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Highlights

Non-Parametric Approach

Social Performance of Banks

Discovering Thoughts, Inventing Future

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The Efficiency of Islamic Banks in North Africa: Analysis with the Non-Parametric Approach DEA (Window Analysis)

By Boudabbous Sami & Yosra Elhaj Ali

University of Sfax, Tunisia

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In the light of the analyse by the financial ratios, we note that the performance of Islamic banks in North Africa is in decline. According to the non-parametric method DEA, the only efficient bank C is the Algerian bank al-Salam. But, the Islamic Bank of Mauritania was in last row between the Islamic banks in North Africa with increasing returns to scale.

Keywords: islamic banks, north africa, efficiency, financial ratios, the method DEA.

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THEEFFICIENCYOFISLAMICBANKSINNORTHAFRICAANALYSISWITHTHENONPARAMETRICAPPROACHDEAWINDOWANALYSIS

Strictly as per the compliance and regulations of:

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Boudabbous Sami [α] & Yosra Elhaj Ali [σ]

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Introduction

The global economy has the Islamic economy, which is recognized for all the world by the prohibition of RIBA. This concept Arabic translated the interest imposed on the borrowing and lending.

At the beginning of the twentieth century, the Islamic economy has been appeared in order to release the economies of the countries Muslims, but by the time the Islamic banks are also found in non-Muslim countries. The Islamic economy indicates the existence of an economy based on the Islamic doctrine.

An Islamic Bank applies the principles of the Sharia in all their financial transactions, banking and investment. Without doubt, it subject to the supervision of the central bank.

The Islamic banks have its own rules and pillars that make them different from the conventional banks. Historically, the first Islamic Bank was founded in Egypt in 1963 at the initiative of an economist called Ahmad al-NAGGAR.

Islamic finance is based on the conviction of the Riba (wear), the prohibition of Gharar (speculation) and the Maysir (uncertainty), the financing of projects in sectors lawful, the obligation of sharing of profits and losses, and finally the principle of affiliation investments to tangible assets of the real economy. Baller (2005) sees that the Islamic finance earlier as modern because it introduces a new form of "governance partnership".

Islamic finance inspires its foundations of the Islamic law (*Shariah)*, of the finance Anglo-Saxon, of the Koran (*Qur'an),* the Islamic jurisprudence *(Fiqh)* and of the Islamic tradition (*Sunnah)*.

We note that the studies are few who have taken the Islamic banks in North Africa in the study of the efficiency of Islamic banks. We will examine the efficiency of Islamic banks in North Africa via the method DEA by Window Analysis. Our contribution lies in the analysis of the efficiency by ratios to the company of the analysis via DEA by Window Analysis instead the approach DEA standard. This point brings a particular asset to our work.

Our research focuses on the efficiency of Islamic banks in North Africa with the method of analysis by financial ratios and the method DEA. In what follows, we will put the light in the first time on the term efficiency, and then on the studies that deal the efficiency of Islamic banks according to the DEA (specially Window analysis). By the following, we will treat empirically the efficiency of Islamic banks in Africa to north.

I. A Review of the Literature

The Islamic bank differs from the classic bank by several criteria. The Islamic Bank offers products and of financial operations adapt to the principles of the shariah. These Islamic products are deposits of investment, certificates of investment or savings accounts.

The products of the Islamic Bank meet the needs of the customer. Since, the Islamic Bank offers the client several options such as: murabaha (cost-plus), Musharakah (Joint Venture), Ijara (leasing). Accordingly, this bank has the Islamic options such as letter of guarantee, letter of credit and the cards covered.

Primarily, the Islamic Bank has a board Shariah. This Council is composed of experts in Islamic law in order to consult, in a continuous manner, as regards all the new banking operations.

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Islamic banks have three modes of financing ; the sharing of profits and risks, leasing, the loan Islamic.

a) The main Islamic instruments

The mobilization and the use of capital in the Islamic finance are based on different legal concepts to those of traditional banks (Muhammad, 1981).

- **Mudaraba**: it refers to the financing of an investment by the Bank with the sharing of losses and profits according to a predetermined rate.
- **Musharaka Mizaka:** it refers to the co-financing by the Bank and the proponents without forgetting with sharing of losses and profits according to a rate set at the beginning.
- **Kard Hasan:** it refers to a loan without interest but the bank charges real are borne by the borrower.
- **Bay'mu'ajjal** the acquisition of an asset, which presents a need for the client, by the bank then resale to its client with compensation delayed.
- **Bay As-salam:** the acquisition of an asset of the customer by the bank then resale to term to the latter.
- **Ijara:** the acquisition of an asset by the Bank in order to rent to its client in respect of a commitment of sale to term.
- **Murabaha:** the loan without interest in the short term with banking margin defined.
- **Sukuk:** the bond borrowing backed with a leasing contract.

❖ The concept of efficiency

For Allen and Anoop (1996), the term efficiency has a broader meaning than the effectiveness. The term efficiency includes considerations of cost and efficiency.

For Windham (1988), "The efficiency is a concept which combines two other since it puts in report the effectiveness for the resources committed to achieve the expected results." Therefore, the efficiency combines the effectiveness and the means employed to achieve the goals of the Bank. In another way, the achievement of the goal with lesser costs generates a bank efficiently. Also, the Bank is called efficiently by report a different bank, if it achieves the best results with the same means. Accordingly, the efficiency is measured by the relationship between the effectiveness and the cost.

The efficiency-x refers to the overall efficiency. The overall efficiency encompasses productive efficiency, the efficiency to the scale, the EFFICIENCY The allocative and/or technical efficiency.

Weill (2006) stresses that productive efficiency is linked to the concept of the production function. The production function refers to the ratio between the quantities of the factors of production X i and the quantities produced y j.

Kopp, Osiewalski, and Steel (1994) emphasize that productive efficiency refers to the ability to produce a specified output at a minimum cost.

Specifically, the efficiency indicates to what point an organization uses its resources well to produce goods and services. Consequently, the term efficiency depends on the resources (human and financial, equipment, materials,…, goods and services products) in order to meet the needs of a "customer".

Amara and Romain (2000) have stressed that the term efficiency means "a production unit is called efficient if, from the basket of inputs that it holds, it produces the maximum output possible."

❖ The forms of efficiency

There are three forms of efficiency: a technical efficiency, a allocative efficiency and a efficiency at scale.

- Technical Efficiency

The concept of technical efficiency finds its origin in the theoretical work of fundamental Debreu (1951), Koopmans (1951) and Farrell (1957).

Koopmans (1951) it is the first which has given a formal definition of the technical efficiency: "a producer is technically efficient if the increase of any output requires the reduction of at least one other output or the increase of at least one input, and if a reduction of any input requires elevation of at least one other input or the reduction of at least one output. ".

According to Weill (2006), the technical efficiency means that an organization is technically efficient if its activities the located exactly on the border of production.

Also, the technical efficiency "returns to the ability to avoid losses by producing as much output that allows the use of inputs or by using the least possible inputs such that the allows the production of outputs" (Harold, Lovell and Schmidt, 1993).

- The allocative efficiency or price

The second form of efficiency it is the efficiency price. An organization is efficient allocativement if she chooses the productive combinations the least expensive, that is to say that it uses the factors of production in the exact proportions, given their market price.

Otherwise, this form designates that the organization reduces its total costs of production, it also promotes the level of this last which is socially optimal (including by a policy of selling prices or pricing, appropriate).

Therefore, the efficiency award allows you to grant a complementary information on performance.

Another side, the inefficiency price results from decisions of production under optimal thanks to estimates of relative prices to outputs or to inputs, therefore the production would be more expensive by report a production with the factors of productions in optimal proportions.

Otherwise, an organization is called inefficient allocativement provided that it uses of the factors of production in proportions incorrect in the light of their price.

Pinteris (2002) stresses that the EFFICIENCY The allocative presents the capacity of leaders to choose among the production program the more efficient technically, what engendre the profit the Most High, or the possibility to choose the inputs in the Percentages optimal.

- The efficiency at the scale

The efficiency to scale it is the case of an organization in a situation of perfect competition, and which operates at an appropriate scale, this means that its marginal cost must be equal to the market price of its product (Chaffai, 1989).

Otherwise, an organization is efficiently to the scale on the condition that it realizes to an optimum size given the market where it operates.

By contrast, an organization is inefficient at the scale at the condition that it did not happen to maximize its profit and subsequently its marginal cost will be separate from the price of the market.

❖ Few empirical studies concerning the efficiency of Islamic banks with the DEA method

To study the efficiency of Islamic banks, some researchers make recourse to the method dea with the financial ratios. The existing studies concerning the efficiency of Islamic banks are classified in two groups. The first group includes studies that assess the efficiency of Islamic banks using the financial ratios. Some of these studies have compared their results with conventional banks. The second group of studies focuses on the effectiveness of the banks by approaches for analysis of border.

Brown (2003) has done a research on the efficiency of Islamic banks over a period extending from 1998 to 2001. The sample includes banks belong to the 19 countries of Asia, the Middle East and North Africa. It note that the Islamic banks Iranian, Yemeni and Brunei Darussalam are more efficient that the Islamic banks in Indonesia and Sudan.

Sufian and Noor (2009) have analyzed the efficiency of Islamic banks between 2001 to 2006. The banks belong to the 16 countries of Asia, the Middle East and North Africa (MENA). They emphasize that the Islamic banks of the MENA region compared to the Islamic banks Asian.

Nor Hayati et al. (2011) have assessed the efficiency of Islamic banks between 2003 and 2009 in 25 countries. They stressed that the Islamic banks located in high-income countries are more efficient than the other banks.

The first study concerning the efficiency of Islamic banks with the non-parametric approach DEA is Yudistira (2003).

Brown and Skully (2005) examined the effectiveness of 36 Islamic banks belong to 19 different countries. They have found that at the regional level, Islamic banks of the Middle East were the most effective and then Asia and Africa.

Johnes et al. (2009) stress according to its study on the Gulf countries between 2004 and 2007 that, via the method DEA, the conventional banks are more efficient than the Islamic banks.

In contrast, Grigorian and Manole, (2005) noted that conventional banks do not exceed the Islamic banks in the scores of efficiency.

We note that the studies on the efficiency of Islamic banks are rare who have taken the Islamic banks of the countries of North Africa. This point brings a particular asset to our work.

II. The Methodology

The methods used for the determination of the efficiency of financial institutions and banks can be classified into two groups: the methods parametric and non-parametric methods.

Berger and Humphrey (1997) have proposed two empirical methods to measure efficiency. The first method is called induced parametric by Aingner and Al(1977) and the second is nonparametric induced by Charnes er et al., (1978).

For our work, we will choose the non-parametric method dea with the method of analysis by the financial ratios in order to examine the efficiency of Islamic banks in North Africa.

a) *Data Envelopment Analysis (DEA)*

The non-parametric method DEA is also called DMUs (decision-making units). This method allows you to evaluate the performance of the firms on the basis of multiple outputs and inputs.

Otherwise, the method allows DEA to assess the efficiency of the firms by transforming inputs (resources) in outputs (benefits).

The method DEA (DMU) has been extended by Charnes et al. (1978, 1981) in order to assess the efficiency of a U.S. federal program for the allocation of resources to schools. Via the time, the use of the DEA is widespread in the other public organizations. The DEA method gives a score to the efficiency of organizations.

Banker et al. (1984) show that the measure of the efficiency in the search for Charnes et al (1978) can be decomposed into two: the technical efficiency and the efficiency of scale.

The score for the efficiency of each firm is counted by report to a border of efficiency. The firms that are located on the border have a score of 1 (or 100%). Therefore, the firms that have a lower score to

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100% are located under the Border, and it is impossible to find firms on the border of efficiency.

The firms that are located on the border of efficiency are used of peers (or benchmarks) to inefficient firms. These peers are attached to the best practice visible. Therefore, the method DEA is a technique of benchmarking.

In another way, the firms that are located under the Border (have a lower score to 100%) have a margin for improvement of their performance.

The DEA technical is a method linear programming. This method limits the comments via plans to build a border. The organizations that reside on this border are efficient, on the other hand, the organizations which are located under this border are inefficient. The organization which is located in the border of efficiency does not reflect that it produces a maximum level of outputs from a given level of inputs although this situation means that this organization presents the best practice of the production of outputs and constitute a reference for the other organizations.

The approach Window analysis is an extension of the DEA method which has been introduced by Klopp (1985). The approach Window analysis gives a vision on the trend (the increase or decrease) of the efficiency in the time (Charnes et al., 1994 and Cooper et al., 2007). In this approach, each unit of decision is distinct from a duration of time to another.

i. *Description of the data and definition of variables*

The data used come mainly from the annual financial statements issued by the banks of our sample.

The period covered by our study extends from 2010 until 2014 (five years). Our period of study relates to eight banks are located in North Africa operational throughout this period, namely:

1. BZ : Bank Zitouna (Tunisian bank).
2. The Bank Al Baraka (Tunisian bank).
3. BAMIS : Mauritanian bank.
4. The Bank Al Baraka (Algerian bank).
5. The Bank Alsalam (Algerian bank).
6. the Islamic Bank of Faisal of Egypt.
7. the Islamic Bank of Faisal of Sudan.
8. The Bank Al Baraka of Egypt.

ii. *Definition of variables*

In order to measure the efficiency of Islamic banks in North Africa we use the analysis by ratios. The founding studies concentrated on the analysis of the efficiency of the banks have had recourse to certain ratios in order to examine the efficiency of banks (Farrell, 1957).

Recent studies have made call to ratios of profitability, efficiency, cost as (Qureshi & Shaikh, 2012), and we are going to add the ratios of risk.

The ratios are summarized in the table below.

The name of the variable	Definition
The Cost Ratio 1	Personal load / Total Assets
The Cost Ratio 2	Interest expenses / Total Deposit
The ratio of cost 3	(provisions+Capital) / Total Assets
The risk ratio 1	Credit Total / Total Assets
The ratio of risk 2	Total deposits / Total Assets
The ratio Profit	Profits / Total of assets
The income ratio	Commissions / Total Assets

b) Analysis by the Financial Ratios

Moreover, we will classify the Islamic banks in North Africa according to the average of the Ratios by year.

Table 1 : The classification of banks according to the average of the Ratios by Year

Year	Average Cost Ratio 1	Average Cost Ratio 2	Average Cost Ratio 3	Average Risk ratio 1	Medium risk 2	Income Average	Average ROA
2010	0,004472597	0,020095872	0,025268348	0,346814442	0,657706655	0,003466211	0,371675601
2011	0,006403111	0,041468257	0,026844798	0,35294257	0,599608611	0,004134146	0,270895782
2012	0,007051709	0,021868407	0,027176397	0,415325066	0,720776866	0,004031999	0,218954483
2013	0,009581117	0,023986968	0,026999372	0,444916175	0,769735534	0,009973922	0,180868064
2014	0,005968795	0,07855045	0,027772832	0,373368299	0,622325447	0,00621009874	0,234009666

According to the table above, we find that the Islamic banks in North Africa have experienced an increase in the ratios of the cost 1, which is explained by the increase in personal charges with a percentage fort that the increase in the total of active across the five years of our study.

The ratio of the cost 2 has experienced an increase in 2011 and 2014 and almost the ratios are equal between 2010, 2012 and 2013. Therefore, the expenses of interests have experienced an increase with a strong proportion that the increase in total filings in 2011 and 2014.

The ratio of the cost 3 has experienced a slight increase from one year to another. Then, the capital, the total of assets and provisions have experienced a slight increase except in 2013 these variables have experienced a slight decrease.

Islamic banks in North Africa have experienced an increase in the Risk ratio 1 between 2010 and 2013, which is explained by the increase in the total of credit by Report the total of the deposits. But, this ratio has seen a decrease in 2014 by Report 2013.

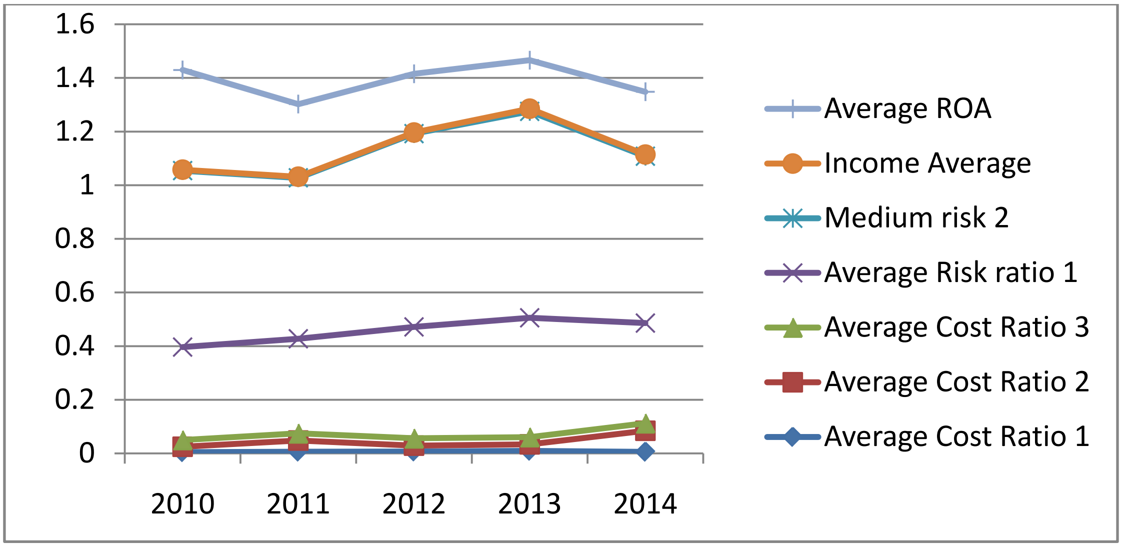
In addition, the ratio of Risk 2 experienced a decrease between 2010 and 2011. And then this ratio has experienced an increase except in 2014 Islamic banks in North Africa a decrease in the ratio of risk.

The ratio of income has experienced an increase between 2010 and 2013.

According to these results, we note that, in 2010, the average of the ratio of Risk 2 (total Depot / total assets) occupies the first rank with a percentage of 65.77%, then the average of the ratio of profit (ROA) is located in the second level.

Islamic banks in North Africa have experienced an increase in the Risk ratio and the cost ratio during the period 2010-2013, which creates a slight decrease of income and profit. This increase of the Ratios costs and risks is explained by a strong increase in expenses and expenditure by Report The increase in deposits and total assets.

By against the Islamic banks catch up with their situation in 2014 and record an increase performance ratios and a parallel decrease of risk ratios and ratios of costs. Therefore, the Islamic banks are more efficient in 2014.



The Graph 1 : The variation of financial ratios between 2010 and 2014

According to the graph, the ratio Profit (ROA) of Islamic banks in North Africa has experienced a decrease in 2011. Then, this ratio has seen an increase in 2012 and 2013. By contrast, this ratio has seen a decrease but with a percentage remains greater than the year 2010.

The Cost Ratio 3 has experienced an increase in 2011, then a decrease in 2012. Subsequently, we observe a slight increase in 2013. But, in 2014, the ratio of cost 3 increases to exceed the levels in the last three years.

The Cost Ratio 2 has seen an increase in 2011, then a decrease in 2012. Subsequently, this ratio increases slightly to achieve in 2014 a level superior to other years.

The risk ratio 2 has seen a decrease in 2011, then an increase in 2012 and 2013. But, this ratio of risk has been decreased in 2014. Therefore, the Islamic banks in North Africa have experienced a decrease in average of the Risk ratio 2 in 2014 with a decrease of average of the ratio of profit and the ratio of income.

The risk ratio 1 has seen a slight increase in 2011, 2012 and 2013. But, this ratio has seen a decrease in 2014.

Also, the ratio of income has experienced a slight decrease in 2011, then he starts to increase in 2012 and 2013. In 2014, the ratio of income has seen a remarkable reduction but with an average greater than the year 2010. This variation is explained by the decrease in the banking commissions.

The Cost Ratio 1 has experienced a slight variation from one year to another. This ratio has seen an increase in 2011,2012 and 2013, then a decrease in 2014. This decrease is explained by the decrease in the personal charges.

Table 2 : The classification of banks according to the average of the Ratios by bank

	Average cost 1	Average cost 2	Average cost 3	Medium risk 1	Medium risk 2	Income Average	Profit Average
B1: Albaraka Tunis	1	7	1	2	2	2	2
B2: Bamis Mouritanie	2	4	3	5	3	4	8
B3: Zitouna Tunis	3	6	6	3	4	5	1
B4: Albaraka Algeria	4	8	8	8	1	8	7
B5:Alsalam Algeria	5	1	5	7	6	7	5
B6: Faisel Islamic Bank of Egypt	6	2	7	1	8	1	3
B7: Albaraka Egypt	7	5	4	4	7	6	4
B8: Faisal bank (Sudan)	8	3	2	6	5	3	6

According to this table, the Bank Zitouna occupies the first rank in ratio of profit, and then the bank Al Baraka occupies the second rank. In contrast, the Bank Wava Mauritanian Islamic ranks last in between the Islamic banks in North Africa.

The Bank Al Baraka of Algeria occupies the last row for the cost ratio 3 and the cost ratio 2. By contrast, the BANK AL Baraka (Tunis) occupies the first rank for the cost ratio 3. Also, this bank occupies the first rank for the cost ratio 1. But, the Bank al-Salam of Algeria occupies the first rank for the cost ratio 2.

The Bank Al Baraka of Algeria holds the rank first in term the risk ratio 2. On the other hand, the Islamic Bank Faisal of Egypt occupies the last row between the Islamic banks in North Africa.

The Bank Faisal Islamic of Egypt occupies the first rank at the level the ratio of income. Therefore, this bank has a percentage the largest of the commissions (by Report the total of active) by report the other banks in North Africa.

The Islamic bank Faisal of Egypt occupies the first rank for the ratio of risk 1. In against part, the BANK AL Baraka of Algeria occupies the last row.

c) The results of estimates of score of efficiency by the method (DEA)

In the framework of this method, technical efficiency (and) a measure of the ability to produce the maximum amount of goods with a given level of factors of production, or the capacity to use the minimum of factors of production to produce a given quantity of goods. Technical Efficiency decomposes also in pure efficiency Technical (EFA) and the efficiency of scale (EE), which are determined by the model with yields of scale variables. This last efficiency measure the level of returns to scale in which the Bank operates (increasing returns to scale or decreasing).

The model is estimated using the Stata software and the results are presented in the table below.

Table 3 : The scores of efficiency of Islamic banks in North Africa

	Technical Efficiency	Technical Efficiency pure	Efficiency of Scale
B1: Albaraka Tunis	61.3%	90.5%	67.7%
B2: Bamis Mouritanie	58.4%	66.8%	87.5%
B3: Zitouna Tunis	82.9%	84.8%	97.7%
B4: Albaraka Algeria	69.74%	72.02%	96.77%
B5:Alsalam Algeria	100%	100%	100%
B6: Faisel Islamic Bank of Egypt	84.8%	100%	84.8%
B7: Albaraka Egypt	87%	88.8%	97.9%
B8: the Islamic Bank Faisal (Sudan)	79.83%	81.64%	97.7%
Average	77.99%	85.57%	91.11%

The Islamic bank al-Salam of Algeria has the most high score of technical efficiency between the Islamic Banks of North Africa. Therefore, the Bank al-Salam presents the bank the more technically efficient between the Islamic banks in North Africa.

According to the table, this Bank St well managed. The Bank Algerian Islamic al-Salam is located in the border of efficiency does not reflect that it produces a maximum level of outputs from a given level of inputs although this situation means that this Bank presents the best practice of the production of outputs and constitutes a reference to the other banks in North Africa.

The Bank Zitouna (Tunisian Bank), the BANK AL Baraka (Tunisian Bank), the BAMIS: Mauritanian bank, the BANK AL Baraka (Algerian bank), the Islamic Bank of Faisal of Egypt, the Islamic Bank of Faisal of Sudan and the Islamic Bank of Egypt AL Baraka are located under the Border. Therefore, they are of Islamic Banks inefficient in North Africa.

According to the table, in the second row, we find the Islamic Bank Al Baraka of Egypt with a score of 87%. In contrast, the Bank Wava Mauritanian Islamic occupies the last row. Then, this bank is much less efficient with a score 58.4%.

The Bank Egyptian Islamic Al Baraka has a pure efficiency of 88.8% and an efficiency of scale of 97.9%. This bank evolves in a situation of decreasing returns to scale (DRS). In progressing the way in which the Bank is managed, 11.2% (100 - 88.8) of *inputs* can be saved. By adjusting the size of the Bank, the consumption of*inputs* may be reduced to 2.1% (100 - 97.9).

The Islamic bank Faisal of the Sudan has a pure efficiency of 81.64% and an efficiency of scale of 97.7%. This bank evolves in a situation of decreasing returns to scale (DRS). In progressing the way in which the Bank is managed, 18.36% (100 - 81.64) of *inputs* can be saved. By adjusting the size of the Bank, the consumption of*inputs* may be reduced to 2.3% (100 - 97.7).

The Bank Egyptian Islamic Faisal has a pure efficiency of 100% and an efficiency of scale of 84.8%. This bank evolves in a situation of decreasing returns to scale (DRS). This bank is well managed. By adjusting

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the size of the Bank, the consumption of*inputs* can be reduced by 15.2% (100 - 84.8).

The Tunisian Bank Al Baraka has a pure efficiency of 90.5% and an efficiency of scale of 67.7%. This bank evolves in a situation of decreasing returns to scale (DRS). In progressing the way in which the Bank is managed, 9.5% (100 - 90.5) of *inputs* can be saved. By adjusting, the consumption of*inputs* can be reduced by 32.3% (100 - 67.7).

The Algerian bank Al Baraka has a pure efficiency of 72.02% and an efficiency of scale of 96.77%.in progressing the way in which the Bank is managed, 27.98% (100 - 72.02) of *inputs* can be saved. By adjusting the size of the Bank, the consumption of*inputs* may be reduced to 3.23% (100 - 96.77).

The Tunisian Bank Zitouna has a pure efficiency of 84.8% and an efficiency of scale of 97.7%. In progressing the way in which the Bank is managed, 15.2% (100 - 84.8) of *inputs* can be saved. By adjusting the size of the Bank, the consumption of*inputs* may be reduced to 2.3% (100 - 97.7).

The Islamic Bank Al Mauritanian Wava has a pure efficiency of 66.8% and an efficiency of scale of 87.5%. This bank evolves in a situation of increasing returns to scale (IRS). In progressing the way in which the Bank is managed, 33.2% (100 - 66.8)of *inputs* can be saved. By adjusting the size of the Bank, the consumption of*inputs* can be reduced by 12.5% (100 - 87.5).

Islamic banks which are the Islamic Bank Al Mauritanian Wava, the Algerian bank Al Baraka, the Tunisian Bank Zitouna, the Islamic Bank Faisal (Sudan), the BANK AL Baraka Egypt can advance their performance. These Islamic banks must analyze the practices of banks Al Baraka (Tunis), Al Salam (Algeria) and Faisal (Egypt) which are identified as his peers of reference. To be a peer (or a *benchmark*), the Islamic Bank must have a pure efficiency of 100%.

The Score Average TE during the entire period of study (2010-14) is equal to 77.99%, which indicates that the Islamic banks in North Africa would have been able to produce the same quantity of output achieved with only 77.99% of the inputs used to where a loss of 22.01% of resources.

III. Conclusion

Throughout this chapter, we are trying to put the light on the term efficiency, the instrument of the Islamic Bank and the studies which deal with the efficiency of Islamic banks with the method DEA. The overall efficiency decomposes in technical efficiency, efficiency, pure and the efficiency to scale.

Empirically, we are trying to examine the efficiency of Islamic banks in North Africa with Algeria, Tunisia, Egypt, Sudan and Mauritania (there is no Islamic banks in Libya and Morocco). In Mauritania the Second Islamic bank has closed its doors by the central bank. Our sample consists of eight Islamic banks and the period of study is spread between 2010 and 2014. To test the efficiency of Islamic banks in North Africa we appeal to the method of analysis by financial ratios and the method DEA (a method non parametric).

Empirically, we find a score of technical efficiency (TE) medium during the entire period of study (2010-14) is equal to 77.99%, which indicates that the Islamic banks in North Africa would have been able to produce the same quantity of output achieved with only 77.99% of the inputs used to where a loss of 22.01% of resources.

The limits of our work are the reduced number of Islamic banks in Afique in the north because of the policy adopted long time, also the period of study is short since there are banks open their doors newly. We choose just the banks which are totally Islamic.

Our work can be a point of departure for research regarding the Islamic banks in the Arab world or well on the ground in Africa.

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Annexs

The variables of inputs and outputs of the DEA method

Inputs	Outputs
Interest expenses	Total Vote
The commissions	Personal load
Capital assets	Total of assets
Provisions	Deposit Total

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Contributing Factors of Inland Investment

By Malik Shahzad Shabbir
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Abstract- Investment is a catalyst for the economic growth, and the efforts to explore the factors catalyzing investment, whether domestic or foreign, public or private, are unstoppable. The present study attempts to investigate empirically, the factors responsible for shaping up domestic investment in the middle income Asian countries. We use a sample of twelve countries and the data extends over a period of 31 years ending at 2010. We employ empirical Bayesian approach for analysis, after undergoing the preliminary testing of data through panel unit root test, redundancy test and panel co-integration. The results suggests that domestic investment is positively determined by lagged investment, real GDP per capita growth, domestic credit to private sector, domestic saving, trade and government expenditures whereas a negative relationship of domestic investment is observed with inflation and interest rate. Findings of the study provide a torch to the policy makers who intend to boost domestic investment for attaining higher growth rates.

Keywords: economic growth, domestic investment, middle income Asian countries, government expenditures.

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Contributing Factors of Inland Investment

Malik Shahzad Shabbir

Abstract- Investment is a catalyst for the economic growth, and the efforts to explore the factors catalyzing investment, whether domestic or foreign, public or private, are unstoppable. The present study attempts to investigate empirically, the factors responsible for shaping up domestic investment in the middle income Asian countries. We use a sample of twelve countries and the data extends over a period of 31 years ending at 2010. We employ empirical Bayesian approach for analysis, after undergoing the preliminary testing of data through panel unit root test, redundancy test and panel co-integration. The results suggests that domestic investment is positively determined by lagged investment, real GDP per capita growth, domestic credit to private sector, domestic saving, trade and government expenditures whereas a negative relationship of domestic investment is observed with inflation and interest rate. Findings of the study provide a torch to the policy makers who intend to boost domestic investment for attaining higher growth rates.

Keywords: economic growth, domestic investment, middle income Asian countries, government expenditures.

I. Introduction

Investment is an important component of aggregate demand in the economy and variations in investment have considerable long term effects on the economic strength of a country. Investment not only enhances the economic growth, but also promotes employment and provides livelihood to masses. The association of investment and long run economic growth is not only emphasized in the era of classical economists, but subsequently a number of studies are conducted to empirically test the importance of investment in experiencing higher growth rates (Kuznets (1973), McKinnon (1973), Shaw (1973); Barro and Lee (1994); Collier and Gunning (1999); Ndikumana (2000). All of these studies end up with a conclusion that investment is a strongly associated with economic growth. The investment-growth relationship in general and the Asian financial crises of late 1990's in particular have led to a mob of studies investigating the factors that bring about variations in the rate of investment in developing countries.

Investment, however, can be categorized into two major classes, i.e. foreign direct investment (FDI) and domestic investment (further divided into its public and private parts). There is a flood of studies that attempt to investigate the determinants of foreign direct investment in poor and middle income countries [see for example Juncki and Wunnava (2004); James and Jiangyan (2010); Blonigen and Piger (2011)] However, to explore the factors explaining domestic investment in such countries is relatively less explored area. Although a variety of variables are suggested by various studies conducted elsewhere in the world to be the causing factors of investment in countries. In our study we endeavor to find the determining factors of domestic investment focusing a sample of middle income Asian countries.

Work on investment can be viewed in two distinct dimensions; one set of studies concentrate on analyzing the determinants of Foreign Direct investment (FDI) and another group of studies focused on the determinants of domestic investment. As far determinants of FDI are concerned, lots of studies are available ending up with different covariates of FDI (like Juncki and Wunnava (2004); Blonigen and Piger (2011), For the domestic investment, some other studies that focus on identifying the macroeconomic and financial factor are either narrower in their scope because of considering time series data only (Shahbaz et al. (2010); Shah et al. (2012) in Pakistan; Tan and Lean (2010), Tan et al. (2011) in Malaysia; Seruvatu and Jayaraman (2001) in Fiji or directed towards other geographical zones (Salahuddin et al. (2009) in Muslim developing countries). However, the area of middle income countries from Asia is generally ignored and demands attention of the researchers.

In order to fill this gap the present study is an attempt to add in literature a comprehensive work focusing on determining factors of domestic investment covering the horizons of financial and macroeconomic indicators by taking into account latest data and employing Empirical Bayesian approach on a sample of middle income Asian countries.

II. Literature Review

We are examining the existing empirical literature focusing the investment and its determining factors. The researchers study the role of a variety of factors including macroeconomic variables and financial market factors, in explaining the investment behavior. The studies not only differ from each other on the basis of factors included in the model and the estimation techniques applied but results arrived at also depict a spectrum of conclusions. The empirical literature on investment behavior in the developing countries seems to have focused on macroeconomic variables and financial variables. The findings of different studies on determinants of investment behavior are discussed hereunder in detail.

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a) Studies focusing on Macroeconomic Variables

Investment practice in the preceding year gives an indication to the investors regarding economic climate in the country and thus, has a potential to affect investment positively. A similar relationship is observed in earlier studies based on empirics. Mileva (2008) finds a positive relationship between the two variables, in his study conducted on 22 transition economies. Salahuddin et al. (2009) reports a positive and significant effect of lagged investment, in their study on 21 developing countries from the Muslim regions. The results of the studies by Donwa and Agbontaen (2010) on Nigeria and Janice et al. (2011) are also consistent with the above-mentioned proposition. Taghavi (2011) while carrying out a study on a panel of India, China, Pakistan, Iran, Turkey, Indonesia and United Arab Emirates also concludes that lagged investment is a strong determinant of domestic investment.

An increase in the aggregate demand motivates firms to increase supply and this may require an increase in the installed capacity and thus stimulate investment. Wolf (2002) examines that GDP per capita significantly explains domestic investment, in a positive way, in South African developing countries. The studies of Tan and Lean (2010) in Malaysia, Salahuddin et al. (2009) on Muslim developing countries also find a positive impact of the variable on domestic investment.

Similarly studies by Oshikoya (1994) on African countries, Ghura and Goodwin (2000) on countries from Asia, Latin America and Sub Saharan Africa, Seruvatu and Jayaraman (2001) in Fiji. Acosta and Loza (2005) in Argentina, Mileva (2008) on 22 transition economies, Peltonen et al. (2009) on emerging markets of Asia, Latin America and Europe, Frimpong and Marbuah (2010) in Ghana and Tan et al. (2011) in Malaysia find positive relationship between investment and GDP or GDP growth.

Many studies report that investment is positively determined by saving. Salahuddin et al. (2009) find in their study that domestic investment is positively related with domestic saving for the case of 21 Muslim developing economies. The work of Baker (2011) also finds the similar results in relation with private investment for Nigeria. The study of Feldstein and Horioka (1980) suggest that cross section saving-investment correlation is high in OECD countries which implies that there is low capital mobility among these countries, this is known as F-H puzzle. Some studies find small regression coefficient of saving in the developing countries like Wong (1990) and Dooley et al. (1987) in the developing counties which implies that high capital mobility is present among the countries. Saving- investment relationship is observed by Shahbaz et al. (2010) in Pakistan with the finding of a weak correlation. The study suggests that the underlying reason for this weak relationship is the insufficient capital mobility within the country which induces domestic investors to borrow from the international markets with higher capital mobility, in order to finance their projects.

Wahid et al (2008) find positive but low correlation between saving and investment in the south Asian countries which is conflict with the FH puzzle. While the study of Salma et al (2012) observes that there is no long-run relationship between domestic saving and investment in Pakistan. There can be various reasons for it, but capital mobility is the major cause for such relationship.

Mixed results are observed in literature regarding the role of interest rate in determining investment. Some studies find negative relation with private investment like Frimpong and Marbuah (2010) for Ghana in both short and long run.Ghura and Goodwin (2000) also find similar results in the developing countries of Asia, Latin America and Sub Saharan Africa. While, Seruvatu and Jayaraman (2001) find no significant impact of real lending rate on private investment, in Fiji. The study of Salahuddinet al. (2009), in 21 Muslim developing economies are reinforces the results of Seruvatu and Jayaraman (2001).

Trade represents the volume of trade in the economy. Investment increases with expansion in the quantum of exports and imports. Hence a positive relationship of trade and investment is believed to exist generally. According to the study of Salahuddin et al. (2009) domestic investment is positively explained by trade openness. Frimpong and Marbuah (2010) also find similar results for private investment in case of Ghana, both in short run and long run. But the studies of Acosta and Loza (2005) and Seruvatu and Jayaraman (2001) depict that private investment is determined by term of trade during the study of 48 emerging countries and Fiji respectively, rather than the volume of trade. Mileva (2008) in a study on 22 transition economies, however, reports an insignificant impact of trade in the long run.

A mixed role of inflation is observed, in existing literature, as determinant of domestic investment. Li (2006) finds a negative impact of inflation on domestic investment for a sample of 117 countries from the list of developing as well as developed countries stating that high rate of inflation is an obstacle to achieve higher rates of domestic investment.

Shahbaz et al. (2010) reports a positive impact of inflation on investment reinforcing the theory of Phillips curve. The study of Oshikoya (1994) find in African countries that impact of inflation is like a flip of coin for the two groups; where it negatively affects investment in the low income countries, it has a positive impact for the countries belonging to middle income group.

A group of studies also end up with a conclusion that inflation has no effect on domestic investment. Examples include; the studies of Jaramillo (2010) on 48 emerging economies and Salahuddin et al. (2009) on 21 Muslim developing economies.

Increase in government expenditures may either encourage or discourage investment. High government borrowing may increase the interest rate and contract the size of available funds in the financial market for private sector, leading to crowd out private investment. The studies reporting results in favour of this hypothesis include Ghura and Goodwin (2000) whose sample comprises developing countries from Asia, Latin America and Sub Saharan Africa; Karago and Kerim (2006) conducting study on Turkey.

On the other side, government expenditures on basic infrastructure are found to create an environment conducive for investment and persuade private investors to enhance investment. This relationship is observed by Asante (2000) in Ghana and Baker (2011) in Nigeria. Many of the developing countries are debt-strapped and therefore, carry large amounts of external debt to their credit. This leads to an environment of macroeconomic uncertainty and in this way it may affect domestic investment negatively. An adverse effect of external debt is observed by Oshikoya (1994) on private investment in African countries, by Salahuddin et al. (2009) on domestic investment in 21 Muslim developing economies and also by Frimpong and Marbuah (2010) on long run private investment in Ghana. The studies that find an insignificant relationship between the two variables include Fitz Gerald et al (1994), Ghura and Goodwin (2000) and Nabende and Salater (2005).

III. Methodology and Data Description

The present study attempts to explore the determinants of domestic investment in the frame of financial development and macroeconomic factors. Our sample is, however, confined to the middle income Asian countries[1], the countries for which data is available (A list of sample countries used in our study is provided in Appendix A). The model employed in our study and a brief description of the variables used is given hereunder.

a) Econometric Model

In order to find the role of financial and macroeconomic variable on the domestic investment we use an investment model which is a variant of the model earlier used by Ndikumana (2000). The model in its general form is presented below;

$$INVit = \alpha + \beta\, INV_{it-1} + \delta\, X_{it} + u_{it} \tag{a}$$

Where INV_{it} is the investment (as a percentage of GDP) of country *i*at time t. X indicates the set of all possible variables.

As the main objective of our study is to search for the factor explaining domestic investment, therefore we are compelled to include all the possible relevant variables in the model to get unbiased estimators of potential variables of domestic investment. A general model, developed on the basis of existing studies for domestic investment is presented as follows;

$$INV_{it} = \beta_0 INV_{it-1} + \beta_1 Y_{it} + \beta_2 Y_{it-1} + \beta_3 PRIVT_{it} + \beta_4 PRVT_{it-1} + \beta_5 R_{it} + \beta_6 R_{it-1} + \beta_7 S_{it} + \beta_8 S_{it-1} + \beta_9 TRAD_{it} + \beta_{10} TRAD_{it-1} + \beta_{11} GE_{it} + \beta_{12} GE_{it-1} + \beta_{13} D_{it} + \beta_{14} D_{it-1} + \epsilon_{it} \tag{b}$$

The results of redundancy test mentioned in table 5.1 exclude the redundant (unimportant) variables in the above-mentioned model (Equation 4.2) and leave us with the following investment model for estimation.

$$INV_{it} = \beta_0 INV_{it-1} + \beta_1 Y_{it} + \beta_2 Y_{it-1} + \beta_3 PRIVT_{it} + \beta_5 R_{it} + \beta_6 R_{it-1} + \beta_7 S_{it} + \beta_8 S_{it-1} + \beta_9 TRAD_{it} + \beta_{10} TRAD_{it-1} + \beta_{11} GE_{it} + \beta_{12} GE_{it-1} + \beta_{13} D_{it} + \epsilon_{it}$$

Where;

INV_{it} = "Gross Fixed Capital Formation as a percentage of GDP".

$PRVT_{it}$= "Domestic credit to private sector as a percentage of GDP"

Y_{it} = GDP per capita growth (Annual %)

R_{it} = Lending interest rate (%)

S_{it} = Gross domestic savings (% of GDP)

$TRAD_{it}$ = Trade (% of GDP)

INF_{it} = Inflation, GDP deflator (annual %)

GE_{it}= "General government final consumption expenditure (% of GDP)"

D_{it} = External Debt (% of GNI)

[1] The classification is based on the World Bank 2011.

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b) Gross Fixed Capital Formation (% of GDP)

Gross fixed capital formation (a proxy for gross domestic investment) represents dependant variable in our model and includes land improvements (fences, drains, ditches, and so on); plant, equipment purchases, machinery; and the construction of railways, roads, and the like, including offices, schools, hospitals, commercial and industrial buildings and private residential dwellings. The same variable is used by Manuel et.al (2000), Mileva (2008) and Arazmuradov (2011).

c) GDP Per Capita Growth (Annual %)

GDP per capita growth is the annual growth rate of GDP per capita (the ratio of gross domestic product and the midyear population). The neo classical theory states that, real GDP growth is positively related with the domestic investment through the accelerator effect. It is expected that our results will follow the theory of neo classical.

d) Domestic Credit to Private Sector (% of GDP)

Domestic credit to private sector, a variable of financial development, designates the role of banks in the provision of finance to private corporations. It is normally believed that credit to private sector yields greater returns as compared to credit allocated to public sector (Rousseau, and Vuthipadadorn (2005).

e) Lending Interest Rate (%)

Lending interest rate is the rate of interest charged by banks on loans from the lender.

f) Gross Domestic Savings (% of GDP)

Gross domestic saving is calculated by taking the difference between GDP and final consumption expenditures.

g) Trade (% of GDP)

Trade is the sum of imports and exports of the goods and services as a percentage of GDP.

h) Inflation, GDP Deflator (Annual %)

Inflation is measured by the GDP deflator which indicates the rate of change in price as a whole in the economy.

i) General Government Final Consumption Expenditure (% of GDP)

General government final consumption expenditure indicates current expenditures of the government for goods and services and expenditure on security and national defense, although the expenditures on the government military are excluded from it.

j) External Debt (% of GNI)

External debt means the ratio of total external debt to gross national income and means debt payable to nonresidents in foreign currency, or goods and services. It is the sum of public, publicly guaranteed, private nonguaranteed long-term debt, short-term debt and use of IMF credit. Short-term debt includes all debt having an original maturity of one year or less and interest in amount outstanding on long-term debt.

k) Data and Variables

Keeping in view the objectives of our study and our specific model, we have obtained data for the middle income Asian countries over the period 1980 to 2010. Non-availability of data on some of the variables induced us to drop some countries from the study and finally we have 12 cross sectional units in our sample. The data is taken from WDI 2011 online data base. Before we move on to the regression analysis, an appropriate methodology followed in this study is explained hereunder.

l) Methodology

Classical econometrics is valid only for stationary series and since panel data includes both components, time series as well as cross sections, thus the time series dimension makes it necessary to apply Unit Root test in order to ensure that the results are reliable. Nelson and Plassor (1982) explain that most of the economic series are Unit Root, and as suggested by Engel and Granger (1982), the regression of unit root series is valid only if they are co-integrated. Thus as a first step of estimation process, we have employed unit root test with a view to find whether the series are stationary or not. Series of I (0) are believed to be ideal which mean that there is no unit root, thus signifying that a particular series is stationary at its level. However, if two or more series are found to be non-stationary then the estimated regression yields spurious results [Granger and Newbold (1974)], than co-integration between variables is necessary to be tested.

m) Panel Unit Root Test

Before we proceed to identify the long run relationship we need to investigate the order of integration in order to verify whether the series is stationary or unit root. A Stationery series is characterized by the constant variance, constant mean and constant covariance of each given lag. For the identification of the order of integration we have used a modern technique of panel unit root developed by Im, Pesaran, Shin (2003) (hereafter referred to as IPS). It specifies a separate ADF regression for every cross section by individual effect and no time trend.

n) Panel Co-integration

Finding more than one variable non-stationary urges us to test whether the series are co-integrated. So in the second step of estimation we apply penal co-integration test introduced by Kao (1999) which is Engel-Granger (1987) two step residual based test to measure the long run relationship among the selected variables.

o) Redundancy Test

For the purpose of obtaining meaningful results, econometric model should be parsimonious and unimportant variables must be excluded from the model. Where inclusion of insignificant variable enlarges the variability of estimators on one hand, the exclusion of any important variable from the model yields biased estimator on the other. Thus, the process of dropping some variable from the equation is not a hit and trial method but this ought to be done in a systematic manner. Therefore, we have applied coefficient test of redundant variable to obtain a parsimonious model. Test of redundant variables is basically the comparison of the original model and model with redundant variables, in order to decide which variables are to be excluded from the initial equation.

p) Empirical Bayesian Estimator

Although classical techniques are frequently used in econometrics, Empirical Bayesian is an alternative to such techniques and getting popular due to its advantages as compared with the classical methods. Classical approach ignores the prior knowledge about the parameters and the variability of the parameters. The fact that Bayesian approach incorporates the prior information in the model enhances the power and flexibility of the model and provides results in natural form. It also deals with the complexities inherent in the classical approach. Keeping in view the merits of Bayesian technique we have used Empirical Bayesian approach to estimate the investment model in our study.

q) Bayesian Estimation Procedure

It is believed that Empirical Bayesian procedure is efficient over the class of others estimators especially in case of small samples. Bayesian approach has various advantages over the other estimators that lead to more precise and reliable coefficients. It assumes that prior information about unknown must be incorporated in the density function.

$$\hat{\beta}_i \,/\, \beta_i \sim N(\beta_i, \wedge_i) \qquad \text{(d)}$$

$\hat{\beta}_i$ Indicates the estimated elasticities and β_i is true values of elasticity. It shows that 'estimated values' of parameters is normally distributed with mean β_i and variance $\wedge_i$ given the true values of parameters. The empirical Bayesian estimators are attained by assuming that β_i is normal prior distribution of the form;

$$[\beta_i \,|\, \mu, \Omega] \sim N(\mu, \Omega) \qquad \text{(e)}$$

Equation 4.5 implies that β_i is normal distribution with μ and Ω. Where, Ω indicates the variance of the prior density which has been calculated from the Ordinary Least Squares results that is:

$$\Omega = \left[\sum_{i=1}^{n}, \wedge_i^{-1}\right]^{-1} \qquad \text{(f)}$$

Ω is the variance of prior density which is simply the weighted average of the variance covariance matrices of the OLS estimates. We follow the procedure of Corrington and Zaman (1994) to calculate the variance covariance matrices of parameters by using the standard errors of OLS estimates obtained in the first stage. μ in equation 4.5 is the mean of prior density which is given below:

$$\mu = \Omega^{-1}\left[\sum_{i=1}^{n}, \wedge_i^{-1}\, \hat{\beta}_i\right] \qquad \text{(g)}$$

Finally the Empirical Bayesian estimator obtained from the posterior density is given as follows:

$$\hat{\beta}^{EB} = V_i\, (\wedge_i^{-1}\, \hat{\beta}_i \; + \Omega^{-1}\mu) \qquad \text{(h)}$$

Formula of Empirical Bayesian is given in equation 4.8. $\hat{\beta}^{EB}$, means the parameter estimates of the Empirical Bayesian and standard error of the estimates are obtained from 'Vi' which is the variance of the posterior density.

$$V_i = (\wedge_i^{-1} + \Omega^{-1})^{-1} \qquad \text{(i)}$$

Estimates of the Bayesian methods are more precise as compared to the classical estimates. Standard errors of the Bayesian are smaller than those of classical which helps in getting more reliable conclusions (Berger (1985)). Some other authors also recommend Empirical Bayesian for the panel data analysis including Koop (1999) and Peseran (2005) whereas a number of researchers have employed Empirical Bayesian approach in their studies Efron and Morris (1972), (Rubin (1981), Hsiao, pesaran and Tahmiscioglu (1999)).

IV. Empirical Results

In this study we empirically test the role of financial and macroeconomic variables in the determination of domestic investment, with a view to conclude the debates on the subject.

a) Redundancy Test

We estimate equation (b), as a first step of formal estimation process, which include lagged investment[2] and all the variables of financial and macroeconomic nature, in their level and lag forms, which can potentially affect the domestic investment. The model in equation (b) is a general model and to get a parsimonious model from model (b) we apply the redundancy test to all variables in the model. The findings of this test are given in Table 3.1 below;

[2] Lagged investment is included to control the economic condition in the last year (Li, 2006)

Table 3.1 : Results of Exclusive Restriction (Redundancy Test)

Variables	F-statistics	Prob
I_{it-1}	25.34	0.000***
Y_{it}	9.21	0.000***
Y_{it-1}	3.69	0.000***
$PRIVT_{it}$	3.47	0.000***
$PRIVT_{it-1}$	1.45	0.147
S_{it}	15.56	0.000***
S_{it-1}	3.51	0.000***
$TRADE_{it}$	2.81	0.002***
$TRADE_{it-1}$	2.83	0.002**
INF_{it}	2.13	0.018**
INF_{it-1}	4.22	0.000***
R_{it}	3.34	0.000***
R_{it-1}	2.56	0.004**
GE_{it}	2.99	0.001**
GE_{it-1}	2.03	0.025**
D_{it}	2.64	0.003**
D_{it-1}	1.32	0.210

Significance at 1% level (***), Significant at 5% level (**)

According to the results of redundancy test, as shown in Table 3.1, we reject the null of redundancy for all the variables except lag of private credit and external debt. The corresponding p-values for rest of the variables indicate the variable is not redundant and hence cannot be excluded from the model.

b) Testing Panel Unit Root

Before switching to the formal estimation process we first test unit root of the series of candidate variables in our econometric model. We employ Im, Pesaran and Shin (2003) test for the purpose of finding unit root. The results of the test are given below.

Table 3.2 : Test results of Panel Unit Root (Im, Pesaran and Shin (2003))

	Levels		First Difference	
Series	t-statistics	p-value	t-statistics	p-value
INV_{it} (Gross Capital Formation (%GDP))	-0.252	0.401	-10.209	0.000***
Y_{it}(GDP per capita growth (annual %))	-6.206	0.000***		
$PRIVT_{it}$ (Domestic credit to private sector %GDP)	3.546	1.000	-4.90934	0.000***
D_{it} (External Debt (%GNI))	-0.216	0.415	-5.80144	0.000***
GE_{it} (Govt Expenditure %GDP)	0.461	0.678	-10.209	0.000***

INF_{it} (Inflation, GDP deflator (Annual %))	-4.787	0.000***		
R_{it} (Lending interest rate (%))	1.268	0.898	-12.7066	0.000***
S_{it} (Gross Domestic Saving (%GDP))	-0.110	0.456	-10.9317	0.000***
$TRADE_{it}$ (Trade as % of GDP)	2.195	0.986	-8.78945	0.000***

*Note: *** denote level of significant at 1%*

Table 3.2 shows results of the test for the variables at level form, and the series which are not stationery at level, the test is further extended to the variables in their first difference form. The null of the test specifically states that the series is a Unit root (signifying that the series is not stationary), whereas under the alternative hypothesis the series is not a unit root (that the series is stationary). The t-stats and the corresponding p-values for each of the variables show that only two variables (Yit, INFit) are stationary at level or integrated order zero I(0). Other series are non-stationary at level, however, these are integrated order one I(1), that is the series become stationary at first difference.

Since more than one variable are non-stationary, we cannot proceed further for the analysis unless we find a long run relationship between the investment and the financial and macroeconomic variables, that is we are satisfied that there is cointegration between the variables.

c) *Penal Cointegration*

A panel cointegration test introduced by Kao (1999)[3] is employed to examine the long run relationship between the variables. Table 3.3 below, yields the output of the test.

Table 3.3 : Test results of Penal Cointegration

Series	ADF	
	t-statistics	Prob
INV_{it} ,Y_{it} ,$PRIVT_{it}$, S_{it} ,$TRADE_{it}$,INF_{it} ,R_{it} ,GE_{it}, D_{it}	-4.239	0.000***

The results presented in Table 3.3 provide sufficient evidence to reject the null hypothesis of no co-integration, at 1% level. This reveals the existence of a long run relationship between the investment, financial and macroeconomic variables. The fact that the variables are co-integrated allows us to proceed to the estimation process.

d) *Findings of the Empirical Bayes*

For reasons discussed earlier we employ Empirical Bayesian technique in our final stage of estimation process. Table 3.4 below shows the estimates of the empirical Bayes of the investment model (c). As compared with OLS estimates, under the empirical Bayesian analysis, the estimates become more precise because of incorporation of the prior information, with the data information.

[3] Kao (1999) test is based on the (Engel Granger (1987) two step residuals.

Table 3.4 : Results of Empirical Bayesian Estimation

Countries		I_{it-1}	Y_{it}	Y_{it-1}	P_{it}	S_{it}	S_{it-1}	T_{it}	T_{it-1}	INF_{it}	INF_{it-1}	R_{it}	R_{it-1}	GE_{it}	GE_{it-1}	D_{it}
Bhutan	Coefficient	0.63	0.20	0.10	0.04	0.20	-0.06	0.01	-0.04	-0.02	-0.05	0.02	-0.15	0.13	-0.03	0.00
	t-value	23.32***	9.80***	4.56***	4.61***	8.66***	-2.72***	1.36	-4.73***	-1.35	-3.55***	0.48	-3.84***	2.31**	-0.40	-0.31
China	Coefficient	0.59	0.22	0.11	0.05	0.24	-0.06	0.01	-0.04	-0.01	-0.04	-0.02	-0.18	0.12	-0.02	0.00
	t -value	22.71***	10.70***	5.27***	5.82***	10.14***	-2.59***	0.83	-4.69***	-0.86	-2.84***	-0.53	-4.88***	2.15**	-0.24	-0.22
Fiji	Coefficient	0.62	0.20	0.09	0.04	0.24	-0.07	0.02	-0.04	-0.01	-0.04	0.00	-0.16	0.14	-0.06	0.00
	t -value	22.96***	9.57***	4.05***	4.45***	10.05***	-2.99***	1.63	-4.56***	-0.82	-3.09***	0.05	-4.22***	2.43**	-0.83	-0.37
Indonesia	Coefficient	0.63	0.20	0.09	0.05	0.20	-0.06	0.02	-0.05	-0.01	-0.02	-0.06	-0.16	0.19	-0.07	0.00
	t -value	23.77***	9.94***	4.23***	5.38***	8.40***	-2.55***	1.55	-5.16***	-0.99	-1.74*	-1.72*	-4.70***	3.18***	-0.98	0.56
India	Coefficient	0.61	0.19	0.07	0.04	0.27	-0.04	0.02	-0.05	-0.02	-0.07	0.06	-0.16	0.19	-0.11	0.00
	t -value	22.99***	10.23***	3.56***	4.30***	12.63***	-1.91*	1.98*	-5.04***	-1.75*	-4.94***	1.69*	-4.42***	3.47***	-1.71*	-0.09
Sri Lanka	Coefficient	0.62	0.21	0.11	0.04	0.21	-0.06	0.02	-0.05	-0.02	-0.05	0.01	-0.12	0.13	-0.06	-0.01
	t -value	22.81***	10.15***	4.84***	4.55***	8.65***	-2.61***	1.71*	-4.79***	-1.25	-3.32***	0.28	-3.35***	2.23**	-0.89	-0.68
Significant at 1 % (***), Significant at 5% (**), Significant at 10%(*)																

Table 3.5 : Results of Empirical Bayesian Estimation (Continued)

Countries		I_{it-1}	Y_{it}	Y_{it-1}	P_{it}	S_{it}	S_{it-1}	T_{it}	T_{it-1}	INF_{it}	INF_{it-1}	R_{it}	R_{it-1}	GE_{it}	GE_{it-1}	D_{it}
Malaysia	Coefficient	0.66	0.29	0.13	0.04	0.18	-0.05	0.02	-0.03	-0.02	-0.06	0.01	-0.14	0.10	-0.04	0.00
	t -value	26.66***	14.72***	5.96***	4.61***	7.29***	-2.08**	2.17**	-3.73***	-1.61	-4.58***	0.19	-3.61***	1.64*	-0.54	-0.49
Pakistan	Coefficient	0.63	0.19	0.11	0.04	0.22	-0.06	0.02	-0.04	0.00	-0.05	0.03	-0.17	0.12	-0.05	0.00
	t -value	23.29***	9.50***	5.18***	4.59***	9.35***	-2.86***	1.64*	-4.58***	-0.36	-3.87***	0.76	-4.40***	2.23**	-0.78	-0.25
Philippine	Coefficient	0.63	0.20	0.09	0.04	0.23	-0.06	0.02	-0.04	-0.03	-0.07	0.05	-0.13	0.15	-0.03	-0.01
	t -value	23.02***	9.59***	4.28***	4.71***	9.40***	-2.42**	1.68*	-4.36***	-2.33**	-5.23***	1.29	-3.62***	2.46**	-0.51	-1.32
Papua New Guinea	Coefficient	0.65	0.17	0.09	0.04	0.21	-0.08	0.02	-0.04	-0.02	-0.06	0.02	-0.11	0.15	-0.05	-0.02
	t -value	24.17***	8.51***	4.18***	4.63***	9.31***	-3.38***	1.71*	-4.71***	-1.13	-4.43***	0.42	-2.92***	2.63***	-0.73	-1.88
Thailand	Coefficient	0.64	0.23	0.11	0.03	0.19	-0.03	0.01	-0.03	-0.02	-0.05	0.05	-0.17	0.16	-0.04	0.00
	t -value	24.10***	11.53***	5.09***	3.20***	8.04***	-1.47	0.74	-3.80***	-1.30	-3.49***	1.34	-4.41***	2.65***	-0.63	-0.03
Vanuatu	Coefficient	0.61	0.22	0.11	0.05	0.19	-0.06	0.01	-0.05	-0.02	-0.05	0.02	-0.15	0.15	0.05	0.00
	t -value	22.93***	10.43***	4.93***	5.11***	8.01***	-2.40**	0.98	-4.92***	-1.08	-3.53***	0.38	-4.01***	2.65***	0.71	-0.15

Significant at 1 % (***), Significant at 5% (**), Significant at 10% (*)

Variables for most of the countries in the table bear expected sign of the estimators are statistically significant. The coefficient of one period lagged investment (hereafter referred to as lagged investment), ranging from 0.59 to 0.66 across countries, shows its positive impact on current investment at 1% level for all cross sectional units. The positive coefficient of lagged investment divulges that investment practice in the previous year acts as an indicator of the economic condition in a particular country, thereby stimulating investment in the following year. Our results are consistent with the findings of Ndikumana (2000) and Salahuddin et al (2009).

The coefficient of GDP per capita growth bears a positive sign and is statistically significant at 1% level for all the countries, with a value ranging from 0.17 to

0.29. It implies that 1% increase in GDP per capita growth has a potential to expand domestic investment by 0.17% to 0.29% in the sample countries. This provides evidence in support of the endogenous growth theory (Locas (1988) and Romer (1986)). The philosophy of neo classical theory of investment, that output growth is positively related with the investment due to the accelerator effect[4], also sustains by this relationship. In terms of quantitative importance, the variable is least important for Papua New Guinea where one percent increases in GDP per capita growth stimulates investment by about 0.17percent. On the other extreme, one percent change in GDP per capita growth changes domestic investment by 0.29 percent for Malaysia. The results are consistent with the findings of Levine and Rental (1992), Barro and Lee (1994), Ghura and Hadjimicheal (1996), Ndikumana (2000), Hernadez-Cata (2000), Wai and Wong (1982), Fielding (1997), Wolf S. (2002), Mbanga (2002), Akpalu (2002), Greene and Villanueva (1991). Furthermore, it is not only the current level of per capita income that affects domestic investment but its lagged value (one year lag) also determines investment positively (although its quantitative importance is lesser than the variable at level). The variable is significant at 1% and its value stands between 0.07 and 0.11, for the middle income Asian countries.

The estimated coefficient of domestic credit to private sector, which is also considered a measure of financial development, is found to have a positive impact on domestic investment. The fact that availability of funds in the credit market promotes investment cannot be undermined despite a small range of the coefficient between 0.03% and 0.05%. Our results are similar to the studies of Stiglitz and Weiss (1981), Greenwald et al. (1984), Islam and Wetzel (1991), Ronge and Kimuyu (1997) and Ghura and Goodwin (2000).

The coefficient of saving is also found to affect the domestic investment positively, for the entire sample and the results are significant at 1% level. India has a coefficient of 0.27, which is highest in the sample whereas Malaysia is on the tail with a value of 0.18. A positive relationship of gross domestic saving with domestic investment implies that the two variables are complimentary; however, a relatively smaller coefficient indicates the higher mobility of capital from these countries. These results are consistent with the findings of Dooley et al. (1987), Wong (1990), Salahuddin and Islam (2008) and Arazmuradov, A. 2011.

We find the coefficient of trade (current level) positive and significant at 5% for Malaysia while for India, Pakistan, Philippine, Sri Lanka and Papua New Guinea, it is significant at 10% level. Its role, however, is not of worth mentioning for rest of the countries in the sample. Positive relationship implies that domestic investment is affected by both exports and imports. Increase in Exports increases the foreign exchange which is necessary for purchase of imported capital goods that is helpful to increase in domestic products. While, the greater access to investment good due to high imports helps to stimulates domestic investment. These results follow the findings of Ghura and Goodwin (2000) and Mileva (2008).

On the other, the estimated coefficient of first lag of trade is negative and significant at 1% level for all the countries ranging between -0.05 and -0.03. This is consistent with the study of Demir (2005) and Ouattara (2005). Because of the increase in risk after the trade liberalizations risk adverse investors desire to invest in financial sector rather than real sector. The current inflation level does not seem to affect investment significantly, with the exception of India and Philippine where it is significant at 10% and 5% level of significance respectively, and has negatively sign. These findings encompass the studies of Mehrara and Karsalari (2011) and Ghura and Goodwin (2000).

However, the lagged inflation is found to discourage investment (coefficient ranges between 0.02 and 0.07) and the results are significant at one percent level, for all the countries except Indonesia for which the significance stands at 10% level. These results provide evidence in favour of the Fisher's (1993) stand point that inflation curbs investment by raising the risk associated with long-term projects. The results support the findings of Oshikoya (1994), Asante (2002) and Salahuddin M. et al (2009).

The negative sign of estimated coefficients of interest rate advocates the Neo-classical theory of investment that the cost of capital escalates as the interest rate increases, resulting in cuts in the capital expenditures at firms level. For India and Indonesia for which current interest rate is negatively related with investment (at 10% level), the estimator becomes significant in its lag form, at 1% level for all the cross sections. These findings are in line with the results of Green and Villanueva (1991), Serven, and Solimano (1992), Ghura and Goodwin (2000) and Peltonen et al. (2009).

Government expenditures bear a positive coefficient and significant at 1% level for India, Indonesia, Papua New Guinea, Thailand and Vanuatu, at 5% for Bhutan, China, Fiji, Sri Lanka, Pakistan, Philippine and at 10% for Malaysia. With respect to the quantitative important Indonesia and India lead with 0.19% leaving Malaysia farthest behind at 0.10%. The

[4] The accelerator effect theory states Gross Domestic Product (GDP) stimulates investment. In response to a rise in GDP, firms increase their investments and thus the profits go up. Consequently the fixed investments of firms explode, in the form of increased capital stock. This further leads to economic growth by raising consumer expenditure through the multiplier effect.`

government spending, in our study reveals crowed in effect in contradiction with the study of Ghura and Goodwin (2000). This may be due to the fact that government expenditures in infrastructure (communication, transport and irrigation) and government spending on national defense and security creates a climate favorable for investment as also suggested by Greene and Villanueva (1991).

Although, external debt is believed to be an indicator of macroeconomic uncertainty, it does not constrain domestic investment in the middle income Asian countries and the coefficient is insignificant for the entire sample. One of the reasons behind irrelevance of external debt with that of domestic investment could be the fact that most of the developing countries depend on the loans from official sources at concessional terms rather than from the private sector as suggested by Fitz Gerald et al (1994). Earlier studies of Ghura and Goodwin (2000) and Nabende and Salater (2005) also arrive at the similar findings.

In nutshell, the results suggest that lagged investment, real GDP per capita growth, domestic credit to private sector, domestic saving, government expenditures, lagged of trade, inflation, interest rate are the key determinants of domestic investment in the middle income Asian countries and for the period under study.

V. Conclusions

In this study we attempted to explore the role of various factors in the determination of domestic investment. Our sample consisted of twelve middle income Asian countries and the sample period extended over 31 years ending up to 2010. Empirical Bayesian approach was used for estimation purpose, after undertaking preliminary data testing through the unit root and panel cointegration. We started with a general model of investment incorporating a variety of variables having their candidature on ground of various theoretical considerations. The parsimonious model, however, was arrived at by undergoing the redundancy test. The model finally used for analysis included lagged investment, real GDP per capita growth, domestic saving, domestic credit to private sector, interest rate, Inflation, trade, government expenditures and external debt (with lagged for all variables except GDP and Debt) as explanatory variables.

The results of this study are found in line with findings of most of the studies in the existing literature. We found that past outcomes of domestic investment strongly influence the possibility for the investors to reinvest. A positive relationship between growth and investment was also observed implying that increased output is assumed to be an indication of better performance of the economy thereby attracting further investment. Our study also provides evidence in favor of the classical positive relationship between investment and savings. A positive impact of 'availability of domestic credit to private sector' on domestic investment signifies that higher the availability of funds in the credit market, higher would be the rate of investment. It also acknowledges the proposition that financial development results in higher rates of investment and, in turn, accelerates the rate of economic growth. Inflation, being an indicator of macroeconomic uncertainty, exhibits cuts in the rate of investment and thus bears a negative relationship with domestic investment. Interest rate is found to affect the inland investment negatively speaking in favor of the neoclassical approach that the interest rate hurts investment by raising the cost of capital. Furthermore, government expenditures in infrastructure are also found helpful in stimulating domestic investment. The results of this study, thus, highlight the importance of macroeconomic factors and indicators of financial development in determining domestic investment and consequently achieving higher rates of economic growth.

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The Governance and the Social Performance of Banks: Comparison between the Model Germano-Nippon and the Model Franco-Italian

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Abstract- This article discusses the influence of internal mechanisms of governance on the social performance in the context germano-Nippon and in the context Franco-Italian. We are going to put the light on the model germano-Nippon and the model Franco-Italian, governance and the social performance. Then, we will analyze the effects that exercise internal governance mechanisms on the social performance of banks belong to the context germano-Nippon and the context Franco-Italian. In order to measure the social performance, we have retained the equality between the Man and the woman, the social climate, the transparency of information and the conditions of work and to apprehend the governance we retained the council of administration, its size, its independence and the concentration of capital.

Keywords: governance, social performance, the system germano-nippon, the system franco-italian.

GJMBR - C Classification : *JEL Code : G20*

THEGOVERNANCEANDTHESOCIALPERFORMANCEOFBANKSCOMPARISONBETWEENTHEMODELGERMANONIPPONANDTHEMODELFRANCOITALIAN

Strictly as per the compliance and regulations of:

The Governance and the Social Performance of Banks: Comparison between the Model Germano-Nippon and the Model Franco-Italian

Yosra Elhaj Ali [α] & Boudabbous Sami [σ]

Summary- This article discusses the influence of internal mechanisms of governance on the social performance in the context germano-Nippon and in the context Franco-Italian. We are going to put the light on the model germano-Nippon and the model Franco-Italian, governance and the social performance. Then, we will analyze the effects that exercise internal governance mechanisms on the social performance of banks belong to the context germano-Nippon and the context Franco-Italian. In order to measure the social performance, we have retained the equality between the Man and the woman, the social climate, the transparency of information and the conditions of work and to apprehend the governance we retained the council of administration, its size, its independence and the concentration of capital. And in order to study the impact of the internal governance on the social performance, we have to appeal to the method of principal components analysis.

Keywords: governance, social performance, the system germano-nippon, the system franco-italian.

I. Introduction

In the face of the existence of the globalization of the industry and of the markets and the global competition high, the banks seeksnt always to protect themselves against the phobia of their disappearances via effective governance. In this framework, the Bank is required to consolidate its performance through effective governance mechanisms. The banking context differs from the context of the firm by the opacity and the prudential regulation. Subsequently, the bank must have governance mechanisms to adapt to its specificities. Governance refers to the mechanisms that managing the actions of the leaders and delineates their latitude discretionary (Charreaux, 1997). This last decade, social performance, occupies an important place in the strategies of the banks and the companies. In this framework, several countries require businesses and banks to publish the social balance sheets provided they have a number of employees beyond the threshold. The social performance is assessed qualitatively. Frequently, the social performance is inspired by the ratio between its social effort and the satisfaction of its employees. In the framework of banking, a few criteria are the social environment and the satisfaction of staff as the main indicators of the social performance.

In this framework, we will analyze and compare the influence of governance on the social performance in the context germano-Nippon and the context Franco-Italian.

II. Review of the Literature

The performance is a goal to achieve to all stakeholders of the Bank. According Albanes (1978), the performance is "the reason of management positions, it implies the efficiency and effectiveness". This researcher as several authors that define the performance by the efficiency and effectiveness. For Miles (1986), the performance is "the capacity of the Organization to achieve a minimum satisfaction of its clientele's expectations Strategic." In the managerial literature, we find several definitions that are around between two axs; the social performance external and the social performance internal. The social performance of the Bank Tower in the tower the social climate, the remuneration, the equality and diversity, the training and the policy of disability.

The Social Performance External: the social performance will external s interest to stakeholders. This performance and called societal performance.

The Social Performance INTERNAL: This performance is interested in the interests of personal.

a) *A few previous research concerning the relationship between governance and performance*

The empirical research treat the relationship between the internal mechanisms of governance and the banking performance are very limited.

- ❖ The impact of the Board of Directors on the Bank performance

Moreover, we will deal with the impact of the size of the Board of Directors on the performance and the impact of the Duality on the performance.

- ❖ The impact of the size of the Board of Directors on the Bank performance

Adams and Mehran (2003) postulate that the banks that have boards of directors of large size have performance more raised that banks with advice of small sizes.

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Pearce and Zahra (1992) have shown that the correlation is positive between performance and the size of the Council. Godard (2002) examined the difference in performance between the firms who hold a narrow Council and those who possess a Board enlarged. It is a good idea to check the conclusions of these studies by the following hypothesis:

H11: The size of the board of directors has a negative impact on the performance of the banks in a context germano-Nippon.

H12: The size of the board of directors has a positive impact on the performance of the banks in a context Franco-Italian.

- ❖ The impact of the Duality of direction on the banking performance

Rhoades et al. (2001) have postulated that the firms that cumulation the executive positions realize a lower profitability to those who realize a divorce between these two functions. Therefore, the cumulation of two posts generates a rooting of Leader.

On the ground American, Pi and Timme (1993) noted that the cumulation of steering functions and monitoring within the banks generates a low profitability of assets (ROA). This conclusion is consolidated by Rechner and Dalton (1991).
The hypothesis that arises:

H21: There is a negative impact of the Duality on the banking performance in the context Germano Nippon.

H22: There is a positive impact of the Duality on the banking performance in the context Franco-Italian.

- ❖ The impact of institutional investors on the banking performance

The presence of institutional investors in the board of directors will result in effects on the performance of the Bank. The effect of the presence of the institutional administrators in the board of directors on the value of the Bank and the company is balance between positive which is confirmed by McConnell and Servaes (1990), Zeckhauser and Pound (1990), Oswald and Jahera (1991) and negative which is confirmed by Morck, Shleifer and Vishny, (1988), Mikkelson and Regassa (1991), Shleifer & Vishny (1997). According Omri (2002), the presence of institutional investors within the Council improves the performance of companies.

Nevertheless, the research presented above concerning their efficiencies in the control and their positive roles in the improvement of the performance incentive to install the following hypothesis:

H31: There is a negative impact of the presence of institutional investors to the Council on the banking performance in a context germano-Nippon.

H32: There is a positive impact of the presence of institutional investors to the Council on the banking performance in a context Franco-Italian.

- ❖ The impact of the ownership structure on the performance

Moreover, we will deal with the influence of the ownership structure on the performance.

- ❖ The impact of the share ownership of institutional investors on the banking performance

Berger and Bonaccorsi di Patti (2003) stipulate, at the base of his study concerning 695 U.S. commercial banks between 1990-1995, that the large institutional investors generate consequences of monitoring that decrease the agency costs and increase the performance. Empirically, McConnel and Servaes (1990) prove that there is a positive relationship between the share ownership of institutional investors and the stock market performance.

By contrast, Shleifer & Vishny (1997) postulate that the performance and the efficiency of the firms depend on the behavior of institutional investors and of the activity of their integration within the governance.
The hypothesis that arises is:

H41: There is a negative impact of capital held by institutional investors on the banking performance in a context germano-Nippon.

H42: There is a positive impact of the capital held by institutional investors on the banking performance in a context Franco-Italian.

- ❖ The impact of the concentration of capital on the banking performance

Spong et al. (1996) inspire, with 143 U.S. banks from 1990 to 1994, that the concentration of capital positively affects the banking performance. Therefore, according to these results we can point out that there is a positive correlation between the concentration of capital and the performance of banking.

On the ground Japanese, Kaplan and Minton (1994) noted that the majority shareholders hold a disciplinary role. These researchers confirm the idea that a concentration of capital is a disciplinary lever.

On the ground German, Gorton and Schmid (2000) found, experimentally, that the value of organizations is progresses when the concentration of ownership seen an increase. The hypothesis that arises is:

H51: There is a negative impact of the concentration of capital in the hands of five majority shareholders on the banking performance in a context germano-Nippon.

H52: There is a positive impact of the concentration of capital in the hands of five majority shareholders on the banking performance in a context Franco-Italian.

III. The Methodology

a) Presentation of the sample

In the framework of this work, we are going to choose sixty banks in the context Franco-Italian and the context germano-Nippon. The data collected relate the practices of governance and the social performance of the banks of our sample during the year 2013.

The data are collected from the social documents published by the banks. The data collected on the governance concern the characteristics of the Board of Directors and the concentration of capital.

b) *The technique of analysis the data*

In order to analyze and compare the impact of governance on the social performance in the banks in the model germano-Nippon and the Hybrid model, we are going to make recourse to the method of analysis of the main components.

- The indicators of the social performance and governance

The variables in the social performance		The measures	The variables of governance
Equality between man and woman:	The percentage of women part The percentage of women members to the Council	If lower rate to 33.3, then the rate is low. If the higher rate to 66.6%, while the rate is strong. Otherwise, the rate is average	The size of the Board of Directors
The rate of formation	The percentage of the workforce of training		
The transparency of information	The transparency of information	Binary variable; 1 if there is a suggestion box, 0 otherwise.	The duality
The social climate	The rate of absenteeism Labor discussions The rate of accident at work	0 if rate is less than 5%, 1 otherwise. 0 If yes, 1 otherwise. 0 The rate is lower than 5%, 1 otherwise.	The percentage of the capital held by the five majority shareholders
The policy of the disabled	The policy of the disabled	0 If the rate is lower than 5%, 1 otherwise	The number of institutional investors to the Council
The rate of rotation	The rate of rotation	0 If the rate is lower than 1%, 1 otherwise	The percentage of the capital held by institutional investors
The transparency of information	The transparency of information	Binary variable; 1 if there is a suggestion box, 0 otherwise.	The size of the bank

- The indicators of governance

The indicators of the governance are the number of six. These indicators are; the size of the Board of Directors, duality, the concentration of capital in the hands of the five majority shareholders, the capital held by institutional investors, the size of the Bank and their number in the board of directors.

i. *The results of the model Franco-Italian*

The matrix of components

c) *The results to interpret*

The tables below present descriptive statistics for the components of the social performance in the banks of the model Franco-Italian and the model germano-Nippon.

Table 2 : The matrix of components

	Components		
	1	2	3
%women /executives	,743	-,170	,366
%women/commîtes	,340	,220	,825
Policy of the disabled	,715	,356	-,106
Transparency of information	,438	,077	-,689
Absenteeism	,293	-,838	,006
Per Cent Training workforce	-,588	,470	,188
The rate of accidents at work	,407	,701	-,160

The method of principal components analysis reduce the seven variables in three main variables.

The first component is composed of the 70% of the variable political of the disabled, 58% of the variable of the proportion of trained workforce and 74.3% of the variable percentage of women executives. We are going to appoint Performance 1.

As well, the second component is composed of 70.1% of the variable rate of work accidents and 83.8% of the variable absenteeism. For this, we are going to appoint Performance 2.

Finally, the third component is composed of the 68% of the variable in the transparency of information and of the 82.5% of the variable percentage of women members to the board of directors. We are going to appoint Performance 3.

Regression 1

The summary table of the model of the performance 1

Model	Correlation Coefficient
1	,709

The analysis of variance

Table 4 : ANOVA

Model		Meaning.
1	Regression	,018A
	The Tailings	
	Total	

According to the table, our model has a probability of 0.018. Then our model is globally significant.

Table of coefficients

Table 5 : Table of coefficients

The variables		The coefficients	Likelihood
	(constant)	-2,442	.002
	Council size	,030	,266
	Duality	,728	,011
	TOP5	-,009	,963
	INSSIZ	-,126	,489
	INS	,052	,799
	SIZ	,094	.003

According to this table, the increase in the size of the Bank make this last more effective socially. That is to say the increase of revenues grow the Bank to improve the social life.

The duality has a positive impact on the social performance since it improves the strategic vision.
According to the first regression it was:

$$PERF1 = -2.4 + 0.72 \text{ Dual} + 0.094 \text{ SIZ} + \varepsilon$$

Regression 2

The table récapulatif model for the performance 2

Table 6 : Récapulatif of model

Model	Correlation Coefficient
1	,495A

In our case, R is equal to almost 50%, this value is relatively average which indicates an average correlation.

Table 7 : ANOVA

Model	Sum of squares	Likelihood
Regression	7,103	,445A
The Tailings	21,897	
Total	29,000	

Our model social Perf 2, according to the table, has a probability of 0.445. This probability is higher than the threshold of meaning 10%, then our model is not significant.

Therefore, there is not a correlation between the mechanisms of governance and the Social Performance 2. Then we will go to the third regression.

Regression 3

Table 9 : Récupulatif model of

Model	Correlation Coefficient
1	,616A

In our case, R is equal to almost 60.2%, this value is relatively fort which reflects a strong correlation.

Table 10 : ANOVA

Model		Meaning.
1	Regression	,115
	Residual	
	Total	

Our model perf3, according to the table, has a probability of 0.1. This probability is equal to the threshold of significance 10%, then our model is relatively significant.

The impact of governance on the performance 3

Table 11 : Table of coefficients

Model		
	B	Likelihood
(constant)	1,472	,069
Council size	-,070	,028
Duality	,011	,969
TOP5	,421	.075
INSSIZ	-.005	,981
INS	,523	,031
SIZ	-,010	,748

According to the table above, the size of the Council has a negative effect on the Social Performance 3. We can conclude that a Council of small size minimizes conflicts of interest and make the Council more harmonious which causes an increase in the social performance.

Thus, the variable TOP5 has a positive impact on the social performance3. The majority shareholders support the increase of the social performance in the banks of the context Franco-Italian.

By contrast, the variable of the percentage of the capital held by institutional investors has a positive coefficient. This positive correlation is explained that the purpose of institutional investors is not, always, profit.

The regression of the Social Performance 3 is as follows:

$$\text{Perf } 3 = 1.47 - 0.07 \text{ size of the Council} + 0{,}421 \text{ TOP5} + 0.523 \text{ INS} + \varepsilon$$

Finally, the social performance in a context franco-italian, in general, is affected by the size of the Council, duality, the percentage of the capital held by the five majority shareholders and the capital held by institutional investors.

Therefore:

$$\text{PS} = c - 0.07 \text{ size of the Council} + 0{,}421 \text{ TOP5} + 0.523 \text{ INS} + 0.72 \text{ Dual} + 0.09 \text{ SIZ} + \varepsilon$$

ii. *The results in the context Gremano-Nippon*

The tables below present descriptive statistics for the components of the social performance in the banks of the context germano-Nippon.

The matrix of components

Table 13 : The matrix of components Components

	Components			
	1	2	3	4
%women /executives	,625	-,158	,238	-,159
%women/commîtes	,708	,081	-,535	,204
Policy of the disabled	,626	-,062	-,179	-,453
Transparency of information	,653	,228	,471	,024
Absenteeism	-,177	,768	,234	,315
Per cent trained workforce	,835	,128	-,410	,058
Labor discussions	,500	,596	,229	-,095

The rate of accidents at work	,489	-,484	,614	,028
Rate of rotation	,325	-,313	,012	,812

The method Analysis of main components reduce the nine variables in four main variables, then these four main components reflects the social performance of banking.

The first component is composed of 62.5% of the variable percentage of women executives, 70.8% of the variable percentage of women in the commîtes, 83.5% of the variable percentage of workforce training, 65.3% of the variable transparency of information and 62.6% of the variable political of the disabled. We are going to appoint Performance 1.

As well, the second component is composed of 76.8% of the variable absenteeism and almost 60% of the variable labor discussions. We will appointed this component performance 2.

The third component is composed of 61.4% of the variable rate of accident. We are going to appoint Performance 3. Finally, the fourth component is composed of 81.2% of the variable rate of rotation. We are going to appoint Performance 4.

Regression1

Model	Correlation Coefficient
1	,635

Our model perf1, according to this table, has a probability of 0.084. This probability is lower than the threshold of significance 10%, then our model is globally significant.

Table of the impact of governance on the social performance1

Table 16 : Table of coefficients

Model	B	Likelihood
(constant)	1,913	,102
Duality	-,451	,203
Council size	1429	,084
TOP5	-1,329	,309
INSSIZ	-,135	,459
INS	-.121	,022
SIZ	-,020	,501

According to this table, the variable size of the board of directors has a positive and significant coefficient. Therefore, the size of the Council a significant and positive impact on the social performance in the banks of the context germano-Nippon.

Also, the capital held by institutional investors has a negative and significant coefficient. Therefore, the capital held by institutional investors to negatively influence the social performance in a context germano-Nippon.

$$\text{PERF social 1} = \text{C} - 0.12 \text{ Ins} + 1.4 \text{ Size of the Council} + \varepsilon$$

Regression2

Table 17 : Summary of the model

Model	Correlation Coefficient
1	,493

In this stage, the Social Performance 2 has a correlation coefficient of almost 50%. This value is relatively average that indicates an average correlation.

Table 18 : ANOVA

Model	Sum of squares	Likelihood
Règression	7,058	,451A
The Tailings	21,942	
Total	29,000	

According to this table, our model is not significant. Therefore, we will go to the regression 3 since there is not a correlation between the mechanisms of governance and the Social Performance 2.

Regression3

Table of Model

Model	Correlation Coefficient
1	,605A

According to this table, our model The Social Performance three has a correlation coefficient of 61%. Also, we observe that this value is relatively high that indicates a strong correlation.

Model	Sum of squares	Meaning
Règression	10,601	,136A
The Tailings	18,399	
Total	29,000	

According to this table, we can conclude that our model is not significant at threshold 10%.

Table 22 : Table of coefficients

The variables	The coefficients	Likelihood
(constant)	1,166	,324
Duality	-,670	,072
Council size	.002	,944
TOP5	-1,844	,032

INSSIZ	-,298	,121
INS	,031	,982
SIZ	,028	,587

According to this table, the proportion of capital held by the five majority shareholders has a negative and significant coefficient. Then, the majority shareholders are always looking for the increase in the financial performance and social performance presents cost (training). Therefore, a capital not concentrated in the banks of the system oriented network will result in an increase of the social performance. Therefore, in the banks of the system oriented network, the increase of capital held by the majority shareholders negatively affects the social performance of the banks.

Also, the variable duality has a negative and significant coefficient. Therefore, we can conclude that the separation of the functions of control and direction creates an improvement of the social performance. Therefore, a duality of functions negatively affects the social performance.

$$\text{Perf } 3 = c - 0.67 - 1.84 \text{ Dual Top } 5 + \varepsilon$$

Regression 4

Table 23 : Summary of Model

Model	Correlation Coefficient
1	,332

The coefficient of regression is low since it is 34% only. Also, 12% of the variability is explained by our model.

Table 24 : ANOVA

Model		Sum of squares	Meaning
1	Regression	3,190	,899
	The Tailings	25,810	
	Total	29,000	

This model is not significant at threshold 10%. Then, there is not a correlation between the mechanisms of governance and the Social Performance 4.

Finally, in the context germano-Nippon, the social performance of banks is positively affected by the size of the Board of Directors. The Bank and negatively by the duality of functions, the capital held by the five majority shareholders and the percentage of the capital held by institutional investors.

Therefore, we have this equation:

$$PS = c + \beta 1 \text{ Top } 5 + \beta 2 \text{ INS} + \beta 3 \text{ Dual} + \beta 3 \text{ Size of the Council} + \varepsilon$$

According to the method the ACP, the social performance that is affected by the internal mechanisms of governance are: the transparency of information, the equality between the Man and the woman, policy for the handicapped and the percentage of the workforce training.

d) *The effect of governance on the social performance in the two system (hybrid and network oriented)*

The following table is constituted by a summary of the effect of internal mechanisms on the social performance in the two systems.

Table 26 : The effect of governance on the social performance

	System network oriented	Hybrid system
The size of the Council	+	-
Duality	-	+
TOP 5	-	+
Ins siz		
Ins	-	+
The size of the bank		+

In the banks of the system of governance network oriented, the size of the Council positively affects the social performance. The positive correlation between the size of the Council and the social performance is explained by the importance of the labor factor and the satisfaction of all stakeholders. The Hypothesis H11 is rejected.

The Duality negatively affects the social performance of the banks of the system of governance network-oriented. Therefore, the social performance brings costs and the cumulation of power produces the envy of Leader of the increase of wealth to meet the shareholders and retain its position. Therefore, the monopoly of power generates an inefficiency of the monitoring function, and subsequently a deterioration of the social performance.

This result is confirmed by Kaymak and BEKTAŞ (2008).

The Hypothesis H 21 is accepted.

In addition, the percentage of the capital held by the five majority shareholders to negatively influence the social performance. This relationship reflects that the majority shareholders are seeking the increase of wealth and the Social Performance Generates costs (such as costs of training of staff).

The Hypothesis H31 is accepted.

This is confirmed by Rawski (2010).

In addition, the percentage of the capital held by institutional investors to negatively influence the social performance. The increase in the percentage of the capital held by institutional investors causes a deterioration of the social performance since they are going to seek the increase of wealth with a minimization of costs.

The Hypothesis H51 is accepted.

Finally, we find that in the system of governance network oriented the mechanism number of institutional investors members to the Council does not influence the social performance.

In the system network oriented, the internal mechanisms of governance affects the policy of integration of disabled persons, the integration of women executives, the percentage of workforce training, the percentage of women members to the Council and the transparency of internal information (between personal) that influence the internal communication.

The transparency of information enhances the internal communication, rooted the spirit of team work and improves the confidence between the personal. This variable of the social performance is negatively affected by the duality of the posts and the increase in the percentage of the capital held by the majority shareholders and by institutional investors. We believe that this negative correlation to cause that these factors of governance are seeking the increase of wealth via the decrease of costs and an asymmetry of information. Therefore, the asymmetry of information decreases the likelihood that the employees are asking for financial and social privileges because of the increase in wealth.

In this system, the equality between the Man and the woman is negatively affected by the structure of the shareholdings. The percentage of women executives and the percentage of women in the commîtes Are means in most of the banks. We believe that the negative relationship between the presence of women on boards, the percentage of women managers and the factors of governance because that these factors are seeking the financial performance and the presence of the woman brings costs. The costs are the costs of replacement in case of leave (for example a maternity leave). Therefore, the search for the Wealth via a mitigation of the costs by the shareholders do not agree with the increase in the presence of the woman in the posts of decisions taken.

The percentage of workforce training is negatively affected by the shareholding structure and the duality. We believe that this relationship is born to cause that the training of personnel provides costs which do not align with the interest of the shareholders and the officer.

Also, the policy of integration of the disabled is average in this system. The integration of persons with disabilities brings costs for that integration would be more easy and adapts to the physical constraints of the handicapped. This policy is negatively affected by the duality and the shareholding of the majority shareholders and institutional investors to cause that they seek the increase of wealth and this policy commits the costs. Without doubt, the disabled person deserves to have its rights as the normal person same that his recruitment brings costs.

We believe that it must limit the duality and modify the structure of the shareholding in order to increase the equality between the Man and the woman, the transparency of information, the policy for the handicapped and the rate of training.

e) The hybrid system

In this stage, the size of the Board of Directors negatively affects the social performance. Then, a council of small size positively affects the social performance. To cause that a Council of reduced size is privilege by a easy harmonization between the members in the decision-making which generates a improvement of the social performance.
This result is confirmed by Mersland (2009).

The Hypothesis H12 is rejected.

We find that the duality positively influences the social performance. Therefore, the duality leads to an improvement of the strategic vision that improves by the following social performance. Therefore, in this context the duality causes a minimization of conflict and of asymmetry of information between these two posts, which positively affects the social performance.

This result is confirmed by Simpson and Gleason (1999).

The Hypothesis H22 is accepted.

Also, the percentage of the capital held by the five majority shareholders positively affects the social performance. Therefore, the increase in the percentage of the capital held by the five majority shareholders engenders a improvement of the social performance. We do not believe that the positivity of this relationship is explained by the presence of the State as a majority shareholder.
This is confirmed by haw et al. (2010).

The Hypothesis H32 is accepted.

Also, the percentage of the capital held by institutional investors positively affects the social performance. Then, the institutional investors will control the leader to work in the interest of the Bank.
This result is confirmed by Barry et al. (2011).

The Hypothesis H52 is accepted.

Also, the size of the Bank positively affects the social performance. Therefore, an increase in the size of the bank causes an increase of the social performance.
The mechanisms of governance affect the policy for persons with disabilities, the percentage of workforce training, the percentage of women executives, the transparency of information and the percentage of women members in the Council.

The policy of the disabled is negatively affected by the size of the Council since it brings costs. These costs are born since it must create specific positions adapt to the physical constraints of the disabled. We believe that the size of the Council affects negatively the policy because of the absence or the presence Low of the representatives of the employees in the Council.

The equality between the Man and the woman is negatively affected by the size of the Council. In the hybrid system, the percentage of women executives is average, but the presence of women in commîtes is low and sometimes the woman is absent. Therefore, the woman does not participate heavily in the decision-making.

In this system, the percentage of the workforce of training is negatively affected by the size of the Council. We believe that the banks that have a low percentage of training because that these banks do not seek to boost the system of individual management of careers in the medium term due to the costs of training. This correlation is negative because the increase in the size of the Council causes a disharmony concerning social decisions since the performance brings social costs.

The transparency of information is negatively affected by the size of the board of directors because the members of the Council favor the asymmetry of information between staff to increase their strategies of rooting.

We believe, to reduce the asymmetry of information in the banks, improve the policy for the handicapped and the equality between man and woman in this context, it is necessary to modify the size of the Council or integrate more of the representatives of the employees.

IV. Conclusion

In this chapter, we have tried to study the impact of the internal governance (the Council of Administration and the structure of property) on the social performance of banks belong to the system Franco-Italian and the system germano-Nippon.

We have studied the impact of governance on the social performance of banks of two contexts during 2013. This impact is studied by the ACP method (principal components analysis) on the two systems.

The effect of governance on the Vari performance from one context to another. We can register that the mechanisms of governance have a significant impact on the performance, although the meaning of this effect remains undetermined. The empirical results show mixed results.

The differences between the impact of governance on the performance on the two systems are explained by several factors such as the local culture in each context, public policy, regulatory and legal context.

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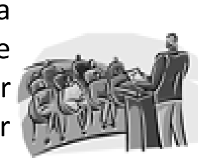

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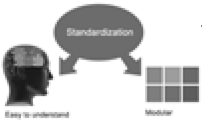

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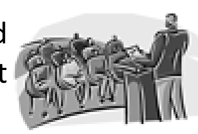

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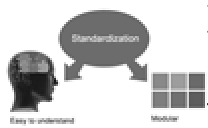

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29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

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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
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