receive an e-mail alert containing a link to a website or will be attached. A working e-mail address must therefore be provided for the related author.

Acrobat Reader will be required in order to read this file. This software can be downloaded

(Free of charge) from the following website:

www.adobe.com/products/acrobat/readstep2.html. This will facilitate the file to be opened, read on screen, and printed out in order for any corrections to be added. Further instructions will be sent with the proof.

Proofs must be returned to the dean at dean@globaljournals.org within three days of receipt.

As changes to proofs are costly, we inquire that you only correct typesetting errors. All illustrations are retained by the publisher. Please note that the authors are responsible for all statements made in their work, including changes made by the copy editor.

6.2 Early View of Global Journals Inc. (US) (Publication Prior to Print)

The Global Journals Inc. (US) are enclosed by our publishing's Early View service. Early View articles are complete full-text articles sent in advance of their publication. Early View articles are absolute and final. They have been completely reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after sending them. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so Early View articles cannot be cited in the conventional way.

6.3 Author Services

Online production tracking is available for your article through Author Services. Author Services enables authors to track their article - once it has been accepted - through the production process to publication online and in print. Authors can check the status of their articles online and choose to receive automated e-mails at key stages of production. The authors will receive an e-mail with a unique link that enables them to register and have their article automatically added to the system. Please ensure that a complete e-mail address is provided when submitting the manuscript.

6.4 Author Material Archive Policy

Please note that if not specifically requested, publisher will dispose off hardcopy & electronic information submitted, after the two months of publication. If you require the return of any information submitted, please inform the Editorial Board or dean as soon as possible.

6.5 Offprint and Extra Copies

A PDF offprint of the online-published article will be provided free of charge to the related author, and may be distributed according to the Publisher's terms and conditions. Additional paper offprint may be ordered by emailing us at: editor@globaljournals.org .

You must strictly follow above Author Guidelines before submitting your paper or else we will not at all be responsible for any corrections in future in any of the way.

Before start writing a good quality Computer Science Research Paper, let us first understand what is Computer Science Research Paper? So, Computer Science Research Paper is the paper which is written by professionals or scientists who are associated to Computer Science and Information Technology, or doing research study in these areas. If you are novel to this field then you can consult about this field from your supervisor or guide.

TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

4. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

6. Use of computer is recommended: As you are doing research in the field of Computer Science, then this point is quite obvious.

7. Use right software: Always use good quality software packages. If you are not capable to judge good software then you can lose quality of your paper unknowingly. There are various software programs available to help you, which you can get through Internet.

8. Use the Internet for help: An excellent start for your paper can be by using the Google. It is an excellent search engine, where you can have your doubts resolved. You may also read some answers for the frequent question how to write my research paper or find model research paper. From the internet library you can download books. If you have all required books make important reading selecting and analyzing the specified information. Then put together research paper sketch out.

9. Use and get big pictures: Always use encyclopedias, Wikipedia to get pictures so that you can go into the depth.

10. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right! It is a good habit, which helps to not to lose your continuity. You should always use bookmarks while searching on Internet also, which will make your search easier.

11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

12. Make all efforts: Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. Have backups: When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

14. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several and unnecessary diagrams will degrade the quality of your paper by creating "hotchpotch." So always, try to make and include those diagrams, which are made by your own to improve readability and understandability of your paper.

15. Use of direct quotes: When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. Pick a good study spot: To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

Please carefully note down following rules and regulation before submitting your Research Paper to Global Journals Inc. (US):

Segment Draft and Final Research Paper: You have to strictly follow the template of research paper. If it is not done your paper may get rejected.

- The **major constraint** is that you must independently make all content, tables, graphs, and facts that are offered in the paper. You must write each part of the paper wholly on your own. The Peer-reviewers need to identify your own perceptive of the concepts in your own terms. NEVER extract straight from any foundation, and never rephrase someone else's analysis.

- Do not give permission to anyone else to "PROOFREAD" your manuscript.

- Methods to avoid Plagiarism is applied by us on every paper, if found guilty, you will be blacklisted by all of our collaborated research groups, your institution will be informed for this and strict legal actions will be taken immediately.)
- To guard yourself and others from possible illegal use please do not permit anyone right to use to your paper and files.

Criterion for Grading a Research Paper (Compilation) by Global Journals Inc. (US)

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals Inc. (US).

Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

INDEX

save our planet

Global Journal of Management and Business Research

Visit us on the Web at www.GlobalJournals.org | www.JournalofBusiness.Org
or email us at helpdesk@globaljournals.org

ISSN 9755853