

# GLOBAL JOURNAL OF MANAGEMENT & BUSINESS RESEARCH

DISCOVERING THOUGHTS AND INVENTING FUTURE

## HIGHLIGHTS

Teacher Leadership

Investment in India

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Employees' Job Satisfaction

Volume 12

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# Teacher Leadership and Educational Reforms in UAE

By Syed Nadeem Abbas

*Mohammad Ali Jinnah University Islamabad*

**Abstract** - This paper is an attempt to highlight operational deficiencies in the execution of educational reforms in UAE with relation to academic leadership. However, this study concluded that UAE is not ready for the change of this magnitude because of its rigid culture.

*GJMBR Classification : JEL Code : A29*



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# Teacher Leadership and Educational Reforms in UAE

Syed Nadeem Abbas

**Abstract** - This paper is an attempt to highlight operational deficiencies in the execution of educational reforms in UAE with relation to academic leadership. However, this study concluded that UAE is not ready for the change of this magnitude because of its rigid culture.

## I. INTRODUCTION

Teacher is a leader because; he has the responsibility to change the perception of his students in order to transform them into better future citizens of a society. However, professors are the ones who have the most permanent impact on the lives of their students, pertaining to this fact teachers often have to foresee the future demands of their respective fields. So that they can train their students according to the changing demands of the market therefore, it can be assumed that leadership is one of the prime duties of a teacher.

The cultural and contextual outlook of UAE does not provide an environment that is ideal for the propagation of academic leadership because, teaching is considered as an inferior profession in Arab world thus, preventing teachers from exercising leadership. In this kind of scenario, million-dollar investment in educational sector is a waste because; it will be unable to change the prehistoric mindset of Arabs towards education.

## II. PROBLEM STATEMENT AND METHODOLOGY

The major problem that this study wants to analyze stems from the impact of introduction of educational reforms in UAE educational system upon the due ability of teachers to demonstrate effective leadership. However, to analyze the problem, this paper will review the existing literature on the topic and register findings in coming stages.

## III. PURPOSE OF THE STUDY

The fundamental purpose of this study is to provide a firm theoretical base for a detailed future empirical study that will quantify “the impact of educational reforms UAE on teachers’ capacity for leadership”.

## IV. LITERATURE REVIEW

At the same time, teacher also posses the duty to bless his students with confidence but, for the accomplishment of this responsibility teacher should be given job autonomy, so that he can plan his lectures and other related activities in a meaningful way. It is believed by management scholars that leadership can only be practiced in a decentralized chain of command. However, in Muslim countries, indigenous collectivist culture has made educational innovation a dream because; parents want a preplanned future for their children. In this fashion, hindering the teachers’ ability to differentiate them in an international environment, where creativity is a premium skill, which is deliberately abolished by elders in Muslim countries.

Nevertheless, UAE educational ministry has taken some notable steps recently in order to bring educational industry of the country in accordance with international standards. However, UAE and other Muslim nations are far away from true educational development because, in these societies, individuals have not been permitted to achieve their personal goals, rather than they are supposed to follow the obsolete social mechanism of collectivism thus, killing the creativity of individuals, so that they can be assimilated in the society.

In above-mentioned societies, teachers cannot innovate with their teaching methodologies because of rigid cultural aspects, which do not permit people to think differently. Additionally, when people do think differently they are considered as mentally ill. So nobody listens to them, due to this ruthless societal behavior people fear from thinking differently, therefore creativity always come from enlightened nations of west.

However, in developed nations, it is a well-preserved tradition to train teachers in art of advanced leadership, so that they can exercise it during practicing their profession (Coombe, 2009). These institutions are providing able teaching staff for world-renowned universities and institutions for number of centuries. Arab communities are turning towards educational activities and developed culture of collective learning in order to build up their viable human capital in educational sector for the future (Al-Taneiji, 2010). Nevertheless, these steps are proving ineffective in terms of achieving their objectives due to a rigid macro culture of the Arab communities that is not ideally conducive towards intellectual endeavors. Incompetent

politicians rule Arab and other Muslim nations due to this reason, they do not support intellectual growth of the nation because, they consider enlightened people as a threat to their reign therefore, suppressing educated and open-minded people in order to save their ruling, consequently devastating the intellectual capital of the nation (Larrabee & Morehead, 2010). In the light of this observation, Arab nations are more committed towards wealth accumulation than strategic national planning. Along with this, they are also loyal to preserve outdated way of life, which clearly does not belong to the modern era of 21<sup>st</sup> century.

In addition to all else, nationalism is also playing its due role in restricting youth from educating in modern forms of knowledge because, this concept motivates the people of Arab to consider themselves as divine race, which causes a significant cultural hindrance in terms of accepting a foreigner as a teacher. Thus, fresh knowledge is not pumping into the Arabian society.

On the other hand, religious outfit of Islam is believed to be against the education of females and middle class, which obstruct the mental growth of these fundamental factions of Arab society (Kirk, 2009). Nevertheless, in reality Islamic teachings are explicitly supportive towards education of Muslims. Therefore, it is logical to assume that modern Islamic scholars are incapable of understanding and translating Islamic teaching in accordance with the norms of 21<sup>st</sup> century.

Nonetheless, Arab countries need educationists who should dedicate themselves towards their profession in order to develop massive intellectual base for their countries. However, this objective cannot be achieved without heightened emotional intelligence, so that professors can withstand raw hatred from majority of the people around them (Gallagher, 2011). Therefore, training female staff in teaching is imperative for the educational development of Arab states because, females are used to handle hatred due to their ability to control their emotions effectively. On the other hand, finding and training lefthanders in educating others is also very important because, research considers these individuals with abnormal power of creativity and persuasion, which make them ideal to become effective leaders.

Another important facet of Arab nations is their dying out middle economical class that is responsible to execute the ideas of innovation (Khondker, 2011). But, the phenomenon of unequal distribution of wealth slimmed the middle class of these nations thus, depleting the ability to innovate in Arabians; therefore, they are importing human talent from other countries. However, these foreigners are not committed towards developing Emirates because; they have their personal agendas to fulfill. These individuals are working in giant oil companies that are extracting oil from Arab world for considerable time. Thus, this observation implied the

presence of foreigner professionals that are leaning onto natural resources of Arab. Thus, this paper foresaw the economical destruction of Arab because of unqualified local population.

In parallel, teacher educational programs are not designed to empower them, but these are designed to make teachers realize their limitations, under this perception, trainers subliminally attempt to discourage their student teachers with creativity because they consider them as a threat to their own positions (Aubrey & Coombe, 2010). This trend amplified another demon of Arabian culture, which is professional jealousy that influenced authoritative individuals to suppressing able youngsters in order to prolong their own career.

Importantly, Arab culture is apparently not conducive for research because of, its lack of objective and logical thinking (Smith, 2012). Therefore, few vocal people are controlling the destiny of other ones. In the light of this argument, it is suggested to introduce research activities during early years of schooling in order to foster evidence based thinking in youngsters. Along with this, local transformational leaders are required who can bring rapid and effective cultural change. However, this process may take a considerable time in achieving its objectives.

In addition, students are often expecting their teachers to practice increased degree of leadership through influencing their lives therefore; they usually have an urge to develop personal relations with their teachers. On the other hand, students feel betrayed by observing human characteristics in their tutors because, pupils are often found considering their teachers heavenly (Beycioğlu & Aslan, 2012), through taking this observation into account, it is suggested that teachers should provide viable and logical role model in front of their students, so that the students can follow their footsteps during their practical life. Furthermore, changing the perception of education is a daunting task despite substantial investment because; financial sources can only provide physical setting for training. But, a psychological side will be made available by professionals. (Macpherson, Kachelhoffer, & Nemr, 2007, therefore) It will be wise for the reform committee to hire local and foreigner professionals for the training of teaching staff in terms of leadership and other related concepts because, in this way, the content of the program will appeal to both nationalists and modernists. The major characteristic of teachers' professional excellence program, which will play a significant role in succeeding it, lies in persistence.

## V. RESEARCH QUESTION

The research question that this study intends to answer is "What is the long term relationship between educational reforms in UAE with local teachers' ability to demonstrate effective academic leadership?"

## VI. FINDINGS

This paper's findings are quite alarming for the financiers of educational reform campaign because, this research believes that UAE is not ready for a change of this magnitude because, it is not an educational change but it is a cultural one therefore, government should divide it into various steps.

At the same time, this reform initiative will be sabotaged in its early stage because, authoritative individuals will consider it as a threat for their current positions thus, will abolish it on the first sign of trouble.

However, empowerment of teachers is a prerequisite of successfulness of these educational reforms, which is unfortunately considered as an alien concept in Muslim world, where (beg your pardon) losers are supposedly teach. Under this false perception of teaching profession, people do not respect teachers. This same phenomenon of hatred and humility will lead the people of UAE towards protesting upon the idea of empowering teachers. In this fashion, millions of dollars will be lost and as a result, teachers will suffer loss of confidence, therefore experience a steep decline in job performance. Thus, this reform will be the cause of creating more problems than it will help solve.

## VII. RECOMMENDATIONS

On the other hand, this paper is in favor of sending capable and committed educationists on foreign training, so that they can align their skill set with international standards. In the second phase of the project, these individuals should be given an opportunity to share their knowledge and experience with other professionals. This exercise will result in growing support for reforms because; foreign training not only fulfils psychological needs, but also takes care of physiological needs. Therefore, more people will become interested in this program. Thus, will provide initial pool of individuals for which international consultants can be invited for training. In this way, resistance to change can also be minimized. In the light of above discussion, snail's pace is required in conducting reforms in educational sector of UAE because of, locals' virtually nonexistent interest in education.

## VIII. CONCLUSION

This paper viewed educational reforms in UAE in context of teacher leadership and concluded that the pace of educational change in UAE is too high thus; it is not blessing the participants with an opportunity to catch their breath therefore, this campaign is significantly prone to the possibility of sabotage because, it did not take everybody on board before initialization. In this way, people and the managerial staff are not purely committed to the idea of teacher

empowerment in order to save their authoritative positions.

On the other, collectivist culture of UAE is hindering the capability of teaching staff in terms of leadership because; they are expected to follow established and traditional ways of teaching. Thus, rendering UAE as a place where teaching innovations are highly unlikely.

At the same time, Arabian culture is mainly nationalist in nature, due to this reason, people are not conducive towards accepting foreigners as teachers therefore, fusion of new knowledge in the culture of Arab is proving quite a challenge for governmental authorities.

Based on whole discussion, educational innovation in Arabian culture is a far cry because, of the rigidity of Arabian mindset, which is an active cause for educational and technological incompetency in Arab. This trend can be observed through increasing outsourcing of the critical functions in UAE to external contractors. In this way UAE's local middle class vanished over the past few years because of this reason, innovation in any field is highly unlikely in near future. Pertaining to the above condition educational leadership is a dream until and unless macro culture of the society can be transformed into individualistic one in order to instate teachers as legitimate leaders. In short, unplanned execution of educational reforms will further limit teachers' ability to exercise academic leadership.

## IX. LIMITATIONS

This paper however, cannot deploy rigorous research techniques in order to back up its assumptions and findings. The major reasons for these deficiencies are lack of financial resources and time; therefore, I developed this paper by basing it on the review of current literature, so that it can provide a viable base for a detailed empirical future study on the topic concerned.

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# Need for Achievement an Antecedent for Risk Adaptiveness Among Entrepreneurs

By Rishipal & Nidhi Jain

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**Abstract** - The research presents a descriptive study with empirical evidence which enquired the association between need for achievement and risk Adaptiveness among entrepreneurs. Study explores the fact, how need for achievement appetite ignites the desire for risk taking among entrepreneurs. For the purpose of survey a sample of 100 entrepreneurs, 50 each from small and large scale enterprises, were taken. Results of study exhibited that need for achievement was major factor to influence the degree of risk Adaptiveness among entrepreneurs. Mean value for Risk Adaptiveness among small scale entrepreneurs was ( $M = 14.86$ ) whereas for large scale entrepreneurs was ( $M = 22.68$ ). It was clear from the mean value of Risk Adaptiveness that the large scale entrepreneurs were more adaptive to the risk in comparison to small scale entrepreneurs. These findings have also been supported by the t value ( $t = 9.391, p < 0.01$ ).

**Keywords** : Risk Adaptiveness, Need for Achievement, Entrepreneurs.

**GJMBR Classification** : JEL Code : L26



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# Need for Achievement an Antecedent for Risk Adaptiveness Among Entrepreneurs

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**Abstract** - The research presents a descriptive study with empirical evidence which enquired the association between need for achievement and risk Adaptiveness among entrepreneurs. Study explores the fact, how need for achievement appetite ignites the desire for risk taking among entrepreneurs. For the purpose of survey a sample of 100 entrepreneurs, 50 each from small and large scale enterprises, were taken. Results of study exhibited that need for achievement was major factor to influence the degree of risk Adaptiveness among entrepreneurs. Mean value for Risk Adaptiveness among small scale entrepreneurs was ( $M = 14.86$ ) whereas for large scale entrepreneurs was ( $M = 22.68$ ). It was clear from the mean value of Risk Adaptiveness that the large scale entrepreneurs were more adaptive to the risk in comparison to small scale entrepreneurs. These findings have also been supported by the t value ( $t = 9.391$ ,  $p < 0.01$ ). The mean score of need for achievement among small scale entrepreneurs ( $M = 26.78$ ) was less than the mean score of large scale entrepreneurs ( $M = 36.18$ ) which shows that small scale entrepreneurs has lesser degree for need for achievement in comparison to large scale entrepreneurs. These findings were also supported by t value ( $t = 5.478$ ,  $p < 0.01$ ). The correlation between two variables of risk Adaptiveness and need for achievement for small scale entrepreneurs was ( $r = .421$ ,  $p < 0.405$ ), which shows a positive but non-significant relationship between risk Adaptiveness and need for achievement among small scale entrepreneurs. This positive and non-significant correlation was also approved by the F value ( $F = .552$ ,  $p < 0.743$ ). Whereas the correlation value between risk Adaptiveness and need for achievement among large scale entrepreneurs was ( $r = 0.687$ ,  $p < 0.316$ ) which have shown a positive and high degree of correlation between risk Adaptiveness and need for achievement. The values were also supported by the F value ( $F = 0.576$ ,  $p < 0.759$ ).

**Keywords** : Risk Adaptiveness, Need for Achievement, Entrepreneurs.

## I. INTRODUCTION

### a) Risk Adaptiveness

Risk is a state of mind developed by the situation, when something valuable is on stake in a challenging and uncertain environment. Risk inducing situations or circumstances are resultant of combined feeling of fear, excitement, uncertainty, insecurity, danger, threat, pressure and expectation for loss. There are various factors, circumstances,

situations, duties, responsibilities and events which can induce different type of risks in day to day work life. Risk is an uncertain event or condition, if occurs, has a positive or negative consequential effect on individual. The degree of risk in individual's work life may differ but no one can be identified and specified as a person, working in a risk free environment. A businessman's or entrepreneur's work life is always full of different kind of risks. One of the definitions of business is "the process of taking risk and converting it into profit". Or simply, "logical and rational risk in business is equal to profit". One of the prime and important characteristics of entrepreneur is 'Risk Taker'. Relationship of risk and entrepreneur is always positive and very significant. Without risk, business is not possible; starting from the commencement of business to the reception of profit (dividend), every moment of business is full of risk creating circumstances. So for the successful establishment, conduction and management of the business, an entrepreneur should be adaptable to risk. In other words, an entrepreneur should have a strong trait of 'Risk Adaptiveness'. Risk Adaptiveness may be defined as the psychological trait which empowers entrepreneurs to remain least affected by the negative consequential effects of the risk taking in business. It may also be explained as the effectiveness and capability of an entrepreneur by virtue of which entrepreneur is rationally affected by the resulting negative elements of risk taking such as fear, excitement, uncertainty, insecurity, danger, threat, pressure and expectation for loss.

### b) Need for Achievement

A human being is considered to be in the state of needlessness/equilibrium when feeling satisfied and has no urge/desire. In other words human need is considered as a psychologically and biologically disturbed state of individual. This disturbance may happen because of internal urge, dissatisfaction, and deficiency or external environmental stimulus. If a person is feeling hungry, this is an internal urge, which is forces the organism to feel the need for food. On the other hand, if the environmental temperature has gone very low, then this external environmental stimulus will force the individual to feel the need of warm cloths. Once there is need, individual will try to achieve its consequential satisfaction. In childhood, human needs are taken care by the family and society but during

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adulthood individual has to manage the satisfaction of the needs by individual's personal efforts.

David McClelland (1961) and his associates have proposed McClelland's Theory of Needs/Achievement Motivation Theory. This theory states that human behavior is affected by three needs – Need for Power, Achievement and Affiliation. Need for achievement is the urge to excel, to accomplish in relation to a set of standards, to struggle for success. Need for power is the desire to influence others behavior as per personal wish. In other words, it is the desire to have control over others and to be influential. Need for affiliation is a need for open and sociable interpersonal relationships. It is a desire for relationship based on co-operation and mutual understanding.

The individuals with high achievement needs are highly motivated by competing and challenging work such as business and entrepreneurship. They look for promotional opportunities. They have a strong urge for feedback on their achievement (McClelland, 1961). Such individuals try to get satisfaction in performing things better. High achievement is directly related to high performance. McClelland called such individuals as gamblers (risk takers) as they set challenging targets in unforeseen circumstances for themselves and they take deliberate risk to achieve those set targets. Such individuals look for innovative ways of performing job. They perceive achievement of goals as a reward, and value it more than a financial reward. The individuals who are motivated by power have a strong urge to be influential and controlling. They want their views and ideas should dominate and thus, they want to lead. Such individuals are motivated by need for reputation and self-esteem. Individuals with greater power and authority will perform better than those possessing less power. The individuals who are motivated by affiliation have an urge for a friendly and supportive environment. Such individuals are effective performers in a team. These people want to be liked by others.

If we compare the characteristics of an entrepreneur especially with reference to risk adaptiveness and various elements of need for affiliation, power and achievement, there are lot of commonness, similarities and resemblances such as desire for high achievement, high performance, ready to accept challenges in unforeseen circumstances, interested to take deliberate risk and working with innovative ways. The similarities and resemblances of such psychological traits ignite the desire to find out the relationship among the very dominating traits of risk adaptiveness and need for achievement in entrepreneurs.

## II. REVIEW OF LITERATURE

Connie Irne Reimers-Hild (2005), this study tested a theoretical framework designed to examine the

characteristics of adult distance learners through the lens of entrepreneurship. The proposed framework suggested a relationship between entrepreneurial personality, determined by the combined score of locus of control, need for achievement and risk taking propensity, and success (cumulative grade point average) and persistence (number of credit hours completed via distance) in the academic environment. The variables of gender and age and the moderating variables of personal fulfillment, professional/career advancement and pleasing someone other than self were also studied. Simple linear regression revealed that there was not a statistically significant relationship between entrepreneurial personality and success ( $N = 310$ ) or persistence ( $N = 342$ ). Multiple regression analysis determined that locus of control, need for achievement and risk taking propensity did not have statistically significant relationships with success or persistence. Simple linear regression analysis determined that there were statistically significant differences between age, locus of control and risk taking propensity ( $N = 343$ ). There were no statistically significant relationship between age and entrepreneurial personality or need for achievement. An independent t-test revealed significant differences in the score of entrepreneurial personality, locus of control and risk taking propensity for females ( $N = 204$ ) and males ( $N = 137$ ). No statistically significant differences were observed in need for achievement scores for female and male participants.

Touchev, JohnC.; Villemez, Wayne J., (1975) conducted an experiment with 95 college students. To clarify the role of attribution processes in achievement behavior, the effects of self-rated task ability and effort or ability inducing task instructions were examined in a replication and extension of previous findings on achievement motivation and risk-taking preferences. Independent of need achievement, it was found that Ss low in task ability consistently selected more intermediate risks than high-ability Ss and a predicted 3-way interaction ( $p < .001$ ) established that differences in risk taking preferences among low-need achievers were moderated by ability instructions, while differences among high-need achievers were moderated by effort instructions. The implications of the findings for previous studies on personality correlates of achievement motivation are discussed and it is proposed that self-Judgment of ability among high and low need achievers are determined by different attributional processes.

Shouming Chen, Xuemei Su, Sibin Wu (2012) Researchers examined which factor lead to entrepreneurial risk-taking behavior, using the 2 tests of entrepreneurial behavior theory (desirability and feasibility) to investigate how need for achievement and education interact to influence risk-taking propensity. Using data collected from 230 nascent entrepreneurs in a mid-western state in the USA, researchers tested 2

hypotheses and found empirical evidence to support the 2 tests theory. The results showed that entrepreneurs with high need for achievement and who had received higher education were more willing to take risks than were entrepreneurs with low need for achievement and who had not received higher education.

Sibin Wu, Mathews, Grace k. Dagher, (2007) The purpose of the study is to employ the need theory to investigate whether a need for achievement has an effect on persistence behavior among entrepreneurs and whether a need for achievement and business goals interact to influence such persistence. A longitudinal study of nascent entrepreneurs was conducted by a field survey in a metropolitan area of a mid-western state in the USA. Logistic regression was used to test the hypotheses. Need for achievement is found to be positively related to entrepreneurial persistence. Business goals are found to moderate the relationship between need for achievement and persistence.

### III. NEED FOR STUDY

Entrepreneurship includes a set of specific characteristics in which need for achievement and risk adaptiveness are prominent. Present study has investigated the relationship between risk adaptiveness and need for achievement among entrepreneurs. Before conducting this study an extensive literature survey was conducted to find out the related research work but no such study was found, especially with reference to Indian entrepreneurs work culture, conditions and context. So this study was planned. Findings of the study will support the researchers and managers to understand the basic relationship between the risk adaptiveness and need for achievement. These findings will further help the industry and academia to groom and develop efficient and effective entrepreneurs.

### IV. OBJECTIVES OF STUDY

1. To find out the degree of need for achievement among entrepreneurs.
2. To evaluate the entrepreneurs for the magnitude of risk adaptiveness.
3. To find out the relationship between the variables of need for achievement, risk adaptiveness among entrepreneurs.

### V. HYPOTHESIS

1. Effective entrepreneurs have high degree of need for achievement.
2. There is higher magnitude of risk adaptiveness among entrepreneurs.
3. There is positive association between need for achievement, risk adaptiveness and entrepreneurs.

## VI. RESEARCH METHODOLOGY

*Method & Sample* : Total 100 subjects, 50 each from small and large scale industries (organizations) involved in the production of goods and services were chosen randomly on availability basis. Selected subjects were tested for their dimensions of need for achievement and risk adaptiveness. Entrepreneurs were tested by using questionnaire method and data was collected. Entrepreneurs were tested for risk adaptiveness and need for achievement by using Risk Adaptiveness Test (RAT) developed by Rishipal & Jain, N (2012) and Achievement Motive Test (AMT) developed by Bhargava, V.P. (1994). Collected data was arranged and presented in tabular form and analyzed by using SPSS software.

*Tools* : Following questionnaire based measuring scales were used to collect the data for Risk Adaptiveness and Need for Achievement from the selected sample of entrepreneurs:

- 1) Risk Adaptiveness Test (RAT) developed by Rishipal & Jain, N (2012) was used for risk adaptiveness. The reliability by Cronbach's alpha method for Risk Adaptiveness Test was found to be Cronbach's alpha  $\alpha = 0.722$  (no. of items = 36) when tested on different type of samples.
- 2) Achievement Motive Test (AMT) developed by Bhargava, V.P. (1994) of need for achievement. The index of reliability of Need for Achievement was found  $\alpha = 0.91$  and the value of validity index was 0.85.

*Statistical Analysis* : Statistical techniques such as mean, standard deviation, t-value, correlation (by using Karl Pearson) and F value etc. were found out by using the SPSS software to extract out various findings and results. For comparing the variables of need for achievement and risk adaptiveness Karl Pearson's coefficient of correlation was used. Findings of the results have been discussed in the light of existing literature.

## VII. RESULTS AND DISCUSSION

Table: 1 shows the mean values for Risk Adaptiveness and Need for Achievement for small and large scale entrepreneurs. Mean value for Risk Adaptiveness among small scale entrepreneurs is 14.86 whereas for large scale entrepreneurs was 22.68. Higher the mean, higher the characteristics of Risk Adaptiveness. So, it is clear from the mean value of Risk Adaptiveness that the large scale entrepreneurs were more adaptive to the risk in comparison to small scale entrepreneurs.

**Table 1 :** Descriptive statistical values for Risk Adaptiveness and Need for Achievement among small and large scale entrepreneurs

Variables	Groups	N	Range	Mini.	Max.	Mean	Std. deviation	Std. Error
Risk Adaptiveness	Small Scale Entrepreneurs	50	18	4	22	14.86	5.28382	.74725
	Large Scale Entrepreneurs	50	23	3	26	22.68	2.59859	.36750
Need for Achievement	Small Scale Entrepreneurs	50	34	10	44	26.78	9.9863	1.41228
	Large Scale Entrepreneurs	50	24	23	47	36.18	6.89185	.97465

**Table 2 :** Independent two sample T test for comparing the mean score of small and large scale entrepreneurs for Risk Adaptiveness and Need for Achievement.

Variables	t	Df	significance	95% confidence interval of the difference	
				Lower	Upper
Risk Adaptiveness	9.391	98	.001	12.80	5.99476
Need for Achievement	5.478	98	.001	9.4725	6.1674

The findings that large scale entrepreneurs were more adaptive to the risk taking has also been supported by the findings of t values ( $t = 9.391$ ,  $p < .01$ ) exhibited in the Table (2). The t value has clearly shown that there was significant difference in the mean value of small and large scale entrepreneurs. The higher tendency of risk adaptiveness among large scale entrepreneurs might be because they are experienced, well exposed to various type of challenging situations and also having better and ample resources and support for the conduction of business. Carmen P. & Ramona, C. (2012) have revealed that it is very fruitful to consider the inclination towards risk taking as a determinant of the need for achievement.

The mean score of need for achievement among small scale entrepreneurs ( $M = 26.78$ ) was less than the mean score of large scale entrepreneurs ( $M =$

36.18) which shows that small scale entrepreneurs might be having lesser degree of need for achievement in comparison to large scale entrepreneurs. The t value ( $t = 5.478$ ,  $p < .01$ ) shown in the table (2) has also supported the results displayed in Table (1) as its p value is less than 0.05 which means that there was significant difference between mean of small and large scale entrepreneurs. The lower degree of need for achievement among small scale entrepreneurs might be the result of limited exposure, fearsome mental state and unavailability of resources. The study of Chen, Shouming; Su, Xuemei; Wu, Sibin (2012) has shown that entrepreneurs with high need for achievement and who had received higher education were more willing to take risk than were entrepreneurs with low need for achievement and who had not received higher education.

**Table 3 :** The Correlation between Risk Adaptiveness and Need for Achievement among small and large scale entrepreneurs.

Groups	Correlation	Significance
Small Scale Entrepreneurs	.421	.405
Large Scale Entrepreneurs	.687	.316

**Table 4 :** The F value to analyze the variance of Risk Adaptiveness and Need for Achievement among small and large scale entrepreneurs.

Groups	Extraction sums of squared loadings		df	Sig.
	Total	% of variance		
Small Scale Entrepreneurs	1.103	55.2	49	.743
Large Scale Entrepreneurs	1.153	57.6	49	.759

Table (3) depicts the values for correlation between risk adaptiveness and need for achievement

among small scale entrepreneurs and large scale entrepreneurs. The correlation between two variables of



risk adaptiveness and need for achievement for small scale entrepreneurs was  $r = .421$ ,  $p < 0.405$ . The value of correlation ( $r = 0.421$ ,  $p < 0.405$ ) has shown a positive but non-significant relationship between risk adaptiveness and need for achievement among small scale entrepreneurs. This positive and non-significant correlation was also supported by the F value ( $F = 0.552$ ,  $p < 0.743$ ) shown in Table (4). Most of the time small scale entrepreneurs are beginners so they might not be having requisite capability, potential, experience and exposure for the management of resources, and conduction of the business. Therefore the small scale entrepreneurs might have shown a slight positive but not a very high degree of significant co-relationship between risk adaptiveness and need for achievement. This finding may also be interpreted as, the small scale entrepreneurs might have shown high degree of need for achievement but they were not adaptive to the risk taking, being fearful of challenging, uncertain and unknown forthcoming business environment.

Whereas the correlation value between risk adaptiveness and need for achievement among large scale entrepreneurs was  $r = 0.687$ ,  $p < 0.316$ . The value of correlation has shown a positive and high degree of correlation between risk adaptiveness and need for achievement among large scale entrepreneurs. The values have also been supported by the F value ( $F = 0.576$ ,  $p < 0.759$ ) displayed in Table (4). Large scale entrepreneurs have ample experience, exposure, resources, opportunities and expertise to invest. So, they might be having high degree of need for achievement and are ready to take risk. According to Christopher J. Collins, Paul J. Hanges & Edwin A. Locke (2004) achievement motivation was significantly correlated with both choice of an entrepreneurial carrier and entrepreneurial performance.

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# Large Trades on the Tunisian Stock Exchange: Downstairs Versus Upstairs Stock Markets

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**Keywords** : *upstairs market, fragmentation, cost execution, price impact, and trade difficulty.*

**GJMBR Classification** : *JEL Code : R53*



*Strictly as per the compliance and regulations of :*



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**Abstract** - This study examines the price impact differences between large trades routed to the central market and blocks traded on the upstairs market, on the Tunisian Stock Exchange. The results show that large transactions affect stock prices, whether they are routed upstairs or downstairs. In addition, these price impacts are quite different depending on where the execution takes place, especially around large sales. The results of empirical investigations also show that, when an upstairs market is governed by too restrictive rules and when brokers don't have the reflex or avoid trading upstairs, block market does not necessarily improve cost execution.

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## 1. INTRODUCTION

With the development of the stock exchange markets, block trades became increasingly frequent and constitute a substantial fraction of the total exchange volume of shares on the most active markets around the world. For example, in the NYSE, 51% of the exchange volume are carried out on transactions of at least 10 000 stocks, while in 1960, the block trades accounted only for 2% of the whole exchange's volume (Frino et al., 2003). This is also the case of the Australian Stock Exchange, where more than 80% of the exchange volume is realized on pieces of 10 000 shares and more (Anderson et al., 2006). In addition, on the Paris Bourse, the block market is an important source of liquidity. Indeed, approximately 67% of orders containing more than 10 000 shares of stocks are negotiated apart from the central market (Bessembinder and Venkataraman, 2004). This increased tendency to negotiate in blocks finds its origin in the proliferation of the activities of institutional investors.

These large transactions can be carried out either at the central market or at the upstairs market. Although the access to upstairs market is subjected to restrictive conditions, block markets are able to survive and to develop. We even observed the development of new alternative exchange systems in order to negotiate large pieces of capital such as the applications; the crossing networks or the dark pools (Oriol, 2008). The success of these markets lies on the incapacity of the downstairs markets to respond to the modern requirements arising from the institutionalization of

financial markets. In fact, in the order books, we face the following obstacles. First, there is a difficulty in finding adequate compensation, at any time. Secondly, the excessive transparency, which leads to mimetic behaviors, can break the exchange. Besides, any large order is considered as informed, because it is impossible to detect the true reasons of the exchange. Finally, the implicit execution costs are paradoxically higher for larger market actors (Riva, 2000).

The characteristic of the block markets lies in the special work executed by block brokers, who can gather and share the inherent risks accompanied by the absorption of a large block (Burdett & O'Hara, 1987). Moreover, these upstairs brokers have information about the unexpressed demand and can thus find quickly the necessary pool to absorb a large block trade (Grossman, 1992).

In addition, the block market can filter investors. Thus, only uninformed investors enter the upstairs market (Seppi, 1990). Based on these pioneers' works, several empirical studies have been conducted over the last decade in different markets and across different periods in order to quantify and explain the impact of block trades on asset prices.

It has been shown empirically, that large blocks are not without effects on the stock prices. Kraus and Stoll (1972) were the first to explain these price impacts. They are due either to the short-run liquidity costs, which mean that block initiator must make a price concession in order to bring the necessary counterpart. Alternatively, they are the result of price pressures due to the inelastic supply and demand curves. Lastly, the informational assumption stipulates that investors having superior information, prefer the negotiation of large blocks in order to exploit their informational advantage and thus block trades are regarded as conveying information.

These price effects constitute the implicit costs undertaken by large investors. The literature has shown that trading on the upstairs market minimizes these costs (Madhavan and Cheng, 1997). This result has been also confirmed by Fong et al (2004). In the same way, Bessembinder and Venkataraman (2004) find that large investors undertake only 20% of the execution costs that they would have supported while trading in the order book.

The objective of this article is precisely to verify these assertions on a small emerging market, like the Tunis Stock Exchange where the access terms to the

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block market are even more restrictive than those, previously studied in the literature.

## II. BLOCK TRADES IN THE TUNISIAN STOCK EXCHANGE

Tunisian Stock Exchange is a pure order-driven market where the confrontation of supply and demand orders is supposed to be executed in an electronic and blind order book, which respects the price and time priority. However, by similarity to the Paris market, the Tunisian Stock Exchange is a highly transparent structure where brokers observe in real time the quantities and prices of transactions. They also acquire information about the five best limits of the order book and their related agent codes. Such architecture as Muniesa (2003) explains it, makes possible the quick pass from the order book to the telephone for the execution of the large orders. The Tunisian Stock Exchange has created his upstairs market in 1997 in order to facilitate block trades. This market was operating only for fifteen minutes after the close of the central market, and the Normal Block Size (NBS) was arbitrarily fixed at 10 000 titles. Moreover, the market authorities may refuse a block trade if the depth of the order book allows a centralized execution. We have to add to this, the fact that in order to accept a decentralized execution, the stock must know a movement in the central market for a minimal quantity of 1000 shares for stocks traded on the continuous auctions and 500 shares for those traded on the call auction (fixing).

However, the decree of April 15th, 2008, brings a revision to the regulation governing block trades. In this sense, the Minimum Amount of a Block (MAB) is set at 100,000 TND, and a block trade can take place either in the pre-opening period or during the continuous trading session. Besides, there was a repeal of the last two conditions cited above. Nevertheless, the block brokers have the obligation to fill the limit orders of the trading crowd. This is a considerable relief of the atmosphere on the block trading.

## III. DATA AND DESCRIPTIVE STATISTICS

In accordance with the article 88 of the General Regulation of the parquet, the Tunisian Stock Exchange specifies in its daily bulletin in addition to the date of the trading session, the opening price, the closing price, the highest and the lowest price as well as the exchanged volume, for all listed securities.

Besides the daily bulletins, we extract data from the consolidated order book also called market by limit. This is composed for each financial instrument, of the five best limits of purchases classified in a decreasing order of prices, and of the five best limits for the sales classified in ascending order of prices. For each limit, the total quantity of the order book appears.

Concerning block trades, the data extend from 1 January 1999 to 30 November 2007. The data contain complete records describing all trades taking place in the upstairs market. The collected information provides for each block trade, the date, the code and the title of the security, as well as the price and the volume fields. Furthermore, it was possible to obtain information regarding brokers' codes except for 2006 and 2007.

However, the data collected provides only the date as mentioned but not the precise time of the block trade. So, due to the absence of intraday data we don't know exactly what time a specific transaction takes place and when a buyer and a seller decide to move to the upstairs market. We will thus work based on interday data.

In addition to the above data, large on-market transactions' data were also collected. This data contains the date and exact time, code value, volume and price of each transaction. An on-market trade is assimilated to a block trade when the quantity traded equals or exceeds an NBS (set at 10,000 for all securities) and 100,000 TND. The NBS thus fixed, involves a considerable amount that can hardly find a counterpart within the quantity available at the best limit. Therefore, a block is often carried out in several slices representing different limits reached, and the marginal price is getting more and more unfavorable for the trade initiator.

Empirically, a market order may be executed against a series of limit orders. That is why several successive and separate recordings in the database appear, while, in reality they are part of a single exchange. Consequently, a sequence of transactions is combined and thus treated as a unique exchange, while the records are on the same date and time.

A first step is thus to aggregate the quantities of securities with several records at the same time and to calculate the weighted average price. Then, we only need to filter the data in order to obtain a sample in which quantity is at least one NBS, and the total volume is equal to or greater than 100,000 TND.

However, the observation of simultaneous exchanges does not necessarily mean the execution of a large volume against several limit orders. Indeed, in the opening of a session, there is a call auction and compensation at the same price for a number of orders introduced during the pre-opening period, resulting in multiple records at the same time. Thus, we exclude from our sample all volumes corresponding to the first exchange of the day.

The off-market trades and the large on-market ones, will be divided into transactions initiated by a buyer and transactions initiated by a seller. This distinction is necessary since the price effects are opposite, and their aggregation can neutralize them.

In our study, we classify the blocks as follows. We initially follow the work of Frino et al. (2003) i.e. a

combination between the “tick test” and the “bid-ask” method. Then we perform a second classification using the method of “the true value” of Martinez et al (2005). A block is finally classified as buyer or seller initiated, when both classifications converge.

Identifying the sense of a large on-market order is done without any ambiguity. A large on-market buy is represented by a purchase order executed against several sell orders. While a large on-market sale is identified when a sell order is executed against a series of purchase orders available in the other direction of the order book.

Table 1 describes the characteristics of transactions examined in this study. This reveals that whatever the selected criterion of the size of the block (quantity or money, i.e. NBS or MBA) the results attest the superiority of the size of block buys.

The average size is 7.449 NBS for block purchases and of 5.693 for the block sales. It is also noted that the block sales are more concentrated around the average than the block buys with a standard deviation of 10,382 NBS against 17,113 NBS. The distribution by Fractiles of size shows that 10% of the block buys are greater than 16 NBS against 13,58 NBS for the block sales.

In the same way, the analysis of exchanged volumes in TND shows that a block sale implies an average volume of 11.815 MAB against 15.524 MAB for the purchases. The median is of 4.944 MAB for the purchases, and it is higher than that of the block sales, which equals to 4.348. Thus, we could say that the informational content was bigger for the purchases than for the sales.

Since block buys are larger than block sales, the filtering hypothesis is thus rejected. The latter states that the block market filters the investors. Thereby, only trades certified uninformed pass by the upstairs market.

This result can be explained as follows. On the Tunisian Stock Exchange, a block buyer is potentially informed, if he passes by the central market, he faces the mimetic behavior and the illiquidity of the downstairs market. In this sense, his buy could take several days, which could discourage him and push him to abandon his exchange. Thus, passing through the upstairs market is the only possible alternative. On the other hand, a block seller can divide his big order into a series of small ones, since it is more likely that he is motivated by liquidity needs.

It is expected therefore, that block buys to have a permanent price effect while block sales should cause temporary effects. This is what we will verify by calculating the effects of block trades on asset prices.

In addition, the transactions, which reach or exceed 10,000 titles and 100,000 TND, do not all pass by the block market. The simple presence of these large transactions in the order book shows that the central

market can be a sufficient source of liquidity for large investors.

Despite their low frequency of occurrence approximately 0.19% of all orders placed on the central order book, orders of more than 10,000 titles represents a significant part of trading volume. Indeed, they represent almost half of the volume traded on the Tunisian Stock Exchange (44.90%).

The average size of these transactions, whether they are a buyer or a seller initiated, is 2.6 NBS. Similarly, the size expressed in MBA is approximately the same for large purchases and large sales on the central market, and it is of more than 3 MBA. There is also a similarity in the number of observations of purchases and sales.

However, the data, whether expressed in NBS or MBA, shows that the size of the on-market transactions is much smaller than that of blocks traded off-market. Thus, the block market seems to fulfill its role, which is the execution of large trades.

*Table 1 :* Summary statistics of trade size

This table reports the number of observations, the mean, median, minimum, maximum, standard deviation and Fractile 90%, 75% and 25% for both share volume and dinar volume. On and off-market traded buys are presented in Panel 1 and on and off-market sales are shown in Panel 2). NBS means Normal Block Size and equals to 10,000 shares and MBA refers to Minimal Block Amount equals to 100,000 TND. The sample consists of block trades and large on market transaction on the Tunisian Stock Exchange, for the period of January 1, 1999 to November 30, 2007.

Panel 1 : Large buys				
Market	Upstairs Market		Downstairs Market	
	NBS	MBA	NBS	MBA
Mean	7.449	15.524	2.644	3.513
Stand. Deviation	17.113	31.969	4.011	5.288
Fractile 90	16	42.881	5	6.312
Fractile 75	4.932	13.815	2.916	3.739
Median	2.028	4.944	1.63	2.105
Fractile 25	1.2	2.315	1	1.416
Minimum	0.895	1.05	1	1
Maximum	125	295.492	70	62.4
N	286	286	486	486
Panel 2 : Large sales				
Mean	5.693	11.815	2.665	3.286
Stand. Deviation	10.382	24.089	5.981	5.160
Fractile 90	13.582	25.078	5	5.593
Fractile 75	4.9	8.85	2.5	3.374
Median	2.068	4.348	1.6	2.136



Fractile 25	1.255	2.2	1.025	1.4
Minimum	1	1.004	1	1
Maximum	84.804	199.866	116.324	56.936
N	270	270	444	444

#### IV. IMPACT OF LARGE TRADES ON ASSET PRICES

Price's behavior surrounding large trades is decomposed into temporary, permanent and total effects. The calculation of these effects poses some problems. Indeed, to perform the calculations, we need the market equilibrium price before the trade takes a place and the equilibrium price in this market after the trade takes place.

Thus, the choice of the pre and post block price is delicate because, informational leaks can occur when the block is being negotiated and also because of the

possible delay in the market reaction following the exchange.

Following the works of Keim and Madhavan (1996), Ghysels and Cherkaoui (2003) and Gottardo and Murgia (2003), we calculate price effects using closing prices with an inter day database. We report daily returns based, for several pre-transaction intervals (namely, 1-day, 3-day, 6-day, and 20-day) before the block, and a couple of post transaction intervals (1day,3day). The price's effects will be calculated as follows:

$$\text{Temporary Effect} = \ln(P_b) - \ln(P_c) \quad (1)$$

$$\text{Permanent Effect} = \ln(P_c) - \ln(P_p) \quad (2)$$

$$\text{Total Effect} = \ln(P_b) - \ln(P_p) \quad (3)$$

The results are presented in table 2 (Tab.2)

*Table 2 :* The effects of block trades and large on-market exchanges on asset prices

This table presents the average price impacts of block trades and large on-market transactions on a cross sectional analysis. Data is from the Tunisian Stock Exchange for the period of January 1, 1999 to November 30, 2007. Panel 1 (Panel 2) details the price impacts of transactions initiated by a buyer (seller). The T of Student are relative to the tests according to which the price impacts equal to zero. a, b, and c indicate statistical significance at 10%, 5%, and 0,01% levels, respectively.

Upstairs Market						Downstairs Market				
Date	t0	t-1	t-3	t-6	t-20	t0	t-1	t-3	t-6	t-20
Panel 1. Blockpurchases										
1.1 Temporary Effect										
t+1	0.303 <sup>a</sup>					-0.743 <sup>c</sup>				
t+3	0.442					-0.982 <sup>c</sup>				
1.2 Permanent Effect										
t+1		1.508 <sup>c</sup>	2.065 <sup>c</sup>	1.941 <sup>c</sup>	1.985 <sup>c</sup>		1.509 <sup>c</sup>	2.271 <sup>c</sup>	3.133 <sup>c</sup>	6.923 <sup>c</sup>
t+3		1.369 <sup>c</sup>	1.926 <sup>c</sup>	1.802 <sup>c</sup>	1.846 <sup>c</sup>		1.747 <sup>c</sup>	2.51 <sup>c</sup>	3.371 <sup>c</sup>	7.16 <sup>c</sup>
1.3 Total Effect										
		1.811 <sup>c</sup>	2.369 <sup>c</sup>	2.244 <sup>c</sup>	2.288 <sup>c</sup>		0.765 <sup>c</sup>	1.527 <sup>c</sup>	2.389 <sup>c</sup>	6.179 <sup>c</sup>
Panel 2. Blocksales										
2.1 Temporary Effect										
t+1	-2.019 <sup>c</sup>					-1.539 <sup>c</sup>				
t+3	-2.778 <sup>c</sup>					-1.764 <sup>c</sup>				
2.2 Permanent Effect										
t+1		-0.325 <sup>b</sup>	-0.275 <sup>a</sup>	-0.401 <sup>a</sup>	-0.289		1.920 <sup>c</sup>	2.7 <sup>c</sup>	3.645 <sup>c</sup>	6.335 <sup>c</sup>
t+3		0.433 <sup>b</sup>	0.483 <sup>b</sup>	0.357	0.469		2.145 <sup>c</sup>	2.924 <sup>c</sup>	3.871 <sup>c</sup>	6.56 <sup>c</sup>
2.3 Total Effect										
		-2.345 <sup>c</sup>	-2.295 <sup>c</sup>	-2.420 <sup>c</sup>	-2.309 <sup>c</sup>		0.381 <sup>b</sup>	1.160 <sup>c</sup>	2.106 <sup>c</sup>	4.79 <sup>c</sup>

We start by analyzing the price effects of off-market exchanges or block trades. Regarding block buys, we note a significant and positive total effect, which implies that prices increase before the block buy, and a non-significant temporary effect i.e. there is no price reversal a day and three days after the block purchase. Thus, the slow and sustained increase in prices a month before the block benefits to the whole market, and the effect is permanent.

For Block sales, the total effect is negative and significant, which means that if prices fell down before the occurrence of a block sale, then we will have a

significant price return which continues the following day and three days after the block. Thus, price decline experienced by the share over a month, would be accompanied by a very quick reversal so that the permanent effect is not significant and would even be a price reversal that would exceed the price decline in that month. As a result, block sales cause a temporary drop in prices.

Thus, block purchases are accompanied by a permanent effect on asset prices while block sales induce a temporary effect. These results are similar to those found by Gemmill (1996).



Moreover, the price impact of block sales is higher than that of block buys. This result is contradictory to the findings by Madhavan and Cheng (1997). According to the authors, it is more probable that block sales are justified due to liquidity reasons, and they are easier to arrange since brokers do not have to look for counterparts possessing the share. So their price impact should be smaller. Our result may be explained by the fact that block sales intervene in a less favorable context in terms of liquidity. We think that in the case of block purchases, investors show more patience.

Now, we pass to the analysis of the price impacts of large on-market transactions. The results are quite interesting in the sense that they are different from those found in the literature. Indeed, we find that, large transactions either sales or purchases, occur in a rising trend, i.e. the observed increase before the block is not directly related to the large trade. Moreover, the rise comes always by far, and it is increasingly higher than that on the day before the exchange. Following the exchange of the large order, we record a continuation in the upward movement. This bullish tendency is maintained until the sixth day following the block transaction but without increasing considerably.

Concerning the large on-market sales, as shown in Table 2, the asset price experienced a rise of 4.8% over the previous month and over a 2.1% of the increase a week before the exchange. No price reversal is observed after the large sale. On the contrary, we note an increase of greater than 1.5% of asset price, which reach more than 1.9% a week after the big sale. This results in a positive and significant permanent effect. This could be explained by the fact that investors decided to sell their shares when they reach a desired level of profitability, and this decision does not break the bullish tendency.

As far as large purchases are concerned, we note that they occur in a context even more favorable compared to the sales, as securities experience an average price rise of over 6.1% the month before the exchange or a rise of almost 2.4% one week before the large buy and this increase is of more than 1.5% three days before the exchange. This increase in prices also occurs after the trade and is practically half of the relative increase observed for the sales. Indeed, the day

after the large purchase, prices rise by more than 0.74% and reach nearly 1% three days after. One could explain this by the fact that purchases occurred when stock prices had already begun a bullish phase. Moreover, the fact of maintaining the rise shows that intermediaries should, in some ways, show to their client that the stock for which they have directed the purchase "is doing well."

The direct comparison of the price impacts of large on-market transactions and block trades is inappropriate since it ignores the difficulty of an exchange. Hence, in order to compare price impacts, we will adopt a methodology similar to that of Fong et al (2004). It is a two-step procedure. In the first step, we use only the large on-market trades, and we estimate the relationship between price impacts and various measures of trade difficulty. The second step uses the estimated coefficients in the first stage with the characteristics of trades routed to the upstairs market; in order to generate the price impacts of block trades if they had benefited from a centralized execution. The price improvement will be the difference between the impact estimated in the second step and the impact observed in the central market. Of course, we can speak about price improvement, only if the difference is positive.

Based on the fact that block sales are preceded by a price fall in the central market then this decline is being offset the next day and three days following the block trade. Thus, in the block market, we observe a rapid price reversal that will more than compensate the decline of more than 2.3% recorded over one month.

On the other hand, the large sales traded on the central market always come in a bullish tendency and cause a rise in prices. Thus, the behavior of large sales on and off market is so different, that no comparison can be carried out correctly. That is why we opted only for a comparison between the price impacts of block buys and large on-market buys.

## V. ESTIMATION OF THE PRICE IMPACT OF LARGE ON-MARKET BUYS

Using the methodology similar to Fong et al. (2004) and Frino et al. (2007) and adopting the model to the Tunisian context, the model is as follows:

$$C_t = \alpha_1 + \alpha_2 lsize_t + \alpha_3 bas_t + \alpha_4 volat_t + \alpha_5 ldlyv_t + \alpha_6 lcapi_t + \varepsilon_t \quad (4)$$

With:

$C_t$ : Represents the price impact of a large on-market buy.

$lsize_t$ : Is the trade size expressed as the logarithm of the number of shares.

$bas_t$ : Represents the average quoted spread five days before the large on-market buy.

$volat_t$ : Is the average Hi-Low spread five days before the large on-market buy

$ldlyv_t$ : Is the logarithm of the average daily dinar trading volume of the company of trade t five days before the large buy.

$lcapi_t$ : Is the logarithm of the average market capitalization of the company of trade t in the same calendaryear

$\varepsilon_t$ : Is the residual term.

In this last version, we introduced seven dummy variables in order to control the year effect. Dummy variables refer successively at years 2000 until 2007. We have of course omitted the year 2000 in order to avoid the problem of multi colinearity. Similarly, we monitored the effect of sector affiliation by introducing four other dummy variables. Thus, the financial sector, leasing, the car components and the « various » sector were

controlled. The heteroscedasticity is corrected according to the white procedure. The results of the estimates are presented in tables 3 and 4 (Tab.3 and Tab.4). The first table reports the estimated coefficients of the explanatory variables of the total effect and the temporary effect while the second relates to the estimated coefficients of the permanent effect.

**Table 3 :** Determinants of the total and temporary impacts of large buys

This table presents the results of the estimation of the following model:

$$C_t = \alpha_1 + \alpha_2 lsize_t + \alpha_3 bas_t + \alpha_4 volat_t + \alpha_5 ldlyv_t + \alpha_6 lcapi_t + \varepsilon_t$$

Where the price impact is the total effect (the first four columns of the table) and the temporary effect (the last two columns).<sup>a</sup>, <sup>b</sup>, and <sup>c</sup> indicate statistical significance at 10%, 5% et 1% levels, respectively.

Total Effect						Temporary Effect	
Variable	Coeff	t-1	t-3	t-6	t-20	t+1	t+3
Const	$\alpha_1$	-0.09421	-0.17875	-0.27306	-0.46325	-0.07833	-0.26367
P value		(0.037) <sup>b</sup>	(0.019) <sup>b</sup>	(0.007) <sup>c</sup>	(0.026) <sup>b</sup>	(0.001) <sup>c</sup>	(0.000) <sup>c</sup>
Lsize	$\alpha_2$	0.00702	0.01648	0.02271	0.04436	-0.00174	0.00285
P value		(0.095) <sup>a</sup>	(0.017) <sup>b</sup>	(0.006) <sup>c</sup>	(0.004) <sup>c</sup>	(0.637)	(0.618)
Bas	$\alpha_3$	0.06173	0.18618	0.07478	-0.86652	0.01455	-0.15066
P value		(0.754)	(0.542)	(0.844)	(0.067) <sup>a</sup>	(0.894)	(0.481)
Volati	$\alpha_4$	0.04743	1.00849	2.25379	5.01634	-0.39527	0.08201
P value		(0.821)	(0.008) <sup>c</sup>	(0.000) <sup>c</sup>	(0.000) <sup>c</sup>	(0.036) <sup>b</sup>	(0.786)
Ldlyv	$\alpha_5$	0.00010	0.00282	0.00882	0.02433	0.00018	-0.00114
P value		(0.920)	(0.086) <sup>a</sup>	(0.001) <sup>c</sup>	(0.000) <sup>c</sup>	(0.845)	(0.494)
Lcapi	$\alpha_6$	0.00362	0.00302	0.00190	-0.00330	0.00400	0.01409
P value		(0.089) <sup>a</sup>	(0.426)	(0.695)	(0.716)	(0.055) <sup>a</sup>	(0.000) <sup>c</sup>
R <sup>2</sup>		6.29%	10.69%	22.93%	36.30%	10.00%	11.26%
Adjusted R <sup>2</sup>		2.88%	7.45%	20.13%	33.98%	6.71%	8.04%
N		486	486	486	486	486	486

**Table 4 :** Regressions results: Determinants of the permanent impacts

This table presents the results of the estimation of the following model:

$$C_t = \alpha_1 + \alpha_2 lsize_t + \alpha_3 bas_t + \alpha_4 volat_t + \alpha_5 ldlyv_t + \alpha_6 lcapi_t + \varepsilon_t$$

Where the price impact is the permanent effect. <sup>a</sup>, <sup>b</sup>, et <sup>c</sup> indicate statistical significance at 10%, 5% and 1% levels, respectively.

Date		t+1				t+3			
Variable	Coef	t-1	t-3	t-6	t-20	t-1	t-3	t-6	t-20
Const	$\alpha_1$	-0.01587	-0.10041	-0.19473	-0.38492	0.16946	0.08492	-0.00939	-0.19958
P value		(0.792)	(0.241)	(0.076) <sup>a</sup>	(0.068) <sup>a</sup>	(0.051) <sup>a</sup>	(0.437)	(0.941)	(0.349)
Lsize	$\alpha_2$	0.00876	0.01822	0.02445	0.04610	0.00416	0.01363	0.01986	0.04150
P value		(0.065) <sup>a</sup>	(0.013) <sup>b</sup>	(0.006) <sup>c</sup>	(0.005) <sup>c</sup>	(0.529)	(0.120)	(0.046) <sup>b</sup>	(0.010) <sup>b</sup>
Bas	$\alpha_3$	0.04718	0.17163	0.06023	-0.88108	0.21239	0.33684	0.22544	-0.71586
P value		(0.850)	(0.600)	(0.875)	(0.066) <sup>a</sup>	(0.545)	(0.414)	(0.612)	(0.174)
Volati	$\alpha_4$	0.44270	1.40376	2.64906	5.41161	-0.03458	0.92648	2.17178	4.93433
P value		(0.111)	(0.000) <sup>c</sup>	(0.000) <sup>c</sup>	(0.000) <sup>c</sup>	(0.924)	(0.049) <sup>b</sup>	(0.000) <sup>c</sup>	(0.000) <sup>c</sup>
Ldlyv	$\alpha_5$	-0.00008	0.00264	0.00864	0.02415	0.00125	0.00397	0.00996	0.02547
P value		(0.953)	(0.115)	(0.000) <sup>c</sup>	(0.000) <sup>c</sup>	(0.509)	(0.060) <sup>a</sup>	(0.000) <sup>c</sup>	(0.000) <sup>c</sup>
Lcapi	$\alpha_6$	-0.00038	-0.00097	-0.00209	-0.00729	-0.01047	-0.01106	-0.01218	-0.01739
P value		(0.899)	(0.822)	(0.694)	(0.420)	(0.013) <sup>b</sup>	(0.038) <sup>c</sup>	(0.049) <sup>b</sup>	(0.063) <sup>a</sup>
R <sup>2</sup>		11.65	13.40	23.80	37.35	11.81	11.81	19.91	36.24
Ajusted R <sup>2</sup>		8.44	10.25	21.03	35.08	8.60	8.60	17.00	33.92
N		486	486	486	486	486	486	486	486

Concerning the variable size, the coefficients are positive and significant for the total and the permanent effect. Thus, the more important is the exchanged volume, the larger is the impact price. The bid ask spread is non-significant in the majority of the regressions. When it is significant, its sign does not conform to expectations. Indeed, Gemmill (1996), Frino et al. (2007) and Fong et al. (2004) find that the higher is the spread the more important is the price impact. The volatility coefficient is significantly positive for the largest on-market purchases. This reveals that the increase in volatility implies a higher price impact, in accordance with the work of Chiyachantana et al. (2004). The coefficient of the average daily dinar trading volume five days before the buy is positive. It is another proxy of liquidity, and the coefficient does not have the awaited sign. For the logarithm of the average market capitalization, the sign is negative and significant for the permanent effect calculated by using the benchmark post trade  $t+3$ . Thus, as explained by Fong et al. (2004), the larger the firm, the higher is the interest of the financial analysts, and the bigger is the genesis of information. All this contributes to a reduction of information asymmetry compared to the small sizes' firms. Thus, the difficulty of the exchange is reduced with market capitalization.

The tables also give the values of the coefficient of determination. The last goes from, 2.88 percent for the total effect of large buys calculated with the closing price of a day before the exchange, to 35.08 percent for the permanent effect calculated from one month before the exchange until the day following it. For the remainder of the regressions, the value of the adjusted  $R^2$  climbs directly from 2.8 to 6.7%. In their model, Frino et al. (2007) find that the coefficients of determination are going from 9 to 28.5 percent and affirm that their model explains better than the best previous models the price changes. Our coefficient of determination is thus considered as in the standard. Regarding the dummy variable relative to the year effect, there was an increase of the price impact over the years (positive and significant). As for variables related to the sector affiliation, we note that the permanent effect tends to increase mainly with the financial sector.

In order to test the proportion of the variation of the price impact explained by each explanatory variable, one variable at a time is removed from the full model and we re-estimate the model. To determine if the omission of a variable reduces the total significance of the model, we use the F test described by Greene (2003) who compares the values of the coefficients of determination of the whole model and the restricted model. The F statistic used is as follows:

$$F[1, n - k] = \frac{(R^2_{\text{full}} - R^2_{\text{restricted}})}{(1 - R^2_{\text{full}})/(n - k)} \quad (5)$$

Where  $n$  is the number of observations,  $k$  is the number of parameter and  $R^2$  is the coefficient of determination of the full model and  $R^2_{\text{full}}$  is the coefficient of determination of the alternate model.

The results are presented in Tables 5 and 6. The first reports the adjusted coefficients of determination of the determinants of the total effect and the temporary effect and the second details those related to the permanent effect. As first striking report, the increase in the adjusted  $R^2$  follows the omission of the bid ask spread. Liquidity approximated by the bid ask spread seems not to have any effect on the price impact, and its omission improves the model. This result is in perfect contradiction with that of Frino et al. (2007) who find that the bid ask spread is the variable that explains the best the price effects of large trades in the Australian Stock Exchange. Furthermore, each of the other variables brings an additional explanatory power to the model. For example, if we remove the variable quantity in the regression of the total effect calculated three days before the large purchase, the adjusted  $R^2$  strongly decreases and passes from 7.45 to 2.15 percent. If we omit the volatility variable, the coefficient decreases significantly and passes from 35.08 to 28.53 percent (for the permanent effect on the period  $t-20$  until  $t+1$ ). The omission of the variable volatility decreases the coefficient of determination in the majority of the cases, in a significant way (in 10 regressions out of the 14). The volatility variable is the variable that explains the best the price impact of large purchases on the Tunisian Stock Exchange. When we eliminate the average daily trading volume five days before the block (calculated for the total effect one month before the block), the adjusted  $R^2$  drops and passes from 33.98 to 29.46 percent.

Similarly, by abandoning the logarithm of the market capitalization, adjusted  $R^2$  was considerably reduced, especially for the temporary effect calculated three days after the purchase. When we ignore the variable year, the coefficient also decreases and passes from 33.92 to 31.65 (for the permanent effect calculated from  $t-20$  to  $t+3$ ). Likewise, the elimination of dummy variables relative to sector affiliation reduces the estimated coefficient from 20.13 to 17.67 (for the total effect calculated from  $t-6$ ).

**Table 5 :** Additional explanatory power contributed by the determinants of the total and the temporary impact of large buys

$$C_t = \alpha_1 + \alpha_2 lsize_t + \alpha_3 bas_t + \alpha_4 volatit_t + \alpha_5 ldlyv_t + \alpha_6 lcapi_t + \varepsilon_t.$$

The impact price refers to the total effect and the temporary effect. One variable, at a time, is removed from the full model, and we re-estimate the alternate model. Statistical significance is derived from the F-test of Greene (2003).

This tests whether the omission of a variable significantly affects the adjusted R<sup>2</sup>. <sup>a</sup> and <sup>b</sup> indicate statistical significance at 5% and 1% levels, respectively.

	Total Effect				TemporaryEffect	
	t-1	t-3	t-6	t-20	t+1	t+3
Full model	2.88	7.45	20.13	33.98	6.71	8.04
Size	2.15	2.15 <sup>b</sup>	19.13 <sup>a</sup>	32.95 <sup>b</sup>	6.86	8.19
F-Stat	(3.53)	(26.78)	(5.86)	(7.28)	(-0.73)	(-0.76)
Bas	3.03	7.51	20.29	33.74	6.91	8.13
F-Stat	(-0.70)	(-0.31)	(-0.93)	(1.63)	(-0.98)	(-0.44)
Volatility	3.07	5.71 <sup>b</sup>	15.58 <sup>b</sup>	28.00 <sup>b</sup>	5.81 <sup>a</sup>	8.22
F-Stat	(-0.91)	(8.76)	(26.65)	(42.35)	(4.50)	(-0.91)
ldlyv	3.09	7.15	20.29	29.46 <sup>b</sup>	6.90	8.13
F-Stat	(-0.98)	(1.47)	(-0.93)	(32.01)	(-0.96)	(-0.49)
lcapi	2.32	7.51	17.96 <sup>b</sup>	34.10	6.07	4.73 <sup>b</sup>
F-Stat	(2.71)	(-0.33)	(12.71)	(-0.85)	(3.23)	(16.85)
Year	2.82	7.80	18.52 <sup>b</sup>	32.17 <sup>b</sup>	5.97	6.15 <sup>b</sup>
F-Stat	(0.30)	(-1.81)	(9.44)	(12.80)	(3.72)	(9.58)
Sector	2.55	6.77	17.67 <sup>b</sup>	33.08 <sup>b</sup>	7.33	7.69
F-Stat	(1.60)	(3.44)	(14.42)	(6.33)	(-3.08)	(1.78)

**Table 6 :** Additional explanatory power contributed by the determinants of the permanent impact of large buys

$$C_t = \alpha_1 + \alpha_2 lsize_t + \alpha_3 bas_t + \alpha_4 volatit_t + \alpha_5 ldlyv_t + \alpha_6 lcapi_t + \varepsilon_t.$$

The impact price refers to the permanent effect. One variable, at a time, is removed from the full model, and we re-estimate the alternate model. Statistical significance is derived from the F-test of Greene (2003). This tests whether the omission of a variable significantly affects the adjusted R<sup>2</sup>. <sup>a</sup> and <sup>b</sup> indicate statistical significance at 5% and 1% levels, respectively.

	t+1				t+3			
	t-1	t-3	t-6	t-20	t-1	t-3	t-6	t-20
Full Model	8.44	10.25	21.03	35.08	8.60	8.60	17.00	33.92
Size	7.96	9.24	20.03	34.03	8.72	8.35	16.57	33.14
F-Stat	(2.46)	(5.28) <sup>a</sup>	(5.90) <sup>a</sup>	(7.55) <sup>b</sup>	(-0.61)	(1.29)	(2.41)	(5.50) <sup>a</sup>
Bas	8.62	10.25	21.19	34.86	8.64	8.57	17.11	33.83
F-Stat	(-0.91)	(-0.53)	(-0.96)	(1.60)	(-0.17)	(0.16)	(-0.63)	(0.61)
Volatility	7.93	7.52	15.61	28.53	8.80	7.95	14.22	28.75
F-Stat	(2.62)	(14.25) <sup>b</sup>	(32.14) <sup>b</sup>	(45.47) <sup>b</sup>	(-0.98)	(3.33)	(15.69) <sup>b</sup>	(36.61) <sup>b</sup>
ldlyv	8.64	10.11	19.27	30.90	8.71	8.29	15.16	29.48
F-Stat	(-0.99)	(0.75)	(10.41) <sup>b</sup>	(30.09) <sup>b</sup>	(-0.54)	(1.57)	(10.37) <sup>b</sup>	(31.45) <sup>b</sup>
lcapi	8.63	10.43	21.17	35.13	7.35	7.88	16.47	33.57
F-Stat	(-0.97)	(-0.94)	(-0.84)	(-0.33)	(6.42) <sup>b</sup>	(3.65)	(2.96)	(2.52)
Year	6.97	10.14	19.83	33.26	6.37	7.78	15.41	31.65
F-Stat	(7.54) <sup>b</sup>	(0.57)	(7.10) <sup>b</sup>	(13.08) <sup>b</sup>	(11.44) <sup>b</sup>	(4.21) <sup>a</sup>	(8.98) <sup>b</sup>	(16.10) <sup>b</sup>
Sector	8.22	10.03	19.25	34.40	7.92	7.70	15.51	32.98
F-Stat	(1.11)	(1.16)	(10.51) <sup>b</sup>	(4.90) <sup>a</sup>	(3.51)	(4.62) <sup>a</sup>	(8.38) <sup>b</sup>	(6.67) <sup>b</sup>

## VI. COST DIFFERENCES BETWEEN A LARGE ON-MARKET AND A LARGE OFF-MARKET BUY ON THE TUNISIAN STOCK EXCHANGE

In this second step, we observe the variables related to the difficulty of the exchange, on the order

book, when a block purchase is being executed upstairs.

Thus, the calculated impact of a large block buy if it would have been run in the central order book is calculated as follows:

$$C_u = \alpha_1 + \alpha_2 lsize_u + \alpha_3 bas_u + \alpha_4 volati_u + \alpha_5 ldlyv_u + \alpha_6 lcapi_u \quad (6)$$

$lsize_u$  is the block size expressed in the logarithm of the number of shares.

$bas_u$  represents the average quoted spread five days before the block buy.

$volati_t$  is the average Hi-Low spread five days before the block buy

$ldlyv_t$  is the logarithm of the average daily dinar trading volume of the company of trade  $t$  five days before the block buy.

$lcapi_t$  is the logarithm of the average market capitalization of the company of trade  $t$  in the same calendar year.

The cost difference between on and off-market execution is written as follows:

$$diff_u = c_u - \hat{c}_u \quad (7)$$

With  $\hat{c}_u$  is as defined above and denotes the calculated impact of a block buy if it would have been rooted in the order book.  $c_u$  is the price impact of a block

trade in the upstairs market as calculated in Chapter 3. If  $diff_u$  is positive, then there is price improvement following the negotiation upstairs. If not, the block market increases the execution costs of the block trades.

The results summarizing the price differences are summarized in table 7.

Table 7 : Price changes occurring following the upstairs intermediation

This table reports the average price improvements in a cross-sectional analysis, supposed to occur following an upstairs execution. The price change is  $diff_u = c_u - \hat{c}_u$ . The results show the differences in price impacts of block buys. The T of student (in parentheses) are related to tests according to which the price impacts would be null.<sup>a, b, c</sup> and <sup>a, b, c</sup> indicate statistical significance at 10%, 5% and 0,01% levels, respectively.

	P0		P-1	P-3	P-6	P-20
1.1 Temporary Effects						
P+1	-0.0121 <sup>c</sup>	(-7.15)				
P+3	-0.0183 <sup>c</sup>	(-4.90)				
1.2 Permanent Effects						
P+1			-0.0005	-0.0066 <sup>b</sup>	-0.0037	0.0075
			(-0.43)	(-3.14)	(-1.34)	(1.38)
P+3			0.0057 <sup>a</sup>	-0.0002	0.0024	0.0135 <sup>b</sup>
			(1.95)	(-0.06)	(0.62)	(2.10)
1.3 Total Effects						
			-0.0127 <sup>c</sup>	-0.0189 <sup>c</sup>	-0.0161 <sup>c</sup>	-0.0047
			(-9.42)	(-9.17)	(-5.68)	(-0.92)

Concerning the total effect and the temporary effect, the results show a significantly negative difference, sign of an increase in the impact price following the realization of a transaction in the block market, rising from 1.2% to 1.6%.

Then the price reversal designated by the temporary effect is also higher. This difference in the temporary effect is about 1.2% when the impact is calculated on the following day of the block trade and 1.8% when it is calculated three days after the block. It shows a higher permanent effect (calculated between  $t-3$  and  $t+1$ ). However, it should be noted that the difference is about 0.66%. Similarly, we observe instead an improvement of the execution cost of 0.57% of the permanent effect calculated between  $t-1$  and  $t-3$ . For the rest, there is no significant difference in the permanent effects of large trades routed upstairs or on the central market. These results are not similar to those of Fong et al. (2004) who find a strong obviousness of price

improvement on the block market. Indeed, even if the permanent effect varies just a bit according to the two methods of negotiation, the Tunisian block market has got a long way to go. In fact, besides the very special architecture that characterizes the access conditions to this particular segment, the intermediaries themselves have not the reflex to route large orders to the block market. They make the counterpart search, negotiate the price by phone but pass the transaction in the central market. Thus 35% of large exchanges made in the central market are arrangements between intermediaries and imply a single transaction when a purchase order is executed against a sell order.

In this way, if the order does not dig into market depth and have found its counterpart in a single order on the opposite side of the book, there certainly has been a prior counterpart search by phone before placing of the order in the book. In this scheme, the intermediaries should have passed the transaction by



the block market since they are not obliged to contribute to the market guarantee fund for block trades<sup>i</sup>.

## VII. CONCLUSION

The literature treating of block trades shows, for most, that the prices continue to rise following block purchases and know a price reversal following block sales. This result is also confirmed for the large on-market trades. Thus, prices react differently for buys and sales, and this makes a puzzling result. This article tries to test these price effects on the Tunisian Stock Exchange and intends to go some way towards achieving the debate around the price improvement occurring while trading in the upstairs market. The results show that block buys induce a positive permanent effect while block sales induce only temporary effects.

On the other hand, we do observe significant positive permanent effects for both large sales and large purchases negotiated on-market. Thus, we observe a different behavior for large sales following the place of execution. Moreover, comparison of prices' effects of large purchases executed on and off the central market was made taking into account the difficulty of the exchange. The results indicate that unlike those found by Fong et al (2004), passing by the block market does not necessarily imply an improvement in trade costs. Indeed, when the access terms to block market are very restrictive and when the intermediaries do not have the reflex to route large orders to block market, price improvements are not systematic.

## APPENDICES

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<sup>iii</sup>This result is different from that found by Riva [2000] which underlines the superiority of the size of the block sales. The author affirms that, as the block buys are more informative than the block sales, it is thus natural to observe more block sales in the transparent market.

<sup>iv</sup>Minimum Block Amount (MBA) is 100,000 dinars.

<sup>v</sup>In accordance with the General Regulations of Exchange, block trades are excluded from the guarantee mechanisms. Indeed, these off market transactions are similar to over the counter operations. "An intermediary who participate in a block trade, chooses its counterpart and thus its risk"- Extract from the market guarantee fund (specifications) Page 6 available at the following address:

<http://www.bvmt.com.tn/documentation/statutory-texts/pdf/Reglement-FGM.pdf>. Date of the last visit: 08/01/2009.

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# Determinants of Employees' Job Satisfaction: A Study of Banking Industries in Sri Lanka

By Prof (Dr).T.Velnampy & S.Sivesan

*University of Jaffna, Sri Lanka*

**Abstract** - The last couple of decades have shown an increase in the study of job satisfaction in relation to organizational outcomes, particularly in management literature. Job satisfaction is a general attitude which is the result of many specific attitudes. Data was collected through seven points Likert type summated rating scales of questionnaires from strongly disagree (1) to strongly agree (7) were adopted to identify indicators. Sophisticated statistical model as "Exploratory Factor Analysis (EFA) has been employed. The results shown factors extract from the analysis that together accounted 84.924% of the total variance. These factors were categorized as payment, achievement and proud to work.

**Keywords** : *payment, achievement, proud to work.*

**GJMBR Classification** : *JEL Code : J28*



*Strictly as per the compliance and regulations of :*



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**Abstract** - The last couple of decades have shown an increase in the study of job satisfaction in relation to organizational outcomes, particularly in management literature. Job satisfaction is a general attitude which is the result of many specific attitudes. Data was collected through seven points Likert type summated rating scales of questionnaires from strongly disagree (1) to strongly agree (7) were adopted to identify indicators. Sophisticated statistical model as "Exploratory Factor Analysis (EFA) has been employed. The results shown factors extract from the analysis that together accounted 84.924% of the total variance. These factors were categorized as payment, achievement and proud to work.

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## I. BACKGROUND OF STUDY

In the present modern business era, job satisfaction is very powerful concept. Generally, Job satisfaction has been one of the most important factors, frequently researched in the field of management. According to oxford paper dictionary (1996), the verb "satisfy" means to given a person what he wants or demands or needs to make him pleased or contented. Workers satisfied with their job perform better and less likely to be late, absent or quit than those of dissatisfied workers. Employees, who are more productive and are able to stay longer on job, were able to highlight higher job satisfaction ratings. Since most of the working hours are spent at work, it is imperative to find out the various factors that determine job happiness. Evidently, it is all about the gap between reality and expectations, but the issue seems to be much more complicated than it appears. While job satisfaction is found to be low wherever expectations are very high, most people believe that they can do better in other organizations. Main objective of study to find out different factors that influences the job satisfaction among the banking sectors employees. This study examines indicators which determine the job satisfaction of banking sectors employees in Sri Lanka. Finding of this study are useful for banking sector to enhance and build the high level job satisfaction.

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## II. REVIEW OF LITERATURE

Hammer (2000); Marini (2000); Denton (2000), have defined job satisfaction as an employee's affect response to various aspects of his work environment. Taylor's (1911) 23 approaches to job satisfaction were based on a most pragmatic and essentially pessimistic philosophy that man is motivated by money alone. That the workers are essentially "stupid and phlegmatic" and that they would be satisfied with work. If they get higher economic return from it. Over the years, we have moved away from Taylor's solely monetary approach to a more humanistic orientation. From a simple explanation based on money to a more realistic but complex approach to job satisfaction it has come a long way. New dimensions of knowledge are added everyday and with increasing understanding of new variables and their interplay, the field of job satisfaction has become difficult to comprehend. Sideman and Watson (1940) in their study, a sampling of men and women were asked to report on the job previously held which was most satisfactory to them and to give reasons for their selection the result, the study reported that congenial working condition and social conduct, responsibility, initiative prestige, recognition, friendly association, work fitted to vocational level and variety of duties are more important contributing factors in job satisfaction than salary. Hulin and Smith (1964) obtained measures of five separate aspect of job satisfaction from 295 male workers and 163 female workers drawn from four different plants. The data were analyzed with respect to the mean the satisfaction for the male and female workers Analysis indicated that in three plants the female workers were significantly less satisfied than their male counterparts ( $p > 0.05$ ) while in the fourth plant there was no significant difference. A test on the relative size of the differences indicates that the ordering of the difference in satisfaction level was somewhat consistent and across the four samples ( $p > 0.01$ ). Vroom (1964) has done an excellent job examining the relationship between job satisfaction and various aspects of job behavior and perhaps summarizing his findings are the best way of giving the reader an overview. Vroom categorizes studies in terms of which job behaviors are correlated with job satisfaction, specifically, he groups them into studies of turnover of absenteeism accidents and job performance. Blum and Naylor (1968) opined that job satisfaction is a general attitude which is the

result of many specific attitudes in their areas, normally, specific job factors, individual characteristics and group relationships outside the job. Velnampy and sivesan (2008) have expressed that job satisfactions are positively associated with employee performance. Steven, susan and Stewart (2005) felt that communication helps to increase job satisfaction. Thiruchelvam S J and Velnampy T (2010) internal and external organizational elements have a relationship with employee Psychological Empowerment. Velnampy (2008), in his study on job attitude and employees performance concluded that job satisfaction contains positive influence on the performance of the employees as it enhances job involvement and the higher performance also makes people feel more satisfied and committed to the organization. The satisfaction and performance of the employee works in a cycle and are interdependent. Job satisfaction and involvement of the employee leads him to have high levels of performance. According to Ramayah, Jantan, and Tadisina (2001), Job satisfaction explains how employees are buoyant to come to work and how they get enforced to perform their jobs. What are the things who make happy an employee on doing work and not to leave the job? Other researchers narrate job satisfaction as being the outcome of the worker's appraisal of extent to which the work environment fulfillment the individuals needs (Dawis & Lofquist 1984). According to Locke (1969), job satisfaction is a state of emotional gladness, results from the achievement of the goals that one get through performing his part of contribution inside an organization. Shahu & Gole (2008), in their research define effects of job satisfaction on performance, they had sum up their findings on a factor that work satisfaction should be considered by the organization as important plan which needs to be extend in order to improve employees performance and where employees can put their best performance. Performance level lowers with lower level satisfaction scores. There should be some awareness programs, pertaining to the stress & satisfaction level in the industries. It will help organizations to understand the benefits of stress knowledge in relation to satisfaction and goal achievement in the industry

### III. RESEARCH METHODOLOGY

#### a) Data Sources

Given the nature of the present study, it was required to collect data from the primary and secondary sources. Primary data were collected through the questionnaire. Secondary data were collected from research studies, books, journals, newspapers and ongoing academic working papers. The collected data may be processed and analyzed in order to make the study useful to the practitioners, researchers, planners, policy makers and academicians.

#### b) Measures

The questionnaire was administrated to employees of banks (National Serving Bank, Commercial Bank, Sampath Bank, Hatton National Bank). Questionnaire is prepared with seven point Likert-scaling system. In a way, qualitative data converted into quantitative and then details analysis was made with appropriate statistical tools in order to prove the objective. Questionnaire is designed to gather the data. Questionnaire consists of 20 statements to measure the job satisfaction of the banking sectors employees. Job satisfaction can be measured through Payment, Promotion, Happy to work, Subordinate- supervisor relationship, Direction of supervisor, Achievement, Appreciation, Participation in decision making, proud to work, and Enough description.

#### c) Sampling

Using the convenience sampling technique, a total of 126 respondents were selected as a sample of the study. One hundred and seven respondents completed the questionnaire and the rest did not return it.

### IV. RESULT AND DISCUSSION

Before applying statistical tools, testing of the reliability of the scale is very much important as it shows the extent to which a scale produces consistent result if measurements are made repeatedly. This is done by determining the association in between scores obtained from different administrations of the scales. If the association is high, the scale yields consistent result, thus is reliable. Cronbach's alpha is most widely used method. It may be mentioned that its value varies from 0 to 1 but, satisfactory value is required to be more than 0.6 for the scale to be reliable (Malhotra, 2002; Cronbach, 1951). The Cronbach alpha estimated for Payment was 0.789, Promotion was 0.845, Happy to work was 0.873, Subordinate- supervisor relationship was 0.871, Direction of supervisor was 0.678, Achievement 0.712, Appreciation was 0.743, Participation in decision making was 0.654, proud to work was 0.765, and Enough description was 0.612. As the Cronbach's alpha in this study were all much higher than 0.6, the constructs were therefore deemed to have adequate reliability.



**Table 1 :** Reliability for dimension of job satisfaction

No	Details	Cronbach alpha
1	Payment	0.789
2	Happy to work	0.873
3	Promotion	0.845
4	Subordinate- supervisor relationship	0.871
5	Direction of supervisor	0.678
6	Achievement	0.712
7	Appreciation	0.743
8	Participation in decision making	0.654
9	proud to work	0.765
10	Enough description	0.612

**a) Validity**

An important aspect of increased rigor in conducting scientific research in the modern positivist paradigm is the testing for content and convergent validity. The Content validity ensures that the measure includes an adequate and representative set of items that tap the domain of the concept (Malhotra 2005, S2004, Warnakulasuriya, 2009). An exact literature review was carried out to ensure the content validity of the both construct.

**b) Factor analysis**

Factor analysis method has been employed to identify the dimension importance underlying dimensions of job satisfaction of banking sector employees.

**c) KMO and Bartlett's test**

Kaiser – Meyer – Olkin (KMO) test assist to measure sample adequacy. The KMO statistic varies between 0 and 1. A value close to 1 indicates that patterns of correlation are relatively compact and so factor analysis should yield distinct and reliable factors. Kaiser (1974) recommends the accepting values of

greater than 0.5. Furthermore, values between 0.5 and 0.7 are mediocre, value between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb.

**Table 2 :** KMO and Bartlett's test

Kaiser –Meyer – Olkin Measure of sampling adequacy	0.769
Bartlett's test of sphericity    Appox Chi Square	574.662
Df	56
Significance	.000

Table No -02 indicates that the KMO is 0.769, which falls into the range of being mediocre; factor analysis is appropriate for these data. Bartlett's test of sphericity (Barlett, 1950) is the third statistical test applied in the study for verifying its appropriateness. This test should be significant i.e., having a significance value less than 0.5. According to Table No -02, test value of Chi – Square 574.662 is significant. After examining the reliability and validity of the scale and testing appropriateness of data as above, Suitability of variables next is identified using a concept called "communality".

Communalities indicate the amount of variance in each variable that is accounted for Table No -03 shows that initial communalities and extraction communalities. Initial communalities are estimates of the variance in each variable accounted for by all components or factors. Initial communalities are set as 1.0 for all variables in Principal Component Method of Extraction of Factors. Extraction communalities are estimates of variance in each variable accounted for by the factors in the solution. Accordingly, all items are fit to the factor solution. Because, extraction value is more than 0.3 for each items.

**Table 3 :** Principal Component Analysis Communalities

Items	Initial	Extraction
Payment	1.000	.749
Happy to work	1.000	.750
Promotion	1.000	.431
Subordinate- supervisor relationship	1.000	.643
Direction of supervisor	1.000	.612
Achievement	1.000	.667
Appreciation	1.000	.724
Participation in decision making	1.000	.831
proud to work	1.000	.639
Enough description	1.000	.753

In this study, Principal Component analysis (PCA) was employed by the Varimax rotation, (generally, researchers' recommend as varimax) When the original ten variables were analyzed by the PCA. Four variables

extracted from the analysis with an Eigen value of greater than 1, which explained 84.926 percent of the total variance.

Table 4 : Total Variance Explained

Component	Initial Eigen Value			Extraction Sums of Squared Loading		
	Total	% of Variance	Cumulative	Total	% of Variance	Cumulative
1	5.911	59.911	59.911	5.911	59.911	59.911
2	1.417	14.167	74.078	1.417	14.167	74.078
3	1.085	10.848	84.926	1.085	10.848	84.926
4	0.960	9.597	76.604			
5	0.669	6.691	83.295			
6	0.598	5.977	89.272			
7	0.413	4.129	93.401			
8	0.276	2.761	96.162			
9	0.250	2.497	98.659			
10	0.134	1.341	100.000			

One method to reduce the number of factors to something below that found by using the "eigen value greater than unity" rule is to apply the scree test (Cattell, 1966). In this test, eigen values are plotted against the factors arranged in descending order along the X- axis. The number of factors that correspond to the point at

which the function, so produced, appears to change slope, is deemed to be number of useful factors extracted. This is a somewhat arbitrary procedure. Its application to this data set led to the conclusion that the first four factors should be accepted.

Table 5 : Rotated Component Matrix

Scree Plot

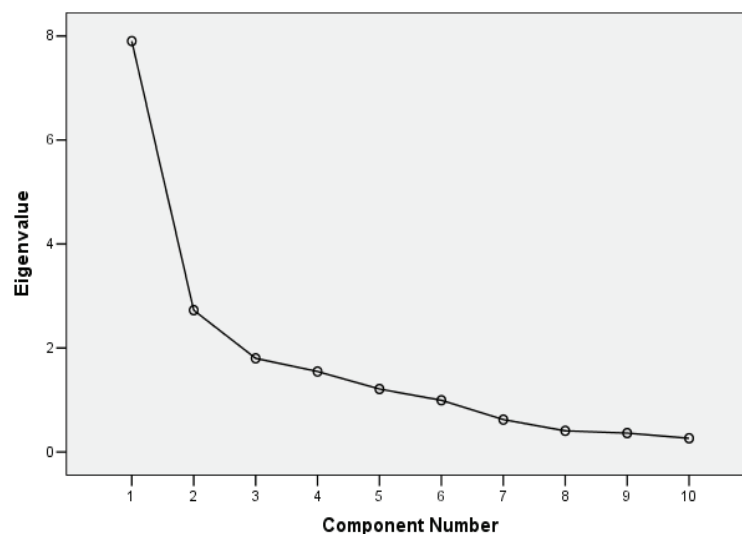


Table No - 05 show that factors were divided into the three groups. Each of three job satisfaction factors listed in table no -05 is labelled according to the name of the value that loaded most highly for those job satisfaction. It is worth declaring out here that factor loading greater than 0.30 are considered significant. 0.40 are considered more important and 0.50 or greater are considered very significant. The rotated (Varimax) component loadings for three components (factors) are presented in Table No- 05. For parsimony, only those factors with loadings above 0.50 were considered

significant (Pal, 1986; Pal and Bagi, 1987; Hari, Anderson, Tatham, and Black, 2003). The higher a factor loading, the more would its test reflect or measure as job satisfaction (Pallant, 2005). Actually in this study, minimum factor component loadings of 0.54 or higher are considered significant for EFA purposes. The job satisfaction variable getting highest loading becomes the title of each factor of job satisfaction. e.g. 'Payment'-title of customer relationship marketing factor-I and the like

*Table 5* : Groups by loading

	Group -1	Group - 2	Group -3
Payment	0.84		
Happy to work	0.76		
Promotion	0.65		
Subordinate- supervisor relationship	0.62		
Direction of supervisor	0.50		
Achievement		0.87	
Appreciation		0.75	
Participation in decision making		0.73	
proud to work			0.86
Enough description			0.74
<b>Eigen Value</b>	5.991	1.4167	1.085
<b>Proportion of Variance</b>	59.911	14.167	10.85
<b>Cumulative Variance Explained</b>	59.911	74.078	84.926

Group –I **Payment** include the five factors such as payment, happy to work, promotion, and supervisor and subordinate relationship, and direction of supervisor with loading ranging from 0.84 to 0.50.

Group- II **Achievement** consists of three factors such as achievement, Appreciation and participation of decision making with loadings ranging from 0.87 to 0.73.

Group- III **Accuracy** includes two factors such as proud to work and enough description with loading ranging from 0.86 to 0.74.

Following table clearly exposed the determinants factors and these groups

*Table 6* : Total Variance Explained

Concept	Variable (Group)	Factors
Job Satisfaction	Payment	Payment
		Happy to work
		Promotion
		Subordinate-supervisor relationship
		Direction of supervisor
	Achievement	Achievement
		Appreciation
		Participation in decision making
	Proud to work	proud to work
		Enough description

## V. CONCLUSION

Results of the study confirmed that job satisfaction can be determined by ten variable such as payment, happy to work, promotion, subordinate supervisor relationship, direction of supervisor, achievement, appreciation, participation in decision making, proud to work and enough description.

According to exploratory factor analysis, these factors were divided into three groups. Groups -1 consist of five factors. This group is called as Payment group. Group – II consists of three factors. This group is named as Achievement. Final group consists of two factors. They are proud to work and enough description.

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# Impact of Capital Structure on the Profitability of Petroleum Sector in Pakistan

By Syed Atif Ali, Dr. Shahid A Zia & Amir Razi

*University of Lahore*

**Abstract** - This study aims to analyze the impact of capital structure on the profitability of petroleum sector of Pakistan, while controlling the size of the company. A total of 12 companies were selected randomly for the study and take ten years data from 2001 to 2010. Regression analysis was conducted. The results show that there is a significant and positive impact of capital structure on the profitability of the petroleum sector; this study has potential for replication in other industries like cement, textile and pharmaceutical. In overall analysis capital structure has the significant analysis but the individual analysis of every company has not significant because every company has their own capital structure. Overall Profitability depend on the capital structure.

**Keywords** : profitability, capital structure.

**GJMBR Classification** : JEL Code : D24



*Strictly as per the compliance and regulations of :*



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Syed Atif Ali <sup>α</sup>, Dr. Shahid A Zia <sup>σ</sup> & Amir Razi <sup>ρ</sup>

**Abstract** - This study aims to analyze the impact of capital structure on the profitability of petroleum sector of Pakistan, while controlling the size of the company. A total of 12 companies were selected randomly for the study and take ten years data from 2001 to 2010. Regression analysis was conducted. The results show that there is a significant and positive impact of capital structure on the profitability of the petroleum sector; this study has potential for replication in other industries like cement, textile and pharmaceutical. In over all analysis capital structure has the significant analysis but the individual analysis of every company has not significant because every company has their own capital structure. Overall Profitability depend on the capital structure.

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## I. INTRODUCTION

The location of Pakistan at the crossroad of the central Asia and the Arabian Sea has brought into spotlight its significance as an attractive market and a regional transit route for energy. Oil and Gas are two of the major components of energy mix contributing 80% share to the 64 million TOE of t energy requirement in the country. The government is formulating investor friendly policies to increase the share of indigenous resource in the country. As a result of these policies, the oil and gas sector has attracted foreign direct investment of over US\$ 550million in 2010-11.

Up till now 791 well have been drill by various local and international exploration and production companies with over 250 oil and gas discoveries, bringing the gas reserves to 29 TCF. An investment of US\$ 10million was spent in drilling activities with 30 new wells drilled in the last year. Whereas the crude oil recoverable reserves are estimated at 304 million barrels. The current oil production is 65,997 barrel per day, while gas production is at 4billion cubic feet per day.

Pakistan is one of the largest consumers of gas in the regian. It has well developed and intenerated infrastructure for transportation, distribution and utilization of natural gas with 9,480 km transmission and 104.449km of distribution network. The two gas distribution companies plan to invest over US \$300 million to increase the capacity existing transmission and distribution network.

Presently, the two most important regional pipeline projects that are being planned include Iran-Pakistan (IP) pipeline and Turkmenistan-Afghanistan-Pakistan and India (TAPI) pipeline projects. The IP project will require total investment of US \$ 7 billion and will provide around 750 MMCFD gas, whereas the TAPI project worth US \$ 7.6 billion and will provide 1.365 billion cubic feet of natural gas per day to Pakistan.

Currently seven refineries are operating in the country with a refinery capacity 13 million tonnes per year.

Pakistan is now the largest CNG user in the world. Presently there are 3,329 CNG stations operating with an investment of US \$ 1 billion, serving 2.5 million vehicles in the country.

### a) Key Indicator at a Glance

#### Oil:

Total Resource Potential	27 Billion Barrels
Crude Oil Refinery Capacity	13 Million Tinnes
Consumption	19.6 Million Tonnes
Imports	18.6 Million Tonnes

#### Gas:

Total Resource Potential	282TCF
Production	4BCF/day
Transmission Network	940km
Distribution Network	104,449km
Domestic Consumers	6 Million
Commercial Consumer	78,794
Industrial Consumer	10519

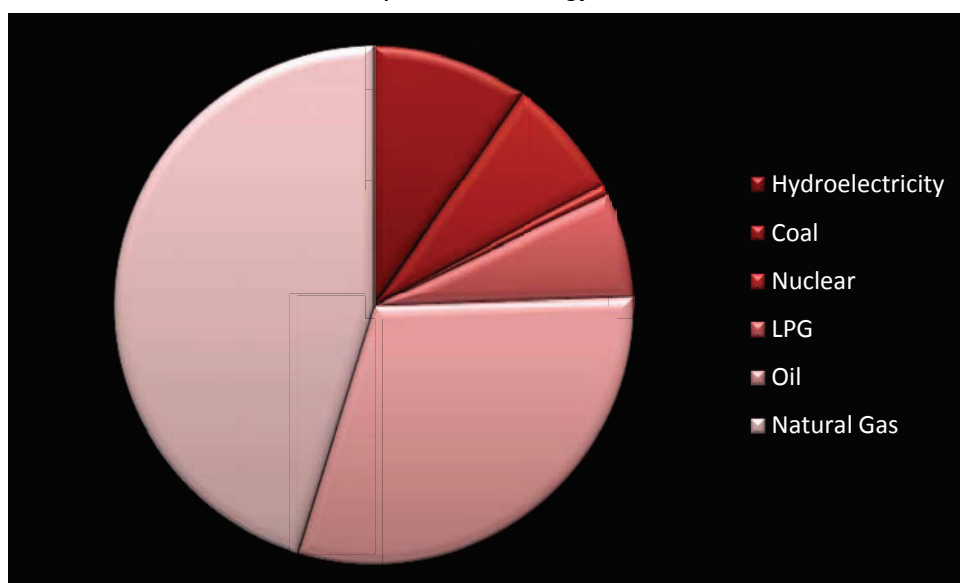
#### Coal:

Total Proven Resource	185 Billion Tonnes
Production	3.1 Million Tonnes
Consumption	7.8 Million Tonnes
Import	4.7 Million Tonnes

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## Composition of Energy Mix

*Lpg:*

LPG is an environment friendly and economical fossil fuel available in Pakistan. People in remote area having no access to natural gas are the major user of LPG. The annual LPG consumption is 6000,000 tonnes out of which 20% is met through imports. An Investment US \$ 10.5million has been made in the order to develop the LPG supply of infrastructure in the last year. The import of LPG for the current year is 55826.4MT.

*Coal:*

Pakistan has one of the largest coal reserves in the world. Which are estimated at over 185 billion tonnes. An investment of US \$ 94 million was made for the development of Thar coal infrastructure during the last year. Thar coal project has immense potential to cater to the increase national energy requirement for decade with a relatively low unit cost.

Oil & Gas Pakistan will once again serve as an ideal showcase of the latest in technology, equipment and machinery. It will provide key player with a definite outlook of the regional oil gas sector to further enhance the investment and advancement in Pakistan energy's industry.

Capital structure refers to the way a corporation finances its assets through some combination of equity, debt, or hybrid securities. Consider a perfect capital market (no transaction or bankruptcy costs; perfect information) firms and individuals can borrow at the same interest rate, no taxes, and investment decisions are not affected by financing decisions. Modigliani and Miller made two findings under these conditions. Their first proposition was that the value of a company is independent of its capital structure. Their second proposition stated that the cost of equity for a leveraged firm is equal to the cost of equity for an unleveraged firm, plus an added premium for financial risk. That is as

leverage increases, while the burden of individual risks is shifted between different investor classes, total risk is conserved and hence no extra value created. [www.pogee.com.pk](http://www.pogee.com.pk)

## II. LITERATURE REVIEW

In this paper the relation between ownership structure and firm value across the across a sample of 5,284 firm years of China's partially privatized former state-owned enterprises (SOE) from 1991-2001. They find that state and institutional shares are significantly negatively related to Tobin's Q, and that significant convex relations exist between Q and state shares, as well as between Q and institutional shares. They also find that foreign ownership is significantly positively related to Tobin's Q. They test for potential endogeneity of ownership, and find that Q and state/foreign ownership are not jointly determined. They also test for time-series, industry, and geo-economic location effects, and find the results to be robust. (Zuobao Wei, March 2005)

In this they explore the agency cost hypothesis of banking sector of Pakistan using panel data of 22 banks for the period 2002 to 2009. they employed the idea of using profit as a measure of efficiency of banks following Berger (2002) and the idea of using Tobin's Q as a measure of firm's performance following Morck, Shleifer, and Vishny (1988); Treece et al. (1994). This study differs from the others in terms of methodology of panel data models which provide a better substitute for SUR and simultaneous equations employed by the other studies. Pooled data results prove agency cost hypothesis and the findings are in accordance with those of Pratomo and Ismail (2007) Berger and Di Patti (2002). Size of banks and consumer banking seem to have played significant role in their profit efficiency during the period from 2002 to 2009. Random effects

and fixed effects models nevertheless. (Shoaib2, 4 March, 2011)

This study proposes to examine the effect of profitability, tangibility, size and liquidity on capital structure decisions of the listed companies in oil and gas sector of Pakistan. The study attempts to provide information that may help in taking capital structure decisions in listed companies of oil and gas sector of Pakistan, which will ultimately support in maximization of the value of firms on the one side and the minimization of cost of capital on the other side. The results indicated that profitability is the only variable that showed negative relationship against the dependent variable leverage, whereas the other three variables, liquidity, size and tangibility have positive relationship with leverage. The study concludes that capital structure decisions in listed oil and gas sector companies are mostly determined by the factors studied. The study substantiates the findings of most of the researches conducted on capital structure, concluding that there is an optimal capital structure that is affected by a variety of internal and external factors. (Mahvish Sabir, FEBRUARY 2012)

This study aims to analyze the impact of capital structure (i.e. short-term, long-term and total debts) on the profitability of companies in textile industry of Pakistan, while controlling the size of the company. A total of 17 companies (initially 7 and then another 10) were selected randomly for the study. Regression analysis was conducted on six different regression models. The results show that there is a significant and positive impact of short term debts on the profitability of the firm; however long-term debt has no impact on the profitability. It is shown that short-term debts are useful for companies having small sales and vice versa. This study has potential for replication in other industries like cement, petroleum and pharmaceutical (Wali ur Rehman, 2012)

This paper shows that mispriced deposit insurance and capital regulation were of second order importance in determining the capital structure of large U.S. and European banks during 1991 to 2004. Instead, standard cross-sectional determinants of non-financial firms' leverage carry over to banks, except for banks whose capital ratio is close to the regulatory minimum. Consistent with a reduced role of deposit insurance, they document a shift in banks' liability structure away from deposits towards non-deposit liabilities. They find that unobserved time-invariant bank fixed effects are ultimately the most important determinant of banks' capital structures and that banks' leverage converges to bank specific, time invariant targets. (Heider, SEPTEMBER 2009)

This paper examines the impact of capital structure on firm's financial performance using sample of thirty non-financial firms listed on the Nigerian Stock Exchange during the seven-year period, 2001- 2007. Panel data for the selected firms are generated and

Analyzed using Ordinary Least Squares (OLS) as a method of estimation. The result shows that a firm's capital structure surrogated by Debt Ratio, DR has a significantly negative impact on the firm's financial measures (Return on Asset, ROA and Return on Equity, ROE). The study by these findings, indicate consistency with prior empirical studies and provide evidence in support of Agency cost theory. (Onaolapo, 2010)

The purpose of this paper is to investigate the effect of capital structure has had on corporate performance using a panel data sample representing of 167 Jordanian companies during 1989-2003. Results showed that a firm's capital structure had a significantly negative impact on the firm's performance measures, in both the accounting and market's measures. They also found that the short-term debt to total assets (STDTA) level has a significantly positive effect on the market performance measure (Tobin's Q). The Gulf Crisis 1990-1991 was found to have a positive impact on Jordanian corporate performance while the outbreak of Intifadah in the West Bank and Gaza in September 2000 had a negative impact on corporate performance. (Tian, 1(4), 2007)

In this paper they examine the importance of firm-specific and country-specific factors in the leverage choice of firms from 42 countries around the world. The study yields two new results. First, they find that firm-specific determinants of leverage differ across countries, while prior studies implicitly assume equal impact of firm-specific factors. Second, although they agree with the conventional direct impact of country-specific factors on the capital structure of firms, they show that there is an indirect impact because country-specific factors also influence the roles of firm-specific determinants of leverage. (Abe de Jong, September 2007)

In this paper they analyze that capital structure choices of firms in 10 developing countries (Brazil, Mexico, India, South Korea, Jordan, Malaysia, Pakistan, Thailand, Turkey and Zimbabwe) and provide evidence that these decisions are affected by the same variables as in developed countries. However there are persistent differences across countries, including that specific country factors are at work. Finding suggest that although some of the insights from modern finance theory are portable across countries, much remains to be done to understand the impact of different institutional of capital structure choices. (LAURENCE BOOTH, FEBRUARY 2001)

In this paper, they explore two of the most relevant theories that explain financial policy in small and medium enterprises (SMEs): pecking order theory and trade-off theory. Panel data methodology is used to test the empirical hypotheses over a sample of 6482 Spanish SMEs during the five-year period 1994-1998. The results suggest that both theoretical approaches contribute to explain capital structure in SMEs. However, while find evidence that SMEs attempt to achieve a



target or optimum leverage (trade-off model), there is less support for the view that SMEs adjust their leverage level to their financing requirements (pecking order model). (López-Gracia, 2003)

### III. OBJECTIVE OF THE STUDY

- Impact of capital structure on the profitability
- How capital structure effect on profitability of overall petroleum sector

### IV. RESEARCH METHODOLOGY

The purpose of the study is to evaluate the impact of capital structure on profitability.

- a) Collect data from State Bank of Pakistan
- b) Panel data
- c) Twelve Petroleum companies data
- d) Ten year data from 2001 to 2010
- e) 30 observations
- f) Use regression model for analysis

### V. STATISTICAL RESULT AND FINDINGS

*Table 1* : Over all regression Analysis

#### SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.60
R Square	0.36
Adjusted R Square	0.35
Standard Error	14.30
Observations	120.00

#### ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	13569.43	13569.43	66.32	0.00
Residual	118	24145.24	204.62		
Total	119	37714.67			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	9.39	1.48	6.35	0.00	6.46	12.32	6.46	12.32
Capital Structure	0.00	0.00	8.14	0.00	0.00	0.00	0.00	0.00

In overall analysis there is a significant relation between the capital structure and profit the analysis shows that the P value (0.00) which shows the

significant relation and  $R^2$  (.36) which is 36% which also good sign for the analysis. So the findings shows that the profit depend on the capital structure.

*Table 2* : 12 Companies Regression analysis

Company Name	Intercept	Regression	P-Value	R <sup>2</sup>
Mari Gas Company Ltd.	10.84	0.00	0.64	0.03
Attock Petroleum Ltd.	9.71	0.00	0.07	0.34
Attock Refinery Ltd.	8.27	0.00	0.21	18.16
Bosicor Pakistan Limited.	-2.52	0.00	0.73	0.01
National Refinery Ltd.	14.27	0.00	0.8	0.01
Pakistan Refinery Ltd.	4.12	0.00	0.38	0.09
Pakistan State Oil Company Ltd.	15	-2.9	0.84	0.0025
Shell Gas Lpg (Pakistan) Ltd.	5.11	0.00	0.95	0.000508
Shell Pakistan Ltd.	-0.37	0.00	0.65	0.026
Oil & Gas Development Corp. (OGDC)	7.51	0.00	0.00	0.72
Pakistan Oilfields Ltd.	37.88	-9.4	0.21	0.18
Pakistan Petroleum Ltd.	11.12	0.00	0.01	0.55

Table 2 shows the 12 companies results which find from the regression analysis and the 2 companies have the significant relation 1<sup>st</sup> one is oil and gas development corporation P value (0.00) R<sup>2</sup> (0.72) both values shows the significant relation and the 2<sup>nd</sup> is Pakistan petroleum limited P value (0.01) and R<sup>2</sup> (0.55) in that company the result shows the significant relation P value and R<sup>2</sup> is very fine so in these companies profit depend on the capital structure.

Other 10 companies have not the significant relation between the capital structure and profitability because the P value and the R<sup>2</sup> are not good but Attock Refinery and National Refinery limited P value is (0.07) and (0.08) respectively. If see the all findings then the almost all companies have not significant relation. So finally in these 10 companies profitability did not depend on the capital structure.

## VI. CONCLUSION

The results show that there is a significant and positive impact of capital structure on the profitability of the petroleum sector only in overall analysis but in individual analysis the analysis has no significant. Only two companies oil and gas development and Pakistan petroleum has the significant relation between the capital structure and the profitability. Overall profitability depends on the capital structure but due to

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# Impact of Foreign Direct Investment and Worker's Remittances on Balance of Payment: A Case Study of Pakistan

By Syed Atif Ali, Dr. Shahid A Zia & Amir Razi

*University of Lahore*

**Abstract** - A record of all transactions made between one particular country and all other countries during a specified period of time is known as Balance of Payment (BOP). There are many factors that determine the position of balance of payments in the country either it is surplus or deficit. This study analyzes the statistical data of BOP of Pakistan from 1986 to 2010 and is an attempt to find out possible reasons for adverse BOP of Pakistan since its creation. The analysis shows that out of eight variables only two variables proved to be statistically significant namely foreign direct investment inflows and worker's remittances. However the impact of these variables on BOP turned out to be negative.

**GJMBR Classification :** JEL Code : F35



*Strictly as per the compliance and regulations of :*



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Syed Atif Ali <sup>α</sup>, Dr. Shahid A Zia <sup>σ</sup> & Amir Razi <sup>ρ</sup>

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## I. LITERATURE REVIEW

Balance of payments studies have been manifold in terms of its comprehension and its treatment and their purpose have been to solve the emerging problems because of it in the economy. A detail of the quality indicators and their implication to quantify the quality of balance of payments along with ascertaining various aspects of data quality that may be enhanced, together with their interrelations with other quality dimensions have been carried out. Authors have kept into account its compatibility with IMF DQAF (Data Quality Assessment Framework) concentrating on revisions and consistency. The quantitative indicators facilitate compilers in setting significances in order to enhance the quality of euro area data in reference to accuracy, reliability and serviceability (Violetta Damia, Carmen Picón Aguilar, 2006).

FDI might have different effects depending on their type that is market-seeking and factor-seeking (Root 1994). Market-seeking FDI can have a negative impact on the recipient country a study conducted on US shows that foreign firms tend to have increased imports than exports (Graham and Krugman 1989). MNEs hunting for raw material and cheap labor are involved in factor-seeking FDI. Factor-seeking FDI increases the level of exports from the host nation to the home country and to many other countries as well (Root 1994). FDI provoked by low-cost production objectives

exploits low-cost factors like cheap labor as part of an overall global sourcing strategy, leading to an ability to export products from the emerging host nation to other countries in the world, including the MNEs' home countries. In this case, the host country is able to increase exports and to improve its trade balance (Phongpaichit, 1990).

Studies conducted to understand the effect of FDI on imports are limited. FDI both at the initial investment and operation phases can influence import of a country. At the initial investment phase, import of equipments, machineries, installation facilities and experts all contribute to increased import balance. FDI companies have high propensities to import capital and intermediate goods and services that are not readily available in the host country (Hailu, 2010).

A study conducted in Bangladesh (country under observation is Bangladesh) to understand the relationship of FDI and imports reveal that the co-efficient is statistically significant with a positive sign and suggests that a 10 percent increase in the inflow of FDI increases imports by 1.3 percent. The income elasticity of import demand is high indicating that a 10 percent increase in real GDP increases imports by nearly 27 percent (Hossain, 2008).

At a macro level, the positive financial and social externalities generated by remittances, which are likely to be large, and offer a stable source of foreign currency that can help prevent balance of payment crisis (Lopez-Cordova and Olmedo, 2006:7, 8).

Worker's remittances reach home country through two channels; formal and informal. Formal channels include major money transfer operators (MTOs) and banks. Some migrants use formal channels, but language barriers as well as related costs for these services may force remitters from using them. As a result, it is the informal channel which is most frequently used. For instance, migrants may carry cash home themselves or send cash through the mail or a friend (Carrasco and Ro, 2007:3,4). Luna Martinez (2005) finds out that According to the findings of a survey of central banks in 40 developing countries, in most countries existing data do not reflect the full amount of the remittance inflows, and most countries need to establish better mechanisms that would allow them to maximize the developmental effect of remittance inflows.

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There is no universal agreement yet on how to measure international workers' remittances to developing countries. Thus, the figures revealed do not reflect the true amounts (Karagoz, 2009).

Given doubts in the measurement, notably the unknown extent of unrecorded flows through formal and informal channels, the true mass of remittances flows may be much higher (perhaps 50 percent or more), with noteworthy regional and country variation. Due to this common data limitation, as Aydas et al. (2004:4) pointed out; empirical analysis on workers' remittances could merely emphasize the "official" aspect of its measurement.

Studies on remittances and its effect on economic growth have revealed varied results. For instance, Chami et al. (2003), covering 113 countries found that remittances had a negative effect on growth. The author of the study believes that the negative effect is due to the moral hazard problem that remittances create. Fundamentally, the study concluded that income from remittances allows receiving families to decrease their own work and productivity, which then translates into a reduction in the labor supply for the developing country.

Whereas Faini (2002) and Ang (2007) came up with a conclusion that remittances have a positive impact on growth. Faini (2002) believes that remittances surmount capital market limitations and allow migrant households to gather positive assets. Ang (2007) studied the case of Philippines and discovered that at the national level remittances do influence economic growth positively and significantly.

Household surveys in Pakistan show that a larger part of international remittances are saved (71%) compared to domestic urban-rural remittances (49%) and rental income (8.5%) (Adams, 1998).

Making Robert Mundell's article of 1960, as a point of reference, where he has developed a model for the balance of payment crises stating that the holdings of the central bank's foreign reserves determine the assurance in the continuation of a currency peg, another model has been developed reframing Mundell's point of view. This model is based on the foundation of an equilibrium business cycle model in which the devaluation or deflation probability is an endogenous variable conditioned on foreign reserves. This model rationalizes the real effects and the fall of momentary fixed-rate-regimes and provides an economic justification that foreign reserves are forceful indicator of the currency crises (Enrique G. Mendoza, Martin Uribe, 1999).

The case of India is discussed using the BPCG (Balance of Payment Constrained Growth) model. The author comments that it's a developing country which has low trade in comparison to gross domestic product ratio. A general assumption that same elasticities of substitution exist between the goods produced in

different regions should be relaxed according to the extension of the model by the author. This paper works on Johansen's co-integration technique for evaluating the trade parameters. Vector error correction framework is used for the investigation of short run adjustments. Author's predicted BPCG hypothesis show lesser deviations in the average growth rates while they tend to depict quite considerable variation when analyzing individual decade data (Arsalan Razmi, 2005).

Mexico is another case like that of India, in which there is an attempt to identify the constraints of the growth of its economy. The structural deficit of current account and real exchange rate has been thought to be the factors responsible for the lower growth rate. The current account balance is estimated through weighted two stage least squares which helps in developing an annual econometric model from 1970-99. The basic goal is to derive a sensibility and long-run relationship of the general system to the exchange rate. The detection and analysis re-enforces the "extended exchange rate Thirlwall's law" (Eduardo Loria, 2003).

The relationship of balance of payment crises and inflation targeting reveals that monetary system is sensitive to the speculative attacks and that it is demolishing in consequence of a rise in the reserve losses. These losses then cause the implicit and explicit commitment of the central bank to intervene in the foreign exchange market. These attacks are therefore graded from least to severe in terms as Exchange rate targeting, CPI inflation targeting, domestic non-tradables inflation targets, and money targeting (Michael Kumhof, Shujing Li, Isabel Yan, 2006).

A research on finding the reasons of the Mexico's balance of payment crises show that it is due to the high degree of capital mobility and financial globalization. There has been disparity between financial assets and foreign reserves because of changes in foreign capital flows and expectation of banking system rescue. Correct and suitable policies can help remove these issues which is more of a requirement (Guillermo A. Calvo, Enrique G. Mendoza, 1996).

In order to know the constrained growth due to balance-of-payments, balance of payment equilibrium growth rate analogous to Thirlwall's Law from a Pasinettian multi-sector macrodynamic framework is established. Multi sectorial Thirlwall's law emphasizes that a country's growth rate per capita income and its exports are directly related. It is shown that several theoretical, empirical and policy implications can be drawn from such a structural economic dynamics approach to balance-of-payments-constrained growth (Ricardo Azevedo Araujo, Gilberto Tadeu Lima, 2007).

Latin American economy being the subject of study in reference to the economic growth and trade balance based on the balance of payment constrained growth model discloses that the econometric evidence in relation to the authentication of Thirlwall's law in Latin

America may be exposed to external adjustments but the main proposition cannot be rejected. This proposition is that of the Thirlwall's law. The main objective of the paper is to find out the difference in the actual growth rate and estimated growth rates (Marcio Holland, Flavio Vilela Vieira, Otaviano Canuto, 2004).

The research on whether devaluation of a currency has any effect on the balance of payment of a developing and developed countries which may be of empirical in nature or theoretical, there is a need to have a clear look into the matter. The study reveals that ML condition holds in the long run with some degree of J-curve effects in the short run (Olugbenga Onafowora, 2003).

Knowing the extent of liberalization through trade liberalization policies has been possible evaluating data from 22 countries regarding their exports, imports, balance of trade and balance of payment. The research shows that there is an increase in the exports and imports both but imports tend to be even larger than exports. This in turn causes lesser degree of liberalization (Amelia Santos-Paulino, A. P. Thirlwall, 2004).

## II. PAKISTAN'S BOP ANALYSIS

Since the creation of Pakistan, her balance of payment has been in deficit except for the three occasions firstly a year after the independence in 1948, secondly in 1951-52, during Korean war and thirdly in 1972 when East Pakistan was separated.

This study however focuses on the data from 1986 to 2010. There are no dramatic changes in trade deficit from 1986 to 2004. The data depicts a noticeable increase of trade deficit from 3279 to 6207 (million U.S. \$) in the year 2004-05. In the following year the deficit again jumps to almost double the amount in preceding year reaching the amount of 12130 million U.S. \$. The adverse situation does not stop here as in the year 2008 the deficit reached the all time high of 20914 million U.S. \$.

## III. DATA AND ITS SOURCE

The source of the data in this study is Pakistan Bureau of Statistics. The data was collected from 1986 to 2010 and included: i) the length of roads in kilometers (highways only) and the total railroad route in kilometers. The increase or decrease in infrastructure supposedly depicts the level of economic activity within a country so the purpose of including these two variables was to see the impact of infrastructure on BOP. ii) Remittances in millions U.S. \$. iii) Foreign direct investment (FDI) in millions U.S. \$. iv) Production of wheat in '000' tons. v) Production of rice in '000' tons. vi) Production of cotton in '000' bales. vii) Electricity generation (GWH). See Appendix-table 1

The purpose of including electricity generation as a test variable is to see if it has a significant effect on BOP. If we examine the BOP over the years it seems there might be a positive correlation between BOP and electricity generation which makes sense theoretically speaking as increase in electricity generation would hypothetically mean increase in overall industrial production and thus increase in exports resulting in improving BOP. Wheat, rice and cotton are the major crops of Pakistan and also the major exports of Pakistan. As Pakistan is an agricultural economy, the production of crops is very crucial in determining the final BOP.

## IV. METHODOLOGY AND ANALYSIS

I have tried to make it simple and to the point. The data was analyzed using SPSS in two steps, in the first step all eight variables were tested against BOP and in the second step only the statistically significant variables out of those eight were tested against BOP. The technique used to scrutinize the data was regression analysis. The dependent variable was BOP and the rest eight variables discussed above were kept as independent variable. The initial test revealed that the model had a value of R Square .958 which is healthy enough to explain the BOP with these independent variables. The ANOVA table also suggests that the model is significant as the p value is less than .05 (level of confidence). See appendix- table 2 and table 3..

The coefficients table however showed that there are only three variables which are statistically significant which are: remittances, FDI and production of rice having the p-value of .020, .000 and .024, respectively. Interestingly all the three significant variables had a positive sign with their corresponding beta values indicating a positive effect on trade deficit i.e. increase in any of the statistically variable results in the increase of deficit in BOP. See appendix-table 4.

In the next step the test was carried out again using three statistically significant variables which are: worker's remittances, FDI and Rice production, as independent variable and BOP as the dependent variable. The model summary shows that the 93 % (R square= .931) of the BOP can be explained using these three variables. The ANOVA table also suggests that the model is significant as the p-value is .000 which is less than .05 (confidence level). See appendix- table 5 and table 6.

The review of coefficients table turns out that only two variables are statistically significant which are Worker's remittances and FDI inflows the respective p-values of the two variables were .001 and .000. The value of beta for remittances was 1.020 indicating that an increase of one unit in remittances will increase the BOP deficit by 1.020 million U.S. \$, which is an unusual finding similarly the beta value for FDI was 2.292,

indicating that an increase in one unit of FDI will result in the increase of BOP deficit by 2.292 million U.S. \$. See Appendix-table 7.

## V. CONCLUDING REMARKS

Pakistan has been facing a problem with her BOP since its creation for most years it has been in deficit. The foreign direct investment in Pakistan has increased over the years but the data suggests that it has a negative impact on BOP probably because the FDI has resulted in the increase of imports as discussed in literature. The effect of remittances greatly depends on the way they are used, in Pakistan there is no productive use of remittances as indicated in a survey that 71% of the remittances are used as savings (Adams, 1998).

Pakistan is an agricultural country, the production and exports of crops needs immediate attention so that it can result in the economic growth of the country. There has been no R7D in the field of agriculture to increase the production of crops. Pakistan needs serious agricultural reforms.

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## APPENDIX

Table 1

Years	BOP (deficit) in Million US \$	Rail Route (Kilometers)	Length of Roads (Kilometers)	Remittances in Million US \$	FDI in Million US \$	Wheat production in '000' tones	Rice production in '000' tones	Cotton Production (000) bales	Electricity generation (GWH)
1986	2564	8775	126243	2595.31	145.2	13923	2919	7155	2589
1987	1694	8775	133953	2278.56	108	12016	3486	7760	28703
1988	1936	8775	142941	2012.6	162.2	12675	3241	8633	33091
1989	2373	8775	151449	1896.99	209	14419	3200	8385	34562
1990	1981	8775	162345	1942.35	216.2	14316	3220	8560	37529
1991	1488	8775	170823	1848.29	246	14565	3261	9628	41042
1992	2348	8775	182709	1467.48	335.1	15684	3243	18288	45440
1993	3128	8775	189321	1562.24	306.4	16156	3116	9054	42751
1994	1761	8775	196817	1445.56	354.1	15213	3995	8041	50640
1995	2257	8775	207645	1866.1	442.4	17002	3447	8697	53545
1996	3098	8775	218345	1461.17	1101.7	16907	3967	10595	56946
1997	3574	8775	229595	1409.47	682.1	16651	4305	9374	59125
1998	1490	8775	240885	1489.55	601.3	18694	4333	9184	62104
1999	1653	7791	247484	1060.19	472.3	17858	4674	8790	65402
2000	1740	7791	248340	983.73	469.9	21079	5156	11240	65751
2001	1527	7791	249972	1086.57	322.5	19024	4803	10732	68117
2002	1205	7791	251661	2389.05	484.7	18227	3882	10613	72406
2003	1060	7791	252168	4236.85	798	19183	4479	10211	75682
2004	3279	7791	256070	3871.58	949.4	19500	4848	10048	80826
2005	6207	7791	258214	4168.79	1524	21612	5025	14265	85628
2006	12130	7791	259021	4600.12	3521	21277	5547	13019	93629
2007	13564	7791	261821	5493.65	5139.6	23295	5438	12856	98213
2008	20914	7791	258350	6451.24	5410.2	20959	5563	11655	95661
2009	17134	7791	260200	7811.43	3719.9	24033	6952	11819	91616
2010	15420	7791	260760	8905.5	2205.7	23917	6883	12914	95358

Table 2

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.979 <sup>a</sup>	.958	.937	1449.484

Table 3

### ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.690E8	8	9.612E7	45.751	.000 <sup>a</sup>
	Residual	3.362E7	16	2101003.102		
	Total	8.026E8	24			

Table 4

Coefficients<sup>a</sup>

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-17516.371	11949.592		-1.466	.162
	Railroad	1.545	1.135	.134	1.361	.192
	Roads	.010	.038	.079	.262	.796
	Remittances in Million US \$	.884	.343	.334	2.576	.020
	FDI in Million US \$	2.627	.390	.709	6.730	.000
	Wheat production in '000' tonnes	-.265	.387	-.158	-.685	.503
	Rice production in '000' tonnes	1.992	.798	.390	2.495	.024
	Cotton Production (000) bales	.164	.166	.070	.992	.336
	Electricity generation (GWH)	-.063	.068	-.270	-.918	.372

a. Dependent Variable: BOP (deficit) in Million US \$

Table 5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.965 <sup>a</sup>	.931	.921	1623.890

a. Predictors: (Constant), Rice production in '000' tonnes, FDI in Million US \$, Remittances in Million US \$

Table 6

ANOVA<sup>b</sup>

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.472E8	3	2.491E8	94.452	.000 <sup>a</sup>
	Residual	5.538E7	21	2637019.662		
	Total	8.026E8	24			

a. Predictors: (Constant), Rice production in '000' tonnes, FDI in Million US \$, Remittances in Million US \$

b. Dependent Variable: BOP (deficit) in Million US \$

Table 7

Coefficients<sup>a</sup>

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1249.480	1694.146		-.738	.469
	Remittances in Million US \$	1.020	.277	.386	3.678	.001
	FDI in Million US \$	2.292	.347	.618	6.600	.000
	Rice production in '000' tonnes	.113	.492	.022	.231	.820

a. Dependent Variable: BOP (deficit) in Million US \$





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# A Conceptual Study on Reasons of Industrial Sickness- with Reference to Joinery Mills of the J&K Public Sector Undertakings

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**Abstract** - The researcher did an empirical study to find out the opinion of the employees of Jammu & Kashmir Industries Ltd, J&K for declaring it as a sick industry .The Researcher determined the reasons after taking the opinion from the employees of Jammu & Kashmir Industries Ltd, J&K. The objectives on which the researcher will conduct the study are: 1) To study the reasons due to which Jammu Kashmir industries Ltd. became sick industry. 2) Understanding the employees views about the most important reason for Jammu & Kashmir Industries Ltd, J&K becoming sick.3). To frame a suitable revival strategy so as to protect the employment of the masses .and 4) Safeguard the state wealth & resources. The researcher tabulated the data and presented the data in the form of table and pie-chart. Thereafter the researcher discussed the reasons in detail. After studying the reason and analyzing them the researcher concluded that every reason given by the employee is responsible for declaring Jammu & Kashmir Industries Ltd. as sick industry.

**Keywords** : *Jammu Kashmir Industries Ltd, Industrial Sickness, Financial Reasons and Technological Changes, revival, managerial inability, obsolete technology.*

**GJMBR Classification** : *JEL Code : J28*



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## I. INTRODUCTION

Closures of Public Sector Undertakings and corporate failures resulting in bankruptcies have become a normal feature in the emerging market economies the world over (Slatter, 1984; Kharbanda and Stallworthy, 1985). Growing competition and the everchanging international economic environment often lead to high incidence of corporate failures in developed market economies. However, these economies have the resilience to absorb the economic disturbances brought about by the closure of industrial units. In recent years, industrial sickness in India has reached alarming proportions. An industrial unit is considered sick when its financial position is not satisfactory and it becomes worse year after year. It incurs losses and its capital reserves may be stretched out in course of time. When its current liabilities are more than current assets, the organization may not be in a position to pay its liabilities. The increasing trend in industrial sickness touching all types of units including small, medium and large-scale industrial sectors is of considerable concern. The problem is assuming titanic proportion and may have added repercussions in a country like India which

cannot afford unemployment and loss of production. J&K is a terror victim state since years and which lost its valuable resources event after event, but still the Government of the state chalked out many strategies to bring the life into the people of the state. J&K Industries Limited, a State Owned Company incorporated in October, 1963, having authorized share capital of Rs.20.00 Crores, was established. The main objective/functions of the company as per its Memorandum is to run, manufacture and administer the State Industrial Undertaking in a manner that would ensure their economical working. The Industry deals with the production of Processing and manufacturing of Textiles, Knitwear's / Joisery, Joinery and Furniture products as well as Silk (Plain and Printed) fabrics, besides Rosin and Turpentine. Arranging raw materials for production of all such products and marketing thereof.

## II. CRITERIA FOR IDENTIFICATION OF SICK UNITS

The Reserve Bank of India identifies sick industrial units on the basis of a mix of criteria including continued cash losses, imbalances in the financial structure, and deterioration in liquidity. "A unit may be considered sick if it has incurred cash losses for one year and, in the judgment of the Bank (RBI), it is likely to continue to incur cash losses for the current year as well as the following year and the unit has an imbalance in its financial structure such as current ratio of less than 1:1 and worsening debt equity ratio" (RBI, 1978). Term lending institutions identify sickness on the following criteria:

- Continuous defaults in meeting four consecutive half yearly installments of interest or principal of institutional loans
- Continuous cash losses for a period of two years or continued erosion in the net worth by 50 per cent or more
- Mounting arrears on account of statutory or other liabilities for a period of one or two years (Bidani and Mitra, 1983).

The most stringent definition is given in the Sick Industrial Companies (Special Provisions) Act of 1985, which defined a sick unit as "An industrial company

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(being a company registered for not less than seven years), which has at the end of any financial year accumulated losses equal to or exceeding its entire net worth and has also suffered cash losses in such financial year and the financial year immediately preceding such financial year," About Jammu Kashmir Industries Limited ,J&K is a Company registered under the Companies Act, 1956 and was incorporated on the 03.10.1963. This Corporation is wholly owned J&K Government undertaking .The Shared Capital of the Corporation is Rs.20.00 Crores and paid up capital is Rs.16.26 Crores. This Corporation was set up with the main object of promoting local & traditional art of the state dealing with wood work, woolen, kashmiri silk ,kashmiri carved furniture, Rosin &Turpentine industry in the State of J&K. The Jammu & Kashmir Industries Ltd is presently engaged in.

#### a) Wood works

In Govt. Joinery Mills, Pampore Kashmir and Bari-Brahmana, Jammu our designers are also engaged in manufacturing of Khatumband ceiling Kashmir is known for its distinctive crafts, one of which is the woodcraft. History of woodcraft in Kashmir spans over ten centuries. Woodwork is not merely a functional craft it is decorative as well. It is believable that this distinctive craft has come from Iran as the Iran link in this craft still exists. Even today different types of Khatumband are known by Persian names, he observes. Khatumband has variety to look marvelous in design, JKI have different types of Khatumband design like Moje, Moje Lehar, Teen Bakshish, Chaar Bakshish, Charr Gul, Panch Murabba, Sheesh Gul, Dus Baraan, Dehwaz Deh Girid and many more.

Many buildings in and outside Kashmir can be seen having this unique type of ceiling. We have even designed the ceiling of Military Offices at Badambagh, Srinagar and Military Office in Ladakh as well. Visitors from different places visit at Govt. Joinery Mills, Pampore and come to know that the beautiful Khatumband ceiling which they see in house boats or in hotels is hand-made they come to us and offer is big assignments. It is also evident that these eminent craftsman not only design ceilings of houses, but ceilings of different shrines, mosques, houseboats and some hotels in Kashmir are the evident examples of the carving skill attained by these craftsmen. One will be amazed to see the beautiful Khatumband design at the holy shrine, Khankahi Moulla, in Srinagar. With the increase in modernization, people love to make their houses and offices more beautiful and attractive and Khatumband helps them to change their dreams into reality. Today people also like to design the walls of their houses or offices by Khatumband.

Besides, the Corporation also provides employment to the masses of the state. Already numbers of people working in the units of Jammu &

Kashmir Industries Ltd. have lost their employment due to the sickness of the units of these industries thus putting a burden on the Govt. of the state. Jammu & Kashmir Industries Ltd. is a Public Sector undertaking of the J&K Government. Therefore the researcher has selected Jammu & Kashmir Industries Ltd. for the study.

### III. OBJECTIVES OF THE STUDY

The researcher will study about the reasons why Jammu & Kashmir Industries Ltd became sick industry. Therefore considering the study the researcher will work on the following objectives:-

1. To study the reasons due to which Jammu & Kashmir Industries Ltd became sick industry
2. Understanding the employee views about the most important reason for Jammu & Kashmir Industries Ltd. becoming sick.
3. To frame a suitable revival strategy so as to protect the employment of the masses .and
4. Safeguard the state wealth & resources.

### IV. MATERIAL AND METHOD

#### a) Study Area

The area of conducting this study is Jammu & Kashmir Industries Ltd, J&K. The study is specific to Jammu & Kashmir Industries Ltd. The researchers will determine the reasons of sickness and will study them to meet out the objectives of the study.

#### b) Sample Method and Sample Size

As the study is based upon Jammu & Kashmir Industries Ltd.The sample size is small. The researchers will collect the data from 200 respondents who are the employees of Jammu & Kashmir Industries Ltd. India.

#### c) Data Collection Procedure

The data is collected by distributing the questionnaire among the 200 employees of the industry. The respondents from Jammu & Kashmir Industries Ltd. India in the state Jammu & Kashmir. And where the response rate was 85%. The researcher with the help of the selected sample size can know their opinion concerning the reasons of sickness of Jammu & Kashmir Industries Ltd. India.

#### d) Analytical Technique

Tabulated data was analyzed with the help of simple percentage to know the highly most influencing reason for sickness of Jammu & Kashmir Industries Ltd.

#### e) Stages of Industrial Sickness

An individual unit passes through several stages before it becomes sick. The knowledge about the various stages of sickness is very essential for taking corrective and appropriate measures in appropriate time. The different stages of sickness along with the determinants which identify these stages as per the

guidelines of Reserve Bank of India (RBI) are given below:-

**Normal Unit** - A normal unit is characterized by the efficient functioning of its functional areas like production, marketing, finance and personnel. In other words, a unit can be called healthy or in a normal state (NS) when it is earning profits, the current ratio is more than one, net worth is positive and debt-equity ratio is good.

**Tending Towards Sickness**- At this stage a unit shows certain initial aberration in any of its functional areas. In other words, the unit faces some environmental constraints. At this time, the unit is said to be tending towards sickness (TS). The distinctive features of this stage are decline in profit in the last year as compared to the previous year and loss estimated in the current year.

**Incipient Sickness** - The continuation of the deterioration in the functional areas of the unit, results in the actual setting in of industrial sickness. This stage is termed as incipient sickness (IS). At this stage, the unit incurs cash losses but imbalance in the financial structure may not be apparent.

From the research carried out it was found that the Jammu & Kashmir Industries Ltd have undergone all the above stages of industrial sickness. The researcher identified that there are various reasons that led the Jammu & Kashmir Industries Ltd to sickness and thereafter closure of many other units of the Jammu & Kashmir industries and now only 4 units of the industry are running that too on the verge of closure. The few of the problems that researcher identified after analyzing the questionnaires filled in by the employees of the industry:-

- Corporate planning failure.-The ill conceptualized plan, delay in action, inability to frame the modern, achievable goals, ill functional policies are responsible for the sickness of the industry.
- Production Problems-Underutilized plants, lack of product mix, defective production, availability of the

raw materials & other consumables is another reason for the sickness of the industry.

- Financial Barriers- Finance is the most important industry. To operate any industry finance is most one of the major reasons or Closure of any constraint in running any organization. It is also important consideration. Every industry needs finance to manage their day-to-day operations such as purchasing raw materials, salary pay outs, purchasing goods for office use etc. If finance is not arranged properly the industry may lead to closure. Therefore finance is most important reason responsible for sickness of any industry.
- Managerial Inability-Sometimes it is found that managers are not capable of managing the organizational activities. This may be due to various reasons such as inadequate work knowledge, uninteresting job profile or irrelevant education match with the job profile. Therefore if these sorts of experiments are done in the industry they may face the closure.
- Obsolete Technology-Technological changes also lead the industries to sickness, this happens when the proper adaptation of technology is not done. That is industry follows the old technology in production or any other related work. Therefore change in technology is also a considerable reason for industrial sickness.
- Marketing Related Problems-Produced goods or products are sold in the market. If the product is not marketed properly and supply is not proper there is possibility of customer switch to substitute product. If this issue of supply is not resolved quickly the industries may loose their customers and it can be the major reason for its sickness.
- Human Resource Problems: Lack of skilled labors ,deficiency among the technical staff, delay in the practicing of the modern HR Practices etc .If any of the implication is neglected it may lead to sickness.

Factors	Respond of Employees of Unit-II(Pampore)	Respond of Employees of Unit-IV(Bari Bramana)
Financial Factor	92%	94%
Production Factor	65%	57%
Managerial Inability	68%	85%
Obsolete Technology	54%	65%
Marketing Problems	75%	89%
Human Resource Problem	59%	76%
Corporate Planning Problem	78%	95%

## V. FINDINGS AND CONCLUSIONS

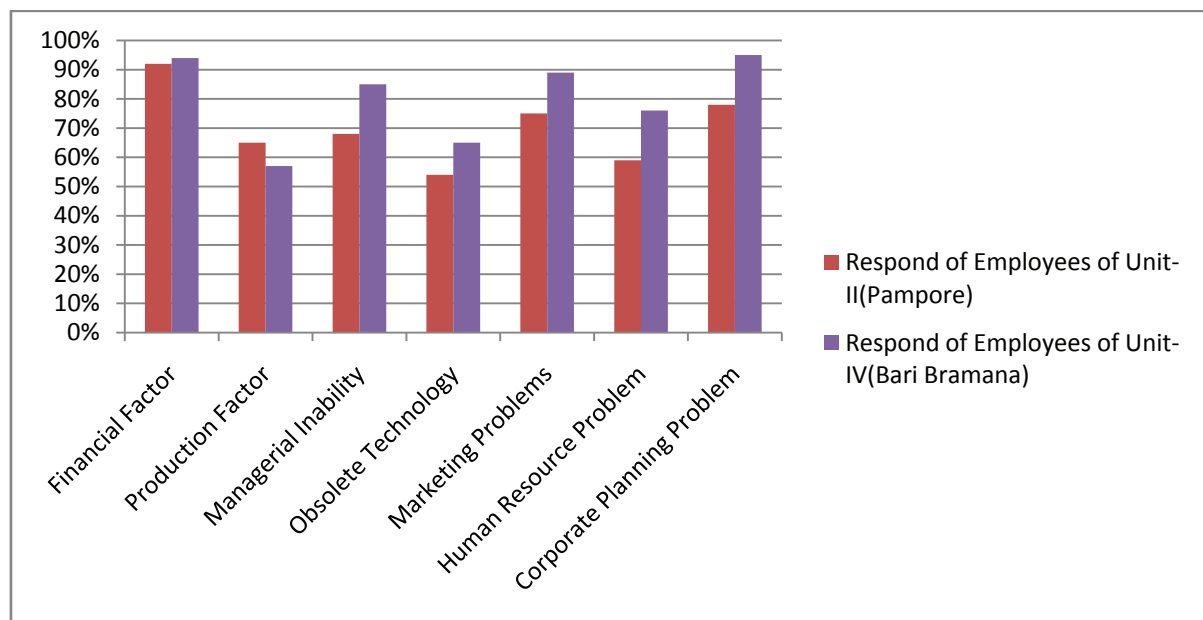
The researcher considered the major reasons that lead to industrial sickness. The researcher found that financial reasons are the most important reason considered by the respondents of industrial sickness and another chief reason for the sickness of the industry is the managerial inability i.e. not able to cope up with the dynamism occurring in the modern day markets. Rest factors which influence the sickness in the industry are Marketing problems and the corporate planning problems. However the impact of obsolete technology is least on these units in comparison to the other factors. The difference in the opinion exists between the employees of these units in some of the aspects like Marketing Problems, Managerial inability, HR Problems. Changes acts as an important reason for sickness. The researcher also concluded that there exist some variation between the views and opinion of employees of these units regarding the reason of sickness.

Thus from the all above it is very clear that the reason for industrial sickness in this PSU is mainly due to the internal failure thus a suitable revival strategy is to bring in the desired changes in the managerial ability & the Human Resources of the industry. So it is very clear that in all the four units the response is quite similar,

thus we need to adopt similar kind of revival strategies for all the units to come back again.

It was suggested that the EDIs of the state should actively participate in training of the employees of sick units periodically. The development corporations, financial institutions should make efforts in alarming the units becoming sick. The study is limited to single public sector undertakings residing in J&K only. The respondents seem to be unwilling due to lack of interest, negligence, communication problems. The element of subjectivity in interpretation cannot be ruled out in eliciting requisite information.

From the research carried out it was also revealed that the PSU's faces number of problems but the factor behind less sales of these units were related to marketing inefficiencies. The importance of innovative marketing strategies in bringing about successful turnarounds has been highlighted by several researchers. The marketing oriented business is customer focused, and generates and disseminates marketing intelligence that is widely used throughout the firms. Such firms are able to sense and respond to market force with greater precision than inward looking rivals so we can say a good action again is required by the managerial staff for the revival.



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## Questionnaire For Assessing The Industrial Sickness In Jammu & Kashmir Industries Ltd-A Conceptual Study

**NOTE:** You are requested to tick✓() the relevant box and fill in the relevant blanks. The information so collected would be used only for research purpose.

### I. PERSONAL INFORMATION

- 1 Name & Address of the employee \_\_\_\_\_
- 2 Place of work \_\_\_\_\_
- 3 Designation: \_\_\_\_\_
- 4 Department : Production      Finance      HR      Marketing      Other
- 5 Gender :      Male                      Female
- 6 Age:      1- Below 25      2- Between 25 to 45      3- 45 above
- 7 Educational qualification: Illiterate/ Primary/ Middle/ Secondary/ Graduate/ any other
8. Year of joining the organization

### II. Other Information

SNO	STATEMENT	1	2	3	4	5
	<b>Mission of the organization</b>					
1	The unit has clear mission & objectives					
2	Adequate attention is paid by top management for the development of the unit					
3	The functional policy of the organization induces growth & development					
4	Change in financial policy is needed for the revival of the unit					





5	Units have taken sufficient steps to arrest sickness						
6	There is delay in the rehabilitation of the units						
7	Business objectives are driven by social objectives						
8	Revival of unit is possible only through privatization						
9	All turnaround strategies have failed to revive the unit						
10	Objectives of the unit are not communicated at operating level						
11	Innovative technology can gain market share quickly						
12	Change in market-mix is needed for the revival of the unit						
14	Change in the work force would make the unit viable						
15	The unit has become sick due to its unclear mission						
<b>Corporate Planning &amp; Control</b>							
1	The site of the unit is not satisfactory						
2	The unit faces difficulties in procuring raw material						
3	Machines & technology is out dated						
4	The unit faces difficulties/delay in tying up financial arrangements with other financial institutions or banks						
5	The unit faces lack of government support						
6	The unit faces delay in disbursement of assistance due to non- compliance of the major terms and conditions of the loan agreement						
7	The unit requires changes in certain project concepts due to subsequent detailed advice received from collaborators/ consultants						
8	Price escalation adversely effects cost of product & its market						
10	Delay in getting power connection, water connection, permission of concerned authorities to discharge effluents, etc are the cause of sickness						
11	Stagnant price of the product is the reason for the less turnover of the unit						
12	The unit formulates outdated functional management strategies						
13	There is inadequate R&D work in the unit						
14	Lack of co-ordination between the unit and Govt. Departments is one of the causes of the sickness in the unit						
15	A well designed corporate planning would revive the unit						
16	The unit has become sick due to lack of corporate planning & control						
<b>Production Problems</b>							
1	The unit faces lack of infrastructural facilities like power , water , transport etc.						
2	Lack of maintenance leads to frequent breakdown of machines in the unit.						
3	Undue hike in raw materials , consumables, power, etc. adversely affects production						
4	Improper choice of raw material/raw material-source, choice of production process etc. affects production capabilities of the unit						
5	The decline in production is due to defects/under performance of plant and machinery, defects in production process etc						
6	The unit is unable to produce quality product						
7	Lack of proper planning of product mix and lack of co-ordination between production and marketing wing is leading to idle inventory						
8	The inability to meet market demand/tap foreign market causes sickness						
9	Increased capacity utilization (improved plant efficiency) is a good turnaround						



	strategy						
10	Products are not as per market specifications						
11	Poor product quality & production processes are causing sickness in the unit						
<b>Marketing Problems</b>							
1	The units are losing the target market due to better substitutes						
2	Entry of many new manufacturers leading to cut-throat competition for products						
3	The products of the unit are not promoted as required						
4	Poor delivery schedules and lack of proper distribution system puts the wrong image of the unit on the buyers						
5	There is minimal communication between marketing and manufacturing wing of the unit						
6	The target market of the unit is smaller						
7	The products of the unit lacks correct costing and correct pricing system						
8	The quality of the products is not meeting the standards/customer expectation						
9	The unit has failed to satisfy customer's needs						
11	Product innovation and new product development is a good marketing turnaround						
12	Exhibitions, trade fair can help in the promotion of the unit						
13	Better forecasting of demand is the prime requirement of the unit						
14	Better customer relationship should be gained to avert sickness						
15	Deleting unprofitable product line can reduce the cost of the production of the unit						
16	Products should be promoted through print and non print media						
17	Channel of distribution should be intensive to reach inert markets						
18	Sales promotion should be carried out to attract new and retain old customers						
19	Improved product, price, promotion and channel of distribution could check sickness in the units						
20	Lacks of proper marketing strategies have led to the unit sickness.						
<b>Financial Problems</b>							
1	Wages and salaries are not regularly paid to the employees						
2	Over staffing causes financial problems on the unit						
3	Unit is unable to reach the projected figures						
4	The finance wing of the unit needs training & appraisal						
5	Misappropriation of funds is the major cause of sickness						
6	Unit lacks regular auditing of the books of accounts						
7	The credit sale has reached to disproportionately high level due to the liberal credit policy of the unit						
8	Regular over draft facility is not provided by financial institution						
9	Accounting procedure does not reveal correct financial position of the unit						
10	The unit delays in the finalization of the accounts						
11	Working capital is not adequate to meet day to day expenses						
12	Conversion of short-term loans in to long-term loans may reduce the temporary burden of the unit						
14	The banks should sanction additional loan to meet the additional capital expenditure of the unit						



15	Enhancement of working capital limits is a good financial strategy for the turnaround					
16	Selling of non-core business is a viable decision to remove the sickness of the unit					
17	Financial restructuring coupled with cost cutting can revive the unit					
18	The unit requires technical collaboration for international excellence					
19	The cash inflows are irregular in nature					
20	Values of the assets of the unit are decreasing					
21	The units are getting timely subsidies from govt.					
22	ACP/APP varies with the credit policy of the unit					
23	Process improvement and modernization can make unit viable					
24	Financial barriers are responsible for the sickness of the unit					
<b>Human Resource Problem</b>						
1	The unit faces dissension within the management					
2	Poor industrial relationship is found within the unit					
3	The unit faces lack of coordination and control					
4	Non- availability of skilled man- power is the reason for the eroded quality of the product					
5	The unit faces disguised unemployment					
6	The periodical trainings to the staff of the unit are a viable turnaround strategy					
7	Traditional method of getting work done is one of the reasons of the failure of the products of the unit					
8	Absence in the unity of command due to dispute/difference of opinion among the Directors					
9	Absence of motivation among the man power of the unit promotes inefficiency					
10	Lack of manpower planning exists in the unit					
11	By agreeing to induct professionals as directors at various functional areas like technical /finance /marketing /research and development would strengthen the existing management					
12	The unit should outsource HR from outside to gain professionalism in manufacturing operations					
13	The reason for the sickness is HR related					
14	Flattened type organization structure is a good turnaround HR strategy					

Please tick the relevant box which describes the statement. Here 1=Strongly Disagree; 2=Disagree; 3= neither Agree nor Disagree; 4=Agree; 5=Strongly Agree



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# Corporate Boards Gender Diversity and Earnings Persistence: The Case of French Listed Firms

By Wafa Hili & Prof. Habib Affes  
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**Abstract** - This article empirically tests the impact of gender diversity of the boards of directors on earnings quality in general, and on earnings persistence in particular. Using a sample of 70 French firms listed at the SBF 120 index, we find that the enhancement of earnings persistence could not attributed to gender diversity. The results do not display significant differences among firms with female and male directors. Those results may be traced back to the sociopsychological attitude adopted by female directors, and by the visibility of barriers that would hinder their hierarchical progression.

**Keywords** : diversity, gender, board of directors, earnings persistence, SBF120.

**GJMBR Classification** : JEL Code : J16



*Strictly as per the compliance and regulations of :*



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Wafa Hili <sup>α</sup> & Prof. Habib Affes<sup>σ</sup>

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## 1. INTRODUCTION

Cornet and Warland (2008) define diversity as a set of personal, social and organizational characteristics that contribute to the development of identity and personality of individuals. This concept gives rise to a politics of optimization of human resources management, ensuring an equality of opportunities between all individuals in the workplace, regardless of their differences. At the organizational level, this can be illustrated through an equal representation of men and women in the top of the hierarchy, and also through an equal treatment that would not only guarantee social justice, but also dismantle all forms of discrimination (Campbell and Minguez-Vera, 2008, Cornet and Warland, 2008).

However, in spite of the initiatives that encourage the enhancement of women's representation in positions of big responsibility, their progress remains gradual and relatively slow. A survey carried away by Catalyst (2009) shows that, during the years 2009 and 2008, women represented 15.2% of the board seats of Fortune 500 companies. 90% of these companies have at least one woman in their corporate boards, while 20% have more than three women. During the year 2007 and 2006, respectively, women's percentage was 14.8% and 14.6% (Catalyst, 2007). Catalyst (2012a) presents a distribution of women in the different board's committee of Fortune 500 companies. In 2011, women represented

14.7% of members of audit committee (12.1% in 2010), 12.5% of members of remuneration committee (11.5% in 2010) and 19.2% of member of nomination and governance committee (16.9% in 2010).

In 2009 in Canada, women held 14% of FP 500 Companies' board seats. 41.9% of companies listed in the FP500 have no women in their board. This percentage becomes 39.5% in 2011. Moreover, in 2009, 19.3% of FP500 companies held 25% or more women, and in 2011 only 21% (catalyst, 2012b).

As regards the French context, the percentage increase of women board directors in the CAC 40 companies' board of directors was 16.5% in 2010 and increased to 20.6% in 2011 (Natividad, 2011). Besides, the promulgation of the law n°2011-103 of 27/01/2011 – implying women and men's equal representation in the board of directors and in the supervisory board and professional equality – has encouraged French companies to appoint more women in their boards. Indeed, in 2011, women's percentage in the CAC 40 companies' board of directors was 20.99%. This percentage reached 17.39% in the SBF120 companies and 15.21% in the SBF80 companies (Ethics and board, International board watch and ranking agency, 2011a). Among SBF120 companies, "Publicis" has the most important percentage of women directors (43.75%), followed by "Alten" and "Orpea" (40%) (Ethics and board, International board watch and ranking agency, 2011b).

As has been observed, these different percentages assume legislative and voluntary efforts that would foster women's promotion in organizations. Nevertheless, women encounter many problems that may hinder their progress and slow down the process of their promotion. Those problems commonly boil down to the "glass ceiling" phenomenon. This concept appeared in 1986, in a report published by two journalist of Wall Street Journal (Wirth, 2001). This metaphor is defined as the invisible barriers, based on bias, that prevent qualified persons, women in particular, from reaching senior positions (Wirth, 2001). Morrison et al. (1987) contend that the "glass ceiling" concept represents an obstacle to women's initiation into top hierarchical positions, not because of their lack of competence and efficiency but primarily because of their sex.

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A comprehensive literature review helps delineate the main causes of glass ceiling. In fact, this concept is inextricably connected with stereotypes and bias against women, to tokenism, to the absence of sponsoring, to the exclusion from informal networks, to managers' reluctance, if not aversion, to appoint women in positions that generate revenues, to family-work conflict and to the lack of experience in the realm of leadership.

In an attempt to avoid glass ceiling, researchers have suggested many strategies (Fitzsimmons, 2012; Jonsen and Maznevski, 2010; Wirth, 2001), highlighting the importance of the adopting gender diversity politics in organizations, and mainly, in governance instances.

In this article, we try to demonstrate whether women's representation in French boards of directors can affect their credibility and transparency, through the examination of the effects on earnings quality, and especially on earnings persistence. Indeed, our research question is as follows: what is the impact of the boardroom's gender diversity on earnings persistence?

To solve this issue, we set two goals:

1. The first objective draws from the insights of socio-psychological literature and resources dependence theory, in order to explain the research relation and present the different attitude toward board diversity.
2. The second objective is based on the agency theory. It examines the role of women in the enhancement of control and the ensuring of a better earnings quality.
3. This research will be organized as follows: first of all, we present a literature review that examines the impact of women's presence in the board of directors on earnings quality. We, then, suggest an empirical grounding in the French context.

## II. BOARDROOM GENDER DIVERSITY AND EARNINGS PERSISTENCE: LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Socio-psychological literature has been interested in the ethical gap between men and women. In fact, many researches display a perceptible divergence in the attitudes and leadership style of managers and administrators of both sexes. Mason and Mudrack (1996) show that men, longing for earnings and cherishing career success, are more likely to violate the law to reach competitive success than women are. These authors add that, unlike men, women are more interested in harmonizing relations and assisting the others. Accordingly, they are less likely to transgress business ethics.

Besides, Klenke (2003) also suggests that, opposite to men, women are mostly concerned with interpersonal relations and rules conformity in the

exercise of power. They often attempt to create an atmosphere of confidence by using transformational strategies such as the impression and the motivation of management rather than the dependence to contractual arrangements and seniority.

Furthermore, the latter adopts a participatory and democratic leadership style, based on confidence (Trinidad and Normore, 2005). This style allows them to establish cooperative relationship with managers which facilitates their access to information and reduces informational asymmetry (Jelinek and Adler 1988).

Another aspect of socio-psychological literature shows that, when it comes in financial decision making, women display a much more important aversion to risks than their male counterparts (Riley and Chow, 1992; Sunden and Surette, 1998; Barber and Odean, 2001; Bliss and Potter, 2002). Thus, in the presence of problems in financial reporting process, women directors are more likely to further expand their control as well as the inquiries realized on this subject.

Women's adhering to business ethics is likely to reinforce the social responsibility in organizations. Indeed, the governance role of board of directors stretches beyond the shareholders' wealth maximization to include their ethic treatment (Van der Walt et al., 2003). In their study, Bear et al. (2010) demonstrate a positive association between the number of female directors and the intensity of social responsibility indexes. Women's presence demonstrates great awareness of social responsibility norms.

All the researches aforesaid, which are part of the socio-psychological literature, show that compared to men, women embrace greater ethical values in their decisions and in the exercise of their power. Their presence in the management and governance instance would therefore inhibit all fraudulent attempts in the organization, and more particularly, all attempts at earnings manipulation.

In the economic and financial literature, two main theoretical perspectives – agency theory and resources dependence theory – as well as the business case of diversity, underpin the logic behind board of director diversity (Van der Walt et al., 2003).

Agency theory confers on board of directors a supervisory role, which requires the appointment of qualified, independent and self-controlled specialist directors (Bathala et Rao, 1995).

According to Carter et al. (2003), diversity boosts the board independence and activism, and advocates a procedural justice, assuring a direct representation of shareholders and stakeholders interests in the decision making process (Luoma and Goodstein, 1999).

In this context, Daily et al. (1999) claim that the improvement of the control role of boards is guaranteed by greater gender diversity. Kesner (1988) also finds that women are more likely to be present in important

committees of the board, such as, audit, remuneration and nomination committees.

The amelioration of the disciplinary role allows the cut of agency costs. In fact, using two agency costs proxies (the free cash flows and poor growth or dividend payout ratio), Jurkus et al. (2010) find a negative and significant relation between agency costs and boardroom gender diversity for firms that show a weak external governance structure.

In accordance with resources dependence perspective, board of directors is considered as an important strategic resource for organization, given that it connects firms to external resources, such as, capital access, competitors and markets connections (Ingley and Van der Walt, 2003). Indeed, the selection of competent and influential directors is beneficial for the firm: it allows for the decrease of dependency and the gain of resources, which can enhance its legitimacy, increase the information communication channels and establish an atmosphere of counsel and assistance.

In the light of the previous observations, the main question is to know whether women directors hold the required skills to master the complexity of organizational environment.

Although a number of researchers have pointed out the failure of heterogeneous board of directors (Adams and Ferreira, 2009), many others have been in favor of their diversity, elucidating the principal advantages of feminine representation.

A study conducted by Robinson and Dechant (1997) shows that diversity provides efficient solutions to complex problems. Those authors suggest that variation of perspectives, which emerges from diversity, leads decision makers to consider more perspectives and to examine them with caution.

Hillman et al. (2007) stipulate that increased female participation in management and governance allows an optimal use of resources contributing to the creation of competitive advantages. Singh et al. (2008) show the importance of board heterogeneity by investigating the profile of new-appointed women. They reveal that women are highly qualified and well experimented, which favors a greater diversity of their boards. From their part, Farrell and Hersch (2005) highlight the enhancement of firm reputation through the appointment of women in their boards of directors.

In a similar vein, according to Thomson and Lloyd (2011), this feminization broadens the range of skills and helps solve the problem of the lack of competency. However, it provides access mainly to resources which have particular, distinct and complementary features and competencies. Besides, board heterogeneity enhances creativity and innovation, which can revitalize leadership through a better understanding of environment complexity, more adjustment, and greater ability to cope with ambiguity and to take perceptive decisions (Kang et al., 2010).

As has been observed, all the theoretical arguments presented speak in favor of boardroom gender diversity. What is more, they are reinforced with empirical works which have presented the business case for diversity. Actually, many researchers have examined the impact of board of director gender diversity on financial and accounting performance. Varied results are obtained. Some of them highlight the existence of positive and significant relationship (Mahadeo et al., 2012; Rayan and Haslam, 2005; Carter et al., 2003; Erhardh et al., 2003), whereas others find the opposite and show a negative association between gender diversity and performance (Adams and Ferreira, 2009; Bohren and Strom, 2005; Shrader et al., 1997) or assume the neutrality of the relation (Carter et al., 2010; Francoeur et al., 2008; Rose, 2007; Randoy et al., 2006).

The existence of an association between board of director gender diversity and performance allows us to question its potential relation with earnings quality. An empirical literature review shows that the majority of researches, investigating this relation, have been mainly interested in earnings management as a measure of earnings quality (Srinidhi et al., 2011; Sun et al., 2011; Labelle et al., 2010; Gul et al., 2007). Few researches have examined other attributes.

Earnings quality represents one of the principal tenets of actual performance organizations. It represents an indicator of future performance and a useful measure for firm's value valuation (Dechow and Schrand, 2004). In fact, four approaches can be followed to measure earnings quality; the value-relevance, the conservatism, the earnings management and the time-series properties of earnings (Schipper and Vincent, 2003). Earnings persistence, being the last approach, measures the probability of earnings steadiness or growth in future periods (Richardson, 2003). Better earnings persistence signals a good earnings quality (Richardson, 2003).

In the US context, Krishnan and Parsons (2008) investigate the association between earnings quality and the proportion of women senior managers. They use six measures of earnings quality: asymmetric timeliness and conservatism, earnings skewness, accrual-based measure of conservatism, smoothness, avoidance of loss tendency and persistence. Among 770 observations during 1996-2000, they find that high gender diversity firms report more conservative earnings than low diversity firms. Results also show a negative association between earnings smoothing, avoidance of loss tendency and management's gender diversity, and a positive and significant association with earnings persistence.

Using a large sample of Chinese listed firms reported earnings, during the period 2001-2006, Ye et al. (2010) find no significant earnings quality difference for firms managed by female and male executives. They use four measures of earnings quality: earnings



persistence, the accuracy of current earnings as indicators of future cash flows, the association between earnings and stock returns and the absolute magnitude of discretionary accruals. Their results are incompatible with the studies conducted in developed country. The authors indicate that the divergence of results boils down to the absence of ethical value differences between men and women in China because of the spread of socialist egalitarian ideology since the founding of communist China in 1949. This runs counter to developed countries, such as the U.S. and the U.K., where females possess different social role expectation and values, as noted in the prior literature. The authors provide another interpretation of their result which consists in the fact that obstacles to success in the executive position are much more visible in China than in the U.S., and as a result, these barriers becomes much easier to break down.

In this respect, our **research hypothesis** is the following: *There has been a positive association between board of directors' gender diversity and earnings persistence.*

### III. RESEARCH DESIGN

#### a) Sample and data

Our sample includes accepted companies in the French SBF 120 index throughout 2007 and 2010. From the initial sample (480 firm-year observations), we have eliminated financial companies (36 firm-year observations) and estates (28 firm-year observations). The reason behind this elimination lies in their specification in the reporting and the publication of their financial data. Besides, we have also eliminated foreign companies (20 firm-year observations) and those governed with supervisory boards (100 firm-year observations) since our goal is to investigate the association between board of directors' gender diversity and earnings quality. Finally, we have put aside companies with missing data (16 firm-year observations). Sample determination is summarized in the table 1.

Table 1 : Sample determination

	firms/years
<b>Initial sample</b>	<b>480</b>
Financial companies	36
Estate companies	28
Foreign companies	20
Companies with supervisory boards	100
Companies with missing data	16
<b>Final sample</b>	<b>280</b>

Financial and accounting data have been collected from annual reports and consolidated accounts of French companies, which are available in the websites of these companies. Data related to the composition and the other characteristics of board are culled from their reference documents.

#### b) Measurement of variable

To test the relation between board's gender diversity and earnings persistence, we use different variables.

##### Dependant variable

\*Earnings persistence: according to the relevance approach, the persistence of earnings represents an important indicator of earnings quality (Mohammady, 2010). It encapsulates the extent to which earnings persist in the following periods. The persistence is measured in the next regression (Dechow et al., 2010; Ye et al., 2010).

$$R_{it} / TA_{it} = \alpha_0 + \alpha_1 R_{it-1} / TA_{it-1} + \varepsilon_{it}$$

Where;

R is operating income

TA is total assets

i and t index are respectively firms and years

Earnings persistence is identified by the coefficient  $\alpha_1$ . A value close or superior to the unity indicates greater earnings persistence, which is representative of high earnings quality.

##### Independent variable

\*Gender diversity of board of directors (DIVERS): it is a dichotomous value that takes the value of 1 in presence of women in the board of directors and 0 otherwise.

##### Control variables

\*The presence of block holders: it is measured by the percentage of capital held by the main shareholder. This measure has been used by Fernández and Arrondo (2005), with other researchers who have shown its influence on earnings quality (Halioui and Jerbi, 2012; Bryan et al., 2004).

\*The presence of deficit (loss): it is a dichotomous value that takes the value of 1 for loss making-firms and 0 otherwise.

#### c) Empirical results

In an attempt to empirically vindicate our hypotheses, we propose the following empirical model:

$$R_{it} / TA_{it} = \alpha_0 + \alpha_1 R_{it-1} / TA_{it-1} + \alpha_2 DIVERS_{it} + \alpha_3 R_{it-1} / TA_{it-1} * DIVERS_{it} + \alpha_4 BLOCKS_{it} + \alpha_5 R_{it-1} / TA_{it-1} * BLOCKS_{it} + \alpha_6 PERTES_{it} + \alpha_7 R_{it-1} / TA_{it-1} * PERTES_{it} + \varepsilon_{it}$$

Given the lagged endogenous variable ( $R_{it-1} / TA_{it-1}$ ) among explicative variables, the estimation of this model by classical methods – such as the ordinary least square procedure, the fixed-effect model, and the generalized least square method – can generate biased and divergent estimators. Four sources of bias can be identified: simultaneity, reverse causality, temporal correlation of errors and omitted values (Judson and Owen, 1999).

To solve these problems, many techniques based on Generalized Method of Moments in panel data (GMM), such as those of Arellano and Bond (1991), can be deployed. Those techniques control the individual and temporal effects and resolve the problem of variables endogeneity.

Arellano and Bond (1991) adopt first difference GMM estimators, which is a two-step method. The first step consists in considering, for each period, the first difference of equation to be estimated to go beyond country specific effects. This step, however, is not sufficient since this differentiation can lead to a correlation between error term and the tardy dependent variable. To grapple with the problem, the authors move on to a second step. It consists in instrumenting the explicative variable of the first difference equation, trying to mitigate the endogeneity problem generated by the presence of lagged dependant variable among explicative variables.

To further examine the GMM estimator efficiency, two tests were conducted (Arellano and Bond, 1991): the Sargan test of over-identifying restriction, that enables to examine instruments validity, and the Arellano and bond autocorrelation test.

In this research, the two-step first difference GMM estimator will be carried out with OxMetrics 6.

Table 2 recapitulates the principle results of our estimation.

#### *GMM estimator efficiency and model quality*

The results presented in table 2 indicate the validity of the instruments used since the Sargan test does not reject the null hypothesis of the validity of the tardy variables used as instruments (p-value = 0.106). Moreover, we notice the absence first order correlation of errors (AR1) given that the risk behind rejecting the null hypothesis of the Arellano and Bond autocorrelation test is high (p-value = 0.520). Consequently, we can confirm the efficiency of the first difference GMM estimator and the soundness of the results.

The statistic Wald (joint) presumes the good quality of the model with significance threshold of 1% (p-value = 0.000). We then reject the null hypothesis and we assume the global significance of the model. Wald (time) statistics also show the absence of temporal effect significance.

#### *Results interpretation*

The results indicate an important earning persistence because the coefficient  $\alpha_1$  is significantly positive and near to the unity ( $\alpha_1_{GMM2} = 0.830989$ ). The question to be raised now is whether there is any difference in earnings persistence level that can be put down to the gender of directors.

The results shows a positive and insignificant coefficient of the interaction variable ( $R^*DIVERS$ ). This indicates the absence of significant differences in earnings quality between observations with male and female directors. These results are discordant with those of Krishnan and Parsons (2008) and concordant with those of Te et al. (2010).

**Table 2 :** Earnings persistence comparison between firms with male and female directors

Arellano et Bond (1991): first difference GMM estimator		
Dependent variable	R	
Independent and control variables	GMM1 - first step	GMM2 - second step
$\Delta R(-1)$	0.865417 (0.010)***	0.830989 (0.010)***
$\Delta DIVERS$	0.00667543 (0.338)	0.00884964 (0.175)
$\Delta DIVERS(-1)$	-0.00461478 (0.431)	-0.00146381 (0.796)
$\Delta R^*DIVERS$	0.00890764 (0.909)	0.0138680 (0.858)
$\Delta R^*DIVERS(-1)$	0.0294620 (0.448)	0.00621445 (0.848)
$\Delta BLOCKS$	-0.0716776 (0.057)	-0.108754 (0.000)***
$\Delta BLOCKS(-1)$	-0.0477683 (0.047)**	-0.0722361 (0.000)***
$\Delta R^*BLOCKS$	1.76826 (0.000)***	1.78386 (0.000)***

$\Delta$ R*BLOCKS(-1)	0.824353 (0.001)***	0.776843 (0.001)***
$\Delta$ PERTES	-0.0297398 (0.015)**	-0.0252801 (0.035)**
$\Delta$ PERTES(-1)	-0.00291363 (0.839)	-0.00857143 (0.536)
$\Delta$ R*PERTES	-0.176491 (0.290)	-0.162957 (0.309)
$\Delta$ R*PERTES(-1)	-0.249616 (0.241)	-0.172553 (0.404)
Constant	-0.00549495 (0.123)	-0.00619065 (0.080)*
T2010	0.00671700 (0.201)	0.00767025 (0.132)
Wald (joint)	1.252e+004 (0.000)***	1.296e+004 (0.000)***
Wald (dummy)	2.512 (0.285)	3.317 (0.190)
Wald (time)	2.512 (0.285)	3.317 (0.190)
Sargan test	24.71 (0.000)***	4.497 (0.106)
AR(1) test	0.4153 (0.678)	0.6427 (0.520)
AR(2) test	NaN NaN	NaN NaN

*Notes :* The model used: first difference GMM of Arellano and Bond (1991), two steps, R: operating income, Divers: dichotomous value that takes the value of 1 in presence of women in the board of directors and 0 otherwise, BLOCKS: percentage of capital hold by the main shareholder, PERTES: dichotomous value that takes the value of 1 for loss firms and 0 otherwise.

\*\*\*1% significance threshold

\*\*5% significance threshold

\*10% significance threshold

Along these lines of interest, these results can be expounded by the socialization process that obliges women to adopt norms and qualities compatible with the culturally-established gender roles. Given the historical masculinity of management and governance instance, women can encounter problematic situations when they hold a management or leadership position because these social roles remain stereotypically masculine. In this situation, envisaging role conflicts, women can violate what they consider appropriate behaviour (Eagly et al., 1995).

Women's adoption of such attitude is further enlarged upon in Kanter's study (1977). The author confers the quality of the "token" to women, since they enter the workplace having their social and gender category historically disproportionately represented. The token status raises their visibility and their performance control.

Indeed, the directors of one sex usually adopt the better qualities of the other to become more efficient and successful.

With reference to the Ye et al. (2010) study, another plausible interpretation can be assigned to

these results. It has to do with the visibility of barriers that prevents women from hierarchical ascension, due to the strengthening of the French legal framework concerning feminine representation in the management and governance positions as well as organizational consciousness.

The results also show that blockholders affect earnings persistence negatively, which corroborates with Bryn et al. (2004) results. The variable loss has no significant effect on earnings persistence, which is not compatible with previous literature.

#### IV. CONCLUSION

This article has been devoted to studying the effect of directors' gender diversity on one earnings property; i.e., persistence. A theoretical literature review highlights the importance of female presence in terms of rules conformity, preferences for change, risk aversion, etc. Most of the studies that have examined the relation between boards' gender diversity and earnings quality have been focusing on the earnings management aspect, and have come up with varied results. Few researches have dealt with earnings persistence that

represents one of the most important earnings quality attributes. Using a sample of 280 firm-year observations from the French SBF 120 index, we find that the observation that pays special attention on sexual heterogeneity does not display a significant difference in earnings persistence, compared to firms with homogeneous boards of directors (women's absence). We attribute this result to socio-psychological factors and to the visibility of barriers that hinders women's hierarchical ascension.

Given the importance of earnings quality, firms can turn to other governance mechanisms, such as the enhancement of board of directors' heterogeneity, in terms of functional backgrounds, education, age, etc., in order to improve corporate governance.

Last but not least, a promising area for future research is to investigate the extent to which other board' heterogeneity characteristics affect earnings quality.

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# Empirical Analysis of the Causal Relationship between Nominal Exchange Rate and Foreign Direct Investment in India using VAR (Vector Autoregression Model)

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**Abstract** - The present study tries to establish a causal relationship between the nominal exchange rate and foreign direct investment in India using a time series data between 1992 and 2010. It tries to understand whether the fluctuation in the exchange rate in turn causes the change in the quantum of foreign direct investments inflows and vice-versa which is of enormous importance in the wake of unprecedented depreciation of Indian Rupee against US dollar. Our analysis uses unit root test and Johenson cointegration test to show whether the variables under consideration exhibit stationarity and a long run association respectively. The test indicates absence of any long term association between the two variables under consideration. In the present context it appears that the data is not stationary at level and is stationary at first difference. The Vector Auto regression (VAR) model depicts that the coefficients do not have any long run association.

**Keywords** : unit root, co integration, ADF (augmented dickey fuller), depreciation, foreign direct investment.

**GJMBR Classification** : JEL Code : F35



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J.V. Raman Raju <sup>α</sup> & Mayuresh S Gokhale <sup>σ</sup>

**Abstract** - The present study tries to establish a causal relationship between the nominal exchange rate and foreign direct investment in India using a time series data between 1992 and 2010. It tries to understand whether the fluctuation in the exchange rate in turn causes the change in the quantum of foreign direct investments inflows and vice-versa which is of enormous importance in the wake of unprecedented depreciation of Indian Rupee against US dollar. Our analysis uses unit root test and Johansen cointegration test to show whether the variables under consideration exhibit stationarity and a long run association respectively. The test indicates absence of any long term association between the two variables under consideration. In the present context it appears that the data is not stationary at level and is stationary at first difference. The Vector Auto regression (VAR) model depicts that the coefficients do not have any long run association. To establish the possibility of any short run association Wald test is conducted. It shows that the coefficients jointly do not influence the independent variables thus showing that the foreign direct investment inflows are not the functions of exchange rate parameters.

**Keywords** : unit root, co integration, ADF (augmented dickey fuller), depreciation, foreign direct investment.

## I. INTRODUCTION

The role of FDI to any nation is highly documented. It is known to be a source of much needed capital, technology and managerial skills. The developing nations are attracting the much needed source of foreign capital to boost their economies thus making their growth rates more sustainable. India is also not an exception to this trend and has taken steps to attract the much needed foreign capital to bolster its economy. However the torpid pace of economic reforms has created a sluggish environment as far as the movement of foreign capital in India is concerned. Also the second noticeable trend that has grappled Indian economy is the volatility of the rupee vis a vis major currencies especially the US Dollar and British Pound. The past year has witnessed a sharp depreciation of Indian

Rupee against dollar which stands at over 19% in a single year. There are observations that indicate a strong correlation between the foreign capital inflows and valuation of a rupee<sup>1</sup>. Any aggressive depreciation in the exchange rate creates turmoil in the economy. It increases the firm's debt component on the loan borrowed from the foreign soil. The imports get dearer thereby having a cascading effect on the production costs and the product, thereby triggering inflation. The present study tries to understand the correlation between the exchange rate (USDollar verses INRupee) and foreign direct investment in the Indian economy between 1992 and 2010. The question we are investigating here is: Does the fluctuation of the currency have a bearing in Inward foreign direct investment flow? The answer to this kind of question has different answers in different economies. The investigation for the Indian context reveals that the volatility of Indian rupee value does not affect in any way the quantum of inward flow of FDI. Thus our research confirms the theoretical observations of McCulloch (1989).

## II. LITERATURE REVIEW

The literature pertaining to the correlation between FDI and exchange rate in general is highly contradictory in nature and ambiguous, with some studies exhibiting a positive correlation, while others show negative correlation between the chosen variables. Cushmann (1985) and Froot and Stein (1991) explore the factors that might contribute to correlation between external value of dollar and level of FDI in US. They have found that modelling a link between FDI and Exchange rate would require some beliefs in long run and short run deviation from PPP (Purchasing power parity) on cross border investment process.. Caves (1989), Froot and Stein(1991), Harris and Ravenscroft (1991) and Swenson (1993) has concluded that depreciating dollar is associated with higher flows of FDI in US and a higher foreign takeover premia. Dewenter (1995) examined this issue but no statistically significant relationship between the level of exchange rate and FDI. It was found that inflows of FDI will have

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no significant effects on nominal exchange rates in Sri Lanka. On the other hand Pakistan should take into account the effect of FDI inflows on the nominal exchange rates in short run although inconsequential in long run.<sup>2</sup> McCulloch(1989) summarises that the exchange rate movements should not affect FDI inflows because if an asset in particular country is viewed as a claim to future stream of profits denominated in that country's currency, and if profits will be converted back to domestic currency of the investor at the same exchange rate, the level of exchange rate does not affect the present discounted value of the investment. A random walk characterization for exchange rate evolution process implies that the expected future exchange rate levels should be same as current rate. This implies perfect elasticity of exchange rate expectation to present exchange rate, a notion strongly contradicted by survey evidence like Franke and Froot (1987).

Froot and Stein (1991) claimed that the level of exchange rate may influence the inward flow of FDI. The depreciation of the host currency makes the asset price cheaper thereby increases the ability of the firms to invest. Thus the depreciation of the host currency should increase the FDI and conversely the appreciation of the host country currency should decrease the FDI. Campa (1993) says the firms decision whether or not to invest abroad depends on the expectations of future profitability. An appreciation of host currency will increase FDI in to the host country, ceteris paribus, which is contrary to the prediction of Froot and Stein (1991). Thus the literature shows several contradictory facts and thus the issue warrants careful observation in a country specific manner.

### III. OBJECTIVES

We would like to empirically study the long and short run causal relationship between the nominal exchange rate and foreign direct investment in India during 1992 -2010 using a time series data. A vector autoregression model establishes the existence of such correlation.

### IV. METHODOLOGY

The method involves time series analysis of the IFDI (Inward foreign direct investment) and average nominal exchange rate data (between Indian rupee and US dollar) between 1992 and 2010 using . We use a unit root test to check stationary of the time series data, and the Cointegration test for analyzing the long run association of the variables namely the foreign direct investment inflow and the average exchange rate between US Dollar and Indian Rupee. Since the time series of Exchange rates as well as the corresponding series for FDI do not exhibit stationarity, we go for an optimal lag selection through *Akaike Information*

*criterion*. Also we use the Vector Auto regression (VAR) model to assess the long and short run correlation between the FDI and the exchange rate.

### V. MATHEMATICAL ASPECTS OF OUR METHODOLOGY

In the present study we are trying to estimate the equations that define for the long run, the dependence of FDI with several macroeconomic variables. The usual procedure adopted for such estimation is Multivariate regression which leads to an equation of the form (1)

$$x_{1t} = g_2x_{2t} + g_3x_{3t} + .....g_nx_{nt} + e_t .....(1)$$

The variables that we have considered are current FDI, current exchange rate, the lag values of FDI and the lag values of Exchange rate exhibit autocorrelations meaning that they exhibit dependencies on their lags. Hence autoregressive modeling is being taken up. A typical autoregressive model (AR(p)) of order p is used when the variables concerned are depending on 'p' lags. In (2) below we write the equation that models such an autoregressive process.

$$y_t = c + a_1y_{t-1} + .....a_p y_{t-p} + \varepsilon_t .....(2)$$

We note that  $e_t$  and  $\varepsilon_t$  are stochastic terms incorporating the fluctuations or noises attributed to certain unexpected events happening. We also note that in our specific case the value of n is 4 and the value of p is 2. The equation (2) is a typical autoregressive model for a single variable. Let  $y_{1t}$  represent the variable in the AR model corresponding to  $x_{1t}$ ,  $y_{2t}$  represent the variable in the AR model corresponding to  $x_{2t}$  and so on. Thus we have the vector  $(y_{1t}, y_{2t}, y_{3t}, .....y_{nt})$  incorporating all the variables that we have considered which we denote for simplicity as  $Y_t$  indicating its value for the current time series. Similarly its lags are denoted by  $Y_{t-1}, Y_{t-2}$  etc. Thus the autoregressive model considering all the macroeconomic variables reads as in equation (3)

$$Y_t = c + a_1 Y_{t-1} + .....a_p Y_{t-p} + E_t .....(3)$$

We can also write this Vector autoregressive equation (VAR model) in matrix notation as follows

$$\begin{bmatrix} Y_{1t} \\ Y_{2t} \\ \vdots \\ Y_{nt} \end{bmatrix} = \begin{bmatrix} c_1 \\ c_2 \\ \vdots \\ c_n \end{bmatrix} + \begin{bmatrix} a_1 Y_{1,t-1} \\ a_2 Y_{2,t-1} \\ \vdots \\ a_n Y_{n,t-1} \end{bmatrix} + \dots + \begin{bmatrix} a_1 Y_{1,t-p} \\ a_2 Y_{2,t-p} \\ \vdots \\ a_n Y_{n,t-p} \end{bmatrix} + \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \vdots \\ \varepsilon_{nt} \end{bmatrix}$$

Now if the white noise elements are not serially correlated than OLS schemes work out and hence a moving average representation leads to the final relationship. However if the white noise elements exhibit a serial correlation indicating that there exist linear dependencies among the  $n$  variables we have chosen, then the Relationship established by OLS scheme (Ordinary least squares) is not reliable and hence inaccurate. This leads to the concept of cointegration.

**Cointegration :** The Matrix representation given above leads to a characteristic equation as a polynomial in lag operators. If the process is stationary then as indicated in the previous section a moving average representation is feasible. This needs some tests to be done to check for existence of unit roots. Essentially it means one checks for the eigen values of the matrix obtained in the VAR model. If the eigen values are strictly bounded by 1, i.e.  $\lambda_i < 1$  then stationarity is guaranteed, else there is no stability in the VAR model even after taking  $p$ -lags. Here  $\lambda_i, 0 < i \leq n$  are the  $n$  eigen-values corresponding to the characteristic equation. This justifies the introduction of cointegrated variables, since here we assume that two or more variables in the  $n$ -variable time series move along in an integrated fashion (together). The technique of cointegration introduced by Granger develops a more reliable method to look for causality and hence may lead to better forecasting tools. Using the software E-views we estimate the cointegration coefficients so as to check the significance of short term and long term causality of exchange rate to influence FDI decisions.

In a typical VAR model involving two variables like Foreign direct Investment ( $Y_t \equiv FDI$ ) and Exchange rate ( $X_t \equiv EXR$ ),  $Y_t$  is influenced by current  $X_t$  and past values of  $X_t$  and similarly  $X_t$  is influenced by current  $Y_t$  and past values of  $Y_t$ . More generally if one wishes to consider more variables, such variables are decided by economic principles and proper literature survey, while the number of lags is chosen by AIS test.

## VI. FINDINGS

Our research had as its null hypothesis that Foreign direct Investment decisions are not influenced by the host country's nominal exchange rate. Johansen Cointegration test shows that the none of the variables under consideration are cointegrated, the trace statistics shows that the  $p$  value is  $> 5\%$  indicating that we

cannot reject the Null Hypothesis. The Unit root test is a test to show whether the two variables under consideration i.e FDI (Foreign direct investment) and EXR (Exchange rate) are stationary or not.

The Unit root test for Exchange rate ADF at Level for Intercept is 0.1128, trend and Intercept 0.7046 and for None 0.9481 which is  $> 5\%$  indicating that the data has a unit root or the data is not stationary. The first difference ADF  $p$ -values for Intercept 0.0052, Trend and Intercept 0.0127 and None 0.0005 indicating the data does not have a unit root at first difference. Similarly the Unit root test for FDI (Foreign direct investment) with ADF  $p$ -values at Level Intercept 0.1514, Intercept and Trend 0.0704 and None 0.9481 shows that the data has a unit root at Level indicating that it is not stationary. The first difference ADF  $p$ -value for Intercept 0.0539, Trend and intercept 0.0396, and None 0.0280. indicating that the first difference does not have a unit root. As the data is not stationary at Level we use Vector Auto regression model. The Independent variable FDI(-1) with a coefficient C(1) is significant with  $p$  value of 0.0000 and the FDI(-2) with coefficient C(2) is significant with  $p$  value of 0.0050. All the other coefficients are not significant indicating no long run correlation. Similarly Wald test was conducted to show the influence of two or more variables together on Independent variables i.e. C(3) and C(4) together, C(8) and C (9) together. Here the results we obtained show Chi square value with probability of 0.5246 and 0.4622 respectively indicating that the variables jointly cannot influence the dependent variable. Hence we see that there is no statistical evidence for the quantum of FDI investments into India to be dictated by the trends in nominal Exchange rate.

## VII. CONCLUSIONS

The exchange rate fluctuation essentially does not impair the quantum of foreign direct investment. It can be assumed that inward flow of direct investment is independent of exchange rate volatility. But the first lag and second lag of the foreign direct investment exhibits a significant relationship between the foreign direct investment indicating that the lagged FDI could be responsible for attracting FDI in the subsequent year.

## APPENDIX

### Statistical Data Processing Output

**Figure 1 :** Output of the Johensons Cointegration test to check whether the variables exhibit a longrun association between each other.

#### Johenson Cointegration Test

Date: 09/02/12 Time: 14:42  
 Sample (adjusted): 1994 2010  
 Included observations: 17 after adjustments  
 Trend assumption: Linear deterministic trend  
 Series: EXR FDI  
 Lags interval (in first differences): 1 to 1

#### Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value
None	0.352542	10.57599	15.49471
At most 1	0.170901	3.186073	3.841466

Trace test indicates no cointegration at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

**Figure 2 :** Tabulation indicating Unit root test for the variables( EXR and FDI) under Intercept , Intercept and trend and None for level and first difference.

Unit Root Test For EXR	
Intercept	p-value
At Level ADF	0.1128
At 1 <sup>st</sup> Difference	0.0052

**Figure 2 (a) :** Unit root Test (EXR) under Trend and Intercept and None

-----	p-value (Trend Intercept)	p-value (None)
At level ADF	0.7046	0.9481
At first difference ADF	0.0127	0.0005

**Figure 3 :** Unit root Test (FDI) under Intercept, Intercept and trend and None for level and first difference.

Unit Root Test For FDI	
Intercept	p-value
At Level ADF	0.1514
At First Difference ADF	0.0539

**Figure 3 (a)**

#### Unit root test (FDI) under Trend and Intercept and None

-----	p-value (Trend Intercept)	p-value (None)
At level ADF	0.7046	0.9481
At first difference ADF	0.0396	0.0280



VAR Model FDI as dependent variable and exr as independent variable  
Long run correlation

System: UNTITLED  
Estimation Method: Least Squares  
Date: 09/05/12 Time: 20:46  
Sample: 1994 2010  
Included observations: 17  
Total system (balanced) observations 34

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	1.697534	0.251837	6.740620	0.0000
C(2)	-0.905518	0.292621	-3.094508	0.0050
C(3)	-149.2891	471.0752	-0.316911	0.7541
C(4)	281.6353	410.0798	0.686782	0.4988
C(5)	-3133.282	7066.626	-0.443391	0.6615
C(6)	-0.000174	0.000166	-1.048213	0.3050
C(7)	0.000232	0.000193	1.197992	0.2426
C(8)	0.525049	0.311384	1.686180	0.1047
C(9)	0.257073	0.271066	0.948378	0.3524
C(10)	10.12907	4.671090	2.168460	0.0403
Determinant residual covariance		39499313		

$$\text{Equation: FDI} = C(1)*\text{FDI}(-1) + C(2)*\text{FDI}(-2) + C(3)*\text{EXR}(-1) + C(4)*\text{EXR}(-2) + C(5)$$

$$\text{Equation: EXR} = C(6)*\text{FDI}(-1) + C(7)*\text{FDI}(-2) + C(8)*\text{EXR}(-1) + C(9)*\text{EXR}(-2) + C(10)$$

Figure 4 : Wald Test to check the shortrun association between the coefficients

C(3)=C(4)=0 Together influence FDI

Wald Test:  
System: Untitled

Test Statistic	Value	df	Probability
Chi-square	1.290161	2	0.5246

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(3)	-149.2891	471.0752
C(4)	281.6353	410.0798

Restrictions are linear in coefficients.

Wald Test: C(6)=C(7)=0  
together influence EXR  
System: Untitled

Test Statistic	Value	df	Probability
Chi-square	1.543471	2	0.4622

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(6)	-0.000174	0.000166
C(7)	0.000232	0.000193

Restrictions are linear in coefficients.

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