

# GLOBAL JOURNAL

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DISCOVERING THOUGHTS AND INVENTING FUTURE

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Analysis & textile Weaving

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Analysis of Capital Structure

Volume 12

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## CONTENTS OF THE VOLUME

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- i. Copyright Notice
- ii. Editorial Board Members
- iii. Chief Author and Dean
- iv. Table of Contents
- v. From the Chief Editor's Desk
- vi. Research and Review Papers
1. Xinjiang Education Investment and Economic Growth Relationship. *1-5*
2. Relative and Cross-National Human Resource Management Research: Development of a Hypothetical Model. *7-19*
3. Cognitive Style a Predictor of Managerial Effectiveness: Study of Public and Private Sector Bank Managers in India. *21-26*
4. An Analysis of Bilateral Trade between Iran and D-8 Countries. *27-34*
5. Analysis and Performance of Textile Weaving In Pakistan 2001-2010. *35-45*
6. Air Transport Policy for Mauritius – The Way Forward. *47-62*
7. Emerging Retail Formats and It's Attributes: An Insight to Convenient Shopping . *63-71*
8. Impact of Remittances on Reserves. *73-76*
9. Transmission Des Variations Du Taux De Change Aux Prix : Évidence Empirique Pour La Tunisie Et Le Maroc. *77-88*
10. Analysis of Capital Structure and Revolution of pharmaceutical industry in Pakistan over the Decade. *89-94*
11. Individual Worth vs. Aggregate Value: Influential Factors of Non-Market Works (Nmws) In Bangladesh. *95-103*
12. Ongoing Corporate Human Resource Management Practice in Banking sector of Bangladesh. *105-108*
- vii. Auxiliary Memberships
- viii. Process of Submission of Research Paper
- ix. Preferred Author Guidelines
- x. Index



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# Xinjiang Education Investment and Economic Growth Relationship

By Qingzhen HU

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**Abstract** - The experience of developed countries tells us that investment in human capital plays an important part in national and regional economic growth. With the advent of knowledge-based economy, there is a growing recognition of the importance of human capital in economic growth. In this paper, starting with the investment of higher education, the relevant Xinjiang's data from 1990 to 2009 was used to establish the econometric model, which is used to analyze the importance of human capital investment to the economic growth in Xinjiang. We also indicate that the government should increase the investment in education, so as to fully develop the significant potential of human capital stock.

**Keywords** : *human capital; economic growth; human capital investment.*

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XINJIANG EDUCATION INVESTMENT AND ECONOMIC GROWTH RELATIONSHIP

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# Xinjiang Education Investment and Economic Growth Relationship

Based on the Perspective of Human Capital

Qingzhen HU

**Abstract** - The experience of developed countries tells us that investment in human capital plays an important part in national and regional economic growth. With the advent of knowledge-based economy, there is a growing recognition of the importance of human capital in economic growth. In this paper, starting with the investment of higher education, the relevant Xinjiang's data from 1990 to 2009 was used to establish the econometric model, which is used to analyze the importance of human capital investment to the economic growth in Xinjiang. We also indicate that the government should increase the investment in education, so as to fully develop the significant potential of human capital stock.

**Keywords** : human capital; economic growth; human capital investment

## I. INTRODUCTION

In the 1960s, when he researched on the issue of U.S. economic growth in the past, American economist Theodore Schultz (T.W. Schutz) found that the contribution of U.S. education to economic growth was as much as 33% for several decades, which caused economic academic shock and the production of the concepts of human capital and human capital investment. Using the method of growth factors, by the inverse proportion of education in the labor input, Denison (1962) analyzed that education's contribution to the U.S. national income growth was 37% in the years of 1929-1948. At this stage, as the cornerstone of the traditional western educational economic theory, theory concerning the causes of growth, which is a part of human capital theory and growth economics, played an important role in the research of the promotion of educational economic. According to theoretical and empirical analysis, growth economists have demonstrated that the growth or accumulation of knowledge played an important role in economic growth. Therefore, more countries convinced that the knowledge and technological progress would have a decisive influence in maintaining the sustaining, rapid, steady and healthy growth of economy. A notable feature of the economic development of post-western developed countries and burgeoning developing countries is that the growth rate of total output is greater than the sum of the capital accumulation rate and labor

growth rate. Economists found it was not material capital but human capital play a great stimulative role in promoting the economy, which was the reason for these countries developing so rapidly. The human capital theory advocated by series of scholars, with Schultz as the representative, made a fully and systematically study of the interaction between education development and economic growth more from dual-perspective of education and economic development.

The new growth theory, emerged in the 1980s, also proposed that human capital and technological advancement are the two big endogenous driving influences promoting the economical sustainable development. Now, people take human capital investment more and more importance to economic growth. And it becomes an upsurge of the economics field to research the relationship between human capital investment and economic growth. Economists, with Romer and Lucas as the representative, emphasizes that human capital investment and knowledge accumulation are the intrinsic element of sustained economic growth, and that the improvement of human capital has strong externalize and plays an active role in the formation and efficiency of production factors such as physical capital. At the same time, economists recognized that we could promote the accumulation of human capital and the realization of the value through the institutional arrangements and organizational arrangements, and that education was the most important way which would be a significant boost for economic growth. Education, the main channel to increase human capital, can raise labor productivity, so increasing investment in education has a role in stimulating economic growth. At this stage, the discuss about education and economic growth entered a new phase, and brought human capital as endogenous factors into model. example, by comparing the relationship between higher education development and economic growth of Japanese, British and American, Zhuang Zhi-jun (2006) pointed out that economic growth is inseparable from the development of higher education and the progress of technology. Wang Ping (2008) used regression analysis to study the data from 1990 to 2005 in Gansu, getting that human capital trained by higher education had high output elasticity and great stimulative function on economic growth. These scholars used different methods elicited the outcome

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from different angles, and analyzed the effect of education to economic growth. After the reform and open-up, China proposed the "science and education strategy", aiming at promoting a sustainable and healthy development of its economy and society. As a less developed regions, Xinjiang need to continue the economic restructuring, and constantly adjust their development strategies. It also needs to transform from a resource-based strategy to knowledge-development developing strategy. Therefore, we should pay attention to investment in science and education, vigorously strengthen the intensity of investment in education. In this paper, from the investment in higher education point of view, we established an econometric model to analyze the important impact of human capital investment to Xinjiang's economic growth.

## II. THE BASIC MODEL, DATA AND ANALYTICAL METHOD

### a) Model description

In order to accurately analyze the important role of human capital elements in economic growth, we should establish a corresponding relationship model between economic growth and element variables. Human capital investment is the main source of economic growth, while education investment is a major part of human capital investment, which is the most important way to transform human resources into human capital. To enhance education investment is the core strength to promote sustainable economic development. This paper is used on human capital theory, drawing from the Cobb - Douglas production model to establish an empirical analytical model, starting on human capital investment and physical capital investment to research the influencing effect of Xinjiang's human capital investment to economic growth by empirical analysis.

$$\text{Model: } Y_t = F(A, K_t, H_t) = AK_t^\alpha H_t^\beta e_t^\mu$$

Where, A stands for technical parameters. In this paper, we assume that the technological level of each phase remain constant for ease of analysis. K t indicates physical capital investment of each phase; H t indicates human capital investment;  $e_t^\mu$  is the random error term; Y t expresses the total output;  $\alpha$  and  $\beta$  respectively stand for the output elasticity coefficient of physical capital and human capital. This paper was on

the basis of the three elements of the production function.

Taking logarithm on both sides to transform it into a linear form, namely:

$$\ln Y_t = \ln A + \alpha \ln K_t + \beta \ln H_t + \mu \ln e_t$$

### b) The sources and measurement of data

The data used in this research is from 1990-2009 years of "Xinjiang Statistical Yearbook" to ensure the accuracy and reliability of the information, and to ensure an objective and scientific analysis in a large extent.

Firstly, the total output indicators. Generally use the gross domestic product (GDP) calculated by the comparable price to measure the total output level of the national economy, which can be obtained directly from the official statistics. 1990-2009 years basis data of Xinjiang's GDP is from "Xinjiang Statistical Yearbook" (2009).

Secondly, physical capital input indicators. In this paper, we use the amount of fixed capital investment to indicate it. Fixed capital investment in Xinjiang Province is divided into urban areas and rural areas, basically including the total capital investment.

Thirdly, human capital indicators. It stands for the investment of human capital that graduated from the junior college and above, which indicates human capital of higher level carried by the higher education system of that year. Higher human capital investment = the number of undergraduates and the students graduated from junior college this year + the number of graduate students graduated from ordinary colleges and universities and various research institutions this year - the number of graduate students enrolled in ordinary colleges and universities and various research institutions this year. For research convenience, we assume that all graduates have achieved the ultimate job.

## III. ANALYSIS AND INTERPRETATION OF THE DATA

### a) Correlative data

In this paper, all data are from "Xinjiang Statistical Yearbook". The correlative data and the chart of analysis are as follows:

Table 1 : The total GDP and human capital of 1990-2009 in Xinjiang

Year	GDP <sub>t</sub> (million)	Human capital, H <sub>t</sub> (million)	Human capital growth rate%	GDP growth rate%
1990	261.44	0.77	—	—
1991	335.91	0.77	0	28.4845471
1992	402.31	0.84	9.0909091	19.7671995

1993	495.25	0.86	2.3809524	23.1015883
1994	662.32	0.93	8.1395349	33.7344775
1995	814.85	1.04	11.827957	23.0296533
1996	900.93	1.06	1.9230769	10.5639075
1997	1039.85	1.08	1.8867925	15.4196219
1998	1106.95	1.13	4.6296296	6.4528538
1999	1163.17	1.17	3.539823	5.0788202
2000	1363.56	1.28	9.4017094	17.2279203
2001	1491.6	1.56	21.875	9.3901258
2002	1612.65	1.56	0	8.1154465
2003	1886.35	2.46	57.6923077	16.9720646
2004	2209.09	2.95	19.9186992	17.1092321
2005	2604.14	3.61	22.3728814	17.8829292
2006	3045.26	4.43	22.7146814	16.9391815
2007	3523.16	4.71	6.3205418	15.6932413
2008	3764.32	4.83	6.7382902	15.5431567
2009	3886.67	4.92	6.48722081	15.2907514

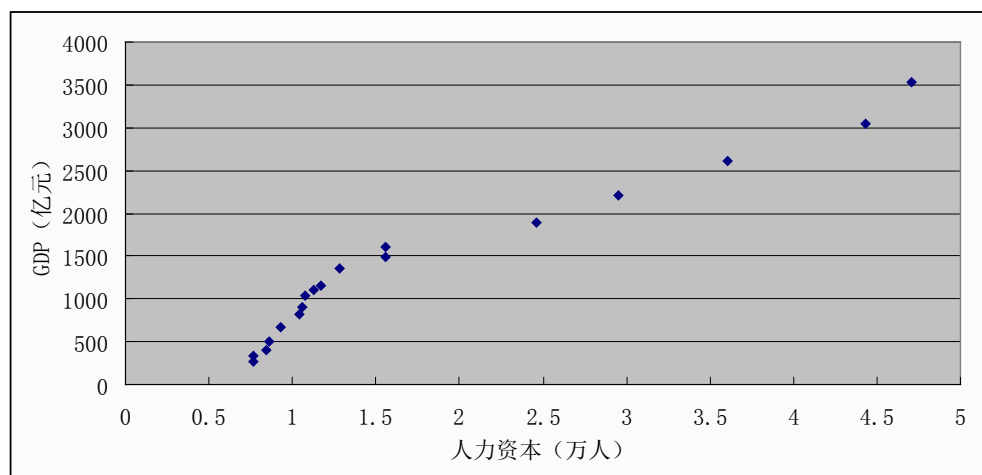


Figure 1: Human capital investment and GDP growth in scatter

b) *The interpretation of the contribution rate of factor inputs*

By the application of statistical data, we can get the regression results of effective working model (Table II) relating to the economic growth in Xinjiang. From the regression results of EViews, goodness of fit equation has reached 0.99;  $F = 2001.197$ ;  $D.W = 2.124964$ . All parameters are passed the T-test. And  $P = 0$ ; all the explanatory variables are significant at a given

significance level of 1%. It shows that the measurement model from the estimate of the valid labor growth model, which was used in the data analysis of 1990-2009 in Xinjiang's economic growth, has passed the overall test. And the model has a high degree of significance and a good degree of fit (0.99); the test on the estimate coefficient of constant term and self-variables also has a high significant level.

Table 2 : The result of effective model in Xinjiang's economic growth

	Coefficient	Std. Error	t-Statistic
	4.134476	0.091380	45.24510
	0.757386	0.026395	28.69434
	0.996514		7.073150
Adjusted R-squared	0.996016	SD dependent var	0.687505
SE of regression	0.043393	Akaike info criterion	-3.278261

Sum squared resid	0.026361	Schwarz criterion	-3.131223
Log likelihood	30.86521	Hannan-Quinn criter.	-3.263645
Prob (F-statistic)		Durbin-Watson stat	2.124964

Therefore, we got the regression equation:

$$\ln Y_t = 4.134476 + 0.757386 \ln K_t + 0.125499 \ln H_t$$

(28.69434) (3.205248)

The figures in brackets and below the coefficient of equation regression are the corresponding T-test value. According to statistical rule of thumb, if the absolute of T-test value is greater than 2, the test of regression coefficient significance passed.

We can get the following conclusions from the model test result:

Through the above analysis, education has a certain positive correlation for economic growth. From the results of the regression, the output elasticity of human capital investment in higher education is 0.125, which shows that human capital cultivated by higher education investment plays a certain role in economic development of Xinjiang. From the quantitative analysis, we can see that on the basis of physical capital investment, Xinjiang's economic development need to add other push factors, while human capital is a strong and forceful endogenous push factor, which will exhibit a momentous power both now and in the future.

From the absolute amount of higher education investment (Table 1), we can see that the total of human capital investment in Xinjiang in 1990-2009 received a large increase, which increased from 0.77 million in 1990 to 4.92 million in 2009; the average annual growth rate of higher education investment was 11.98%, slightly lower than the average annual GDP growth rate of 16.76%. From the GDP growth and human capital growth in scatter showed in Figure 1, there exists significant plus correlation between human capital growth carried by higher education investment and the total GDP growth.

From the output elasticity of various elements, the output elasticity of physical capital investment is 0.76 in Xinjiang, while the output elasticity of human capital investment is 0.13, which shows that the increase of physical capital investment or human capital investment will bring a corresponding increase in output. Currently, the main driver of economic growth in Xinjiang is driven by physical capital investment, and human capital also plays a very important role in it, which shows a great potential space for human capital. So it needs to maintain physical capital investment in Xinjiang, at the same time, continue to increase human capital investment to fully exploit their human capital potential.

From the average contribution rate of various input factor in economic growth, average annual growth

rate of GDP in Xinjiang was 14.02% in the period of 1990-2009; average annual growth rate of physical capital was 16.07%; average annual growth rate of human capital stock was 8.38 %. Then, calculate the contribution rate of economic growth through the output elasticity of every element. The contribution rate of physical capital investment to economic growth is about 93.21%, while the contribution rate of human capital investment to economic growth is about 3.16%. Through the analysis, there is a lack of human capital stock development in Xinjiang, which need to enhance the accumulation of human capital stock in order to get a large number of professional and technical talents, who are needed in Xinjiang's development.

#### IV. POLICY RECOMMENDATIONS

Human capital is a key factor in economic development, whose role in economic growth is enormous and irreplaceable. By studying the function of higher education and human capital theory, it indicates that higher education, the key to human capital development, is in close contact with human capital. Education is an important bridge linked human to science, technology, knowledge and skills, which enables people to develop further on the basis of their predecessors' knowledge. Higher education is an important part of education, and the government should devote greater efforts to support its development.

Firstly, physical capital investment remains the main driving force to promote Xinjiang's economic growth now and even a very long period of time in the future, thus it needs to continuously increase investment on the original basis. Human capital has increasingly become a potential factor for economic growth in Xinjiang, whose potential has become increasingly apparent. Therefore, under the premise of ensuring physical capital investment, we should try to solve the shortage of human capital needs, increase in human capital investment, so as to solve the problem of inadequate human capital stock from the root. We should establish the income distribution system fully reflecting the knowledge value and education value, form the income gap based on knowledge ownership and level of education, promote the rapid accumulation of human resources, and increase the growth rate of higher education accounted for the average annual overall education index and the contribution rate of higher education to regional economic growth.

Secondly, human capital stock in Xinjiang is mainly from the problem of Xinjiang's education, and



lacks of education investment have seriously restricted the development of human capital in Xinjiang. It should draw attention of the relevant departments to make their efforts to resolve the problem of insufficient capital in education investment. It is not enough to only rely on the government's limited financial education expenditure; we also need to achieve the diversification of investment bodies in education on the basis of improving education funding system, enhance the cooperation of production, study, and research, and consummate the transition mechanism of scientific and technological achievements in colleges and universities.

Thirdly, with the acceleration of the integration process of education, scientific research, and production, higher education, treat science and technology as a link, makes a direct and necessary contact with the development of social productive forces. And it becomes the impetus for promoting technological progress, improving labor productivity, and supporting economic growth and industrial development. Colleges and universities should improve the mechanism of technological achievements and consummate the research evaluation system to improve the quality of technological innovations. At the same time, we should establish and improve the venture capital system of technological achievements and intermediary service organizations in colleges and universities, which provide the market organizational conditions for the achievement transformation.

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# Relative and Cross-National Human Resource Management Research: Development of a Hypothetical Model

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**Abstract** - Rapid development of the human resource management (HRM) discipline has been discussed in this article with the need for more cross-national HRM studies. Thereafter the universal applicability of Anglo-Saxon models of HRM is questioned. In order to examine the applicability of HRM models in various settings (national and international), six major HRM models have been critically analyzed and their main research propositions have been identified. This provides the foundation for a framework for HRM evaluations in diverse contexts. Based on such a framework and developments in the literature, finally, a contextual model is proposed for conducting cross-national and relative HRM studies. The paper also provides some related directions for future research also.

**Keywords** : *Human Resource Management; HRM models; HRM contextual framework; Cross-national research; HRM developments.*

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# Relative and Cross-National Human Resource Management Research: Development of a Hypothetical Model

Rehman Safdar

**Abstract** - Rapid development of the human resource management (HRM) discipline has been discussed in this article with the need for more cross-national HRM studies. Thereafter the universal applicability of Anglo-Saxon models of HRM is questioned. In order to examine the applicability of HRM models in various settings (national and international), six major HRM models have been critically analyzed and their main research propositions have been identified. This provides the foundation for a framework for HRM evaluations in diverse contexts. Based on such a framework and developments in the literature, finally, a contextual model is proposed for conducting cross-national and relative HRM studies. The paper also provides some related directions for future research also.

**Keywords** : Human Resource Management; HRM models; HRM contextual framework; Cross-national research; HRM developments.

## I. INTRODUCTION

Researchers Boxall, 1995; Jackson & Schuler, 1995 and Legge, 1995 are well known in the nineties who documented the developments in the area of human resources management (HRM) literature. The debate relating to the nature of HRM continues even today, even though the focus of the debate has changed over time. It commenced by an attempt to demarcate the distinguish between HRM and 'personnel management or establishment' and further inclusion of industrial relations into the HRM through evaluating the relationship of HRM strategies, inclusion of HRM into the business strategies and then the extent to which HRM can act as a key resources to accomplish an antagonistic improvement in the organizations. Most of these advancements have occurred during the last twenty years or so and have precipitated changes in the nature of the human resource (HR) function from being imprudent, dictatorial and secretarial to being practical, expressive and executive (Boxall, 1994; Legge, 1995).

Currently, Boxall, 1995; Sisson, 1996, Guest, 1997 have highlighted the role of HRM in enhancing productivity and organizational performance for the success of any organization by taking other factors in account. Alternatively, organizations are stirring towards

a more vibrant globalization with an ongoing fast pace, hence relative issues appear to be gaining impetus (Dowling et al., 1994 ; Brewster et al., 1996). Both the researchers and academicians in the field of HRM are realizing the necessity to look at the thoughts of people like managers and other staff particularly those who are working in different countries. This seems to be vital for the growth of relevant human resource best practices. The amplified likelihood of having to handle in an international scenario has made this very important.

Researchers have positively responded to meet the challenges raised by the vibrant business environment. Various HRM models have been developed and proposed both between and within nations (Boxall, 1995; Brewster, 1995; Legge, 1995, Guest, 1997). Most of these HRM models have an Anglo-Saxon base. During the stage of formative years the HRM literature such an ethnocentric approach was explicable and inevitable. However, the current proactive international business environment needs appropriate information and guideline to develop pertinent HRM policies and practices. In view of above, the significance of lessons erudite from the Anglo-Saxon experience was open to discussion (Hofstede, 1993). It is, therefore, crucial to analyze the degree to which Anglo-Saxon HRM models are appropriate in other parts of the world. Kochan et al., 1992 & Brewster et al., 1996 emphasis on the study of HRM in an international perspective.

Researchers like Monks in 1993, Benkhoff and Truss et al., in 1997 have made an attempt to observe the practicability of a few of the theoretical HRM models. But it was worth mentioning that most of these investigations have been conducted in the UK or other western countries whereas no such attempt has been made to examine a model in a non-western country. Furthermore, current literature has shown a prominence on the themes like strategic HRM, cross-national, cross-cultural or relative HRM studies but majority of the researchers are still probing only the conventional 'hard' and 'soft' models of HRM (Legge, 1995). So far as the growth of international HRM (IHRM) is concerned, still there is a strong need to observe the applications of such HRM models, which can assist to evaluate the degree to which HRM has really become strategic in the various parts of the world and the variables and other main factors which establish HRM in diverse settings.

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Guthrie & Olian, 1991; Jackson & Schuler, 1995 and Locke & Thelen, 1995 studied that the model will not only examine the applicability of HRM approaches in various regions but would also assist to emphasize the context-specific type of HRM practices. Existing literature however has shown a paucity of research in this particular area. Brewster et al., 1996; Budhwar, 1997, 1999; Cavusgil & Das, 1997; Jackson & Schuler, 1995 found that due to the methodological issues involved in cross-national research were more frequent and even more composite than the single nation and also due to the nonexistence of a broad framework for carrying out such studies. Relative and cross-national terms have been used interchangeably in this research paper.

In order to proceed further, such investigations are required to examine empirically and the practicability of main HRM models in various regions. Next section contains six models of HRM which have been analyzed, renowned in the HRM literature and also cover up a wide assortment of important HRM issues. However, it must be noted that these six models do not present a whole depiction of the HRM field. It is proposed that other HRM models should also be analyzed in line with the framework used in this study. The models which have been analysed had a number of points in general regarding their contents. Research propositions helpful for evaluating the applicability of each one model are acknowledged along with the analysis. Later on, a contextual framework has been presented to examine these research propositions in various contexts.

## II. HRM DEVELOPMENT

Several HRM theoretical models have been discussed in the HRM literature, however, only six main HRM models have been analyzed here. These models are, Matching Model, Harvard Model, Contextual Model, 5-P Model, European Model' and HR-Performance model (Poole, 1990; Boxall, 1992; Brewster, 1995; Legge, 1995; Budhwar, 1996; Guest, 1997; and Rehman Safdar et al; 2010 ). The rationale for analyzing these models is two-fold, first, to underline their main contribution to the growth of HRM as a distinctive discipline secondly, to classify the major research propositions suitable for probing these models. The analysis commenced with one of the conventional HRM models.

## III. HARD DIVERGENCE OF HRM

The key contributors of the 'Matching Model' of HRM moved toward from the Michigan and New York schools. Model of Fombrun et al.'s in 1984 highlighted the 'resource' characteristic of HRM and emphasized the proficient deployment of the employees to meet up the organizational aims and objectives. Sparrow & Hiltrop studied in 1994 that like other resources of

organization, human resources should be hired keeping in view the factor of economy and developed them for the future needs. The matching model depended on Chandler's (1962) argument that an organizational structure should be an outcome of its strategy. Galbraith & Nathanson (1978) extended the Chandler's analysis and associated various human resources functions like career growth, compensations and leadership styles with the organization's plan and structure. They had highlighted the worth of the HRM function in the accomplishment of an organization's mission.

In 1984 Fombrun et al. expanded these analyses and explored the matching model of strategic HRM, which emphasized a 'tight' between organizational strategy, organizational structure and HRM system. The organizational strategy should be paramount, i.e. both organization structure and HRM should be dependent on the strategy of the organization. The major endeavor of the matching model was to develop a suitable 'human resource system' which would differentiate those HRM strategies that contributed to the most effective and efficient execution of the business strategies.

Due to several reasons, HRM matching model has also been criticized. Boxall in 1992 argued that the model was too narrow by nature, due to the fact that its assumptions were strongly unitarist. Since the model emphasized a 'tight fit' linking organizational strategy and HRM strategies, hence it ignored completely the concerns of employees, resultantly considered HRM as a totally inactive, reactive and implementations function. Several researchers argued that they actually observe the opposite development (Storey, 1992). It was also asserted that it failed to distinguish the prospective for a mutual association between HR strategy and organizational strategy (Lengnick-Hall & Lengnick-Hall, 1988; Boxall, 1992;). The HRM matching model also missed the 'human' facet of human resources hence, recognized as a 'hard' model of HRM (Legge, 1995; Storey, 1992; Guest, 1997;). The model was also criticized for considering HR practices like recruitment and selection, performance appraisal, compensations and rewards and training & development only as the 'generic' HRM functions. By doing so, it overlooked two elementary policy domains, which other researchers argued that should be included amongst the list of the generic functions, leadership styles, employee and industrial relations, trade unions and their bargaining power.

In contrast the HRM matching model deserved credit for providing a framework for succeeding theory development in the field of HRM. Researchers must implement a wide-ranging methodology in order to study the vibrant concept of human resource strategy. Do fundamentals of the HRM matching model survive in the varied settings? This may only be done by inquisitive

the presence of the core issues of the model. The main research propositions rising from the HRM matching models were:

*Research Proposition No. 1 :* Do organizations show Have organizations shown a 'tight fit' between their HRM and organization strategy where the former is dependent on the latter?

*Research Proposition No. 2 :* Do organizations consider their employees as a cost and use them sparingly? Or do they devote resources to the training of their HRs to make the best use of them?

*Research Proposition No. 3 :* Do HRM strategies vary across different levels of employees?

#### IV. HRM SOFT VARIANT

The 'Harvard Model' of HRM was another analytical framework, which was premised on the view that if top management developed a viewpoint on 'how they wish to see employees involved in and developed by the enterprise', then some of the criticisms of historical personnel management could be overcome. The model was first articulated by Beer et al. (1984). Compared to the matching model, this model was termed the 'soft' variant (Storey, 1992; Legge, 1995; Truss et al., 1997). It stressed the 'human' aspect of HRM and was more concerned with the employer and employee relationship. The model highlighted the interests of various stakeholders in the organization such as shareholders, management, employee groups, government, community and unions and how their interests were related to the objectives of management. This aspect of the model provided some awareness of the European context and other business systems which emphasized 'co-determination' (Boxall, 1992). It also recognized the influence of situational factors like market situation on HRM policy choices.

The actual content of HRM, according to this model was described in relation to four policy areas, which were human resource flows, reward systems, employee influence and works systems. Each of the four policy areas were characterized by a series of tasks to which managers must attend. The outcomes that these four HR policies require to achieve were commitment, competence, congruence and cost effectiveness. The aim of these outcomes was therefore to develop and sustain mutual trust and improve individual/group performance at the minimum cost so as to achieve individual comfort, organizational effectiveness and societal well-being. The model allowed for analysis of these outcomes at both the organizational and societal level. As this model acknowledged the role of societal outcomes, it could provide a useful basis for comparative analysis of HRM (Poole, 1990). However, this model has been criticized for not explaining the complex relationship between strategic management and HRM (Guest, 1991). Both the matching model and

the Harvard analytical framework represented two very different emphases: the former is closer to the strategic management literature, the latter to the human relations tradition. Based on the above analysis, the main research propositions emerging from this model, which can be used for examining its applicability in different contexts, were:

*Research Proposition No.4 :* What was the influence of different stakeholders and situational and contingent variables on HRM policies?

*Research Proposition No. 5 :* To what extent was communication with employees used as a source to maximize commitment?

*Research Proposition No. 6 :* What level of emphasis was given to employee development through involvement, empowerment and devolution?

#### V. THE CONTEXTUAL EMPHASIS

Based on the Harvard Model, researchers at the Centre for Corporate Strategy and Change at the Warwick Business School developed an understanding of strategy making in complex organizations and related this to the ability to transform HRM practices. They investigated empirically based data (collected through in-depth case studies on over twenty leading British organizations) to examine the link between strategic change and transformations, and the way in which people are managed (Hendry et al., 1988; Hendry and Pettigrew, 1992;). Hendry and associates argued that HRM should not be labeled as a single form of activity. Organizations may follow a number of different pathways in order to achieve the same results. This was mainly due to the existence of a number of relationship between the outer environmental context (socio-economic, technological, political-legal and competitive) and inner organizational context (culture, structure, leadership, task technology and business output). These linkages contributed directly to form the content of an organization's HRM. To analyze this, past information related to the organization's development and management of change was essential (Sparrow and Hiltrop, 1994).

The main research propositions emerging from this model are:

*Research Proposition No. 7 :* What was the influence of economic (competitive conditions, ownership and control, organization size and structure, organizational growth path or stage in the life cycle and the structure of the industry), technological (type of production systems) and socio-political (national education and training set-up) factors on HRM strategies?

*Research Proposition No.8 :* What was the linkages between organizational contingencies (such as size, nature, positioning of HR and HR strategies) and HRM strategies?



Debates in the early 1990s suggested the need to explore the relationship between strategic management and HRM more extensively (Guest, 1991; Boxall, 1992;). Commencing from 1986–87, the literature has shown an increasing concern about this issue (Schuler and Jackson, 1987; Lengnick-Hall and Lengnick-Hall, 1988; Hendry and Pettigrew, 1992). The next model analysed was strongly based on this premise.

## VI. STRATEGIC INTEGRATION ISSUE

Schuler & Jackson, 1987 ; Lengnick-Hall & Lengnick-Hall, 1988; Brewster & Larsen, 1992;; Schuler, 1992;; Storey, 1992 ; Budhwar & Sparrow, 1997 revealed a trend that HRM is becoming an integral part of business strategy. The emergence of the term 'Strategic Human Resource Management (SHRM)' is an outcome of such efforts. Recently, CM Siddiqui in 2004 examined the impact of job analysis on organizational performance among 148 companies based in the United Arab Emirates (UAE), a Gulf-region country. Survey results indicated that a practice of proactive job analysis was strongly related to organizational performance. This relationship was strongest to the extent that companies maintained HR information systems, accorded HR greater involvement in strategic planning and emphasized competency-based characteristics of employees in the job analysis approaches they used. CM Siddiqui found Job analysis as a vital strategic human resource management practice. Rehman Safdar ( 2010 ) found a relationship between job analysis and job performance.

In view of above and study of Schuler, 1992 purpose of SHRM was to ensure that:

- HRM is fully integrated with the strategy and strategic needs of an organization;
- HR policies are coherent both across policy areas and across hierarchies.
- HR practices are adjusted, accepted and used by line managers and employees as part of their everyday work.

SHRM therefore has many different components, including HR policies, culture, values and practices. Schuler in 1992 developed a 5-P model of SHRM which melds five HR activities (Policies, Practices, Philosophies, Programmes and Processes) with strategic requirements. Strategic needs reflect management's overall plan for survival, growth, adaptability and profitability. The strategic HR activities form the main components of a HR strategy. This model explained to a great extent the significance of these five SHRM activities in achieving the organization's strategic needs, and showed the interrelatedness of activities that were often treated separately in the literature. This was helpful in understanding the complex interaction between organizational strategy and SHRM activities.

The model further showed the influence of internal characteristics mainly consist of factors, such as organizational culture and the nature of the business and external characteristics consisting of the nature and state of economy within which the organization exists and critical success factors, i.e. the opportunities and threats provided by the industry on the strategic business needs of an organization. This model attracted criticism for being over-prescriptive and too hypothetical in nature. Though it seemed very attractive, practitioners might find it difficult but not impossible to implement. It needed a lot of time to gain an understanding of the way strategic business needs were actually defined. The melding of business needs with HR activities was also very challenging, mainly because linkages between human resource activities and business needs tend to be the exception, even during non-turbulent times (Schuler, 1992).

Nevertheless, the model raised two important research propositions, also suggested by many other authors in the field, important for HRM comparisons.

*Research Proposition No. 9* : What was the level of integration of HRM into the business strategy?

*Research Proposition No.10* : What was the level of responsibility for HRM devolved to line managers ?

Brewster & Associates (Brewster et al., 1997) successfully compared cross-national HRM across European nations based on the last two research propositions. These research propositions presently form one of the central themes of debate in the HRM literature (Storey, 1995).

## VII. HRM EUROPEAN MODEL

Moving ahead with the cross-national comparative mode, the fifth model of HRM is now being analyzed. Based on the growing importance of HRM and its contribution towards economic success and the drive towards Europeanization, Brewster (1993, 1995) proposed a European model of HRM. His model was based on the assertion that European organizations operate with restricted autonomy. They were constrained at both the international (European Union) and national level by national culture and legislation, at the organization level by patterns of ownership and at the HRM level by trade union involvement and consultative arrangements (Brewster, 1995). Brewster suggested the need to accommodate such constraints while forming a model of HRM. He also talked about 'external and 'internal' constraints on HRM. The external constraints on HRM were in the form of the legalistic framework, vocational training programmes, social security provisions and the ownership patterns (public and private). The internal constraints on HRM included union influence in the form of representation and employee involvement in decision making through various bodies such as workers' councils.

Based on such constraints, Brewster's model highlighted the influence of factors such as national culture, ownership structures, role of the State and trade unions on HRM in different national settings. He emphasized the need for a more comprehensive view of the role of different actors such as government, unions, management and customer in developing the concept of HRM and testing its international applicability.

The European model showed an interaction between HR strategies, business strategy and HR practice and their interaction with an external environment constituting national culture, power systems, legislation, education, employee representation and the previously mentioned constraint factors. It placed HR strategies in close interaction with the relevant organizational strategy and external environment. One important aim of this model was to show factors external to the organization as a part of the HRM model, rather than as a set of external influences upon it. This helped to place organizational approaches firmly within the national context, which contributed to a better understanding of the unique situations of and differences between nations in their HRM practices, as well as how multinational companies MNCs try to adopt local practices (Brewster, 1995). Such an approach helps to build a better model of European HRM and saves it from becoming too normative. It also moves beyond the traditional discussion about whether the term HRM should be accepted or rejected and towards a more positive debate about different forms and styles of HRM. More importantly, it helps to analyze HRM at a national level.

From the above analyses it can be seen that there was an element of both the Contextual and 5-P Models of HRM present in Brewster's European model. Apart from the emphasis on 'strategic HRM' mode, one main research proposition important for cross-national HRM comparisons emerges from Brewster's (1995) model. This was:

*Research Proposition No.11* : What was the influence of international institutions, national factors (such as culture, legal set-up, economic environment and ownership patterns), national institutions (such as the educational and vocational set-up, labour markets and trade unions) on HRM strategies and HRM practices?

Pursuing more or less a similar pattern, another group of researchers (Hiltrop et al., 1995; Sparrow, 1995; Sparrow & Hiltrop, 1997) proposed a model of factors that determined the distinctiveness of a country's HRM problems. They suggested a series of factors related to cultural, institutional factors, business systems and structure and HR role and competence as the determining influences on European HRM. The above discussion presented a brief regarding the theoretical developments in HRM. It also identified and highlighted the main research propositions which can be used to

examine the six models of HRM. The question that arises then was how to carry out such an investigation. What factors and variables should be considered in examining the identified research propositions in different national or comparative settings? Is there a comprehensive framework for conducting this type of evaluation? An attempt has been made to answer these and related questions in the next section.

## VIII. HRM PRACTICES - EMPLOYEE PERFORMANCE LINKAGE

Recently, Rehman Safdar et al; in 2010 have established a relationship which was the sixth model, between HRM practice, job analysis with the job performance as the researchers have developed a relationship between HRM practices and organizational performance but the relationship between HR practices and job performance was yet to be explored. Based on a study of employees of Pakistan, a non-western country, Public Sector regulatory Authorities of telecommunication, oil and gas, power, media, security exchange, banking sector and organizations being regulated by these authorities a hypothesized model was developed and tested, linking importance of HR practice job analysis with employee job performance. Survey results of 568 employees indicated that practice of job analysis was strongly related to employee job performance. The findings suggested that an organization-wide strategy of HRM practices in general and job analysis as specific was an important source of competitive advantage in its own right, and requires due attention of HR professionals. The study extended the findings of the HR-employee job performance research pursued in Western countries to a non-Western context. (Rehman Safdar et al; 2010 )

## IX. EVALUATION OF HRM IN A CONTEXTUAL PERSPECTIVE.

Kochan et al., 1992; Locke et al., 1995 studied that HRM evaluations can be conducted at various levels ranging from nation state, based on political literature, upto the level of the organization where the labour economics and HRM literature was the focus. Resultantly a framework is now proposed for investigations and comparisons at the organization level. The framework should be used to assimilate comparative studies into the body of commonly accepted knowledge of HRM.

What can be gleaned from the comparative management literature? The major thrust of the comparative management literature can be broadly classified into following four categories. ( Nath 1988 )

- Economic development approach;
- Environmental approach;
- Behavioural approach;

### - Open systems approach

The main methodological issues involved in cross-national or cross-cultural HRM research are related to:

- Differentiate the terms 'cross-cultural' and 'cross-national';
- Various kinds of 'functional equivalence';
- Organize variables or matching of firms on possible variables;
- Defining and scope of culture;
- Problems in data collection, analysis and its interpretation.

Researchers have prescribed possible remedies to these issues so as to facilitate more meaningful cross-national comparisons (Adler, 1983; Cavusgil & Das, 1997). In coping with perceived

methodological weaknesses, different scholars in the field of HRM have also put forth a number of frameworks for conducting international HRM research (Negandhi, 1975; Murray et al., 1976; Miles and Snow, 1984; 1983; Begin, 1992; Schuler et al., 1993; Gronhaug and Nordhaug, 1992; Jackson and Schuler, 1995; Hiltrop, 1996;; Tayeb, 1995; Welch, 1994). Although discussion on these is beyond the scope of this article but these frameworks were found to be normative in nature and many of them presented a complex set of variables that could not be tested empirically (Redding, 1994). The relevant contributions useful for cross-national HRM evaluations from these frameworks have been collated and more factors and variables have been added by the authors to develop the framework.

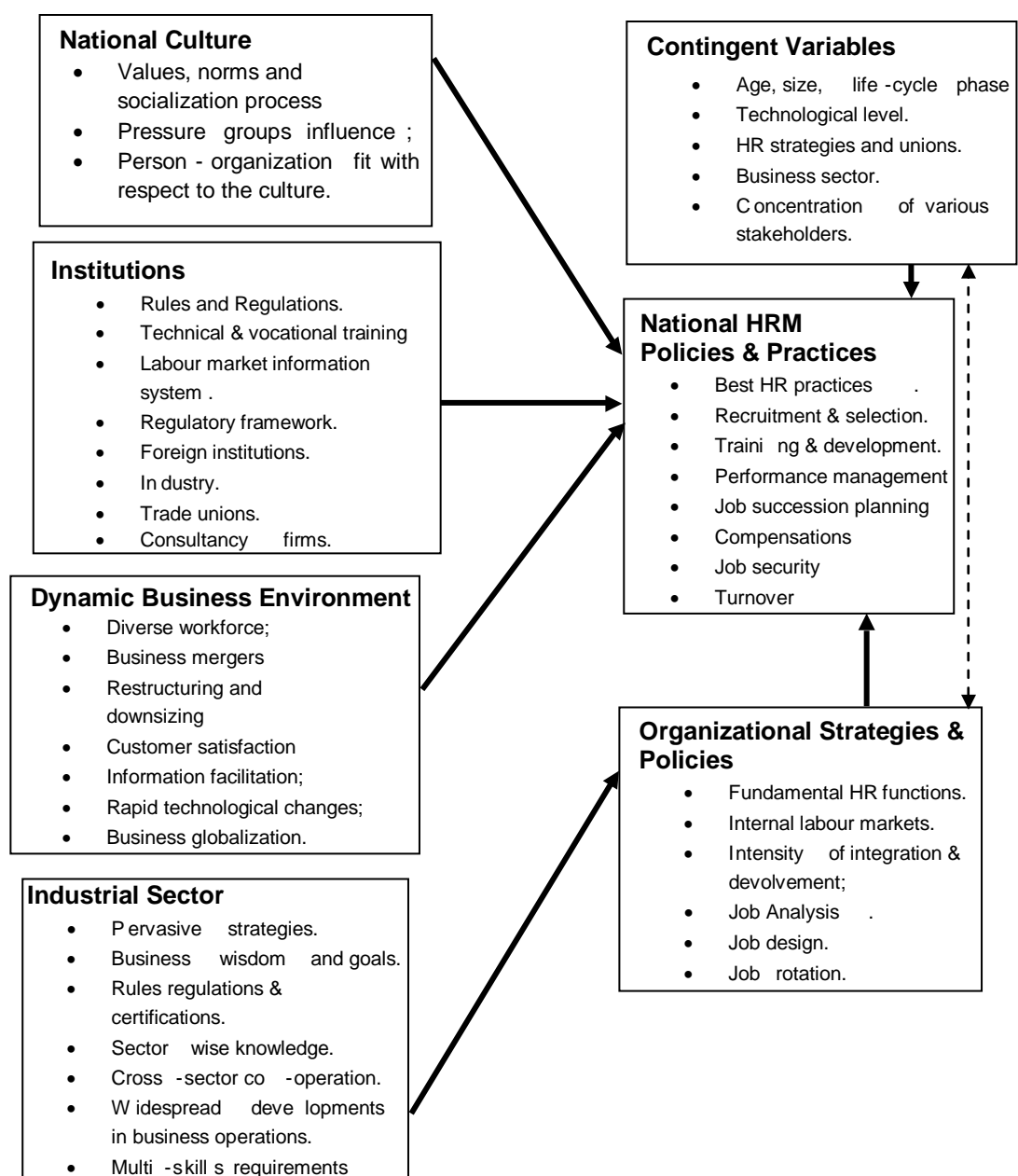


Figure 1 : Contextual model of factors determining HRM policies and practices

Based on the analysis mentioned above and after synthesizing the fragmented contributions from the fields of comparative management, HRM and IHRM, it was possible to examine the eleven research propositions identified above by studying the influences of three levels of factors and variables. These were: national factors, contingent variables and organizational strategies and policies on HRM policies and practices. Considering the 'context specific' nature of HRM (Locke & Thelen, 1995; Jackson & Schuler, 1995), the authors have tried to provide a comprehensive list of factors and variables in the framework in Figure-1, which was by no means exhaustive. Nevertheless, it should make possible the exploration into the known research propositions of the HRM models in a different context. However, a detailed explanation of this framework is beyond the focus of this paper. Theoretical support will however, be provided for each of the selected national factors, and their respective aspects and the contingent variables and organizational strategies and policies. Later there will be a brief overview of the operationalization of the framework.

## X. HRM NATIONAL DETERMINANTS

Brewster (1995) emphasized the need to look into the influence of different national factors such as national culture and institutions on HRM practices (Research Proposition No.11). A similar desire was put forward by the Warwick researchers (Research Proposition No. 7). Apart from these, there was a series of other factors that operated at the national level which set the overall climate for international HRM that guided HRM choices. Three broad national factors of national culture, institutions, industry sector and dynamic business environment have been identified as significant determinants of HRM policies and practices in cross-national settings.

There would be a question of inclusion of national culture, institutional arrangements and changing business dynamics under the outer context. The industry sector can be taken as a contingent variable because it represents the interests of a number of stakeholders. However, the study of national business systems evidence (Rasanen & Whipp, 1992; Whitley, 1992) suggested that industry or business sector is the best considered as a country-level or national unit of analysis and was worth considering for national comparisons. Research by Eriksson et al., in 1996 has shown how HRM policies and practices were governed by a specific sector. The main causative influences related to this aspect of sector included:

- a) General strategies, business sense and goals.
- b) Standards and regulations.
- c) Supply chain management requirements.
- d) Need for sector-specific knowledge.

- e) Formal and informal benchmarking against sector competitors.
- f) Cross-sector Co-operative planning.
- g) Widespread developments in business operations.
- h) Sector-specific labour markets or skill requirements (Hiltrop, 1993; Rasanen & Whipp, 1992).

A number of researchers ( Hofstede, 1993; Laurent, 1993; Schneider, 1993; Sparrow, 1995; Tayeb, 1995; Brewster, 1995) have highlighted and explained the influence of national culture on HRM policies and practices. However, it is important to note that the definition and scope of the concept of culture is debatable (Tayeb, 1994). It is therefore sensible to examine the impact of those aspects of national culture on HRM which have a sound theoretical base.

The most important processes or aspects of national culture that have been identified for comparative evaluations are:

- a) Socialization process through which managers are 'made' (Hofstede, 1983; 1993; Schein, 1985; Terpstra and David, 1985; Van Maanen and Schein, 1979);
- b) Basic assumptions which shape managers' behaviour (Hofstede, 1983, 1993; Van Maanen & Schein, 1979 Common values, norms of behaviour and customs (Hofstede, 1983, 1993; Keesing, 1974; Tayeb, 1995);
- c) Influence of social 'elites or pressure groups unique to a country (Keesing, 1974);
- d) Unique ways of doing things and management logic in a particular country, which are reactive of the broader national business system (Sparrow and Hiltrop, 1997; Whitley, 1992).

With the development of various trading blocks world-wide such as NAFTA, EFTA and ASEAN, researchers in the field of cross-national HRM have now seriously started considering the impact of different institutions on HRM policies and practices (Brewster, 1995; Sparrow and Hiltrop, 1997). Given the regional focus in much international HRM research, they have provided lists of institutions most relevant to broad regional contexts like the European Union, the Social Chapter, patterns of unions and the recognition of the legal set-up. There are then a number of institutional systems whose influence on HRM in a cross-national context required to be interpreted which include:

- a) National labour laws (Brewster, 1995; Sparrow, 1995)
- b) Structure, density and role of trade unions (Tayeb, 1994; Brewster, 1995)
- c) Educational and vocational set-up (Sparrow, 1995)
- d) Role of professional bodies (Zucker, 1987; Torrington, 1993)
- e) International business institutions (Zucker, 1987; Morishima, 1995)



- f) Labour-market dynamics and overall preferences for internal or external markets (Osterman, 1994 ;Benson, 1995; Cappelli, 1995)
- g) Employers' federations and representative bodies (Zucker, 1987 ; Powell & DiMaggio, 1991; Scott, 1995)
- h) Legitimate role of consulting organizations (Zucker,1987; Scott, 1995; Lowndes, 1996).

Together with the abovementioned national factors, HRM research has also demonstrated the impact of dynamic business environments, characterized mainly by distinctive sets of competitive pressures on HRM policies and practices at the national level (Hendry & Pettigrew, 1992; Hiltrop, 1993; Sparrow, 1995). Although many of these dynamics were unique to each nation, a series of developments are pan-national and have been identified as major determinants of IHRM activity. The aspects of a dynamic business environment that have been identified as influencing HRM policies and practices in a cross-national context were:

- a) Increased competition and pressures on productivity, quality or social costs of employment at both national and international level;
- b) Resulting growth of new business alliances or forms of corporate governance (Cappelli, 1995; Sparrow, 1995);
- c) Automation of information systems and their impact on international business structures and co-ordination systems (Hiltrop, 1993);
- d) Change in the composition and demographics of the workforce (Torrington, 1993);
- e) Downsizing of organizations and the transfer of work across a new international division of labour (Soeters & Schwan, 1990; Cappelli, 1995)
- f) Transfer of convergent best practice, for example through the Japanization of production systems, emphasis on customer service or creation of like-minded international cadres of managers (Sparrow & Hiltrop, 1997).

## XI. HRM CONTINGENT DETERMINANTS

Research propositions bearing number 4, 8 and parts of 7 strongly emphasize the impact of different contingent variables on HRM policies and practices. The contingent variables in the framework are now highlighted. The various contingent variables shown to determine HRM are as under:

- a) Organizational size. (No of employees) (Dimick & Murray, 1978 ; Cohen & Pfeffer, 1986; Yuen & Kee, 1993 ; Jackson & Schuler, 1995)
- b) Level of technology adopted (Dimick & Murray, 1978; Jackson & Schuler, 1995);
- c) Age of the organization (Tayeb, 1988 ; Dimick & Murray, 1978)
- d) Establishment of a formal HR department (Fisher & Shaw, 1992)

- e) HR strategy (Schuler, 1992 & Jackson & Schuler, 1995)
- f) Representation of workforce on the board (Brewster, 1995)
- g) Ownership type (Dimick & Murray, 1978; Tayeb, 1988)
- h) Training wing in the HR department (Fisher & Shaw, 1992)
- i) Union status (Cohen & Pfeffer, 1986; Fisher and Shaw, 1992; Yuen & Kee,1993)
- j) Interests of influential stakeholders (Beer et al., 1984)
- k) Organizational structure (Schuler et al., 1993 & Jackson & Schuler, 1995)
- l) Life-cycle stage of the organization (Baird & Meshoulam, 1988; Hendry & Pettigrew, 1992 ; Jackson & Schuler, 1995)

## XII. ORGANIZATIONAL STRATEGIES AND POLICIES SHAPING HRM

Cross-national HRM researchers claimed that it was at the levels of national factors and contingent variables that useful contributions could be made by examining the impacts of such determinants on HRM policies and practices (Boxall, 1995; Brewster et al., 1996). However, in order to get a better understanding of the context-specific nature of HRM practices, an evaluation of the impact of organizational strategies on them along with the above-mentioned contingent variables was found important (Miles & Snow, 1984; Schuler & Jackson, 1987 ; Jackson et al., 1989; Peck 1994; Jackson & Schuler, 1995; Budhwar & Sparrow, 1997). Resultantly, research propositions 1, 2, 3, 5, 6, 9 and 10 suggested a similar emphasis.

Many typologies are available for characterizing the organizational business strategies used by the organizations. However, the two most frequently cited in the discussions of HRM and therefore worth considering for cross-national analysis are the ones proposed by Miles & Snow (1978, 1984) and Porter (1980, 1985). Miles & Snow classified organizations as 'prospectors', 'analyzers', 'defenders' and 'reactors'. These generic strategies dictate organizations' HRM policies and practices. For example, defenders are less concerned about recruiting new employees externally and are more concerned about developing current employees. In contrast, prospectors are growing, so they are concerned about recruiting and using performance appraisal results for evaluation rather than for longerterm development (Slocum et al., 1985 ; Peck, 1994 ; Jackson & Schuler, 1995; MacDuf et al.,1995). Similarly, Porter's (1985) competitive strategies distinguished organizations that compete on the basis of 'cost leadership', 'product differentiation' and 'market focus'. Based on this typology, Schuler & Jackson (1987) used a role behaviour perspective to describe the

possible HRM implications of cost-reduction, innovation and quality enhancement strategies. They predicted that organizations which pursue a cost-reduction strategy would emphasize on short-run relationships, minimizing training and development and highlighted external pay comparability (Peck, 1994). Legge (1989) made a similar argument in her critical analysis of HRM. Based on such a premise, different organizational strategies have been shown to determine a range of HR practices and policies, such as staffing (Guthrie & Olian, 1991), compensation & rewards (Veliyath et al., 1994), the employment relationship (Peck, 1994) and its associated psychological contracts (Rousseau & Wade-Benzoni, 1994), work flexibility (Mayne et al., 1996), integration of HRM into the corporate strategy and levels of devolvement of HRM to line managers (Budhwar & Sparrow, 1997), Relationship of HR practices with employees job performance and levels of job satisfaction and job retention (Rehman Safdar et al, 2010), career management (Slocum et al., 1985), the range of internal labour markets or structured employment systems (Soeters and Schwan, 1990 & Osterman, 1994), type of training & development (Peck, 1994) and levels of performance (Guest, 1997; MacDuff. et al 1995). These studies have confirmed the significant impact of organizational strategies on different HRM practices and the fundamentally important way in which the inner context of organizations still mediates the role of national factors.

Recent research also shows that organizational policies related to recruitment such as to emphasize the fresh recruitments, training and development and communication also determine HR practices and policies in a cross-national setting (Mahoney & Deckop, 1986, Bournois et al., 1994; Brewster & Hegewisch, 1994; Dany & Torchy, 1994; Budhwar & Sparrow, 1997). Research by Budhwar & Sparrow in 1997 revealed how internal organizational policies related to recruitment, training and development and employees' communication act as significant determinants of the levels of integration of HRM into the corporate strategy and devolvement of HRM to line managers practiced in the Indian organizations.

Importantly such variables, which represented the internal logic within the HR strategy, were more predictive than traditional contingency variables such as the age, size and nature of the organization. Similarly, research by Mayne et al. (1996) shows how the level of work flexibility across Europe was determined by different configurations of organizational policies related to recruitment, training and communication, along with organizational strategies and organizational demographics. These researchers suggested that the changes taking place within Europe were forcing organizations to adopt such practices. On the same lines, MacDuffie (1995) and Guest (1997) also

suggested the influence of bundles or configurations of organizational policies and strategies on the performance level of organizations in the western countries whereas the same has been studied by Rehman Safdar et al in 2010 in South Asian country Pakistan. Such explanation shows the context-specific impact of organizational strategies and policies on HRM policies and practices. However, it is important to note that a particular context is an outcome of an interplay of many complex factors and variables, as explained above under the discussion of national factors and contingent variables.

### XIII. CONCLUSIONS AND IMPLICATIONS

The swift growth in the area of HRM and the need for more cross-national HRM studies has been highlighted. Models of HRM have contributed to the theoretical development of the HRM field. However, in the current dynamic business environment, the universal applicability of such models has become questionable. For the development of better HRM and IHRM theories and practices it has now become necessary to examine the main models of HRM in various settings. Unfortunately, the literature has shown the absence of an established framework for such evaluations. The author has identified the main research propositions of six HRM models, five from the western and one from non-western country, which could be examined in different settings. To pursue such investigations, the author proposed a contextual framework consisting of four national factors and a set of contingent variables and organizational strategies and policies which are known to determine HRM policies and practices. Taking into the consideration context-specific nature of HRM, the author has made an attempt to provide a broad list of these factors and variables which is by no means complete but is supported by mainstream research.

Based on the 'context-specific' assertion, the author believe that different configurations of cultural, institutional, sector or business dynamic revise the specific impact that the individual contingency factors may have. Understanding the complex interactions and causes-and-effect relationships between these different sets of national factors, contingent variables and organizational strategies and policies now plays a crucial role in highlighting the cross-national, but context-specific nature of HRM in different settings (Locke & Thelen, 1995; Jackson & Schuler, 1995). The use of tightly matched samples and the adoption of mixed methodologies should help to identify the significant predictors of HRM policies and practices in different national settings (Boxall, 1995; Brewster et al., 1996; Mayne et al., 1996).



## XIV. DIRECTION FOR FUTURE RESEARCH

With the help of such analysis, the research propositions of different HRM models can be tested. For example, the issue of 'tight-fit' (Research Proposition 1) can be evaluated by looking at some of the accepted measures, such as involvement of HRM in the corporate strategy at the implementation stage (Storey, 1992; Truss et al., 1997). The proposed framework would help to determine the main reasons for such a practice (cultural, institutional or organizational philosophy). In a recent evaluation, Budhwar & Sparrow (1997) found that, in comparison to British firms, Indian firms involved their HRM less from the outset while forming their corporate strategy. In the same way, the main reasons which contribute to an emphasis on training and development in a national or regional setting (Research Proposition 2) may be examined. The present thrust on human resource development (HRD) in Pakistan is created by the recent civil service reforms. Similarly, whether organizations have different HR strategies for different levels of employees (Research Proposition 3) can be examined. In comparison to British organizations, Pakistani organizations shared less financial and strategic information with lower-level employees. This was based on the rationale that management had less faith in the capability of lower-level employees and less willing to share such information with them.

Similarly, the research propositions of the 'Harvard Model', i.e. the influence of stakeholders and situational variables on HRM and the emphasis given to employee development through involvement, empowerment and devolution (Research Propositions 4 and 6) could be examined by adopting the proposed framework in different national settings. For example, recently, Truss et al. (1997) examined the prevalence of the 'soft' and 'hard' models of HRM in eight large firms in the UK. They found an emphasis on the development and empowerment of employees. However, the same study revealed very little influence of different stakeholders on their HRM. The influence of national factors on HRM in different settings (Research Propositions 7 and 11) could be examined by collecting information on rating scales or allocation of points to each of the aspects of national factors.

Similarly, the influence of contingent variables and organizational strategies and policies on HRM (Research Propositions 2, 3, 4, 5, 6, 8, 9 and 10) could be examined with the help of appropriate statistical techniques such as regressions or discriminant analysis (for empirical explanations, (Dimick and Murray, 1978 , Budhwar & Sparrow, 1997; Guest, 1997). This article contributes to the theory of HRM. The proposed framework is not only helpful in identifying the main determinants of HRM but also facilitates cross-national comparisons (as shown by recent studies, such as by

Brewster et al. (1997) and Budhwar & Sparrow (1997, 1998) conducted in a non-western country. Theoretical support for the mentioned national factors, contingent variables and organizational strategies and policies is available. However, more research is required to examine them further empirically. The proposed framework can be adopted for future research, such as to examine the applicability of more models of HRM, as, for example, proposed by Morgan (1986) and Dowling et al. (1994) in different contexts. Moreover, efforts should be made to identify more aspects of the given national factors (for example, national culture) and organizational policies which can influence HRM.

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# Cognitive Style a Predictor of Managerial Effectiveness: Study of Public and Private Sector Bank Managers in India

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**Abstract** - This study was conducted to investigate the relationships between cognitive style and managerial effectiveness among different managerial levels of various public and private sector bank's of National Capital Region (Delhi) and Haryana state of India. Data was collected by using Cognitive Style test for Field-dependence and Fieldindependence developed by Witkin (1959) and Index of Managerial Effectiveness test devised by Walter W. Hudson(1993). A sample of 300 bank managers of senior, middle and junior level positions from three public and three private sector banks of National Capital Region (Delhi) and Haryana state of India was taken for the study." Both the public and private sector bank managers exhibit higher tendency of field-dependence among the senior managers in comparison to the middle level managers who have relatively greater inclination towards field-independence.

**Keywords** : *Cognitive style, Managerial Effectiveness, Field-dependence and Field-independence.*

**GJMBR - A Classification** : *FOR Code: 150203, JEL Code: G21, G24*



*Strictly as per the compliance and regulations of:*





# Cognitive Style a Predicator of Managerial Effectiveness: Study of Public and Private Sector Bank Managers in India

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**Abstract** - This study was conducted to investigate the relationships between cognitive style and managerial effectiveness among different managerial levels of various public and private sector bank's of National Capital Region (Delhi) and Haryana state of India. Data was collected by using Cognitive Style test for Field-dependence and Field-independence developed by Witkin (1959) and Index of Managerial Effectiveness test devised by Walter W. Hudson(1993). A sample of 300 bank managers of senior, middle and junior level positions from three public and three private sector banks of National Capital Region (Delhi) and Haryana state of India was taken for the study." Both the public and private sector bank managers exhibit higher tendency of field-dependence among the senior managers in comparison to the middle level managers who have relatively greater inclination towards field-independence. Junior level managers of both the public and private sector banks are the highly inclined towards field-independence tendency in comparison to middle and senior level managers. As F-ratio was found significant so Duncan's multiple comparison of means test was used to examine significant differences among cognitive style means of different groups. The comparisons were made at 0.05 level of significance. The results of Duncan's multiple comparison of cognitive style means of public bank managers revealed that junior managers and middle level managers differ significantly in their means from senior managers but junior managers did not differ significantly from middle level managers. In case of private sector managers the entire three groups differ significantly in their cognitive style means. Both the public and private sector bank managers exhibit poor tendency of managerial effectiveness among the senior managers in comparison to the middle level managers who have relatively higher degree of effectiveness in management in comparison to senior managers. Junior level managers of both the public and private sector banks are very much effective in managerial efficacy in comparison to middle and senior level managers. F-ratio was found significant, so Duncan's multiple comparison of means test was used to examine significant differences among managerial effectiveness means of different groups. The comparisons were made at 0.05 level of significance. The results of Duncan's multiple comparison of mean revealed that all the different categories of manager's i.e. junior managers, middle level managers and senior managers differ significantly in their managerial effectiveness means.

**Keywords** : Cognitive style, Managerial Effectiveness, Field-dependence and Field-independence.

## I. INTRODUCTION

### a) Cognitive style

Cognitive style is described as the way individuals imagine, perceive, distinguish, recognize, think and remember information. It is a persisting habitual pattern of perceptual and intellectual activity. With the help of cognitive styles an individual acquires knowledge (cognition) and processes information (conceptualization) (Kirton, M.J., 2003). Cognitive styles are linked to mental behaviors, habitually applied by an individual for problem solving, and generally to the way that information is obtained, sorted and utilized. Cognitive style being the recurring perceptual and intellectual pattern of personality can influences attitudes, values and social interaction.

Social and cultural system provides people with a range of cognitive styles that are appropriate for different cognitive tasks in different contexts(Riding, R.J., and Cheema, 1991). The styles of individuals and of groups can be placed on a continuum between a global style and an articulated style. People who use a global style tend to view the world holistically; they see first a collection of relationships and only later the fragments and parts that are related. They are said to be field dependent. By contrast, people who use an articulated style tend to break up the world into smaller and smaller pieces, which can then be organized into larger chunks. They also tend to see a sharp boundary between their own bodies and the outside world. People using an articulated style are said to be field independent(Witkin, H.A.,Moor, C.A., Goodenough, D.R., and Cox, P.W., 1977). The preferred cognitive style of an individual often varies from task to task and from context to context. People who use articulated styles for some tasks also use global styles for other tasks. In fact, they may bring a range of different styles to bear on a single task.

### b) Managerial effectiveness

Managerial effectiveness is manager's ability to achieve desired results. How well managers apply their knowledge, skills and abilities in working with, guiding and directing others determines whether they can meet

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those results effectively, if they can, their achievements are poised to help the organization gain a competitive edge against competing organizations heading into the future (Robbins SP, 1988).

A manager should have a combination of technical, interpersonal and conceptual skills that can make him an effective manager, according to theoretical models of management, technical skills include specialized training, skilled performance of specific tasks, expertise in a specific field or industry and the ability to apply specialized knowledge to tasks and objectives (Shermon G. 1999). Interpersonal skills include the ability to work well with others, motivate workers, resolve conflicts, delegate roles and communicate objectives clearly (Howell JP, DE Bowen, PW Dorfman and S Kerr, 1997). Conceptual skills are broader and more self-actualized. They include the ability to see the organization in the context of its industry, the ability to understand how each part of the organization functions as a whole, the ability to visualize, imagine, think, remember and process information for future course of action based on current organizational and industry trends, the ability to analyze and diagnose complex situations and the ability to understand the interrelationships at work in the organization (Zhang, L.F., & Sternberg, R.J., 2006). Middle and senior management is responsible for identifying the core competencies of the organization and making sure those competencies are complemented by its managers and its overall workforce. It is up to senior management to strategically place a manager in the department where the skills and competencies will reflect the current and future needs of the organization in order to effectively achieve results that benefit the organization in the short- and long-run. In the long run, managerial effectiveness has the potential of creating efficiencies that create a sustainable competitive advantage against competing organizations and increase opportunities for future enterprise. It also fosters individual growth in the manager, followers and generates shareholder value for the organization.

Managerial effectiveness is gauged by the results a manager achieves. Results are generally believed to be influenced by the factors like how individuals imagine, perceive, distinguish, recognize, think and remember information (which is considered as cognitive style). A good manager must make work-teams of like minded people having common working styles so that team members may feel more comfortable while working with one another in order to achieve positive results and organizational goals.

If we compare all these factors of managerial effectiveness such as ability to work well with others, motivate workers, resolve conflicts, delegate roles communicate objectives clearly, ability to see the organization in the context of its industry, the ability to

understand how each part of the organization functions as a whole, the ability to visualize, imagine, think, remember and process information for future course of action based on current organizational and industry trends etc. with the elements of cognitive style such as the way individuals imagine, perceive, distinguish, recognize, think and remember information there seems to be lot of similarities.

### c) Need for Study

Cognitive style is a key concept in the areas of psychology, education and management. If a student has a cognitive style which is similar to that of his/her teacher, the chances that the student will have a more positive learning experience. Likewise, team members with similar cognitive styles likely feel more positive about their participation with the team (Kirtan, M, J., 1976). While matching cognitive styles may make participants feel more comfortable when working with one another. Working together in a team with positivity and comfort are the key factor for maximization of organizational effectiveness and efficiency. Because of such an importance of cognitive style as a predictor of critical managerial and organizational work outcomes, it has always been a variable of interest.

Managerial Effectiveness depends on a number of factors like individual's perception, personality, superior subordinate relation, working style, trust facilitation, way of thinking & processing information and surrounding organizational climate (Sternberg, R.J., & Zhang, L.F., 2001). Most of these factors of managerial effectiveness are element of cognitive style also, so there might exists a relationship between Managerial Effectiveness and cognitive style which should be investigated and understood.

Cognitive style has been extensively studied as a function of many antecedents. But it has not been covered as an antecedent with managerial effectiveness especially among managers of banking sector of National Capital Region (Delhi) and Haryana state of India. There has not been sufficient research to investigate the relative importance of different facets of cognitive style in predicting managerial effectiveness. So far, little has been done about whether there is a genuine relationship between cognitive style and managerial effectiveness among different managerial levels of bank managers working in various public and private sector banks of National Capital Region (Delhi) and Haryana state of India.

The banking sector in India is facing the transition phase in current globalization and localization environment. The restructuring and blending of certain services in the banking sector have affected the efficiency and mindset of managers working with these banks. Managers in the banks may be having different cognitive style and respective managerial effectiveness. So in such a transitional state of banking sector working

and restructuring there is need to find out the relationship between the cognitive style and managerial effectiveness of managers working at different levels and the difference between the identified relationships. To fill the above stated voids in knowledge, the main objective of this study was to investigate the relationships between cognitive style and managerial effectiveness among different managerial levels of bank managers working in various public and private sector banks of National Capital Region (Delhi) and Haryana state of India. The study also aimed at investigating and comparing the differences of the identified relationships between cognitive style and managerial effectiveness among different managerial levels of bank managers working in various public and private sector banks of National Capital Region (Delhi) and Haryana state of India.

d) *Problem of study*

- 1) What are the relationships between cognitive style and managerial effectiveness among different managerial levels of bank managers working in various public and private sector banks of National Capital Region (Delhi) and Haryana state of India?
- 2) What are the differences between the identified relationships of cognitive style and managerial effectiveness among different managerial levels of bank managers working in various public and private sector banks of National Capital Region (Delhi) and Haryana state of India?

e) *Objective of the study*

Objective of this study were to investigate:

- 1) The relationships between cognitive style and

managerial effectiveness among different managerial levels of bank managers working in various public and private sector banks of National Capital Region (Delhi) and Haryana state of India.

- 2) The study also aimed at investigating and comparing the differences of the identified relationships between cognitive style and managerial effectiveness among different managerial levels of bank managers working in various public and private sector banks of National Capital Region (Delhi) and Haryana state of India.

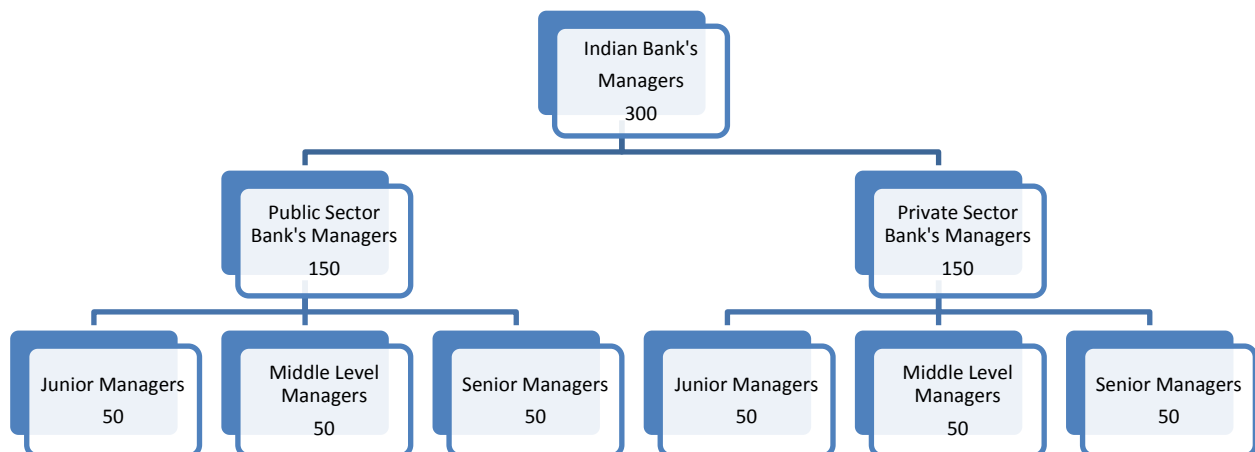
## II. HYPOTHESES

- I. There will be positive relationships between cognitive style and managerial effectiveness among different managerial levels of bank managers working in various public and private sector banks of National Capital Region (Delhi) and Haryana state of India.
- II. The different levels of bank managers working in various public and private sector banks of National Capital Region (Delhi) and Haryana state of India will significantly differ on the relationships between cognitive style and managerial effectiveness.

## III. RESEARCH METHOD

a) *Research Design*

Present research is an experimental type of research based on 2x3 group of research design. Graphical representation of the research design is given hereunder:



Research was conducted to investigate and understand the relationship between the cognitive style and managerial effectiveness among bank managers of public and private sector banks, working at junior, middle and senior level in the state of National Capital

Region (Delhi) and Haryana state of India. Identified relationships of various groups were compared and differentiated to find the degree of correlation at junior, middle and senior level management between cognitive style and managerial effectiveness.

Public sector banks from where managers of three different levels i.e. junior, middle and senior level were involved in the study were:

- State Bank of India
- Punjab National Bank
- Oriental Bank of Commerce

Private sector banks involved in the study were :

- ICICI Bank
- HDFC Bank
- Axis Bank

Classification of bank managers of both the public and private sector banks, involved in the study:

- Junior level manager : Executives below the position of Branch Manager
- Middle level manager : Branch managers
- Senior level managers : Bank Executives above the position of Branch manager

Sample

Universe for the sample of present study was all the bank executives working at different positions in the following banks:

Public sector banks

- State Bank of India
- Punjab National Bank
- Oriental Bank of Commerce

Private sector banks

- ICICI Bank

e) HDFC Bank

f) Axis Bank

A sample of 300 executives from both the public and private sector banks (150 executive from public sector and 150 executive from private sector) working at various positions of junior level (50 executive), middle level (50 executive) and senior level (50 executive) of management was taken on the basis of availability of executives working in the above stated banks as a non randomized sample. Group-wise details of sample size are already given in the research design.

#### IV. METHOD OF DATA COLLECTION

For data collection all the 300 subjects involved in the study as sample were tested for personality dimension of cognitive style by using Witkin's Figure Imbedded Test and Index of Managerial Effectiveness for managerial effectiveness. Data so collected is tabulated and presented below and findings have been discussed.

a) *Tools used*

Figure Imbedded Test developed by Witkin (1959) was used for scaling the cognitive style of the subjects involved in the study.

Index of Managerial Effectiveness devised by Walter W. Hudson (1993) was used for measuring managerial effectiveness of the sample.

#### V. RESULTS AND FINDINGS

**Table 1 :** Mean Cognitive Style scores of Junior, Middle and Senior level managers of Public and Private sector banks with F value and results of Duncan's multiple comparison test.

Banks $\Rightarrow$	Public sector banks			Private sector banks		
Groups $\Rightarrow$	Junior level manager	Middle level manager	Senior level manager	Junior level manager	Middle level manager	Senior level manager
Group No.	1	2	3	4	5	6
N	50	50	50	50	50	50
Means	130.05	109.54	98.47	126.33	104.14	92.17
F Value	F (4, 170) = 7.046; $P < 0.05$			F (4, 170) = 8.096; $P < 0.05$		

Table (1) Shows that mean cognitive style scores of junior, middle and senior level managers of public sector banks are 130.05, 109.54 and 98.47 respectively and mean cognitive style scores of junior, middle and senior level managers of private sector banks are 126.33, 104.14 and 92.17 respectively. Higher the cognitive style scores greater the tendency of field-dependence and lower the scores greater the tendency of field-independence.

Presentation of the scores in ascending order of all the three categories of both the public sector and private sector bank managers clearly illustrate that

cognitive style scores are low to high from senior to middle and junior level respectively. Among both the public and private sector bank managers these scores exhibit higher tendency of field-dependence among the senior managers in comparison to the middle level managers who have relatively greater inclination towards field-independence in comparison to senior managers. Junior level managers of both the public and private sector banks are the highly inclined towards field-independence tendency in comparison to middle and senior level managers.



F-ratio between the groups of public sector banks to be 7.046 which were significant at 0.05 level of significance. Since F-ratio was found significant, it means there exists a major difference between mean cognitive style scores of at least two groups, hence, Duncan's multiple comparison of means test was used to examine significant differences among means of different groups. The comparisons were made at 0.05 level of significance.

The results of Duncan's multiple comparison of mean revealed that mean cognitive style scores in ascending order were of junior managers, middle level managers and senior managers. Table (1) presents that junior managers and middle level managers differ significantly in their means from senior managers but junior managers did not differ significantly from middle level managers.

F-ratio between the groups of private sector banks to be 8.096 which were significant at 0.05 level of significance. As F-ratio was found significant, it means there exists a significant difference between mean cognitive style scores of at least two groups, hence, Duncan's multiple comparison of means test was used to examine significant differences among means of different groups. The comparisons were made at 0.05 level of significance.

The results of Duncan's multiple comparison of mean discovered that mean cognitive style scores in ascending order were of junior managers, middle level managers and senior managers from private sector bank. Table (1) presents that junior managers and middle level managers differ significantly in their means from senior managers but junior managers did not differ significantly from middle level managers.

**Table 2 :** Mean Managerial Effectiveness scores of Junior, Middle and Senior level managers of Public and Private sector banks with F value and results of Duncan's multiple comparison test.

Bank $\Rightarrow$		Public sector banks		Private sector banks	
Group $\downarrow$	Variable $\Rightarrow$	cognitive style	managerial effectiveness	cognitive style	managerial effectiveness
Junior manager	level	Highly Field-independent	High degree of managerial effectiveness	Highly Field-independent	High degree of managerial effectiveness
Middle manager	level	Field-independent	managerial effectiveness	Field-independent	managerial effectiveness
senior manager	level	Field-dependent	managerial effectiveness	Field-independent	managerial effectiveness
Junior manager	level	Highly Field-independent	High degree of managerial effectiveness	Highly Field-independent	High degree of managerial effectiveness
Middle manager	level	Field-independent	managerial effectiveness	Field-independent	managerial effectiveness
Senior manager	level	Field-dependent	managerial effectiveness	Field-independent	managerial effectiveness

Junior level managers of both the public and private sector banks are highly field independent and have a high degree of managerial effectiveness, where as the middle level managers of both the public and private sector banks are field independent and have a managerial effectiveness. Senior level manager are field-dependent as well as have low degree managerial effectiveness.

## VI. LIMITATIONS AND SUGGESTIONS

Because of limited resources, sample size taken for the study was very small, if a larger size sample can be managed more exact finding can be deduced.

Only two dimensions of relationship between cognitive style and managerial effectiveness are studied,

other objectives may be developed and finding can accordingly be worked out.

Present study is limited to the two states of Indian banks only, a comparative study may be conducted on international level and finding can be worked out and analyzed to control the cognitive style among managers and ultimately improving the managerial effectiveness.

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# An Analysis of Bilateral Trade between Iran and D-8 Countries

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**Abstract** - This paper investigates intra-trade and welfare effects for Iran and D-8 countries preferential trade agreement by reviewing the possibility of comprehensive trade liberalization through expanding coverage of preferential tariff reduction. A quantitative analysis is applied for economic effects of a free trade arrangement between Iran and other contracting countries. An important objective of this research is to appraise evidence of significant gains in intra-trade and welfare amongst Iran and D-8 countries when tariff barriers and enhancement measures are dismantled. Therefore, this study uses indices in international trade as an input into the process of evidence-based policymaking in the area of trade policy for D-8 countries.

**Keywords** : *D-8 countries, Trade Liberalization, Preferential Trade Arrangement, Economic Integration.*

**GJMBR - B Classification** : *FOR Code: 150308, JEL Code: F12,F53, F14*



*Strictly as per the compliance and regulations of:*



# An Analysis of Bilateral Trade between Iran and D-8 Countries

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**Abstract** - This paper investigates intra-trade and welfare effects for Iran and D-8 countries preferential trade agreement by reviewing the possibility of comprehensive trade liberalization through expanding coverage of preferential tariff reduction. A quantitative analysis is applied for economic effects of a free trade arrangement between Iran and other contracting countries. An important objective of this research is to appraise evidence of significant gains in intra-trade and welfare amongst Iran and D-8 countries when tariff barriers and enhancement measures are dismantled. Therefore, this study uses indices in international trade as an input into the process of evidence-based policymaking in the area of trade policy for D-8 countries.

**Keywords** : D-8 countries, Trade Liberalization, Preferential Trade Arrangement, Economic Integration.

## I. INTRODUCTION

The Developing 8 (D-8) countries consists' of Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkey. D-8 countries are an alliance of developing Muslim countries who are members of the Organization of Islamic Conference (OIC), which is established as an economic association. This group of countries was set up on June 15, 1997 after a declaration in Istanbul Turkey. The declaration included a plan to progressively diminish tariffs on particular goods between member-states, with supervision of the process by a supervisory committee. The purpose of this association of countries is a reduction of barriers to enable free trade between member countries, and to encourage inter-state cooperation. Despite the importance of D-8 countries, empirical literature analyzing D-8 member's countries trade with each other is limited. Thus, it is of interest to investigate trade among member countries exhaustively by reviewing trade relations and calculating trade indices such as Trade Intensity Index, Trade Complementarity Index, Trade Bias Index, Trade Creation and Diversion Index. Such indices can be used to give insights into the effects of regional trading arrangements among member countries. It can also explain as well as evaluate trade relationships and trade

patterns of D-8 countries. Such indices can be used as D-8 countries monitors trade flows and trends among member countries.

In an economic integration study on the effects of trade flows, the methodology employed is a descriptive scheme. This method depends on a static frame work and the results are dependent on the level of aggregation. A study done by Drysdale and Garnaut (1982) initiated applying indices to analyze bilateral trade flows. This was followed by many other research studies whereby indices were applied to study bilateral trade patterns. For instance, Hill (1985) studies the pattern of international trade between Australia and the Philippines for two decades from the years 1962-1981 using three indices to analyze and clarify patterns, composition and trends. Similarly, Zhang (1997) examine the potency of trade relations between China and Japan during the years from 1965-1993 by employing three indices. Bano (2002) used Intensity indices to measure modification among New Zealand and its main trading partners' trade relationship for the years 1981-1999. In relation to other methods, Ng and Yeates (2003) applied Intensity index to analyze and measure East Asian intra-regional trade that explained Distance Adjusted Trade Intensity Index. Creamer (2003) measured open regionalism in Andean communities' effect on inter-region and intra-region trade for the years 1990-2000 by using a Trade Intensity Index. Furthermore, Trade Intensity Index is used by Bhattacharya and Bhattacharyay (2007) to evaluate the trade potential between China and India. These studies used a variety of indicators to determine regional trade relationship between countries.

## II. METHODOLOGY

The composition of trade determines the degree of bilateral matching of commodities of an exporter with the demands of an importer. The gravity model does not explicitly show commodity matching of an importer and exporter. As an alternative, this paper applies Trade Intensity Index to explain commodity compositions' effects on bilateral trade. According to Drysdale (1967), by employing a decomposition method, this paper intends to demonstrate the quantity of effects on trade volume is caused by complementarity and country bias.

### a) Export Intensity Index

Trade Intensity Index explains whether a county

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exports more to a particular region as compared to the world on average. Therefore, Trade Intensity Index can be used as a uniform export share. The statistics are comparable across countries, and during the period of consideration are not influenced by any 'size' bias.

$$XI_{ij} = \left( \frac{X_{ij}}{X_i} \right) / \left( \frac{M_j}{M_w - M_i} \right) \quad (1)$$

Where

$X_{ij}$  : country i's export to country j

$X_i$  : country i's total export

$M_j$  : country j's total import

$M_w$  : world's import

$M_i$  : country i's import

Trade Intensity Index lies on the range 0 and  $+\infty$ . Values more than 1 indicate an 'intense' in trade flows.

#### b) Import Intensity Index

Import Intensity Index explains whether a country imports more from a particular region compared to the world on average. Similar to Export Intensity Index, Import Intensity Index is interpreted by using the same approach by approximating standardized import share. The statistics are comparable across countries, and for the period of consideration are not influenced by any 'size' bias.

$$MI_{ij} = \left( \frac{M_{ij}}{M_i} \right) / \left( \frac{X_j}{X_w - X_i} \right) \quad (2)$$

Where

$M_{ij}$  : country i's import from country j

$M_i$  : country i's total import

$M_i$  : country i's total import

$X_j$  : country j's total export

$M_i$  : world's import

$X_w$  : world export

$X_i$  : country i's total export

#### c) Trade Complementarity Index

Trade Complementarity Index evaluates the level of export patterns of one country matches the import pattern of another country. In other words, the Complementarity Index measures the degree of overlap between the export profile of the source and the import profile of the destination. Trade Complementarity Index is considered as overlap indices. High level of this index is implicit in a successful trade arrangement signifying favorable prospects. The index trend during the consideration period describes whether trade profiles are becoming more or less compatible. The Complementarity Index is converted to percentage. This index gets a value between "0" and "100". A "100" value explains a "perfect overlap" and "0" values indicating "no overlap" in trade flows.

#### i. Export Complementarity Index

This index evaluates the level of export pattern of one region (country) matches the import pattern of another region (country).

$$XC_{ij} = \sum_k \left[ \frac{X_i^k}{X_i} \cdot \frac{M_w - M_i}{M_w - M_i^k} \cdot \frac{M_j^k}{M_j} \right] \quad (3)$$

$XC_{ij}$  : Export complementarity index country i to j

$X_i^k$  : Exports of commodity k by i country

$X_i$  : total export of country i

$M_w$  : the total world's import flow

$M_i$  : country i's total import

$M_w^k$  : Imports of commodity k by world

$M_j^k$  : Imports of commodity k by j country

$M_i^k$  : Imports of commodity k by i country

$M_j$  : country i's total import

#### ii. Import Complementarity Index

This index evaluates the level of import patterns of one region matches the export pattern of another region.

$$MC_{ij} = \sum_k \left[ \frac{M_i^k}{M_i} \cdot \frac{X_w - X_i}{X_w - X_i^k} \cdot \frac{X_j^k}{X_j} \right] \quad (4)$$

$MC_{ij}$  : Import complementarity index country i from j

$X_i^k$  : Exports of commodity k by j country

$X_i$  : total export of country i

$X_w$  : total world's export flow

$M_i$  : country i's total import

$X_w^k$  : Exports of commodity k by world

$M_i^k$  : Imports of commodity k by i country

$X_j^k$  : Total exports of commodity k by j country

$X_j$  : country i's total export

#### d) Trade Bias Index

Trade Bias Index indicates the degree of resistance to i's trade with j relative to the average degree of resistance in i's other bilateral trading relationship.

$$B_{ij} = \frac{X_{ij}}{\sum X_i^k \left( \frac{M_j^k}{M_w - M_i^k} \right)} \quad (5)$$

Where

$X_{ij}$  : Country i's export to j

$X_i^k$  : Exports of commodity k by i country

$M_j^k$  : Imports of commodity k by j country

$M_w^k$  : Imports of commodity k by world

$M_i^k$  : Imports of commodity k by i country

When the Trade Bias Index is less than one, trade policies will provide incentives for import substitution. On the other hand, if B is greater than one, then trade policies will promote exports. For a special

case of where the Trade Bias Index is equal to one, trade policies is said to be neutral and the economy operates at close to free trade. Jagdish Bhagwati (1993) called these instances, import substitution, ultra export promotion, and export promotion respectively.

#### e) Trade Creation Index

Economist's who adhere to Jacob Viner's (1950) classic study, have argued that static and dynamic distortions are produced through preferential trade agreements (PTA's). Discussions on trade creation taking place when member countries substitute domestically less efficient producers with efficient, low-cost imports from member countries.

$$TC_{IR} = ME_{IR} \cdot EM_{IR} \cdot \frac{dT_A}{1+T_A} \quad (6)$$

$TC_{IR}$  : Trade creation of Iran

$ME_{IR}$  : Iran's import from D8

$EM_{IR}$  : Price elasticity of import demand

$T_A$  : Import tariff in Iran

$dT_A/(1+T_A)$  : change of import's tariff rates

$dT_A$  : After setting union tariff – before setting union tariff

#### f) Trade Diversion Index

Preferential trade agreements can guide trade diversions if member countries switch from efficient non-member countries producers and import from inefficient producers in other member countries of the preferential trade agreement (PTA). The net welfare effect of a PTA depends upon having two effects dominate.

$$TD_{IR} = MR_{IR} \cdot EM_{IR} \cdot \frac{(t_{IR} - c_{IR})}{1+t_{IR}} \quad (7)$$

$R$  : Trade diversion of Iran

$MR_{IR}$  : Iran's import from the word (except D8)

$EM_{IR}$  : Price elasticity of import demand

$t_{IR}$  : Import tariff for Iran

$c_{IR}$  : Common external tariff among members

If  $C_{IR} > t_{IR}$ : Trade diversion will be positive ( $TD > 0$ ). In this situation, trade creation and intra regional trade will increase.

But if  $C_{IR} < t_{IR}$ : Trade diversion will be negative ( $TD < 0$ ). Then intra regional trade declines and in this situation trade diversion will appear.

### III. RESULT AND DISCUSSION

In this section, we attempt to measure the effects of regional trading arrangements among member countries by explaining and evaluating the state of trade relationship and trade patterns of D-8 countries and monitoring trade flows and trends or across member countries by applying trade indices.

Bilateral trade data, to calculate the TII, was gathered from IMF Trade Statistics, 2010, with trade intensity indices calculated for the years 1998-2008.

By using the equation (1) we try to assess the intensity of export among the economies of D-8 countries. The results are shown in the Table 1.

Table 1 : Export Intensity Index for Iran and D-8 (1998-2008)

Year	Bangladesh	Egypt	Indonesia	Malaysia	Nigeria	Pakistan	Turkey
1998	0	0	0	0.65	0	2.99	4.58
1999	0	0	0	0.18	0	3.04	4.93
2000	0.48	0	0.49	0.27	0.01	6.38	3.19
2001	0.3	0.2	1.03	0.49	0.02	5.18	4.91
2002	0.27	0.19	0.46	0.35	0.05	3.88	3.96
2003	0.4	0.25	0.51	0.25	0.01	4.79	5.87
2004	0.27	0.27	0.27	0.47	0.01	2.93	3.93
2005	0.27	0.2	0.19	0.49	0.01	2.33	5.7
2006	0.47	0.27	0.21	0.78	0.01	2.7	7.44
2007	0.33	0.23	0.14	0.47	0.01	2.86	6.38
2008	0.36	0.23	0.18	0.58	0.01	2.63	6.51

We attempt to investigate the import intensity of trade relations among the D-8 countries, by using Import intensity Index (equation 2). Bilateral trade data have been used to calculate the Import Intensity Index, Data have been gathered from IMF Trade Statistics, 2010,

and trade intensity indices have been calculated for the years 1998-2008.

The results are shown in the Table 2 for Iran and D-8 countries for the years 1998-2008.



*Table 2* : Import Intensity Index for Iran and D8 (1998-2008)

Year	Bangladesh	Egypt	Indonesia	Malaysia	Nigeria	Pakistan	Turkey
1998	0	0	0	0.5	0	0	3.83
1999	0	0	0	0.5	0	0	3.63
2000	2.2	1.24	1.01	0.53	0	1.91	3.55
2001	2.35	0.52	0.49	0.63	0	2.15	2.88
2002	1.95	0.71	0.49	0.55	0	1.92	2.64
2003	1.35	0.2	0.49	0.65	0	2.07	2.58
2004	1.18	0.22	0.5	0.62	0	1.71	2.92
2005	1.35	0.26	0.58	0.58	0	2.04	3.03
2006	0.87	0.19	0.44	0.55	0	2.4	2.53
2007	1.29	0.54	0.57	0.73	0	2.77	3.42
2008	1.19	0.33	0.53	0.62	0	2.52	3.16

We conducted our empirical investigation on Export and Import Complimentarity Index (equation 3 and 4) using annual bilateral manufacturers exports data from the U.N. Commodity Trade Statistics Database (COMTRADE) for Iran and the other developing eight countries at three data points, i.e. year 2000, year 2006 and year 2008. The estimation results are shown in Table 3 and Table 4.

It should be noted the results are gathered by disaggregated individual trading products to 5 main groups based on Standard International Trade Classification (SITC). Food products (codes number 4, 22, 10), agriculture (code 2-codes number 27,22and 28), Ores and minerals (codes 28, 27, 68), Mineral fuel (code 3) and manufactured goods (codes 5 to 8).

*Table 3* : Export Complimentarity Index for D-8 countries (Year 2000-2008)

Country	Bangladesh	Egypt	Indonesia	Iran	Malaysia	Nigeria	Pakistan	Turkey
<b>Iran</b>								
<b>2000</b>	0.719	0.891	1.507		0.558	0.219	3.212	1.391
<b>2006</b>	0.916	1.169	1.594		0.698	0.708	1.674	0.407
<b>2008</b>	<b>0.846</b>	<b>1.207</b>	<b>1.576</b>		<b>0.653</b>	<b>0.474</b>	<b>2.330</b>	<b>1.152</b>

*Table 4* : Import Complimentarity Index for D-8 countries (Year 2000-2008)

Country	Bangladesh	Egypt	Indonesia	Iran	Malaysia	Nigeria	Pakistan	Turkey
<b>Iran</b>								
<b>2000</b>	0.964	1.208	0.79		0.91	0.797	0.908	0.834
<b>2006</b>	0.207	0.198	0.183		0.204	0.156	0.224	0.117
<b>2008</b>	0.462	0.521	0.165		0.621	0.403	0.573	0.472

Based on Standard International Trade Classification (SITC), using annual bilateral manufacturers exports data from the U.N. Commodity Trade Statistics Database (COMTRADE) Trade Bias Index (equation 5) results have been calculated for Iran and D-8 countries at three data points; year 2000, year 2006 and year 2008 (Table 5).

*Table 5* : Trade Bias Index for D-8 countries (Year 2000-2008)

Country	Bangladesh	Egypt	Indonesia	Iran	Malaysia	Nigeria	Pakistan	Turkey
<b>Iran</b>								
<b>2000</b>	0.66	0	0.33		0.49	0.03	1.99	2.29
<b>2006</b>	0.52	0.23	0.13		1.12	0.1	1.61	18.28
<b>2008</b>	0.58	0.16	0.14		0.87	0.04	1.78	12.63

By using equation (6) we calculate the trade creation for Iran for the years 1998– 2007. The data is collected from the Institute for Trade Studies and Research of Iran.

For estimating of DT in four different conditions, by reducing 10 percent, 20 percent, 30 percent and 40 percent respectively, we use the following equations:

$$TD_1 = \frac{dT_A}{1+T_A} = \frac{(T_A - 0.1T_A) - T_A}{1+T_A} = \frac{-0.1T_A}{1+T_A} \quad (8)$$

$$TD_2 = \frac{dT_A}{1+T_A} = \frac{(T_A - 0.2T_A) - T_A}{1+T_A} = \frac{-0.2T_A}{1+T_A} \quad (9)$$

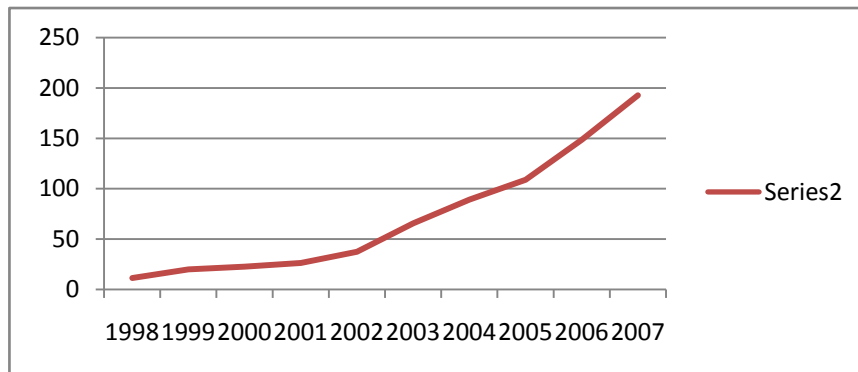
$$TD_3 = \frac{dT_A}{1+T_A} = \frac{(T_A - 0.3T_A) - T_A}{1+T_A} = \frac{-0.3T_A}{1+T_A} \quad (10)$$

$$TD_4 = \frac{dT_A}{1+T_A} = \frac{(T_A - 0.4T_A) - T_A}{1+T_A} = \frac{-0.4T_A}{1+T_A} \quad (11)$$

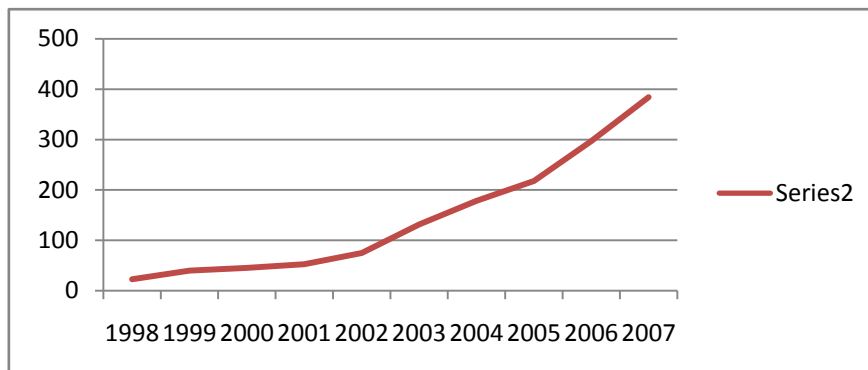
Trade creation index for Iran in period of 1998-2007 by considering four possibilities to be calculated and the result are shown in Table 6.

*Table 6* : Trade Creation Index of Iran for the years 1993-2007

Year	10%	20%	30%	40%
1998	11.3	22.6	33.9	45.2
1999	19.87	39.73	59.6	79.46
2000	22.53	45.06	67.6	90.13
2001	26.21	52.43	78.64	104.85
2002	37.35	74.7	112.05	149.4
2003	65.63	131.26	196.89	262.53
2004	89.14	178.29	267.43	356.58
2005	108.79	217.58	326.36	435.15
2006	148.47	296.65	445.15	593.51
2007	192.71	384.05	577.09	769.43



*Figure 1*: Trade Creation Index of Iran from Year 1998-2007 (10%)



*Figure 2* : Trade Creation Index of Iran from Year 1993-2007 (20%)

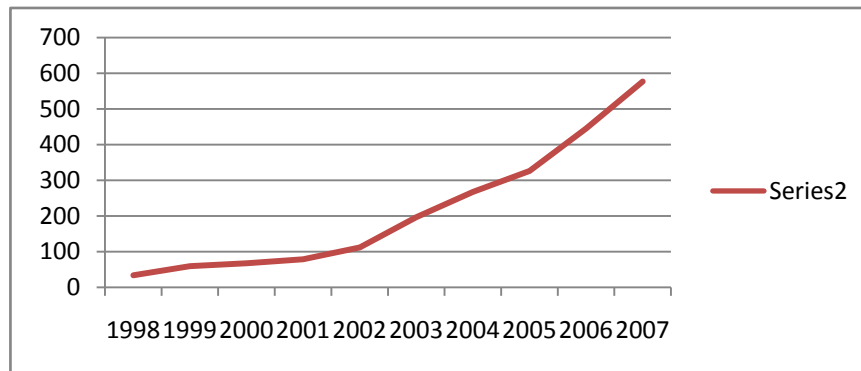


Figure 3 : Trade Creation Index of Iran from Year 1998-2007 (30%)

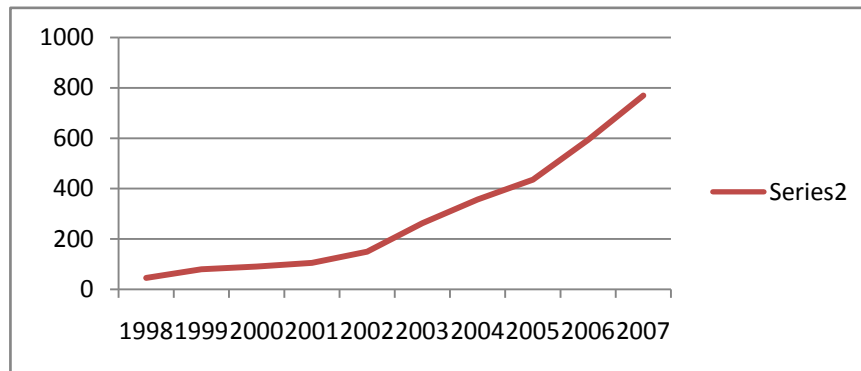


Figure 4 : Trade Creation Index of Iran from Year 1998-2007(40%)

The results show's by reducing tariff rates, trade creation increases. Therefore if the D-8 countries preferential trade agreements (PTA's) leads to reducing the tariff's rate, trade and competitiveness will increase between Iran and D-8 countries. The Trade Creation Index pattern and trends for the years 1998-2007 explains that the index is ascending.

We estimate Trade Diversion Index in four conditions:  $C_{IR}$  = 10, 20, 30 and 40 percent for the years 1998-2007. The results have been shown in Table 7. The data is collected from the Institute for Trade Studies and Research of Iran.

Table 7 : Trade Diversion Index of Iran from Year 1993-2007

Year	10%	20%	30%	40%
1998	-1352.14	380.5	2113.14	3845.79
1999	-4318.46	-3054.41	-1790.35	-526.3
2000	-3445.28	-1896.85	-348.43	1200
2001	-5206.05	-3374.74	-1543.43	287.88
2002	242.43	13244.49	26246.55	39248.61
2003	-986.93	14580.42	30147.77	45715.12
2004	-2221.67	20002.41	42226.48	64450.56
2005	-441.66	25769.02	51979.7	78190.38
2006	2164.11	32815.37	51460.45	69007.93
2007	21443.75	40792.38	42619.13	42758.38

The results show that there is an increasing common external tariff from 10 percent to 40 percent for the years 1998-2007 leading to a positive trade diversion ( $TD > 0$ ). Therefore, it is concluded that trade creation occurred. With a reduction of common external tariffs trade diversion that is negative, intra regional trade declines but external regional trade increased.

With a 10 percent reduction of common external tariffs, it is observed in the period of study, trade diversion is negative and intra regional trade declined. But in the other three conditions of 20 percent, 30 percent and 40 percent reduction in common external tariffs, trade creation occurred and intra regional trade increased.

#### a) *State Of Iran's Trade With Other D-8 Member Countries*

The findings show that the index is greater than one, for Iran's export to Turkey and Pakistan therefore, this could be regarded as highly intense. It is correct to say that intensity has improved from the time the agreement was signed in 1997. Iran and Turkey's bilateral trade surged from year 2003 onwards but Export Intensity Index for Iran and Pakistan declined from year 2000 whereas the index increased for Pakistan's export to Iran. This means that Iran's tendency to import from Pakistan has increased.

The findings also show Iran's exports to Turkey and Pakistan is more than Iran's imports from the world. In other words, trade share between Iran and Turkey and Iran and Pakistan is more than their shares in world's trade. In contrast, the index was high even before the time the agreement was signed in 1997. This could be attributed to geographic proximity and relative isolation from other markets.

The index is shown to be lower than one, for Iran's export to other D-8 countries (Indonesia, Malaysia, Egypt, Nigeria and Bangladesh) indicating that the share of Iran's trade with these countries is less than a proportion of Iran's share of world trade. This implies Iran's export to other D-8 countries is low.

Import Intensity Index indicates the share of Iran's imports from Turkey, Pakistan and Bangladesh is more than a percentage of their share of world trade. The index trends shows from year 2003, share of Iran's import from Turkey and Turkey's import from Iran is becoming higher. This further implies that the tendency of bi-lateral trade between the two countries has increased.

From year 2000, Import Intensity Index of Iran from Pakistan has risen, while Index decreased for import of Pakistan from Iran. This result shows that only Iran's tendency to import from Pakistan has increased.

Since the index is greater than one, for Iran's import from Bangladesh, this relationship could be considered as highly intense. But since year 2000, the trend is descending; reflecting a tendency of imports from Bangladesh to be declining. It should be noted Export Intensity Index for the two countries that is Iran and Bangladesh, is less than one, indicating that Iran's export to Bangladesh is not significant.

According to table 9, Import Intensity Index for Iran and other D-8 countries (Egypt, Indonesia, Malaysia and Nigeria) is less than one, emphasizing the share of Iran's import from these countries is less than a proportion of their share of world trade.

Comparing Indices Export Intensity Index and Export Complimentarity Index between Iran and Turkey shows a considerable difference that is; Export Complimentarity Index is less than Export Intensity Index. This means despite Iran and Turkey's export is

more than a proportion of share of world trade, but the small difference of Trade Complimentarity Index explains export patterns of Iran do not match the import patterns of Turkey.

Furthermore, investigations in Export Intensity Index and Export Complimentarity Index trends for the years 1998-2006, shows Export Intensity Index trend is ascending but the Export Complimentarity Index trend is descending. In other words, in spite of the increasing tendencies of trade between Iran and Turkey, the export pattern of Iran does not match the import patterns of Turkey.

By observing indices that is Export Intensity and Export Complimentarity Index between Iran and Pakistan shows a difference; but the difference of these two indices is smaller than for indices for Iran and Turkey. Therefore, Trade Complimentarity Index for Iran and Pakistan is higher than Iran and Turkey's. This implies export pattern of Iran matches the import pattern of Pakistan, in comparison to Turkey's.

The Export Complimentarity Index for Iran and Indonesia is bigger than export intensity in the years 2000 and 2006, indicating although the share of Iran and Indonesia's export is less than a proportion of their share of world trade, but the export pattern of Iran indicates a match to the import pattern of Indonesia. The Import Complimentarity Index between these countries also accepts this result. The results also indicate that the Trade Bias Index for Iran and Turkey for the 3 data points that was tested in this study is less than Trade Bias Index for Turkey and Iran. This means that Iran's access to Turkey's market is limited and Turkey gets an advantage of the bilateral trade partnerships and preferential facilities. Although, findings of this study show Turkey has more freedom to enter Iran's market. Trade Bias Index trend shows a downward decline before year 2000, but after this period the trend shows a pattern that is surging upwards. This would explain Iran's access to Turkey's market has become more restricted. The results show a similar issue occurring between Iran and Pakistan. Trade Bias Index for Iran and Pakistan is less than the Trade Bias Index for Pakistan and Iran. In other words, despite the liberal access by Pakistan to Iran's market, this is not reciprocal as Iran's access to Pakistan's market is quite limited.

## IV. CONCLUSION

In summary, the findings indicate that while D-8 countries intra-trade is expected to increase substantially, but not all countries will experience a welfare gain under a free trade arrangement. Likewise, impact on economic sectors differs substantially across countries.

The findings of this paper may serve as recommendations for policy makers to improve bilateral trade flows amongst D-8 countries, and signify the importance of trading partners. The purpose of this paper is to use indices in international trade as an input into the process of evidence-based policymaking in the area of trade policy for D-8 countries.

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# Analysis and Performance of Textile Weaving In Pakistan 2001-2010

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**Abstract** - The intention of this study is to examine and analyze the performance of Pakistani textile weaving industry over the last decade (2001-2010). This study is showing the overall performance of this sector that how much total assets are depending on equity and paid up capital. The study is examining that in which year sale is on its peak and how much sale is depending on total asset, bank chargers and profit after tax. On the other side how much profit after tax is depending on total asset, equity and sales. The study is informing about companies profit before tax and profit after tax, that how much companies are earning and how much they are giving in term of tax. This study is examining that in which years variables are more consistent. The study is analyzing that autocorrelation exists between variables or not.

**Keywords** : Lacing, Yarns, Treadles, String, Looms.

**GJMBR - A Classification** : FOR Code: 120306, 150312 JEL Code: L67



ANALYSIS AND PERFORMANCE OF TEXTILE WEAVING IN PAKISTAN 2001-2010

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# Analysis and Performance of Textile Weaving In Pakistan 2001-2010

Yasir Hassan <sup>α</sup>, Khawar Iqbal <sup>σ</sup>, Ali Rehan Qureshi <sup>ρ</sup>, Muhammad Waqas <sup>ω</sup>, Ali Farhan <sup>¥</sup>, Usman Ali Anjum <sup>§</sup>, Sheraz Ahmad <sup>χ</sup>, Saqib Ghulam Nabi <sup>ν</sup>, Muaz Bin Asar <sup>θ</sup>, Junaid Aftab <sup>ζ</sup>

**Abstract** - The intention of this study is to examine and analyze the performance of Pakistani textile weaving industry over the last decade (2001-2010). This study is showing the overall performance of this sector that how much total assets are depending on equity and paid up capital. The study is examining that in which year sale is on its peak and how much sale is depending on total asset, bank chargers and profit after tax. On the other side how much profit after tax is depending on total asset, equity and sales. The study is informing about companies profit before tax and profit after tax, that how much companies are earning and how much they are giving in term of tax. This study is examining that in which years variables are more consistent. The study is analyzing that autocorrelation exists between variables or not. Overall study and its graphical representation are helping to come on a conclusion that this sector is flourishing or not, and sale and profit of the companies are increasing or decreasing over the last decade (2001-2010)

**Keywords** : Lacing, Yarns, Treadles, String, Looms

## 1. INTRODUCTION

Pakistan is a fourth largest producer of cotton in the world and has basic structure of textile and in the Asia Pakistan are the eight largest producers of textile commodities. 30 % population of Pakistan is working in the textile and creates employment for 15 million peoples. Pakistan has only two textile mills at the time of independence but by the time progressed gradually at this stage only due the fertile land and infrastructure favorable to that sector and technology improvement. . 56% exports of Pakistan are depends on this sector. Bulk of textile products is exported in the world from Pakistan to Other countries. Srilanka, Bangladesh turkey growing up by the time in this sector. Affordable prices and quick supply of gas, electricity, water, petrol and diesel are main factors so trade development authority of Pakistan (TDAP) decided to grow the exports so make the environment in which these factors should to be affordable and reachable.

The lacing together of threads and yarns to form cloth has developed over thousands of years of discovery and experimentation. The origin and development of woven cloth is closely tied to the history

of mankind. Thousands of years ago we developed the skills necessary to turn the raw materials around us into cloth for clothing and shelter. Production of fabric is original means of weaving, two distinct set of yarn and threads are interlaced to form fabric or cloth. For making cloths/fabric using looms in which warp thread and weft thread are filling. Cloth generally woven on looms which hold the warp and weft thread. Early looms required two people to create the shed, and one person to pass through the filling. Early looms wove a fixed length of cloth but later ones allowed warp to be cut out as the floor progressed. There are 90,000 looms are in operation in which 30,000 are working and 60,000 loom on yarn. There are three different sectors in weaving sector, integrated, independent weaving units and power looms unit and different types of looms hand looms, power looms and mill weaving In concept, McKay's work remains at the moment the last word on the subject of comparative efficiency in weaving in Bangladesh.

### a) Early Methods For Weaving

- ❖ Development of String
- ❖ Development of Frames and Treadles
- ❖ Fly Shuttle
- ❖ Jacquard Machine

Industry categorized in following sectors:

1. Cotton Ginning Sector
2. Cotton Spinning Sector
3. Weaving & Made-up Sector
4. Art Silk and Synthetic Weaving Industry
5. Filament Yarn Manufacturing Industry
6. Cotton Cloth
7. Textile Down-Stream Industry.

United state of America is the largest market of our textile and the major share of our textile goes to America because our marginal share in 1970 was 0.08% but in 1997 only 1.0% increase in our textile marginal share. Faisalabad, Gujranwala and Jalalpur Jattan are the major cities for weaving clothes because of suitable infrastructure. According to annual report by state bank of Pakistan (SBP), the sector has strong implications on socio-economic conditions of the country given its role in employment generation. Devastating floods affected textile production in Pakistan in FY11. During second half of the year, surge in global cotton prices provided

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earning opportunities in the form of unprecedented high export prices, which in turn induces production activities. The crop loss in Pakistan and Australia, unfavorable weather in china, declining US inventories and exports cap by India also surged prices. Around 12% of Pakistan's total fabric exports are destined for Turkey. The fabric export to Bangladesh may continue to support this sector in Pakistan.

## II. LITERATURE REVIEW

The economic history review in (AUG, 2002) approximately hundred thousand handloom weavers surviving in south Asia due to the main focus on labor intensive technology.<sup>1</sup>

Economic and political weekly (AUG, 1998) more new tools and methods in textile weaving created the problem for the old institutional set-up. Labor demand decreasing approximately 7 workers out of 10 were hired because of capital intensive technology and females in the family are not able to work outside which was huge loss so the fly shuttle installed on small scale, old methods are more beneficial from new processes.<sup>2</sup>

All Pakistan textile mills association (APTMA) represents 396 textile mills in Pakistan in which 44 weaving, 315 spinning and 37 are composite unite, weaving mills have sizeable number of air-jest looms. International clothes production of Pakistan increasing by the time according to (APTMA) e.g. in 2000 (1028.5) in 2001(1067.6) in 2002(1746) in 2003(1687) in 2004(1868) in 2005 (3090) in 2006 (3203) and total growth in world is 13%. And world's growth rate in production of clothes is about 5%.<sup>3</sup>

Another study in Pakistan Economic Survey (1999-2000) In Pakistan's textile industry highlighting is on the spinning activity. Major portion of thread produced of good quality is exported rather than utilize large part of it for produce high value-added products like fabric, or clothing. This is an important structural weakness of our textile industry. This thread is imported by other countries like Japan, Hong Kong and South Korea who have well flourish textile industry change it into high value-added products and get much higher prices in international market. These countries do not cultivate cotton, but they have well-established textile industry because they have invested in modern manufacturing technology as well as in skilled staff. Their competent methods of production have enabled them to defeat the handicap of imported thread. But in Pakistan textile industry make decline due to be deficient in of investment and well qualified workforce in spite of having advantage of cotton and labor.<sup>4</sup>

Pakistan is the major textile product supplier in the world market with share (30% yarn trade, about 8% cotton) so the 56% of the country's total exports but decline in exports of cotton of about 15% in terms of quantity and value(SMEDA, 2005).<sup>5</sup>

McKay (1984) has afterward used data from Wasow et al. in estimate relative competence of HL and PL techniques on the basis of the addition of internal rates of return (IRR) and household resource cost (DRC).<sup>6</sup>

According to the Pakistan textile mills association (PTMA) the cotton prices in Pakistan changing in every year increasing or decreasing every year data shows (2002-2011), in 2002-3 the average price of cotton was( 2235), 2004-5(2166),2006-7(2388),2008-2009(4155),2010-2011(9002).<sup>7</sup>

(Textile journal) Textile industry is the major sources of exports earnings for Pakistan. Its share in the total merchandise exports of Pakistan is still above 50%. It fell from 2.6% in 1970 to 1.9% in 1980 as far as share in world total in concerned but since it rising and reach 2.7% in 1997. Cloth exports relatively new for Pakistan but its share in the total merchandise exports of Pakistan is around 22% but in the world total from a marginal share of 0.08% in 1970 its share has risen to only 1.0% in 1997.<sup>8</sup>

Consumption of Cotton, Man-made (Synthetic) Fibers in Textile

Productions of Pakistan (in Percentage)

Years Cotton Man-made.<sup>9</sup>

YEARS: COTTON: MAN-MADE

1980-81 : 0.92 : 0.08

1984-85 : 0.90 : 0.10

1995-96 : 0.88 : 0.11

## III. METHODOLOGY

Secondary data of Textile weaving has been used in this research from Karachi stock exchange. Different tests have been applied for getting the appropriate result. Histograms are showing that in which year sales and profit after tax are on their maximum level. Least significant difference test (LSD) is showing the difference of one year mean from the other year's means. ANOVA is used for comparing the means of different variables from year 2001-2010. Multi linear regression has been used by taking the Sales as dependent by taking paid up capital, no of share, equity, Profit after tax, bank charges and total asset as independent variable. For profit after tax (dependent) sales, paid up capital, no of share, equity, bank charges and total asset are being used as independent variable. All the tests have been used for investigating the performance of Pakistani textile weaving industry over the last decade (2001-2010)

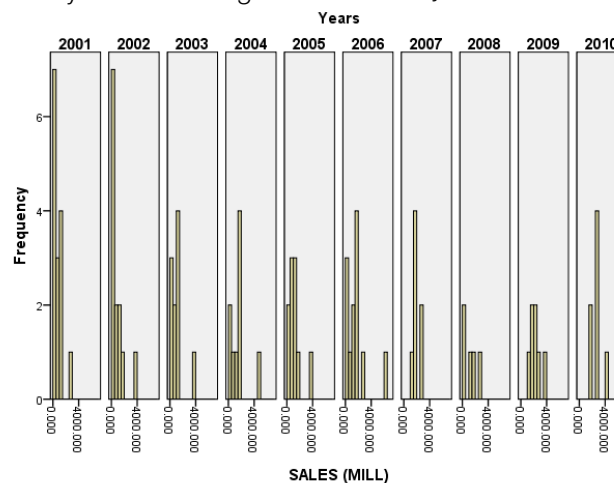
#### IV. EMPIRICAL RESULT

A histogram is one of the basic quality tools. It is used to graphically summarized and show the distribution and variation of a process data set.



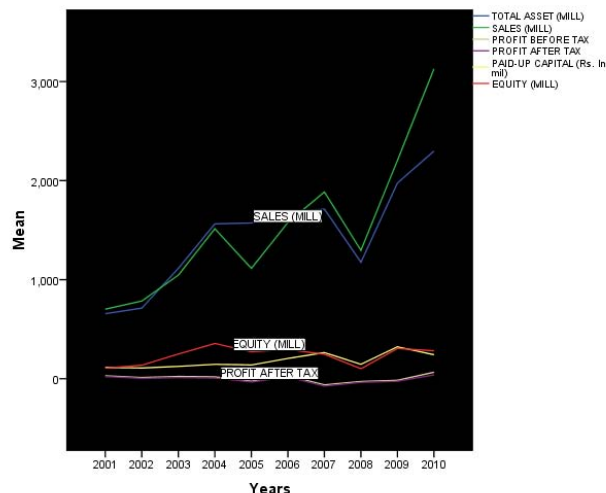
This histogram are showing the movement of companies profit after tax as we can see profit is high in 2001 then it is decreasing in next two years then it's gain

a boost in 2004 and it's increasing even it's went on its peak point in 2006 and then it is decreasing again in next four year. In 2010 it is on it's minimum level.



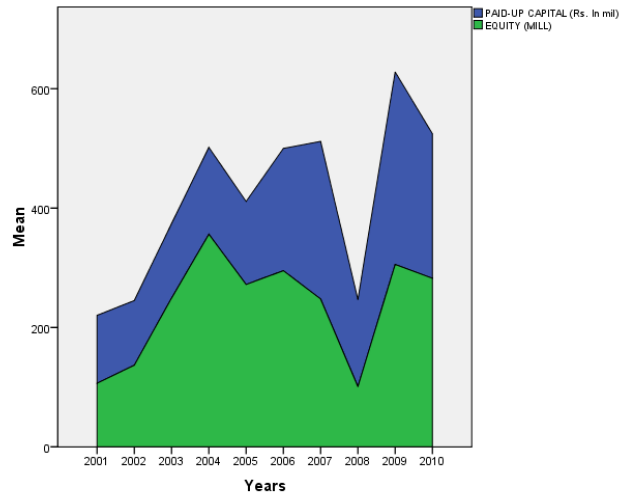
In this graph the scenario is totally change. It graph is representing companies sales level of decade. This graph is telling that companies sales are maximum in 2001 and 2002 then it is decreasing and remain same almost in next five years and it's decline again in 2008

and 2009 and in 2010 it's recovering again. In 2008 and 2009, electricity crisis were very high in Pakistan so may be that was a reason that companies production were reduced and in the result of their sales were also declining.



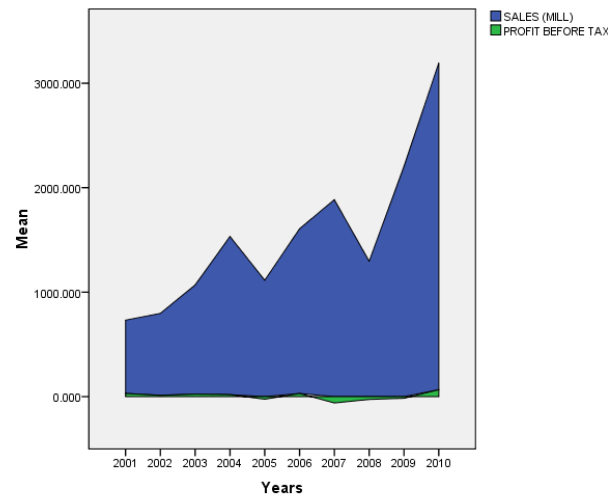
In this line chart, there are six variables. This graph is showing that profit after tax and before tax has zero or less than zero mean throughout the decade.

Sale is increasing then decreasing in the mid it's again having a boost then in 2007 it's decreasing, from 2008 line is moving upward.



The graph is showing that paid up capital is increasing then in 2002 it's increasing rapidly in 2004 it's decreasing and so on its continuously increasing and

decreasing till the end of decade. It is interesting that equity is also changing according to paid up capital.



This area chart is showing the trend of sale. It's increasing but in 2004 and 2007 it's decrease for one year. Sale is on its peak in 2009 and 2010 but interesting thing is that although company are selling their in

products in millions but they are showing their profit after tax and before tax zero or less than zero. May be they are not showing their real profit because they don't want to pay tax or they want to get tax rebate.

	Years	Mean	S.D	CV
Paid up capital (Rs in millions)	2001	113.717	59.10052	51.97
	2002	108.323	61.85334	57.10
	2003	124.849	66.71258	53.43449
	2004	145.545	86.75751	59.60872
	2005	136.9453	132.1691	96.51235
	2006	204.8800	173.5108	84.68898
	2007	264.0334	187.6956	71.08783
	2008	211.4770	177.4472	83.90854
	2009	322.6144	263.6002	81.70751
	2010	242.1805	179.1412	73.9701
	total	171.429	148.8516	86.829





	Years	Mean	S.D	CV
No of share	2001	11.372	5.910052	51.97173
	2002	10.832	6.185335	57.10072
	2003	12.485	6.671258	53.43449
	2004	14.555	8.675751	59.60872
	2005	13.695	13.21691	96.51235
	2006	12.293	16.74342	136.2051
	2007	26.4033	18.76956	71.08783
	2008	11.7487	16.84103	143.3435
	2009	32.2614	26.36002	81.70751
	2010	24.2181	17.91412	73.9701
	total	14.983	15.0349	100.3457
	Years	Mean	S.D	CV
Equity (mill)	2001	106.549	377.4583	354.2564
	2002	136.855	380.9438	278.3566
	2003	249.285	407.9064	163.6307
	2004	356.196	568.2594	159.5356
	2005	271.9326	538.23	197.9277
	2006	295.1125	469.6598	159.1461
	2007	247.646	213.3904	86.1674
	2008	100.850	175.9385	174.4555
	2009	305.525	288.7392	94.50606
	2010	282.331	480.8149	170.3016
	total	228.872	411.2911	179.7033
	Years	Mean	S.D	CV
Total Asset (mill)	2001	656.624	622.622	94.82168
	2002	712.807	922.8998	129.474
	2003	1114.853	1192.512	106.9659
	2004	1563.760	1755.711	112.2749
	2005	1572.145	2012.735	128.0247
	2006	1681.693	2126.77	126.466
	2007	1712.185	690.3488	40.31977
	2008	1176.293	854.4066	72.63552
	2009	1975.601	754.4496	38.18837
	2010	2298.508	1058.091	46.03381
	total	1357.542	1386.482	102.1318

Mean is known as average and standard deviation tells us that how much variation exist from mean. And coefficient of variation tells us about

consistency. Paid up capital and no of share were more consistent in 2001 whereas equity was in 2007 and total asset was in 2009.

	Years	Mean	S.D	CV
Sales (mill)	2001	702.350	782.4262	111.401
	2002	784.750	1076.1145	137.128
	2003	1045.7769	1103.621	105.531
	2004	1514.2205	1346.636	88.933
	2005	1113.8330	1024.398	91.970
	2006	1577.564	1717.9946	91.826
	2007	1885.551	572.436	30.359

	2008	1295.866	1107.529	85.466
	2009	2203.768	776.108	35.217
	2010	3128.341	1656.314	52.945
	total	1406.491	1315.6897	93.544
	Years	Mean	S.D	CV
Profit Before tax (mill)	2001	29.729	105.375	354.447
	2002	12.168	114.822	943.619
	2003	23.034	72.795	316.036
	2004	18.636	63.446	340.455
	2005	-21.654	60.439	-279.109
	2006	29.940	62.793	209.730
	2007	-60.986	189.277	-310.363
	2008	-54.302	76.355	-140.612
	2009	-15.850	88.326	-557.271
	2010	65.621	197.988	301.715
	total	3.434	108.9712	3172.997
	Years	Mean	S.D	CV
Profit After tax (mill)	2001	21.128	96.487	456.672
	2002	3.243	105.565	3254.844
	2003	11.283	63.934	566.645
	2004	6.998	44.724	639.136
	2005	-28.806	65.330	-226.791
	2006	16.282	68.562	421.080
	2007	-74.202	189.986	-256.04
	2008	-55.259	77.396	-140.06
	2009	-25.902	62.832	-242.57
	2010	38.253	175.218	458.05
	total	-5.463	101.120	-1851.028

Sale is more consistent in 2007 whereas profit 2006 because in this year these variables are having before tax and profit after tax are more consistent in least coefficient of variation values.

## ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PAID-UP CAPITAL (Rs. In mil)	Between Groups	442780.551	9	49197.839	2.491	.013
	Within Groups	1994468.121	101	19747.209		
	Total	2437248.671	110			
NO. OF SHARE	Between Groups	4534.944	9	503.883	2.462	.013
	Within Groups	23947.236	117	204.677		
	Total	28482.180	126			

EQUITY (MILL)	Between Groups	704189.181	9	78243.242	.438	.911
	Within Groups	15366043.635	86	178674.926		
	Total	16070232.816	95			
TOTAL ASSET (MILL)	Between Groups	26268269.758	9	2918696.640	1.605	.126
	Within Groups	156353204.596	86	1818060.519		
	Total	182621474.354	95			
SALES (MILL)	Between Groups	44911195.514	9	4990132.835	3.590	.001
	Within Groups	119537540.850	86	1389971.405		
	Total	164448736.364	95			
PROFIT BEFORE TAX	Between Groups	125248.563	9	13916.507	1.208	.300
	Within Groups	1059915.920	92	11520.825		
	Total	1185164.483	101			
PROFIT AFTER TAX	Between Groups	104091.914	9	11565.768	1.146	.339
	Within Groups	938894.192	93	10095.636		
	Total	1042986.107	102			
(BANK) / FINANCIAL CHARGES	Between Groups	193652.829	9	21516.981	4.400	.000
	Within Groups	420601.028	86	4890.710		
	Total	614253.857	95			

## V. HYPOTHESIS

*Sales:*

$H_0: \mu_{2001} = \mu_{2002} = \mu_{2003} = \mu_{2004} = \mu_{2005} = \mu_{2006} = \mu_{2007} = \mu_{2008} = \mu_{2009} = \mu_{2010}$

$H_1$ : At least one mean is significantly different

*Profit after tax:*

$H_0: \mu_{2001} = \mu_{2002} = \mu_{2003} = \mu_{2004} = \mu_{2005} = \mu_{2006} = \mu_{2007} = \mu_{2008} = \mu_{2009} = \mu_{2010}$

$H_1$ : At least one mean is significantly different

As the p-value of sale, paid up capital, bank charges and no. of share is less than 0.05 so it means that null hypothesis ( $H_0$ ) will be rejected and  $H_1$  will be accepted. It means that at least one mean is significantly different. But p-value of Total asset, profit after tax, profit before tax, and equity is greater than 0.05 so it means that we will accept  $H_0$  and reject  $H_1$ .

## Multiple Comparisons

SALES (MILL)  
LSD

Years	Years	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2007	2001	1183.201267*	539.659248	.031	110.39419	2256.00835
	2002	1100.801385*	552.709889	.050	2.05049	2199.55228
	2010	-1242.790250*	610.175196	.045	-2455.77839	-29.80211
2009	2001	1501.418838*	539.659248	.007	428.61176	2574.22592
	2002	1419.018956*	552.709889	.012	320.26806	2517.76985
	2003	1157.991671*	581.002998	.049	2.99594	2312.98741
2010	2001	2425.991517*	516.150352	.000	1399.91858	3452.06446
	2002	2343.591635*	529.780429	.000	1290.42300	3396.76027
	2003	2082.564350*	559.234804	.000	970.84235	3194.28635
	2004	1614.120694*	572.876682	.006	475.27954	2752.96185
	2005	2014.508250*	559.234804	.001	902.78625	3126.23025
	2006	1550.777417*	538.123941	.005	481.02243	2620.53241
	2007	1242.790250*	610.175196	.045	29.80211	2455.77839
	2008	1832.475050*	672.116587	.008	496.35150	3168.59860

The least significant difference (LSD) is used for checking the significant difference between mean of different years. This test is showing that mean of 2001 is different from 2007, 2009 and 2010. It is also showing

the result of other years as mean of 2008 is different from 2010. It is verifying that p-value of sale is less than 0.05

ANOVA<sup>d</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	516796.106	5	103359.221	20.191	.000 <sup>a</sup>
	Residual	460727.148	90	5119.191		
	Total	977523.254	95			
2	Regression	516193.283	4	129048.321	25.456	.000 <sup>b</sup>
	Residual	461329.972	91	5069.560		
	Total	977523.254	95			
3	Regression	515672.002	3	171890.667	34.240	.000 <sup>c</sup>
	Residual	461851.252	92	5020.122		
	Total	977523.254	95			

Multi linear regression is used for this test. Overall model is significant.

$PAT = b_0 + b_1 \text{ paid up capital} + b_2 \text{Equity} + b_3 \text{bank charges} + b_4 \text{sale} + b_5 \text{Total asset}$

Profit after tax is taken as dependent variable where as paid up capital, equity, bank charges, total asset and sale are independent variable.

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	.567	11.448		.050	.961
	TOTAL ASSET (MILL)	-.103	.012	-1.414	-8.745	.000
	EQUITY (MILL)	.234	.033	.950	7.148	.000
	SALES (MILL)	.060	.011	.779	5.630	.000



*a. Dependent Variable : Profit After Tax*

Backward method is used for this model, as model is showing that total assets, equity and sales are best describing the profit after tax.

$$PAT = b_0 + b_1 \text{Total asset} + b_2 \text{Equity} + b_3 \text{Sales}$$

$$PAT = .567 + (-.103) \text{Total asset} + .234 \text{Equity} + .060 \text{Sales}$$

Model is showing that these variables have positive impact on Profit after tax.

**VI. SALES AS DEPENDENT**

Sale is used as dependent variable whereas profit after tax, total asset, no of share, bank charges and equity are used as independent variables.

**ANOVA<sup>d</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	139928351.421	5	2.799E7	102.719	.000 <sup>a</sup>
	Residual	24520384.943	90	272448.722		
	Total	164448736.364	95			
2	Regression	139909491.789	4	3.498E7	129.708	.000 <sup>b</sup>
	Residual	24539244.574	91	269662.028		
	Total	164448736.364	95			
3	Regression	139885429.438	3	4.663E7	174.643	.000 <sup>c</sup>
	Residual	24563306.926	92	266992.467		
	Total	164448736.364	95			

Multi linear regression is used for this test. Overall model is significant.  $\text{Sale} = B_0 + B_1 \text{Profit after tax} + B_2 \text{Total Asset} + B_3 \text{no. of shares} + B_4 \text{bank charges} + B_5 \text{Equity}$

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	290.808	74.411		3.908	.000
	TOTAL ASSET (MILL)	.507	.062	.534	8.140	.000
	(BANK) / FINANCIAL CHARGES	6.335	1.077	.387	5.880	.000
	PROFIT AFTER TAX	3.197	.526	.246	6.078	.000

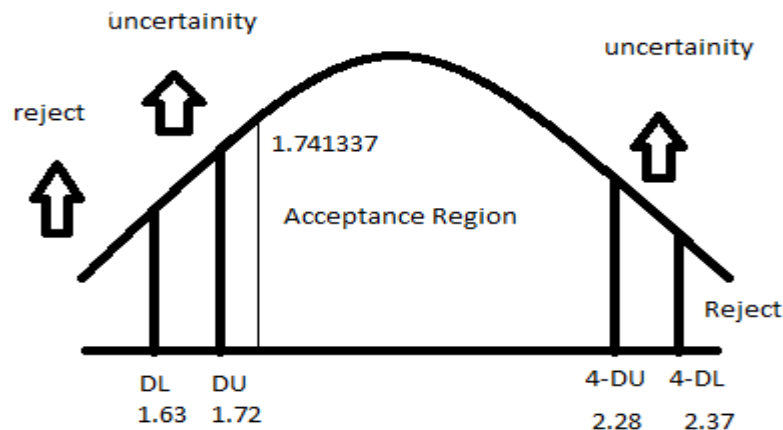
*Auto Correlation :*

$H_0$ :  $P=0$  (no auto correlation)

$H_1$ :  $P$  is not equal to  $0$  (auto correlation)

Equity and total asset:

$$d = \frac{\sum_{t=2}^T (e_t - e_{t-1})^2}{\sum_{t=1}^T e_t^2},$$



Since the calculated value of  $-d_{ll}$  lies in acceptance region. So  $H_1$  will be rejected and  $H_0$  will be accepted and it is notifying that there is no evidence of auto correlation.

## VII. CONCLUSION

At the start of decade companies in this sector were in many numbers but with the passage of the time they were started to shut their businesses. But in the mid so many companies came into this sector but when the electricity crisis started in the past, they again shut their businesses. The same thing is happened with profit of companies. At start companies were earning profit respectively high from the other years, then it's started to decline and in the mid of the decade profit were on their peak level and then its again started to fall till the end of the decade. Sale was high in start but then it decreased and remains same till the end. The one thing which is interesting that companies were selling their products in million but they were almost on breakeven point that means they were on no profit level. There is almost monopoly in this sector because only 10 to 20 companies are there in this sector but almost half of sale and total asset were in hand of 2 or 3 companies.

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## Air Transport Policy for Mauritius – The Way Forward

By N. P. Mootien

*University of Technology, Mauritius Nmootien*

**Abstract** - The dichotomy in policy making regarding the hotel industry and air transport, makes it imperative for the government to formulate clear policy processes in order to avoid conflicting situations among stakeholders. This paper looks at the various issues regarding policy theories and examines the various theories that have made their mark in other countries. It has often been contended that the national carrier, the hotel industry and government have often been looking in different directions instead of coming up with consistent policies common to all stakeholders where all could deploy efforts to consolidate the tourism industry and at the same time contribute to economic growth.

**Keywords** : *Stakeholders, Policies and Policy Theories, airlines and air transport industry, tourism industry and the economy.*

**GJMBR - A Classification** : 150701 JEL Code: R42, R48



AIR TRANSPORT POLICY FOR MAURITIUS THE WAY FORWARD

*Strictly as per the compliance and regulations of:*



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# Air Transport Policy for Mauritius – The Way Forward

N. P. Mootien

**Abstract** - The dichotomy in policy making regarding the hotel industry and air transport, makes it imperative for the government to formulate clear policy processes in order to avoid conflicting situations among stakeholders. This paper looks at the various issues regarding policy theories and examines the various theories that have made their mark in other countries. It has often been contended that the national carrier, the hotel industry and government have often been looking in different directions instead of coming up with consistent policies common to all stakeholders where all could deploy efforts to consolidate the tourism industry and at the same time contribute to economic growth.

Several policy theories are available namely Policy Network Analysis (PNA), Advocacy Coalition Framework (ACF), Prospects Theory, Power Elites Theory and Community organization Theory among others. Most of the above are analyzed and compared and the two theories that come close are the PNA and ACF with a preference for the latter for various reasons developed in the paper. Governments have to pay considerable attention to new policies in the implementation of an open sky policy and must assess its impacts so as to 'protect' their respective national carriers.

**Keywords :** *Stakeholders, Policies and Policy Theories, airlines and air transport industry, tourism industry and the economy*

## 1. INTRODUCTION

For almost half a century now, the Mauritian tourism industry has gradually developed in to one of the main pillars of the economy. The industry provides employment, foreign currency and 'spill over effects' and the multiplier effects characteristic of a buoyant economy. As a major tourist receiving country of this part of the world, it has one serious drawback which is distance from its main markets. Most of the tourists generating countries for its market are found mostly in

Europe: France, UK, Germany and Italy among others. One of the main issues because of distance is getting the markets to the destination. This poses a serious disadvantage that in turn gives its competitors in Europe a competitive edge. Such competitors, namely Portugal, Greece, Spain and Italy together with North Africa (Tunisia, Morocco and Algeria) puts Mauritius in an unfair situation where most of the travels to and from the country are termed long-haul journeys as opposed to the short-haul provided by its competitors.

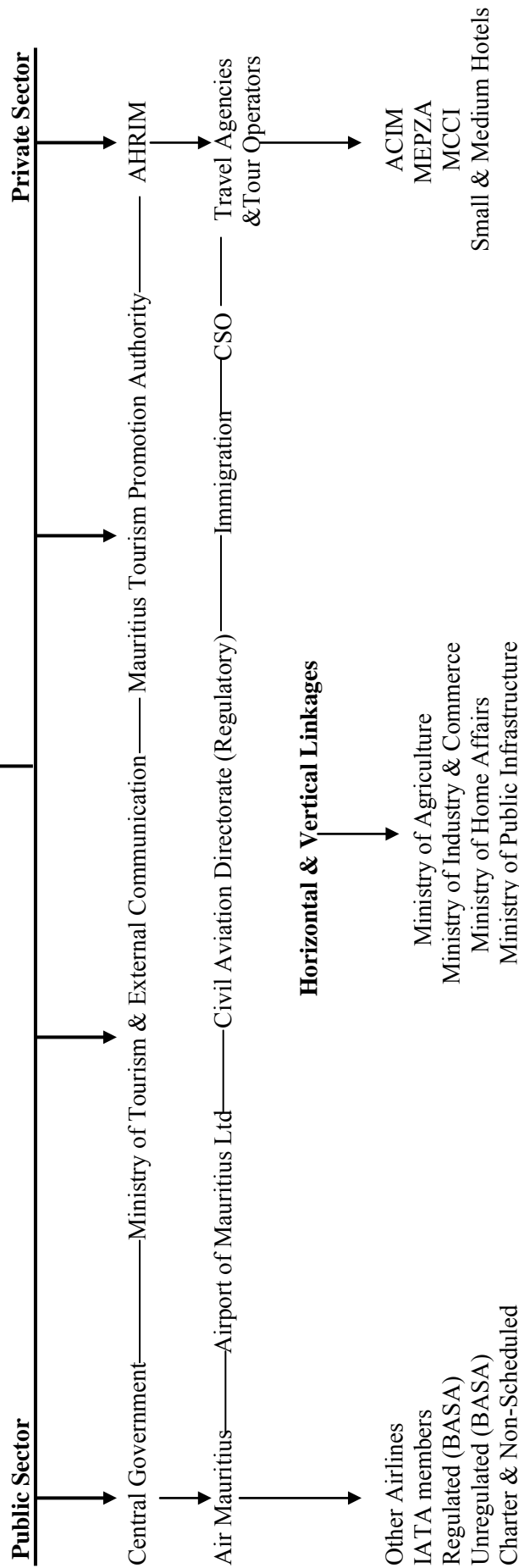
One of the main issues to consider in this case is air transport and the main stakeholders are the national flag carrier, Air Mauritius and other airlines that have been given the various freedoms of the air on the basis of bilateral agreements and code sharing facilities. Another serious group of stakeholders for tourism development is inevitably the hotel industry. Air travel and hotel accommodation are obviously the two major components of this industry. There has been, however, a dichotomy in the national and government approach. Until the beginning of this century, the national airline has been enjoying a situation of quasi monopoly with a few bilateral agreements that made economic sense at that time. Hoteliers used to complain that the national airline does not offer enough flights, hence not enough seats, to and from their markets. The national airline used to oppose this argument by saying that there are not enough hotel rooms to satisfy the demand.

Based on this, government who has the upper hand on major policy decisions has had to intervene and this paper looks at the policy approach of the government and makes proposals how the making and implementation of policies could be determinant. Various policy theories are examined with a view to see what are more appropriate in order to have win/win a situation for all stakeholders concerned.



## Aviation Policy Process Model

### Tourism Policy Formulation



The above model gives an ideal approach to policy formulation at the level of all stakeholders. It is to be understood of course that the conflicting interests are arbitrated by the government who has the final say on policy decisions. Implementation is then left to the various stakeholders. Monitoring and evaluation are then left to regulating authorities such as DCA, MTPA and the relevant ministries.

The above model gives an ideal approach to policy formulation at the level of all stakeholders. It is to be understood of course that the conflicting interests are arbitrated by the government who has the final say on policy decisions. Implementation is then left to the various stakeholders. Monitoring and evaluation are then left to regulating authorities such as DCA, MTPA and the relevant ministries.

## II. AIR TRANSPORT POLICY PROCESS BASED ON SOME OF THE EXISTING POLICY THEORIES

Understanding causal influence is difficult in the best of circumstances for any activity: it is an especially complex task to assess the impact and role of research on public policy-making. Such assessments are difficult, first, because of the intrinsic nature of research and related activities and second, the goal is to achieve influence in dynamic processes with a multiplicity of actors. It is for these reasons that we have to find some already established policy theories and examine their relevance to our topic and come up with some hypotheses which can eventually be tested. The purpose of this chapter therefore is to survey the academic literature pertinent to our topic and develop a conceptual framework that will guide us in the evaluation of the policy theory and its implementation. Forming such a framework requires a wide ranging view of several analytical approaches which includes knowledge utilization, policy communities and networks, policy-oriented learning, conflict and agenda setting. It is necessary here to note that very often there is a gap between policy researchers' findings and policy makers' tasks. According to Lindquist and Weiss (2003) "it seems logical to suggest that public policies would be better constructed if policy-makers had access to the best research. Yet all too often, researchers and policymakers inhabit separate spheres – the work of the two does not connect."

This paper therefore takes stock of some of the various policy theories propounded and expounded. It also gives an overview of the ACF as it is and how it has been used by researches and scholars over the decades. It finally summarises and draws lessons from past application that could also be applied to the policy process in the aviation industry.

### Global Theories

1. **'Large Leaps'** or Punctuated Equilibrium Theory
2. **'Coalition'** Theory or Advocacy Coalition Framework
3. **'Policy Windows'** or Agenda Setting

Some hypotheses will be formulated in order to test the theory applicability to the industry and in the policy making process.

The relationship between social scientists and policy makers was explicitly depicted as 'knowledge utilisation' (Lindquist, 2001; Weiss, 1977). The initial function of policy process was to depict, explore and explain the distance between two communities: one comprised of social scientists (the "knowledge producers") and the other (the 'knowledge-consumers'), each with different, though not necessarily unrelated, overarching values and cultures. However, Lindquist (1990) was more discerning in identifying a 'third community' of organisations inside and outside government neither comprised of policy-makers nor committed fully to social science research per se, but rather sharing a commitment to producing policy-relevant data, research or analysis, even though they might be located in the government or private sector, work for and target different audiences, and have varying degrees of willingness to put inquiry in the public domain. According to Lindquist (1990) delineating policy communities is essential for addressing the complexity of policy-making systems, but an important question concerns how this approach, which was developed to make sense of processes in large developed countries, can also be applied in different contexts in developing countries and eventually in more specific domains like aviation.

In her "pathways for Change", Sarah Stachowiak (2007) selected six theories to explain how policy change happens. She classified them as Global Theories and Theories about Advocacy Strategies or Tactics.

### Theories about Advocacy Strategies or Tactics

4. **'Messaging and Frameworks'** Theory
5. **'Power Politics'** or Power Elites Theory
6. **'Grassroots'** or Community organizing Theory

## III. SUMMARY OF THE SIX THEORIES

## Global Theories

Theory (Key Authors)	Discipline	How Change Happens	The theory may be useful when:	Limitations of the Theories
1. 'Large Leaps' or punctuated Equilibrium Theory (Baumgartner, Jones)	Political Science	Like seismic evolutionary shifts, significant changes in policy and institutions can occur when the right conditions are in place.	<ul style="list-style-type: none"> <li>- Large-scale policy change is the primary goal</li> <li>- Strong capacity for media advocacy exists</li> </ul>	While these conditions can set up the environment in which large-scale can occur, they do not predict or guarantee it. May not result in policy change. Change is not incremental (Baumgarten and Jones)
2. 'Coalition' Theory or Advocacy Coalition Framework (Sabatier, Jenkins-Smith)	Political Science	Policy change happens through coordinated activity among a range of individuals through coordinated activity & with the same core policy beliefs	<ul style="list-style-type: none"> <li>- A sympathetic administration is in office</li> <li>- A strong group of allies with a common goal is in place or can be formed</li> </ul>	Policies are unlikely to change unless (i) the group supporting the status quo is no longer in power; (ii) change is imposed by a hierarchically superior jurisdiction. (Stachowiak)
3. 'Policy Windows' or Agenda Setting (Kingdon)	Political Science	Policy can be changed during a window of opportunity when advocates successfully connect two or more components of the policy process: the way a problem is defined, the policy solution to the problem or the political climate surrounding their issue.	<ul style="list-style-type: none"> <li>- Multiple policy streams can be addressed simultaneously (problem definition, policy solutions, and/or political climate)</li> <li>- Internal capacity exists to create, identify, and act on policy windows</li> </ul>	Policy options need to be seen as technically viable and consistent with policymakers and public values. Advocates must possess knowledge, time, relationship and good reputations. To be placed on the policy agenda, at least at least two 'streams' need to converge at critical moments or 'policy windows' (Kingdon)

## Theories related to Strategies or Tactics

Theory (Key Authors)	Discipline	How Change Happens	The theory may be useful when:	Limitations of the Theories
4. 'Messaging and Frameworks or Prospect Theory (Tversky and Kahneman)	Psychology	Individuals' policy preferences or willingness to accept them will vary depending on how options are framed or presented.	<ul style="list-style-type: none"> <li>- The issue needs to be redefined as part of a larger campaign or effort</li> <li>- A key focus of the work is on increasing awareness, agreement on problem definition or an issue's salience</li> </ul>	Decision making can be inconsistent. People may make choices that are less beneficial to themselves or riskier than might be expected based on how information is presented. (Tversky and Kahneman)
5. 'Power Politics' or Power Elites Theory (C. Wright)		Policy change is made by working directly with those with power to	<ul style="list-style-type: none"> <li>- One or more key allies is in place</li> <li>- The focus is on</li> </ul>	Advocacy efforts are focused on the few, not the many. The power to influence policy is

Mills, Domhoff)	Sociology	make decisions or influence decision making	incremental policy change (e.g. administrative or rule changes)	concentrated in the hands of a few. Limited to certain specific classes of the social stratum.
6. 'Grassroots' or Community organizing Theory (Alinsky, Biklen)	Social Psychology	Policy change is made through collective action by members of the community who work on changing problems affecting their lives.	<ul style="list-style-type: none"> <li>- A distinct group of individuals is directly affected by an issue</li> <li>- The advocacy organisation and is willing to play a 'convener' or 'capacity-builder' role rather than the 'driver' role</li> </ul>	Requires mass commitment to change; can only address issues affecting large groups; limited to certain specific areas of policymaking involving issues common to collective groups.

#### IV. ADAPTED FROM SARAH STACHIOWIAK (2007)

##### a) Policy Options

Apart from the above six theories due consideration is given to other policy theories namely:

All the policies have their strengths and limitations. Some of the theories are applicable to some extent but not for the long term. It is difficult to adopt one single policy theory and apply it 'stock and barrel' to any situation. It is also not very convenient and appropriate to apply the theories in a piece-meal or a fragmented way. The policy which is suitable for the topic is the ACF which was developed to study policy change over the long term (Sabatier and Jenkins-Smith, 1993). Modern policy problems are complex and no state agency has the resources to address issues singlehandedly: they are dependent upon the cooperation and resources of other actors. This is the core analytical device in most policy theories and even more so in Policy Network analysis and Advocacy Coalition Framework.

##### b) Policy Network Analysis

In the PNA it is assumed that the policymaking sectorised and takes place within networks of public and private policy actors (Smith, 2000) Apart from ACF, this is the closest policy theory to the air transport policy issues raised in this project. Smith (2000) makes a comparison between PNA and ACF and points out that both frameworks emphasize the importance of inter-organisational relationships within policy sectors (John 1998) although the bases for these relationships are conceptually different. Smith (1999) also holds that the ACF was developed to study policy change over the long term, and to include technical knowledge and policy-oriented learning in the process (Sabatier and Jenkins-Smith, 1993). Because of the multiplicity of actors and complexities of policy-making in fragmented areas (in this case aviation), Lindquist (2001) recommends the ACF as an ideal approach to policy-making. According to him "rather than focus on structures and relative capacities, Sabatier and his colleagues have sought to comprehend policy

communities in terms of beliefs and values, and to model important structures – advocacy coalitions – as flowing from the bonds and relationships of actors who share values and beliefs. These coalitions, which may be tightly or loosely coupled, are comprised of government agencies, interest groups, associations, think tanks, academics, university research centres, journalists and prominent individuals who more or less share common world views and generally agree on policy solutions." He went on to say that "Sabatier predicts that two to four advocacy coalitions can be found in every policy community, with one emerging as the dominant coalition controlling the important levers of power. The difference, however, between his notion of the dominant coalition and Pross' subgovernment is that the former also includes actors located in the attentive public (Italics from Lindquist). Thus, certain think tanks and academics, for example, will have greater currency when like-minded individuals assume positions of importance in the central institutions controlled by the dominant coalition, whether they be local, national or international organisations."

##### c) The Advocacy Coalition Framework

One of the policy process framework that has been developed to simplify the complexity of public policy is the ACF. Sabatier and Jenkins-Smith (1988) initially introduced the ACF as a symposium issue for Policy Sciences. They recognize that there was a gap to be filled by the creation of the ACF as there were at least three limitations in the policy process literature. Lindquist (2001) emphasizes that there has been a movement from 'policy communities to policy networks'. According to him "rather than focus on structures and relative capacities, Sabatier and his colleagues have sought to comprehend policy communities in terms of beliefs and values, and to model important structures – advocacy coalitions – as flowing from the bonds and relationships of actors who share similar values. These coalitions, which may be tightly or loosely coupled, are comprised of government agencies, interest groups, associations, think tanks, academics, university research centres, journalists and prominent individuals who more or less

share the common world views and generally agree on policy solutions.”

The ACF developed by Paul Sabatier is generally considered as one of the most promising theories of policy process. Parsons (1995), Eberg (1997), Schlager (1995) and Grin and Hope (1997) have all emphasized the remarkable contribution and relevance of this theory to policymaking and process. The framework considers policy change as the result of learning processes within and between advocacy coalitions (Fenger and Klok 2001)

The following is the process and requirement:

Policy is conceived within a subsystem of advocacy coalitions

Policy subsystems must be identified empirically

Advocacy coalitions compete to influence policy brokers

Analysis emphasizes belief systems

Policy outcomes are influenced by competition between advocacy coalitions

Exogenous factors realign beliefs and generate change

The final dominant belief becomes a source of stability

In brief, ACF is a policy process framework that has been developed to simplify the complexity of public policy. ACF has been applied to various substantive topics and areas of development. The application of ACF to air transport policy is almost non-existent. This project will therefore endeavour to apply ACF to changes in policy making within Air Mauritius, the national airline of Mauritius as a small island state.

#### d) *The Ambivalence of PNA and ACF*

In PNA, it is assumed that policy making is sectorised and takes place within networks of public and private policy actors. Each policy network ordinarily includes the relevant sectoral government department (Smith 2000). Structure is important in policy networks. PNA illustrates how some actors are denied a voice in policy processes by structural means (Marsh and Rhodes 1992). Power-dependency theory forms the heart of PNA (Rhodes 1986). According to Wilks and Wright (1987), the core analytical device in PNA is: “Each player’s room for decisional manoeuvre on an issue is constrained by the material and intellectual resources available to him, appropriate to that issue and which he is prepared to use, and by those possessed by other players, who may perceive their interests differently” (pp 4-5).

The ACF was developed to study policy change over the long term and to include technical knowledge and policy-oriented learning in this process (Sabatier and Jenkins-Smith, 1993). There is agreement that ACF supersedes PNA and is more of a corollary of the latter and this is supported by Smith (2000) and Dowding (1995). According to Smith (1993) in PNA, “exogenous factors alter actors’ perceptions of reality such that it

diverges markedly from the appreciative system of network. This divergence either forces changes in the policy network or creates opportunities for non-members to gain access to the political agenda. Such challenges, working at the level of beliefs about policy problems, have parallels with the ACF concept of policy change”. Smith (2000) also raises some interesting questions regarding this issue: “It also problematises the utility of PNA for the study of policy change. If significant change does arise from factors outside policy networks, does this mean that PNA can only shed light on the response of actors already involved in a policy sector? Does this mean this particular analytical lens cannot bring the entire policy process in to focus?”

Whereas PNA stresses the role of resources in structuring an actor’s proximity to policy making, the ACF emphasizes belief systems and policy-oriented learning. The essential premise of the ACF is that policymaking occurs in a policy subsystem inhabited by several multiactor advocacy coalitions which compete to influence policy in line with the policy beliefs which bind each coalition together (Sabatier 1998). The ACF seeks to explain policy change by identifying the source of the beliefs supporting that change [...] The ACF conceives policy change as a relatively open and competitive process between belief systems [...] It stresses agency over structure in explanations of change (Smith 2000). Moreover according to Sabatier and Jenkins-Smith (1999) “the ACF holds that a crisis may provide an opportunity for major policy change but assumes it needs to be skillfully exploited by proponents of change in order to have any effect (p. 148).

#### e) *Limitations of the ACF*

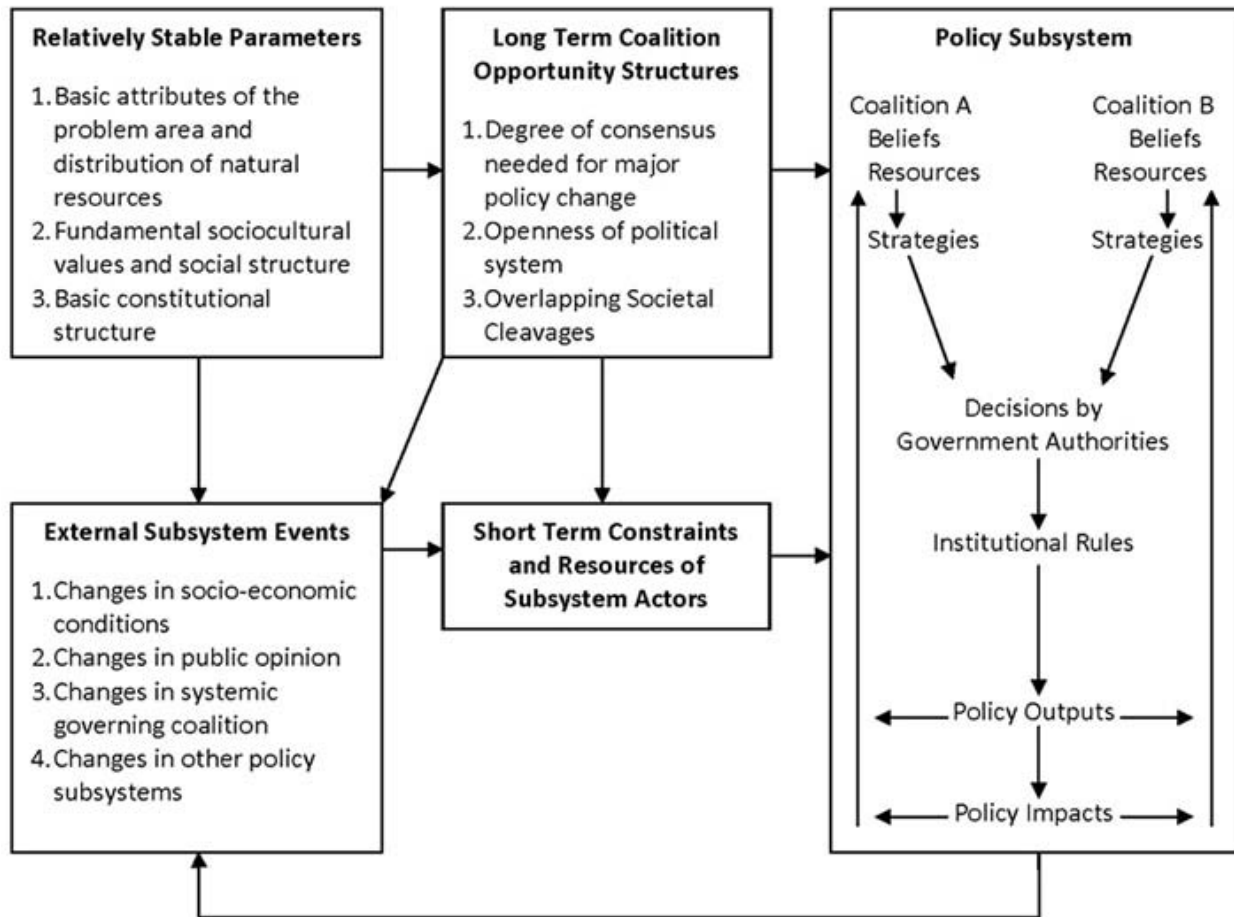
The first limitation was their interpretation of the stages heuristic as an inadequate causal theory of the policy process (Sabatier and Jenkins-Smith, 1993, pp. 1-4). The second was in response to a decade-long debate about the strengths and weaknesses of top-down and bottom-up approaches to implementation research and the need for system-based theories of policy making (Sabatier, 1986). The third was the apparent lack of theory and research on the role of scientific and technical information in the policy process (Jenkins-Smith, 1990; Sabatier, 1988). As a response, the ACF was created as a system-based model that integrates most of the stages of the policy cycle, incorporates aspects of both the top-down and bottom-up approaches to implementation studies and places scientific and technical information in a central position in many of its hypotheses.

Moreover, Fenger and Klok (2001) also argues that “there is no attempt to account for how actors with certain policy beliefs systems develop and maintain these advocacy coalitions.” They further point out that “from the literature on interorganisational relations and policy networks [...] the extent and structure of



interdependencies between actors are important determinants of the behaviour of the actors in interorganisational relations. Differences in

interdependencies are supposed to lead to different types of interorganisational arrangements (Marin and Mayntz 1991)".



### Advocacy Coalition Framework ( adapted from Sabatier and Jenkins-Smith 1988)

The Advocacy Coalition Framework, developed by Paul Sabatier and Hank Jenkins-Smith and sometimes also known as the 'Coalition theory', proposes that individuals have core beliefs about policy areas, including a problem's seriousness, its causes, society's ability to solve the problem and promising solutions for addressing it. Advocates who use this theory believe that policy change happens through coordinated activity among individuals with the same core policy beliefs.

There are some underlying assumptions:

- Coalitions are held together by agreement over core beliefs about policies. Secondary beliefs are less critical to alignment (e.g. administrative rules, budgetary allocations, statutory revisions).
- Because individuals and groups already share the same core policy beliefs, coalitions can have diverse members but effectively coordinate because of reduced 'costs' (e.g. time, need to reach common understandings).
- Policy core beliefs are resistant to change.

- Policy Core Beliefs are unlikely to change unless:
  - Major external events such as changes in socioeconomic conditions or public opinion are skillfully exploited by proponents of change.
  - New learning about a policy surfaces across coalitions that changes views about it.
- Policies are unlikely to change unless:
  - The group supporting the status quo is no longer in power
  - Change is imposed by a hierarchically superior jurisdiction

Application to advocacy:

- Promising strategies include :
  - Influencing like-minded decision makers to make policy changes
  - Changing incumbents in various positions of power
  - Affecting public opinion via mass media

- Altering decision maker's behaviour through demonstrations and boycotts
- Changing perceptions about policies through research and information exchange
- Coalitions typically will explore and pursue multiple avenues for change (e.g. engaging in legal advocacy and changing public opinion), often simultaneously, to find a route that will bear fruit
- Coalitions should identify and reach out to diverse groups with similar core policy beliefs (e.g. unlikely allies).

According to Karin Ingold (2009), the framework rotates around three main factors:

The political subsystem

Competition of Coalitions

Convergence/divergence structures lead to coalitions: pro-change coalition, status quo coalitions. Members of advocacy coalitions improve their understanding of the process in order to adapt their policy preferences

According to Sabatier and Jenkins-Smith (1999), the ACF is based on five premises:

- That theories of the policy process need to address the role of technical information
- That the time period under study should be no less than a decade
- That the unit analysis should be a policy subsystem
- That the concept of actors in policy processes should be broadened to include journalists, researchers, policy analysts and actors at all levels of government active in the process – and not restricted to actors such as administrative agencies, legislative committees and interest groups
- That public policies can be conceptualized in much the same way as belief systems, which can be divided into three different categories: a deep core, a policy core and secondary aspects.

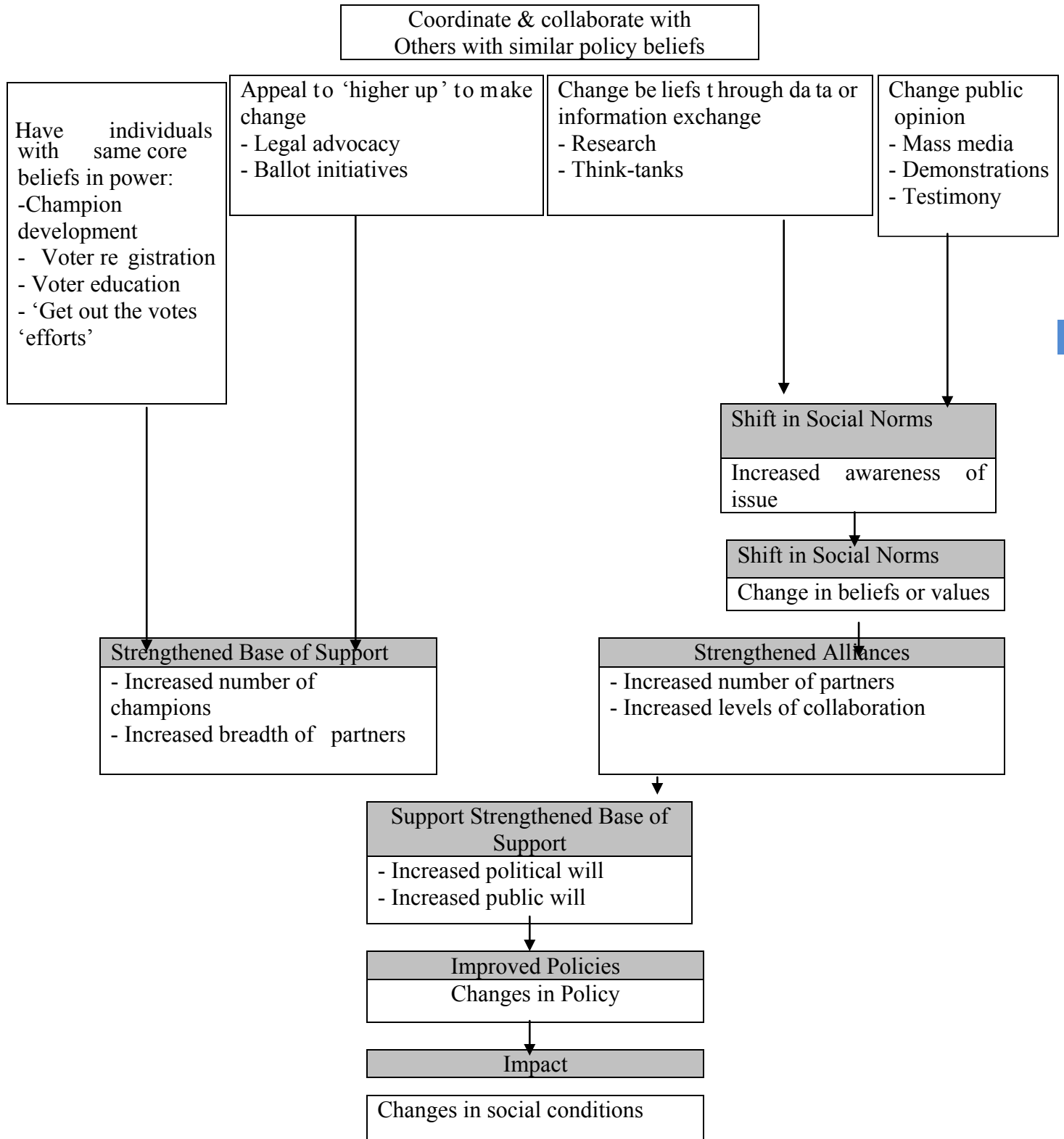
#### f) *Belief System*

The belief system makes coalitions hold together and builds the basis for their coordination and internal organisation. This involves policy core and secondary aspects. Sabatier's advocacy coalition framework provides one of the most influential understandings of policy learning (Jenkins-Smith and Sabatier 1993). The framework suggests that actors choose their coalition allies based on the proximity of core policy beliefs (Leach and Sabatier 2005). In any issue area - a subsystem in the framework's terminology – actors should divide themselves in at least two adversarial advocacy coalitions competing for the realization of conflicting core beliefs. The framework hypothesizes that members of competing advocacy coalitions rarely interact with each other and carefully filter incoming information and evidence: "The result is a 'dialogue of the deaf' in which members of different

coalitions talk past each other". (Sabatier and Zafonte 2001:1156). As underlined by critics, Sabatier's advocacy coalition framework is closer to a non-learning model (Fisher 2003). In fact, framework's prediction regarding policy learning is consistent with recent research suggesting that people dislike political debates (Hibbing and Theis-Morse 2002). According to Mutz (2006), citizens prefer avoiding politics rather than advocating ideas fellow citizens might dislike. Therefore, face-to-face deliberations among people who hold different views would occur rarely.

The advocacy coalition framework, however, acknowledges that in some subsystems members of competing coalitions can be attracted by the same reputed professional fora. When face-to-face meetings between members of competing coalitions occur in these fora, learning is encouraged, engendering alterations in the thoughts of participants. However, empirical tests of the advocacy coalition framework have provided more evidence of adversarial relationships than evidence of learning between coalitions (Sabatier and Jenkins-Smith 1999).

Advocacy Coalition Framework – the Theory of Change



Adapted from Sarah Stachowiak (2007)

## Application of ACF to the Air Transport Industry

Explanatory Factor	Advocacy Coalitions	Outcome
Unit of analysis	Policy is conceived within A subsystem of advocacy Coalitions	A low level policy team is subject to higher level intervention
Methodology	Policy subsystems must be Identified empirically	Some policy actors come and go with varying effects and from outside the policy networks. Nonetheless, a core network of actors persists throughout
Policy mechanism	Advocacy coalitions compete to Influence policy brokers	Pressure for change from various interest groups and stakeholders. Continued importance of policy- community and members' influence. They mediate and interpret external factors
Core analytical device	Analysis emphasizes belief systems	Although different beliefs exist about good regulation exist, the distribution and relevance of resources influences practice
Determining influence On outcomes	Policy outcomes are influenced by competition between advocacy Coalitions	The beliefs of politically resourced actors influence high level policy change although policy outcome has ultimately been shaped by an unchanged regulator - industry resource interdependency in the implementation phase
Sources of significant change	Exogenous factors realign beliefs and generate change	Policy change is driven by external factors, though the policy community has been able to shape change
Sources of stability	A dominant belief system	Stability returned primarily because of a continued resource interdependency and a return to belief in the benefit of closer cooperation has followed

Adapted from Smith (2000)

g) *Criticisms of the ACF*

The ACF has been criticized for neglecting the mechanisms behind major policy change (Mindtrom and Vergari, 1996). But Sabatier (1998) contends that the ACF's response, however, is to evoke a list of exogenous factors: socioeconomic change, changes in public opinion, change in government, authoritative intervention and impacts arising from other political subsystems. There are a number of ways in which exogenous factors lead to such a change. First, the

exogenous factor is exploited by a minority coalition such that it replaces the dominant coalition. Second, a minor coalition, strengthened by new exogenous conditions, creates a successful coalition of convenience with other groups. Third, an exogenous policy sovereign (for example, the European Union) commands the dominant coalition to change policy. Fourth, all coalitions recognise that the current situation is untenable and negotiate a compromise (Sabatier, 1998). In their latest review, Weible, Sabatier and

McQueen (2009) brings up one limitation of the ACF mentioned by an anonymous referee who described an earlier version as “self-indulgent and inward-focused” and who also argued that reviews of this kind “are commonly seen as characteristics of disciplines that are running low on ideas, relevance or intellectual energy”. The authors agree that “this essay (2009) is inward focused by deliberately taking stock of existing ACF applications in hopes of identifying future directions”. They also argue that “gleaning lessons from comprehensive reviews is probably one of the best ways to move forward with any theory or framework”. But they disagreed that “the ACF literature is short on ideas, relevance or intellectual energy. Indeed, the [review essay (2009)] shows that the ACF literature continues to expand in applications in diverse geographical and topical areas and to provide a useful lens – especially in conjunction with other theories and frameworks – for explaining the policy process”.

#### *h) Possible Hypotheses for Testing*

1. Significant perturbations external to the subsystem (e.g. changes in socio-economic conditions, public opinion, system-wide governing coalitions, or policy outputs from other subsystems) are necessary but not sufficient, cause of change in the policy core attributes of a governmental programme.
2. On major controversies within a policy subsystem when policy core beliefs are in dispute, the lineup of allies and opponents tends to be rather stable over periods of a decade or so.
3. Policy-oriented learning across belief systems is most likely when there exists a forum which is: (i) prestigious enough to force professionals from different coalitions to participate; and (ii) dominated by professional norms.
4. The policy core attributes of a governmental programme in a specific jurisdiction will not be significantly revised as long as the subsystem advocacy coalition that instituted the programme remains in power within that jurisdiction – except when the change is imposed by a hierarchically superior jurisdiction.
5. Actors who share (policy core) beliefs are more likely to engage in short-term coordination if they: (i) interact repeatedly; (ii) experience relatively low information costs; and (iii) believe that there are policies that, while not affecting each actor similar ways, at least treat each fairly. (Weible, Sabatier and McQueen, 2009).
6. Actors who share beliefs are more likely to engage in at least minimal level of collective action (i.e. agree upon a definition of the problem and structure of policies to address the problem) if they interact repeatedly, experience relatively low information costs, and believe that there are policies that, while

not affecting each actor in similar ways, at least treat each fairly (Schlager 1995)

7. Coalition are more likely to persist if: (i) the major beneficiaries of the benefits that a coalition produces are clearly identified and are members of the coalition, (ii) the benefits received by coalition members are related to the costs that such member bear in maintaining the coalition, and (iii) members monitor each other's actions to ensure compliance with agreed upon strategies, resource contributions and cooperative and supportive activities (Schlager 1995).

#### *i) Policy Theory for Aviation in Mauritius*

It would not be an exaggeration to say that there is no actual policy as such regarding aviation in Mauritius. The Mauritian air transport industry has been allowed to grow as and when the various situations have required. Discussions with the ministry concerned revealed that at one point in time, there was talk about setting up an Air Policy Unit at the Ministry but nothing formal has happened yet. Nevertheless, one can safely say that although there is no formal policy or policy unit, there have been however over the decades following Independence which coincided more or less with the birth of Air Mauritius as a limited company, a whole set of major decisions that make the global policies of the Government. For many years, all interests, those of Air Mauritius, Government and the nation regarding air transport have converged to make Air Mauritius the national flag carrier. This explains the high level of protectionism enjoyed for decades by Air Mauritius which in an infancy stage was given all incentives to spread its wings. It is only recently, that is some three years ago that Air Mauritius has been called upon to face the harsh realities of free market and competition.

For the purpose of this paper, we will consider the various policy options available to Air Mauritius and the government in the eventuality that a policy unit is set up. The policy making process is a sequence of functional activities and has the following sequential components:

- Problem identification
- Agenda formation
- Evaluation & termination
- Modification & continuation of policies

This policy cycle remains a reasonably workable and insightful approach to the study and analysis of public policy making (Anderson 2005). A policy is also a proposed course of action of a person, group or government within a given environment providing obstacles and opportunities which the policy was proposed to utilise and overcome in an effort to reach a goal or realise an objective or a purpose (Friedrich 2007). Policies emerge from policy demands. In response to such demands public officials make decisions that give content and directions to public



policy. These decisions may enact statutes, issue executive orders or edicts, promulgate administrative rules or make judicial interpretation of laws (Anderson 2005).

j) Categories of public policies

i. *Substantive and procedural policies*

Substantive policies involve what the government will do such as construction of airports, extension of runways, opening the sky to other airlines among other things. Such policies directly allocate advantages and disadvantages, benefits and costs to people. Procedural policies, in contrast, pertain to which course of action to take, how things are to be done and who will do them.

ii. *Distributive & Regulatory policies*

Distributive policies involve allocation of services and benefits to particular segments of the population – individuals, groups, corporations and communities. Regulatory policies impose restrictions or limitations on the behaviour of individuals or groups:

**The Application of the ACF to the Mauritian Context with Emphasis on Air Mauritius**

**Potential Factors Influencing Air Transport Policy Processes**

Political systems and political structure

Political Parties

Governments

Economic set-up

Pressure Groups – Consumerism, environmentalists, Technology

International economic changes – oil prices, recession

Local economies – inflation, economic growth

Social forces – unions, customers, press

Market Developments

Conflicts

Interest Groups

Exogenous and endogenous factors

Policy changes are caused by external factors or by processes within the national subsystem.

k) *Political Systems and political structure*

Political systems and structures very often determine the air transport systems for a country. Depending on the system in force and the legislation body, aviation like any other business is tributary of the laws passed by governments. In a democratic system of government based on a multiparty system of government, aviation laws and policies can be determined by parliament which is the legislative body and implemented by the government and its cabinet of ministers which make the executive. There is a separation of powers among the three main forces of administration of a democratic set-up: the Legislative (the National Assembly), the Executive (Government and

the Cabinet) and the Judiciary (courts and judges). The latter is the last resort for judiciable people who are dissatisfied with the laws and the executive arms of the laws. A company, in this case an airline, has 'legal personality'. In other words, it has full consideration as a 'person' in a court of law. It is understood that such democratic system is based on a multi-party system. This is the case of Mauritius.

Other political systems and types of government may have different ways of determining and implementing laws and policies regarding business in general and aviation in particular. Other such systems would be a one party system (some African and Asian countries - Libya, Burma, or an executive monarchy - Morocco, Jordan or an autocratic or communist system – North Korea, Cuba.

l) *Political Parties*

In a multiparty parliamentary system, political parties are often very vociferous about their opinions and say inside and outside parliament. Laws and policies are 'voted' or vetoed depending on how powerful the government of the day is. This situation is also influenced by the number of parties and the strength of the majority in the house. Political parties can make a difference in policy formulation and implementation especially if such policies are based of laws passed in parliament. However, it is fair to point out that an airline operating as a business entity may not always be subject to such laws unless they have a national bearing and involve other issues such as civil aviation laws and security or other such matters of national interest.

m) *Governments*

In Mauritius government makes national policies but has an upper hand in the formulation of policies for Air Mauritius as a flag carrier. Government being the majority shareholder makes it difficult for Air Mauritius to have a free hand in policy matters. By and larger, there is a tendency for government to act as the sole policymaker and to treat Air Mauritius a mere operator. This has been made very clear by the present government. We will see later why this approach has been more of a hindrance for Air Mauritius due to the fact that the interests of both parties are not always convergent.

n) *The Economic Systems*

The economic set-up also determines the types of aviation policies and laws of a country. It is understood that in a free economy, there is generally but not necessarily, a situation of competition among airlines. This has been the case for most countries of Europe and the United States although there has also been some form of protectionism. It is the attempts at removing protectionism that led to the deregulation and liberalization of the air transport industry. In a state

economy, government usually decides on policies from a national perspective and very often in a unilateral way. This has been the case for the former communist countries and may still be the case for few countries. In the case of a mixed economy like Mauritius, for many years protectionism in favour of the national airline has been the order of the day. It is only over the past five years that the government decided to embark on a process of liberalization commonly known as the open-sky policy.

*o) Pressure Groups*

These are groups among civil society that can have a positive or negative influence on policymakers and policies. These are normally consumer protection organisations, environmentalists and other interest groups that may have diverse opinions on matters of national or regional policies. NGOs are also quite prominent in their attempts to veto government policies. In many countries, Aviation has been a direct target especially in issues such as fares, service levels, government investments and ecology and Mauritius and its airline has been no exception. Admittedly, such pressure groups have been more vociferous in Europe and the United States on issues such as extension of airports and runways, carbon emission and noise pollution near airports among others.

*p) Technology*

Over the decades, aircraft technology and new developments have had an important bearing on government and airlines' policies regarding the following issues: better performing and more fuel efficient equipment, larger and more spacious aircrafts, more environment friendly equipment, private and government investments in such equipment. Because of the changing needs of travelers, it is more and more necessary for countries and private airline companies to have a new approach to investment based on aircraft ownership or lease agreement. However, the other side of the coin is that as a result of the acquisition of new equipment by western governments and airlines, more and more aircrafts are becoming obsolete and no longer meet the EU's stringent requirements regarding carbon emission and aircraft noise. These aircrafts are now being dumped on the market of developing countries on the basis of dry lease or even wet lease agreements. The purchase of equipment represents a very large capital outlay for airlines.

*q) International Economic Changes – the macro economy*

Globalization of the economy has made the countries more interdependent and changes in one part of the world have an effect on other parts. The recent economic downturn has spread like wild fire from the United States across Europe and Asia and at the same time hitting the countries down south. Because of

international linkages and interdependency of the economies and the monetary systems, it is imperative for private operators and governments to take in to account major changes from a macro economic perspective. International trade and exchanges dictate policies because airlines will fly where the business is. Such businesses include passenger and cargo traffic.

Two of the major issues that have hit the airlines are the rising oil prices and the recession. In taking these two factors in to account, Air Mauritius has had to review all its operational and investment policies.

*r) The Local Economy – the micro economy*

From a micro-economic perspective, it is obvious that changes locally will affect policy issues. Inflation for instance will affect fares and oil prices. Exchange rate will also have important effects as well as rates of interests. Exchange rate will determine the ability of countries to purchase equipment in hard currency. The higher the rate of exchange against the local currency, the more expensive the equipment and vice versa. It is a truism that hard currencies have almost no parity against the local currencies of developing countries. The monetary policies of these countries are also a determinant factor in such policymaking processes.

*s) Social forces – unions, customers, press*

Apart from the fact that equipment represents a very large capital outlay, the next big component of operational costs is the personnel cost. Since employment in airlines is still considered as high profile and glamorous, salaries in comparison to other sectors of employment are among the highest for all ranks of employees. Pilots for instance are among the highest paid employees in the world. Moreover airlines have to keep up with their traditional image of glamour and excellent service and this has a cost. Apart from salaries there are many hidden costs: Design uniforms, training, 24-hour insurance, stipends and per diem allowances while in transit, transport from place of residence to the place of work or the airports and back home, full board and hotel accommodation while in transit etc. All this makes the operational costs very prohibitive and the airlines are permanently under union pressure for more pay and less work or better condition of employment. Furthermore, since there is a scarcity of certain types of resources for the airlines, the forces of supply and demand of labour makes it even more inaccessible for airlines that are already having problems of covering fixed and variable costs.

*t) Market Developments*

The market very often is an indication of the directions that the airlines should adopt. The market forces of supply and demand are one of the factors that dictate policy formulation and implementation and processes. Countries that are dependent on the tourism

and manufacturing industries will certainly formulate policies for aviation bearing in mind the interests of all stakeholders namely hotels, export organisations, tour operators and travel agencies and other industries that depend on aviation for the marketing of their products. Market developments also trigger a multiplier effect that has positive or negative repercussions on the air transport industry.

#### u) *Conflicts*

Conflictual situations also prompt governments and business entities to adopt or change policies. In the case of the aviation industry there are often conflicts of interests that will

have an impact on policy formulation. Such conflicts are often due to lack of cohesion in the policies. A classic example would be the conflictual situation between the airlines and the hotels whereby the latter complains of shortage of hotel rooms and the former complains of shortage of airline seats.

#### v) *Interest Groups*

Unlike pressure groups, the interest groups have direct or indirect, vested interests in policy changes. Such groups are local and international financial institutions, public and private operators, international organizations, socio-cultural organizations and auxiliary support and service providers. Generally such groups have an effective influence through lobbies and they can make a difference in the policy processes.

#### w) *Exogenous and endogenous factors*

Exogenous factors are those on which the airlines have no control but are influenced or affected by them. These are external events or occurrences that may modify the policy directions. Examples of such factors are international economic changes, climatic conditions, government policies among others. Endogenous factors are those that are internal to the organisation and on which the airline company has almost full control. For instance, human resources, marketing plans, training, investment and extension of services are among the endogenous factors. Policy changes are caused by external factors (exogenous) or by processes within the national subsystem (endogenous) (Sabatier 1999).

Sabatier (1998) acknowledges that his ACF framework was developed with the adversarial American political system in mind. Thanks to the separation of powers (Executive, legislative and judiciary) and the fragmentation of governance, the American political system may not encourage policy learning to the same extent as more consensual systems. This fragmentation is also a draw back when this policy process is to apply to countries like Mauritius and more so to airlines especially the ones in developing countries like Mauritius. The vertical rivalry between the airlines and other stakeholders (hotels, tour operators, travel

agencies) on the one hand and the horizontal rivalry between the airlines and institutions (legislators, government, political parties) on the other can bring a permanent situation of conflicts and delay in policy formulation and implementation. This has been noticed in the case of flag carriers as too much of personal interests are at stake. Such interests can be social, economic and political. These stakeholders, both at vertical and horizontal levels, face the challenge of coordinating their efforts at national level without eroding their internal cohesion. The challenge is rarely surmounted and the result often is increased fragmentation in interest systems. In contrast with corporatist environments, interest groups and other private actors in this new environment become adversaries in competitions for access to policy makers and influence at various levels, especially political, institutional and governmental.

Like Weiss (1977), Sabatier acknowledges that as research findings move in to the policy-making process, they are shaped by and have to contend with, competing beliefs and values. Sabatier further argues that observers should identify the competing 'advocacy coalitions' in each policy domain and determine whether policy research and analysis was associated with or independent from those coalitions (Lindquist 2001).

## V. CONCLUSION

Policy formulation, implementation and evaluation are the three major components of policy processes. It goes without saying that in policy decision making and in a democracy, it is necessary for all parties concerned to be part and parcel of the process. The Advocacy Policy Framework (ACF) has been tested and various authors and critics have found in the framework come of the solutions to the issues of policy making. No policy theory can be said to be a panacea for all aspects of decision making and it is in no way a one-size fit all theory. This paper however has attempted to show that in the case of Mauritius it would be appropriate to have a hybrid of some of the policy theories based on the analyses done here and elsewhere.

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*List of Abbreviations :*

ACIM - Association des Consommateurs de l'île Maurice.  
 AHRIM - Restaurateurs de l'île Maurice  
 BASA - Bilateral Air Services Agreement.  
 CSO - Central Statistics office.  
 DCA - Department of Civil Aviation.  
 IATA - International Air Transport Association.  
 MCCI - Mauritius Chamber of Commerce and Industry.  
 MEPZA - Mauritius Export Processing Zone.



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# Emerging Retail Formats and It's Attributes: An Insight to Convenient Shopping

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**Abstract** - Purpose: The present paper tries to understand the improvement in retail sector in India, especially the modern retail formats, its attribute, type of goods and impact of consumers' demography on choice of emerging retail formats.

**Methodology:** A self-structured questionnaire has been used for collecting the data from 100 urban consumers of three major cities of Punjab i.e. Jalandhar, Amritsar and Ludhiana. Stratified random sampling method has been used for the study.

**Keywords :** Retail formats, Attributes, Shopping, Convenience, Products, Consumers' and Demography.

**GJMBR - A Classification :** FOR Code: 150501, 150503 JEL Code: L81, M31



*Strictly as per the compliance and regulations of:*





# Emerging Retail Formats and It's Attributes: An Insight to Convenient Shopping

Deepika Jhamb <sup>α</sup>, Dr (Ms) Ravi Kiran <sup>σ</sup>

**Abstract - Purpose:** The present paper tries to understand the improvement in retail sector in India, especially the modern retail formats, its attribute, type of goods and impact of consumers' demography on choice of emerging retail formats.

**Methodology:** A self-structured questionnaire has been used for collecting the data from 100 urban consumers of three major cities of Punjab i.e. Jalandhar, Amritsar and Ludhiana. Stratified random sampling method has been used for the study.

**Findings:** The findings of the paper reveal that consumers' prefer modern retail formats due to its significant product attributes like improved quality, variety of brands and assortment of merchandise and store attributes like parking facility, trained sales personnel and complete security. The major results of the study depict that consumers prefer malls and specialty store to purchase various shopping goods like clothing, footwear and jewellery. Further the results highlight that the modern retail formats are extremely preferred by young consumer'.

**Originality:** The paper is first of its kind to take all the important aspects together like modern retail formats, type of attributes and products and the demographic profile of consumers'. With all these aspects, paper tries to study the changing consumers' behavior towards shopping from the modern retail formats.

**Keywords :** Retail formats, Attributes, Shopping, Convenience, Products, Consumers' and Demography.

## I. INTRODUCTION

Retail sector witnessed significant development in the past 10 years – from small unorganized family-owned retail formats to organized retailing. Liberalization of the economy, rise in per capita income and growing consumerism have encourage larger business houses and manufactures to set up retail formats; real estate companies and venture capitalist are investing in retail infrastructure. Retail sales in India amount to \$410 billion and account for 10-11 % of gross domestic product. The Indian retail market has around 14 million outlets and has the largest retail outlet destiny in the world, (A.T. Kearney 2010). The retail sector in India is witnessing a huge revamping exercise as the traditional retailers are making way for new innovative formats. These modern retail formats provide wide

variety to customers and offer an ideal shopping experience with an amalgamation of product, entertainment and service, all under a single roof. Malls, Hypermarkets/Supermarkets and Specialty Stores are the emerging retail formats that considered in the present study.

The modern Indian consumer is seeking more value in terms of improved availability and quality, pleasant shopping environment, financing option, trial rooms for clothing products, return and exchange policies and competitive prices. This has created a rapid growing opportunity for organized, modern retail formats to emerge in recent years and grow at a fast pace. (Sinha and Kar, 2007, Kotler, 2006). Customer taste and preferences are changing leading to radical transformation in lifestyles and spending patterns which in turn are giving rise to new business opportunities. There is a change being observed in the shopping pattern of customers, which has resulted in the emergence of big retail chains in most metros; mini metros and towns. Halepete (2008) expresses that due to rapid growth in retail sector, global retailers like Wal-Mart, GAP, Tesco, J.C Penney, Sears and Carrefour are trying to establish themselves in Indian market; Infact Wal-Mart and TESCO has already opened their stores with Bharti and TATA in Indian market. In India, there is a need to go in for a study to identify the winning format suited to different segments and preferences of consumers for various goods from emerging retail formats.

### a) Growth of Organized Retail In Year 2009-2010

According to Talwar (2010) during the past decade, retail industries have built up strong lifestyle brands positioning themselves to cater to the tastes and preferences of their consumers and utilizing the increasing income of the end-users. With the economy recovering faster than anticipated, there is a drastic change in the consumer spending patterns and the year 2010 is the beginning of a deciding decade on how much India will develop in the next 10 years. It is expected that the country will accelerate its GDP growth and will sustain a GDP growth of about 9.6% by 2020. India is housing about 1.30 billion people and the per capita income of every Indian will be at an average of 8%, which is double than the current. The number of middle class households will increase from 120 million to 170 million with the addition of 50 million people earning US\$ 1692 to US\$ 22,556 a year.

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## II. LITERATURE REVIEW

### a) *Emerging Retail Formats:*

According to Swinyard (1997), Shopping patterns of US consumers are more sophisticated, they expect high level of services and merchandise quality. Moreover economic and demographic trends are dramatically affecting the retail industry. Micro-marketing, globalization, new formats and age related merchandising changes are the consequences of retailing trends in USA. Aggarwal (2007) and Bhardwaj and Makkar (2007) highlight the emergence of organized retailing in India and view the Catalytic effects of retail on Indian Economy. Employment generation, growth of real estate, increase in disposable income and development of retail ancillary market are the various catalytic effects on Indian economy. The changing Indian retail scenario with the intervention of organized retail in the form of modern retail formats has also seen remarkable shift in the preferences of consumers. Gupta et al. (2003) studied the changing Indian consumer behavior in the past decade due to availability of large assortment of major products leaving an impact on their consumption and consumption structure. The consumer is no longer shopping for clothes/household products from the local market; rather the place of shopping has shifted to the stores in malls. Arshad et al (2008) and Ghosh et al (2010) highlighting the prospects of retailing in India opined that 47% of India's population is under the age of 20 and this will further increase to 55% by 2015 and this young population will immensely contribute to the growth of the retail sector in the country. The study by Dash et al (2009) and CII (2008) depict that growing middle class, large number of earning youth customers, increase in spending, and improvement in infrastructure, liberalization of Indian economy and India's booming economy are the various opportunities for organized retailing in India.

The consumer has multiple options to choose-ranging from the shopkeeper to the most sophisticated supermarkets, departmental stores, plazas and malls which provide the latest and better quality products and it made India the top spot among the favored retail destination as observed by Gupta (2004), Jasola (2007) and India Retail Report (2009). According to Mishra (2007) & (2008), consumers buy essentially convenience goods with low level of risk from organized outlets and essential products of more involvement from traditional retailers. Further Mishra explores that India is currently in the second phase of evaluation, i.e., consumer demand organized formats. Retailers need to customize retail models as per taste and preferences of Indian consumer. Tusharinani (2007) noted the transformation of traditional formats into new formats, viz., departmental stores, hypermarkets, supermarkets, specialty stores and malls taking the lead in attracting

consumers in the metro cities. Hino (2010) shared his observation about the emergence and expansion of supermarkets that gradually decreased the market share of the traditional formats by displacing them and the factors that helped supermarkets in gaining consumers favors over the traditional stores are the 'consumers economic ability' and the 'format output'. Kuruvilla and Ganguli (2008), Gopal (2008) and Srivastava (2008) opine that mall development is expected to grow at a frantic pace in metros and mini metros driven by the organized retail sector. Malls comprise of 90% of the total future retail development. The basic reason behind the growth of malls is that it offers an experience and not just goods. There is a wide range of shopping experience- bargains and discounts, high-end brands for couples, gaming and other amusement facilities for kids and the multiplexes theaters etc.

Goyal and Aggarwal (2009) and Ali and Kapoor (2010) opine that in India, a consuming class is emerging as a result of increasing income levels and dual career families with high disposable incomes. With retailers eyeing their presence in the market, it is important to identify the target shoppers as well as the prime factors of enjoyment in shopping. Shukla (2007) and Goyal et al (2009) described that food and grocery; health and beauty; apparel; jewellery and consumer durables are the fastest growing categories of organized retail and fashion sector in India commands lion's share in the organized retail pie. The most appropriate retail formats for various items are: Food and grocery-Supermarket; Health and beauty care services-Supermarket; Clothing and Apparels'- Mall; Entertainment-Mall; Watches-Hypermarket; Pharmaceu - ticals-Hypermarket; Mobile, accessories & Services-Hypermarket; Foot wares-Departmental store. The study by Satish and Raju (2010) throws light on the major Indian retailers which highly contribute to the retail sector in India. Pantaloon, Tata Group, RPG Group, Reliance Group and A V Birla group are some of the major Indian retailers. According to Halepete (2008), India is expanding internationally due to saturation of markets and challenges faced by international retailers. Partnership between Bharti and Wal-Mart is one of the successful expansions of international retail in India.

### b) *Attributes and Choice of Retail Formats:*

Erdem et al (1999) examines the linkage between consumer values and the importance of some salient store attributes. The study indicated that the important judgments for store attributes were influenced by the set of terminal and instrumental values viewed as important by the shoppers. Herpen and Pieters (2000) identify that the attribute-approach captures consumer's perception of assortment variety better than the product-based approach and that it offers new insights into assortment variety. Urbonavicius et al (2005) methodology is based on the three latent factors that

methodology is based on the three latent factors that integrate multiple retailers' image attributes and explain interrelationships among them. These factors are: 1) additional value and image, 2) store, and 3) products. These factors aggregate numerous attributes of multiple retailers, and allow comparing positions of the chain stores. Popkowski et al (2001) observed that the changing retail structure has provided the consumers with more options in the form of formats and services such as less travel time, large variety of products and quality products etc. Thang et al (2003) and Dalwadi et al (2010) supported that consumers' choice of shopping malls over traditional market stores is influenced by various factors like ambience, assortment, sales promotion schemes and in-store services. The facility of one stop-shop had a positive response from the consumers, who found it more convenient, time saving and satisfactory. The study by Jackson et al (2006) demonstrates that consumer choice between stores can be understood in terms of accessibility and convenience, whereas choice within stores involves notions of value, price, and quality. Another study by Jackson et al (2011) investigates the extent to which attitudes toward mall attributes and shopping value derived from a mall visit differ across gender and generational cohorts. Analysis of results show that there are no differences in hedonic and utilitarian shopping values by generational cohort, but generational differences in attitude toward mall hygiene factors, location convenience and entertainment features did exist. Lather et al (2006) and Gupta (2007) study uncovered six main indicators: viz., price, sales personnel, quality of merchandise, assortment of merchandise, advertising services and convenience services that play key role for retailers in choosing the type of retail formats that may help them to cope up with the changing preferences of consumers.

Mittal et al (2008) suggest that the retailers marketing strategy will have to take into account two sets of attributes: (1) loyalty drivers and (2) shopping experience enhancers. These attributes will have to be integrated into the retail format. For apparel shopping the loyalty drivers are merchandise mix, sales promotions, price, and recommendation/relationship whereas the shopping experience enhancers are store reputation/advertisements, temperature (air conditioning), return/guarantee, and ambient conditions. Enjoyable pleasant and attractive in store shopping environment increases the chances of impulsive buying among consumers, Crispen et al (2009). According to Gopal (2006), Jain and Bagdare (2009), Jacobs et al (2010) layout, ambience, display, self service, value added services, technology based operations and many more dimensions with modern outlook and practices are the major determinants of modern retail formats. Cross-merchandise, private-label brands, fun and entertainment, effective sales personnel and technology

adoption are the various strategies recommended for retailers by Ghosh and Tripathi (2010). Robinson (1998) and Herper et al (2000) mentioned a need for consumer orientation rather than product orientation for future developments in retailing. Tripathi et al (2008) is of the view that the household size of a family has a positive effect on the likelihood of a shopping trip. Similarly high family income levels, may lead to higher consumption levels, which would imply larger aggregate shopping. According to Singh (2007) the degree of brand awareness of various food products among urban respondents is more in comparison to rural households. Post-graduate rural and urban respondents have high degree of brand awareness for many food products in comparison to other educational levels of the households. The young consumer seeks more and more information about the new products available and retailers need to communicate them more effectively is emphasized by Kaur et al (2007). According to Benito et al (2006) the households that patronize supermarkets are more advanced in the cycle of their family life, have higher educational levels, and work in more professional activities; Discount stores are preferred by older households, those with less education, and those employed in less qualified professional activities and finally, the hypermarket seems to attract the grocery spending of the youngest households with small children, lower educational levels, and more basic professional activities.

### III. OBJECTIVE OF THE STUDY

- To study the major products and store attributes influencing consumers' towards innovative retail formats.
- To study the product-wise preferences of consumers towards innovative retail formats.
- To study the impact of demography factors (gender, age and income) on consumers' preferences' towards innovative retail formats.

### IV. RESEARCH METHODOLOGY

The present study is based upon the primary and secondary data. A self-structured questionnaire has been used for collecting the primary data from consumers of Punjab. The questionnaire has been tested for reliability and content validity. The overall reliability of the questionnaire as depicted by Cronbach alpha is .936. Data has been collected from 100 urban consumers of three major cities of Punjab i.e. Jalandhar, Amritsar and Ludhiana. Stratified random sampling method has been used for the study. Two types of goods have been taken up for the study. These are: Convenience Goods such as Food, Grocery, Beverages, Confectionaries, Personal Care products, Stationary and Gift items and Shopping Goods such as Clothing, Footwear, Jewellery, Furniture, Appliances and

Home Furnishing. Similarly two types of attributes have been taken up. Product Attributes such as Quality, Price, Brands, Merchandise, Availability of products, Display of products, Warrantee of products, Proper packaging, Exchange facility and Bundling offers and Store attributes such as Ambience, Location, Security, Promotions, Dressing room, Cleanliness, Children play

area, Parking facility, Convenient hours and Helpful staff . The emerging retail formats that have been considered in the present study are:

- Malls
- Hypermarkets/Supermarkets
- Specialty Stores

## V. RESULTS AND ANALYSIS

*Table 1:* Demographic profile of consumers

Demographic profile	Code	Response	Demographic profile	Code	Response
<b>Gender</b>			<b>Occupation</b>		
Male	1	32	Service	1	49
Female	2	68	Businessperson	2	35
<b>Total</b>		<b>100</b>	Any Other	3	16
			<b>Total</b>		<b>100</b>
<b>Age</b>			<b>No of working members</b>		
18-30	1	64	1	1	35
31-45	2	29	2-3	2	54
More than 45	3	07	>3	3	11
<b>Total</b>		<b>100</b>	<b>Total</b>		<b>100</b>
<b>Education</b>			<b>Yearly household Income</b>		
Undergraduate	1	17	Less than 2 Lac	1	08
Graduate	2	36	2 lakh-5 Lac	2	27
Post Graduate	3	47	>5 Lac -10 Lac	3	65
<b>Total</b>		<b>100</b>	<b>Total</b>		<b>100</b>

### a) Consumers' profile analysis

The above table shows the basic characteristics of the consumer households surveyed. Out of the 100 respondents surveyed, 68 per cent were female. Age compositions of the sampled respondents indicate that the surveyed group is young enough to respond about various emerging retail formats and its attributes. Out of the total surveyed consumers, more than 64 per cent of the respondents were between 18 to 30 years of age. Educational profile of the respondents shows that most of them have postgraduate or graduate level qualifications. Only 17 per cent of the respondents are from the undergraduate level. Most of the sample consumers' i.e. 49 percent belong to service class followed by business men and others. It is important to note that about 54 per cent of the respondents have two or three working members in their families. Sample households falling between the yearly income group of more than Rs 5 Lac to 10 Lac dominated, with a 65 per

cent share followed by 27 per cent share of 2 Lac to 5Lac.

### b) Product type and consumers' preferences for different retail formats

Section 2 covers the consumers' preferences of shopping goods and convenience goods from different retail formats in detail. Moreover the various attributes via product attributes and store attributes that affecting the consumers' preferences from emerging retail formats have also been considered in this section.

*Table 2.1 :* Consumers' preferences to purchase shopping goods from Malls:

Shopping Goods	Mean	Std. Deviation	Rank
Clothing	4.02	1.16	1
Footwear	3.61	1.04	2
Jewellery	2.10	1.14	8
Furniture	2.43	1.28	7
Home Appliance	2.86	1.15	5
Home furnishing	3.80	1.11	6
Bags and Baggage's	3.27	1.13	3
Electronics	3.12	1.16	4
<b>Average</b>	<b>3.57</b>	<b>1.15</b>	

The results as shown in table 2 highlight that from the above eight products, consumers prefer to purchase clothing (highest average score of 4.02) from malls; this was followed by Footwear, bags and

Baggage's and electronics. Furniture and jewellery are the least preferred products purchased by consumers from malls.

*Table 2.2 :* Consumers' preferences to purchase Convenience goods from Malls

Convenience Goods	Mean	Std. Deviation	Rank
Food and Grocery	3.57	1.35	1
Beverages	3.33	1.14	3
Confectionary	3.25	1.20	4
Personal care products	3.22	1.15	5
Stationary	2.78	1.22	7
Magazines	3.00	1.25	6
Gift Items	3.41	1.17	2
Toys	2.73	1.43	8
<b>Average</b>	<b>3.16</b>	<b>1.24</b>	

From the table 2.2, the result clearly highlight that from the above eight convenience products, consumers prefer to purchase Food and Grocery (highest average score of 4.02) from malls; this was

followed by gift items and beverages. Confectionary and personal care products are other preferred products. On the other hand Stationary and toys are given the least priority for purchasing from malls.

*Table 3.1 :* Consumers' preferences to purchase shopping goods from Hyper/Supermarkets

Shopping Goods	Mean	Std. Deviation	Rank
Clothing	3.10	1.24	3
Footwear	2.96	1.04	6
Jewellery	2.61	1.37	8
Furniture	2.67	1.21	7
Home Appliance	3.18	1.13	1
Home furnishing	3.06	1.21	4.5
Bags and Baggage's	3.06	1.43	4.5
Electronics	3.14	1.31	2
<b>Average</b>	<b>2.97</b>	<b>1.24</b>	



Home appliances and Electronics are high on priority preference in shopping goods from Hypermarkets / Supermarkets. Clothing, Home Furni - products preferred by consumers from Hypermarkets /

Supermarkets. Consumers don't offer a strong preference for buying Footwear, Furniture and Jewellery from this retail format.

*Table 3.2 : Consumers' preferences to purchase Convenience goods from Hyper/Supermarkets*

Convenience Goods	Mean	Std. Deviation	Rank
Food and Grocery	3.31	1.35	1
Beverages	3.14	1.43	3
Confectionary	3.16	1.33	2
Personal care products	3.08	1.16	4
Stationary	2.80	1.13	6.7
Magazines	2.80	1.18	6.7
Gift Items	2.88	1.21	5
Toys	2.55	1.27	8
<b>Average</b>	<b>2.97</b>	<b>1.26</b>	

The highly preferred convenience products from Hypermarkets/Supermarkets are Food and Grocery, Confectionary and Beverages. Consumers give equal

importance to purchase of Stationary and Magazines and toys are the least preferred products to be purchased from Hypermarkets/Supermarkets.

*Table 4.1 : Consumers' preferences to purchase shopping goods from Specialty Stores*

Shopping Goods	Mean	Std. Deviation	Rank
Clothing	3.90	1.19	1
Footwear	3.76	1.16	2
Jewellery	3.67	1.34	3
Furniture	3.65	1.21	4
Home Appliance	3.57	1.30	6
Home furnishing	3.43	1.28	7
Bags and Baggage's	3.41	1.28	8
Electronics	3.61	1.36	5
<b>Average</b>	<b>3.63</b>	<b>1.27</b>	

As shown in above table, there is a high deviation of results for this retail format. Clothing, Footwear and Jewellery are rank 1st, 2nd and 3rd in preference of purchase from specialty store. Furniture

and Electronics are other highly preferred items purchased from specialty store. On the other hand consumers don't prefer to visit specialty store for items like Home Furnishing and Bags and Baggage's.

*Table 4.2 :* Consumers' preferences to purchase Convenience goods from Specialty Stores

Convenience Goods	Mean	Std. Deviation	Rank
Food and Grocery	3.31	1.33	5
Beverages	3.27	1.33	6
Confectionary	3.33	1.13	3.5
Personal care products	3.43	1.24	2
Stationary	3.33	1.40	3.5
Magazines	3.53	1.30	1
Gift Items	3.25	1.26	7
Toys	2.90	1.46	8
<b>Average</b>	<b>3.30</b>	<b>1.31</b>	

For purchasing Convenience goods from specialty stores, consumers prefer to buy Magazines, Personal Care Products, stationary and Confectionary. On the other hand, Gift items and toys are least ranked lower in priority of purchase from Specialty stores.

*Table 5.1 :* Influence of product attributes on consumers' preferences

Product Attributes	Mean	Std. Deviation	Rank
Improved quality	4.31	1.26	1
Reasonable price	3.82	1.21	6
Availability of Brands	4.04	.98	2
Assortment of merchandise	3.92	1.13	3
Availability of products	4.14	.92	5
Display of products	4.00	1.04	4
Warrantee of products	3.73	1.15	7.5
Proper packaging	3.73	.96	7.5
Exchange facility	3.37	1.31	9
Bundling offers	2.94	1.35	10

The table 8.1 represents the various product attributes that influence consumers' preferences to shop from emerging retail formats. The results depict that Quality, Availability of brands and assortment of merchandise are the major product attributes which attract towards emerging retail formats. On the other hand, Exchange facilities and bundling offers have given least importance by consumers.

*Table 5.2 :* Influence of store attributes on consumers' Preferences

Store Attributes	Mean	Std. Deviation	Rank
Ambience	3.94	.99	6
Location	3.92	.96	7
Security	3.76	.91	3
Promotions	3.45	.94	9
Dressing room	4.04	.94	4

Cleanliness	4.12	1.01	5
Children play area	2.86	1.36	10
Parking facility	4.18	.93	1
Convenient hours	3.98	1.21	8
Trained sales personnel	4.10	.83	2

Parking facility, trained sales personnel and security are most important store attributes which consumers consider while shopping, On the other hand,

Consumers give least importance to Promotions and Children play area (Table 8.2).

## VI. SUMMARY OF CONSUMER PREFERENCES TOWARDS EMERGING RETAIL FORMATS:

Formats	Attributes	Why Consumer's prefer?	Demographic profile
<b>Malls</b>	Collection of shops, wide variety, amalgamation of products, service and entertainment, all at one place.	Due to quality, variety of brands and merchandise at one place, along with entertainment.	Younger generation with higher income
<b>Specialty Stores</b>	Carry a single product line, customers have wide variety to choose due to Specialization in particular product like music stores; apparel Stores, book stores, sporting goods stores etc.	Large assortment of merchandise in single product line and improved quality preferences.	Younger and Middle generation with higher income
<b>Hypermarkets/ Supermarkets</b>	Large self-service outlets carries wide product range- Food and Grocery, Home-ware, Appliances, Clothing, Furniture, Sports etc.	Due to changing lifestyle, better environment of the outlets, better products at normal prices.	Middle and Older generation with mid-class income group.

## VII. CONCLUSION

The present research examines the emergence of modern retail formats in India. The major emphasizes of the study is on consumers preferences of shopping goods and convenience goods from modern retail formats. The findings of the paper reveal that consumers prefer modern retail formats due to quality, variety of brands, parking facility, trained sales personnel and for security purpose. Consumers' prefer malls and specialty store to purchase various shopping goods like clothing, Footwear and Jewellery more as compared to convenience goods. The paper further explores that higher income consumers and younger generation visit modern retail formats more as compared to older once with low income.

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## Impact of Remittances on Reserves

By Akram Naseem, Fawad Aslam, Syed Zohaib Hassan

*University of Lahore*

**Abstract** - The study focused on the importance of remittances and reserves and also sees its implication for reserve increasing in three countries (Pakistan, India and Bangladesh). We analysis the impact of remittances on reserves in these three countries for the period 2000-2009. The regression analysis shows that remittances effect on reserves positively and significantly. Furthermore the study also finds that remittances have a strong and statistically significant impact on reserve increasing thus the reserves will increase when remittances will increase. The study also finds country wise analysis, Indian country is on top with respect to remittances and reserves and the Indian reserves are heavily dependent on remittances.

**Keywords** : *Remittances, Reserves, Pakistan, India, Bangladesh.*

**GJMBR - B Classification** : *FOR Code: 140210, 140303, 140202 JEL Code: F24, O11*



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# Impact of Remittances on Reserves

Akram Naseem <sup>α</sup>, Fawad Aslam <sup>Ω</sup>, Syed Zohaib Hassan <sup>β</sup>

**Abstract** - The study focused on the importance of remittances and reserves and also sees its implication for reserve increasing in three countries (Pakistan, India and Bangladesh). We analysis the impact of remittances on reserves in these three countries for the period 2000-2009. The regression analysis shows that remittances effect on reserves positively and significantly. Furthermore the study also finds that remittances have a strong and statistically significant impact on reserve increasing thus the reserves will increase when remittances will increase. The study also finds country wise analysis, Indian country is on top with respect to remittances and reserves and the Indian reserves are heavily dependent on remittances.

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## I. INTRODUCTION

Remittance is a transfer of money by a foreign worker to his or her home country. They are private savings of workers and families that are spent to home country for food, clothing and other expenditure. Remittance is not a new phenomenon; it is also a part of the human history. Several European countries, for example Italy, Spain and Ireland were heavily depending on remittances received from their migrants during 19th and 20th centuries<sup>1</sup>.

These countries created policies on remittances after taking some research effort on this field. For instance, Italy was the first country in the world that make a law to protect the remittances in 1901 while Spain was the first country who signed an international treaty with Argentina in 1960 to lower the cost of the remittances received. Remittances are playing very important role in the economies of many countries. According to the World Bank estimates, remittances totaled US\$414 billion in 2009, of which US\$316 billion went to developing countries that involved 192 million migrant workers. Remittances enhance savings, public expenditure on education and growth. Inflows of remittances in any country effect the economic growth very positively, improving the balance of payment position and reducing the dependence on the external growth in number of migrants and their income, lower costs and wider networks in the industry that support remittances. Reserves are very necessary for any

to improve their economy. Some of the reserves maintain the commercial banks and remaining reserves maintain the state bank of a country. A country can increase their reserves through remittances because the amount which the people send their home that amount is not fully used some of the amount used and remaining amount submitted to the bank, through tax, foreign aid. Countries keep their reserves in foreign currencies like dollar, Euro; pound because when they import the oil and other different products, they should make the payment in foreign currencies.

## II. LITERATURE VIEW

Qayyum Abdullah et al (2008) that study focused on the inflow remittances of Pakistan and its application on economic growth and poverty of Pakistan. They take the data from 1973-2007. The study finds that the remittances have statically significant effect on poverty reduction. So the importance of remittances cannot be denied on in terms of economic growth and poverty reduction. This study also finds that international migration labor have their significant benefit for developing countries. Sunny Kumar Sing et al (2010) they tried to find out the impact of remittances on macroeconomics variables like (GDP, RESERVES, IMPORT and EXPORT). They take data to analyze from year 1971-2008. The study shows that remittances have been increasing at very fast level for the last 15 years and these increasing trends can be attributed to various factors like the shifting from informal channel to formal channel, increase in the volume of international migration due to the economic improvement of government of India and changes in the regulatory framework regarding international migration. These increasing in remittances have influenced the foreign exchange reserve of India significantly which have the potential to affect the many of macro variables. They also find out the remittances has the positive significant effect on the above variables.

## III. OBJECTIVE OF THE STUDY

- Impact of remittances on Reserves
- How remittances effect on reserves differentiate between Pakistan, India and Bangladesh

## IV. RESEARCH METHODOLOGY

The purpose of the study is to evaluate the impact of remittances on reserves.

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<sup>1</sup>Source: Wikipedia

- Collect data from world Bank
- Panel data
- Three countries data(Pakistan, India and Bangladesh)
- Ten year data from 2000 to 2009
- 30 observations
- Use regression model for analysis

## V. STATISTICAL RESULT AND FINDINGS

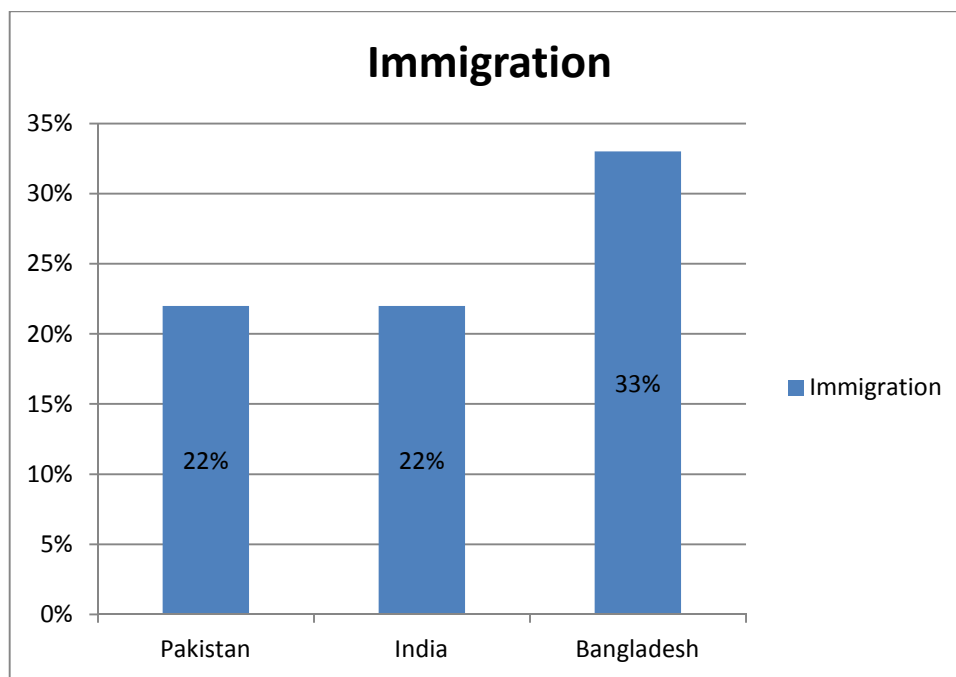
*Table 1 :* Average Immigration, Remittances and Reserves of Pakistan, India and Bangladesh

	Reserves in Billions US\$	Remittances in Billions US\$	Immigration
Pakistan	10.007	4.5024	22 %
India	153.164	25.7845	22 %
Bangladesh	3.851	4.938	33 %

Pakistan's immigration is on average from 2000 to 2009 is 22%, net remittances which comes from different countries are 4.5 billion US\$ and reserves maintain in their banks are 10 billion US\$. Indian immigration are also 22% but remittances of Indian migrants send to their country are 25.7 billion US\$ and

the reserve of India are very high as compared to Pakistan, reserves are 153 billion US\$. Bangladesh immigration are high as compared to Pakistan and India, these are 33% and Bangladesh received the remittances almost 5 billion US\$ and their reserves are 3.8 billion's US\$.

*Figure 1:* Value of Immigration of three countries Pakistan, India and Bangladesh



The figure 1 shows that Bangladesh immigration is 33% but Pakistan and Bangladesh both has 22% immigration which means Bangladesh people

are really likely to go abroad for work, the Bangladesh people mostly work in labor class and they are very hard working people.

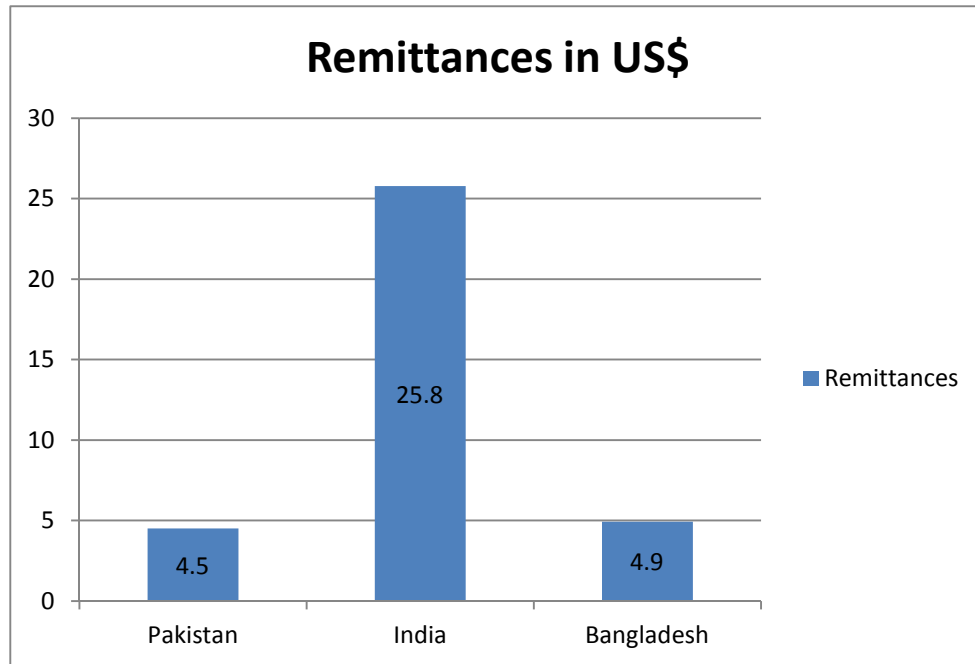
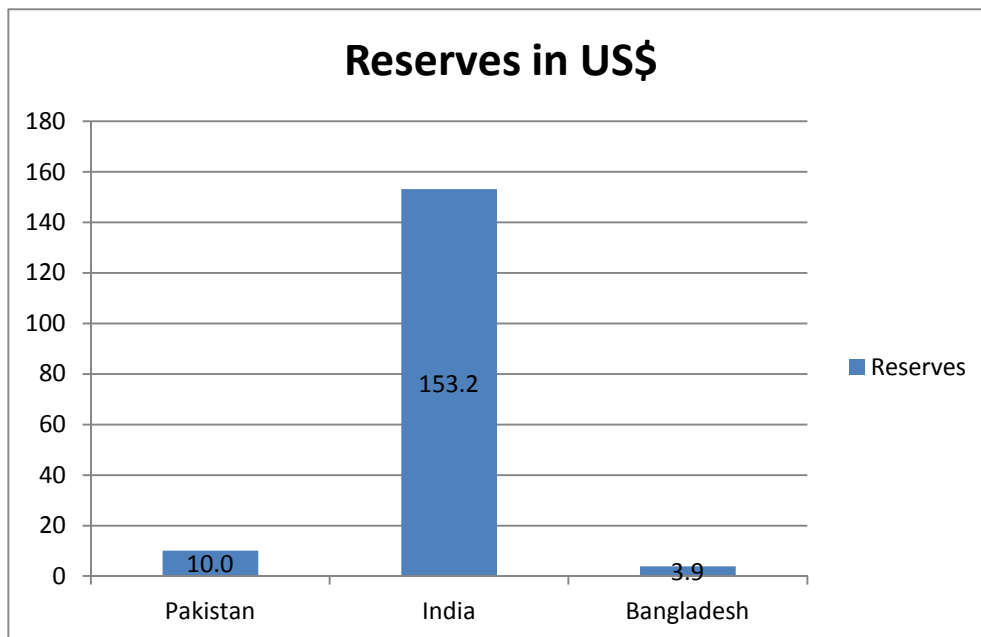
*Figure 2 :* Value of Remittances of three countries Pakistan, India and Bangladesh.

Figure 2 shows that Indian remittances are very high as compared to Pakistan and Bangladesh. Indian remittances are 25.8 billion US\$, Pakistan remittances are 4.5 billion US\$ and Bangladesh remittances are 4.5 billion US\$. Indian and Bangladesh remittances are high

as compared to Pakistan because both countries people are ready to work at cheaper labor and the remittances came in both countries through Proper banking channel.

*Figure 3 :* Value of reserves of three countries Pakistan, India and Bangladesh

The figure 3 shows that India has the high reserve where as Pakistan and Bangladesh has very low reserves in their banks. There is a lot of difference in

reserves between these three countries. One of the basic reasons of the high reserves of India is that its population is almost ten times more from both countries.

## VI. REGRESSION ANALYSIS

To find out the impact of remittances on reserves we apply regression analysis and create a model for it.

$$\text{Reserves} = \alpha + \beta \text{ Net remittances}$$

### Overall Regression Analysis

$$\text{Reserves} = -23.34 + 6.73 \text{ Net Remittances } R^2 = 0.00 \quad (0.01)$$

The above model shows positive impact on reserves P value is (0.01) which means that remittance have the significant impact on reserve and the value of  $R^2$  explanatory power is (0.00) which is very good.

*Table 2 : Country wise Regression Analysis*

	Intercepts Model	Regression	P Value	R <sup>2</sup>
Pakistan	3.85	1.36	0.01	0.58
India	-22	6.79	0.00	0.90
Bangladesh	41.4	5.08	0.00	0.92

**Pakistan :** Reserves = -22 + 6.79NR  $R^2 = 0.58$

**India :** Reserves = 41.40 + 5.09NR  $R^2 = 0.90$  (0.00)

**Bangladesh :** Reserves = -23.34 + 6.73NR  $R^2 = 0.92$  (0.00)

In above models Pakistan regression model shows positive impact on reserves, P value is (0.01) which means the remittances has the significant effect on reserves and the value of  $R^2$  Explanatory power is (0.58) which is moderate. The Indian model shows positive impact on reserves, P value is (0.00) which means the remittances has the statistically significant effect on reserve and the value of  $R^2$  Explanatory power is (0.90) which is good and the Bangladesh regression model shows that positive impact on reserves, P value is (0.00) which means the remittances has the statistically significant effect on reserves and the  $R^2$  Explanatory power is (0.92) which is so good. In three countries India is one of the best country with respect to remittances and reserves. All three models have the significant impact on reserves but the Indian reserves are very dependent on remittances.

## VII. CONCLUSION

The studies mainly focused on the importance of remittance and reserves and also see the impact of remittances on reserves. Regression model used to find out the impact of remittances on reserves. It is found that remittances effect reserves very positively and significantly. Findings from this study are basically, remittances have strong statistically significant impact on reserves increasing. The finding of this study suggests that if the remittance will increase, Reserves will also increase. Indian reserves are so much dependent on remittances.

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# Transmission Des Variations Du Taux De Change Aux Prix : Évidence Empirique Pour La Tunisie Et Le Maroc

By Zouheir Abida, Imen Mohamed SGHAIER

*University of Sfax, Faculty of Economics and Management of Sfax- Tunisia*

**Abstract** - This paper examines the degree of Exchange Rate Pass-Through to prices in Tunisia and Morocco, using the two recent methods developed by Edwards (2006) and Gerlach and Gerlach-Kristen (2006). Based on quarterly and annual data from 1980 to 2010, our results show that, whatever the method used, the nominal exchange rate does not play the role of a shock absorber mechanism in these two countries.

**Keywords** : *Pass-through, absorption des effets des chocs, politique monétaire, Tunisie, Maroc.*

**GJMBR Classification** : *JEL Code: E52 , E58 , C3*



TRANSMISSION DES VARIATIONS DU TAUX DE CHANGE AUX PRIX EVIDENCE EMPIRIQUE POUR LA TUNISIE ET LE MAROC

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# Transmission Des Variations Du Taux De Change Aux Prix : Évidence Empirique Pour La Tunisie Et Le Maroc

Zouheir Abida <sup>a</sup>, Imen Mohamed SGHAIER <sup>a</sup>

**Résumé** - Ce papier analyse la relation entre le taux de change nominal et les prix dans le cadre de la conduite de la politique monétaire en Tunisie et au Maroc, en utilisant les méthodes d'Edwards (2006) et de Gerlach et Gerlach-Kristen (2006). Nos tests économétriques, conduits sur des données trimestrielles et annuelles pour la période 1980-2010, permettent d'aboutir à la même conclusion : en Tunisie et au Maroc, le taux de change nominal n'est pas un instrument efficace dans l'absorption des effets des chocs, notamment sur les prix.

**Mots-clés** - *Pass-through, absorption des effets des chocs, politique monétaire, Tunisie, Maroc.*

*Exchange Rate Pass-through into Prices in Tunisia and Morocco*

**Abstract** - This paper examines the degree of Exchange Rate Pass-Through to prices in Tunisia and Morocco, using the two recent methods developed by Edwards (2006) and Gerlach and Gerlach-Kristen (2006). Based on quarterly and annual data from 1980 to 2010, our results show that, whatever the method used, the nominal exchange rate does not play the role of a shock absorber mechanism in these two countries.

**Keywords** : *Pass-through, shock absorber, monetary policy, Tunisia, Morocco.*

## I. INTRODUCTION

Pendant des décennies, le taux de change a été au centre des débats sur les politiques macroéconomiques dans les pays émergents. En effet, le taux de change est un canal de transmission de la politique monétaire. De plus, cette variable joue, dans les petites économies émergentes fortement ouvertes, un rôle important dans la détermination de la dynamique de l'inflation. Enfin, la recherche d'une plus grande compétitivité de l'économie et le maintien de la stabilité financière peuvent justifier cette prise en compte.

De fait, la littérature existante stipule que le taux de change nominal est pris en considération dans la conduite d'une politique monétaire optimale lorsque ses

variations affectent les écarts d'inflation ou de production. Cela nous conduit à aborder la notion du degré de transmission des variations du taux de change nominal aux prix ou du « pass-through ».

Un large courant de la littérature souligne l'importance d'évaluer le degré de pass-through, et d'établir s'il a diminué ou non, car cet élément entre en ligne dans la formulation de la conduite de la politique monétaire (Mishkin, 2008 ; Edwards, 2006 ; Gagnon et Ihrig, 2004). En effet, un degré de pass-through faible signifierait que les variations du taux de change ont moins d'effets sur les prix à la consommation et, par conséquent, sur l'inflation à court terme. Cela pourrait modifier les prévisions des banques centrales concernant le comportement futur de l'inflation, prévisions qui sont déterminantes dans la conduite de la politique monétaire. De plus, une transmission faible des variations du taux de change pourrait avoir des conséquences sur la propagation des chocs monétaires entre les pays ainsi que sur le choix que font les pays en matière de régime de change et de cadre de politique monétaire.

Dans le cadre de notre travail, nous analysons l'efficacité du taux de change nominal dans l'absorption des effets inflationnistes des chocs, en Tunisie et au Maroc. L'interaction dynamique entre le taux de change nominal et les prix est étudiée selon deux approches empiriques. La première soulève l'ampleur du degré de pass-through selon la méthode d'Edwards (2006). La deuxième consiste en l'estimation de fonctions de réaction à la façon de Gerlach et Gerlach-Kristen (2006).

Ce travail est organisé comme suit. La première section discute des déterminants du pass-through et résume les résultats de certaines études empiriques. La deuxième section décrit les variations du taux de change effectif nominal en Tunisie et au Maroc, les facteurs sous-jacents et les effets qui en découlent sur l'inflation. La troisième section décrit et applique les approches d'Edwards (2006) et de Gerlach et Gerlach-Kristen (2006) pour le cas de la Tunisie et le Maroc.

## II. REVUE DE LA LITTÉRATURE

### a) Les déterminants du pass-through

La littérature empirique a montré que, dans une

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économie ouverte, les variations du taux de change se transmettent dans la plupart des cas de façon partielle et différée dans le temps aux prix domestiques. Ce phénomène dit, de pass-through incomplet a été intégré dans de nombreux modèles de la Nouvelle Macroéconomie Ouverte qui mettent en évidence les conséquences importantes sur l'équilibre macroéconomique. Pour Betts et Devereux (1996), le pass-through incomplet permet d'expliquer la forte volatilité des taux de change réel. En outre, tenir compte de la faible sensibilité des prix aux variations de change modifie les mécanismes de transmission internationale des chocs et la conception de la politique monétaire optimale (Devereux et Engel, 2003). Dans cette perspective, le degré de pass-through est influencé par les facteurs suivants:

- la structure et le degré de concurrence sur les marchés des biens : De nombreux auteurs (Bacchetta et Van Wincoop, 2005 ; Corsetti et Dedola, 2003 ; Bergin et Feenstra, 1998) s'interrogent sur les déterminants microéconomiques du pass-through incomplet, i. e. sur les raisons qui peuvent pousser une firme exportatrice à ajuster sa stratégie de prix de façon à lisser l'impact des variations de change sur les prix à l'importation. La littérature théorique se penche alors sur le rôle de la discrimination par les prix (pricing-to-market ou PTM) dans l'explication des écarts à la loi du prix unique et à la parité des pouvoirs d'achat. Le PTM signifie que des entreprises, dotées d'un pouvoir de marché, discriminent entre marché en choisissant un prix de vente spécifique au marché de destination. En effet, dans un cadre d'incertitude sur le niveau futur du taux de change et de concurrence imparfaite, les firmes exportatrices peuvent adopter une stratégie de pass-through incomplet. Laisser les prix étrangers s'ajuster aux variations de change introduit en effet un risque de demande pour la firme, qui ne peut pas prévoir la quantité qu'elle devra produire lorsque les prix en monnaie locale sont sensibles aux chocs de change. Lorsque ce risque de demande est élevé, les entreprises exportatrices peuvent absorber une partie des variations du taux de change dans leurs marges plutôt que de les laisser se répercuter sur les prix en monnaie locale. La part des variations de change absorbée par les exportateurs dépendra alors de différents paramètres structurels comme l'élasticité perçue de la demande, le pouvoir de marché de la firme sur le marché destinataire, etc.

- l'environnement inflationniste : Plusieurs articles s'intéressent également à des déterminants du pass-through de type macroéconomique. Taylor (2000) a été l'un des premiers à formuler explicitement l'hypothèse que le passage à une faible inflation ait réduit de degré de transmission des variations du taux de change aux prix intérieurs. Selon lui, ce degré de transmission est essentiellement fonction de la persistance des chocs de prix et de taux de change,

laquelle tend à diminuer dans une économie où le taux d'inflation est faible et où la politique monétaire est davantage crédible. En fait, la crédibilité et l'efficacité de la politique monétaire à maintenir un taux d'inflation bas doivent amener les firmes à anticiper la non persistance de tout choc négatif du taux de change sur l'inflation et par conséquent elles ne répercutent pas directement sur leur prix l'effet change (Gagnon et Ihrig, 2004).

Devereux et Yetman (2002) élaborent un modèle à valeurs nominales rigides qui établit une relation entre politique monétaire et le degré de transmission des variations du taux de change aux prix. Le raisonnement intuitif à la base du modèle est simple. Les entreprises choisissent la fréquence optimale de révision de leurs prix en présence de chocs exogènes en comparant les frais fixes liés à une variation des prix et les pertes qu'elles subissent si elles laissent leurs prix inchangés face à l'inflation et aux mouvements du taux de change nominal (qui se répercutent sur les coûts de production). Une politique monétaire plus restrictive, qui réduit le taux d'inflation, entraîne donc des pertes plus faibles en l'absence de rajustements des prix, ce qui se traduit par un degré faible de pass-through.

Bailliu et Bouakez (2004) ont également montré les implications, pour la politique monétaire, d'une atténuation du degré de pass-through. En effet, la diminution de la transmission aux prix à la consommation pourrait influencer sur les prévisions des autorités monétaires relatives à l'évolution future de l'inflation, lesquelles jouent un rôle très important dans la conduite de la politique monétaire. Ainsi, pour que la politique monétaire soit menée avec succès, il faut non seulement que les autorités monétaires aient une bonne compréhension théorique de la dynamique de l'inflation, mais qu'elles puissent relativement bien prédire le comportement futur de l'inflation. Si les prévisions d'inflation étaient fondées sur des estimations qui ne tiendraient pas compte de la récente atténuation du degré de pass-through, ces prévisions pourraient surestimer les effets des variations du taux de change sur l'inflation.

- le régime du taux de change : dans un régime de taux de change flexible, une faible transmission des variations du taux de change aux prix peut contribuer à stabiliser la production et l'inflation. Devereux (2001) montre que dans une petite économie ouverte présentant un degré élevé de transmission des variations du taux de change aux prix, l'arbitrage entre la volatilité de la production (ou de la consommation) et la volatilité de l'inflation est prononcé quelle que soit la règle de politique monétaire. Une politique qui cherche à stabiliser la production engendre une volatilité élevée du taux de change et, partant, une volatilité marquée de l'inflation. Mais si les variations du taux de change ne se répercutent que lentement sur l'inflation, cet arbitrage est beaucoup moins prononcé. Un régime de changes flottants peut stabiliser la production sans entraîner une

forte volatilité de l'inflation. C'est pourquoi un degré faible du pass-through pourrait apporter plus de souplesse dans la conduite d'une politique monétaire indépendante et faciliter la mise en place d'un régime de ciblage de l'inflation (Choudhri et Hakura, 2001).

- Autres facteurs : les rigidités nominales et l'ajustement lent des prix à la consommation peuvent rendre les prix intérieurs moins réactifs aux variations de taux de change. Devereux et Yetman (2002) cherchent à établir si la lenteur de l'ajustement des prix peut expliquer pourquoi : i) les variations du taux de change peuvent ne pas se répercuter intégralement sur les prix en courte période, ii) leur effet peut varier d'un pays à l'autre. Dans le cadre théorique qu'avancent les auteurs, la rigidité des prix est à l'origine du caractère incomplet de la transmission des variations du taux de change en courte période.

#### *b) Bref aperçu des études empiriques*

Plusieurs modèles macroéconomiques récents sur le pass-through incomplet ont cherché à expliquer les écarts entre pays importateurs concernant la sensibilité de leurs prix à l'importation aux variations de change. Ainsi, Bacchetta et Van Wincoop (2005) ; Corsetti et Dedola (2003) ; Bergin et Feenstra (1998) mettent en évidence dans un cadre d'équilibre général la sensibilité des stratégies de pass-through à la forme de la fonction de demande adressée à la firme exportatrice sur chacun de ses marchés. Dans un cadre d'équilibre général, cet argument permet d'expliquer les écarts de pass-through entre pays de taille différente. En effet, la taille de marché influence les décisions d'entrée des firmes, qui elles-mêmes se répercutent sur l'intensité de la concurrence et sur la propension des firmes à adopter des stratégies de pass-through incomplet : plus le marché importateur est important, plus la concurrence entre exportateurs est intense, ce qui devrait accentuer les comportements de PTM.

Plusieurs articles s'intéressent également à des déterminants du pass-through de type macroéconomique. C'est le cas par exemple de Taylor (2000), qui explique la baisse tendancielle du pass-through par la stabilisation des taux d'inflation. L'argument de Taylor est que la stabilité des prix rend les marchés plus transparents ce qui facilite les comportements d'arbitrage et renforce l'incitation à adopter des stratégies de PTM.

Choudhri et Hakura (2001), pour un échantillon de 71 pays, ont trouvé que le pass-through est positivement corrélé avec le taux d'inflation. Leur étude qui porte sur la période 1979-2000, a permis de montrer que le pass-through est incomplet pour la plupart des pays de l'échantillon. Gagnon et Ihrig (2004) ; Bailliu et

Fujii (2004) ont choisi d'examiner si le degré de transmission des variations du taux de change avait diminué dans les pays industrialisés ayant adopté un régime de politique monétaire plus crédibles. Les deux études obtiennent des résultats qui confirment cette hypothèse.

Devereux et al. (2004) ; Corsetti et Pesenti (2005) étudient quant à eux l'effet de la volatilité du taux de change nominal sur les comportements de prix, les premiers dans un modèle avec chocs monétaires exogènes, les seconds dans un cadre avec politique monétaire optimale. Ces travaux montrent que la propension à adopter des comportements de PTM est, en théorie, négativement corrélée à la volatilité du change. En effet, absorber les mouvements de change dans ses marges est d'autant plus coûteux pour la firme que l'incertitude de change est forte.

Plusieurs travaux empiriques sur données agrégées s'interrogent à expliquer les écarts de pass-through entre pays importateurs. Campa et Goldberg (2005) estiment l'ampleur du pass-through sur les prix à l'importation des principaux pays de l'OCDE et aboutissent à une forte hétérogénéité entre pays, les prix à l'importation étant en moyenne moins sensibles aux variations du taux de change dans les pays importateurs les plus riches notamment les Etats-Unis. Ils obtiennent des élasticités de transmission moyennes d'environ 60% à court terme et de 75 % à long terme. Ces résultats sont conformes aux estimations d'Anderton (2003). Celui-ci a en effet conclu qu'à long terme, 50 à 70 % des variations du taux de change effectif de l'euro sont transmises aux prix des biens manufacturés importés des pays n'appartenant pas à la zone euro.

Bouakez et Rebei (2008) ont plutôt recours pour un modèle structurel d'équilibre général dynamique pour estimer le degré de pass-through au Canada. Ils constatent que l'incidence des variations du taux de change sur les prix canadiens à l'importation est restée assez stable, mais que leur effet sur les prix à la consommation a baissé ces dernières années. Des simulations montrent que cette réduction tient largement au changement de régime de politique monétaire

La littérature empirique sur le pass-through incomplet met en évidence des écarts importants entre pays de niveau de développement différent. Ainsi, Goldfajn et Werlang (2000) ont trouvé que le coefficient de pass-through est d'autant plus élevé que l'horizon temporel de référence est lui-même éloigné. Pour l'ensemble des pays de l'échantillon, il atteint son maximum au bout de 12 mois. Il existe cependant des disparités significatives entre les pays (voir tableau 1).

<sup>1</sup> Ces considérations sont particulièrement importantes pour les banques centrales qui ont adopté des cibles d'inflation afin de les guider dans la conduite de leur politique monétaire.

Tableau 1 : Coefficients de pass-through par type de pays, 1980-1998

Mois	Pays développés	Pays émergents	Autres pays en développement	Pays OCDE	Pays non OCDE
6	0.245	0.394	0.340	0.113	0.471
12	0.605	0.912	0.506	0.188	0.754

Source: Goldfajn et Werlang, (2000).

Le tableau 1 montre que le pass-through est lié au niveau de développement économique. Pour un horizon de 6 mois, le coefficient de pass-through est plus élevé dans les pays en développement et les pays émergents que dans les pays développés. A 12 mois, le pass-through est presque total dans les pays émergents (0,912).

Toutefois, Mihaljek et Klau (2008), pour un échantillon de 14 pays émergents, ont trouvé que le degré de transmission des variations du taux de change aux prix à la consommation paraît avoir diminué durant la dernière décennie. Leur étude qui porte sur la période 1994-2006, a permis de montrer que le pass-through est incomplet pour la plupart des pays de l'échantillon, en particulier grâce à l'adoption de régimes de politique monétaire plus crédibles. Le même résultat est trouvé par Barhoumi et Jouini (2008) sur la base d'une étude menée sur un échantillon de 8 pays en de développement.

### III. TAUX DE CHANGE ET INFLATION EN TUNISIE ET AU MAROC

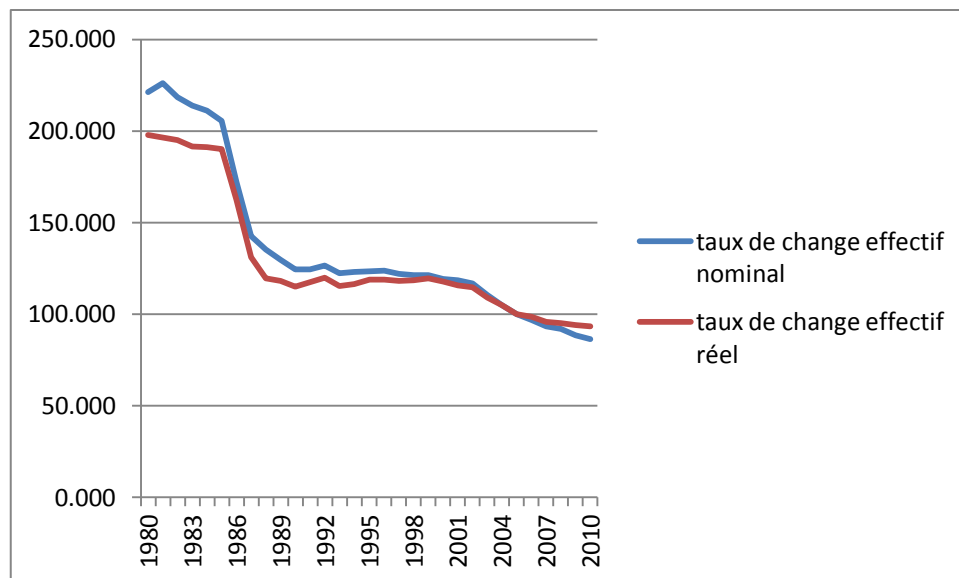
Au cours des années 1990, la Tunisie a adopté une politique de ciblage du taux de change effectif réel dans le cadre d'un objectif affiché de stabilité, de réaction à la forte volatilité des termes de l'échange et de promotion de la croissance. En fait, cette stratégie a consisté, depuis le plan de stabilisation de 1986, à

maintenir une dynamique continue de dépréciation du taux de change effectif nominal.

Le respect de cette politique a conduit les autorités monétaires à ajuster périodiquement le taux de change nominal, limitant ainsi la capacité du taux de change réel à absorber les effets des chocs exogènes et endogènes. Cette politique a donné des résultats relativement bons dans la mesure où le pays a évité les écueils du ciblage du taux de change effectif réel, c'est-à-dire la persistance d'une inflation élevée et un mésalignement du taux de change (Fanizza et al, 2002).

Comme le montre le graphique 1, sur le long terme, les taux de change nominal et réel suivent des tendances marquées à la dépréciation. Cependant, cette dépréciation à long terme ne s'effectue pas de façon régulière mais procède par paliers, des phases de stabilisation du taux de change réel étant suivies de dévaluations. La fin de période fait toutefois exception, puisqu'on observe des dépréciations simultanées du taux nominal et du taux réel. En 1985, les pondérations du panier furent modifiées mais cela ne n'aurait pas suffi pas à limiter les contraintes exercées par la balance des paiements et une dépréciation nominale fut menée à partir d'août 1986. Bien qu'importante, elle fut encore insuffisante et ce n'est qu'à partir de 1989 que le taux de change réel fut stabilisé au niveau désiré, période de stabilité qui dura jusqu'en 2000.

Graphique 1 : Taux de change effectifs nominal et réel du Dinar (1980-2010)



Source : SFI, FMI (2012).



A partir de 2000-2001, les autorités tunisiennes, ont rompu avec la politique antérieure de stabilisation du taux de change réel, pour opter en faveur d'une politique de dépréciation réelle du dinar. Cette dépréciation a été rendue possible par une politique monétaire plus accommodante qui, tout en poursuivant un objectif de croissance de la masse monétaire au sens large au travers de l'agrégat M3, assure son autonomie par d'importantes restrictions aux flux de capitaux, comme c'est aussi le cas au Maroc.

La dépréciation du taux de change effectif réel depuis quelques années a été alimentée par des chocs négatifs persistants sur les termes de l'échange et par une plus grande ouverture des échanges, en particulier dans le contexte de l'accorde d'association avec l'Union Européenne. Les dernières estimations suggèrent que dans l'ensemble le niveau actuel du taux de change effectif réel est globalement conforme aux fondamentaux (FMI, 2010). Concernant l'inflation, elle a été contenue, se situant en moyenne à 3% pour la période 2000-2010, par rapport aux 5% aux cours des années 1990.

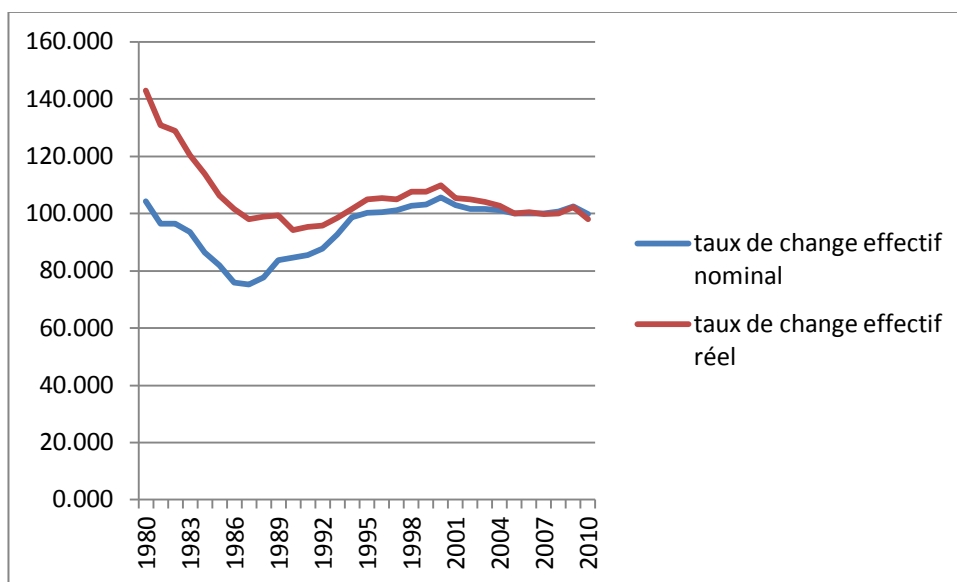
Concernant le Maroc, le graphique 2 montre d'amples fluctuations des taux de change nominal et réel du dirham marocain au cours de la période 1980-2010. Historiquement, le dirham est resté lié au franc français jusqu'à 1973. A partir de cette date, on a eu un régime de flottement géré avec pour objectif de stabiliser le taux de change effectif vis-à-vis d'un panier de monnaies dont la composition sera modifiée en septembre 1980, afin de mieux tenir compte de l'influence des partenaires commerciaux (Domaç et Shabsigh, 1999).

De 1980 à la fin de 1985, on observe une dépréciation substantielle mais graduelle du taux de change nominal. Une telle politique s'est traduite par une dépréciation d'environ 35% en termes réels. Ce résultat fut obtenu à l'aide de dévaluations successives, de l'ordre de 12% en 1983, puis d'une ampleur à peu près équivalente durant les six premiers mois de 1984. De la fin des années 1985 à 1990, le taux de change nominal est resté stable mais le taux de change réel s'est fortement s'apprécié.

En mai 1990 intervient une nouvelle dévaluation de 9.25%. Elle ne parvient toutefois pas à ralentir l'appréciation du taux de change réel, à cause des rigidités internes en matière de salaires et de prix et suite à l'appréciation de l'euro face au dollar en fin de période. Il aura fallu attendre avril 2001 pour que les autorités dévaluent de facto la valeur du dirham de 5%. Elles ont en fait modifié la pondération des différentes devises qui composent le panier en donnant une plus grande importance à l'euro au détriment du dollar, afin de mieux refléter l'ancrage du dirham à l'Euro. Entre 2001 et 2010, le dirham s'est déprécié lentement mais régulièrement en termes réels.

Le régime de change actuel, basé sur le rattachement du dirham à un panier composé de l'euro et du dollar, a fourni un ancrage solide à la politique monétaire et a contribué à la stabilité macroéconomique. Les dernières estimations indiquent que le niveau du taux de change du dirham est globalement en ligne avec les fondamentaux économiques (FMI, 2010).

Graphique 2 : Taux de change effectifs nominal et réel du Dirham (1980-2010)



Source : SFI, FMI (2012).

Concernant l'inflation, l'économie marocaine a connu deux cycles d'inflation bien définis : un premier cycle de 1990 à 1995 durant lequel l'inflation s'est située au-delà de 5% et un second cycle de 1996 à 2010 marqué par une inflation faible oscillant autour de 2%. Cette maîtrise de l'inflation a permis d'améliorer la compétitivité de l'économie marocaine en maintenant une certaine stabilité de la valeur du dirham par rapport aux principales devises.

Tout au long des années quatre-vingt, le dinar et le dirham ont donc été en accord avec ce que nécessitait l'évolution de l'environnement international, marqué tout à la fois par le ralentissement de l'inflation mondiale, en conséquence du relèvement des taux d'intérêt et du durcissement des conditions de l'endettement extérieur. Depuis le début des années quatre-vingt-dix, la politique des taux de change a été en revanche moins active au Maroc. L'évolution de la valeur réelle du dinar tunisien est donc plus favorable à la compétitivité.

#### IV. ETUDE EMPIRIQUE DU DEGRÉ DE PASS-THROUGH EN TUNISIE ET AU MAROC

Deux approches empiriques sont utilisées pour traiter la relation entre le taux de change nominal et les prix dans le cadre de la conduite de la politique monétaire en Tunisie et au Maroc. La première est proposée par Edwards (2006). Elle est fondée sur l'étude du « pass-through » des variations du taux de change nominal aux prix des biens échangeables et non échangeables dans le but d'analyser l'efficacité du taux de change nominal dans l'absorption des effets inflationnistes des chocs. La deuxième approche consiste à étudier la contribution du taux de change nominal dans l'ajustement macroéconomique des effets des chocs sur la base du critère de la persistance de l'inflation proposé par Gerlach et Gerlach-Kristen (2006).

##### a) *Source des données*

La plupart des études empiriques étudiant le problème du pass-through tendent à utiliser des données trimestrielles sur le taux de change et les indices de prix. Ces données sont disponibles dans la base de données SFI (Statistiques Financières Internationales) du Fonds Monétaire International (FMI). Dans notre première investigation empirique, nous utilisons des données trimestrielles allant de 1990 :1 à 2010 :4 relatives au taux de change effectif nominal (E), à l'indice de prix à la consommation (IPC) et à l'indice de prix à la production (IPP). En revanche, faute de données disponibles suffisantes, nous utilisons dans la deuxième étude empirique des données annuelles entre 1980 et 2010 pour les variables du taux de change effectif nominal (E), l'inflation ( $\pi$ ) et le PIB réel (Y).

##### b) *L'approche d'Edwards (2006)*

Une des modifications les plus significatives de l'économie mondiale ces dernières années est la forte

réduction du degré de transmission des variations du taux de change. Cette évolution a été décrite empiriquement dans de nombreux pays. Il est généralement admis que l'adoption de régimes de politique monétaire plus crédibles a joué un rôle important à cet égard. Toutefois, cette ligne de pensée exclut l'impact indirect de la transmission du taux de change nominal aux prix sur le taux de change réel.

Edwards (2006) soulève le rôle du taux de change réel. Sachant que le taux de change réel peut être défini comme le rapport des prix des biens échangeables aux prix des biens non échangeables, il est important de faire la distinction entre la transmission des variations du taux de change nominal aux prix des biens échangeables et la transmission aux prix des biens non échangeables.

Dans la littérature existante, le lien entre le degré de pass-through et la capacité d'ajustement aux effets inflationnistes des chocs du taux de change nominal n'est pas suffisamment mise en évidence (Mishkin, 2000).

Edwards (2006) établit ce lien sur la base du postulat suivant : le taux de change peut servir à amortir les chocs si la transmission des variations du taux de change nominal aux prix des biens échangeables est forte et que la transmission aux prix des biens non échangeables est faible. Ainsi, pour que le taux de change nominal soit un instrument d'ajustement aux effets des chocs, il est indispensable que les variations du taux de change nominal soient transmises au taux de change réel (Edwards et Levy-Yeyati, 2005). Par conséquent, la notion de degré de pass-through soulève non seulement la question de l'inflation, mais aussi l'efficacité du taux de change nominal dans l'absorption des effets inflationnistes des chocs. Cette relation repose sur trois hypothèses traditionnelles : i) La loi du prix unique pour les biens échangeables ; ii) Les prix des biens non échangeables sont gérés par les conditions internes du marché des biens non échangeables ; et iii) Les salaires sont rigides, ils ne réagissent pas à la dépréciation nominale de la monnaie domestique.

Etant donné la définition du taux de change réel, et sous les hypothèses précédentes, une dépréciation du taux de change nominal entraîne une hausse des prix des biens échangeables et donc une dépréciation du taux de change réel. Dès lors, le taux de change nominal peut jouer un rôle effectif dans l'absorption des effets des chocs.

Cette approche est pertinente dans la mesure où les biens échangeables ont une plus forte teneur en inputs importés, ces biens sont plus réactifs au taux de change nominal (Campa et Goldberg, 2006 ; Bacchetta et Van Wincoop, 2003).

En raison de l'absence des données sur les biens échangeables et non échangeables nous avons choisi, à l'image d'Edwards (2006), d'utiliser des

variables de substitution (« proxies »). L'indice des prix à la consommation (IPC) représente le niveau des prix des biens non échangeables et l'indice des prix à la production (IPP) représente le niveau des prix des biens échangeables. Dans la littérature, plusieurs auteurs tels que Campa et Goldberg (2006) et Bacchetta et Van Wincoop (2003) ont eu recours à l'approximation des prix des biens non échangeables par l'indice des prix à

la consommation. De même, les économistes du FMI (2005) étudient la relation dynamique entre le taux de change nominal et les prix, avec un cloisonnement entre l'indice des prix à la consommation (IPC) et l'indice des prix de gros (WPI).

Dans la même lignée de l'étude d'Edwards (2006), l'équation à estimer est la suivante :

$$\Delta \text{Log} P_t = \alpha_1 + \sum_{j=1}^M \beta_j \Delta \text{Log} P_{t-j} + \sum_{k=0}^N \gamma_k \Delta \text{Log} E_{t-k} + \theta \Delta \text{Log} P_t^* + \varepsilon_t \quad (1)$$

où  $P_t$  représente respectivement les prix des biens non échangeables et les prix des biens échangeables. Ainsi, pour chaque pays, deux équations sont estimées. Dans la première équation, la variable endogène est la variation des prix des biens non échangeables ( $\Delta \text{IPC}$ ). Dans la seconde équation, la variable à expliquer est la variation des prix des biens échangeables ( $\Delta \text{IPP}$ ).  $E$  est le taux de change effectif nominal coté au certain (une augmentation de  $E$  soit une appréciation nominale).  $P^*$  est l'indice des prix étrangers<sup>2</sup>.  $\varepsilon_t$  est le terme d'erreur. Toutes les variables sont exprimées en différence première du logarithme.

Le retard optimal pour les variables retardées  $\Delta P$  et  $\Delta E$  est déterminé à partir des critères de Akaike et de Schwarz. La structure du retard traduit la persistance de l'inflation et permet un paramétrage parcimonieux mais souple de la dynamique de transmission des variations du taux de change aux prix. Le degré de transmission à long terme des variations du taux de change nominal aux prix (IPC, IPP) est obtenu par la formule suivante :

$$TLT = \frac{-\sum_{j=0}^N \gamma_j}{1 - \sum_{i=1}^M \beta_i} \quad (2)$$

S'il est peu probable que l'équation (1) puisse représenter dans sa totalité le processus de détermination de l'inflation, elle devrait parvenir à saisir l'incidence globale des variations du taux de change sur l'évolution des niveaux de prix nationaux. Ainsi, bien que l'on s'attende à ce que les variations temporaires et passées du taux de change influent sur l'inflation, nous n'incluons que les secondes dans la régression afin d'éviter que la relation endogène ne s'exerce en sens inverse (c'est-à-dire du taux d'inflation intérieur vers le taux de change) et ne fausse l'estimation<sup>4</sup>.

En raison de la corrélation des erreurs, liée à l'existence de la variable dépendante retardée en tant que variable explicative, la méthode d'estimation SURE («Semmingly Unrelated Regressions Estimation») est appliquée. Les résultats des estimations sont donnés par les tableaux 2 et 3.

**Tableau 2 :** Transmission des variations du taux de change nominal aux prix en Tunisie  
1990:1-2010:4

<i>Equation (1)</i>		<i>Equation (2)</i>	
<u>IPC</u>		<u>IPP</u>	
$\Delta \log E_{t-1}$	-0.054 (-0.8)	$\Delta \log E_{t-1}$	- 0.04 (-0.2)
$\Delta \log P^*$	0.139 (0.89)	$\Delta \log P^*$	0.091
$\Delta \log IPC_{t-1}$	0.34* (2.92)	$\Delta \log IPP_{t-1}$	0.154* (2.28)

<sup>2</sup> Le prix étranger de référence retenu dans notre étude est celui des Etats-Unis.

<sup>3</sup> Selon le critère d'Akaike et de Schwarz, l'ordre approprié est de 4 trimestres pour IPC et 1 trimestre pour  $E$  dans les deux pays. En revanche, pour IPP, l'ordre approprié est de 2 trimestres en Tunisie et

de 3 trimestres au Maroc.

<sup>4</sup> Devereux et Yetman (2002) adopte une démarche analogue.

<sup>5</sup> Tous les tests économétriques sont réalisés avec le logiciel RATS, version 7.0.

$\Delta \log IPC_{t-2}$	0.004 (0.036)	$\Delta \log IPP_{t-2}$	0.3** (2.57)
$\Delta \log IPC_{t-3}$	-0.003 (-0.3)		
$\Delta \log IPC_{t-4}$	0.433* (3.83)		
Observations	84	84	
Persistance de l'inflation	0.774	0.454	
Pass-through à court terme	0.054	0.04	
Pass-through à long terme	0.238	0.073	
Durbin-Watson	1.8	2.13	

Notes : Les t-statistiques sont indiquées entre parenthèses. La persistance de l'inflation est la somme des coefficients pour les observations retardées des prix (IPC et IPP).

\*\*\* significatif à 1%, \*\* significatif à 5%, \* significatif à 10%.

Source : Estimations des auteurs.

Les tableaux 2 et 3 résument les résultats des régressions. La transmission à court terme des variations du taux de change nominal aux des biens non échangeables (IPC) est négative en Tunisie, mais positive au Maroc. Elle est non significative pour les deux pays. L'équation (1) des tableaux 2 et 3 montre un

degré de pass-through à long terme de 0.238 pour la Tunisie et de 0.45 pour le Maroc. En d'autres termes, une dépréciation nominale de 1% du dinar se traduit par une augmentation de l'inflation de 0.238% alors qu'une dépréciation de 1% du dirham se traduit par une augmentation de l'inflation de 0.45%.

Tableau 3 : Transmission des variations du taux de change nominal aux prix au Maroc, 1990:1-2010:4

	<i>Equation (1)</i> <u>IPC</u>		<i>Equation (2)</i> <u>IPP</u>
$\Delta \log E_{t-1}$	0.231** (2.15)	$\Delta \log E_{t-1}$	-0.035 (-0.149)
$\Delta \log P^*$	0.136 (0.607)	$\Delta \log P^*$	0.763*** (5.031)
$\Delta \log IPC_{t-1}$	-0.008 (-0.07)	$\Delta \log IPP_{t-1}$	-0.061 (-0.563)
$\Delta \log IPC_{t-2}$	0.037 (0.337)	$\Delta \log IPP_{t-2}$	-0.053 (-0.505)
$\Delta \log IPC_{t-3}$	0.111 (1.01)	$\Delta \log IPP_{t-3}$	0.211** (2.00)
$\Delta \log IPC_{t-4}$	0.346*** (3.112)		

Observations	84	84
Persistance de l'inflation	0.486	0.097
Pass-through à court terme	0.231	0.035
Pass-through à long terme	0.45	0.038
Durbin-Watson	2.01	2.05

Notes : Les t-statistiques sont indiquées entre parenthèses. La persistance de l'inflation est la somme des coefficients pour les observations retardées des prix (IPC et IPP).

\*\*\* significatif à 1%, \*\* significatif à 5%, \* significatif à 10%.

Source : *Estimations des auteurs.*

Notre résultat concluant l'inexistence d'une transmission significative des variations du taux de change nominal aux prix à la consommation (IPC) en Tunisie et au Maroc concorde avec d'autres travaux empiriques. A cet effet, en étudiant un large échantillon de pays, Choudhri et Haruka (2001) montrent que la transmission des variations du taux de change aux prix est incomplète, y inclut en Tunisie et au Maroc. Devreux et Yetman (2002) notent qu'en Tunisie, la transmission des variations du taux de change à l'IPC est dérisoire et statistiquement non significative. Aussi, les économistes du FMI (2007) trouvent une transmission significative, mais faible, des variations du taux de change nominal aux prix à la consommation.

La transmission des variations du taux de change nominal aux prix des biens échangeables (IPP) est également positive dans les deux pays. Cependant, le coefficient estimé du taux de change nominal n'est pas significatif. En d'autres termes, une appréciation nominale de la monnaie domestique entraîne une hausse des prix des biens échangeables en Tunisie et au Maroc.

En termes d'efficacité du taux de change nominal dans l'absorption des effets inflationnistes des chocs, aucun de ces pays ne montre une faible transmission du taux de change aux prix des biens non échangeables et une forte transmission aux prix des biens échangeables. Dans les deux pays, les résultats sont contraires aux hypothèses théoriques : la transmission est forte aux prix des biens non échangeables et faible aux prix des biens échangeables.

En Tunisie et au Maroc, il n'y a pas d'évidence d'une transmission statistiquement significative des variations du taux de change nominal aux prix des biens échangeables ou non échangeables. Cela implique l'absence de réactivité des prix (IPC et IPP) aux variations du taux de change nominal. Par conséquent, les variations du taux de change nominal ne sont pas transmises au taux de change réel. Dès lors, le taux de change nominal n'est pas un instrument effectif dans l'ajustement des effets des chocs, notamment sur les prix.

Ce résultat atteste à première vue l'importance que revêt la rigidité des prix pour la détermination du

degré de pass-through. Les économistes du FMI (2007) soulignent que l'administration des prix inclus dans le panier de calcul de l'indice des prix à la consommation constitue un obstacle majeur à la réactivité des prix aux chocs. En Tunisie, les prix d'environ 30% du panier de l'IPC sont encore administrés contre 20% au Maroc. La politique monétaire perd de sa souplesse et de son efficacité en présence d'une grande part de prix administrés. Ceci est d'autant plus important dans le cas d'un cadre de ciblage de l'inflation où la prévision de l'inflation et la capacité à réagir rapidement aux chocs sont primordiales. Rappelons que les autorités monétaires tunisiennes et marocaines continuent de mettre en place les fondements d'un régime de ciblage d'inflation.

Les variations des prix mondiaux semblent exercer une influence positive sur les prix domestiques en Tunisie et au Maroc. Les deux pays affichent une hétérogénéité au niveau de l'inertie de l'inflation. En Tunisie, l'inflation est fortement expliquée par l'inflation retardée, traduisant ainsi la persistance de l'inflation dans le pays. L'ampleur de la persistance de l'inflation en Tunisie a été également soulignée par les économistes du FMI (2007). Au Maroc, la persistance de l'inflation est modérée. Au Maroc, l'inflation passée touchant les biens échangeables et non échangeables persiste moins qu'en Tunisie. Néanmoins, au sein des deux pays, la persistance de l'inflation est plus marquée pour les biens non échangeables (IPC) que pour les biens échangeables (IPP).

#### c) *L'approche de Gerlach et Gerlach-Kristen (2006)*

Les fonctions de réaction de la banque centrale développées au milieu des années 1980 permettent d'étudier la conduite de la politique monétaire. Elles permettent en effet d'endogénéiser les taux d'intérêt en réaction à certaines variables macroéconomiques telles que l'inflation et la production, ce qui donne l'opportunité à la Banque centrale non seulement de se préoccuper de la stabilité des prix, mais aussi de la régulation conjoncturelle.

Cette approche ne semble pas convenir pour le cas de la Tunisie et le Maroc dans la mesure où les variations de leur taux d'intérêt à court terme sont faibles. Néanmoins, à la fin des années 90, dans le cadre des réformes des marchés financiers, on assiste



à une libéralisation croissante des taux d'intérêt à court terme, en particulier au Maroc.

En Tunisie, c'est en 2001 que l'introduction d'une flexibilité limitée du taux d'intérêt à court terme a eu lieu. Cependant, le fait que les taux aient été libéralisés n'a pas engendré leurs fluctuations : ces derniers sont restés stables. Le maniement des taux d'intérêt apparaît encore en Tunisie comme une opération lourde de conséquences et qui, en fin de compte, reste du ressort des pouvoirs publics. Cette difficulté de la mise en œuvre d'une vraie politique des taux d'intérêt s'explique par le fait que, d'une part, toute hausse des taux d'intérêt induit une augmentation des coûts de financement et de production des entreprises et donc de la compétitivité externe du pays, d'autre part, la Banque centrale ne commande pas directement et unilatéralement le niveau des taux d'intérêt. Des taux administrés sont encore en vigueur, fixés directement par les pouvoirs publics.

En pratique, la politique du taux d'intérêt au cours des dix dernières années a consisté à contenir le niveau moyen du taux du marché monétaire afin de ne

pas compromettre le fragile équilibre du système financier de ces pays. Cette ligne d'action est particulièrement présente en Tunisie. En effet, le rôle de la Banque Centrale de Tunisie est fortement contraint puisqu'elle doit tenir compte de la situation des banques qui souffrent de problèmes de liquidité, conséquences de la fragilité de leur situation financière.

Par conséquent, il n'existe pas d'interactions significatives entre le taux d'intérêt à court terme et les autres variables de la politique monétaire, notamment les prix. Par conséquent, il serait plus opportun d'étudier la conduite de la politique monétaire en tenant compte de l'évolution du taux de change.

L'estimation d'une fonction de réaction intégrant les prix en tant que variable explicative du taux de change nominal permet d'étudier si les variations des prix engendrent des variations du taux de change nominal. En effet, cela revient à examiner si le taux de change nominal est sensiblement réactif aux variations des prix. Ainsi, à l'image de Gerlach et Gerlach-Kristen (2006), l'équation à estimer est la suivante :

$$\Delta \log(E_t) = \alpha_0 + \alpha_1 \Delta \log(E_{t-1}) + \alpha_2 \pi_t + \alpha_3 (Y_t - Y_t^*) + v_t \quad (3)$$

où  $E_t$  est le taux de change effectif nominal de l'année (t),  $E_{t-1}$  est le taux de change effectif nominal retardé de un an<sup>6</sup>,  $\pi_t$  représente l'inflation annuelle,  $(y_t - y_t^*)$  est l'output gap et  $v_t$  le terme d'erreur.  $y$  et  $y^*$  représentent respectivement le PIB réel et le PIB

potentiel<sup>7</sup>. Le taux de change effectif nominal est considéré en différence première annuelle du logarithme. Les données sont annuelles et couvrent la période 1980-2010. Les résultats des estimations sont résumés dans le tableau 4.

Tableau 4 : Résultat d'estimation d'une fonction de réaction du type Gerlach et Gerlach-Kristen (2006)

	Tunisie	Maroc
Constante	-0.012 (-0.52)	0.013 (1.23)
$\Delta \log(E_{t-1})$	0.509** (2.36)	0.585** (3.27)
$\pi_t$	-0.0008 (-0.18)	-0.002 (-0.78)
$(y_t - y_t^*)$	0.32 (0.57)	0.024 (0.11)
$R^2$	0.32	0.38

Notes : Les t-statistiques sont indiqués entre parenthèses. \*, \*\*, \*\*\* indiquent les seuils significatifs à 10%, 5% et 1%. La méthode d'estimation est les doubles moindres carrés.

Source : Estimations des auteurs.

Les coefficients attachés aux différentes variables présentent les signes attendus, pour les deux pays. Cependant, seul le coefficient relatif à la variation retardée du taux de change effectif nominal est statistiquement significatif au seuil de 5%. En Tunisie et au Maroc le taux de change se déprécie modestement

en réaction à une pression inflationniste. Néanmoins, ni l'inflation, ni l'output gap ne semblent constituer des éléments pertinents pour l'explication des variations du taux de change nominal en Tunisie et au Maroc.

Les résultats de l'estimation d'une fonction de réaction particulière des autorités monétaires tunisiennes et marocaines confirment les conclusions mises en évidence précédemment : en Tunisie et au Maroc, le taux change effectif nominal ne joue pas le

<sup>6</sup> Selon le critère d'Akaike et de Schwartz l'ordre approprié est de 1 an pour les modèles de la Tunisie et le Maroc.

<sup>7</sup> Le PIB potentiel est mesuré par le filtre de Hodrick et Prescott (1997).

rôle d'un instrument d'absorption des effets des chocs, notamment sur les prix.

## V. CONCLUSION

Ce papier analyse l'efficacité du taux de change nominal dans l'absorption des effets des chocs, notamment sur les prix en Tunisie et au Maroc. Cette question est abordée selon deux approches empiriques. La première est fondée sur l'étude du degré de transmission des variations du taux de change nominal aux prix des biens échangeables et non échangeables. Cette approche suit le courant de pensée d'Edwards (2006). La deuxième approche consiste en l'estimation de fonctions de réaction du taux de change nominal à la façon de Gerlach et Gerlach-Kristen (2006).

Deux résultats découlent de notre étude empirique. En premier lieu, il n'y a pas d'évidence d'une transmission statistiquement significative des variations du taux de change nominal aux prix. L'absence de réactivité des prix aux variations du taux de change porte aussi bien sur les prix à la consommation que sur les prix à la production. En se référant à l'approche d'Edwards (2006), en Tunisie et au Maroc, le taux de change nominal n'est pas un outil d'ajustement des effets inflationnistes des chocs. En deuxième lieu, les variations du taux de change nominal ne constituent pas une source de perturbation de l'objectif final de maîtrise de l'inflation, poursuivi par les autorités tunisiennes et marocaines. En outre, la perspective d'une transition progressive vers une politique monétaire de ciblage de l'inflation ne peut pas être entravée par ces chocs.

L'absence d'une contribution significative du taux de change nominal dans l'absorption des effets des chocs nous amène à déduire que les variations du taux de change nominal seraient encadrées par les autorités monétaires tunisiennes et marocaines dans un contexte de semi-ancrage souple et modéré. Une explication plausible de cette orientation est la « peur du flottement » qui influence la conduite de la politique monétaire. Dans ce sens, la « peur du flottement », incite les autorités monétaires à alléger la pression sur le taux de change nominal et à limiter ses variations excessives.

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<sup>8</sup> En accord avec le principe de la parité du pouvoir d'achat.

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# Analysis of Capital Structure and Revolution of pharmaceutical industry in Pakistan over the Decade

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**Abstract** - This study is conducted to analyze the pharmaceutical sector and its affiliated factors that affects it performance / profitability. We have chosen these factors i.e. Paid up capital, financial charges, stock dividend, sales (mill), cash dividend, taxation, PBT, tax, no of shares etc. from 2001 to 2010. For our analysis we use regression analysis and generate our results.

**Keywords** : *Pharma, Material, Demographic and paid up capital.*

**GJMBR Classification** : *FOR Code: 150307 JEL Code: L16,L19*



*Strictly as per the compliance and regulations of:*



# Analysis of Capital Structure and Revolution of pharmaceutical industry in Pakistan over the Decade

Saleha<sup>a</sup>, Javed Iqbal<sup>σ</sup>, Yasir Hassan<sup>P</sup>

**Abstract** - This study is conducted to analyze the pharmaceutical sector and its affiliated factors that affects its performance / profitability. We have chosen these factors i.e. Paid up capital, financial charges, stock dividend, sales (mill), cash dividend, taxation, PBT, tax, no of shares etc. from 2001 to 2010. For our analysis we use regression analysis and generate our results.

Profit of the pharmaceutical industry depends upon the sales, investment, cash etc. Also, Pakistan pharmaceutical industry do not have so much these above particulars as compare to the multinational pharmaceutical companies, due to which the growth factor reduces a lot. So, overcome these multinational and make a good share in the market the policies of government should be according to the favor of this industry and the industry should also take prominent steps for its growth.

**Keywords :** Pharma, Material, Demographic and paid up capital

## I. INTRODUCTION

There was a time when we do not have any Pharma unit in our country but it was the time of 1960s when we start investment in this sector, with the passage of time we got many multinationals and local producers in our country that are full filling the medical needs of the patients. But today also the market is leaded by the multinationals, this is because of many reasons i.e. low investment, policies etc. multinationals realize this opportunity and come with the great power to become leader this is because 30 multinational are working today due to which the expenditure on the health has been doubled. Raw material, machinery is purchased from China and India. Many different companies sell a diverse range of drugs and pharmaceutical products, the biggest household names of which include:

- Ferozsons Laboratories
- Getz Pharma
- Herbion.
- Remington Pharmaceuticals

- Barrett Hodgson Pakistan
- Zahoor Pharmaceutical Industry PVT LTD
- Bosch Pharmaceuticals
- Nucleus Pharmaceuticals (Pvt) Limited
- Shaf Pharma
- Macter International Limited.

Pakistan also took step and manage a board to review all these issues, here we see the example of Punjab Pharmacy Council (based in Lahore) is a government department, new schools also has been introduce to teach the new generation about this field, this PPC is responsible for taking examination and all other activities of the students of this field. Also new generation is showing a courage and interest in this field.

The Pakistan Pharmacists Society is the board in the Pakistan, which is dealing with all the producers, sellers, exporter and make policies according to the government instructions and deal with the all related issues.

World pharmaceutical reports are followed to see in depth the actual things, so this is because of knowing about the world progress in this sector and our weaknesses and opportunities. The reports provide us the following information:

- How to see the economic, demographic, health expenditure, health workforce and pharmaceutical market indicators.
- New researches and development in the field.
- Analysis of each market on the basis of demography and other related factors.
- A separate statistical health file, expenditure, infrastructure, services and personnel.
- The reports are updated quarterly, providing you with the latest information for a full year. In addition, the service will keep you up to date with market and industry news on a regular basis

## II. LITERATURE REVIEW

Pakistan is a country where the pharmaceutical industry is grooming very well, it is playing an important role in the medicines and chemical industry. Through this many people are getting treatment. The overall market is estimated to be US \$1.25 billion (Budget, 2004/05).

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If we talk about the growth of this industry then we come to know that the annual growth is 9.4% and the companies registered is about 400 in which the market share of multinationals are 53.3 % and other public companies market share is of 46.7%.of market share,(IMS health, 2007; Drug Control Organization, 2007, Jamshed, Babar, Ibrahim, & Hassali, 2009).<sup>[1]</sup>

It is the most important and vital industry for Pakistan. It is a high knowledge-based industry which has significant contribution in economic growth and development.

The role of this industry in providing employment and a true health care medicines for the individuals so that they can live a healthy life.

At affordable prices the medicines are selling to millions of Pakistani people and thus promoting and sustaining development in the critical filed of medicine within the country but it also contributing in the international markets (Prof Dr Rashid Jooma, ministry of health)<sup>[2]</sup>

If we talk about the prices then we come to know that this industry has been forced to sustain a fix price regardless of increasing inflation rate, this is because the government is not givining a true attention to this sector, and all the policies are not so much suitable for this sector. Now we are seeing a change in price on 10 December 2001. (Sector profile of the pharmaceutical industry, Francis Weyzig)<sup>[3]</sup>

Now if we see the purchasing of raw material then we analyze that the Pharmaceutical Industry are importing their raw material from Europe, China and other countries. While if we see the cost then there is a tremendous increase in almost all costs. Euro has registered an increase of petrol by 125%, 95%, US Dollar by 15%, , the diesel used for boilers and power generation has registered an increase of 245%, as compared to 10 December 2001 when the last price adjustment in the prices of medicines was allowed.

Another burden on this sector is of research and development cost, the organizations has to invest a lot on the new researches which cost them a lot while the return on this investment is very low, but since it is the major part of the Pharma organizations that's why they have to bear this expense. (Jawaid Tariq Khan, June 16, 2008)<sup>[4]</sup>

Now because of the inflation, different costs to the organization, government policies and low advance technology the local industry is not gromming well, but if we see the multinationals in this perspective because of the large capita they are dealing well with all these issues that's why they are exporting their medicines and competing the market. (Business Monitor International May 2010).<sup>[5]</sup>

In presence of all these threads and issues the organizations has to make a strong strategy and they have to insist the government to give them a prominent

concession i.e. tax rebates and other easy policies, so that the local companies can stand against the multinationals, so that the real profit could be utilize in the country welfare and increasing the efficiency in the medicines, chemicals and all other related sectors. (Nadir Khan, research paper)<sup>[6]</sup>

Now because of the increasing companies in this sectors and seeing the potential in this sector, government is trying to compile all the hospitals, chemical industry, pharmaceutical companies and all other related sectors under one roof. This is because the government trying to realize the companies that if they will sit together then they could easy approach the problem and thus find the answer. Because of this the government will also took prominent step and will make law and will create opportunities for the sector. (two regime- issues and prospects, Muhammad Usman Awan)<sup>[7]</sup>

Now if we see the local industry production then it is a fact that they are producing low price medicines for the public whose production and raw material is not so much expenses but if we talk about the high quality medicines and for different diseases then it is very hard for the organizations to produce them at low price that's this is because of low investment and low management. So, review and refocusing of policies, regulations and educational interventions are needed to improve affordability, availability and acceptability of low cost, good quality medicines in the private sector.( the netwok.org.pk)<sup>[8]</sup>

Now if we talk about our industry sector with the Indian sector then we come to know that the Indian industry is contributing 6.7% in their GDP, which is more than our progress. They are playing a vital part of the agriculture and industrial development in India. With a current turnover of about US \$30.8 billion, it accounts for 14 percent of the total manufacturing output in India.

During the last five years, it grew at twice the rate of growth in Asia and five times the world growth for the sector. India is becoming the laboratory of the world for the global chemical industry and leading global players like Dow Chemicals, DuPont, and General Electric have set up their own laboratory or using Indian laboratories.(industry research paper.)<sup>[9]</sup>

If we talk about the unethical practices in the pharmaceutical industry in Pakistan, then we see that the companies are not doing ethical practices which affect its image, i.e. the quality of the medicines are not so much good, then some time they develop a shortage in the market then they rise their price which at last effect the patients. (Pharmaceutical industry in Pakistan, Rizwan Ahmad, SZABIST Karachi.)<sup>[10]</sup>

### III. METHODOLOGY

Since our analysis is to check the, "Dependence of profitability on the different particulars i.e. sales, tax paid up capital etc."

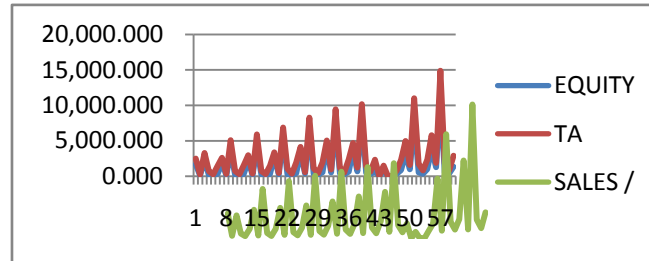
For this purpose we have taken some following factors i.e. paid in capital, financial charges, stock dividend, sales (mill), cash dividend, taxation, PBT, tax, no of shares etc. For analyzing the literature review we have taken some past articles from different journals.

For getting the regression analysis we get the whole data of pharmaceutical sector from 2001 to 2010. For this purpose our kind teachers consults us and give us the data for our convenience.

Then on our data we performed regression analysis through which we will analyze the true dependency of profitability on the different particulars.

#### a) Graphs

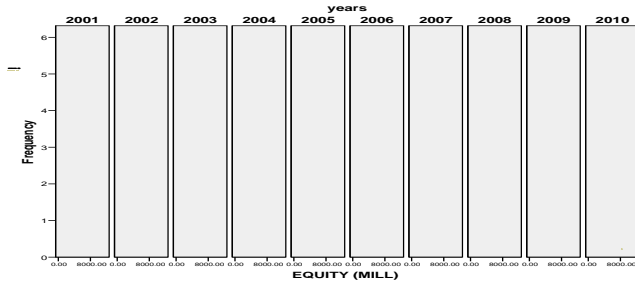
Here is the graphical representation of the given data; this shows that what the actual condition of different particulars was in different years of the sector.



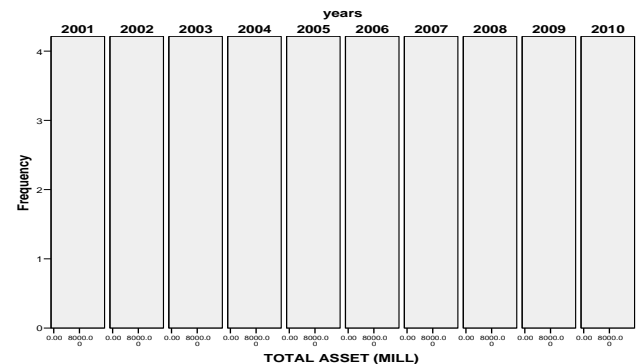
In the above we have taken only three particulars for the analysis, here we could see that how the sales, total assets and equity are changing with the passage of time, the total assets and equity are changing with the same theme and sale is increasing so much.

The equity graph shows that the year 2008 was the best year for Equity because it has on the average maximum value in 2008. While from 2001 to 2007 the average value of Equity almost same but in year 2010 the Equity was on its minimum stage.

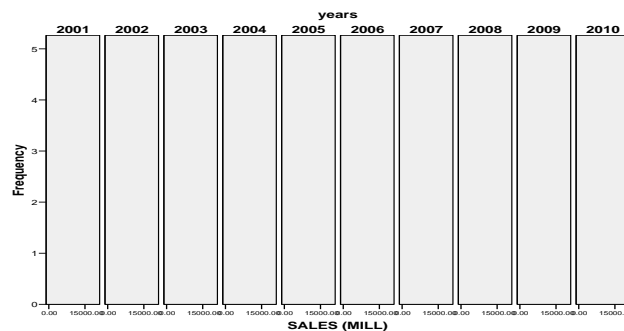
*Equity*



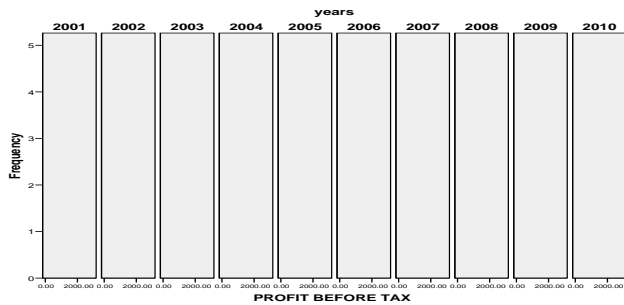
*Total assets*



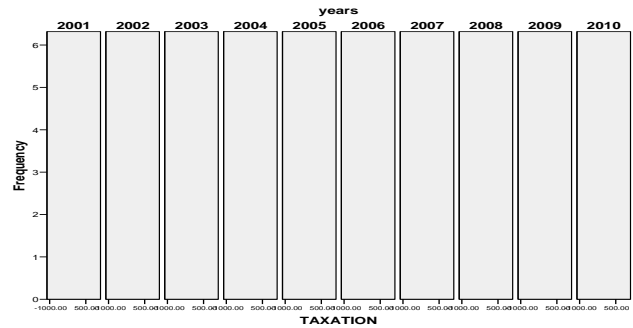
*Sale*



PBT



Tax



The Sale, TA, Tax and PBT showing the same trends from 2001 to 2010. There was a tough competition in year 2001 and 2008 for taxation.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.999(a)	.998	.997	25.82693

**A Predictors:** (Constant), (Bank) / Financial Charges, Stock Dividend, Sales (Mill), Cash Dividend, Taxation, Paid-Up Capital (Rs. In Mil), Profit Before Tax, Equity (Mill), Total Asset (Mill)

result are almost 100% real time data and explanation power of the model is almost 100%, its mean that all the variables are explaining well the whole regression model.

### IV. EXPLANATION POWER OF THE MODEL

Now if we see the "R" and "R square", we come to know that the variables that we have put to get our

a) *Hypothesis:*

H<sub>0</sub>: The model is significant

H<sub>1</sub>: The model is not significant

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	14036781.692	11	1276071.063	1913.063	.000
Residual	31350.427	47	667.030		
Total	14068132.119	58			

**A Predictors:** (Constant), (Bank) / Financial Charges, Stock Dividend, Sales (Mill), Cash Dividend,

Taxation, Paid-Up Capital (Rs. In Mil), Profit Before Tax, Equity (Mill), Total Asset (Mill)

### B Dependent Variable : Profit After Tax

If we see the significance value and F test value, we come to know that the significance value is less than the significance value, so we will accept the "H1"

hypothesis. Also we get the value of the F test by dividing the Mean Square Value.

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.
	B	Beta	B	Std. Error

1	(Constant)	23.527	10.470		2.247	.029
	PAID-UP CAPITAL (Rs. In mil)	-.014	.015	-.014	-.920	.362
	EQUITY (MILL)	-.013	.015	-.066	-.919	.363
	TOTAL ASSET (MILL)	-.033	.012	-.205	-2.762	.008
	SALES (MILL)	.014	.005	.112	2.769	.008
	(BANK) / FINANCIAL CHARGES	-.034	.036	-.007	-.945	.350
	PROFIT BEFORE TAX	.754	.016	1.157	47.537	.000
	TAXATION	-.015	.023	-.009	-.630	.532
	CASH DIVIDEND	-.506	.186	-.033	-2.724	.009
	STOCK DIVIDEND	.541	.437	.012	1.237	.222
	CODES = 5 (FILTER)	.376	.153	.029	2.454	.018
	VAR00001	-.025	.021	-.010	-1.172	.247

### A Dependent Variable: Profit After Tax

The above are the results generating by the spss, now we will discuss these result below.

### Interpretation of Regression Analysis:

$PAT = 22.527 - 0.014 (\text{paid in capital}) - 0.013 (\text{equity}) - 0.033 (\text{total assets}) + 0.04 (\text{sales}) - 0.034 (\text{bank charges}) + 0.754 (\text{PBT}) - 0.015 (\text{tax}) - 0.506 (\text{cash dividend}) + 0.541 (\text{stock}) + 0.376 (\text{total dividend}) - 0.025 (\text{no of shares})$

So the above model shows that by changing the 1 unit in paid in capital, equity, total assets, sales, bank charges, PBT, tax, cash dividend, stock, total dividend and no of shares respectively the PAT decrease by -0.014 and increase by 0.013, 0.033, 0.04, 0.034, 0.754, 0.015, 0.506, 0.541, 0.376 and 0.025 respectively.

### b) Ignorance & Non Ignorance of coefficient

Here will we will decide that which factor we should include in the regression model and which is not.

Since the significance values of the, total assets, sale, profit before tax, cash dividend, and total dividends is less than the 5%, so we will reject the null hypothesis and accept the alternative hypothesis, its means that they will be included in the regression model.

Also the significance value of paid up capital, equity, bank charges, taxation, stock dividend and no. of shares is greater than the 5% that's why we will reject the alternative hypothesis and accept the null hypothesis, thus we will not include these factors in the regression model.

## V. CONCLUSION

According to our conclusion, profitability of the pharmaceutical depends a lot on the sale, cash, investment. If we see the local industry then because of

less investment i.e. capital and other resources the local industry is not grooming very well, while multinationals are grooming very well and thus get the most of the market share. Also if we compare our industry with the Indian industry then we come to know that the Indian local industry is getting more profit then the multinationals, this depicts that how the policies of Indian government protect Indian industry, while if we see our government policies then we come to know that our industry is not satisfy with the policies, due to which they have not so much opportunities for the progress.

So, we suggest that if we want to save our pharmaceutical industry then government policies, infrastructure, regular investment, management and research and development should be improved a lot.

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# Individual Worth vs. Aggregate Value: Influential Factors of Non-Market Works (Nmws) In Bangladesh

By Dr. Md. Aoulad Hosen

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**Abstract** - The national accounts appear to be saying that the NMWs are worth nothing; but, in reality, the NMWs increase the value of purchased goods and services and contribute to the formation and development of human resources. Abdel, et al. (1969), Chadeau, (1992), Hamdad, (2003), Charmes, (2006) put their effort to evaluate the NMWs for their respective countries by introducing satellite account and finally comparing with the national account. Although the processes of evaluation of the NMWs are difficult task, here two methods, such as works method and opportunity cost method, have been incorporated to evaluate the NMWs in Bangladesh. To know individual worth to producing NMWs and to discover the method of estimation of the NMWs, this study presents the idea of our economy which is always undermined by the conventional market framework. This study is principally based on primary data and case studies. To know the contribution of different groups of people who produce NMWs, this research concentrates on aggregate output of the value of NMWs.

*GJMBR Classification : FOR Code: 140212, 140213, JEL Code: E25*



*Strictly as per the compliance and regulations of:*





# Individual Worth vs. Aggregate Value: Influential Factors of Non-Market Works (Nmws) In Bangladesh

Dr. Md. Aoulad Hosen

**Abstract** - The national accounts appear to be saying that the NMWs are worth nothing; but, in reality, the NMWs increase the value of purchased goods and services and contribute to the formation and development of human resources. Abdel, et al. (1969), Chadeau, (1992), Hamdad, (2003), Charnes, (2006) put their effort to evaluate the NMWs for their respective countries by introducing satellite account and finally comparing with the national account. Although the processes of evaluation of the NMWs are difficult task, here two methods, such as works method and opportunity cost method, have been incorporated to evaluate the NMWs in Bangladesh. To know individual worth to producing NMWs and to discover the method of estimation of the NMWs, this study presents the idea of our economy which is always undermined by the conventional market framework. This study is principally based on primary data and case studies. To know the contribution of different groups of people who produce NMWs, this research concentrates on aggregate output of the value of NMWs. This study find that earning member, total hours of NMWs, estimated total support and employment status were the significant determinant to evaluate the aggregate value of NMWs. Two models were considered based on two methods of estimation. Both of the models signify the said independent variables. By taking rational figures (available information on field research) against the independent variables, this research uncover that tk.2,714 person/per month and tk. 2,317 person/month were produced by works method and opportunity cost method respectively.

## I. INTRODUCTION

Regular market framework is capable of evaluating the value of the formal economy; but it failed to appraise the value of NMWs. Some works such as collecting water, cleaning and taking care of house, washing clothes, washing dishes, cooking and serving meals, taking care of children, taking care of the sick and the elderly, crop gleaning, collecting and making cow-dung cakes and sticks, etc. which produce significant values can not be evaluated by the conventional market structure. These types of works can be mentioned as non- market works (NMWs) in.

This paper primarily approaches the NMWs involving unpaid labor. In this area, data generated by Bangladesh Bureau of Statistics (BBS), have mainly

focused on the household activities. In the revised estimates of the period between 1989-90 and 1998-99 by the National Accounts Statistics of Bangladesh, the data were collected from different sector and sub-sector following the methodology of SNA-93 framework. According to the international definition adopted in 1993, the non-market sector or the informal sector is a sub-sector of the household institutional sector in the SNA, and the Non Profit Institutions Serving Households (NPISH) cannot include economic units of the informal sector. But, all the production of the household sector cannot be imputed to the informal sector. The two types of non-market production are ignored by SNA. The first type is non-SNA work providing unpaid services for own final use. Work providing unpaid domestic services for own final use within household include cleaning, decoration, maintenance of dwelling occupied by the household, preparation and serving of meals, transportation of members of the household and care-giving services to household members (care, training and instruction of children; care of the sick, infant or old). The second NMW is non-SNA work providing unpaid domestic services, care giving services and volunteer services to other households or communities. Here researchers deliberately exclude NMWs outside SNA. The 1993 definition of the informal sector is based on the characteristics of the economic unit in which the person is working.

## II. THE IMPORTANCE OF THE DIFFERENT METHOD (SATELLITE ACCOUNTS)

The impact of a system of satellite accounts of national income could be enormous, which means helping to provide an accurate accounting of essentially very private matters for crucial public purposes. According to Landefeld, et al. (2005) "Such accounts would allow for experimentation with changes in scope and measurement for national accounts in the form of

<sup>1</sup> Based on PhD research, Title: "Estimating Non-market Activities: A Study on Unpaid & Underpaid Labor Force in Bangladesh" and awarded PhD in 2011.

<sup>2</sup> PhD, Assistant Professor, Economics, National University, Gazipur.

<sup>3</sup> SNA, System of National Accounts

<sup>4</sup> **Satellite Accounts:** *Satellite accounts are produced in the context of National Accounts but are more flexible as they allow us to change*

concepts, definitions, accounting rules and classifications where this would improve analysis, (Landefeld, et al. 2005). To estimate NMWs, satellite accounts play a significant role. It provides a framework linked to the central accounts and which enables attention to be focused on a certain field or aspect of economic and social life in the context of national accounts. A team of the satellite accounts produces a framework that enables attention to be focused on certain fields or aspects of economic and social life. Satellite accounts can be used to:

- i) Valuing non-market outputs and inputs
- ii) Present information from National Accounts differently
- iii) Add new information to core accounts
- iv) Experiment with new concepts and methodologies, which may influence the development of national accounts

So, satellite account can make a room to evaluate NMWs, it can be finally incorporated with the National Account in Bangladesh. By applying the methodological framework researchers can avoid the discrepancies behind to incorporate satellite account in National Account. supplementary accounts. These accounts would be consistent with and could be used with the existing national accounts without diminishing the usefulness of the core accounts". Which one is more important in human life, productivity or standards of living? While development policies are generally geared to increase productivity, increases in productivity are not necessarily reflected in increases or improvements in standards of living. In the industrialized countries, for instance, there are questions about the real benefits of full-time employment for mothers in the absence of adequate child-care arrangements and/or more sharing of household responsibilities by fathers. In the developing countries, living standards may actually deteriorate while GDP rises.

Imperfect market structure never gives accurate price of any factor. As a result, the wage of labor has always been misjudged in the market frame-work process. So the valuing of NMWs has to face some problems. But this research aims to overcome most of the problems and to minimize errors of NMWs of national income accounting through different tools. In Bangladesh, we have been observing many unpaid and underpaid activities (Bayes, et al., 2007) and we face various gender discrimination problems (Hamid, et al., 1994) that have created inequalities among various social strata. So, the research findings and recommendations would try to evaluate the NMWs and make the people aware of their real contribution in the national economy irrespective of their age and gender. On the other hand, the research outcome will also be helpful in formulating government policies to ensure social justice and equities, transfer payment of different vulnerable people who get almost nothing from their non-market participation.

A theoretical frame work regarding the research was augmented to define NMWs, unpaid, underpaid and informal economy that facilitated to determine the methodology as well as estimate the value of NMWs in Bangladesh. The following definitions are pertinent of this paper:

- a) *Definitions Adopted for the Study:* At long last, the following definitions are developed for the clarification and analysis the research procedure:
  - i. NMWs- Someone, regardless of age and sex, is involving in producing goods or services (i.e. generating additional value ), but the conventional market framework fails to evaluate the value of those goods and services. The recognition of that value/activities/works can be assessed by applying some tools such as opportunity cost, third party criterion, market replacement cost, etc.
  - ii. Unpaid- Due to the lack of market framework, most of the people who have been discharging different NMWs finally do not get any monetary return.
  - iii. Underpaid- A person who produces goods and services or generates values but is not satisfied with the return (monetary and others), or he or she does not feel well by any circumstances such as working environment, low positioned work, lack of job security, etc.
- b) *Informal Economy* - It follows the basic principles of economics, i.e. goods and services are produced but it does not have any formal framework. Although it follows the procedure of value generation and the medium of exchange of value, the activities of this economy can not be supported by legislative authority and institutes like the government, non government bodies.

### III. ORGANIZATION OF THE PAPER

This paper is made of a research methodology after giving the definition of NMWs, unpaid, underpaid and informal economy. To know the findings of NMWs a abridge estimation procedure is given. Two types of research findings are included: one is produced from data analysis and other from the analysis of case studies. In the area of data analysis, three models are considered in the sphere of two methods of estimation: works method and opportunity cost method. In the field of two methods of estimation of NMWs three models are set out considering different variables of NMWs. In the end, a concluding remark is given for overall findings.

### IV. RESEARCH METHODOLOGY

- a) *Objective:* This paper deals on the NMWs of the unemployed and underemployed men, women, and children who are engaged in generating the value (use value) working in households, outside the households sector and informal sectors. The main objective is to discover and estimate the explanatory variables of NMWs. To know the impact producing NMWs some explanatory variables were taken into considered. The main objectives are –
  - i. To identify the importance of the individual worth regarding the aggregate value of NMWs.
  - ii. To know the impact of the particular explanatory variables of NMWs on the aggregate value of NMWs.

- b) *Questionnaire design*: A questionnaire to do the research requires to care (a) personal information, (b) family information, (c) 24 hours activities including market works, non market works, leisure, etc. and (d) personal evaluation about the NMWs. This research would like to consider the personal and family information including academic qualification, experience, age, profession, marital status, etc. and recognize the NMWs and its duration a day. All types of partial benefits provided against the NMWs in terms of food, shelter and clothes are intended to be identified by asking questions. Some case studies are also gathered to find real picture of NMWs.
- c) *Data Collection*: This research is mainly based on primary data and case study. The primary data sources cover some rural and urban areas in Bangladesh while the secondary data sources involve the direct market work area. To accommodate various NMWs, three types of sample locations were considered: i) urban, ii) rural and iii) semi urban or semi rural (mixed sample areas). The respondents were asked to fulfill a questionnaire having three parts: household NMWs, NMWs outside the household and NMWs before employment. Workers were to choose their part and mention the names of the NMWs, duration of the NMWs and to mention whether receivable anything against the NMWs. Random sample technique was used. Data was collected from Dhaka and Gazipur districts (see Appendix 01, for more). Besides the data, ten case studies were also included.
- d) *Estimating method*: Two methods were used to estimate the value of the NMWs: i) opportunity cost method, and ii) works method. Linear regression technique was exercised to evaluate the relationship among the respective variables.

## V. ESTIMATION PROCEDURES

Two methods are considered to estimate the NMWs:

1. works method
2. opportunity cost method

a) *Problem with works method*: People are familiar with different types of non-market activities. We have divided all these into three main categories:

- a) household NMWs
- b) outside NMWs and
- c) NMWs before employment.

Among the three categories, different types of non-market works are included. In the questionnaire, some blank spaces were kept to accommodate some unfamiliar NMWs. Besides this reason, the name of the NMWs cannot be mentioned as the name of formal

works. We also know that, the name of one single NMW can be identified differently in different locations. A sample survey (Hosen, A. 2010) found 16 describe (mention as 1 to 16), 17 (mentioned as 21 to 37) and 06 (mention as 41 to 46) NMWs which represent the three categories of household NMWs, outside NMWs and NMWs before employment respectively:

b) *Opportunity cost (OC) method*: To get a suitable estimate of NMW opportunity cost method is used. OC method explores the potential of an economy. We have identified three factors of a respondent: the level of education of a respondent, sample areas i.e. where a respondent is living, and age i.e. how older of a respondent. Each factor provides a window to evaluate an individual according to their scope, scale and skill. Three variables were considered to estimate OC method: educational qualification (w1), sample area (w2) and age (w3). These three variables appeared differently for each respondent; it also varied from one respondent to another. To judge each variable for each respondent, other two variables remained the same. Finally, OC was derived from the average value of w1, w2 & w3, i.e. OC named as average wage,  $W = (w1 + w2 + w3)/3$ .

## VI. RESEARCH FINDINGS

a) *Regression analysis*:

*Model Analysis*: Among a variety of independent variables of NMWs, each method of estimation of NMWs was considered two models and each model is distinguished by some independent variables (regular) and some dummy independent variables (see Appendix 02, all dependent, independent and dummy variables, for more). The models are:

i. *Works method*:

**Model 1:**  $TVNMWW = F(NEM, THNMW, ETMS)$ ,

**Model 2:**  $TVNMWW = F(EMSD1, EMSD5, EQD7, KFHD2, EQD6, KFHD1)$

Here,

TVNMWW = Total Value of NMW by Works method,

TVNMWOC = Total Value of NMW by OC method

NEM = No. of earning member

THNMW = Total hours of NMW (HW1+HW2+HW3)

ETMS = Estimated total monthly support (FS+SS+CS)

**Employment status:**

EMSD1: Service provider=1, otherwise=0 (Agri. based employed)

EMSD5: student=1, otherwise=0

**Educational qualification:**

EQD6:graduate=1, 0=otherwise

EQD7:masters=1, 0=otherwise, Kinship with the family head

<sup>5</sup> Value consists of use value (utility)

**Kinship with the family head:**

KFHD1: wife=1, otherwise=0 (self=0)

KFHD2: daughter + daughter-in-law=1, otherwise=0

It can be anticipated that, among the various explanatory variables of NMWs earning members, hours involved in NMWs and support against NMWs were influenced most. Generally, it can be assessed that NEM and total value of NMWs are positively related with each other. At the same time THNMW also positively response. On the other hand, people who engage in NMWs and got return or support other than money are found significant. In terms of model analysis,  $\text{Adj.}R^2 =$

inversely related with the total value of NMW. A monetary estimation play huge role to know the actual contribution of NMWs which producing by different group of people in an economy. Although, the measurable the unit of said variables are not remain same. Here, NEM, THNMW, ETMS are considered as the number of people, total hours of NMWs and estimated total monetary support consecutively.

**Expected sign of Model 1:** (NEM) <sup>-</sup>, (THNMW) <sup>+</sup>, (ETMS) <sup>-</sup>  
**Expected sign of Model 2:** (EMSD1) <sup>-</sup>, (EMSD5) <sup>-</sup>, (EQD6) <sup>+</sup>, (EQD7) <sup>+</sup>, (KFHD1) <sup>+</sup> (KFHD2) <sup>+</sup>

**Result of Model 1**

$$\text{TVNMWW} = 480.81 - 256.27 \text{ NEM} + 501.529 \text{ THNMW} - .827 \text{ ETMS}$$

Std. Error {304.81}	{109.16}	{23.92}	{.09}
t value [1.57]	[-2.34]	[20.96]	[-9.16]
signi. (.118)	(.021)	(20.967)	(.000)

The expected sign was completely found from the three independent variables which confirm whether TVNMWW and NEM were negatively related, TVNMWW and THNMW were positively function, TVNMWW and ETMS were negatively related to each other. Among the three variables, NEM and ETMS were

0.833,  $F = 165.475$  ensured a well fitted model. Again, in terms of the level of significance, NEM and ETMS were doing well, i.e. both variables strongly play their explanatory role to explain TVNMWW. Now it can be assessed if the number of earning members decrease, there is a possibility to increase the value of NMWs through works method.

**Example:** NEM= 2 (37%, respondents, highest), THNMW= 6.68 (Average hours, Table 16)  
**ETMS=731.33 (PhD1, Excel sheet main, column BD, row 104)**  
 $\text{TVNMWW} = 480.81 - 256.27 \text{ NEM} + 501.529 \text{ THNMW} - .827 \text{ ETMS}$   
 $\text{TVNMWW} = 480.81 - 256.27 * 2 + 501.529 * 6.68 - .827 * 731.33$   
 $\text{TVNMWW} = 480.81 - 512.54 + 3350.21 - 604.81$   
 $\text{TVNMWW} = 3831.02 - 1117.35$   
**TVNMWW = Tk. 2713.67 per month/per person**  
**Result from Excel analysis, TVNMWW = Tk. 2544.30 per month/per person**  
**The gap Tk. 169.37 (OC of SPSS> OC of Excel) between two results is not so wide. So model is well fitted.**

**Result of Model 2**

$$\text{TVNMWW} = 2436.60 - 411.95 \text{ EMSD1} - 1470 \text{ EMSD5} + 987.66 \text{ EQD6} + 189.79 \text{ EQD7}$$

Std. Error {423.81}	{565.28}	{690.6}	{824.39}	{1622.93}
t value [5.75]	[-.729]	[-2.129]	[1.198]	[.111]
signi. (.000)	(.468)	(.036)	(.234)	(.9.12)

$$+ 1740.47 \text{ KFHD1} + 243.39 \text{ KFHD2}$$

Std. Error {611.43}	{806.43}
t value [2.847]	[.302]
signi. (.005)	(.763)

The expected sign was completely found from three independent variables which confirm whether TVNMWW and EMSD1 were negatively related, TVNMWW and EMSD2 were negatively related and rest of the dummy variables i.e. EQD6, EQD7, KFHD1, KFHD2 all showed result positive relationship with the dependent variables of TVNMWW. In terms of model analysis,  $\text{Adj.}R^2 = 0.134$ ,  $F = 3.55$  does not ensure a good model.



**Example: TVNMWW=2436.60 -411.95 EMSD1 - 1470 EMSD5 +987.66 EQD6 +189.79EQD7 + 1740.47KFHD1 + 243.39 KFHD2**

TVNMWW = Tk. 3715.96 per month/per person

If we consider only significance variables i.e. Constant (sig. .000), EMSD5 (sig. .036) and KFHD1 (sig. .005), so we can rearrange the equation as

TVNMWW = 2436.60 - 1470EMSD5 + 1740.47KFHD1

TVNMWW = **Tk. 2707.07** per month/per person which comparable to the result of excel analysis (Tk. 2544.30). Although, TVNMWW of SPSS > TVNMWW of Excel, so, the above model is well fitted.

ii. *OC Method:*

**Model 1: TVNMWOC = F (NEM, THNMW, ETMS)**  
**Expected sign of Model 1: (NEM) <sup>-</sup>, (THNMW) <sup>+</sup>, (ETMS) <sup>-</sup>**

**Result of Model 1:**

TVNMWOC = 579.82 - 238.03 NEM + 430.14 THNMW - .903 ETMS

Std. Error	{290.35}	{103.98}	{22.785}	{.086}
t value	[1.99]	[-2.29]	[18.88]	[-10.50]
signi.	(.049)	(.024)	(.000)	(.000)

The expected sign was completely found from three independent variables which confirm whether TVNMWOC and NEM were negatively related, or TVNMWOC and THNMW were positively function, or TVNMWOC and ETMS were negatively related with each other. Among the three variables, NEM, THNMW and ETMS are found significant. In terms of model analysis, Adj.R<sup>2</sup> = 0.803, F = 135. 621 ensured a well

fitted model. Again, in terms of the level of significance, NEM, THNMW, ETMS and constant were doing well, i.e. all variables in the model strongly play their explanatory role to explain TVNMWOC. Now it can be assessed if the number of earning members decrease, there is a possibility to increase the value of NMWs through works method.

**Example: NEM= 2 (37%, respondents, highest), THNMW= 6.68 (Average hours, Table 16) ETMS=731.33 (PhD1, Excel sheet main, column BD, row 104)**

TVNMWOC = 579.82 - 238.03 NEM + 430.14 THNMW - .903 ETMS

TVNMWOC = 579.82 - 238.03\*2 + 430.14 \* 6.68 - .903 \* 731.33

TVNMWOC = **Tk. 2316.7** per month/per person

**Result from Excel analysis, TVNMWOC = Tk. 2183** per month/per person

**The gap Tk. 133.7 (OC of SPSS > OC of Excel) between two results is not so wide. So model is well fitted.**

b) *Case studies*

The study used participatory methods of data gathering and qualitative methods of data analysis. Data was gathered to answer these questions through some objectives which include

a) family details, b) personal information, c) name of the NMWs which he or she has been discharging, with duration and time in day or in a month or other, d) own perception about the NMWs and

evaluate then and e) justification of the evaluation of the NMWs.

A total of ten case studies were covered from different sample locations. Case one is given as an example:

**Case one:**

**Case Study: Ramija**

I am Ramija. We (mother, brother, sister-in-law and me) live on a boat beneath the bridge of Titarpur. My mother (45) is a 'shandari' (trading cosmetics for low income group). My brother (25) works at a garments factory. My sister-in-law and I stay in the house all day long. This is the boat here; we have been living here for 40 years. Previously, my mother was the only earner. But now, my brother also earns and with this we have to survive. We don't have to pay house rent so we, somehow, survive with the income. After waking up in the morning, my sister-in-law and I clean the house and my mother cooks. After meal, mother goes for business and my brother at work.

My sister-in-law and I keep inside the house throughout the day. At noon, we cook, shower and eat. At night we cook, eat, and wash the plates and go to sleep. We don't have the feel of the word happiness in our lives. Almost every work I do in all day is without money. Who is going to pay me for cooking in the house? I clean the house, wash the clothes. Mother stays off the house all day long. So, my sister-in-law and I have to do all works in the house. Why money for this work?

People say we are "vagabonds", happy folk, with nothing to do, and sleeping all day long. But, we are not happy in reality. Since we are "vagabonds", nobody wants to offer us jobs. People from Jamalpur, Mymensingh come here and get jobs. But, we don't because we don't have a permanent address, living in the boats. Because of living in boat, nobody wants to trust us. What is this called, happiness or death? We don't have electricity, or even the opportunity of education. Nobody wants to talk to us even. If we go to school, they ask us our whereabouts. They say, "We won't accept you in our school because you are today here; tomorrow you will be somewhere else". Please tell the government that we are not happy at all. We want a place to live at. But we don't get it because the govt. charges tk.2-3 lac for a special allotment of land. The only thing they know is bribe.

i. Findings from case studies: Different types of people were requested to be interviewed. A framework was formulated for asking or interviewing the participants. The case studies include the statements of housewife, students, service holder, illiterate persons, and so on. All the respondents were somehow related to the NMWs like washing clothes, taking care of the elders,

shopping, cooking, works on charter accountant firm, giving tuition, help to cook (prepare cooking materials), preparing food for children and feeding, washing the pots, cleaning the house, etc.

The following diagnoses were made to understand about delivered NMWs, required time, personal evaluation against their NMWs:

*Table 01* : Summary of case studies

Case study No.	Delivered NMWs	Spending time on NMWs	Personal evaluation of NMWs value
i.	Cooking, cleaning the house, washing the clothes elder care (mother), other works in house.	No definite time a day	Evaluate nothing (Make a question, who is going to pay?)
ii.	Shopping, washing cloth and teaching	5 and halve hours a week.	Tk. 1150 per month
iii.	Washing clothes, ironing, shopping and others indefinite NMWs	2 hours a day	Tk. 1100 per month
iv.	Washing clothes, wiping the house, sizing vegetables, cooking, taking care of children, etc.	7 hours day	Tk. 2/3 thousand per month
v.	Cooking, helping (mother) in cooking, washing clothes, giving tuition to younger sister	4/5 hours a day	Not mentioned but identifies as valuable
vi.	Shopping (once a week), guiding younger sisters, work in a CA firm,	9/10 hours a day	Tk. 10/12 thousand in per month
vii.	Washing clothes, ironing them, shopping	2 hours a day	Tk. 1600 per month
viii.	Cooking, shopping, washing	3/4 hours per day	Tk. 7/8 hundred in per month
ix.	Washing and ironing clothes, taking care of the elders, shopping	2.5 hours a day	Tk. 2,900 per month
x.	Washing cloths, ironing them, cleaning my room, shopping etc.	No definite time a day	Tk. 3 to 6 thousand per month

There were lots of variations in personal evaluations of NMWs. Sometimes, they found it difficult to evaluate NMWs. All respondents agreed that their NMWs were valuable for the family as well as the nation, and they would like to evaluate their NMWs, not aware or not familiar of the procedure to estimate the value of NMWs.

Meanwhile, respondents were very conscious of the significance of the NMWs, they agreed that the

contribution of the NMWs helped their families to make a good future. All the beneficiaries, however, do not reply the same; they, simply, liked to say, "It is their duty to do NMWs, they bound to do that, they have no other option".

## VII. CONCLUDING REMARKS

A significant value of the NMWs has been derived from the people of different background in



Bangladesh. Three econometric models were introduced under two methods of estimation: works method and OC method. Each model applied linear regression technique by considering the respective dependent and independent variables. There were three independent variables: NEM, THNMW and ETMS, and one dependent variable: TVNMWW (Model 1). The model showed that, all expected signs of independent variables were found accordingly, and NEM and ETMS were found highly significant and the model was found to be well fitted (Adj R<sup>2</sup> = 0.833). The second model (Model 2) had several independent variables: EMSD1, EMSD5, E QD6, E QD7, KF HD1 and KFHD2. Though EMSD5 and KFHD1 were found highly significant, the mode was not quite good (Adj R<sup>2</sup> = 0.134). On the other

hand, first model under the OC method (Model 1) took the same independent variables. Here, all were found highly significant and the regression line sound to be fitted as well (Adj R<sup>2</sup> = 0.803).

It can be assessed that, the intensity of the NMWs in terms of labor hours (384.79 billion labor hours, Hosen, 2011, PhD works) is so high because of the labor surplus characteristics of Bangladesh. So, the economic theory about the augment of input is evaluated inversely in terms of monetary return i.e. huge availability of input is reduced the value or even value less of that input. Moreover, the social structure of Bangladesh itself is working a barrier to incorporate the value of the NMWs. To overcome these barriers, further in-depth research is required in this field.

### Appendix 01

Table 02 : Study places and number of samples

	Gazipur				Tongi, Gazipur					Dhaka																				
L o c a t i o n	J a m u n a	H a r i n a l	J o y d e p u r	T i t a r k u l	K a m a r p a r	K a l y a r t a g	D h o u r	N a y a n a g o r	T u r a g	M i r p u r- 1	M i r p u r- 2	M i r p u r- 6	M i r p u r- 1 0	M i r p u r- 1 1	M i r p u r- 1 2	P o l l o b i	G a b o l i	K a y l a n p u r	D u a r i p a r	I b r a h i m p u r	M o h a m o d p u r	D h a k i n k h a n	B a r i b a t h	U t t a r B i s h i l	D h a n m o n d h i	U t t a r a C o l i n y	F i r s t C o l i n y	T o t a l		
N o s	12	13	01	04	05	01	01	01	03	08	02	02	04	03	04	17	01	01	01	05	01	04	01	01	01	01	01	01	01	00

Source: Field work, April-August, 2009

### Appendix 02 :

- i) *Dependent variables* : Two dependent variables are
- Total value NMW for consider works, monthly (TVNMWW)
  - Total value NMW for consider OC, monthly (TVNMWOC)
- ii) *Independent variables*:
- 1) House hold no(HH), 2 ) S E X, male=0,female=1, 3 ) AGE, 4 ) Sample area ( S A D1), urban=u=1, otherwise=0, (m =0), 5 ) Sample area (SAD2), rural=r=1, otherwise=0, 6) Family members (FMS), 7) No. of earning member (NEM), 8 ) Personal income, monthly (PI), 9) Total monthly income of a family (TMIF), 1 0) Total hours of NMW (HW1\*+HW2+HW3) (THNMW), 11) Total estimated NMW, support included, monthly (TENMWM), 1 2) Estimated total monthly support (FS+SS+CS) (ETMS), 13) Involvement in non market works (INMW), 1 4) Educational qualification, EQD1:less than primary=1, 0 =otherwise,

- (illiterate=0), (EQD1), 15) Educational qualification, EQD2:primary pass=1, 0 =otherwise (EQD2), 1 6) Educational qualification, EQD3:eight pass=1, 0=otherwise, (EQD3), 17) Educational qualification, EQD4:SSC pass=1, 0= otherwise, (EQD4), 1 8) Educational qualification, EQD5:HSC pass=1, 0=otherwise, (EQD5), 19) Educational qualification, EQD6: graduate=1, 0=otherwise, (EQD6), 2 0) Educational qualification, EQD7:masters=1, 0=otherwise, (EQD7), 2 1) Kinship with the family head, KFHD1: wife=1, otherwise=0 (self=0) (KFHD1), 22) Kinship with the family head, KFHD2: daughter + daughter-in-law=1, otherwise=0 (KFHD2), 23) Kinship with the family head, KFHD3: son=1, otherwise=0 (KFHD3), 24) Kinship with the family head, KFHD4: brother + cousin=1, otherwise=0 (KF HD4), 2 5) Kinship with the family head, KFHD5: father + father-in-law=1, otherwise=0 (KF HD5), 2 6) Kinship with the family head, KFHD6: nephew=1, otherwise=0 (KFHD6), 27) Marital status,MSD1: married=m=1,

otherwise=0, (um=0) (M SD1), 28) Marital status, MSD2: divorce=1, otherwise=0, widow=3 (MSD2), 29) Marital status, MSD3: widow=1, otherwise=0 um =0, m=1, divorce=2, widow=3 (MSD3), 30) Prime earner, PED1: husband=1, otherwise=0, (self=0) (PED1), 31) Prime earner, PED2: father+father-in-law=1, otherwise=0 (PED2), 32) Prime earner, PED3: elder brother + younger brother + cousin=1, otherwise=0 (PED3), 33) Prime earner, PED4: elder son + son=1, otherwise=0 (PED4), 34) Prime earner, PED5: mother=1, otherwise=0 (PED5), 35) Family's highest level of education, FHLED1: class 1 to 5=1, otherwise=0 (illiterate=0) (FHLED1), 35) Family's highest level of education, FHLED2: class 6 to 8=1, otherwise=0 (FHLED2), 36) Family's highest level of education, FHLED3: class 9 to SSC=1, otherwise=0 (FHLED3), 37) Family's highest level of education, FHLED4: HSC=1, otherwise=0 (FHLED4), 38) Family's highest level of education, FHLED5: graduate=1, otherwise=0 (FHLED5), 39) Family's highest level of education, FHLED6: masters=1, otherwise=0 (FHLED6), 40) Major profession of the family, MPFD1: Service intensive=1, otherwise=0 (Labor intensive=0) (MPFD1), 41) Major profession of the family, MPFD2: technical=1, otherwise=0 (MPFD2), 42) Employment status, EMSD1: Service provider=1, otherwise=0 (Agriculture based employed) (EMSD1), 43) Employment status, EMSD2: Entrepreneur =1, otherwise=0 (EMSD2), 44) Employment status, EMSD3: house wife=1, otherwise=0 (EMSD3), 45) Employment status, EMSD4: unemployed=1, otherwise=0 (EMSD4), 46) Employment status, EMSD5: student=1, otherwise=0 (EMSD5), 47) Employment status, EMSD6: underemployed + business look after=1, otherwise=0 (EMSD6).

iii) *Dummy variables*: Some independent variables are required to adjust with dummy variables which are:

1. Sample area: Three samples are broadly considered as a) Urban area, b) Rural area and c) Mixed area. So two variables are required to adjust.
2. Sex: Two categories of sex are male and female.
3. Educational qualification: Eight categories are illiterate, less than primary, primary pass, eight pass, SSC pass, HSC pass, graduate, masters.
4. Kinship with the family head: Seven types are wife, daughter, son, brother, father, nephew and self.
5. Marital status: Four categories are married, unmarried, divorce and widow.
6. Prime earner: Six types are self, husband, father, brother, son and mother.
7. Family's highest level of education: Seven categories are illiterate, class 1 to 5, class 6 to 8, class 9 to SSC, HSC, graduate and masters.

8. Major profession of the family: Three types are labor intensive, service intensive and technical.
9. Employment status: Seven categories are agriculture based employment, service provider, entrepreneur, house wife, unemployed, student, and underemployed.

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# Ongoing Corporate Human Resource Management Practice in Banking sector of Bangladesh

By Sadia Afroj

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**Abstract** - Strategic HR practice is always a challenge for any organization to provide a set of service that is able to make the sense in terms of implementing the organization's strategic plan. Because without proper evaluation of the term, a company may not find out the challenges and the probable scopes of improvement. In today's business world we cannot avoid the contribution of strategic practice especially in the service sectors like fast growing banking sector. The banking service in the world is growing day by day. Bangladesh, albeit a developing country, is no exception from it. In the recent period of time Human Resource Management (HRM) practices became so familiar and momentous in every business sector of Bangladesh. The success of every organization is coming through the performance of the employees of that organization. The effectiveness of the employee performance is largely depends upon the HR policy and practices. Therefore, the management should consider the magnitude of strategic HRM practices.

**Keywords** : *HR practice, Banking sector in Bangladesh.*

**GJMBR Classification** : *JEL Code: O15*



*Strictly as per the compliance and regulations of:*





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**Abstract** - Strategic HR practice is always a challenge for any organization to provide a set of service that is able to make the sense in terms of implementing the organization's strategic plan. Because without proper evaluation of the term, a company may not find out the challenges and the probable scopes of improvement. In today's business world we cannot avoid the contribution of strategic practice especially in the service sectors like fast growing banking sector. The banking service in the world is growing day by day. Bangladesh, albeit a developing country, is no exception from it. In the recent period of time Human Resource Management (HRM) practices became so familiar and momentous in every business sector of Bangladesh. The success of every organization is coming through the performance of the employees of that organization. The effectiveness of the employee performance is largely depends upon the HR policy and practices. Therefore, the management should consider the magnitude of strategic HRM practices. The strategic plan for HR system will give a broad guideline within which the management can make decisions about their human resource. In designing the company's HR system the HR manager need to understand the nature of the company's business, their position in the market, moreover the objective and goal so that she or he can design a plan that will perfectly suits to achieve the strategic goal. This study has attempted to have knowledge about strategic HRM practices in the business sector of Bangladesh like the banking sector because it plays a pivotal role to the economic growth of the country

**Keyword :** HR practice, Banking sector in Bangladesh.

## I. INTRODUCTION

Banking is a powerful medium of socio economic changes in developing countries like Bangladesh. A well organized banking system can play a vital role in the development of the country. Human Resource Management is a distinctive approach to employment management which seeks to achieve competitive advantage through the strategic deployment of a highly committed and capable workforce, using an integrated array of cultural, structural and personnel techniques. Extensive training and culture management programs, individualized reward management systems, as well as a range of employee involvement mechanisms, operate towards achieving enhanced employees' contribution. It is a whole range of notions on management theory, style and practice. In maintaining

and implementing balance between the employees' aspirations and the goals of the bank, the bank must generate the highly effective and efficient Human Resource Management. For the Human Resources Management to contribute to the profitability, quality, and other organizational goals of the bank, it should be able to closely integrate careful planning and decision-making. To be able to do this, it must perform various activities such as recruitment, compensation or giving rewards, training or career development, performance appraisal, and health and safety developments. For control and implementation effective strategic planning is required for each sector of banking as it is mere or less service oriented business unit. It is included into the direct management task. In banking these strategic practice includes evaluating the bank's (business) internal and external situation, properly define the business and developing a mission, translating the mission into the strategic goal as organization's goal and crafting a final strategy or course of action.

Besides practicing HR in different units it is also a mammoth task for the banks to face the central and outer challenges. In different way the HR department sales, finance and manufacture the strategic over time to achieve its ultimate objectives. Monitoring as well as changing the strategy also permits the business to cope up with the current demand. As the unit needs to improve the quality of its different service. Then the HR strategy might be to boost up employee quality consciousness through improved screening and necessary training. In formulating and implementing the HR strategy the business needs to follow the global trend and need to continually improve organizational performance. But HR department also should be careful enough to designing its strategic planning not just to execute. So when planning it the strategic manager must realize where they are now and where needs to go.

## II. THE CURRENT TREND OF HR PRACTICE IN DIFFERENT BANKS OF BANGLADESH

In Bangladesh most of the human resource related decisions are mainly taken by the central management. In different branches these decisions are just implemented. In different private banks of the

country it just follows the instruction come from the higher authority. All the banks have their Corporate Head office in Dhaka and most of the strategic decisions are taken from there. For the better understanding of corporate business, continue long term relationship, ensure the desirable growth and fulfill the organizational goal. Strategic HR follows the basic trends in different private banks in Bangladesh as just maintaining the instruction of central authority.

In different banks most of the employees agreed with this point that they are satisfied in the nature and trend on practicing strategic HR in different banks. As it is mentioned that most of the decisions are taken in corporate level, but at the time of appointment, that means on the eve of joining in the bank they are introduced with the legislation and different terms & conditions of the organization. As a result each and every employee gets a clear view about the ins and outs of their individual course of action. It also discloses the over all picture of the organization-its previous-current-future. As it provides an overall idea of presence of HR in the banks it covers almost all the areas.

The current HR Strategic practice covers all over the areas like

- ✓ Recruitment and firing maintains the correct process or not.
- ✓ In case of selection how the employees are treated.
- ✓ How they are oriented in new working environment.
- ✓ The effectiveness of different benefit and incentive packages.
- ✓ Whether the bank properly follow the promotion strategy.
- ✓ How effectively the employees handle different complains of the clients.
- ✓ Maintenance of different laws, safety act etc.

As when over all HR situation is evaluated on the basis of the ongoing trend, the employees mainly tried to adjust their own expectation and nature of handling different situation..

To ensure the smooth working environment it is essential for any organization to hire enough employees according to the necessities of each different branch. The employee's requirements and posting differ because of the following aspects;

- ◆ If the bank covers so many financial products then it needs more employees
- ◆ The necessities of employees differ on working procedure- automation or manual working process
- ◆ When there remain two or more branches close to each other, normally less employees is required as they have to handle comparatively lesser employees in that case
- ◆ Higher population creates pressure of fast service as well as larger number of employees. Because they need to handle larger customer group.

Depending upon the above factors the employees of different banks differs. The banks at the time of appointing new employees normally check their HRIS. As most of the bank always main updated Human Resource Information system, it is so easy for them to find out the empty position, where new employees are required. So there a little bit chance that there is lack of employees in different banks. The vacant situation raises mainly when

- ✓ Any employees leave or fired without notice.
- ✓ Increase absenteeism because of illness.
- ✓ New branches are opened

But the above factors don't have any long-term effect on the performance of a particular branch. Computer based information system and new recruitment immediately remove this short term problem. The corporate branch through effective job analysis mainly handles it. In different banks the employees thought that effective information system as well as prompt decision making deprived the problems which may arrive in employee's shortage situation.

In case of treatment in Bangladeshi banking sector inside job how the management handles their grievances. Whether there remain any unequal treatment among the employees having same quality and competencies. Human Resource division can ensure its smooth and accurate working environment if it can ensure that the employees will provide their label best effort. The employees can follow this way if they are ensured that they have enough mechanism in their hand to protest any kind of unfair practice within the organization as well as in such situation and the management will follow the act properly. The management is able to create enough interest among the employees within the organizational framework of its primary obligation to senior management or immediate higher authority

For personnel recruitment and selection these banks follows some standard most of the cases. The practiced format for selection and recruitment is –

- ◆ The corporate decide what positions will have to fill and how to fill the immediate as well as future requirements. This total procedure is designed to cover all positions from bottom to top level. As it is an integral part of the bank's strategic HR and planning process through succession planning the higher authority implement it. The corporate HR department also decides the expansion process of their employment requirement. It detailed how to hire, screen the employees and where to put them.
- ◆ The common process of forecasting the personnel need is analyzing trends. The past data and present requirements construct the idea about the trend of employee requirement.
- ◆ The higher authority study variations in the bank's employment level in last few years. Inauguration of

new branches and service variations in different banks are the two main key indicators of establishing the trend of personnel requirement.

- ◆ By using the computer based information system-HRIS helps estimate current and future employees requirement. This information system also figures the average employee demand the transferring from one branch to another the demand is fulfilled some times.

Normally internal recruitment/selection follows the above strategies. Most of the cases this strategy is taken for the key positions of the bank.

Whether any employee is newly recruited or transferred from one place to another, they need to adapt the working environment. Otherwise they may not give their best for the organization. For the adaptation in the new work responsibilities or working place, the employees may get help from the organizational policy. On the job training is a very effective mechanism for the proper orientation of new employees. From the collected data on various employees, we found that they are introduced to their new job by maintaining the organizational policy. Most of the employees especially who just introduced in the job, get a fresh and effective orientation from their organization as well as from the branch. Those who enter into the job as Management Trainee or Probationary officer always get 1-3 years probationary period with training to adapt and learn much about their job responsibilities and organizational rule.

Training is a hallmark of good management, and a task manager ignore at their peril. Having high potential employees does not guarantee they will succeed. Instead, they must know what the management want them to do and how to do that. If they don't know, they will do the job in their own way, not according to the management's preference. Therefore, effective training is essential for the improvement of both the employee and the organization.

Employee motivation is one of the most important aspects of organizational behavior. The productivity and the performance of the employees largely depend on motivation. Motivation is the force that makes one do things: this is a result of one's individual needs being satisfied (or met) so that s/he has inspiration to complete the task. These needs vary from person to person as everybody has their individual needs to motivate themselves. Depending on how motivated people are, it may further determine the effort they put into their work and therefore increase the standard of the output.

There are various health and safety laws existing in Bangladesh. But these are mainly applicable for the industries where hazardous equipments are used. But in banks there is no hazardous equipment or

instrument is used. So there are fewer requirements for marinating rigorous health and safety measure. However, banks are prepared for any fire related accident and mere illness of the employees. They keep fire extinguishers in their office and first aid facilities is also available

The most prominent HR manager can take to ensure their strategic contribution to develop measurement system. To increase the moral of employees, the HR manager first knows the importance of particular work and importance of employee's hundred percentage contribution to the work. On the basis of the judgment HR manger first identify the task of the specific employee's task, according to the job pattern train up the employee, provide all the equipment to perform the task and try to develop ethics to the employee and lastly give motivation to perform the work properly.

Every employee gives a vast knowledge how they create value for the organization through their work and help to achieve the organizational goal. When the employees know that how much important to perform the work properly, automatically it help to increase the moral of employees.

Equal Employment Opportunity means employer cannot discriminate on the basis of race color religion gender or national origin with respect to employment. There are EEOC (Equal Employment Opportunity Commission) authorities who monitor the discrimination complain. They make the judgment through the law of the country.

The EEOC will take action if the below two situation arise

- To fail or refuse to hire or to discharge an individuals or discriminate against any individual with respect to his or her compensation ,terms , condition or privilege of employment , because of such individuals race, color , religion, gender or national origin.
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In Bangladesh it is found that most of the employees are satisfied with the prevailing strategic process and procedure of the bank. They feel that the HR department is playing a vital play in employee advocacy role. They also believe that the recruitment and selection policy is fair enough to choose the competent employees for the organization. The orientation process and training facility excising in the organization is proper for achieving the strategic goals of the banks. The pay package and benefit package is

also at a satisfactory level. To fulfill the strategic objective and goals, the working environment and employee treatment should be well defined and it must have to be implemented properly. But in case of placing right people in the right place, the opinion varies among the employees. Some of them think that they are not placed in the exact position for what they are appropriate for. In some of the cases like employment rule, equal employment situation a considerable portion of the bankers are not sure about then policy practiced. HRIS is needed to improve the productivity and performance of the human resource department, but in all of the beaches HRIS is not practiced in detail.

### III. CONCLUSION

HRM practices are crucial for every organization for the proper management for all activities in an organization. As the activities are done through the human asset of the organization, therefore the management should be very much cautious to formulate and implement the HR policy for their organization that could satisfy and inspire the employee to meet the organizational goal. It has been disclosed that the present practices of strategic HRM are in satisfactory level with some little variation. Therefore, the management should continue their present practice and take initiative to resolve this problem. This industry is growing rapidly and to sustain this growth, effective and timely policy should be taken.

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# INDEX

---

## A

absorber · 109, 111, 114, 115  
acceleration · 10  
accommodante · 117  
accumulation · 2, 3, 9  
adaptation · 48, 159  
antagonistic · 12  
antecedent · 41  
Assignment · 31  
Aviation · 83, 85, 88, 89

---

## C

cognitive · 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49  
Committee · 49  
comprehensive · 20, 23, 50, 83  
Conflicts · 84, 86  
consommation · 109, 112, 113, 114, 115, 119, 121, 125, 126, 129  
contextual · 12, 14, 28

---

## D

Dimensions · 31, 48  
disaggregated · 54  
diversification · 10  
diversion · 53, 56

---

## E

Embedding · 34  
emergence · 18, 90, 92, 93, 99  
emphasize · 14, 25, 27, 76  
Empirical · 31, 35, 59, 88, 99, 100, 131  
endogenous · 2, 3, 8, 84, 86, 130  
evidence · 23, 50, 59, 70, 79, 80, 130  
explanatory · 6, 107, 144, 147, 148

---

## F

Flexible · 33, 131

framework · 12, 14, 15, 16, 19, 20, 22, 23, 25, 28, 29, 74, 76, 77, 79, 80, 83, 86, 87, 88, 104, 141, 143, 144, 149, 157

---

## G

global · 39, 60, 83, 90, 135, 156  
gromming · 134

---

## H

hypothesized · 20, 35

---

## I

inadequate · 9, 77  
inclined · 38, 45  
inflation · 84, 109, 110, 111, 112, 113, 115, 107, 119, 120, 121, 123, 125, 126, 127, 128, 129, 131, 134  
inquisitive · 15  
interrelatedness · 18

---

## J

jurisdiction · 75, 78, 83

---

## L

Liberalization · 50, 90

---

## M

Mapping · 35  
measurement · 4, 6, 100, 142, 152, 159  
monetary · 85, 109, 130, 131, 144, 147, 150

---

## N

nominal · 109, 110, 112, 114, 115, 117, 119, 120, 121, 123, 125, 127, 128, 129, 130

---

## ***P***

parameters · 4, 6  
Pharmaceutical · 133, 134, 135, 138, 140  
Philosophies · 18  
politique · 109, 111, 112, 113, 114, 115, 117,  
119, 120, 126, 127, 129, 130  
potential · 2, 8, 9, 40, 50, 59, 104, 134, 145, 159  
premise · 9, 18, 27, 77  
proximity · 57, 77, 79

---

## ***R***

randomized · 44  
regression · 3, 6, 8, 61, 68, 69, 103, 105,  
107, 133, 136, 137, 138, 145, 150  
remittances · 103, 104, 105, 106, 107, 108  
repercussions · 86  
Resource · 1, 12, 14, 16, 18, 20, 22, 23, 25,  
27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 155,  
157, 159, 160

---

## ***S***

Socialization · 24, 36  
Stakeholders · 72  
strategy · 4, 15, 16, 18, 19, 20, 25, 27, 29,  
94, 134, 155, 156, 157, 159  
subordinate · 41

---

## ***T***

tendency · 38, 44, 45, 57, 84  
transformation · 10, 90, 92

---

## ***U***

unitarist · 15

---

## ***V***

## ***W***

wholistic · 49  
Widespread · 24

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## ***X***

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