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Balasundram Maniam
Editor
Sam Houston State University

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JOURNAL OF INTERNATIONAL BUSINESS RESEARCH

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Bala Maniam
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GOOD GOVERNANCE IN DEVELOPING AND EMERGING HOST COUNTRIES AND REINVESTMENT OF RETAINED EARNINGS BY UNITED STATES MULTINATIONALS: A POOLED CROSS-SECTIONAL TIME-SERIES ANALYSIS

Braimoh D. Oseghale, Fairleigh Dickinson University

ABSTRACT

This paper examines the impact of good governance in selected developing and emerging countries on reinvestment of retained earnings by United States multinationals. The manifestations of good governance employed in this study are the indicators of institutions developed by Kaufmann et al. (1999). The six indicators are voice and accountability, political stability and lack of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. The data for these variables were obtained from the World Bank database. Cross-sectional, time-series data for 22 emerging and developing countries were analyzed using fixed-effects (LSDV) regression model. The study finds that good governance in host countries has a statistically significant impact on reinvestment of retained earnings by United States multinationals. Interestingly, the study also reveal that openness of local economies by host countries do not have statistically significant effects on reinvestment.

INTRODUCTION

The last few decades witnessed a momentous increase in global foreign direct investment (FDI) inflows. A critical examination of global FDI inflows data published by UNCTAD (2008) reveals that FDI inflows increased steadily over the years. For example FDI inflows increased by more than 30% between 2005 and 2007. The increase notwithstanding, developing countries' share of FDI inflows declined from 33% in 2006 to 27.3% in 2007. Moreover, while the share global FDI inflows of some developing countries increased (e.g. Brazil, India and Malaysia) in recent past, the share of many others (e.g. Argentina, Venezuela, South Korea, South Africa, and so on) declined significantly. Seemingly, there is concordance in both theoretical and empirical international business (IB) literature suggesting that the uneven spatial distribution of FDI is attributable to differences in characteristics of potential host countries (Root and Ahmed, 1978; Nigh, 1985; Fatehi-Sedeh and Safizadeh, 1988; Wheeler and Mody, 1992; Wei, 2000; Stein and Daude, 2002;

Globerman and Shapiro, 2003; Benassy-Quere, et al., 2007; Daude and Stein, 2007). The central tenet of the literature is that economic characteristics of a host country coupled with the quality of its government regulations determine its relative attractiveness to foreign investors. .

The apparent concordance in the extant literature notwithstanding, it is important to note that researchers have in the past focused their attention, primarily, on questions about the explanatory power of an array of independent variables rather than on questions about the nature of FDI (Quijano, 1990; OECD, 1999; Desai et al., 2005). It is therefore not surprising that FDI has been operationalized in prior literature as a monolithic variable rather than a multidimensional one. To make meaningful contributions to the development of a comprehensive theory in this area of research, it is crucial that the researchers are cognizant of the multidimensionality of FDI.

Brewer (1993) asserts that disaggregation of FDI is vitally important since each component (new equity, reinvested earnings[1] and inter-company debt flows) may respond differently to the same set of predictor variables. Likewise, Auerbach and Hassert (1993), postulate that FDI comprises a number of dissimilar components that can respond differently to a given explanatory variable. Hence, the sensitivity of FDI to a given set of stimuli is apt to be greatly influenced by the component which accounts for the largest proportion of total FDI.

Although the proportion of reinvested earnings (reinvestment) to total United States FDI outflow has increased steadily over the years, it has largely been neglected in IB literature. This prompted Lundan (2006), to posit that "to date nothing has been written regarding the empirical importance of reinvested earnings, or what factors govern the decision of whether income earned at a foreign location is repatriated or reinvested at the foreign location". She suggests that reinvestment "warrants more attention both on theoretical level, as well as in terms of empirical study" especially given its growing quantitative importance. An extensive search of the post-2006 IB literature failed to find an empirical study focusing on determinants of reinvestment.

Therefore, the purpose of this study is to illuminate the relationship between good governance and reinvestment decisions by US multinationals in selected developing and emerging countries. Specifically, using the fixed effects regression model, this study investigates the impact of good governance in selected host countries on reinvestment decisions by US multinationals between 1994 and 2006.

REINVESTMENT OF RETAINED EARNINGS

A critical examination of US FDI data (from various issues of US Survey of Current Business) shows that reinvestment by United States multinational Corporations (MNCs) has increased steadily and significantly over the years, becoming the most important component of FDI. Reinvested earnings by US MNCs accounted for an average of 53 percent of total FDI outflows annually between 1995 and 2006. According to Ibarra and Koncz (2008), reinvestment by US firms

accounted for 75 percent of total FDI outflows in 2007. In absolute terms, reinvested earnings by US multinationals stood at $201.3 billion in 2006 and $245.5 billion in 2007.

Besides, reinvestment is the only component of FDI that originates in the host country and thus, does not involve cross-border transfer of funds (Lundan, 2006). Other components of FDI (i.e. new equity and inter-company debt flows) involve cross-border transfer of funds since they originate from outside of the host country in question. Furthermore, as depicted in table 1, correlation coefficients between individual components of FDI are very low (ranging from -0.089 to 0.23). The weak correlation between new equity, reinvestment, and inter-company debt flows, suggests that the components are independent of each other. This finding corroborates that of Salorio and Brewer (1998).

Table 1: Correlation Matrix - Correlation between new equity, reinvested earnings, and inter-company debt flows

	Equity	Reinv	Intlon
Equity	1		
Reinv	0.230	1	
Intlon	0.124	-0.089	1

Where Equity represents New Equity flows;
Reinv refers to Reinvestment; and
Intlon represents Inter-company Debt flows.

Given the above, the findings of this study will have both managerial and policy implications. First, as mentioned earlier, most prior studies focused attention primarily on the determinants of aggregate FDI. However FDI is a multi-dimensional variable. As such, we must understand the behavior of its individual components in order to develop a comprehensive theory of the phenomenon. To that end, this study seeks to answer the following questions: do all institutional variables have impact on reinvestment by US multinationals? If so, to what extent is reinvestment by US multinationals sensitive to good governance in host countries? To make contribution to the development of a general theory of FDI and MNEs, this study seeks to answer these and other related questions.

Second, in an effort to improve the attractiveness of their countries, host governments should be interested in finding out which institutional variables influences the most important component of FDI. Therefore such information will permit host governments to determine which policies to fine-tune in order to improve their countries' attractiveness to foreign investors. Finally, it will be instructive to find out whether foreign investors make decisions pertaining to the various components of FDI independently.

REVIEW OF THE RELEVANT LITERATURE

The most popular integrative theory of FDI to date is Dunning's (1988, 1993) 'eclectic' paradigm. The theory combines both micro- and macro- level perspectives in explaining the decisions of MNCs to undertake individual FDI projects. The theory suggests that successful (and profitable) FDI requires the existence of three sets of 'advantages'. These are ownership (O), location (L), and internalization (I) advantages. Ownership advantage requires that the firm possess or own some proprietary assets (mostly intangible in nature) that will give it competitive advantages within a host country. Such assets might be in the form of proprietary technology, brand name, marketing, logistical, research and development, or organizational skills. Thus, these advantages are micro in nature since they are unique to the firm.

Location advantages, on the other hand, are unique to the specific location in which the firm is operating or intends to operate. These advantages range from the availability of cheap labor, natural resources, skilled labor, and large and rapidly expanding local market, to the existence of stable economic and political systems. The presence of location advantages is a necessary condition for successful and profitable operation. In addition to the above the firm must have both the ability and capacity to internalize certain transactions regardless of the nature of FDI involved. Thus, the OLI paradigm proposes that for any successful foreign investment to take place, MNCs must possess certain ownership (O) advantages which they exploit through the process of internalization (I) in specific countries that offer the requisite location (L) advantages.

Several empirical studies, drawing on Dunning's (1988, 1993) eclectic paradigm, identified an array of location factors that improve a country's attractiveness to foreign investors. Some studies emphasize the importance of economic factors such as market size, market growth, inflation rates, and income levels (Root and Ahmed 1979; Schneider and Frey, 1985; Grubert and Mutti, 1991; Woodward and Rolfe, 1993). These studies suggest that FDI tends to be attracted mostly to countries with large and expanding domestic markets. Other studies place emphasis on political risk (Nigh, 1985; Fatehi-Sedeh and Safizade, 1988). Moreover, while Cheng and Kwan (1999) accentuate the importance of the level of development of infrastructure in a host country, Rolfe and White (1992), Oseghale (1993), Brewer (1993), and Loree and Guisinger (1995), emphasize the role of government policy in the process. Remarkably, these studies explored the effects of socio-economic and political factors on FDI and gave little or no considerations to the importance of a host country's institutional framework.

However, since the publication of North's (1990) book on the relationship between institutions and economic performance, many researchers have attempted to elucidate the effect of 'good' institutions on FDI inflow. Institutions are now widely considered crucial in enhancing the attractiveness of a nation to foreign investors. According to Mudambi and Navarra (2002), institutions affect the capacity of firms to interact and therefore affect both transaction and coordination costs of production. In addition, in the highly globalized world of today, FDI is

undertaken not only to gain access to scarce natural resources, but also to augment existing resources and capabilities through interaction with various locations. Bevan, et al. (2004), suggests that foreign investors now view institutions as a vitally important aspect of location advantages of a host country. Consequently, MNCs are apt to seek out locations where institutional environments are favorable and thus facilitate the development of their firm-specific advantages.

Most MNCs now think very strategically when considering where to locate operation since restrictions and incentives created by host country institutions tend to change the "playing field" thus favoring some while disadvantaging others (Spar, 2001). There is a wide array of institutional factors that are of concern to foreign investors. Many descriptive and empirical studies (North, 1990; Wheeler and Mody, 1992; Wei, 1997, 2000; Hausmann and Fernandez, 2000; Stein and Daude, 2002; Daude and Stein, 2007; Benassy-Quere et al. 2007) suggest a strong linkage between institutional factors and FDI. Only some of the empirical studies mentioned here will be reviewed because of the apparent concordance in their findings.

Wheeler and Mody (1992) were among the first researchers to explore, empirically, the linkage between institutional framework and the location of US foreign affiliates. Using the first principal component of thirteen factors (e.g. bureaucratic red tape, political instability, corruption, quality of the legal system and so on), they found a statistically insignificant relationship between 'good' institutions and US FDI. However, Wheeler and Mody(1992) failed to differentiate between aggregate FDI and its components.

Wei (1997) investigated the effects of corruption in host countries on FDI inflows. Using panel data of bilateral FDI for 12 source and 45 recipient countries, he examined the impact of corruption on FDI. He controlled for the effect of market size within host countries. He employed three different measures of corruption—one based on a survey conducted and organized by Business International (a subsidiary of the Economic Intelligence Unit); the second which was compiled by the International Country Risk Group (ICRG); and the third, compiled by Transparency International (TI). He regressed FDI on each measure of corruption separately. He found that the level of corruption within a host country has a statistically significant and negative effect on FDI. However he failed to include other institutional variables such as voice and accountability, government effectiveness, rule of law and so on, in his analysis. Moreover, this author also focused on the determinants of aggregate FDI instead of focusing on the determinants of its components. Nonetheless, one can infer from this finding that control of corruption in a host country would have a statistically significant impact on aggregate FDI and reinvestment.

Stein and Daude (2002), using bilateral outward FDI stock for 20 source and 58 host countries, examined the effects of institutional variables on FDI location decisions. They employed three different sets of institutional variables. The first set is the governance indicators database developed by Kaufman et al (1999). The database had data for six different governance indicators: Voice and Accountability, Political Stability and Lack of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. The second set was sourced from the

International Country Risk Guide (ICRG) database which is compiled by the PRS Group. The database contained data for the following variables: Risk of Repudiation of Contracts by the Government, Risk of Expropriation, Corruption in Government, Law and Order, Bureaucratic Quality and Democratic Accountability.

The third set of data was obtained from the World Bank's database, World Business Environment Survey (WBES). They obtained data for the following variables: Quality of Courts, Quality of Central Government, Corruption, Economic Policy Predictability, Predictability of Judiciary, and GDP per capita from the WBES database.

Employing the gravity regression model, they regressed FDI on each group of institutional variables separately. They found that good governance in host countries has a statistically significant effect on the location of FDI.

Using data from the database developed by Kaufmann et al. (1999), Globerman and Shapiro (2003) examined the importance of host countries' governance framework as determinants of the flow of US FDI. They employed the 2-stage estimation technique in data analysis. They found that good governance has a significant effect on FDI location decisions, thus corroborating Stein and Daude's (2001) findings.

Likewise, Benassy-Quere, et al. (2007), employing both cross-sectional and panel data for a set of 52 countries, examined the effect of a wide range of institutions (bureaucracy, corruption, legal system and so on) on inward FDI. Their findings also indicate that institutional proximity between the source and the recipient countries has a significant impact on FDI. This implies that similarity between the source and recipient countries' institutional framework affects the flow of FDI.

Daude and Stein (2007) examined the effects of institutional framework on FDI flows using data set from three different sources. The sources of the datasets are: Kaufmann et al. (1999), the ICRG database, and the World Bank's WBES database. These databases and their associated datasets are discussed above.

They ran several regressions using institutional data from each database separately. Overall, their findings suggest that the quality of institutions has a statistically significant effect on the location of FDI. Most specifically, they found that the regulatory framework and government effectiveness are the most important determinants of the behavior of FDI.

Although the theoretical framework employed in the studies reviewed above (see table 2 for summary) suggests that FDI flows are significantly impacted by good governance in a host country, they failed to differentiate between the effects of locational characteristics on each component of FDI. Locational characteristics are apt to impact each component differently. According to Aurcbach and Hassert (1993), FDI is composed of a number of dissimilar components each of which can react differently to a given stimuli. Therefore there is a need to investigate the effect of good governance on reinvestment since it is the largest component of US FDI.

Given the gap in existing literature, this study addresses the following questions: Is the reinvestment decisions by US multinationals sensitive to good governance in a host country? Do institutional variables impact the reinvestment decisions by US multinationals to the same degree? Specifically, is there a statistically significant relationship between reinvestment by US multinationals and the quality of host countries' institutional framework?

Table 2: Summary of studies on the impact of institutional variables on FDI

Independent Variable	Relationship	Research studies
Voice and Accountability	+	Stein and Daude (2002)
	+	Daude and Stein (2007)
Political Stability and Lack of violence	+	Wheeler and Mody (1992)
	+	Stein and Daude (2002)
	+	Daude and Stein (2007)
Government Effectiveness	+	Globerman and Shapiro (2003)
	+	Stein and Daude (2002)
	+	Daude and Stein (2007)
Quality of Regulation	+	Wheeler and Mody (1992)
	+	Stein and Daude (2002)
	+	Benassy-Quere et al. (2007)
	+	Daude and Stein (2007)
Rule of Law	+	Globerman and Mody (1992)
	+	Stein and Daude (2002)
	+	Benassy-Quere et al. (2007)
	+	Daude and Stein (2007)
Control of Corruption	+	Wei (1997)
	+	Stein and Daude (2002)
	+	Benassy-quere et al. (2007)
	+	Daude and Stein (2007)

RESEARCH METHODOLOGY

To estimate the effects of good governance on the reinvestment decisions by US multinationals, cross-sectional time-series panel data (1994 – 2006) were obtained for a pool of 22 developing and emerging countries[2]. Of these countries, eleven are from Central and South

America, eight are based in South and South-East Asia, and the remaining three are African. This study is limited to these 22 countries due to unavailability of comparable data for other countries. Cross-sectional time-series panel data are considered appropriate for this study because they tend to increase the number of observations and consequently, the reliability of the estimates of regression parameters. Furthermore, the use of panel data models reduces the potential for multicollinearity. Finally, by employing panel data models we are able to control for unobserved heterogeneity across countries and across time (Baltagi, 2001). According to Sayrs (1989), "pooling is particularly useful in applied research when the length of the time series is abbreviated and/ or the sample of cross-sections is modest in size".

As indicated above the countries that are included in this study consist of developing[3] and emerging[4] markets. While the developing countries are characterized by low income, usually less than $3,595 (World Bank criterion) and technological dualism, emerging countries, on the other hand, are considered to be fast-growing, middle-income or higher economies. In addition, they are characterized by relatively higher concentration of FDI and are usually net exporters of large quantities of manufactured goods. This suggests that our sample of countries may be heterogeneous. This necessitated a homogeneity test using the Chow test (1960). The estimated F-statistics suggests that the null hypothesis of homogeneity should not be rejected.

A problem that usually besets cross-sectional, time-series panel data analysis is that the error term "μ" may be contaminated by "correlation in the error from different cross-sections at the same time points or from different cross-sections and different time points" (Sayrs, 1989). In other words, heteroskedasticity may contaminate estimates of the regression parameters. Thus, even though ordinary least squares (OLS) parameter estimators are unbiased and consistent, they are often inefficient (Pindyck and Rubinfeld, 1998).

Two methods that are typically employed in addressing such a problem are the fixed effects regression model which is sometimes referred to as the Least Squares with Dummy Variables (LSDV) and the random effects model that is also called the Error Component (EC) Model. While the unobserved variables are assumed to be uncorrelated with (i.e. statistically independent of) all the observed variables in the fixed effects regression model, they (the unobserved variables) are allowed to have any association with the observed variables in the fixed effects model (Allison, 2009). According to Allison (2009), "this is equivalent to treating the unobserved variables as fixed parameters". Interestingly, therefore, the fixed effects model permits one to control for the effects of unobserved variables.

Furthermore, when the fixed effects model is employed in data analysis, only the within-subject variation is used to estimate regression parameters. The between-subject variation is usually discarded. That notwithstanding, "one is able to get rid of the 'contaminated' variation and use the variation that produces approximately unbiased estimates of the parameters" (Allison, 2009). Allison (2009) posits that "no information is lost in discarding the between-subject variation" since by design "all the variations on the particular variable is within-subject, not between-subject". This is

especially noteworthy since we are primarily interested in ferreting out the determinants of the reinvestment decisions by US multinationals over time in this study.

Moreover, since the selection of countries included in our sample is not randomized, the random effects model may be inappropriate. Baltagi (2008) suggests that "the fixed effects model is an appropriate specification when focusing on a specific set of N firms, states, or countries and inference is restricted to the behavior of the nations". Consequently, given the aforementioned advantages inherent in the use of fixed effects regression model for data analyses, we chose to use it for data analysis in this study.

THE ECONOMETRIC SPECIFICATION

The regression equation employed in this empirical investigation is:

$$\begin{aligned} LnReinv_{it} = {} & \beta_1 LnGDP_{it-k} + \beta_2 GDPGR_{it-k} + \beta_3 Openn_{it-k} + \beta_4 Xrate_{it-k} + \beta_5 Psche_{it-k} + \\ & \beta_6 LnSTK_{it-k} + \beta_7 LnPROF_{it-k} + \beta_8 VOA_{it-k} + \beta_9 PST_{it-k} + \beta_{10} GEF_{it-k} + \\ & \beta_{11} QRG_{it-k} + \beta_{12} ROL_{it-k} + \beta_{13} COC_{it-k} + \mu_{it} \end{aligned} \quad 1).$$

Where:

$LnReinv_{it}$ refers to the natural log of reinvested earnings of US multinationals in host country I;
$LnGDP_{it-k}$ represents the natural log of the gross domestic product of country I;
$GDPGR_{it-k}$ refers to the GDP growth rate in host country I;
$Openn_{it-k}$ is the ratio of imports plus exports to the GDP of the host country I;
$Xrate_{it-k}$ represents the exchange rate versus US dollar;
$Psche_{it-k}$ is the ratio of primary school enrollment to the population of the relevant age group in country i;
$LnSTK_{it-k}$ is the natural log of stock of existing FDI in country i; and $LnPROF_{it-k}$ refers to the earnings of foreign affiliates of US multinationals in country i.

Indicators of good governance are as follows: Voice and Accountability [VOA_{it-k}], Political Stability and Lack of Violence [PST_{it-k}], Government Effectiveness [GEF_{it-k}], Regulatory Quality [QRG_{it-k}], Rule of Law [ROL_{it-k}], and Control of Corruption [COC_{it-k}], and subscript t-k represents lagged effect for the predictor variables (k is to be determined later), while μ_{it} is the stochastic disturbance, and the βs are the regression parameters to be estimated.

VARIABLES (MEASURES AND SOURCES)

Dependent Variable

The dependent variable in this study is the reinvested earnings by US multinationals in their respective affiliates in selected developing and emerging countries. Data for this variable were obtained from various issues of the Survey of Current Business which is published by the US Department of Commerce.

Independent Variables

In this study we are primarily interested in investigating the effects of good governance on reinvestment decisions by US multinationals in selected countries. Therefore a set of institutional factors developed by Kaufmann et al (1999a, 1999b) employed as proxies for good governance. The construction of these factors is based on an analysis of data from "33 data sources produced by 30 different organizations worldwide" (World Bank, 2007). Kaufmann et al. (1999a) employed unobserved component model in constructing aggregate indicators from hundreds of "underlying variables that reflect perceptions of a wide range of governance issues". Six aggregate indicators resulted from their analysis, with each indicator reflecting a specific dimension of quality of institutions. The value of each indicator ranges from -2.50 to +2.50 and as such the higher the value, the higher the quality of institution along the specific dimension. The data for these six indicators of good governance were obtained from the World Bank (2007).

The six indicators of good governance are: Voice and Accountability (VOA) which reflects "the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and free media". Political Stability and Absence of Violence (PST), refers to the "perceptions of the likelihood that the government will not be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism". Government Effectiveness (GEF) means the "quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies". Regulatory Quality (QRG) represents "the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development". Rule of Law (ROL) is "the extent to which agents have confidence in and abide by rules of society, and in particular the quality of contract enforcement, police, and the courts, as well as the likelihood of crime and violence". Control of Corruption (COC) refers to "the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interests". Other explanatory variables that have been found, in prior studies, to influence FDI location decisions or foreign activities of US MNCs that are included in

this study are: Market size (GDP) (Caves, 1982; Nigh, 1985) and market growth rate (GDPGR). These variables were measured as real GDP in dollar terms.

Exchange rate (XRATE) has been found to influence FDI location decisions (Kogut and Chang, 1996; Barrell and Pain, 1997). This is measured as the rate of exchange between a host country's local currency and the US dollar. Data for exchange rates were obtained from World Development Indicators.

Openness (OPENN) is the extent to which a country's market is integrated into the global market. The measure of openness that is commonly used in the literature is the ratio of Exports plus Imports to GDP. According to Clarke (2001) "this is a direct measure of the importance of imports and exports". The data for this variable were obtained from Penn World Table.

Quality of labor (PSCHE) is reflected in the level of education of the population (Youssef, A., 2001). The proxy used for this variable is the ratio of primary school enrollment to the population of the relevant age group. The data for this variable were obtained from the World Development Indicators, published by the World Bank.

In addition, Lundan (2006) suggests that reinvestment may be influenced by two other variables: the stock of existing FDI (STKF) and the profitability of existing operations (PROF) within a host country. The data for these variables were obtained from the Survey of Current Business.

DATA ANALYSES AND FINDINGS

Typically, it is vitally important to investigate the extent of inter-correlation between explanatory variables before including them in a regression analysis. According to Pindyck and Rubinfeld (1998), high correlation between explanatory variables affects both the magnitude of the standard error of the regression and the estimated parameters (β-coefficients). Therefore, the presence of multicollinearity is consequential, especially when the purpose of the study is to explain (as opposed to predicting) the relationship between the dependent and explanatory variables (Berry and Feldman, 1985). To test for the presence of multicollinearity we cross-correlated all the independent variables included in this study. Berry and Feldman (1985) assert that a correlation of 0.80 or higher suggests that multicollinearity is a potential problem in the regression.

A critical examination of table 3 reveals that intercorrelation between the following predictor variables GDP, GDPGR, OPENN, XRATE, PSCHE, STKF, and PROF is relatively low (ranging from 0.003 to 0.626). However, the correlation between institutional variables is considerably high. For example, the correlation between GEF and QRG is 0.858 and the correlation between GEF and ROL is 0.923. Also the correlation between PST and ROL is 0.811 while the correlation between ROL and COC is 0.908. This finding is consistent with those of Kaufmann et al. (1999, 2002) and Globerman and Shapiro (2003). The finding suggests that multicollinearity might pose a problem if all the institutional variables are included in the same regression model.

Table 3 : Correlation Matrix Correlation between independent variables													
	LnGDP	GDPGR	OPENN	XRATE	PSCHE	LnSTKF	LnPROF	VOA	PST	GEF	QRG	ROL	COC
LnGDP	1												
GDPGR	0.003	1											
OPENN	-0.302	0.075	1										
XRATE	0.549	-0.174	-0.076	1									
PSCHE	-0.309	0.002	0.069	0.04	1								
LnSTKF	0.186	0.018	0.251	0.073	0.339	1							
LnPROF	0.195	0.13	0.326	0.131	0.107	0.626	1						
VOA	-0.065	-0.036	0.046	-0.21	0.056	0.21	-0.084	1					
PST	-0.328	0.095	0.514	-0.365	0.246	0.315	0.125	0.542	1				
GEF	-0.042	0.137	0.636	-0.144	0.183	0.469	0.337	0.419	0.753	1			
QRG	-0.159	0.013	0.542	-0.11	0.235	0.386	0.283	0.523	0.757	0.858	1		
ROL	-0.152	0.117	0.6	-0.228	0.146	0.354	0.226	0.488	0.811	0.923	0.83	1	
COC	-0.086	0.069	0.594	-0.194	0.118	0.354	0.219	0.458	0.718	0.912	0.837	0.908	1

To estimate the regression parameters, we ran a regression using the fixed-effects model with every predictor variable included in the equation. Interestingly, as depicted in table 4, column 1, only five of the thirteen explanatory variables included in the model were found to have statistically significant effects on reinvestment. They are market size, market growth rate, exchange rates, quality of labor, and profitability of existing operations. Remarkably, no single indicator of good governance was found to have statistically significant influence on reinvestment. This result is attributable to the presence of high multicollinearily between the indicators of good governance included in this study. Green (1990) suggests that one solution to multicollinearity problem is to drop offending variables from the regression equation. However, doing so will result in the misspecification of the regression equation.

Table 4: Fixed Effects Regression Estimates (The dependent variable is Reinvestment)			
Independent Variables	Column 1	Column 2	Column 3
LnGDP	0.925* (1.49)	1.152*** (2.85)	1.071*** (2.43)
GDPGR	0.180*** (4.07)	0.250*** (16.10)	0.263*** (13.34)
OPENN	-0.008 (0.59)	-0.001 (0.19)	0.004 (0.60)
XRATE	0.001** (1.65)	0.001*** (2.48)	0.001*** (2.43)

Table 4: Fixed Effects Regression Estimates (The dependent variable is Reinvestment)			
Independent Variables	Column 1	Column 2	Column 3
PSCHE	0.097*** (2.96)	0.203*** (9.22)	0.111*** (5.97)
LnSTKF	-0.153 (0.38)	0.308 (0.96)	0.092 (0.36)
LnPROF	0.533*** (3.29)	0.347** (2.20)	0.510*** (3.71)
VOA	0.341 (0.96)		
PST	0.183 (0.59)		
GEF	0.091 (0.12)		
QRG	-0.167 (0.29)		
ROL	0.250 (0.23)		
COC	0.052 (0.08)		
REPLG		0.692** (2.27)	
IMPLG		-1.067*** (2.82)	
GRAFT		2.959*** (4.95)	
FRPOL			0.189** (1.99)
GEFFI			0.629*** (3.09)
R^2	94	95	94
R^2 Adj	93	94	94

t - Statistics in parenthesis
***, **, * significance at the 1%, 5%, and 10%, respectively (1-tailed test).

Alternatively, we can either run a set of regressions, entering each offending explanatory variables separately (Green, 1990) or create composite indices for some or all the offending

variables (Globerman and Shapiro, 2003). Although the first option sounds very appealing, it will result in misspecification of the regression model. Omitted variables bias might result from inserting institutional variables in the model one by one, as suggested in the first option. To circumvent the problem, we adopted the second recommendation which calls for the reduction of the number of variables that are intercorrelated by combining them or by creating composite indices based on them. In this study we employ the two approaches that have been used in the literature to create indices for institutional variables.

According to Sihag (2007) we can reduce the six governance indicators to three and then enter the index of each of the resultant factors in the same regression equation. The first group VOA and PST, according to Sihag (2007) "capture how a government is elected, replaced and monitored". Therefore we created an index, replacement of government (REPLG) by adding the value of VOA and PST and dividing the sum by two for each country and time period. The second group (GEF and QRG) is related to the "quality of the formulation and implementation of government policies". We created an index, called implementation of government policies (IMPLG) for this group. The third group (ROL and COC) reflects the "level of corruption and the rule of law" in a host country. Also, we created an index called GRAFT for this group.

Thereafter, we ran a regression on explanatory variables including the aforementioned indices, REPLG, IMPLG, and GRAFT. The resultant estimates of the regression parameters are shown in, table 4, column 2. Not surprisingly, we found that the three indices have statistically significant effects on reinvestment. While the coefficient of REPLG (replacement of government) was found to be statistically significant at the 5% level, those of IMPLG (quality of the formulation and implementation of government policies) and GRAFT (control of corruption and the rule of law) were found to be statistically significant at the 1% level. This finding suggests that good governance has significant influence on reinvestment of retained earnings by US multinationals that operating in the countries included in this study.

In addition we also employed the technique used by Daude and Stein (2007) for combining the six governance indicators. According to these authors, the six indicators cluster around two factors. While QRG and GEF cluster around one factor, government efficiency (GEFFI), the other indicators (VOA, PST, ROL, COC) cluster around another factor, political stability and freedom (FRPOL). Therefore we created indices for these factors by summing up the relevant indicators and then dividing by the number of indicators that clustered around the factor. For example, GEFFI is equal to (QRG + GEF)/2.

Thereafter we regressed reinvestment on both the conventional (economic and socio-economic) variables and the two indices of good governance (GEFFI and FRPOL). Interestingly, the two factors were found to have statistically significant effects on reinvestment. While the coefficient of FRPOL was found to be statistically significant at the 5% level of significance, that of GEFFI was found to be significant at the 1% level. This result also suggests that good governance has significant influence on reinvestment decisions of US multinationals.

It is important to note that many of the conventional (or economic) variables were found to have statistically significant impact on reinvestment in this study. For example as shown in table 4, columns1 to 3, market size, market growth rate, exchange rates, quality of labor, and profitability of existing operations were found to have statistically significant effects on reinvestment by US multinationals. This supports Lundan's (2006) assertion that profitability of existing operations and market growth rate tend to have an impact on reinvestment decisions of MNCs. However, market openness and stock of FDI were found to have no significant effects on reinvestment decisions of US multinationals.

CONCLUSION

The purpose of this study was to elucidate the impact of good governance on reinvestment of retained earnings by United States MNCs. To that end, cross-sectional time-series data were collected for a pool of emerging and developing countries (1994-2006). The data were analyzed using the fixed effects regression method.

The findings of the study reveal that good governance has a significant impact on reinvestment decisions of United States multinationals. Moreover, the findings suggest the need to disaggregate FDI into its fundamental components and to subject each separately to rigorous analysis in order to develop a comprehensive theory of the phenomenon.

Even though this study is focused on the relationship between good governance and reinvestment, it is necessary to describe, albeit briefly, the role of conventional variables. As depicted in table 4, columns 1 to 3, five of the seven conventional variables included in the study were found to have statistically significant effects on reinvestment. The variables are host country's market size, market growth rate, exchange rates, quality of labor, and profitability of existing operations.

Interestingly, the study reveals that openness of host country's economy has no statistically significant effects on reinvestment decisions. This may mean that local demand for products manufactured by MNCs exerts a significant level of influence on reinvestment decisions. Thus United States MNCs that are reinvesting retained earnings within a host country may be doing so to exploit economies of scale advantages (i.e. in production and distribution) offered by the large and rapidly expanding host market. It is also important to note that existing stock of FDI does not seem to influence reinvestment decisions significantly. Rather, profitability of existing operations exerts significant influence on reinvestment decisions.

This study is focused mainly on the relationship between reinvestment by US multinationals and good governance in a pool of emerging and developing countries. Unfortunately, we had to limit this study to the US as the 'source' country because reinvestment data were not available for other major sources of FDI. According to Lundan (2006), a number of countries (e.g. Denmark, France, Japan, Spain, Singapore, and Thailand) "have either not collected data on reinvested earnings, or

have collected the data but do not report it". It will be instructive to find out, for example, whether the reinvestment decisions by US multinationals are as sensitive to good governance in host countries as those of the French, the Japanese, or the Germans.

ENDNOTES

[1] Reinvested earnings are the foreign investor's share of affiliate's profit that are not distributed as dividends or remitted to the investor's home country but reinvested in the business.

[2] Countries include in this study are: Argentina, Brazil, Chile, China, Colombia, Costa Rica, Ecuador, Egypt, Honduras, India, Indonesia, Malaysia, Mexico, Nigeria, Panama, Peru, Philippines, Singapore, South Africa, Taiwan, Thailand, and Venezuela.

[3] Developing countries included in our sample include: Costa Rica, Ecuador, Egypt, Honduras, Nigeria, and Panama.

[4] Emerging countries included in this study are: Argentina, Brazil, Chile, China, Colombia, India, Indonesia, Malaysia, Mexico, Peru, Philippines, Singapore, South Africa, Taiwan, Thailand, and Venezuela. See http://globaledge.msu.edu/ibrd/marketpot.asp for details.

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IRAQI BUSINESS CULTURE: AN EXPATRIATE'S VIEW

Don B. Bradley III, University of Central Arkansas
Justin Eric Brown, University of Central Arkansas
Michael J. Rubach, University of Central Arkansas

ABSTRACT

This paper will analyze the effects of imposing a very diverse Western business culture on the religious culture of Iraq. In an attempt to figure out where the Iraqi business culture is evolving, we must first dissect the fundamentals of the culture of the past, and the ingrained cultural beliefs of the inhabitants of the present. Once we understand the past, we can then evaluate a comparable market in an attempt to predict and make suggestions as to its future.

INTRODUCTION

The evidence is overwhelming that culture influences managerial decision making on any number of levels or dimensions (Hofstede, 1980). The importance of culture's implications for managers has led to a substantial increase in cross-cultural research (Yeganeh & Su, 2007). However, much of the cross-cultural research has focused on developed countries and emerging economies in Asia and Eastern Europe. Often ignored have been the countries of the Middle East (Yeganeh & Su, 2007). Even within the existing research on Middle Eastern and Islamic countries, Iraq has not been extensively studied. For example, the most recent comprehensive study of the effects of leadership and culture, the Global Leadership and Organizational Behavior Effectiveness (GLOBE) Research Project, did not study Iraq. This paper attempts to fill the void in the research and literature on the business culture of Iraq.

Through the removal of a dictator, war, and strife, the relationship between Iraq and the United States has been very contentious. Despite the conflicts, the U.S. government through the U.S. Agency for International Development (USAID) has supported the redevelopment of the Iraqi economy through the successful creation of the Tijara program. This program, together with its predecessor, the Izdihar program, has provided both financial capital and services to nascent Iraqi businesses. More than 132,000 microloans, worth a combined value of $300 million, have already been made (U.S. Federal News Service, 2009). These efforts along with the efforts of the Iraqi people and their government have created an Iraqi business culture that resembles the blossoming American business culture during the Industrial Revolution.

This paper will analyze the affects of imposing a very diverse Western business culture on the religious culture of Iraq. In an attempt to figure out where the Iraqi business culture is evolving,

we must first dissect the fundamentals of the culture of the past, and the ingrained cultural beliefs of the inhabitants of the present. Once we understand the past, we can then evaluate a comparable market in an attempt to predict and make suggestions as to its future.

IRAQI CONTEXT

In an effort to fully understand some of the deeply held traditions and sentiments of a culture, we must understand their past. The land now known as Iraq has been called the Cradle of Civilization. The ancient Sumerians, Babylonians, and Assyrians all developed great empires in the region between the Tigris and Euphrates rivers. At later times, it was ruled by the Greeks, the Romans, the Persians, and the Ottoman Turks. Under the Abbasid rulers (750-1258), Baghdad became a center of learning for the entire Muslim world. However the Mongols invaded the region in 1258, leading to its decline. The Ottoman Turks, after a long struggle, won Baghdad and the Tigris and Euphrates Valley from Persia in 1638. The region remained a part of the vast Ottoman Empire until the end of World War I (Randall, 2006).

A discussion of the Iraqi political environment is provided in Appendix A.

Economic Environment

For the past three decades, the Iraqi economy has been adversely affected by costly militarization, three wars, and international sanctions (Gorrill, 2007). These events severely traumatized Iraq's population, damaged the country's political and economic institutions, and negated many of its previous economic and social gains. By 2004, Iraq's per capita GDP had fallen to less than US$800, and its crippling debt had stifled its growth and development (International Monetary Fund (IMF), 2009).

Iraq's natural resource base makes it potentially a rich country and provides the means to rebuild its economy. Production and export of petroleum, which provides 90% of the country's foreign exchange earnings, continues to set the country on the path to sustained economic growth and long-tem prosperity (CIA Factbook, 2009). However, the task of rebuilding the country following the Second Gulf war has been immense. Sectarian politics and prolonged violence have made this task even harder (IMF, 2009). Iraq's reconstruction has required not only the rebuilding of its infrastructure, but also its economic and social institutions. The challenge has been to create a business environment that will attract capital and foster the development of the new technologies and skills needed to modernize the economy (IMF, 2009). Foreign direct investment is beginning to bolster Iraq's industrial sector. The strategy of the Iraqi government is to increase foreign participation through the establishment of joint ventures with State-owned enterprises. Provincial Councils have promoted and facilitated investment at the local level. The Iraqi Central Bank has been successful in controlling inflation. The government's challenge is how to improve the plight

of ordinary Iraqis. Reducing corruption and implementing structural reforms, including the development of the private sector, will be key to Iraq's future economic success (CIA Factbook, 2009).

Despite numerous wars and under-investment in its infrastructure, Iraq is beginning to recover and is on the road to a bright future. The potential of the Iraqi people and its abundant resources are now being unleashed to create a free market economy (Iraqcoalition.org, 2009). Iraq's 29 million people are now satisfying their long, pentup demand for modern goods and services. Recent increases in wages and the opening of international trade have caused an increase in consumption. The increase in recent inward foreign direct investment will likely result in up to a million new jobs, providing significant economic stimuli. This job growth in turn will accelerate further consumption. Strong, sustained growth into the future should be enhanced by the establishment of a new, single currency, the development of a transparent legal system, and the creation of an open business environment (Iraqcoalition.org, 2009).

The Iraqi coalition lists several business sectors that are the most attractive in the developing economic environment. These include: agriculture and agricultural equipment, branded food and beverages, construction and construction materials, consumer packaged goods, electricity, electronics and appliances, financial services and capital markets, franchising, healthcare, oil infrastructure, petrochemicals, retailing, telecommunications, and water treatment and resources (Iraqcoalition.org).

The outlook and examination of the business culture coming from the Iraqi government coalition is very different from what you would hear from normal Iraqi businessmen and women. Most of the businesses are worried about operating at full capacity because of the fighting and violence that Iraqis are faced within their daily lives. Muthana Idan Kabul is an Iraqi citizen who owns and operates a tea café in the Karkh area of Baghdad. He talked about, during the worst fighting in Iraq, insurgents who would steal his furniture and even set his shop on fire. This did not stop him from running his business. He received a $2,500 (US) loan from the United States government to improve his business. He has since opened a bigger shop and bought new tables and chairs for his business. Two other Iraqi businessmen opened a gas station south of Baghdad in the town of Tunis. They capitalized on the fact that it is the only gas station for several kilometers around the city. They only opened the business after the sectarian violence quelled in the area and they felt it was safe for them to open. They stated that they have so many customers come and fill their cars and containers with gasoline that they often run out due to a shortage of trucks delivering gas in the area. Their only fear is that the violence will pick back up once Iraqi forces take over control from the American forces, with the renewed violence likely driving them out of business (Block, 2008). Hamzi Abid Ali grows grapes in the town of Balad. He has grown grapes there for many years, starting during the times under Saddam Hussein. He stated that his income has more than quintupled since receiving a $2,400 (US) loan from the Al-Baydaa Centre, a US-backed microcredit organization. He was able to buy a new irrigation system and well pump that has

allowed him to expand his business operations and help him speed up the repayment process of the loan (Fifield, 2009).

These stories are not uncommon, but are more the norm for modern day Iraq businesses. There is a recurring theme in almost all of these stories that are worth mentioning and delving into further. Most of the businesses were started with loans that were provided by the U.S. government or Iraq entities that offer U.S. backed loans. The Iraqi government helped create the Small Business Development Center (SBDC), which is equivalent to the American Small Business Administration. The SBDC's services range from offering micro-loans to help businesses develop to offering basic business training courses to help educate the Iraqi citizens about how to manage a business. They even offer assistance on helping individuals create business plans and help develop the business from the ground up in areas that vary from taxi drivers to new hospitals. In the frequently asked questions section of SBDC's website, SBDC was asked if there was an age limit on receiving assistance. The response was interesting, "We would expect that a person who wants to create a business or has an idea should be 15 years of age or older." This highlights one of the differences between American and Iraqi business cultures. The life expectancy rate is much lower in Iraq than America, so it is not uncommon to see younger citizens to try and make a living for their family in Iraq (Sbdc-iraq.com).

BUSINESS CULTURE IN IRAQ

Similar to other countries in the Middle East, Iraq is home to a rich and distinct variety of social groups, cultures and religions. Similarly, although the republic of Iraq is relatively young, the country boasts an exceptionally long and tumultuous history (Gorrill, 2007). Many of the world's greatest ancient civilizations developed in Iraq. Like many Arab countries, Iraqis embrace and honor the achievements of their past and maintain strong tribal cultures. Conducting business operations profitably in Iraq "can only be achieved through understanding this country's culture, history and individual approach to life." (Gorrill, 2007).

Cultural Dimensions

Due to small sample sizes obtained from the Arab countries, Hofstede (1980) grouped Egypt, Lebanon, Libya, Kuwait, Iraq, Saudi Arabia, and United Arab Emirates (UAE) together as representing "Arab countries." Along Hofstede's four cultural dimensions, the Arab group scored high in uncertainty avoidance, low in individualism, high in masculinity, and high in power distance. These scores differed from the United States on all dimensions but masculinity (Robertson, Al-Khatib, & Al-Habib, 2002). Further Arab values differ substantially from US values (see table 1). In their cross-cultural research of attitudes toward work, Ronen and Shenkar (1985) also grouped six Middle Eastern countries together in an Arab cluster. While Hofstede's (1980) and Ronen and

Shenkar's (1985) results make substantial contributions to understanding Arab culture, the grouping of Middle Eastern countries into one homogenous entity is problematic to understanding the diversity of this region (Robertson, Al-Khatib, Al-Habib & Lanoue, 2001). Subsequent research has indicated that the grouping of Arab states into one cluster mat not be appropriate (Hickson & Pugh, 1995; Robertson, Al-Khatib, Al-Habib & Lanoue, 2001).

Table 1: Cultural values and Priorities

United States	Arab Countries
1. Freedom	1. Family Security
2. Independence	2. Family Harmony
3. Self-reliance	3. Paternalism
4. Equality	4. Age
5. Individualism	5. Authority
6. Competition	6. Compromise
7. Efficiency	7. Devotion
8. Time	8. Patience
9. Directness	9. Indirectness
10. Openness	10. Hospitality

(Source: Adopted from Hodgetts and Luthans (2000). *International Management: Culture, Strategy and Behavior*).

Variations in terms of religion, language, history, and tribal affiliations make Arab countries quite heterogeneous in terms of their cultures. As a country situated in the Middle East and being predominately Muslim, Iraq has many commonalities with neighboring Muslim countries. Yet due to its unique historical, linguistic, and racial identities it has developed a different and unique culture.

The family provides the basis for a "social network" (Hutchings & Weir, 2006). The family is the foundation of the social structure in Iraq. It creates a network that provides assistance in times of need or trouble. The family regulates its member's political, religious and economical activities and establishes all rights and obligations (Gorrill, 2007). Iraqis observe a sense of responsibility towards the extended family and conform to a norm of a mutually protective attitude toward family members. Loyalty to the family remains at the heart of Iraqi culture (see Table 1), and is preeminent to all other social relationships. With the predominance of family relationships, relatives tend to be preferred as business partners and employees. Employing people that one knows and trusts is of primary importance to Iraqis (Gorrill, 2007). In response to many years of fear, the family has been the one constant that Iraqis could turn to in times of need for security and stability in life. It is no

surprise that many Iraqis go into business with their family members because those are the people they feel they can trust the most.

A society's level of tolerance for uncertainty and ambiguity determines the cultural differences with respect to the dimension of uncertainty avoidance (Hofstede, 1980). This cultural dimension is especially critical when conducting business in Iraq. The Iraqi culture's all-pervading and strict rules, laws, policies, and regulations are an effort to minimize or reduce ambiguity and to avoid the risk of the unexpected. Due to the presence of uncertainty avoidance, Iraqis make decisions gradually, do not easily or eagerly accept change, nor take undue risks (Gorrill, 2007).

This is in stark contrast to American business culture where the idea of change is ever present. It is not uncommon for an individual to have upwards of 7-10 jobs in their lifetime. The fluidity of employment does not always show a lack of loyalty to the employer but a chance for upward mobility. When analyzing the American business culture, WorldBusinessCulture.com made an interesting observation. They noted the relationship between an employer and employee is transactional in nature; meaning that there is a separation between the business and the personal aspects of employees. The employee is there to perform a specified task for the company and is then rewarded with a cash incentive (WorldBusinessCulture.com). This is opposite to the Iraqi culture where relationships trump formal agreements or transactions.

A fundamental aspect of Iraqi culture rests in the formation of an individual's identity. For Iraqis, there is a clear division between the public and private areas of their lives. This creates two distinct personas and modes of behavior. The two personas have been described as inner and outer circles of society that define behavior. The family or tribe is the inner circle that shapes a person's social and business network. The strict laws, policies and regulations embedded in Iraqi culture are the outer circle that offer accepted rules for public conduct. In a business environment, Iraqi business counterparts place a greater importance on establishing friendships and developing close relationships with those with whom they conduct business (Gorrill, 2007). It is well recognized that a key to working successfully in Arab countries is a knowledge and understanding of the interpersonal networks that pervade the business and social life of Arabs, especially Wasta (Hutchins & Weir, 2006). Wasta entails a network of interpersonal connections rooted in the family and kinship (see Table 2). Wasta is Arabic for "connections or pull" and is a significant factor in decision making in Arabic society (Hutchins & Weir, 2006: 278).

The collectivistic nature of Iraqi culture has also been attributed to the religion of the population. The country is overwhelmingly Muslim (CIA Factbook, 2009). The social and ethical obligations of Muslim are based on the belief that the Islamic community is a brotherhood. This notion of collectivity is stressed particularly in the Sunni doctrine. A recent study found that religion may also explain the high scores on power distance and uncertainty avoidance in many Arab countries (Taylor, 2003). The Muslim countries in the study corresponded to those used by Hofstede (1980) and included Egypt, Indonesia, Iran, Iraq, Kuwait, Lebanon, Libya, Malaysia, Saudi Arabia, Turkey, UAE, and Pakistan. The results suggested a high correlation between the Muslim religion

and the dimensions of power distance and uncertainty avoidance. These two dimensions combined promote an environment in which leaders have ultimate power and authority (Taylor, 2003). Further, the system of laws, rules and regulations created by those in power only reinforce their own power and control (Pellegrini & Scandura, 2006). Collectivism may be determined by resource scarcity and the presence of the social networks created by large and extended families (Triandis, 1980). In contrast, individualism may have its roots in affluence and smaller families. Like many other collectivist societies, Iraq tends to operate on the basis of personal relationships among individuals, rather than on the basis of impersonal agreements or institutions (Yeganeh & Su, 2008).

Table 2
* Doing Business in Arab Countries
* Never display feelings of superiority* Do not take credit for joint efforts
* Efforts to sidestep red tape can be regarded as disrespectful of legal and governmental institutions
* "Wasta" -- Connections are extremely important
* Patience is critical to business transactions
(Source: Adopted from information in Hodgetts and Luthans (2000). *International Management: Culture, Strategy and Behavior*).

The high degree of hierarchical distance is another feature of Iraqi culture. This dimension concerns the extent to which the less powerful members of a society expect and accept the unequal distribution of power (Yeganeh & Su, 2007).

This too contrasts with American business culture where there are a variety of leadership styles present. Professor D. Quinn Mills of the Harvard Business School lists the five most prevalent leadership styles. The first leadership style is directive leadership. This is the concept that direction in a company is given from the top-down, from the executive to the rank and file. The second leadership style is referred to as participative leadership. This leadership style is exemplified by executives complimenting their weaknesses with others in the group to come up with a collective decision and vision for the company. The third leadership style is empowering leadership. This leadership style focuses on energizing others within the company to accomplish the goals of the company. This style leads to more responsibility to the rank and file of the company in which they take the possession of the responsibility as a reflection of their success. The fourth leadership style is the charismatic leader. Often times we cannot describe or quantify what makes a person charismatic but we know it when we see it in someone. This type of person is often said as being a leader because they look like a leader. People follow this leader not because of his/her ideas or because of his/her leadership style but because of who he/she is. The last leadership style is referred to as celebrity leadership. This is characterized by someone who puts a positive and even celebrity view on the company from customers and investors. This often requires people with good looks,

dramatic style, and ability to handle the media effectively. This style differs from charismatic leadership because people do not follow them because of some unknown characteristics but instead are viewed favorably from outside the company (Mills, 2005).

Iraqi culture tends to oriented to the past, which is similar to other Arab countries. An orientation towards the future is not followed. Iraq represents a very traditional country with a long history that makes a past-orientation quite plausible. Also, a majority of the Iraqi population is associated with Shia doctrine (CIA Factbook, 2009) in which the veneration of martyrs, pilgrimages, and commemoration of dead Imams implies a continuous look to the past (Yeganeh & Su, 2007).

Even with the liberation of the country from their dictator, Iraq is not without its problems and contentions. The Iraqis are a deeply religious people and hold to their beliefs throughout their personal and business life. The primary religion in Iraq is Muslim. The Muslim religion in Iraq is divided into two conflicting sub-sections, Sunni and Shia Muslims. This conflict has turned into very heated contention and sometimes downright war between the two factions. The creation of the two factions started with the death of the Islamic Prophet Muhammad. Sunni Muslims believed at that time that the leader of the Muslim faith should be elected among those that were qualified for the job. Shia Muslims believe that after the death of Muhammad, the successor should come straight from Muhammad's blood line or at the very least a Muslim Imam appointed directly by God. Ultimately the Sunni Muslim got their choice as the best qualified to be the leader of the Muslim faith. Shia Muslims because of this have refused to acknowledge the leader's role and choose to follow a group of Imams that were appointed by God himself (Amin, 2001).

Actual religious differences between the two groups are few and far between. Both groups believe in the Five Fundamental Pillars of Islam, each group recognizes the other group as part of the Muslim faith. Other differences and contentions between the two groups beyond the successor to Muhammad extend to the daily rituals and practices of each of the groups. The Muslim faith requires multiple prayers to be performed daily. Shia Muslims have a different call to prayer and most often combine several prayers to pray three times a day instead of the traditional five. Another contention on religious practices is over the idea of marriage or temporary marriage. Sunni Muslims do not agree with the use of temporary marriages throughout the Muslim belief. They believe that marriage is a permanent institution, whereas Shia Muslims allow the practice of temporary marriages.

In modern day Iraq, contention between the two factions is not over how many prayers are performed each day or over the idea of marriage, it is over the simple idea of inclusion. After the fall of Saddam Hussein, Shia Muslims, being in the majority, occupied a large part of the new provincial government. While in power the Shia did not allow for much Sunni participation in decision making in new and emerging Iraq. Because of this fact, Sunni Muslims took to violence to protest their point and power. With the assistance of Al-Qaida in Iraq, they performed attacks first on American troops but then turned their attention to religious Shia holy sites and shrines throughout Iraq. These attacks included bombings, arson, and the abduction and murdering of thousands of Shia citizens. In 2006,

Sunni Muslims bombed the holy Askariya Shrine, a mosque that was considered an integral part of the Shia religion and beliefs. This was the catalyst for the bloody contention between the groups today. The bombing caused the Shia Muslims to fight back against the Sunni Muslims on the streets and retaliate for the bombings and murders (Shuster, 2007).

Islam differs from most other religions in that it is an all-encompassing creed. It tends to govern every aspect of life – public, private, political, and economic. The Middle Eastern or Muslim manager is guided not only by his conscience but also by God's written instructions. The manager is required to do the right things to and for people. Work-related values include "equality before God, individual responsibility, paternalism, fatalism mixed with personal choice, and consultation in decision-making. Respect for seniority, loyalty, and obedience are other widespread Islamic work-related values." (See Tables 1 and 3) (Yeganeh and Su, 2008: 209).

Table 3: Differences in Middle Eastern and Western Management Styles

Leadership	Highly Authoritarian	Emphasis on Leader's Style and Performance
Organizational Structures	Highly Bureaucratic	Highly delagatory
Decision Making	Top-level Decisions; Risk Adverse	Sophisticated Planning Techniques
Performance Evaluation & Control	Informal Control mechanisms	Advanced Control with Focus on Cost reduction
Personnel Policies	Heavy Reliance on Personal Contracts	Qualifications are Bases for Selection Decisions
Communication	Social Position Present; Rigid Chain of Command; Binding Friendships; "Wasta"	Stresses Equality; Friendships are not Binding

(Source: Adopted from information in Hodgetts and Luthans (2000). *International Management: Culture, Strategy and Behavior*.

For the past several decades women have made inroads in corporate America. Women now hold important jobs in the business world, including CEOs, corporate boards, and senior level executives. A woman's place is no longer seen as a homemaker but as an equal in the modern day business. There are still minor pay disparities between men and women but those disparities are shrinking with every year. This is in sharp contrast to the role that the modern Iraqi woman plays in her culture. Under Saddam Hussein women were treated as a subservient section of the population that should be seen and not heard, and sometimes not seen at all. Even though the country is still embedded with its deep Islamic belief of the roles of men and women, women have made

tremendous progress in the fight for civil rights in their country. Parwin Salih, head of the projects department for the Women's Union of Kurdistan, says: "The Internet has played a big role in progress for women here. Visit some of the centers, and you will see the majority are women. They try to get information about women from all over the world," and compare their own hopes and problems to those in other countries" (Begos, 2003). This is very emblematic of the situation American women of the early 20th century fighting for suffrage in a patriarchal society that didn't want them to have the right to vote. Women in Iraq now own businesses, are becoming doctors, lawyers, and respected members of the Iraqi government.

Gorrill (2007) lists a number of common business practices throughout the culture of post-Saddam Iraq. Many of these business practices are the same as the unspoken business practices of the United States. Scheduling business appointments and being punctual are viewed as positive attributes throughout the culture. Medium to large sized companies in Iraq are very hierarchical in structure and business decisions are made from the top-down. Social power and titles are held in high regards in the Iraqi culture. Because of the uncertainty avoidance discussed previously it takes time to establish a trusting relationship with businesses and their employees. It is something that takes time but can be rewarding once you get to that point. There are also customs throughout the Iraqi culture that can be considered disrespectful if not followed. A person should only shake hands with their right hand, as the left hand is seen as unclean. Also while conducting business, a person should never apply pressure or try and force hasty decisions because of their uncertainty avoidance. Business meetings are very casual and light in manner; they often resemble a conversation between two friends instead of the transactional relationship that you see in American business. One final business practice that is very important in the Iraqi business culture is business attire that is worn. First impressions are very important to the Iraqi people, so a person going to a meeting should dress in traditional business attire airing on the side of conservatism, and women should wear coverings on their hair when appropriate (Gorrill, 2007).

PERSONAL REFLECTIONS OF AN EXPATRIATE

Starting in November of 2007, one of the authors embarked on a 17 month journey that would change his life forever. He was hired as a civilian contractor for one of the many civilian contracting companies operating in Iraq under a contract from the Department of Defense. He had no previous experience or knowledge of what it was like to work and live in the middle of a war torn country. Throughout his time in Iraq he met and became friends with people from every corner of the globe and delved into the intricacies of different cultures. From his interactions with Iraqis, both as a consumer of their goods and services and as a manager and friend, he was able to get to know several Iraqi citizens and observe intimately how they conduct business.

For the first twelve months of his deployment, he was stationed at Camp Anaconda, a base Northeast of Baghdad in the town of Balad. This was known for being one of the largest bases in

Iraq in terms of square mileage and the number of soldiers and civilians on base. One of the prized jobs for any Iraqi was to get a chance to come onto base and sell goods and merchandise to the soldiers and civilians there. This is no easy job to get. Any Iraqi interested in selling their goods on base are thoroughly interviewed by several intelligence agencies; they are searched thoroughly upon entering and exiting the base; and while on base they are accompanied by armed military personnel at all times. Many Americans would think of an Iraqi business as a mud hut with very few amenities or goods sold. This is exactly what the Iraqis are given as a shop on base. The main shop on base sells an assortment of Iraqi souvenirs but the main commodity is the thousands of bootlegged DVDs that are sold. The colloquial term for the shop on base is the "Haji Shop." Most of the people using the term are using it as a form of pejorative statement meant to show some type of superiority over the operators of the shop. One day when he had a few minutes to spare, the author was talking with one of the Iraqis trying to sell the latest arrivals or cheap cartons of cigarettes. The Iraqi is dressed in the traditional Arab Keffiyeh and is in a very jovial and laughing nature. The author asked him about the term "Haji Shop" and if the Iraqi found it demeaning. The Iraqi told the author that to be called a Haji is a great honor; that it denotes a person that has made the holy pilgrimage to Mecca, a requirement for every able bodied person of the Islamic faith. The Iraqi told the author this story with a smile on his face, almost as if he got the last laugh on a joke that missed its target completely.

The transactional atmosphere in the shop is very similar to what one would see in the markets and shops in Mexico City. Almost none of the merchandise has price tags and there is an unspoken expectation of bargaining that is expected by both the buyer and seller. The art of bargaining is just that, an art. For most Americans who are not accustomed to bargaining at a shop, this could be very unnerving at first. If the Iraqi gets the feel that you are new at the process, he will see that you are accepting his initial price and often times try to offer you more goods at the same price or higher prices. There is also a point while bargaining that it becomes insulting to the seller and he may walk away from you or refuse to sell you anything at all. The best way to approach the situation is to try and start a conversation with the seller. As previously stated, the Iraqi people value trust above anything else in business. If the seller feels comfortable with you then bargaining becomes a very fluid process that resembles a conversation between two old friends.

During the last seven months of the author's deployment, he was contracted to the Department of State to oversee operations of the embassy in the southern Iraq town of Basra. It was here that he became a manager of a group of Iraqis that truly opened his eyes to the nature of the Iraqi culture. The same process as mentioned above to get the job working for the U.S. government applied to the Iraqis in Basra. Every morning the group of Iraqi men who were hired to work for the embassy would be picked up at the front gate of the base in a fully armored bus for transportation back to U.S. facilities. The author never gave a second thought to this process until one day one of the workers came to him and told him a story of another worker. Since the State Department took every precautionary step to ensure the safety of embassy workers, much attention was drawn to the Iraqi workers being picked up at the gate in the armored bus. This apparently was spread back into

the town and the insurgents took notice. One day after finishing his day's job at the embassy, the Iraqi man went home to find that his son had been kidnapped and was being held for ransom. After this incident, the author began to see a noticeable change in the demeanor and work behavior of his workers. They would disappear for weeks at a time and when they did show up for work they were very distant and reluctant to help. The workers were equating the author with the State Department. They had lost the trust because of the kidnapping and were therefore reluctant to do any business and only did so out of necessity for money.

CONCLUSION

In a country that has a little over 29 million citizens the opportunities to make money are endless. Iraq's natural resources will help provide a financial advantage to a blossoming market. Once the region accomplishes political and regional stability, the market will be able to join the free market economy and will be in a better position to import and export goods and become a member of the global market economy. As with most markets, success is neither guaranteed nor will it happen overnight. Patience and perseverance are the key words to understanding business in Iraq. Those who have the time, money, and patience will surely succeed in the Iraqi business market.

The country of Iraq has spent most of its existence in war and turmoil. It has survived through the brutal regime of Saddam Hussein and is trying to stand back on its feet. The work ethic and the business culture of modern day Iraq is not that different from the American business culture around the time of the Industrial Revolution. The entire business culture in Iraq is built on the idea of trust in an almost friendly exchange of ideas, goods, and services. There is no doubt that once stability has returned to the region, Iraq will be a major player in the world market, if for nothing else than for their possession of vast amounts of natural resources.

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APPENDIX A

IRAQI POLITICAL ENVIRONMENT

Iraq is located in the Middle East, bordering the Persian Gulf, between Iran and Kuwait. It shares borders with Iran, Saudi Arabia, Kuwait, Syria, Jordan and Turkey. Iraq has an area of 438,317 square kilometers making it the 65th largest country in the world. The country is quite diverse in topography and climate. The population of Iraq is estimated at nearly 29 million, with 67% living in urban areas (CIA Factbook, 2009).

The official language of Iraq is Arabic, though other languages are spoken: Kurdish, Turkoman (a Turkish dialect), Assyrian (Neo-Aramaic), and Armenian. The country's ethnic groups are diverse: Arab 75%-80%, Kurdish 15%-20%, Turkoman, Assyrian, or other 5%. The religion of Iraq is overwhelmingly Muslim 97% with Shia encompassing 60-65% and Sunni 32-37% (CIA Factbook, 2009).

Political environment.

Iraq was formerly part of the Ottoman Empire. It was occupied by Britain during World War I. In 1920, it was declared a League of Nations mandate under British administration. Iraq attained its independence in 1932 as a kingdom, and remained as such until 1958 when a republic was proclaimed. However, the republic was in fact ruled by a number of strongmen until 2003 when Saddam Hussein's regime was ousted (CIA Factbook, 2009).

Saddam Hussein came to power in 1979 and was said to rule with a true "iron fist." He used fear as a regular tactic to keep the Iraqi citizens under his control. Examples of the harsh tactics used under Saddam Hussein are many. Wikipedia.org lists several of them to give an idea of what life was like under the dictator: "Full political participation at the national level was restricted only to members of the Arab Ba'ath Party, which was the political party of Saddam Hussein. Therefore, it was impossible for Iraqi citizens to change their government. Iraqi citizens were not allowed to assemble legally unless it was to express support for the government. The Iraqi government controlled the establishment of political parties, regulated their internal affairs and monitored their activities. Police checkpoints on Iraq's roads and highways prevented ordinary citizens from traveling abroad without government permission and expensive exit visas. Before traveling, an Iraqi citizen had to post collateral. Iraqi women could not travel outside of the country without the escort of a male relative. The activities of citizens living inside Iraq who received money from relatives abroad were closely monitored. In April 1991, Saddam cracked down ruthlessly against several uprisings in the Kurdish north and the Shia south. His forces committed wholesale massacres and used weapons of mass destruction against the people. In June 1994, the Hussein regime in Iraq established severe penalties, including amputation, branding and the death penalty for criminal offenses such as theft, corruption, currency speculation and military desertion, while government members and Saddam's family members were immune from punishments ranging around these crimes" (Wikipedia).

The ruthlessness of the Hussein regime and its inner circle is exemplified by the story of a young Iraqi woman named Zainab Salbi. Marci Shimoff in her book Happy for No Reason (2008) relates Zainab's story:

> "Like all Iraqi kids, I was instructed to call Saddam "Amo" (Arabic for "uncle") but unlike the other Iraqi kids, I was often invited with my family to palace parties. Being in Saddam's inner circle was fraught with danger. My mother instructed me never to relax or let down my guard. Many times we'd be sitting in his living room having a conversation and he would casually mention killing a member of his family or a friend or colleague. Then he'd watch us very carefully. Offending Saddam with the wrong remark or facial expression could be fatal, so I learned to match my responses to his. If he was serious, I was serious. If he smiled, I'd smile. For years, my family and I lived in fear of this man and his craziness.

Then, when I was almost twenty, my mother asked me to accept a marriage proposal from a man I'd never met, an Iraqi expatriate who lived in Chicago. I was horrified. Marrying someone I didn't know and definitely didn't love went against everything my parents had said they wanted for me: love, passion, and the freedom to choose my own life. At first, I refused, but my mother cried and pleaded with me so desperately, I finally agreed, more to make my mother happy than anything else. What I didn't know then, and my mother wouldn't tell me for another ten years, was that she was worried that Saddam might have begun to have amorous intentions toward me and she was frantic to get me out of Iraq and out of his reach" (Shimoff, 2008: 72).

In August 1990, Iraq invaded Kuwait. The Iraqi forces were expelled by US-led UN coalition forces during the Gulf War of 1991. Following the First Gulf War, the UN Security Council (UNSC) requested Iraq to destroy all weapons of mass destruction and long-range missiles and to permit UN verification inspections. Continued Iraqi noncompliance with UNSC resolutions ultimately led to Second Gulf War in March 2003 and the ouster of the Hussein regime. US forces have remained in Iraq under the UNSC mandate since that time. In 2005, Iraqis approved a constitution and elected a Council of Representatives. Following the national referendum and election, Ibrahim al-Jaafari was selected as prime minister. He has since been replaced by Nuri al-Maliki. The transition to a constitutional government has occurred and in 2009 provincial council elections took place. Elections for the next Council of Representatives

AN EVALUATION OF THE EGYPTIAN MONETARY POLICY DURING THE PERIOD (1997/1998-2008/2009)

Dina Abdel Moneim Rady, Ain Shams University

ABSTRACT

Based on the Keynesian view of monetary policy that stresses the central bank's capability to have an impact on the real cost of borrowing by changing monetary policy, conducting successful monetary policy is necessary to stabilize output, especially at the time of an economic cycle. Understanding of the timing and impact on monetary policy shocks on key economic variables is a necessary condition of the policy's success. During the period 1997/1998-2008/2009 which started with the Asian financial crises, the Egyptian monetary authority was concerned with achieving multiple objectives, which were conflicting in several instances. These objectives included attaining high economic growth while maintaining low inflation and preserving a stable exchange rate. Using the inductive methodology, the paper tries to evaluate the performance of the monetary policy towards accomplishing its announced targets during the mentioned period. The paper concluded that the monetary authority did not control a consistent indicator of the monetary stance, but rather used poor operational monetary policy instruments, with an inefficient discretionary approach, and therefore was unable to keep stable prices, boost economic growth rates and control the currency exchange rate. The paper suggests a middle framework between pure discretionary and strict rules approaches which permits the policy maker to focus on a target but at the same time allows flexibility to respond to different shocks to the economy.

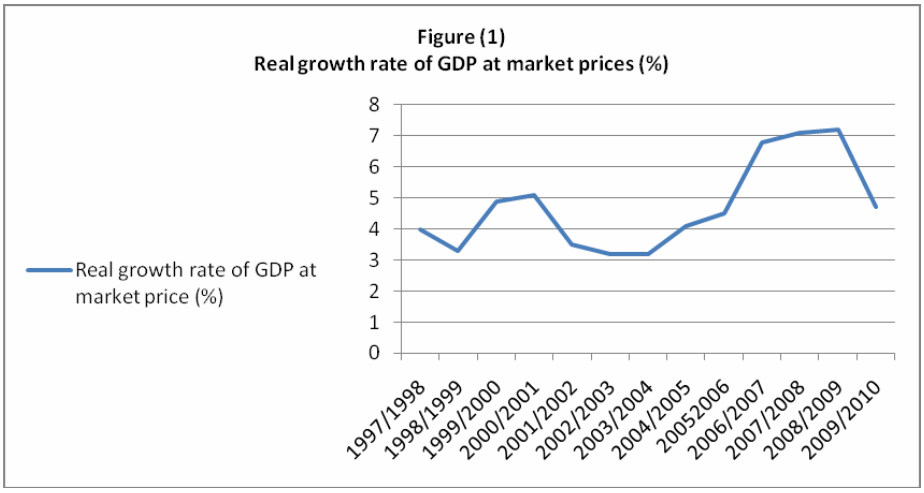
INTRODUCTION

The principal objective of monetary policy during the period in consideration is more or less unchanged, focusing on price stability and stabilization of the exchange rate.

Moreover, the monetary authorities had other goals which include fostering output, promoting exports, and raising foreign competitiveness.

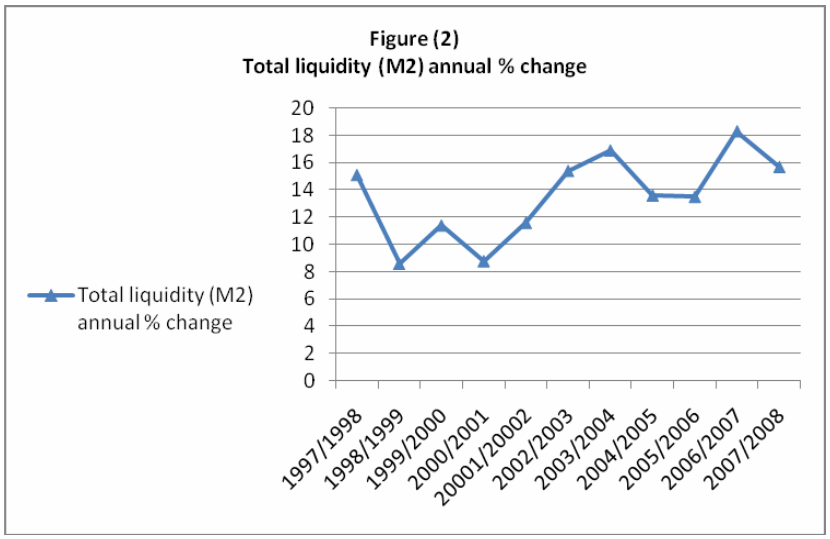
During the period 1997/1998-2002/2003, the central bank of Egypt's principle target was to control the excess reserves; growth in total liquidity (M2) was the intermediate target. In the year 2003, the CBE changed focused on price stability as the main target of its monetary policy. Therefore we divide the period into two phases, the first one from 1997/1998 to 2002/2003 and the second phase from 2003/2004 to 2008/2009.

The following figures show the trends in some indicators that were the focus of the monetary policy in different intervals of time.



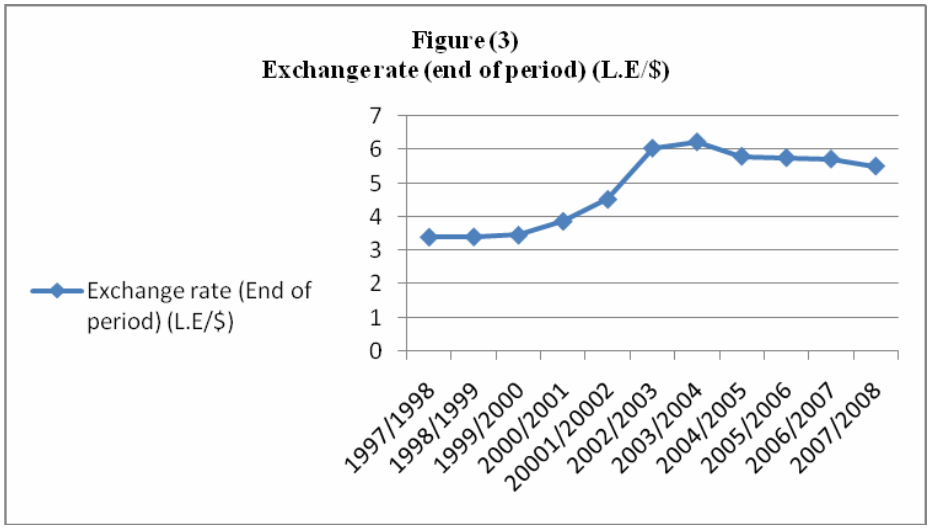
Source: Central Bank of Egypt annual reports different issues

Figure (1) shows the real GDP growth rate trends that started with the slow down resulting from the Asian financial crisis then showed ups and downs in its value in short terms cycles.



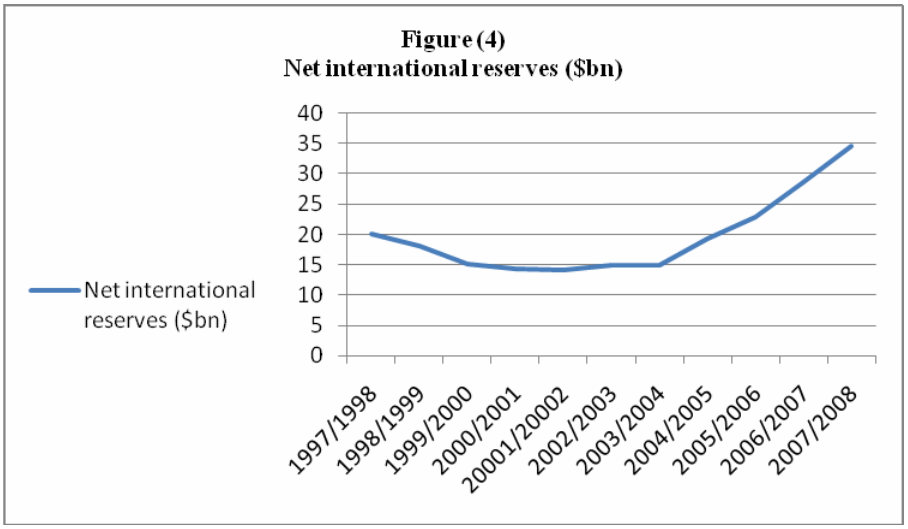
Source: Central Bank of Egypt annual reports different issues

Figure (2) shows the total liquidity (M2) annual percentage change during the mentioned period, which showed ups and downs trends except for the period (2000/2001-2003/2004) when (M2) showed a continuous increase.



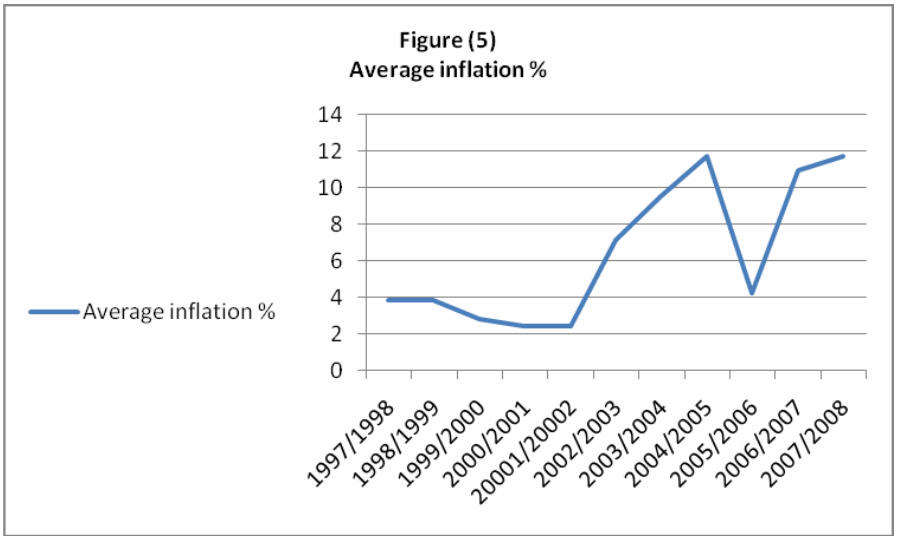
Source: Ministry of State for Economic Development statistical indicators

Figure (3) shows the exchange rate (L.E/$) during the mentioned period, which showed a continued increase in its value during the years 1997/1998-2002/2003, then hardly showed a trend of decline through the following years till the end of the period.



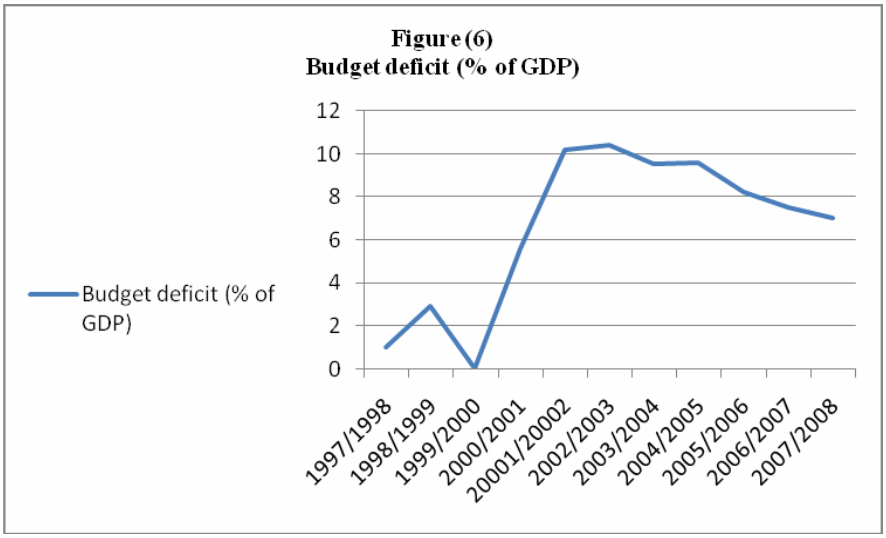
Source: Ministry of Finance data and statistics

Figure (4) shows the values of net international reserves ($bn) during the mentioned period, which started with a decline in the value till the year 2003/2004, then showed a continued increase till the end of the period.



Source: Central Bank of Egypt Economic Review different issues

Figure (5) shows the Average inflation rate during the period which was unstable and showed ups and downs in sharp trends.



Source: Central Bank of Egypt Economic Review different issues

Figure (6) shows the budget deficit as a percentage of the GDP during the mentioned period, which showed a sharp rise during the period 1999/2000-2002/2003, then gradually started to decline.

Analyzing the different figures that represented the main objectives of the monetary policy during the period in consideration, we conclude that the monetary policy had no clear influence on maintaining any of these objectives except for just short intervals of time.

In the following sections we will analyze each phase, steps and mechanisms taken to deal with the situation.

THE FIRST PHASE: RESPONSIVE POLICIES TO ECONOMIC SHOCKS (1997/1998-2002/2003)

In 1990's Egypt undergone massive reform of the banking sector within its adopted Economic reform program, the growth of the banking sector together with the liberalization process undertaken in the economy represented an extra burden on the Central Bank of Egypt as the main regulator of the banking industry.

During the period 1997/1998-2001/2002; in addition to the principle target of controlling the excess reserves, the short run burden of curbing inflation and macroeconomic adjustment fell on monetary policy.

This phase witnessed three major shocks: the Luxor terrorist attack in 1997, the Asian financial crisis of 1997/1998, and the September 11th attack (2001) which negatively affected the growth of credit to the private sector. Furthermore the capital outflows which followed the international financial markets crisis has contributed to the worsening of the overall balance of payments.

The monetary authorities responded to this situation by letting commercial banks absorb the increase in foreign exchange demand and increase domestic credit, this increased the pressure on the exchange rate and forced the central bank to tighten monetary conditions during the year 1999/2000. In a situation of high dollar demand, dollar shortages developed.

The defense of the exchange rate peg eventually led to a sharp decrease in international reserves which in turn generated expectations for devaluation and led to an increase in the demand of US dollars and further losses in reserves during the period (1998/1999-2003/2004) as shown in figure (4).

Lacking access to monetary policy, the government adopted an expansionary fiscal policy that contributed to a budget deficit as shown in figure (6). This deficit was largely financed by selling bonds to the central bank, causing an increase in the central bank credit to the government.

In the year 2000, a lower depreciation of the Egyptian pound was accompanied by a decrease of the discount rate and reserves requirements, in addition to an expansion in the central bank's credit to the government. These mixed policies generated expectations for depreciation and created new currency shortages encouraging the foreign currency black market.

The tight monetary policy imposed in the year 2001 has slowed the growth of credit to the private sector.

Since the year 2001, the central bank has tried to revive the economy and increase liquidity by lowering the minimum lending rate and the obligatory reserve and liquidity ratios. It removed the obligatory reserve ratio for long-term deposits and authorized banks to include several stocks and bonds in calculating liquidity ratios, in addition to introduction of the domestic currency overnight interbank market.

The total liquidity (M2) grew in the year 2001/02, however loans to the government increased by 22.5%, while those to the private sector rose by only 9.5%. In this uncertain climate, banks were very reluctant to offer loans but rather focusing their activity on the least risky sectors, such as electricity, oil, natural gas, communications and food processing.

The reduction in foreign currency reserves in the year 2002, along with the currency liquidity crisis put great pressure on the values of exchange rates. For six months, the banking system's supply of dollars was not sufficient for the needs of importers and private individuals which had to be met by the black market.

The Egyptian pound was devalued by stages in the years 2001 and 2002, the central bank announced the pound would be fixed at L.E 4.51/$, with fluctuation bands of 3 per cent each way for banks and currency exchange bureaux.

However, since the year 2002, the central bank's inability to supply foreign currency has effectively paralyzed the currency market, pushing banks and bureaux to rely on their own resources. This shortage of foreign currency is a serious obstacle to economic growth.

The increase in the money supply, however, was partially absorbed through increased government borrowing, partially through excess liquidity in the banking system (though share of banking deposits in M2 has declined), and partially through deterioration of the capital account.

THE SECOND PHASE: MULTIPLE OBJECTIVES (2003/2004 – 2008/2009)

Turning point in objectives (2002/2003)

The Law No. 88 of the year 2003 which was concerned with "Central Bank, Banking Sector and Monetary System" made price stability entrusts the primary objective of the Central Bank of Egypt (CBE). The CBE thus moved from a quantitative operational target (excess reserves) to a price target.

The global economy continued to slow down during this year. FDI flows posed a decline during the year 2002, for the second consecutive year, hitting its lowest level since the year 1998.

The CBE continued its target of maintaining price stability to maintain the real growth rate of GDP at factor cost, at 3.2%, which was the same level achieved in the year 2001/2002. In the year 2003 it moved towards a floating exchange rate regime.

The same year witnessed a reduction in the CBE lending and discount rate which led to an increase in the growth rate of domestic liquidity.

The results of the actual implementation of the monetary policy have been consistent with the set targets. The growth rate of domestic liquidity (M2) increased, money supply (M1) growth rate accelerated but the real GDP growth rate declined and inflation increased (figure 5).

This was partially a result of the effects associated with the floating of the Egyptian pound in the year 2003 and the consequent higher import prices.

Fostering GDP growth rate (2003/2004)

The performance of the global economy improved during this year, and GDP real growth rate at factor cost increased.

The monetary policies helped increase investments in both government and private sectors. They also helped achieve a relative stability in the foreign exchange market and improve the balance of payment (current account surplus).

The monetary policy aimed to maintain price stability through adjusting money supply to its demand, taking into consideration the targeted GDP real growth rate.

Accordingly, the CBE continued to use its monetary policy tools to achieve the required economic growth. The reserve requirement ratio CBE lending and discount rate remained unchanged, while open market operations conducted by the CBE aimed at absorbing the excess liquidity in banks. The Ministry of Finance issued treasury bills for the CBE to be used in such operations which resulted in an increase in domestic liquidity. In the same year net international reserves increased (figure 4), while inflation rate increased (figure 5).

The most increase in total credit facilities granted by banks during the year under review has been concentrated in those granted to the private business sector, which increased the debts of this sector to banks.

This year also witnessed a rise in the foreign exchange rate as shown in (figure 3) which created a problem of bad and non-performing loans granted to investors in US dollars due to their inability to repay bank loans.

A contractionary policy lowering inflation (2004/2005)

The global economic performance slowed down during this year associated with the rise in world oil prices, thus affecting consumer demand and investment expenditure.

During this year, GDP growth rate rose. The monetary authority made a reduction in the overnight deposit and lending rates and the CBE lending and discount rate. In its pursuit to achieve price stability, the US dollar selling rate announced by the CBE declined.

As for the management of international reserves, the CBE pursued an investment policy aiming at using other types of financial instruments, with a reasonable degree of risk and returns higher than deposits, thus net international reserves rose.

While a rise in domestic liquidity happened resulted from an improvement in net foreign assets, the monetary authorities raised interest rates to encourage the Egyptian pound as a saving instrument. The inflation rate declined.

The rise in total deposits during this year was concentrated on local currency deposits, the Central Bank started to raise interest rates again pursuing a non-expansionary monetary policy. This policy led to an increase in the annual growth rate of broad money (M2), The CBE used open-market operations to absorb the excess liquidity in the banking system.

The decline in inflation created a non-inflationary environment contributing to the rise in growth rates.

Expansionary policies with new techniques (2005/2006)

The CBE worked on price stability through the use of overnight interest rates on interbank transactions as an operational target for this policy. It introduced a new system based on an interest rate "corridor". The overnight lending and the overnight deposit rates, define the ceiling and floor of the corridor, respectively. By setting the rates on the standing facilities, the monetary authority determines the corridor within which the overnight rate can fluctuate.

The CBE continued during this year to absorb the excess liquidity in the banking sector through open market operations. It began issuing a new instrument namely, certificates of deposits (CDs) with maturities spanning up to one year, and CBE notes with maturities of over one to two years. As a result the annual growth rate of domestic liquidity (M2) increased.

The preference for saving in local currency continued to increase, with inflation remaining at an acceptable level. This is clearly shown by the fact that LE time and saving deposits remained the main contributor to the growth in broad money (M2) during this year.

The LE exchange rate continued to improve, leading to a rise in net international reserves.

The increase in domestic liquidity was mainly attributed to the growth in local currency deposits at banks, and the rise in foreign currency deposits.

Higher growth rates and inflationary pressures (2006/2007)

The market interest rates on deposits and loans have become more responsive to changes in the CBE key interest rates.

The annual growth rate of domestic liquidity (M2) accelerated with higher rates than that of the real GDP (7.1 percent) and the CPI inflation rate (8.5 percent). However, the fact that quasi money has accounted for most of the increase in domestic liquidity, helped to hinder the inflationary pressures. Net international reserves (NIR) at the CBE continued to increase, as a result of improved exchange rate and implementing the CBE's new instruments.

At the end of this year the CBE started to raise interest rates (the overnight deposit and lending rates) in response to the inflationary pressures that resulted from the acceleration of economic growth; as a result the inflation rate limited its acceleration.

Continued inflation (2007/2008)

During this year, inflation gradually accelerated due to the increase in international food prices, the regulated price adjustments of energy and petroleum products, and the high economic growth rates. Expectations of higher inflation caused the CBE to raise the deposit and lending rates, which held back the growth of domestic liquidity (M2).

The CBE continued its higher degree of flexibility in the LE exchange rate. Net international reserves at the CBE increased.

Controlling inflation (2008/2009)

The CBE continued to pursue the objective of maintaining stable prices using the overnight interbank interest rate, and the corridor system. Due to the rise in inflation rate, the monetary authorities decided to raise interest rates. At the end of the year, inflation started to decrease causing the CBE to lower interest rates.

The year witnessed an increase in domestic liquidity (M2) due to increase in sales of foreign currency to banks. M2 recorded less than half the growth rate of the previous corresponding period.

CONCLUSION

The CBE in achieving its multiple objectives used various quantitative and price instruments at different points in time, leading to lack of consistency in monetary management.

The CBE when dealing with the economic shocks of the first phase, it imposed a pressure on the foreign exchange rate that forced it to apply a tighten policy and depleting net foreign reserves, at the same time it depreciated the currency resulting in further currency shortages.

In the year 2003, when the main objective of the monetary policy has changed to maintaining price stability, the inflation continued to increase until reaching its higher levels (11.7%) in the year 2004/2005 (figure 5).

It was observed that, at the same period of applying economic reform programs that included major reforms in banking sectors (1990's), several economic shocks have faced the economy that lied under the CBE's responsibility to deal with using its monetary policy tools.

The CBE could hardly apply effective monetary policy at the same time of the implementation of major financial liberalization in the banking sector. That was mainly due to lack of time to gain sufficient policy tools ready to perform successful monetary policies such as well

marketed treasury bills, transparency, independency and effective financial and institutional framework). Ineffective policy decisions that are not consistent with macroeconomic outcomes can create economic distortions.

The CBE's decrease of the interest rates to pursue an expansionary policy- at the time of high exchange rates -increased foreign capital outflows and caused more depreciation of the domestic currency. Therefore monetary authorities when focusing on their main target should put into considerations other impacts. Furthermore the appreciation of the real exchange rate caused huge increase in governmental imports which were financed through bank loans enlarging the budget deficit. The monetary authority should move towards an exchange rate regime that reflects the real value of the domestic currency.

The effect of monetary policy on GDP growth rate in the long run depends on its ability to maintain price stability, while the legal framework in Egypt gave the CBE the responsibility to play this role, it might not have enough tools to perform this. It did not control a consistent interest rate-based indicator of the monetary stance. It introduced the domestic currency overnight interbank market in the year 2001, and the overnight interest rate was a weak measure of the monetary stance. The discount rate can be considered a poor operational monetary policy instrument because it is usually subjected to strong administrative control. Thus, shocks in the discount rate do not always indicate the monetary stance. Furthermore the bank lending and deposit rates have shown limited response to business cycle conditions.

It was obvious that the monetary policy during the period in consideration was discretionary rather than ruled. Discretionary policy has the problem of time lags between deciding that a policy should be changed and the full effects from the change in the policy, and it can cause uncertainty for private decision makers and might not fit for extended periods, in addition to its vulnerability to political pressures.

The paper suggests a middle framework between pure discretionary and strict rules approaches which permits the policy maker to focus on a target but at the same time allows flexibility to respond to different shocks to the economy.

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MONETARY POLICY TRANSMISSION AND OUTPUT: THE JORDAN EXPERIMENT

Samer A.M. Al Rjoub , Hashemite University Jordan
Samer M. Abu Jafar, Central Bank of Jordan

ABSTRACT

This paper examined the role played by Jordanian banks in reducing the effect of monetary policy actions exerted by the Central Bank on the supply of total credit available for them to lend out.

The results showed that banks characteristic (liquidity and capitalization) can play an important role in reducing the effect of monetary policy actions on the supply of total credit, while the size of banks measured by their total assets does not have a significant effect on the amount of total credit. Also the results suggested that the main operative indicators for monetary policy actions in Jordan are the real three month certificates of deposit rates, the three month certificates of deposit rates, the spread between banks lending rates and deposit rates, and the spread between three month certificates of deposit rates and U.S federal fund rates. A bank lending channel exist in Jordan due to the fact that the main conditions under the bank lending channel theory are maintained which support the existence of the bank lending channel in Jordan, and the total credit has a positive significant effect on the amount of nominal gross domestic product (output).

INTRODUCTION

In the last years considerable researches had focused on monetary policy transmission mechanism to understand the monetary policy effect on the real economy, many macro economists are always in debates to understand the mechanism through which this policy can works. Knowing about monetary policy transmission are very important, it describes the link between monetary policy actions and their impact on real economic activities and how it affect goal variables other than income, unemployment, inflation, and prices . From this point of view and for the importance of the supply of loans (total credit) offered by commercial bank, we will study the effect of monetary policy transmission through what is known by bank lending channel on the amount of total credit offered by Jordanian banking sectors, and the impact of monetary policy on output.

Standard macro-economic models of aggregate demand had focused mainly on the money significant role, at the same time many economists had worked hardly to interpret and to show the importance of bank loans in the transmission of monetary policy (which is called the bank lending

channel).The bank lending channel represents one of the channels that are influenced by the monetary policy actions, and through which monetary policy can works, it focus on the effect of monetary policy on the supply of bank loans especially in the cases where borrowers do not have any alternative sources of bank loans as a source of funding. Monetary policy shocks play an important role in the transmission mechanism through a contraction monetary policy shocks that reduce the assets of banks that are available to lend out, and an expansionary monetary policy shocks that increase those assets. Banks represent the most important source of financing for firms and household, the adjustment and analysis of their lending in response to monetary policy actions constitute an important channel through which monetary policy works, they play a critical role in the transmission of monetary policy actions to the real economy.

Bernanke and Blinder (1992), find that a monetary contraction is followed by a decline in aggregate bank lending. A tightening monetary policy exercised by the Central Banks through the required reserve ratio and the interest rate structure (cost of capital) on the banking sectors as an instrument to ensure the stability in the economy and to control the supply of money in order to protect the economy from the inflation and raising in the prices of goods and services. This action make a reduction in the amount of deposits reserved in the banking system, if banks cannot replace immediately this fall in the loanable funds through liquidating assets or through external source of finance, this will reduce the amount of loans available for banks to make.

The bank lending channel was powered to the forefront of the economic discussion by Bernanke and Blinder in 1998, their article lay down some conditions that must be satisfied in order to operate bank lending channel. Firstly, firms must not be indifferent between two types of financing, borrowing money from financial institutions via loans or borrowing from general public via bonds, so if this occurs then the decrease in the supply of loans will not affect firms at all. Secondly, the Central Bank must be able to affect the supply of loans in which banks are not able to offset the decrease in deposits (result from open market operations) through rising fund form issuing new certificate of deposits, selling securities, or other source of financing (Kashyap and Stein, 1994).

A contraction monetary policy through the increasing of required reserves ratios on banks (a proportion of its total deposits that must be held with the central bank), open market operation (selling and buying treasury securities), and finally by increasing discount rates (loans offered by the central bank to depository institutions) will reduce the amount of loanable fund that banks can offer to lend as a result of a sharp fall in the amount of deposits held with them, and force bank dependent firms and household to diminish their expenditures and reducing aggregate output. In order to eliminate the effect of monetary policy actions on the supply of bank loans, banks must costlessly replace the amount of loanable funds through liquidating its securities which can be liquidate quickly without losing in their value (reduction on the asset side of banks balance sheets), or increasing the non deposits source of fund by issuing new certificates of deposits in order to support the supply of loanable fund (raising the liabilities side of banks balance sheets), or any other

forms of financing. If banks are unable to do that, there will be a reduction in the supply of loans, and therefore real spending and the overall level of output will also dampen (fall) (Westerland, 2003).When Central Banks tightens monetary policy by squeezing banks reserves it can generate a corresponding reduction in the supply of bank loans (Markidou, 2005), and in case the bank cannot respond to this event, the supply of loans will be reduced and the monetary contraction will affect the real economy.

Credit market play a critical role in the transmission of monetary policy to the real economy represented mainly through the banking sectors which contribute in the propagation of economic fluctuations (Al Rjoub, 2006). Testing of the bank lending channel depends on several factors that facilitate this process, such as the importance of the bank and other macroeconomic characteristics that determine the response of loans to a shift in monetary policy. The independence of bank has three important consequences. Firstly, banks serve as a lending channel for monetary policy through which the monetary transmission may work (the lending channel or the credit channel) as well as through the conventional interest rate channel (the money channel). Secondly, bank failures may cause recession. Thirdly, bank regulatory actions may be a source of monetary policy innovations (shocks) as important as other Federal Fund instrument (Driscoll).Because condition (I) is widely believed to hold true our empirical studies will focus on testing the second condition by using aggregate data on the banking sector in Jordan in order to detect whether the Jordanian banking sector characteristics such as, size, liquidity, and capitalization can play an important role in reducing the effect of monetary tightening on the supply of banks loans.

The first requirement of the lending channel, that banks are not able to readily substitute for deposits and secondly firms are bank dependent and the demand for loans depend on the level of output (Driscoll). In order to measure the response of bank lending to monetary policy shocks you will face a problem that whether a fall in bank lending after a monetary policy tightening induced by the supply or demand for loans. Several researchers addressed this problem by analyzing disaggregated data for either borrowers or lenders.

Several factors force us to understand the transmission mechanism in Jordan, (I) The volatile regional environment and the likelihood of major external shocks hitting the economy is substantial. (II) Jordan has recently witnessed as part in asset prices in both housing and stock prices and this event must focus us to ask how and when monetary policy should respond to this increase. (III) How monetary policy could influence credit to the private sector and its effect on output (Poddar, Sab, and Khachatryan, 2006).

The main goal of this research is to detect whether a bank lending channel exist in Jordan during the period from 1995 to 2005, also we will try to find the more substantial factors that help banks in responding to a contraction monetary policy in order to prevent there supply of loanable fund from depression or falling off, by measuring how banks characteristic (size, liquidity, and capitalization) contribute in eliminating the effect of monetary policy actions on bank total credit, finally we will measure the impact of the change in monetary policy on nominal gross domestic

product (output) in Jordan by analyze the shock that affect the supply of bank loans responding to the monetary policy action taken by the Central Bank of Jordan. and finally to investigate how banks adjust their lending behavior in response to monetary policy condition by analyzing how bank credit growth react to change in monetary policy tools in order to increase or decrease the amount of money supplied in the country in order to achieve the main goal of the Central Bank of Jordan.

This article results showed that banks characteristic (liquidity and capitalization) can play an important role in reducing the effect of monetary policy actions on the supply of total credit, while the size of banks measured by their total assets does not have a significant effect on the amount of total credit. The results also suggest that the main operative indicators for monetary policy actions in Jordan are the real three month certificates of deposit rates, the three month certificates of deposit rates, the spread between banks lending rates and deposit rates, and the spread between three month certificates of deposit rates and U.S federal fund rates. A bank lending channel exist in Jordan due to the fact that the main conditions under the bank lending channel theory are maintained which support the existence of the bank lending channel in Jordan, and the total credit has a positive significant effect on the amount of nominal gross domestic product (output).

The rest of the paper is organized as follows. Section two describes briefly the Jordan economy and the banking sector, and section 3 presents the literature review. Section 4 presents the methodology and data. Section 5 reports the empirical results and section 6 concludes.

JORDANIAN ECONOMY AND THE BANKING SECTOR

The Jordanian economy is a market oriented economy with abundant skilled human resources and limited natural resources with a population of 5.3 million in the year of 2004 located on a geographical area of 89.3thousand sq Km. Jordan was classified by the word bank as a lower middle income country, the nominal per capital income is 2050 U.S dollar in the year 2004 where the GDP per capital is equal to 4200 U.S dollar in the year 2005.

The greater economic crises Jordan suffered was in 1988-1989 driven by several shocks, external shocks when there were sharp fall in grants and remarkable reduction in worker's remittances and national exports to Arab oil producing countries, internal factors begin with the expansion of public sector, intensive government subsides, inefficient tax system and trade regime, and borrowing from central banks (for more details see , Central Bank of Jordan Annual Reports). After this period, Jordan enter an economic adjustment programs from 1989 to 2004 and had successfully reduced the twin deficit (budget and current amount deficits), controlling inflation rates, rebuilding central banks of Jordan foreign reserve, and achieving sustainable growth.

The banking sector is very dynamic and liberal in Jordan and they are controlled by the central banks which are the most dominant financial institutions in Jordan. The Central Bank of Jordan established on the first day of October 1964 after the law of the central bank of Jordan was enacted in 1959 as an independent and autonomous corporate body. The capital of the central bank

which is totally owned by the government was increased from 2 million to 18 million Jordanian Dinar.

The main objectives of the Central Bank of Jordan are to maintain monetary stability in the kingdom, to ensure the convertibility of the Jordanian Dinar, and to promote the sustained growth of the kingdom economy in accordance with the general economic policy of the government. Where the main functions are, issuing and regulating bank notes and coins, and managing the kingdoms reserves of gold and foreign exchange, acting as a banker to banks and specialized credit institutions, maintaining the safety of the banking system, advising the government on the formulation and implementation of fiscal and economic polices, managing monetary problems and participating in containing local economic problems, regulating credit and other roles like participating in the establishment of a number of financial institutions and corporations, such as Amman stock exchange, Jordan Mortgage Refinance Company, Jordan Loan Guarantee Corporation, and Deposit Insurance Corporation.

The banking sectors comprises from twenty three banks by the end of 2005, nine of them are commercial banks, eight of them are banks which represent subsidiaries of foreign bank such as HSBC, Standard Chartered and other (non Jordanian banks), four are investment banks that have activities differ little from other commercial banks and finally there are two Islamic banks that make equity investments in companies and then shared in the ventures profit or loss, paid no interest on deposits and collect no interest on loans.

There are two largest banks in terms of assets, the Arab bank with 26 billion US dollars of asset and the most important internationally presence bank, then the housing bank for Trade and Finance with 2.3 billion US dollars of assets. Also there are four organizations specializing in providing loans to several sectors, Agricultural Credit Corporation for the agricultural sectors, Industrial development bank for the industrial sectors, Beitna for the habitat and cities and village's development bank for rural development.

The licensed banks balance sheet recorded a significant growth of JD 3,265.4 million (18%) in 2005, compared to a growth of JD 2,119.6 million (13.5%) in 2004 and a growth of JD 582.2 million (3.9%) in 2003.

On the asset side there was an increase in domestic assets by 2,905.2 million (22.7%) which constitutes 89% of the total increase in assets, an increase in domestic assets was mainly attributed to the unprecedented increase in claims on the private sector (resident) by JD1,783.8 million (30.4%)in 2005. Also the items of "other assets", "claims on public sector", and "cash in vault and balances with the Central Bank of Jordan" increased by 27.3%, 10.6%, and 18.5%, respectively, while the foreign assets increased by JD 359.7 million (7.2%), a slower rate than what they registered in the previous year, constituting 11% of the total increase in assets as compared to JD 620.3 million (14.2%) in 2004.

On the liabilities side, the most increase was concentrated in the deposits of the private sector (resident), which rose by JD 1,638.9 million (20.2%), and constituting 50.2% of the total increase

in liabilities. The items of "other liabilities", "capital, reserve and allowances", and "foreign liabilities" constituted 26.9%, 11.6%, and 7.4% respectively, of the total increase in liabilities, while the rise in "capital, reserve and allowances" by JD 378.3 million in 2005 was mainly attributed to the increase in banks capital by JD 173 million and reserves by JD 102 million.

Total deposits at licensed banks increased by JD1, 555.2 million (13.4%) to reach JD13.1 billion in 2005, compared to an increase of 1,594.7 million (16.0%) in 2005. On the maturity structure of deposits, there was a significant increase in time deposits by JD 996.9 million (15.4%) constituting 64.1% of the total increase in deposits. This increase may be partially attributed to the increase in the interest rate on time deposits which surpasses the interest rate increase on other type of deposits. Demand deposits increased by JD 430.3 million (13.3%) ranking second, where saving deposits ranking third with an increase of JD 128.0 million (7.0%).

In term of depositors, deposits of the private sector (resident) increased significantly by JD 1,638.9 million (20.2%) constituting 105.4% of the total increase in deposits, while public sector deposits increased by JD 104.3 million (8.7%), deposits of the private sector (non resident) and deposits of non banking financial institutions decreased by JD 167.5 million (7.7%) and JD 20.5 million (21.0%) respectively.

In term of currencies, JD deposits increased by JD 1,485.8 million (21.0%), reflecting the attractiveness of the Jordanian Dinar as a saving instrument, while the increase in foreign currency deposits did not exceed JD 69.4 million (1.5%).

The outstanding balance of credit facilities extended by licensed banks recorded an increase by the end of 2005 amounted to JD 1,555.1 million (25.1%) to reach JD 7.7 billion compared with an increase of JD 926.8 million (17.6%) by the end of 2004.

In term of economic activities, the outstanding balance of credit facilities extended to various economic activities has risen, with exception of the credit facilities extended to the mining, agriculture, and tourism sectors which decrease by 24.1%, 4.2%, and 0.5% respectively. The increase in credit facilities was concentrated in the "other" items, (the largest share of this items represent facilities extended to individual), constituting 65.0% of the total increase in the facilities. (While 8.85 of this increase extended to share purchase). The credit facilities extended to construction, general trade, public services and utilities and industry sectors constituted 13.9%, 7.9%, and 3.6% of the total increase in credit facilities respectively.

In tem of the development of the credit facilities to the borrowers, it was noted that the private sector (resident) constituted 104.1% of the total increase, as the credit facilities extended to this sector increased by JD 1,618.4 million (29.5%). This increase was attributed to the continuous growth in economic activity during 2005. the credit facilities extended to public and financial institutions also rose by JD 51.1 million (16.6%) and 5.7 million (38.5%) respectively, while the credit facilities extended to the central government decreased by JD 95.5 million (71.4%) due to the government repayment of the syndicated banking loan approximately amounted to JD 106 million,

also the credit facilities extended to the private sector (non resident) decreased by JD24.6 million (9.7%).

The credit facilities extended in foreign currencies constituted 11.1% of the total credit facilities by the end of 2005, against 15.1% at the end of 2004.

METHODOLOGY AND DATA

The empirical analysis of the role played by banks in the monetary transmission process focuses on the reaction of loan supply (Total Credit) to monetary policy shocks. The econometric model that is employed in this study relates the growth of bank supply of loans for all banks operating in Jordan to a monetary policy indicator plus other related and control variable using time series aggregate data covering the period from January 1995 to December 2005. We use Autoregressive Distributed Lag (ARDL) model of bank loan behavior to test the hypothesis that monetary policy can shift the supply of bank loans (Westerland, 2003).

The Autoregressive Distributed Lag model represent the regression model that include not only the current but also lagged (past) values of the explanatory variables (Xs), also it include one or more lagged value of the dependent variable among its explanatory variables, and is used in regression analysis that involve time series data. The main reason of using lagged value is that in economics the dependence of a variables Y (dependent variable) on another variables X (explanatory variable) is rarely instantaneous, very often Y respond to X with a lapse of time, such lapse is called a lag (Gujarati, 1995).

In order to find the more operative indictors for the monetary policy actions exerted by the Central Bank of Jordan and if the theory of bank lending channel exist or not in Jordan we will use the ordinary least square (OLS) techniques. OLS assumes that the error terms are not correlated across observations or overtime.

Early Empirical Studies used time series data to estimate bank loan models (e.g. Bernanke and Blinder 1992), while recent researches tend to use panel data on individual bank level (e.g. Westerland, 2003). Detailed time series at the individual bank level are not available for most countries, so our empirical research may still yield valuable insights even though it is based on aggregate time series data of total banks operating in Jordan.

The first step in our analysis began by separating banks balance sheet to some factors that facilitate the testing of the supply of bank loans, for that we use three indicators, size of banks, degree of liquidity, and degree of capitalization to see how these characteristics can eliminate the effect of monetary policy action taken by the Central Bank of Jordan on the supply of banks total credit, and how banks take actions in order to reduce these effect through liquidating securities and issuing new certificates of deposit.

The size of banks is measured by their total assets, where the degree of liquidity represent the ratio of liquid assets [cash, due from banks, and short term government securities (treasury bills

and bonds)] to total assets, and finally the degree of capitalization is given by the ratio of banks equity to total assets (Schmitz,2004).

In order to find whether the model should be formulated in terms of levels or first difference, we test the above variables for stationarity (means value and variance do not vary systematically over time) using Augmented Dickey Fuller (ADF) test. We find out that our variables should be expressed all in term of first difference (the first difference of each variable), so the original time series is integrated of order (1) (I (1)).

The Indicator of Monetary Policy in Jordan

The effect of monetary policy on the economics activities and output remains a difficult question to answer, some economists have used the change in the quantity of money as an indicator of change in monetary policy, but this approach had a problem that the change in money can result from factors other than changes in monetary policy. Several economists such as Mccallum 1983, Laurent 1988, Bernanke and Blinder 1992, and Goodfriend 1992 have argued that movements in short term interest rates especially the movement in federal fund rate, may be a better indicator of change in monetary policy than are changes in the quantity of money, in addition to that Bernanke and Blinder 1992 present evidence that the federal fund rate is a better predictor of future economics activity than other interest rates on monetary aggregates (Balke and Emery 1994).

Poddar, Sab, and Khachatryan 2006, found that the Central Bank of Jordan operating target that affects bank retail rates is the real three month certificate of deposit rates, also they measure monetary policy by the spread between three month certificate of deposit rates and the U.S federal fund rate. Finally they found that deposit rates are more responsive to monetary policy (real three month certificates of deposit rate) than lending rates.

Table (3.1) summarizes the positive significant correlation between banks deposit rate and the real three month certificates of deposit rate, with a positive statistically significant result for F-test, and 0.814152 from the dependent variable are explained by the explanatory variables (R-Squared). Also table (3.2) summarizes the positive correlation between banks lending rate and the real three month certificates of deposit rate, with a positive statistically significant result for F-test, and 0.51002 from the dependent variable are explained by the explanatory variables (R-Squared), all during the period from January 1995 to December 2005.

The final conclusion show that bank deposit rates are more sensitive to monetary policy actions than bank lending rates, so we can consider the spread between deposit and lending rates as an indicator for the monetary policy in Jordan.

Table (3.1): Deposits Rate and Real Three Month Certificates of Deposits Rate Dependent Variable: Deposits Rate			
t-Statistic	Probability	Coefficient	Variable
31.27724	0	0.879508	Real Three Month Certificates of Deposits Rate
	0	569.4978	F-Statistic
0.814152			R-Squared

Table (3.2): Lending Rate and Real Three Month Certificates of Deposits Rate Dependent Variable: Lending Rate			
t-Statistic	Probability	Coefficient	Variable
15.8258	0	0.51002	Real Three Month Certificates of Deposits Rate
	0	138.9578	F-Statistic
0.51002			R-Squared

Table (3.3): Descriptive Statistic (Mean, Maximum, Minimum, and Std.Dev)				
Variable	Mean	Maximum	Minimum	Std.Dev
Total Credit	4563.275	7559.260	3362.38	971.7238
It1(RCD3)	5.76128	10.94109	0.136647	2.684192
It2(CD3)	5.975758	10.45	2.1	2.550202
It3(SPLRDR)	4.515076	6.54	2.51	1.163086
It4(CD3FED)	1.939545	5.13	-0.66	1.453539
WA RCD3	62465.97	136609.6	2100.128	21572.94
WL RCD3	202.2539	348.2706	5.845047	74.74486
WK RCD3	37.26532	86.0099	1.039862	20.64895
WA CD3	65145.57	127426.2	31704.49	19402.91
WL CD3	210.1557	338.0752	93.1272	66.75635
WK CD3	38.60074	87.6484	7.634067	19.81848
WA SPLRDR	57671.86	99703.97	19359.3	27170.84
WL SPLRDR	174.5844	294.2471	77.96383	67.16043
WK SPLRDR	31.79027	47.98148	2.852083	12.77022
WA CD3FED	21080.77	50152.56	-8069.767	13559.99
WL CD3FED	68.20588	170.032	-25.29924	45.88659
WK CD3FED	12.47177	42.44496	-4.727737	10.84524
SECt	381.0057	1200.169	8	313.9287
CDSt	27.41553	120.0167	4.950629	23.41904
Total Deposits	8133.048	13119.3	5352.7	2060.063

The primary objectives of monetary policy in Jordan are to maintain a pegged exchange rate with the U.S dollar (Poddar, Sab, and Khachatryan, 2006). When the Federal Reserve Bank of America raise or reduce there short term interest rate, the Central Bank of Jordan is forced to increase or decrease short term interest rate structure at the same time in order to ensure the convertibility of Jordanian Dinar, and to prevent foreign reserves from going outside the country. For the purposes of this research we will use the following measures as an indicator for the monetary policy in Jordan. Firstly, we will use the real three month certificate of deposit rates. Secondly, we will take the three month certificates of deposit rate, then we will take the spread between the three month certificate of deposit rates and the U.S federal funds rate, and finally we will use the spread between banks deposit rates and lending rates.

Table (3.4): Descriptive Statistic (Correlation)	
Dependent Variable: Total Credit	
Variable	Correlation
Total Credit	1.000000
It1(RCD3)	-0.649994
It2(CD3)	-0.669166
It3(SPLRDR)	0.596218
It4(CD3FED)	-0.364995
WA RCD3	-0.076745
WL RCD3	-0.555369
WK RCD3	-0.287703
WA CD3	-0.002815
WL CD3	-0.583302
WK CD3	-0.272555
WA SPLRDR	0.850069
WL SPLRDR	0.634314
WK SPLRDR	0.62519
WA CD3FED	0.059126
WL CD3FED	-0.232934
WK CD3FED	-0.139299
SECt	0.925419
CDSt	0.959713
Total Deposits	0.978774

The Empirical Model

The model can be written as follows:

$$Nt = \alpha j + \sum\gamma\, Nt—j + \sum\beta j\, It—j + \sum\delta j(Wt\ It) —j + \sum\psi jCDt—j + \sum\Phi jSECt—j + ut$$

Where:

Nt: represents the total credit (banks loans), in time period 1, 2,…, T.

It-j : represents the real three month certificate of deposits rates offered by the Central Bank of Jordan as a policy indicator, the three month certificate of deposits rates, the spread between the Jordanian three month certificate of deposits rates and the effective U.S federal funds rate, or the spread between banks lending rate and deposit rate respectively in time period 1,2,…,T, (the core explanatory variable in bank loan models).

Wt-j : represents the value for each one of the separating variables asset size (WA), liquidity (WL), or capitalization (Wk) multiplied by one of the indicators of monetary policy mentioned above in time period 1,2,…,T.

CDSt-j: represents they size of certificates of deposit issued by banks in time period 1,2,…,T.

SECt-j: represents the size of securities held by banks in time period 1,2,…,T.

ut : represent the residuals.

Asset size or the total asset can be employed as an indicator for information problems forced by banks when they look for external finance to compensate the decrease in deposits after a monetary policy tightening. Where the ratios of bank liquid assets to total assets and the ratios of banks equity to total assets can be used to compensate banks for the effect of monetary policy tightening.

In order to see how banks can liquidate its short term securities and issuing new certificate of deposits in order to reduce the effect of monetary actions on banks total credit, we will employ the size of liquid securities which can be easily converted to cash without lose in their values (treasury bills and bonds) held with banks in their portfolio and the size of the new certificates of deposits issued by commercial banks to compensate the reduction in the supply of banks loans.

In order to find the effect of total credit on the nominal gross domestic product we will use the impulse response function test under the vector autoregressive approach (VAR) to explain the relationship between the both variables.

Data collected are quantitative data consisting of both Micro and Macro data and all variable are monetary and bank data aggregates.

For Micro data we use monthly balance sheet data denominated in local currency covering the period from 1995 to 2005 for all banks operating in Jordan from the bank annual bulletins and the Central Bank of Jordan monthly and annual statistical reports.

For Macro data we use data related to the interest rates, inflation rates, gross domestic product, and consumer price index from the Central Bank of Jordan monthly and annual statistical reports.

The data's used in this research were collected for 23 bank operating in Jordan. Data's were collected for ten years from 1995 until 2005 on monthly base for a total of 132 observations, where the descriptive statistics are summarized in the recent tables.

THE EMPIRICAL RESULTS

Table (4.1) summarized the relationship between total amount of credit in Jordan and other variables under the theory of bank lending channel such as total deposits, size of certificate of deposit issued by banks, and the size of securities held by banks.

A contraction monetary policy by Central Banks drains the amount of deposits held in banks, which in turn reduce the total amount of credit (supply of loans) available for them to lend. Banks can eliminate these effects of monetary policy actions on its supply of credit by liquidating some of its securities or issuing new certificates of deposit in order to support these reductions in the supply of loans.

Table (4.1) shows a positive and statistically significant relationship between total credit and total deposit from one side and positive statistically significant relationship between total credit and the size of certificates of deposit issued by banks from another side, also it shows a negative statistically significant relationship between total credit and the size of securities held by banks which support the existent of a bank lending channel in Jordan. A positive statistically significant result for F-statistic, a result of (1.777239) for Durbin-Watson statistic, and (0.994824) from the dependent variable are explained by the explanatory variables (R-Squared).

Table (4.1): Total credit and main variables under bank lending channel theory
Dependent variable: Total credit (loan supply)

Variables	Coefficient	T-Statistic	Probability
Total Deposits	0.385069	31.11372	0.000
Size of Certificates of Deposit	15.59474	21.92206	0.000
Size of Securities	-0.598333	-8.636324	0.000
F-Statistic	6053.716	----------	0.000
R-Squared	0.994824		
Durbin-Watson Statistic	1.777239		

Table (4.2) summarized the relationship between total credit (loan supply) the real three month certificates of deposit rates as an indicator for the monetary policy actions exerted by the Central Bank of Jordan.

Table (4.2) shows a negative statistically significant relationship between total credit and the real three month certificates of deposit rates. A positive statistically significant result for F-statistic, a result of 2.335384 for Durbin-Watson statistic, and 0.907886 from the dependent variable are explained by the explanatory variables (R-Squared).

Table (4.2): Total Credit and the Real Three Month Certificates of Deposit Rates
Dependent Variable: Total Credit (Loan Supply)

Probability	T-Statistic	Coefficient	Variable
0	-27.41765	-216.8832	Real Three Month Certificates of Deposit Rates
0	----------	630.7939	F-Statistic
0.907886			R-Squared
2.335384			Durbin-Watson Statistic

Table (4.3) summarized the relationship between total credit (loan supply) and the three month certificates of deposit rates (a second indicator for the monetary policy actions exerted by the Central Bank of Jordan). It shows a negative statistically significant relationship between total credit and the three month certificates of deposit rates. A positive statistically significant result for F-statistic, a result of (2.009798) for Durbin-Watson statistic, and (0.980047) from the dependent variable are explained by the explanatory variables (R-Squared).

Table (4.3): Total Credit and the Three Month Certificates of Deposit Rates
Dependent Variable: Total Credit (Loan Supply)

Probability	T-Statistic	Coefficient	Variable
0	-42.46203	-257.0054	Three Month Certificates of Deposit Rates
0	----------	3143.464	F-Statistic
0.980047			R-Squared
2.009798			Durbin-Watson Statistic

Table (4.4) summarized the relationship between total credit (loan supply) and the spread between bank lending rates and deposit rates **(**a third indicator for the monetary policy actions exerted by the Central Bank of Jordan).

Table (4.4) shows a positive statistically significant relationship between total credit and the spread between bank lending rates and deposit rates. A positive statistically significant result for F-

statistic, a result of (2.227780) for Durbin-Watson statistic, and (0.977258) from the dependent variable are explained by the explanatory variables (R-Squared).

Table (4.4): Total Credit and the Spread between Bank Lending Rates and Deposit Rates
Dependent Variable: Total Credit (Loan Supply)

Probability	T-Statistic	Coefficient	Variable
0	46.52132	499.0681	The Spread Between Bank Lending Rates and Deposits Rates
0	----------	1790.488	F-Statistic
0.977258			R-Squared
2.22778			Durbin-Watson Statistic

Table (4.5) summarized the relationship between total credit (loan supply) and the spread between the three month certificates of deposit rates and the effective federal fund rates (a fourth indicator for the monetary policy actions exerted by the Central Bank of Jordan).

Table (4.5) shows a negative statistically significant relationship between total credit and the spread between the three month certificates of deposit rates and the effective federal fund rates. A positive statistically significant result for F-statistic, a result of (2.017225) for Durbin-Watson statistic, and (0.981171) from the dependent variable are explained by the explanatory variables (R-Squared).

Table (4.5): Total Credit and the Spread between the Three Month Certificates of Deposit Rates and the Effective Federal Fund Rates
Dependent Variable: Total Credit (Loan Supply)

Probability	T-Statistic	Coefficient	Variable
0	-21.66427	-236.652	The Spread Between The Three Month Certificates of Deposit Rates and The Effective Federal Fund Rates
0	----------	3335.041	F-Statistic
0.981171			R-Squared
2.017225			Durbin-Watson Statistic

Mainly all the monetary policy indicators mentioned in the above tables have a negative and statistically significant relationship with total credit (loan supply) except one, the spread between bank lending rates and deposit rates, because as we know, deposit rates are more sensitive to

monetary policy action than lending rate, which means that an increase in deposit rate will be more than an increase in lending rate, so in this situation the spread between both rates will decrease in a contraction policy. Which interpret the positive and statistically significant relationship between total credit and the spread between banks lending rates and deposit rates.

Table (4.6) explain the relationship between the amount of total credit and the real three month certificates of deposit rates in Jordan during the period from January 1995 to December 2005 by including a third variable (banks characteristics) that can contribute in reducing the effect of monetary policy actions on the supply of bank loans (total credit).

The result showed a positive statistically insignificant relationship between total amount of credit and the real three month certificates of deposit rates by including assets characteristics (assets size multiplied by real three month certificates of deposit rates), a positive statistically significant relationship between both variables by including liquidity characteristics (liquidity to total assets ratio multiplied by real three month certificates of deposit rates) , and finally a positive statistically significant relationship between both variables by including capitalization characteristics (capital to total assets ratio multiplied by real three month certificates of deposit rates).

In the assets side, there is a positive statistically insignificant relationship between total credit and assets characteristics. Lagged total credit at first lag has a positive statistically significant effect of (1.031607), lagged real three month certificates of deposit rates at first lag has a positive statistically insignificant effect of (8.554200), where lagged assets characteristics at first lag has a negative statistically insignificant effect of (0.000912). A positive statistically significant result for F-statistic, a result of (2.042011) for Durbin-Watson statistic, and (0.996496) from the dependent variable are explained by the explanatory variables (R-Squared).

In the liquidity side, there is a negative statistically significant relationship between total credit and liquidity characteristics. Lagged total credit at first lag has a positive statistically significant effect of (1.026007), lagged real three month certificates of deposit rates at first lag has a negative statistically significant effect of (57.32414), where lagged liquidity characteristics at first lag has a positive statistically significant effect of (1.532594). A positive statistically significant result for F-statistic, a result of (2.094078) for Durbin-Watson statistic, and (0.996727) from the dependent variable are explained by the explanatory variables (R-Squared).

In the capitalization side, there is a negative statistically significant relationship between total credit and capitalization characteristics. Lagged total credit at first lag has a positive statistically significant effect of (1.037265), lagged real three month certificates of deposit rates at first lag has a negative statistically significant effect of (57.54558), where lagged capitalization characteristics at first lag has a positive statistically significant effect of (8.174044). A positive statistically significant result for F-statistic, a result of (2.028373) for Durbin-Watson statistic, and (0.997426) from the dependent variable are explained by the explanatory variables (R-Squared).

Table (4.6): Total Credit and the Real CD3 Month Rates Including Bank Characteristics									
Dependent variable: Total Credit (Loan Supply)									
Variables	Asset Characteristic			Liquidity Characteristic			Capitalization Characteristic		
	Coefficient	Probability	T-Statistic	Coefficient	Probability	T-Statistic	Coefficient	Probability	T-Statistic
Real CD3 Month Rates	1.743767	0.9352	0.081475	80.23989	0.0110	2.581316	61.00864	0.0293	2.206185
Certificates of Deposit Size	3.398964	0.3430	0.952036	3.277846	0.3530	0.932450	2.542642	0.3611	0.916788
Securities Size	-0.271732	0.0548	-1.938908	-0.238307	0.1056	-1.630426	-0.294084	0.0251	-2.268603
The Assets Size	7.69E-05	0.9696	0.035247	----------	----------	----------	----------	----------	----------
The Liquidity Ratio	----------	----------	----------	-2.180861	0.0147	-2.476403	----------	----------	----------
The Capital Ratio	----------	----------	----------	----------	----------	----------	-8.546243	0.0364	-2.115880
Lagged Total Credit First Lag	1.031607	0.000	36.94858	1.026007	0.000	52.34124	1.037265	0.000	45.95493
Lagged Real CD3 First Lag	8.554200	0.6296	0.483492	-57.32414	0.0670	-1.848430	-57.54558	0.0487	-1.991734
Lagged Assets size First Lag	-0.000912	0.5871	-0.544491	----------	----------	----------	----------	----------	----------
Lagged Liquidity Ratio First Lag	----------	----------	----------	1.532594	0.0847	1.738378	----------	----------	----------
Lagged Capital Ratio First Lag	----------	----------	----------	----------	----------	----------	8.174044	0.0505	1.975384
F-statistic	3823.626	0.000	----------	4094.485	0.000	----------	5209.941	0.000	----------
R-squared	0.996496			0.996727			0.997426		
Durbin-Watson Statistic	2.042011			2.094078			2.028373		

As we see in table (4.6) the coefficients of the real three month certificates of deposit rates and the asset characteristics are positive and statistically insignificant, which imply that we cannot determine whether total credit will respond or not as we include the asset characteristic, but by including liquidity and capitalization characteristics total credit will respond (coefficients of the real three month certificates of deposit rates are positive and statistically significant). Also the coefficients of liquidity and capitalization characteristics are negative and statistically significant. this imply that these factors (liquidity and capitalization) can play an important role in supporting the amount of loans available for banks to lend out, and we can consider the real three month certificates of deposit rates as a good indicator for monetary policy in Jordan.

Table (4.7) explain the relationship between the total credit (supply of loans) and the three month certificates of deposit rate (a second indicator for monetary policy) in Jordan during the period from January 1995 to December 2005 by including a third variable (banks characteristics) that can contribute in reducing the effect of monetary policy actions on the supply of bank loans (total credit).

The result showed a negative statistically significant relationship between total credit and the three month certificates of deposit rate by including assets characteristic (assets size multiplied by the three month certificates of deposit rates), a positive statistically significant relationship between total credit and the three month certificates of deposit rate by including liquidity characteristic (liquidity to total assets ratio multiplied by the three month certificates of deposit rates) , and finally a positive statistically significant relationship between both variables by including capitalization characteristic (capital to total assets ratio multiplied by the three month certificates of deposit rates)..

In the assets side, there is a positive statistically significant relationship between total credit and assets characteristics. Lagged total credit at first lag has a positive statistically significant effect of (0.984152), lagged three month certificates of deposit rates at first lag has a positive statistically significant effect of (300.5991), where lagged assets characteristics at first lag has a negative statistically significant effect of (0.031528). A positive statistically significant result for F-statistic, a result of (2.012683) for Durbin-Watson statistic, and (0.998113) from the dependent variable are explained by the explanatory variables (R-Squared).

In the liquidity side, there is a negative statistically significant relationship between total credit and liquidity characteristics. Lagged total credit at first lag has a positive statistically significant effect of (1.036978), lagged three month certificates of deposit rates at first lag has a negative statistically significant effect of (132.6472), where lagged liquidity characteristics at first lag has a positive statistically significant effect of (4.116196). A positive statistically significant result for F-statistic, a result of (2.100506) for Durbin-Watson statistic, and (0.996811) from the dependent variable are explained by the explanatory variables (R-Squared).

In the capitalization side, there is a negative statistically significant relationship between total credit and capitalization characteristics. Lagged total credit at first lag has a positive statistically significant effect of (1.039686), lagged three month certificates of deposit rates at first lag has a negative statistically significant effect of (110.4840), where lagged capitalization characteristics at first lag has a positive statistically significant effect of (12.07939). A positive statistically significant result for F-statistic, a result of (1.906006) for Durbin-Watson statistic, and (0.997905) from the dependent variable are explained by the explanatory variables (R-Squared).

As we see in table (4.7) the coefficient of the three month certificates of deposit rates are negative and statistically significant, which imply that when we include the asset characteristic to enhance the bank ability to provide loans total credit will not respond, but by including liquidity and capitalization characteristics total credit will respond (coefficients of the three month certificates of deposit rates are positive and statistically significant). Also the coefficients of liquidity and capitalization characteristics are negative and statistically significant. this imply that these factors (liquidity and capitalization) can play an important role in supporting the amount of loans available for banks to lend out, also we can consider the three month certificates of deposit rates as a good indicator for monetary policy in Jordan.

Table (4.7): Total Credit and the CD3 Month Rates Including Bank Characteristics									
Dependent variable: Total Credit (Loan Supply)									
Variables	Asset Characteristic			Liquidity Characteristic			Capitalization Characteristic		
	Coefficient	Probability	T-Statistic	Coefficient	Probability	T-Statistic	Coefficient	Probability	T-Statistic
CD3 Month Rates	-303.8835	0.0005	-3.571898	149.5583	0.0230	2.303379	111.1830	0.000	4.375268
Certificates of Deposit Size	2.099588	0.1498	1.449328	3.045011	0.3686	0.902418	2.137156	0.3920	0.859042
Securities Size	-0.261461	0.0427	-2.048124	-0.232207	0.1044	-1.636024	-0.341156	0.0065	-2.771428
The Assets Size	0.031194	0.0003	3.721129	----------	----------	----------	----------	----------	----------
The Liquidity Ratio	----------	----------	----------	-4.611638	0.0416	-2.059518	----------	----------	----------
The Capital Ratio	----------	----------	----------	----------	----------	----------	-12.30325	0.000	-4.284299
Lagged Total Credit First Lag	0.984152	0.000	38.99075	1.036978	0.000	59.46836	1.039686	0.000	49.52384
Lagged CD3 First Lag	300.5991	0.0004	3.660460	-132.6472	0.0506	-1.974577	-110.4840	0.0001	-4.187012
Lagged Assets size First Lag	-0.031528	0.0002	-3.796808	----------	----------	----------	----------	----------	----------
Lagged Liquidity Ratio First Lag	----------	----------	----------	4.116196	0.0761	1.788953	----------	----------	----------
Lagged Capital Ratio First Lag	----------	----------	----------	----------	----------	----------	12.07939	0.0001	4.203967
F-statistic	7109.605	0.000	----------	4202.056	0.000	----------	6403.093	0.000	----------
R-squared	0.998113			0.996811			0.997905		
Durbin-Watson Statistic	2.012683			2.100506			1.9060006		

Table (4.8) explain the relationship between the amount of total credit and the spread between banks lending and deposit rates (a third monetary policy indicator) in Jordan during the period from January 1995 to December 2005 by including a third variable (banks characteristics) that can contribute in reducing the effect of monetary policy actions on the supply of bank loans (total credit).

The result showed a negative statistically insignificant relationship between total amount of credit and the spread between banks lending and deposit rates by including assets characteristics (assets size multiplied by the spread between banks lending and deposit rates), a positive statistically significant relationship between both variables by including liquidity characteristics (liquidity to total assets ratio multiplied by the spread between banks lending and deposit rates) , and finally a positive statistically significant relationship between both variables by including capitalization characteristics (capital to total assets ratio multiplied by the spread between banks lending and deposit rates).

In the assets side, there is a positive statistically insignificant relationship between total credit and assets characteristics. Lagged total credit at first lag has a positive statistically significant

effect of (0.997243), lagged spread between banks lending and deposit rates at first lag has a positive statistically insignificant effect of (110.1031), where lagged assets characteristics at first lag has a negative statistically insignificant effect of (0.010036). A positive statistically significant result for F-statistic, a result of (1.932053) for Durbin-Watson statistic, and (0.996626) from the dependent variable are explained by the explanatory variables (R-Squared).

Table (4.8): Total Credit and Spread between Lending & Deposit Rates Including Bank Characteristics

Dependent variable: Total Credit (Loan Supply)

Variables	Asset Characteristic			Liquidity Characteristic			Capitalization Characteristic		
	Coefficient	Probability	T-Statistic	Coefficient	Probability	T-Statistic	Coefficient	Probability	T-Statistic
Spread Lending & Deposit Rates	-149.6262	0.3271	-0.984005	208.8138	0.0026	3.075429	165.3070	0.0797	1.767541
Certificates of Deposit Size	3.533360	0.3580	0.922614	3.298891	0.3520	0.934255	2.481145	0.3513	0.935631
Securities Size	-0.262018	0.0524	-1.959371	-0.143397	0.3456	-0.946947	-0.325047	0.0137	-2.501520
The Assets Size	0.012615	0.3658	0.907795	----------	----------	----------	----------	----------	----------
The Liquidity Ratio	----------	----------	----------	-6.099318	0.0022	-3.133042	----------	----------	----------
The Capital Ratio	----------	----------	----------	----------	----------	----------	-23.09576	0.0686	-1.837558
Lagged Total Credit First Lag	0.997243	0.000	34.32761	1.010662	0.000	34.91607	1.029509	0.000	39.98630
Lagged Spread Lending & Deposit Rates First Lag	110.1031	0.4711	0.722879	-174.0847	0.0013	-3.285782	-178.5912	0.0729	-1.809440
Lagged Assets size First Lag	-0.010036	0.4598	0.741583	----------	----------	----------	----------	----------	----------
Lagged Liquidity Ratio First Lag	----------	----------	----------	5.290538	0.0028	3.047158	----------	----------	----------
Lagged Capital Ratio First Lag	----------	----------	----------	----------	----------	----------	23.02480	0.0753	1.794153
F-statistic	3970.749	0.000	----------	4276.029	0.000	----------	4986.048	0.000	----------
R-squared	0.996626			0.996866			0.997311		
Durbin-Watson Statistic	1.932053			2.155574			2.029070		

In the liquidity side, there is a negative statistically significant relationship between total credit and liquidity characteristics. Lagged total credit at first lag has a positive statistically significant effect of (1.010662), lagged spread between banks lending and deposit rates at first lag has a negative statistically significant effect of (174.0847), where lagged liquidity characteristics at first lag has a positive statistically significant effect of (5.290538). A positive statistically

significant result for F-statistic, a result of (2.155574) for Durbin-Watson statistic, and (0.996866) from the dependent variable are explained by the explanatory variables (R-Squared).

In the capitalization side, there is a negative statistically significant relationship between total credit and capitalization characteristics. Lagged total credit at first lag has a positive statistically significant effect of (1.029509), lagged spread between banks lending and deposit rates at first lag has a negative statistically significant effect of (172.5912), where lagged capitalization characteristics at first lag has a positive statistically significant effect of (23.02480). A positive statistically significant result for F-statistic, a result of (2.029070) for Durbin-Watson statistic, and (0.997311) from the dependent variable are explained by the explanatory variables (R-Squared).

As we see in table (4.8) the coefficient of the spread between banks lending and deposit rates is negative and statistically insignificant, and the coefficient of the asset characteristics are positive and statistically insignificant, which imply that we cannot determine whether total credit will respond or not as we include the asset characteristic, but by including liquidity and capitalization characteristics total credit will respond (coefficients of the spread between banks lending and deposit rates are positive and statistically significant). Also the coefficients of liquidity and capitalization characteristics are negative and statistically significant, which imply that these factors (liquidity and capitalization) can play an important role in supporting the amount of loans available for banks to lend out. Also we can consider the spread between banks lending and deposit rates as a good indicator for monetary policy in Jordan.

Table (4.9) explain the relationship between the amount of total credit and the spread between three month certificates of deposit rate and U.S federal funds rate (a fourth monetary policy indicator) in Jordan during the period from January 1995 to December 2005 by including a third variable (banks characteristics) that can contribute in reducing the effect of monetary policy actions on the supply of bank loans (total credit).

The result showed a negative statistically significant relationship between total amount of credit and the spread between three month certificates of deposit rate and U.S federal funds rate by including assets characteristics (assets size multiplied by the spread between three month certificates of deposit rate and U.S federal funds rate), a positive statistically significant relationship between both variables by including liquidity characteristics (liquidity to total assets ratio multiplied by the spread between three month certificates of deposit rate and U.S federal funds rate), and finally a positive statistically significant relationship between both variables by including capitalization characteristics (capital to total assets ratio multiplied by the spread between three month certificates of deposit rate and U.S federal funds rate).

In the assets side, there is a positive statistically significant relationship between total credit and assets characteristics. Lagged total credit at first lag has a positive statistically significant effect of (1.017899), lagged spread between three month certificates of deposit rate and U.S federal funds rate at first lag has a positive statistically significant effect of (308.5085), where lagged assets characteristics at first lag has a negative statistically significant effect of (0.031379). A positive

statistically significant result for F-statistic, a result of (2.150754) for Durbin-Watson statistic, and (0.997342) from the dependent variable are explained by the explanatory variables (R-Squared). In the liquidity side, there is a negative statistically significant relationship between total credit and liquidity characteristics. Lagged total credit at first lag has a positive statistically significant effect of (1.024771), lagged spread between three month certificates of deposit rate and U.S federal funds rate at first lag has a negative statistically insignificant effect of (147.1353), where lagged liquidity characteristics at first lag has a positive statistically insignificant effect of (4.379175). A positive statistically significant result for F-statistic, a result of (2.033038) for Durbin-Watson statistic, and (0.996617) from the dependent variable are explained by the explanatory variables (R-Squared).

In the capitalization side, there is a negative statistically significant relationship between total credit and capitalization characteristics. Lagged total credit at first lag has a positive statistically significant effect of (1.030379), lagged spread between three month certificates of deposit rate and U.S federal funds rate at first lag has a negative statistically significant effect of (262.4426), where lagged capitalization characteristics at first lag has a positive statistically significant effect of (31.33748). A positive statistically significant result for F-statistic, a result of (1.855202) for Durbin-Watson statistic, and (0.997722) from the dependent variable are explained by the explanatory variables (R-Squared).

As we see in table (4.9) the coefficient of the spread between three month certificates of deposit rate and U.S federal funds rate is negative and statistically significant, and the coefficient of the asset characteristics are positive and statistically significant, which imply that when we include the asset characteristic to enhance the bank ability to provide loans total credit will not respond, but by including liquidity and capitalization characteristics total credit will respond (coefficients of the spread between three month certificates of deposit rate and U.S federal funds rate are positive and statistically significant). Also the coefficients of liquidity and capitalization characteristics are negative and statistically significant, which imply that these factors (liquidity and capitalization) can play an important role in supporting the amount of loans available for banks to lend out. Also we can consider the spread between three month certificates of deposit rate and U.S federal funds rate as a good indicator for monetary policy in Jordan.

The relationship between bank lending and output was examined by using the vector autoregressive approach (VAR) to explain the relationship between total credit and the nominal gross domestic product in Jordan during the period from quarter one 1995 to quarter four 2005, the impulse response function test (figure 4.1) showed that two standard error deviation in total credit response to nominal gross domestic product has a positive statistically significant effect, which assure the positive relationship between both variables. Also figure (4.2) summarizes the positive statistically relationship between the total credit and the nominal gross domestic product in Jordan.

Table (4.9): Total Credit and the spread between CD3 & Federal Fund Rates Including Bank Characteristics									
Dependent variable: Total Credit (Loan Supply)									
Variables	Asset Characteristic			Liquidity Characteristic			Capitalization Characteristic		
	Coefficient	Probability	T-Statistic	Coefficient	Probability	T-Statistic	Coefficient	Probability	T-Statistic
Spread CD3 & Federal Fund Rates	-302.119	0.0399	-2.07751	197.9505	0.0705	1.824791	259.3954	0.0022	3.133951
Certificates of Deposit Size	2.104445	0.3448	0.948356	3.165695	0.4077	0.830753	2.467577	0.3814	0.878452
Securities Size	-0.3151	0.0196	-2.36605	-0.2285	0.1057	-1.62996	-0.343	0.0085	-2.67562
The Assets Size	0.030522	0.0303	2.192378	----------	----------	----------	----------	----------	----------
The Liquidity Ratio	----------	----------	----------	-5.88589	0.0940	-1.68795	----------	----------	----------
The Capital Ratio	----------	----------	----------	----------	----------	----------	-30.9606	0.0030	-3.02898
Lagged Total Credit First Lag	1.017899	0.000	39.99774	1.024771	0.000	49.66021	1.030379	0.000	45.58593
Lagged Spread CD3 & Federal Fund Rates First Lag	308.5085	0.0256	2.260573	-147.135	0.1954	-1.30185	-262.443	0.0028	-3.05376
Lagged Assets size First Lag	-0.03138	0.0187	-2.38412	----------	----------	----------	----------	----------	----------
Lagged Liquidity Ratio First Lag	----------	----------	----------	4.379175	0.2253	1.218686	----------	----------	----------
Lagged Capital Ratio First Lag	----------	----------	----------	----------	----------	----------	31.33748	0.0037	2.958609
F-statistic	5044.938	0.000	----------	3961.207	0.000	----------	5889.662	0.000	----------
R-squared	0.997342			0.996617			0.997722		
Durbin-Watson Statistic	2.150754			2.033038			1.855202		

Figure (4.1): Response of NGDP to Total Credit

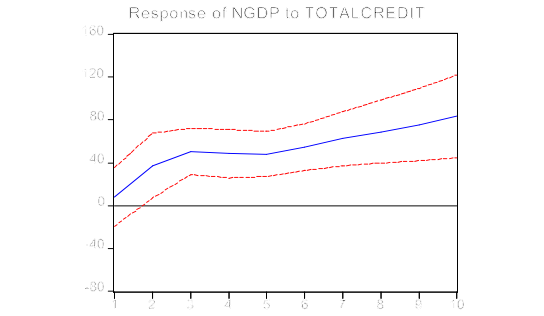
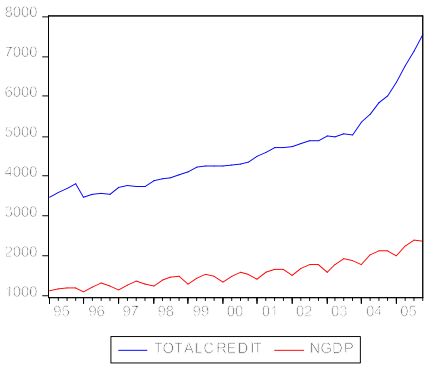
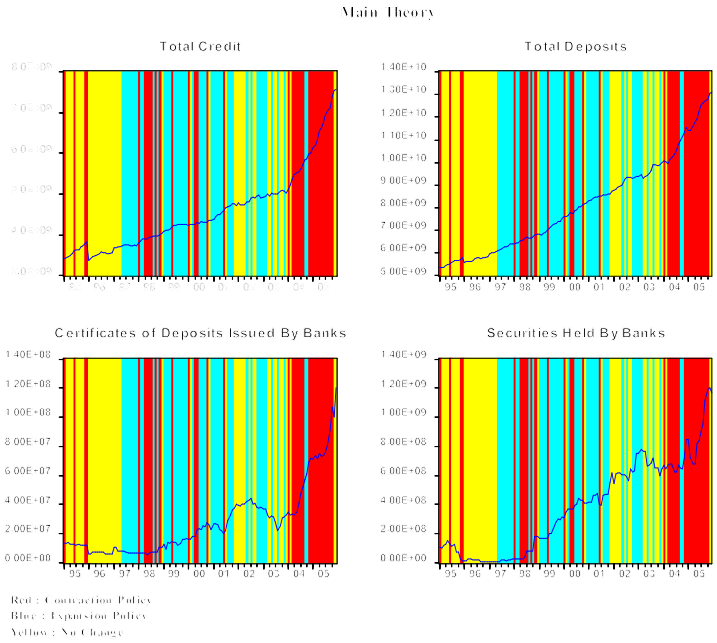


Figure (4.2): Total Credit and NGDP



Finally, bank lending channel exist in Jordan due to the fact that the relationship between total credit and total amount of deposit are positively significant, also the relationship between total credit and the amount of certificates of deposits issued by banks are positively significant, finally the relationship between total credit and the amount of securities held by banks are negatively significant as we see in table (4.1) and figure (4.3), so the main conditions under the bank lending channel theory are maintained. Also the two necessary conditions for a bank lending channels to operates are also maintained in which some spending are dependent on the bank lending as we see in (figure 4.1), and monetary policy can affect the supply of bank loans as we see in tables (4.2), (4.3), (4.4), and (4.5) which support the existence of the bank lending channel in Jordan.

Figure: (4.3) Bank Lending Channel Theory and Monetary Policy Actions



CONCLUSIONS

The results showed that the main operative indicators for monetary policy actions are the real three month certificates of deposit rates, the three month certificates of deposit rates, the spread between banks lending rates and deposit rates, and the spread between three month certificates of deposit rate and U.S federal funds in determining the trend of the monetary policy actions in Jordan. Poddor, Sab, and Khachatryan, 2006, found that the current operating target of the monetary policy represented by the actions of the central bank in Jordan that is measured by the spread between 3 month certificate of deposits rate's and the United states Federal rate influences bank retail rates and foreign reserve.

Banks characteristic (liquidity and capitalization) can play an important role in reducing the effect of monetary policy actions on the supply of total credit available for banks to lend out better than the role played by the variables under the main theory of bank lending channel (size of certificate of deposits issued by banks and securities held by them) in reducing the effect of monetary policy. Juk's, found that well capitalized bank seems to experience a smaller outflow of deposit after a monetary policy contraction, and the liquidity position of banks seems to be an important determinant of the loan supply (liquid bank have the ability to maintain their loan portfolio while less liquid banks must reduce their loan supply after a monetary policy contraction. Loupias, Savignas, and Sevestre, 2002, found that the illiquid bank are more sensitive to the monetary policy tightening because they do not have the ability to sell part of their asset without lose in its value, in order to protect the loan portfolio from the effect of rising interest rate. Farinha and Marque's, 2001, found that the extent of the lending channel seems to be larger for less capitalized banks. Alfaro, Franken, Garica, and Jara, 2003, found that some banks that are less liquid and less capitalized banks are forced to curtail their supply of credit following a monetary policy shocks and other international evidence. Brissimis, Kamberoglou, and Simigiannis, 2001, found that more liquid (healthy) banks can to a certain extent shield their loan portfolio from monetary policy changes.

Also our results show that the size of banks measured by their total assets does not have a significant effect on the amount of total credit. Loupias, Savignas, and Sevestre, 2002, do not found any impact for the assets size characteristic on the bank lending. Farinha and Marque's, 2001, found that asset size characteristic do not play an important role in determining the impact of monetary policy on the supply of bank loans.

A bank lending channel exist in Jordan due to the fact that the main conditions under the bank lending channel theory are maintained in which some spending are dependent on the bank lending, and monetary policy can affect the supply of bank loans, which support the existence of the bank lending channel in Jordan. Also the results showed that total credit has a positive significant effect on the amount of nominal gross domestic product, which explain the importance of bank loans in satisfying the needs of household and firms, and the increasing of investment opportunities in Jordan during the last years.

Al-Rjoub, 2006, examine whether the changes in bank lending in thirteen banks in Jordan cause subsequent change in income and the extent to which bank lending affect outputs by aggregating bank level data to test whether change in bank loan supply affect output, he found that shocks to loan supply have large and statistically, significant effects on the supply of bank loans, but money demand and supply shocks have statistically insignificant effect output. Ireland, 2005, found that open market operation exercised by the Central Banks lead to a contraction in the supply of bank reserve and drains the deposits held by banks , and then cause a contraction in bank deposits whish require banks that especially dependent on deposits as a source of fund to make loans to cut back on their lending activities , also it will require firms that are especially dependent on bank loans to cut back on their investment spending , at the end this will lead to a decline in aggregate output and employment that follows a tightening monetary policy.

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FOREIGN DIRECT INVESTMENT, EXCHANGE RATE, AND THEIR ROLES IN ECONOMIC GROWTH OF DEVELOPING COUNTRIES: EMPIRICAL EVIDENCE FROM KAZAKHSTAN

Jung-Wan Lee, Boston University
Gulzada Baimukhamedova, Kazakh Academy of Transport & Communications
Sharzada Akhmetova, Kazakhstan Institute of Management

ABSTRACT

This paper investigates the relationship between foreign direct investment (FDI) inflows, exchange rate, and economic growth of a developing country, and their effects on major economic activities in the nation. This paper examines macroeconomic activity variables of gross domestic product, fixed capital investment, employment ratio, retail trade turnover, industrial production, FDI inflows, and dollar exchange rate as a control variable. The macroeconomic activity statistics of ten calendar years (1997-2006) of Kazakhstan were analyzed by using a multivariate regression model with weighted least squares estimates.

The results indicate that FDI has a minimum or statistically insignificant impact on GDP growth of Kazakhstan. The paper argues that a resource-seeking FDI has a minimal effect on improving the economic growth of developing countries. In other words, the resource-seeking FDI might have a minimal effect on achieving economic growth and national competitiveness of host countries, but not as much as manufacturing-based FDI does. Finally, this paper suggest policymakers of Kazakhstan should consider strategic goals of FDI to maximize its benefits into the economy.

KEYWORDS: foreign direct investment, economic growth, gross domestic product, industrial production, exchange rate, retail trade turnover, employment, multinational enterprises, national competitiveness, Kazakhstan

INTRODUCTION

Porter (1990a) proposed the national competitiveness "diamond" model and applied this method to consider a wide range of reasons as to why some nations can gain competitive advantages in international markets. He presented four factors that determine the creation of a nation's competitive advantages: factor conditions, demand conditions, relevant and supporting industries,

and firm strategy and structure. Porter further discussed the four stages of competitive development: factor-driven, investment-driven, innovation-driven, and wealth-driven stages. Consequently, countries pass through these four stages in creating competitive advantage of the nation and in enhancing economic prosperity. However, this model has been criticized due to the inapplicability of the model to small and developing economies, and its overlooking the roles of multinational enterprises (MNEs) and foreign direct investment (FDI). Professor Porter did acknowledge the fact that, at least for developing countries, foreign owned MNEs may serve to seed industrial clusters and thus contribute to the upgrading of the national diamond.

Nevertheless, the notion of national competitiveness is debatable (see Thompson, 2004). Porter (1990a, 1990b) argued that the national competitiveness of a nation may not rely on the whole economy, but in specific industries. Such understanding emphasizes the distinct strengths of individual industries in leading industrial countries and their corresponding arrangement of national clusters in these industries. These patterns of industry specialization are well illustrated by the business profiles of the United States, Japan, and Germany. The United States appears to be strong, primarily in high-technology industries, especially information technology, life sciences, and in a number of service industries such as management consulting, financial services, and motion pictures. Japan has been particularly strong in the design and complex assembly manufacturing of consumer electronics, cameras, photocopiers, machine tools, and cars. The competitive advantage of Germany is quite similar to that of the Japanese profile, although it is particularly strong in the areas of design, manufacture and distribution of a variety of industries such as machinery, cars, and chemicals.

A brief overview of the above industry-specific competitive advantages highlights the significance of the concept of national competitiveness, however, this national competitiveness concept can be seen to indicate that the performance of firms can be related back toward the national conditions within which these firms operate (see Caspar, 2000; Haake, 2002). Successful development of major industries can be achieved through national policies directed toward achieving a sustainable growth in national productivity and enhancing the competitiveness of the nation's industries (see Hohenthal, Johanson, & Johanson, 2003). Despite the high level of interest in the role of leading industries in building national competitiveness, it is still not very clear what major industries can help in leveraging national economies into the global marketplace.

With this in mind, Kazakhstan has captured the attention of the world with extraordinary speed, particularly in terms of its development in leading industries during the last decade. However, a large portion of economic growth of Kazakhstan was contributed by its natural resources - oil and gas industries and the mining sector. Indeed, the oil and gas sector is now Kazakhstan's biggest export category and a vital force behind the nation's economic growth. Nevertheless, it is debatable whether the oil and gas industry alone can provide long-term economic development for this economy. Consequently, due to the rise in wages, shortage of professional and skillful labour, problems in exploring sufficient Greenfields, pressures of environmental protection and insufficient

infrastructure, Kazakhstan is now facing new challenges. Against this backdrop, the ability to develop additional industries may be key in creating the long term economic growth of Kazakhstan. This paper discusses the role of FDI in achieving the economic growth and the national competitiveness of Kazakhstan. Accordingly, the two objectives of this research are: (1) To examine a relationship between FDI inflows and economic growth of Kazakhstan; (2) To discuss the role of FDI in enhancing economic growth of Kazakhstan.

LITERATURE REVIEW

Multinational Enterpreses (MNEs) and Foreign Direct Investment (FDI)

MNEs create one of the premier international entities of international business and their economic impact has significant consequences on the global economy. Furthermore, MNEs might be responsible for generating ever larger shares of global capital, employment and production in the global markets. In this regard, MNEs can be seen as a source of economic power, Therefore, their influence has grown precipitously over the last three decades (e.g. Hanvanich & Cavusgil, 2001). Indeed, their economic dominance affects not just the management of national economic systems, but has brought fundamental changes on the linkages between national economies.

Against this backdrop, economic globalization refers to the increasing integration of economies around the world, particularly through trade, financial flows, the movement of the workforce, and technology that transcend international boundaries. The concept of globalization encompasses not only the internationalization of consumption through cross-border trade in goods and services, but also the global integration of capital markets and the internationalization of products through FDI. In recent years, globalization has been an issue of public dialog as international trade and investments have grown.

With this in mind, this phenomenon has not been confined to the developed world. We see international business shifting toward the large and developing economies such as Brazil, Russia, India and China. They have grown rapidly by acquiring new competencies and becoming more open toward foreign trade and investment. The effect of globalization has resulted in varied views on the benefits and costs (e.g. Bruff, 2005; Crenshaw & Robison, 2006; Ghani & Lockhart, 2006). On the other hand, some theorists worry that it may result in a race to the bottom, in which competition from low-wage countries results in reductions in wages and a loss of jobs, or in which measures to protect the environment lead to shifts in production to countries with permissive environmental regimes (e.g. Burkle Jr., 2006; Glaser, 2006). It is clear that the issue of globalization is a significant phenomenon, and therefore, cannot be underestimated.

In attempting to examine this concept, Landefeld and Whichard (2006) discussed some of the issues with respect to two major ways in which globalization manifested itself in terms of cross-border trade in goods and services, and foreign direct investment (see also Peleg & Arieli, 2006).

Hence, in this paper, the authors consider the case of Kazakhstan in terms of the application of a variety of measures of FDI in relation to the economic activities of MNEs. As a consequence, the authors recognized the need to complement these data with statistics that describe the operations of the firms, in which there is direct investment.

In understanding the nature of FDI-based indicators for this study, these appear to be among the most widely available and commonly used measures of economic globalization. International guidelines for measuring FDI are given in the International Monetary Fund's (IMF) manual (IMF, 1993) and the OECD's manuals (OECD, 1996, 2005). The gross FDI inflows in Kazakhstan (Agency on Statistics of the Republic of Kazakhstan, 2008) include the following factors:

1. Purchase not less than 10 percent share in Kazakhstan share-capital by non-residents, except sale by non-residents of their share in Kazakhstan share-capital to residents;

2. Reinvested earnings (a share of direct investors undistributed income or loss in Kazakhstan companies); and

3. Loans and commercial credits granted by direct investors both in cash and another form (as goods, services, intangible assets and so on) without amortization.

Foreign Direct Investment (FDI) and Economic Growth of Developing Countries

The fixed capital investment in economic growth has been considered one of the basic principles in economics. FDI is of special interest for its supposed positive effects on growth (Hsiao & Shen, 2003; Kneller & Pisu, 2007; Qi, 2007; Tsang & Yip, 2007). There is a widely accepted view that FDI promotes growth not only directly by augmenting capital formation in the recipient economy, but also indirectly by inducing human capital development, helping technology transfers and strengthening competition. Mainly for the sake of these potential merits of FDI, both developing and developed countries have become more receptive to FDI inflows, and the global FDI flows have continued to increase, except for a short-lived decline at the beginning of 2000s.

Hsiao and Hsiao (2006) reported that using time-series and panel data from 1986 to 2004 of the eight rapidly developing East and Southeast Asian economies, China, Korea, Taiwan, Hong Kong, Singapore, Malaysia, Philippines, and Thailand, FDI has unidirectional effects on GDP growth of the economies. Chen, Chang, and Zhang (1995) reported that FDI has been positively associated with economic growth, and the increase of total fixed asset investment in China. Foreign direct investment has also forced an increasing number of domestic manufacturers to compete globally, in particular during the post-1978 period (see also Li & Liu, 2005; Tuan & Ng, 2007). Yao and Wei (2007) argued that FDI is a powerful driver of economic growth for a newly industrialising economy to catch up with the world's most advanced countries, due to its dual role as a mover of

production efficiency and a shifter of the production frontier. Lloyd (1996) argued that FDI has played the roles as a source of savings to Asian economies and an agent of technology transfer and transformation of the structure of the economies, and has contributed much to building export-oriented industries in particular, since the mid-1980s.

Demekas, Horváth, Ribakova, and Wu (2007) reported that FDI inflows has been hugely positive for Southeast European countries. Marinov and Marinova (2000) also found that FDI has been extremely positive for Central and Eastern European countries, including Bulgaria, Hungary, Poland, and Slovenia (see Akbar & McBride, 2004; King & Váradi, 2002 for the Hungarian economy). Altomonte and Guagliano (2003) found that FDI by European multinationals in Central and Eastern Europe and the Mediterranean over the 1990–1997 period has been very positive for economic growth of the regions (see also Fabry & Zeghni, 2006). Carstensen and Toubal (2004) argued that FDI in Central and Eastern European countries was sought mainly for market potential, lower labor costs, a skilled workforce and relative endowments (see also Bevan & Estrin, 2004; Onaran & Stockhammer, 2008).

To the same extent, in view of the close connection between growth, total investment and FDI, it is justifiable to treat all three as a system and test the causal relationship between the three variables. Kim and Seo (2003) found that FDI had some positive but insignificant effect on GDP growth, while GDP growth had significant and highly persistent effects on the future level of FDI. In addition, Alguacil, Cuadros, and Orts (2004) found that FDI enhanced growth and reinforced the connection between growth and savings in Mexico. Qi (2007) suggested that the causal relationship between growth, total investment, and FDI inflow had mixed results. He claimed that the countries heavily dependent on petroleum export had more difficulties than other countries in benefiting from FDI, and also the role of total investment in growth would be weakened in oil-exporting countries. Using data on 80 countries from 1979 through 1998, Durham (2004) reported that FDI does not have direct, unmitigated positive effects on economic growth of host countries. Ishaq (1999) reported that FDI has a small and statistically insignificant effect on the economic growth of Ukraine, due to attracting very little foreign direct investment. Akinlo (2004) reported that FDI has a small and statistically insignificant effect on the economic growth of Nigeria for the period 1970–2001. Damijan, Knell, Majcen, and Rojec (2003) argued that FDI does not generate positive intra-industry spillovers for domestic firms of host countries using firm-level data for eight transition countries for the period 1994–1998.

Exchange Rate and Measures of Economic Growth

Schnabl (2005) examined the rationale for dollar and euro pegs in Russia and Commonwealth Independent States, and revealed that dollar pegging has been pervasive in the economies. Yousefi and Wirjanto (2003) examined the effects of changes in the exchange rate of the US dollar on the trade balances of three oil-exporting countries, namely Iran, Venezuela and

Saudi Arabia. They suggested that while the three countries raised the price of their primary export (namely crude oil) in response to depreciation of the dollar, Saudi Arabia's long-run pricing strategy in securing a large market share stood in contrast to that of the two other OPEC members.

A deeper look at the empirical literature showed that the evidence for the impact of exchange rate volatility on trade corresponded quite well with the theoretical considerations. An overwhelming majority of the literature reports significantly negative effects (Byrne, Darby, & MacDonald, 2008; Choudhry, 2005; Sauer & Bohara, 2001; Schnabl, 2008). For example, Caporale and Doroodian (1994) found that exchange rate uncertainty had a negative and statistically significant effect on trade flows. Some empirical evidence has also found a negative effect on the real exports of the United States to Canada and Japan (Choudhry, 2005), and toEuropean Union (Schnabl, 2008). They affirmed that there was a negative relationship between exchange rate volatility and growth for countries in the economic catch-up process with open capital accounts. On the contrary, McKenzie and Brooks (1997) analysed the effect of exchange rate volatility on Germany-US bilateral trade flows, and suggested that the effects of volatility were positive and statistically significant for the period under review (see also Franke, 1991).

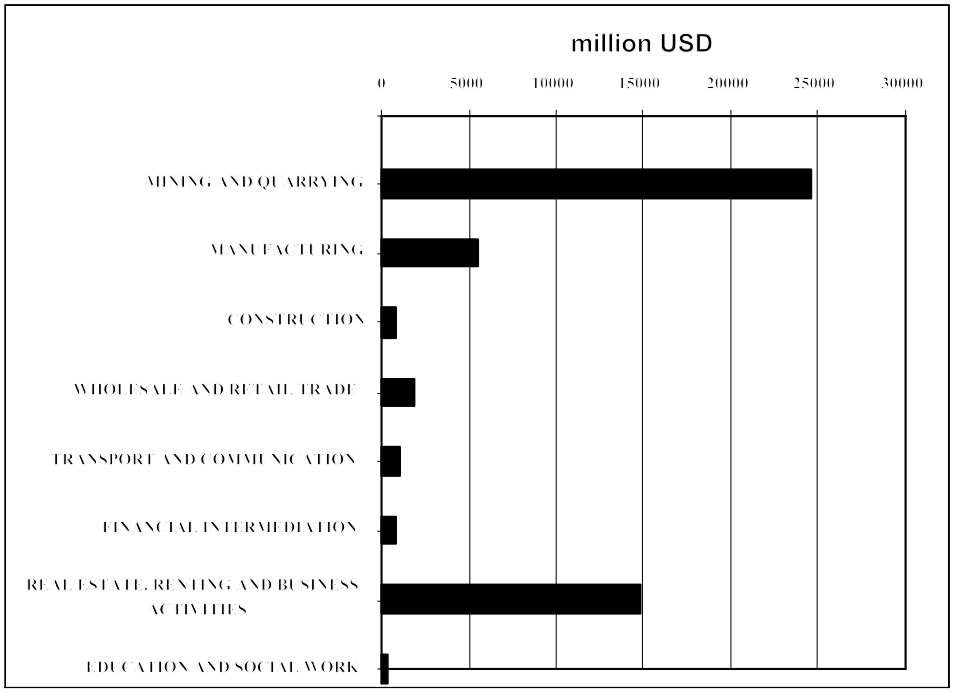
However, there are many studies revealing insignificant influences (Belanger et al., 1992; Kroner & Lastrapes, 1993) or significant effects in both directions (Daly, 1998; McKenzie, 1998; Sercu & Uppal, 2003). For example, Belanger et al. (1992) indicated that exchange rate variability had not significantly depressed the volume of trade between Canada and the United States. Lastrapes and Koray (1990) also suggested that the effects were quantitatively small. To the same extent, Sercu and Uppal (2003) showed an ambiguous effect on trade depending on the underlying source of exchange rate volatility. For instance, more volatility of the endowments and higher costs to international trade both boost exchange risk; however, the first increases the expected volume of trade, while the second decreases trade. Mckenzie (1998) also suggested the impact of exchange rate volatility remained difficult in establishing the nature of the relationship (see also Daly, 1998). In summary, the effects of exchange rate uncertainty on trade are sometimes difficult to discern, and depend on model structure and estimation techniques. While some theoretical models suggest that an increase in the exchange rate volatility depresses trade, others report uncertain or even provide positive effects.

FDI Inflows and Its Role in Enhancing Economic Activities in Kazakhstan

In 1997, the government eliminated most of the obstacles of foreign direct investment regulations and promoted the implementation of FDI-friendly policies. In this regard, the Kazakhstan government has taken various measures after prior consultations and exchange of views with foreign investors, particularly, within the framework of the Foreign Investors' Council (FIC), which was set up by the President of Kazakhstan in June of 1998. Basic guidelines of social and economic policy pursued the principles of “improving standard basis aimed at boosting the influx

of domestic and foreign capital in the sphere of investments" (The Administration of the President of the Republic of Kazakhstan, 2007).

Figure 1. The Gross FDI Inflows by Economic Activities (Year: 1997 - 2006)



Source: The raw data was obtained from the National Bank of Kazakhstan (2008)

As a result, the aggregate foreign investments into Kazakhstan's economy during the ten-year period from 1997 to 2006 has exceeded 51 billion US dollars (National Bank of Kazakhstan, 2008). During this period, MNEs from the USA were the leading investors in Kazakhstan as measured by the level of gross FDI inflows. Specifically, US based MNEs had a 26.4 percent share (accumulated amount in total was approximately 13.5 billion US dollars) of Kazakhstan's gross FDI inflows as compared with other countries. Since 2000, European Union (EU) countries amongst United Kingdom (UK, total 5.2 billion US dollars), the Netherlands (total 7.8 billion US dollars), Italy (total 2.8 billion US dollars), Switzerland and France have accelerated their investments, and have become major players of FDI in Kazakhstan. Since 2003, East Asian countries of South Korea (total 2.1 billion US dollars), China (total 2 billion US dollars) and Japan accelerated their investments and became leading players of FDI in Kazakhstan. North America has a 30 percent share (total 15.5 billion US dollars), East Asian countries have an 11 percent share (total 5.5 billion US dollars), and European Union countries have a 50 percent share of the gross FDI inflows to Kazakhstan.

FDI inflows by economic activities show that the mining and quarrying industry makes up about 48 percent (total 24.6 billion US dollars); manufacturing industry is 10.8 percent (5.5 billion US dollars); wholesales and retail trade sector is 3.6 percent (1.8 billion US dollars); transport and communications sector is 2 percent (1 billion US dollars); and the real estate industry is about 29 percent, with 15 billion US dollars investments (Figure 1).

With this in mind, geological exploration and prospecting activities had more than 65% of the total FDI inflows in the service industries. The European Bank for Reconstruction and Development (EBRD) indicated FDI in Kazakhstan is heavily biased toward the natural resources sector, which received over 85 per cent of FDI in 2000. The oil and gas sector has a number of major Greenfield projects sponsored by international consortia while Brownfield projects dominated the mining and industry sectors (EBRD, 2003, p.104).

RESEARCH METHODOLOGY

Hypothesis Development

One of the primary objectives of this paper is to investigate a relationship between FDI inflows and economic growth of Kazakhstan. GDP growth should be related to those economic activities of FDI inflows, fixed capital investment, retail trade turnover, industrial production, exchange rate, and others. After a comprehensive review of the secondary data, the researchers initially selected seven variables (indicators): growth domestic production, FDI inflows, fixed capital investment, employment, retail trade turnover, industrial production, and exchange rate. In this regard, the authors initially employ a confirmatory approach to define the relationships between independent variables and a dependent variable in a regression model. Multiple regression techniques are applied to test a linear combination in explaining the dependent variable, the growth of gross domestic product.

The five predictors such as FDI inflows, fixed capital investment, employment, retail trade turnover, and industrial production should determine growth domestic production (as a proxy of economic growth). In addition, exchange rate should play a role in the relations. This leads to the following hypotheses.

H1: There is a relationship between FDI inflows and economic growth of Kazakhstan.

H2: There is a relationship between fixed capital investment and economic growth of Kazakhstan.

H3: There is a relationship between employment ratio and economic growth of Kazakhstan. H4: There is a relationship between retail trade turnover and economic growth of Kazakhstan. H5: There is a relationship between industrial production and economic growth of Kazakhstan.

Data and Correlation between Variables

The raw data in the model were the ten year time series data during the period from 1997 to 2006 (source: Agency on Statistics of the Republic of Kazakhstan, 2008). Possible transformations of the data to remedy violations of various model assumptions, such as the normality on the shape of the distribution, linearity, and the relationships between independent variables, are examined. The size of the sample has a direct impact on the appropriateness as well as the statistical power of multiple regression analysis. Therefore, the authors developed 40 cases of sample data from the ten year time series data. In these applications, it is applied that the 0.05 significance level with one-tailed as the criterion in the test of statistical significance. Table 1 shows the relationships between variables.

Table 1. Outputs of Pearson Correlation Coefficients (N = 40)

	GDP	FDI	investment	employment	retail	production	exchange
GDP	1.000						
FDI	.948***	1.000					
Fixed investment	.932***	.917***	1.000				
Employment	.817***	.806***	.708***	1.000			
Retail trade	.991***	.959***	.962***	.806***	1.000		
Production	.996***	.943***	.941***	.803***	.992***	1.000	
Exchange rate	.358**	.416***	.653***	.046	.446***	.392***	1.000

** $p < 0.05$, *** $p < 0.001$,
Coefficients are statistically significant at a 95% confidence level, one-tailed.

Results of Data Analysis

After several regression runs, the multiple regression model includes the five independent variables: FDI inflows (X1), fixed capital investment (X2), employment ratio (X3), retail trade turnover (X4); industrial production (X5), and gross domestic product (Y) was tested empirically. The partial t-values were calculated and applied to test the statistical significance of the independent variables in the regression model (Table 2).

The final regression model and its specified equation that maximizes the explanation power are shown as follows:

$$Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5$$

Where:

Y: gross domestic product, million tenge
X1: FDI inflows, million USD
X2: fixed capital investment, million tenge
X3: employees, thousand persons
X4: retail trade turnover, billion tenge
X5: volume of industrial production, billion tenge

Table 2. Outputs of Regression Analysis

Method of estimate	Ordinary Least Squares		Weighted Least Squares #	
	Unstandardized Coefficients (S.E.)	t-value	Unstandardized Coefficients (S.E.)	t-value
(Constant)	-254627.761	-0.513	-250889.663	-0.476
H1: FDI inflows	30.405 (43.523)	0.699	27.304 (43.523)	0.617
H2: Fixed capital investment	1.373 (0.516)	2.660**	1.212(0.516)	2.248**
H3: Employment	78.617 (141.250)	0.557	68.144 (141.250)	0.425
H4: Retail trade turnover	2184.994 (950.684)	2.298**	2195.406 (950.684)	2.137**
H5: Industrial production	1072.280 (158.152)	6.780***	1055.302 (158.152)	6.452***

Regression Model : $Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5$
Y: gross domestic product, million tenge
Weighted least squares regression- weighted by exchange rate (tenge for 1 US dollar)
** $p < 0.05$, *** $p < 0.001$, Coefficients are statistically significant at a 95% confidence level.
R square = 0.994, Adjusted R square = 0.993, Durbin-Watson statistics = 1.841
F-value = 1139.702, p = 0.000

The R-square of 0.994 suggests that 99 percent of the total variation in the amount of "gross domestic product" can be explained by the changes of the independent variables. The adjusted R square (0.993) takes into account of the sample size and the number of independent variables included in the regression equation. The F-value of 1139.702 is significant at the 95% confidence level.

The null hypothesis H1: there is no correlation between FDI inflows and economic growth of Kazakhstan, and can not be rejected (t-value = 0.699). This means FDI inflows do not have a direct effect on the economic growth of Kazakhstan. It supports an argument that natural resource-

seeking FDI may not have a direct effect in enhancing the economic growth of a developing country. The null hypothesis H2: there is no correlation between fixed capital investment and economic growth of Kazakhstan was rejected (t-value = 2.660). This result reinforces that fixed capital investment does have a direct effect in enhancing the economic growth of a developing country. The null hypothesis H3: there is no correlation between employment ratio and economic growth of Kazakhstan, and can not be rejected (t-value = 0.557). This means that the indicator of employment itself is reflected on the indicator of economic growth. The null hypothesis H4: there is no correlation between retail trade turnover and economic growth of Kazakhstan was rejected (t-value = 2.298). This result reinforces that retail trade turnover does have a direct effect in enhancing the economic growth of a developing country. The null hypothesis H5: there is no correlation between industrial production and economic growth of Kazakhstan, and was rejected (t-value = 6.780). This result reinforces that industrial production does have a direct effect in enhancing the economic growth of a developing country.

Though we applied a weighted least squares regression (weighted by dollar exchange rate) to investigate the effect of exchange rate in economic activities of Kazakhstan, the results show as much of the ordinary least squares. This means exchange rate did not significantly affect the economic activities of Kazakhstan during the period.

These measures indicate that the independent variables in the regression model are very useful in predicting the year-to-year variations of GDP. In view of the above results, this paper concludes that FDI by MNEs does not affect the GDP growth of Kazakhstan. It is noted that the economic resources controlled by MNEs and their investments make their investment decisions highly significant to the economic growth of small and/or developing countries. Emblematic of this is the fact that developing countries actively compete to attract MNEs' direct investment by promoting FDI advisory boards and various policy instruments. FDI in Kazakhstan had a minimal effect in achieving the economic growth and competitive advantages of the economy.

DISCUSSIONS AND IMPLICATIONS

This paper argues that the government should take and implement only those industrial policies that can meaningfully contribute to the nation's rapid achievement of international competitiveness. As global practice tends to show that the attraction of foreign investments positively affects a country's economy, foreign investment can be seen to be one of the principal factors supporting accelerated economic growth. In particular, in developing countries like China and India, they consider attraction of foreign capital as a necessary means for their economic growth. Against the background of the developing states of the former Soviet Union, Kazakhstan's success in attracting inward investments for the past ten years has been extremely impressive, particularly as Kazakhstan is now recognized as a leading country among CIS countries in terms of attracting foreign direct investments per capita. For example, the EU and USA recognised Kazakhstan as a

country with a market economy in 2001 and 2002 respectively. In the annual report of World Bank (2005), Kazakhstan is placed on the fifth level in investors' protection index along with Denmark, New Zealand, Switzerland, Singapore, and is the best amongst the former CIS states.

From this presentation, it should now be clear that currently the nation's investment potential is largely based on minerals and raw materials. Consequently, their exploitation creates more than a half of the nation's gross domestic product, quality and extent of deposits utilization, and the reproduction of raw material reserves, play pivotal roles in the economic growth of Kazakhstan. Aiming at attracting foreign direct investment, Kazakhstan carries out a policy of ensuring macroeconomic environment stability and realizes this through the monitoring of significant measures, which contribute toward an improving investment climate within the country. Here, Kazakhstan's investment policy must adhere to the principles of stability and predictability in terms of encouraging direct investments to such priority sectors of the economy as agriculture, manufacturing sector, industrial infrastructure, and tourism infrastructures. To the same extent, it is admirable that the government program contains a number of measures to attract multinational companies to the non-extractive sectors of the economy.

One of its priorities is the diversification and modernization of major industries, the growth of value added and high-tech components in the economy, hence its economy is becoming self-sustained and less-oil dependent. In order to turn out the disproportions in the nation's economy, the new “Innovative Industrial Development Strategy till 2015” was adopted in 2003 and the state investment strategy has been directed at promoting investments into less attractive fields, which were declared as priority (The Administration of the President of the Republic of Kazakhstan, 2007). Kazakhstan has also identified seven pilot cluster projects (tourism, metallurgy, textiles, construction, agriculture, food processing, oil and gas machinery building, logistics and transportation), which will establish the essence of the nation's competitiveness.

Consequently, the primary task of the government in the near and mid-term future has to be the continuation of structural and institutional reforms. This task should be aimed at developing competition, improvement of investment climate, strengthening of transparency, and liberalisation of the economy. Maintenance and development of favourable conditions for further development of the private sector should also remain a top priority. To the same extent, the nation's top priorities must be the promotion of FDI and MNE operations into industries of agriculture, innovation, and manufacturing sectors in order to reduce the dependence of the economy on energy and extracting sectors and to ensure sustainable growth of the nation's economy.

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AN EMPIRICAL TEST OF THE INTEREST RATE PARITY: DOES IT HOLD BETWEEN U.S.A. AND SELECTED EMERGING ASIAN ECONOMIES?

Mohammed Ashraful Haque, Texas A&M University – Texarkana

ABSTRACT

Interest Rate Parity is a theory that exchange rates are determined between two currencies based on the interest rate prevailing in those two countries. This paper examines and does an empirical test of interest rate parity between the United States and selected emerging Asian economies, which includes Philippines, India, Singapore, Thailand, Korea, Pakistan and Malaysia. Each one of these Asian economies is paired with the United States and the actual forward exchange rate is compared with the projected exchange rate based on interest rate parity. The null hypothesis states that actual forward exchange rates are equal to the projected forward exchange rate. If the null hypothesis is accepted, then we conclude that interest rate parity holds. Based on t-test for equal means, if the null hypothesis is rejected, then we conclude that interest rate parity does not hold. The results of the t-test for equal means of the actual and projected forward rate for U.S. and the emerging Asian countries of Malaysia, Pakistan, Korea, Thailand, Singapore, India and Philippines shows that we cannot reject the null hypothesis. Therefore, it is concluded that Interest Rate Parity holds between the United States and emerging Asian economies which includes Malaysia, Pakistan, Korea, Thailand, Singapore, India and Philippines.

INTRODUCTION

The theory of Interest Rate Parity (IRP) holds that one cannot make arbitrage profits due to different interest rates in different countries. Any gain made because of interest rate differentials will be wiped out due to adjustment in the exchange rate at the end of the investment time horizon. Let us assume that the three month interest rate in the U.S.A. is 11 percent and the same three month interest rate in the U.K. is 7 percent. This would indicate that investors in the U.K. will transfer their funds to the United States to take advantage of the higher interest rates and to earn a higher return. However, the theory of interest rate parity holds that such arbitrage opportunity is not possible because after three months the U.S. dollar is expected to depreciate by approximately 4 percent. Therefore, the British investor will not be any better off at the end of three months because the 4 percent higher return in the U.S. will be wiped out when the dollar declines by 4 percent at the end of three months when the British investor converts the dollar for British pounds. This is an exchange rate risk. Exchange rate risk can be covered by selling the expected dollar value to be

received after a three month investment period in the forward market. Therefore to gain from a covered interest arbitrage, a British investor must simultaneously buy dollars in the spot market and sell dollars in the forward market. This will increase the value of the dollar in the spot market and depreciate the value of the dollar in the forward market until equilibrium is reached and wipes out any arbitrage profit. Therefore, whether the investor invests in the U.K. or U.S.A., they should get the same return. This study does an empirical test to see if interest rate parity holds between the U.S.A. and emerging economies of Asia like Malaysia, Singapore, Thailand, Korea, India, Pakistan and Philippines.

PURPOSE AND METHODOLOGY

There is an abundance of research on interest rate parity, uncovered interest parity and covered interest parity. Very few deal with empirical tests. This study does an empirical test of the interest rate parity between the United States and selected emerging Asian economies of Malaysia, Korea, Singapore, Pakistan, India, Thailand and Philippines, and explores opportunity for covered interest arbitrage. Data were collected on all these countries from 1996 to 2007 on deposit rates and exchange rates, both spot and forward. For the purpose of this study transaction costs were ignored and it is assumed that forward rates are the best predictors of the future spot rates. For interest rate parity to hold, the following equation must hold.

$$(1+Di) = (1+Fi)(\text{Forward rate/spot rate})$$

where

D_i = Domestic interest rate
F_i = Foreign interest rate

The spot rate and forward rate must be a direct quote that is unit of domestic currency per unit of foreign currency. If the above equation does not hold then we would conclude that one can gain from covered interest arbitrage. The left side of the equation represents the domestic and right side represents a foreign country. Whichever side of the equation is greater; one can make arbitrage profit by investing in that side and borrowing from the opposite side. Therefore the hypotheses being tested are as follows:

Null: Interest rate parity holds between U.S.A. and selected emerging Asian economies

Alt: Interest rate parity does not hold between U.S.A. and selected emerging Asian economies

Each one of the emerging Asian countries is paired with the United States, with the United States as the domestic country. The above equation was used to predict the forward rate that would hold the interest rate parity. If the predicted forward rate is equal to the actual forward rate, then we would accept the null hypothesis; otherwise we will reject the null hypothesis. The United States was paired with each emerging Asian country and the forward rate was predicted and compared with the actual forward rate. The forward rate was predicted based on the following equation:

$$(1+Di) = (1+Fi)(\text{Forward rate/spot rate})$$

The two sample t-test was done for two samples, assuming equal variances for each pair. If the computed t was greater than the critical t then the null hypothesis was rejected, otherwise it would be concluded that interest rate parity holds between the U.S. and each of the emerging Asian economies.

LITERATURE REVIEW

Interest rates and exchange rates are sometimes influenced by political pressures. Liability dollarization and lobbying activity interact to influence exchange rate policy in emerging market economies. There is a reluctance to allow the currency to float freely because of political pressures from different interest groups, specifically the producing and financial sectors, although exchange rate movements could be beneficial from a social perspective. This assumes one period small open economic model where two groups of individuals have conflicting interest towards exchange rate policy. The first group is producers of tradable goods who seek loans in domestic currency to cover the cost of production, but get paid in foreign currency in trading those goods. They stand to gain from an ex-post depreciation of the domestic currency. The second group is the bankers, who are producers of an intermediary service. They obtain funds from the world market; therefore, their assets are in domestic currency, but liabilities are in foreign currency. Therefore they gain from an appreciation of the domestic currency. However, both parties dislike excessive volatility in the exchange market as it increases the cost to both parties. The excessive volatility increases the cost of gathering funds from abroad for the bankers and it causes them to charge a higher interest rate to producers. Both parties are organized and have lobbies with diverging objectives. They try to influence the government to have exchange rate policy to appreciate local currency while the lobbyists of the producers want exchange rate policies to depreciate the local currency (Ester, Massimo, Michele, 2008).

Fixed exchange rate regimes are considered temporary even though it can last up to a decade. Usually freely floating regimes last longer than pegged regimes, especially among developed countries. The main problem is how to exit a pegged exchange regime to a free floating exchange

rate regime. One should exit a pegged exchange rate regime when economic conditions globally and domestically are favorable. There is a difference between orderly exit from pegged exchange rate regimes which is followed by better economic performance (Abi, Nedezhda, Chuda).

There is considerable literature on joint intervention in the foreign exchange market. Intervention provides credible information about future policy decisions. Such policy decision may relate to interest rates. The joint intervention in the foreign exchange market by both the Japanese and American central banks on 17 June 1998 was effective. However, the effectiveness of the joint intervention is not instantaneous and does not last very long. The fundamental determinant of exchange rates is not intervention but rather capital flow and economic performance. Therefore joint intervention has very little impact on exchange rate which is short lived. Capital flow can be influenced by interest rates which will influence exchange rate. Monetary authorities in any country cannot rely solely on intervention to stabilize exchange rates (Chen, Huang, 2008).

The modern approach to forward exchange rate determination suggests that the equilibrium forward exchange rate is determined by the actions of two groups, arbitrageurs and speculators. It was found that there is a systematic long run relationship between the current forward exchange rate, the parity forward exchange rate and one period ahead spot exchange rate. It is also concluded that speculation plays a very negligible role in determining forward exchange rate (Karfakis, Costas, 2008).

According to uncovered interest rate parity, it is predicted that currencies yielding a high return will depreciate; however, an increase in real interest rate will appreciate the currency. In the short run there may be deviation of the UIRP but it does hold in the long run. Empirical research has found that deviation from UIRP if fairly strong should not be ignored. There is arbitrage opportunity in the short run because in the long run UIRP holds (Geert, Yuhang, 2007).

The value of the Malaysian ringgit has been a controversial issue in the most recent times. The authorities decided in September 1998 to peg the ringgit to the U.S. dollar after a sharp decline of about 23 percent in real effective terms during the crisis of 1997 and 1998. The peg remained in effect until July 2005. During these seven years the current account balance increased significantly and was in continuous surplus, unusual for an emerging economy. The foreign reserve continued to increase since mid 2002, reflecting recurring intervention by the Malaysian central bank to prevent the appreciation of the ringgit. This prevented the ringgit from reaching an equilibrium exchange rate. The equilibrium exchange rate of the ringgit appreciated during the first half of the 1980s because of expansionary fiscal policy. There was fiscal contraction along with rise in international trade because of the government's commitment to an open trade regime which eventually resulted in the depreciation of the ringgit during the second half of the 1980s (Koske, 2008). In an analysis of East Asian interdependence in the face of global imbalances using a multinational macroeconometric model, it was found that a depreciation of the dollar and reduced U.S. demand have contrasted effects on East Asian economics. The U.S. deficit is important for China and other East Asian countries. The study compares between fixed versus more flexible

exchange rate regimes in East Asia. It shows that depreciation of the dollar has more impact on Korea and slowdown of demand has more impact on China (Jaques, Yonghyup, Shophie, 2008).

It is widely accepted that forward exchange rates are not unbiased predictors of future spot exchange rates and therefore there is nonzero returns to forward speculation. It is believed that if forward speculation consists systematic risk, there should be nonzero return from speculation. The paper analyzes exante return on forward speculation and attempts to determine if it can be explained by a model of foreign exchange risk premium. According to uncovered interest rate parity hypothesis, the expected profit to forward speculation should be zero. There are significant ex-ante returns to forward speculation in five currencies in relation to the dollar and four currencies relative to the Deutche mark (Cumby, 1988).

According to uncovered interest rate parity it is argued that the presence of different interest rates in different countries can be explained by expected changes in exchange rates, although empirically this theory does not hold (Michael, Christensen; Granket, Froot; Mark, Wu). Therefore one could reasonably argue that there are other factors besides interest rates that influence the exchange rates. For the purpose of this study however, we concentrate only on those variables involved in interest rate parity theory, such as forward rates, spot rates, and domestic and foreign interest rates. However, sometimes spot exchange rates are influenced by policy behavior such as increasing or decreasing interest rates to stabilize exchange rates (Christenssen, 2000). The forward rate has often been referred to as a biased predictor of the future spot rate (Ballie, Bollerslev). Kevin Clinton emphasized transaction cost as being relevant in his study (Clinton, 1988). However, in most studies involving covered interest arbitrage the transaction cost is usually ignored.

In an efficient market forward exchange rate is the sum of the expected future spot rates plus the risk premium (Byers, Peel, 1991). McCullum argues that forward market for foreign exchange is inefficient, therefore the notion that forward rate is an unbiased estimator of forward spot rate is not valid (McCullum, 1993). However, in my study it is assumed that the market is efficient and forward rates are an unbiased estimate of the future spot rates.

Normally it is expected that currencies with high interest rates tend to appreciate against those with lower interest rates in the spot market (Flood, Rose, 1996). However, this is not true for the emerging markets in Asia.

Although several studies have rejected the interest rate parity theory, nevertheless the theory is used both by academicians and policy makers because there is no alternative theory. Mayfield and Murphy suggest that a time varying risk premium is responsible for the rejection of the interest rate parity theory (Mayfield, Murphy, 1992).

RESULTS

The results of the t-test are given in Table 1 as follows.

Table 1

Country Pair	Critical T-value	Actual Value	Decision
U.S.-Philippines	2.0859	.8445	Accept
U.S.-India	2.0859	1.1486	Accept
U.S.-Singapore	2.0859	-.7165	Accept
U.S.-Thailand	2.0859	.4194	Accept
U.S.-Korea	2.0859	.6129	Accept
U.S.-Pakistan	2.0859	.3779	Accept
U.S.-Malaysia	2.0859	-.5429	Accept

Based on the t-test and the computed t-value, we must accept the null hypothesis and conclude that interest rate parity does hold between the United States and the emerging Asian economies of Philippines, India, Singapore, Thailand, Korea, Pakistan and Malaysia.

Although we conclude that interest rate parity between the U.S. and emerging Asian economies holds in the long run, nevertheless, an intelligent investor may be able to identify certain time periods when there might be opportunity for covered interest arbitrage.

Let us say; for example, in the year 1997 the interest rate in the U.S.A. was 5.39 percent and the interest rate in Singapore was 3.41 percent. The spot rate was Singapore dollar = .7144 U.S. dollar and the forward rate was .5968 U.S. dollar per Singapore dollar. Let us put these numbers in our interest rate parity equation. We consider the U.S. as the domestic country.

$$(1.0539) = (1.0341)\ (.5968/.7144) \text{ therefore } (1.0539) > .8639$$

Since the domestic side is greater, one should borrow in Singapore and deposit in U.S.A. to make an arbitrage profit.

Let us borrow S$1,000,000. Convert to U.S. $ at .7144 U.S. dollars per Singapore dollar, which will give $714,400. Invest in U.S. at 5.39 percent. 714,400(1.0539) = $752,906. Convert to Singapore dollar at forward rate of .5968 U.S. dollar per Singapore dollar. This will give Singapore dollar S$1,261,572. Since you borrowed S$1,000,000 at 3.41 percent, you will owe S$1,034,100.

Cash received from U.S. deposit	S$1,261,572
Amount owed on Singapore loan	S$1,034,100
Net arbitrage gain	S$ 227,472

Similarly if one looks carefully, there may be such opportunities between the U.S.A. and other emerging Asian economies.

CONCLUSION

The empirical test of the Interest Rate Parity suggests that Interest Rate Parity holds between the United States and emerging economies of Asia like Singapore, Thailand, Korea, Philippines, Malaysia, India and Pakistan in the long run. However, an intelligent arbitrageur can find covered interest arbitrage opportunity during certain years as indicated above between the U.S.A. and Singapore. It may be mentioned here that Singapore is ideal for covered interest arbitrage because it has no currency control or restriction. It may be concluded that Interest Rate Parity holds in the long run between the U.S.A. and emerging economies of Asia, nevertheless there is always opportunity during certain periods for covered interest arbitrage.

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FDI LOCATION DRIVERS AND RISKS IN MENA

Jay Van Wyk, Pittsburg State University
Anil K. Lal, Pittsburg State University

ABSTRACT

The purpose of the paper is to investigate the factors that encourage and inhibit FDI flows to countries in the Middle East and North Africa (MENA). The approach followed is identified with New Institutional Economics (NIE). The extended NIE literature shows that both macroeconomic and institutional location factors are dominant influences on the investment decision. Pooled least squares regressions were used to estimate the results for 18 MENA countries. The findings confirm that various NIE factors are indeed significant determinants of FDI, including economic growth, current account deficits, trade openness and less restrictive business regulations. The main limitations of the study is the lack of long term time series data and the need to explore different FDI patterns in oil producing versus non-oil producing countries in MENA. This study added to the increased importance of the growth of regional integration for FDI for investors. In this case FDI flows to MENA are investigated, which adds value to the accumulated knowledge of business environments in other regions in the developing world such as Latin America, Southeast Asia, and Central and East Europe.

INTRODUCTION

This paper investigates the causes of FDI flows to the Middle East and North Africa (MENA). The subsequent analysis of foreign direct investment (FDI) in MENA intersects two approaches in International Business and International Economics. New Institutional Economics (NIE) investigates the locational determinants of FDI in host countries. Multinational enterprises (MNEs) have particularly targeted geographical regions for investment and operations to take advantage of regional economic integration.

Traditionally, macroeconomic factors have been regarded as the most important determinants for location decisions and investment activities by MNEs. These location factors include market potential and size, economic growth rates, income per capita, relative labor unit costs, exchange rates, inflation rates, and relative natural endowments (Cavers, 1974; Cheng & Kwan, 2000; Dunning, 1980). Primarily, following the seminal works of North (1981, 1990) and Rumelt, Schendel and Teech (1991), economists and international management scholars found macroeconomic factors may provide only a partial explanation of FDI location and that more attention should be focused on the influence of institutions on FDI decisions (Disdier & Mayer,

2004; Dunning, 2006; Hall & Jones, 1999; Henisz, 2000; Jensen, 2003; Knack & Keifer, 1995; Mauro, 1995; Mayer, 2001; Madambi & Navarra, 2002; Rodrik, Subramania & Trebbi, 2004; Sethi, Guisinger, Ford & Phelan, 2002). According to Wan and Hoskisson (2003), institutional theory extends transaction cost theory by adding the institutional dimension. In developing countries, institutions are particularly important because institutional immaturity or ineffectiveness raises transaction costs and risk levels for foreign investor (Child, et al., 2003; Mayer, 2004; Uhlenbruck, 2004). These dual determinants of FDI, macroeconomics and institutions, are now known as the New Institutional Economics approach to FDI. NIE can be defined as an expansion of macroeconomic determinants of FDI to include socio-political interactions and the evolution of institutions. Institutions, which may be seen as the rules of the game and their associated implementation mechanisms, can be both formal and informal and are developed endogenously in response to limitations in human capacity to process information (Sugden, 1986; Williamson, 2000; Zinnes, Eilat, Sachs,2001). NIE operates in terms of hierarchy, market and participation principles as manifested by the state, the private sector, and civil society (Williamson, 1975; Williamson, 2000, Picciotto, 1997). According to Lin and Nuggent (1995) NIE has been influenced by five strands of thought: theories of collective action, transaction cost economics, theories of the evolution of norms and rule-making, the economics of imperfect information, and property rights economics.

FDI flows to specific geographical regions or to host countries within geographical proximity have increased due to the larger markets created by economic integration (Buckley, Clagg, Forsans & Reilly, 2005; Lee, 2005; Mirza & Giroud, 2004). The commonalities of history, culture and geography have driven the formation of regional free trade agreements and regional political organizations. Hossain and Naser (2008), for example, indicate that the six Middle East countries which formed the Gulf Cooperation Council (GCC), historically had common religious, social and cultural identities. The GCC also serves as a political and economic policy-coordinating forum for its members. According to Abed (2003) MENA, countries share a common cultural and institutional heritage, along with common economic and social challenges. Regionalism occupies the space between the contradictory pulls of globalization and nationalism. Rugman and Verbeke (2004) showed that the operations of MNEs are more focused on regional rather than global markets. New Institutional Economics (NIE) is now increasingly regarded as a valid explanation of location factors determining FDI in regions as diverse as Latin America, Central and Eastern Europe, East Asia and Sub Saharan Africa (Grosse & Trevino, 2005; Trevino & Mixon, 2004; Manaim, 2007; Raminez, 2006; Zhang, 2001; Akinkugbe, 2005; Mengistu & Adams, 2007).

Turning to MENA specifically, there are a number of compelling reasons in evidence as to why location determinants of FDI require further investigation. Soliman (2003) points to two events that reshaped MENA countries' negative attitudes towards free trade and FDI. The debt crisis and the drain of commercial bank lending to developing countries, coupled with the failure of nationalistic import substitution policies, forced MENA countries to consider the success of the Southeast Asian model which is based upon attracting FDI and export led growth. As a consequence,

some MENA countries reformed their FDI regimes. Regulatory frameworks for FDI have been improved in several countries especially in the service sector, e.g. finance, telecommunications and real estate. According to Siddiqi (2007b), such regulatory policy changes created more favorable host country environments for global investors, e.g. liberalization of banking licenses in Bahrain and of insurance legislation in Turkey; extension of foreign property and land ownership in Oman's tourist industry; reduction of corporate income taxes in Turkey, Egypt, Kuwait and Saudi Arabia; and changes in the contractual and tender conditions in Oman's extractive sector. Since joining the WTO, Saudi Arabia has embarked on an extensive liberalization of foreign ownership, taxation and privatization as well as the creation of free trade zones for foreign investors (Siddiqi, 2007a). In Morocco, the government adapted an Investment Charter in 1995 which extended foreign ownership in the manufacturing sector; removed restrictions on the repatriation of capital and dividends; introduced fiscal and other incentives for FDI; and guaranteed foreign investors against the risks of nationalization and expropriation (Bouoiyour, 2003).

Changes in the FDI regimes of MENA countries had a positive affect on inflow of investments into the region. According to the United Nations Conference on Trade and Development (UNCTAD) (2006), sixteen of the nineteen countries in the region gained from the influx of FDI. FDI in the energy sector increased fourfold over the five year period between 1995-1999 and the period 2000-2005. Inward stock of FDI in the region surged almost 200% between 1995 and 2005. UNCTAD also reported that cross-border mergers and acquisitions in the region saw a huge increase from $1018m in 2004 to $17116m in 2005. Much of these M&A activities were attributable to the liberalization of the non-energy and service sectors.

Despite these initial improvements in the MENA investment environment, many barriers to FDI still persist. Only 8.3% of FDI flows to developing countries in 2005 were earmarked for MENA, which is less than FDI flows to other regions such as Southeast Asia and Latin America. (UN, 2005) Broadly speaking, the political systems, values and ideologies that persist in many MENA countries, still hamper market economies and these nations' abilities to attract FDI (Dunning, 1993; Azzam, 2001). The countries in the region are often characterized by large public sectors with centralized governments, large and overstaffed civil services, and weak systems of accountability. Abed (2003) concludes, that by international standards, MENA countries continue to lag in the development of an economic and financial environment conducive to entrepreneurship, risk taking, and private-sector led investment and growth.

The objectives of the paper are straightforward. First, to review the literature on the drivers of FDI in MENA, in particular, and, more generally, to supplement information scarcity with empirical findings from other developing countries and regions. Second, to formulate testable hypotheses regarding the drivers of FDI in MENA.

In order to investigate the causes of FDI flows to MENA, this paper is organized in four parts. At the outset, the literature of FDI in MENA is reviewed. Supplementary findings about NIE determinants of FDI in developing countries are included to augment our understanding of location

determinants of FDI. Second, data and methods are outlined. Third, findings are discussed. Finally, conclusions are drawn from the findings, limitations of the study are outlined, and suggestions for further research are offered. The managerial implications of the findings are highlighted.

LITERATURE REVIEW

The literature of FDI in MENA is still a work in progress. Generalizations of findings are inhibited by several factors including the limited number of countries included in most panel studies, few studies include the most important NIE independent variables, and qualitative rather than quantitative studies still dominate the FDI literature[1].

Macroeconomic Determinants

According to Metwally (2004), higher rates of economic growth have resulted from FDI inflows in MENA. He also identified a feedback effect in the relationship between economic growth and capital inflow. A greater inflow of FDI leads to growth in exports of goods and services. The expansion of exports leads to growth in GNP, which in turn, encourages the attraction of more foreign capital. Hisarciklilar, Kayam and Kayalica (2007) showed that GDP of host economies in MENA, which they treated as an indicator of purchasing power and a proxy for domestic demand, is found to have a high significant impact on the amount of FDI stock in the economy. Demirbag, Taloglu and Glaister (2008) found that market potential in Turkey, i.e. growth rate and market size, is positively correlated with FDI acquisitions in the domestic market. Bouoiyour (2003) found that market size had a positive impact on FDI in Morocco. Economic growth, however, was a negative but insignificant determinant of FDI due to unstable segments of the Moroccan economy. Market size and economic growth as location drivers of FDI in MENA are compatible with similar findings of other developing countries (Tahir & Larimo, 2004; United Nations, 1998; Trevino, Daniels & Arbelaez, 2002; Sabi, 1988).

Hypothesis 1: Market size and growth rate are drivers of FDI inflows to MENA.

The literature indicates that exchange rate volatility is an impediment to FDI. According to Erdal and Tatoglu (2002), the lack of exchange rate stability hindered Turkey's efforts to attract a much higher volume of FDI. MNEs from source countries with a strong currency (overvalued) would tend to invest more in economies with a relatively weak currency (undervalued). While appreciation of the home currency makes export sales more expensive, companies in the home country may decide to invest, e.g. outsource production, in such host countries to reduce costs and to increase competitiveness. Exchange rate fluctuations affect FDI in two ways: (1) the appreciation of a source country's currency vis-à-vis a host country means that the source country's investment

increases in value when denominated in the host country's currency (Ajami & Barniv, 1984; Dewenter, 1995); and (2) currency appreciation increases a firm's wealth position, lowers its relative cost of capital and allows it to invest more aggressively overseas (Froot & Stein, 1991).

Hypothesis 2: Depreciation of the host country's currency should lead to greater FDI.

Financing deficits on the current account of the balance of payment usually occurs through the sale of assets, by attracting inward FDI or by securing loans. (Krugman & Obestfield, 1994) In MENA countries the volatility of oil prices has a significant bearing on the current account. High oil prices brought large surpluses on the current account as a percentage of GDP. These large surpluses were spent rapidly and when oil prices fell, governments were obliged to undertake difficult fiscal adjustments. Most MENA governments resorted to excessive external borrowing to finance their inefficient public investments, resource imbalances and deficits on the current account. This boom and bust cycle meant that oil-producing countries oscillated between a surplus and a deficit on the current account. Non-oil producing MENA countries struggled even more and largely failed to contain current account deficits below five percent of GDP (Aristovnik, 2007).

Hypothesis 3 Deficits to the current account of the balance of payment will encourage/hinder FDI inflows to MENA.

Evidence shows that countries that pursue more open commercial policies tend to attract more FDI (Kapuna-Foreman, 2007; Nourzad, 2008; Saab, 2007). For example, countries located in East and South Asia have been able to attract greater inflow of foreign capital by pursuing more open commercial policies, perhaps signaling to potential investors that foreign investments are sought and encouraged in these countries (Vogiatzoglou, 2008; Wie, 2006).

Hypothesis 4: Greater openness of a country's commercial policy will encourage FDI inflows.

Institutional Determinants

The impact of institutions on FDI and MENA produced various results. The literature supports the notion that political instability deters FDI in MENA. Chan and Gemayel (2004) found that the degree of instability, i.e. political, financial and economic instability associated with investment risk, is a much more critical determinant of FDI in MENA countries than it is in other developing countries. For Turkey, Demirbag, Taloglu and Glaister (2008) found that investment entry mode is influenced by investment risk such as political and economic stability. The above

results are consistent with the notion that political instability, particularly in developing countries, significantly reduces the inflow of FDI (Li & Resnick, 2003; Schneider & Frey, 1985; Globerman & Shapiro, 2002). Related studies indicated that increasing levels of political freedom and civil liberties in host countries may be beneficial in attracting FDI (Harms & Ursprung, 2002; Kolstad & Villanger, 2004; Disdier & Mayer, 2004). Jensen (2003) found that democratic countries attract more FDI than their authoritarian counterparts. However, Li and Resnick (2003) argued that democracies both promote FDI, e.g. protecting property rights and reducing transaction costs, as well as create barriers to FDI, e.g. protecting influential domestic producers against foreign competition.

Hypothesis 5: Low levels of political freedom/civil liberties in MENA countries will deter FDI inflows.

The literature on the influence of other institutional determinants on FDI in MENA is sparse. Moen (2004) found that weak institutions in MENA countries hindered the inflow of FDI. Demirbag, Taloglu and Glaister (2008) found that government regulations, e.g. government policy, repatriation of profits and levels of industrial competition, were insignificant determinants of FDI in Turkey. Hisarciklilar, Kayam and Kayalica (2007) found that telephone mainlines, a proxy for infrastructure, did not have a significant effect on FDI.

The rich literature of institutional determinants of FDI in developing countries provides analytical insights for potential testing in MENA. Kapuria-Forman (2007) reported via regression results that increases in economic freedom, especially in areas such as government intervention in the economy, capital flows and property rights, improved the FDI attractiveness of developing countries. Bengoa and Sanchez-Robles (2003) found that the economic freedom imbedded in institutions was a positive determinant of FDI in 18 Latin American countries. Holmes, Feuler and O'Grady (2008) found that countries in the MENA region enjoyed less economic freedom than the world average. Regionally viewed, only Sub Saharan countries enjoyed less economic freedom than MENA. Only 17 countries in the world enjoyed high levels of economic freedom, none of them located in MENA[2]. Javorcik and Spatareanu (2004) findings indicated that greater flexibility in the labor markets of host countries in Western and Eastern Europe was associated with larger FDI inflows. The literature also suggested that the protection of property rights had a positive impact on investment and growth (Knack & Keefer, 1995), but it may not be statistically significant (Ferrantino, 1993). Although the literature is relatively sparse, Campos and Kinoshita (2003) suggested that transitional economies with more efficient legal systems attracted more FDI. The findings regarding the impact of taxation policies on FDI are somewhat inconsistent. Older studies showed that unfavorable host country corporate taxation had a negative impact on FDI inflows (Grubert & Mutti, 1991; Hines & Rice, 1994; Loree & Guisinger, 1995). In developing countries, high taxes or complexity or uncertainties regarding tax laws had a negative influence on FDI inflows

(Carstensen & Toubal, 2004; Edmiston, Mudd & Valev, 2003). Other studies suggested that there may be a positive relationship between FDI and taxation (Swenson, 1994) or that there was no significant relationship (Wheeler & Mody, 1992).

Hypothesis 6: Low levels of economic freedom in MENA countries will deter FDI inflows.

Okeahalam (2005) found that high levels of corruption did not deter investments in MENA. This finding contradicts others who found that corruption in host countries was an impediment to inward FDI (Hines, 1995; Mauro, 1995; Habib & Zurawick, 2002; Gastanajy, Nugent & Pashamova, 1998; Wei, 2000). However, Okeahalam and Bah (1998) found that many investors continue to invest in corrupt and poorly governed resource-rich countries, but tend to apply high discount factors and to ask for higher levels of expected returns to compensate for such high levels of corruption and political risk. Kolstad and Villanger (2004) found no significant impact of corruption on FDI in developing countries which raised the possibility that corruption may not be harmful to FDI in all contexts.

Hypothesis 7: Corruption in host countries may not deter FDI.

DATA AND METHODS

To examine the causes of Foreign Direct Investment (FDI), the following are postulated:

FDI = f(macro economic variables, institutional variables)

It is believed that economic variables that could influence FDI are market size, rate of growth of income, trade balance, degree of openness, and exchange rate. Institutional variables that could influence FDI are political rights, civil liberties, business freedom, investment freedom, trade freedom, and freedom from corruption.

Different alternatives were tried and the best results were obtained by using the following model:

$$\text{Log(FDI)} = \text{constant} + \alpha 1\log(\text{GDP95}) + \alpha 2\log(\text{PCG}) + \alpha 3\log(\text{CB}) + \alpha 4\log(\text{EXR}) + \alpha 5 \log(\text{OPEN}) + \alpha 6\log(\text{CORF}) + \alpha 7\log(\text{BF}) + \alpha 8\log(\text{PF}) + \text{error term}$$

where

FDI: Inward FDI stock in current US$.
GDP95: 1995 GDP in current US$, proxy for market size.

PCG:	Per capita GDP in current US$, proxy for rate of growth of GDP
EXR:	US $ per unit of host country's currency proxy for exchange rate.
CB:	Current account exports in current US$/ current account imports in current US$, proxy for current account balance.
OPEN:	Merchandise trade as a percentage of GDP, proxy for openness of an economy
CORF:	Freedom from Corruption: The perception of corruption in the business environment, including levels of governmental, judicial and administrative corruption. The index is based on the Corruption Perceptions Index of Transparency International (Beach and Kane, 2008).
BF:	Business Freedom: The ability to create, operate and close an enterprise quickly and easily. Burdensome, redundant regulatory rules are the most harmful barriers to business freedom. (Beach and Kane, 2008)
PF:	Political Freedom: Consists of a Political Rights Index and a Civil Liberties Index. Political Rights enable people to participate freely in the political process, including the right to vote freely for distinct alternatives in legitimate elections, to compete for public office, to join political parties and organizations, and to elect representatives. Civil liberties allow for the freedoms of expression and belief, associational and organizational rights, rule of law, and personal autonomy without state interference (Freedom House, 2008).

Based on the initial estimation results, it was decided to use the log – linear functional form to estimate the causes of FDI. Since logs cannot be used in case of negative numbers, the original data was modified to facilitate the use of data[3]. The advantages of using log formulation is that it enables easy interpretation of the data as coefficients associated with independent variables or parameter estimates measure respective elasticities. For example, 'α2' indicates that inward FDI stock changes by 'α2' percent when per capita GDP changes by 1 % (or 1 % growth in the region causes 'α2' percent change in inward FDI stock).

The data were obtained on an annual basis from 1995 to 2004. The data for FDI were obtained from World Investment Report 2007 (UNCTAD). The data for GDP95, PCG95, GDP, PCG, and CB were obtained from World Development Indicators 2006 (The World Bank). For PF, Freedom House data were used which ranks countries based on political rights as well as civil liberties. These rankings are measured on a one to seven scale, with one representing the highest degree of political freedom and seven the lowest degree of political freedom. For BF and CORF, we have used the Index of Business Freedom and Index of Freedom from Corruption compiled by Wall

Street Journal & the Heritage Foundation. The index ranges from 0 to 100, with higher scores indicating higher freedom.

Pooled least squares regressions were used to estimate the results for countries in the Middle East & North Africa nations excluding Iraq[4]. In the authors' estimation, no problem of serious multi-collinearity was found between independent variables as indicated by Table 1.

Table 1: Correlation Matrix

	Log(GDP95)	Log(PCG)	Log(CB)	Log(OPEN)	Log(EXR)	Log(CORF)	Log(BF)	Log(PF)
Log(GDP95)	1.0000							
Log(PCG)	0.0085	1.0000						
Log(CB)	0.0381	0.4675	1.0000					
Log(OPEN)	-0.3416	0.5471	0.2974	1.0000				
Log(EXR)	0.4879	-0.0927	-0.1269	-0.1089	1.0000			
Log(CORF)	0.0317	0.6912	0.2901	0.5510	-0.0593	1.0000		
Log(BF)	0.0092	0.3700	-0.1269	0.5132	-0.0871	0.6183	1.0000	-0.2014
Log(PF)	-0.3081	-0.2529	0.2511	0.0080	-0.2759	-0.1412	-0.2014	1.0000

The best results of estimation are presented below. To take care of the problem of autocorrelation AR (1), AR(2), and AR(3) terms were added to the model:

RESULTS

Regression results show that our model is a good fit, as indicated by High R2 and high adjusted R2. The estimation also does not suffer from serial correlation, as evidenced by Durbin – Watson statistic. Also, the signs of the coefficients associated with independent variables are consistent with our various hypotheses. The positive signs associated with log(GDP95) – a proxy for market size -- and log (PCG) – a proxy for economic growth, indicate that larger market size and higher economic growth lead to higher FDI (Hypothesis 1)However, the coefficient associated with market size is not statistically significant, thought the coefficient associated with economic growth is statistically significant at 20 %.

The coefficient associated with log (EXR) is negative, indicating that depreciation of host country's currency leads to greater FDI (Hypothesis 2). However, this coefficient is not statistically significant. We also found that lower log (CB) – a proxy for current account balance –or higher current account deficit or lower current account surplus leads to higher FDI (Hypothesis 3). This coefficient is statistically significant at 20 %. The results show that the sign associated with log(OPEN) – a proxy for commercial policy openness – is positive, confirming the hypothesis

(Hypothesis 4), i.e. the more open a region's/country's commercial policy, the greater is the inflow of FDI. This coefficient is statistically significant at 5 %.

We found that higher political freedom – proxy log (PF) – leads to higher FDI (Hypothesis 5). Please note that lower number for political freedom represents higher degree of political freedom and thus negative sign associated with log (PF) is consistent with Hypothesis 5. However, the coefficient is not statistically significant. The results also indicate that higher business freedom – proxy log (BF) leads to higher FDI (Hypothesis 6). This coefficient is significant at 20 % level. Lastly, the coefficient associated with log (CORF) – a proxy for freedom from corruption (a higher score representing less corruption) is negative, indicating that higher levels of corruption may not deter FDI (Hypothesis 7). This result is consistent with earlier finding of Okeahalam (2005) that high levels of corruption did not deter FDI in MENA. However, the coefficient is not statistically significant.

Table 2. Results of Estimation

Variable	Coefficient	T – Statistic
Constant	1.51	0.03
Log(GDP95)	0.39	0.21
Log(PCG)	0.25***	1.41
Log(EXR)	-0.01	-0.09
Log(CB)	-0.09***	-1.31
Log(OPEN)	0.41*	2.17
Log(PF)	-0.02	-0.06
Log(BF)	0.17***	1.37
Log(CORF)	-0.01	-0.28
AR(1)	1.25	17.98
AR(2)	-0.13	-1.17
AR(3)	-0.12*	-1.94
R Squared	0.98	
Adj R squared	0.97	
Durbin–Watson Stat	2.02	
Total Observations	132	

* significant at 5% level.
** significant at 10% level.
***significant at 20% level.

SUMMARY AND CONCLUSION

The results attest to general expectations that aspects of NIE (both macroeconomic and institutional factors) determine the flow of FDI to the MENA region. The findings show that a number of macroeconomic factors were significant divers of FDI, i.e. economic growth, current account deficit, and trade openness. On the institutional side business freedom, one form of economic freedom, was a significant factor in attracting FDI. The finding identified other factors that had a bearing on FDI attractiveness but not at a significant level. These include market size, currency depreciation, political freedom, and low sensitivity to corruption.

The results are in line with NIE that market opportunity promotes FDI and that burdensome and redundant regulations impede FDI (Grosse & Trevino, 2005; Van Wyk & Lal, 2008). Cost efficiency and seizing business opportunities are greatly facilitated by business-friendly regulatory regimes. The World Bank (2009), which tracks reform of business regulations on an annual basis, found, for example, that property registry reform in Egypt led to quicker title registration and revenue increases of nearly 40 percent. In another World Bank example, new company registration increased by 81 percent in Saudi Arabia after reductions in minimum capital requirements. In general, time series data sets of institutional factors are still rather shallow. In the future, with more data available, the drivers of and risks to investment may afford more in-depth analysis.

Potential future studies of FDI inflows to MENA may distinguish between oil-producing and non-oil producing countries. As suggested in the literature review above, corruption may be more of an impediment to investment in non-oil producing countries wherein ROI may be much lower than FDI in oil rich countries. Related to that, resource-seeking FDI is likely more lucrative than investments in other types of industries. Industry-linked investments (e.g. services) may provide a more nuanced picture of the influence of NIE factors on inward FDI than country aggregate FDI. For non-oil producing countries, horizontal FDI (e.g. access to low wages) or vertical interaction FDI (e.g. disaggregating the production of components and intermediate goods) may offer some opportunities for foreign investors. Export platform FDI in MENA also has potential where a host country serves as a production platform for exports to neighboring countries (Bloniger, 2005). In the future, attention should be given to analyzing, in a comparative manner, the reasons for the remarkable increases to FDI inflows in Brazil, Russia, India, China and South Africa (BRICS) with that of countries in the MENA region. During 1991 to 2004, there was a remarkable increase in world FDI inflows and there was also a distinct change in destination of FDI inflows, with developing countries increasing their share of world FDI inflows from 26% in 1991 to about 34% in 2004. It is interesting to note that during this time period, BRICS were able to increase their share of FDI inflows from 4% in 1991 to 10% in 2004. Such a comparative study may yield fruitful insights into why some countries are able to attract more FDI inflows as compared to others.

From a managerial perspective, two salient observations may be offered. First, the effort by MENA countries to diversify their economies to lessen oil dependency may create more future

investment opportunities for MNEs. Market seeking investments will be encouraged by the importance of market size per capita and economic growth per capita as identified in this study. Efficiency-seeking investors may pay more attention to MENA given the region's closer geographical proximity to the European Union. Second, institutional reform in the region is a work-in-progress. Some reforms have reduced the risk of institutional inefficiency. However, further institutional reform will render institutional factors a stimulus for investment. More specifically, democratization of political systems will likely produce a positive spillover effect on the political-economy of the region. However, Kamrava (2004), an astute expert of MENA politics, cautions that real reform (e.g. termination of rent seeking, corporatism, and privileged patron-client relations) instead of cosmetic reforms to keep authoritarian regimes in place, will be the real test of democratization. The astute manager is advised to remain abreast of the shifting economic and business environments in the MENA region.

ENDNOTES

1. Tarzi (2005) identified key location variables as drivers or risks to FDI such as size of domestic market, high rate of economic growth, macroeconomic stability (low inflation rate, relative stable exchange rate), low levels of macro-political risk (instability), low levels of micro-political risks (regulations), and a well developed infrastructure. Bolinger (2005) identified partial equilibrium determinants of FDI such as exchange rates, taxes, institutions (corruption), trade protectionism and trade effects. Pajunen (2008) identified seven institutions which may influence the FDI decision, including corruption, political instability, labor regulations, justice and the judicial system in a society, political rights and civil liberties, property rights, and taxation policy.

2. The Economic Freedom Index measures freedoms related to operating a business, absence of trade barriers, taxation, government expenditures, price stability, free flow of investments, independence of banking sector, property rights, and freedom in the labor market.

3. Inward FDI stock has been used in place of inward FDI flow to take care of problems caused by some negative inward FDI flow. Thus, change in inward FDI stock is used as a proxy for FDI inflow. The same reasoning applies to use of GDP. To take care of negative numbers associated with current account balance (exports of goods – imports of goods), we have taken the ratio of current account exports to current account imports of goods and services as a proxy for current account balance (CB).

4. Inward FDI stock has been used in place of inward FDI flow to take care of problems caused by some negative inward FDI flow. Thus, change in inward FDI stock is used as a proxy for FDI inflow. The same reasoning applies to use of GDP. To take care of negative numbers associated with current account balance (exports of goods – imports of goods), we have taken the ratio of current account exports to current account imports of goods and services as a proxy for current account balance (CB).

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A STUDY OF THE FINANCIAL CHARACTERISTICS OF FIRMS IN TWO RAPIDLY GROWING ECONOMIES

Samuel Penkar, University of Houston- Downtown
Prakash Deo, University of Houston-Downtown

ABSTRACT

In recent years, there has been a lot of speculation as to the performance of corporations in two rapidly growing economies. Both China and India have shown rapid industrial growth for the last decade and this trend is expected to continue. However, the economies of these two countries are very different. China's industrial economy is centrally controlled while a substantial portion of the Indian economy's growth is driven by businesses in the private sector.

This study examines the similarities and differences in the financial characteristics of corporations operating in these two countries. Financial data is used from year end 2004 for large corporations to examine if there are major differences in how businesses operate, the profitability of their operations, how they are set up and how they raise capital.

This study will be useful for persons that want to understand how the two systems work and for potential investors in trying to determine where to place their investment funds.

INTRODUCTION

The expectation is that in the next two decades, China and India will turn into super-powers and industrialized nations. The analysis in this paper will help in understanding how each country's corporate setup works and will help in evaluating the investment potential in the buying of stocks of firms of each country in their various industry sectors.

This study contains a literature review followed by the results of the study. The study utilizes a three step top to bottom analysis; macroeconomic analysis followed by industry analysis and lastly with company analysis. The various tables and figures are attached to the end of the article.

LITERATURE REVIEW

Hu and Honghua (2002) compare key measures of strengths between China and India. These measures include GDP, ratio of long-term economic growth expectation in the world's total, average years of education, and the ratio of exported goods and services in the world's total. The authors

conclude that China is far ahead of India. Husain and Harris (2009) compare and contrast broader aspects of the political, economic, and sociocultural climates within the two countries. Kalish (2007) and Zhao (2007) draw similar conclusions based on detailed comparisons and the risks and opportunities of doing business in each country. Wu (2007) compares the service sector growth in China and India and analyzes the determinants of growth in services with an econometric model. He finds that role of services in both China and India has been rising, with China starting from a lower base. Srinivasan's (2004) exhaustive study on comparison of economic performance between China and India identifies key differences and similarities, the underlying causes of success and failures and concludes that China and India have a lot to gain, both from trading with each other and cooperating in the WTO.

Maddison (2002) reveals that although India forged ahead of China until the outbreak of the First World War, since 1980, China has forged much farther ahead. Rwaski (2001), Srinivasan and Bardhan (1974), Deato and Kozel (2003), Park and Wang (2001) discuss the sources of estimates of economic performance in China and India, and their frailties. Bahl and Martinez-Vazquez (2003) argue that China's governance is much decentralized than indicated by the government and therefore, it is hard to predict the effect of greater decentralization on China's future fiscal health. Battacharya and Patel (2002) note that the Indian economy suffers from a large and increasing role of the government. Bosworth and Collins (2007) point out the weak and strong performances of India and China in various sectors and conclude that both economies should be able to sustain their growth.

While a wealth of literature exists on evaluation of these two countries from a macroeconomic perspective, there exists a gap in the finance literature, specifically, a perspective for potential investors in trying to determine where to place their investment funds. In this article, we examine the valuation issues that an investor needs to consider when investing in china and India.

By and large the finance literature advocates a three-step (also known as top-down) valuation process. The first step includes evaluation of general macro-economic factors which influence a country's economy. These factors include fiscal and monetary policy of countries, political conditions. The second step involves identification and assessments of an industry environment in a country's economy. It includes labor skills and relations, capital-labor and business cycle-industry inter-relationships, demographics, scope of the industry and its competitive environment to gauge business risk. The final steps comprise of individual firm analysis in an industry.

We use this three-step framework to evaluate and compare the valuation environment in China and India.

THE ECONOMIES

We deploy Goldman Sachs version of the three-step process, which includes examination of GDP as the key component of a country's economy. The source of data is the world fact book published by the Central Intelligence Agency on its website.

GDP Comparison

As can be noticed from Table 1, measured by the GDP, the Chinese and the Indian economies rank number two and four on a global scale. Furthermore, the growth rate of the economies of China and India are among the highest of all the countries of the world. The Chinese economy has been growing at a rate of 9.9 percent while the Indian economy has been growing at 7.6 percent. In comparison, the growth rate of the GDP in the world is 4.7 percent. The European Union is growing at just 1.70 percent and the United States is growing at 3.5 percent. The other rapidly growing economies were Argentina and Russia. Argentina has had a growth rate of 8.7 percent but from a relatively low base of half a trillion dollars of GDP. Germany had the lowest growth rate among the industrialized nations. In terms of GDP, the European Union and the US economies are of equal size, with the US exhibiting a much higher growth rate. Bosworth and Collins (2007) and Srinivasan (2007) make similar observations and conduct further investigation into the sources of these growth rates in GDP.

Finally, the GDP per capita rate of India is extremely low, while at the same time the unemployment rate is fairly high. From an investor's perspective, this suggests that the growth rate of the Indian economy is likely to continue for many years into the future. The same holds true for the Chinese economy as well but to a lesser extent.

GDP Comparison: Service Versus Manufacturing Industry

Table 2 shows the GDP composition of a number of countries in both percentage and dollar terms. There are some noticeable differences between the Chinese and the Indian economies. A much higher proportion of GDP comes from the services sector for the Indian economy (fifty four percent) while a high proportion of GDP for China comes from the manufacturing sector (forty seven percent). Our observations consistent with results of other studies, for instance, Bosworth and Collins (2003) assumed a Cobb-Douglas production function with fixed factor shares to investigate the patterns of growth for China and India.

$$Y = AK^{\alpha} (LH)^{1-\alpha} .$$

Y, K, A and α are measures of output, physical capital services, total factor productivity, and capitals' share. These authors conclude that although China's concentration of growth is in industry and that of India's in service industry, China's growth is remarkably broad across agriculture, industry and services. Additionally, the overall growth of services in China actually exceeds that of India.

The probable reason for this is that the Indian economy has a long history of a large financial institutions operating in the private sector. It is interesting to note that for the industrialized countries, the overwhelming proportion of GDP comes from the services sector (for example, seventy nine percent for the US, seventy one percent for the European Union, seventy percent for Japan and seventy percent for Australia).

This provides ample opportunities for investors to diversify and balance their long-term portfolio of investments in value and growth stocks. For example, in order to balance overall economic growth and to catch up with each other, a growth potential exists in service sector in China and manufacturing sector in India.

COMPARISON OF LABOR FORCE

Table 3 shows the breakdown by sectors according to the labor force. A large proportion of the Indian labor force (sixty percent) is involved in the agricultural sector as compared to China (forty nine percent). For both these developing countries, the agricultural labor force typically shows hidden unemployment which could be released primarily to the industrial sector. By contrast, in the United States, just one and a half percent of the labor force is employed in the agricultural sector while a very large proportion of the labor force (nearly eighty percent) is employed in the services sector. Taiwan, Germany and Japan have the largest proportions employed in the manufacturing sector. Similar observations by Bosworth and Collins(2007) leads them to conclude that supply-side factors suggest that both economies should be able to sustain their growth due to plentiful supplies of underutilized labor and high rates of private savings.

From an investors perspective, investors needs to monitor the expansion of goods production and trade via continuation of integration with global economy, which will productively utilize the current pool of underemployed and undereducated workers.

THE PRIVATE CORPORATE SECTOR

The finance literature generally suggests two approaches to the complex common stock valuation process: (1) the discounted cash flow valuation approach that involves estimating the present worth of future cash flows such as dividends, operating cash flow and free cash flow; and (2) the relative valuation approach which comprises of valuation of a stock based upon its current price relative to other financial measures such as earnings, book value, sales and cash flow. We use

the relative valuation technique because it offers current valuation of stock at the levels of total market, different industries and within industries, and facilitates our India-China comparison.

This Study examined the financial characteristics of corporations in the private sector for both China and India. The analysis was restricted to companies that had a market capitalization of over two hundred and fifty million dollars as this is generally the minimum size level to be of interest to most investment portfolio companies. Table 4 contains the summary data of some important financial variables for the two countries.

Most of the ratios are the common ones used in financial analysis, however the reinvestment rate is defined as follows.

Reinvestment rate = (Net Capital Expenses + Change in working capital) / (Earnings before interest and taxes (1 – tax rate)).

Price to Earnings and Price to Book Ratio, Return on Equity by Industry

The price/earnings (P/E) ratio also known as the earnings multiplier. A firm's net earnings provide the return of capital as well as the return on capital to a common stock investor. An investor can estimate value by estimating how many dollars they are willing to pay for a dollar of earnings expected during the following year. The price/book value determines how much an investor is willing to pay for the estimated book value (shareholder investment) per share for a firm.

It can be seen that the Indian companies are substantially larger that their Chinese counterparts and tend to have lower price to earnings ratios. On the other hand, the Indian companies have a much higher price to book ratio. This is perhaps due to the fact that the Indian private companies have been in existence for a much longer period of time as compared to their Chinese counterparts, and as a result the book value of their assets (which is primarily historical for older firms) is much lower than their current market values. The larger companies in both countries seem to have the same levels of systematic risk as measured by the beta values. The companies in the two countries have approximately the same net profit margin while the Chinese companies have a slightly higher reinvestment growth rate. However, the Indian companies have a very high return on equity at twenty eight percent while at the same time utilizing a much lower level of debt financing. As a result, the Indian companies have a much better interest coverage ratio.

Table 5 provides the information on an industry basis for the Chinese companies. The largest companies are in the petrochemical, beverages and steel producing industries while the applied software industry has the highest PE ratios and the steels producers have the lowest. Going by the price to book value ratios, the steel and the drug companies seem to be value priced while the chemical and beverage industries sport among the highest ratios. Profit margins are the highest in the building and construction industry and lowest in the drug industry. The petrochemical industry

provides the highest return on equity while the building construction and, applied software and steel industries employ high financial leverage.

Table 6 provides similar data for the Indian Industries. The petrochemical companies have a market capitalization of nearly three times the closest other industry while the beverage, building products and medical drugs has the highest PE ratios. Based on the price to book value, the beverage industry seems to be overvalued while the agricultural chemicals and steel producers seem to be more value priced industries. The steel producers and applied software industries have high profit margins while the steel producers and engine manufacturers have very high returns on owner's equity. Other than diversified operations, all industries show that owner's equity is put to very profitable use. Most industries use low levels of debt. As can be expected, the heavy industries use the highest levels of debt.

Table 7 provides a comparison of industry performance between the two countries. Points of note are: Agricultural Chemicals: The Indian companies have a very much lower PE ratio, The Chinese companies have a much higher net profit margin while the Indian companies have a much higher return on equity.

Auto/Trucks: The average Indian company is more than twice as large as its Chinese counterpart, has more than twice the ROE and operates with much less of financial leverage. However the Chinese Auto/Truck manufacturers have a much higher PE ratio.

Beverages: The Chinese companies are much larger and have a much higher price to book value ratio and a much higher net profit margin. However, the Indian companies provide a higher return on equity.

Engines: The Indian companies have a very high ROE and very low debt as compared to the equivalent Chinese companies.

Medical-Drugs: The Indian companies are much larger based on market capitalization, have a substantially higher return on equity, a higher profit margin and a lower PE ratio.

Petrochemicals: The Indian companies hive a much higher market capitalization and return on equity while the typical Chinese company has a much higher PE ratio.

Power Conversion/Supply Equipment: Similar to the petrochemical industry.

Steel Producers: The Indian steel producers have a very high net profit margin and return on equity as compared to the Chinese counterparts and operate with higher levels of financial leverage.

Applications software: The Indian companies are very well established in this industry and have a high net profit margin and return on equity while having very low levels of debt. The Chinese companies have poor performance numbers which might signify that they are relatively new entrants in this industry.

From an investors' perspective, our financial analysis based on data in tables 4 through 7 provide the necessary information for investment decisions. We have identified and provided financial evaluation for industries in each country. This type of analysis is normally followed by fundamental analysts, and described in all basic investment text books.

CONCLUSIONS

Both the Chinese and the Indian economies can be expected to have high growth rates over the next decade. Particularly in the case of India, this is based on the fact that currently its per capita GDP is less than a tenth of that of the United States which provides it and to a lesser extent China with a substantial competitive advantage. Furthermore, in the case of India, it currently has an unemployment rate of 8.9 percent which in itself is an underestimate since sixty percent of its labor force is in agriculture where labor typically suffers from hidden underemployment. This fact suggests that there will not be an inflationary pressure due to wage rates rising anytime soon.

In comparing the various industry sectors, Chinese companies seem the more attractive choice in the beverages, building construction and diversified operations. However for most industries and most companies, the run-up in stock prices has already occurred as can be seen with the lofty PE ratios. The Indian industry strengths are Auto/Truck manufacturing, manufacture of engines, Medical/Drugs, steel producers and application software. Relative to China, just about all industry PE ratios are at much lower levels making most industry investments more attractive. Russia and Argentina might be the next two countries ready to take off. This top-down analysis will be useful for those who plan to diversify their portfolios via investing in China and India. Additionally, our financial evaluation should provide the basis for investing in various industries within these two countries.

TABLE 1

COUNTRY	GDP(Tr. $)	GDP - real growth rate	GDP - per capita($)	Unemployment rate
WORLD	60.71	0.047	9500	
EUR. UNION	12.18	0.017	28100	0.094
USA	12.36	3.50%	41,800	5.10%
CHINA	8.859	9.90%	6,800	
JAPAN	4.018	2.70%	31,500	4.40%
INDIA	3.611	7.60%	3,300	0.089

TABLE 1

COUNTRY	GDP(Tr. $)	GDP - real growth rate	GDP - per capita($)	Unemployment rate
GERMANY	2.504	0.90%	30,400	11.70%
UK	1.83	1.80%	30,300	4.70%
FRANCE	1.816	1.40%	29,900	9.90%
RUSSIA	1.589	6.40%	11,100	7.60%
BRAZIL	1.556	2.40%	8,400	9.80%
CANADA	1.114	2.90%	34,000	6.80%
MEXICO	1.067	3.00%	10,000	3.60%
S. KOREA	0.965	3.90%	20,400	3.70%
AUSTRALIA	0.64	3%	31,900	5.10%
TAIWAN	0.631	3.80%	27,600	4.10%

TABLE 2

COUNTRY	GDP COMPOSITION			GDP (Trillion Dollars)			
	Agriculture	Industry	Services	GDP	Agriculture	Industry	Services
WORLD	0.04	0.32	0.64	60.71	2.43	19.43	38.85
EUR. UNION	0.02	0.27	0.71	12.18	0.27	3.33	8.59
ARGENTINA	0.10	0.36	0.55	0.52	0.05	0.19	0.28
AUSTRALIA	0.04	0.26	0.70	0.64	0.02	0.17	0.45
BRAZIL	0.08	0.40	0.52	1.56	0.13	0.62	0.80
CANADA	0.02	0.29	0.68	1.11	0.02	0.33	0.76
CHINA	0.13	0.47	0.40	8.86	1.11	4.19	3.57
FRANCE	0.02	0.21	0.76	1.82	0.04	0.39	1.39
GERMANY	0.01	0.30	0.70	2.50	0.02	0.74	1.74
INDIA	0.19	0.28	0.54	3.61	0.67	1.00	1.94
JAPAN	0.02	0.26	0.73	4.02	0.07	1.04	2.91
MEXICO	0.04	0.26	0.70	1.07	0.04	0.28	0.75
RUSSIA	0.05	0.37	0.58	1.59	0.09	0.59	0.91
S. KOREA	0.03	0.40	0.56	0.97	0.03	0.39	0.54
TAIWAN	0.02	0.26	0.72	0.63	0.01	0.16	0.46
UK	0.01	0.24	0.76	1.83	0.01	0.43	1.39
USA	0.01	0.20	0.79	12.36	0.12	2.52	9.73

TABLE 3

COUNTRY	GDP COMPOSITION			LABOR FORCE		
	Agriculture	Industry	Services	Agriculture	Industry	Services
INDIA	18.60%	27.60%	53.80%	60%	17%	23%
CHINA	12.50%	47.30%	40.30%	49%	22%	29%
USA	1%	20.40%	78.70%			
UK	0.50%	23.70%	75.80%	1.50%	19.10%	79.50%
FRANCE	2.20%	21.40%	76.40%	4.10%	24.40%	71.50%
GERMANY	0.90%	29.60%	69.50%	2.80%	33.40%	63.80%
AUSTRALIA	3.80%	26.20%	70%	3.60%	21.20%	75.20%
JAPAN	1.70%	25.80%	72.50%	4.60%	27.80%	67.70%
MEXICO	3.80%	25.90%	70.20%	18%	24%	58%
BRAZIL	8.40%	40%	51.60%	20%	14%	66%
ARGENTINA	9.50%	35.80%	54.70%			
WORLD	4%	32%	64%	42%	21%	37%
CANADA	2.20%	29.40%	68.40%	2%	23%	75%
ISRAEL	2.60%	31.70%	65.70%			
PAKISTAN	21.60%	25.10%	53.30%	42%	20%	38%
RUSSIA	5.40%	37.10%	57.50%	10.30%	21.40%	68.30%
EUR. UNION	2.20%	27.30%	70.50%	4.40%	27.20%	67.20%
S. KOREA	3.30%	40.30%	56.30%	6.40%	26.40%	67.20%
TAIWAN	1.80%	25.90%	72.30%	6%	35.80%	58.20%

TABLE 4

ALL FIRMS WITH A MARKET CAP OF OVER $250 MILLION

Country	Market Cap (mill$)	PE	PBV	Beta	Reinv. Rate	Net Margin	ROE	Debt/Eq. Ratio	TIE
China	809.47	32.37	2.40	1.42	1.29	0.10	0.14	0.25	21.88
India	1276.27	28.39	6.12	1.46	1.01	0.10	0.28	0.15	26.90

TABLE 5

CHINESE COMPANIES

INDUSTRY	Market Cap (mill$)	PE	PBV	Beta	Net Margin	ROE	Debt/Equity	TIE
AGR. CHEMICALS	486.72	40.76	3.09	1.43	13.74%	15.71%	20.73%	11.08
AUTO/TRUCKS	609.51	25.19	2.03	1.52	7.98%	15.66%	22.88%	28.36

TABLE 5

CHINESE COMPANIES

INDUSTRY	Market Cap (mill$)	PE	PBV	Beta	Net Margin	ROE	Debt/Equity	TIE
BEVERAGES	1376.46	42.25	3.96	0.95	15.39%	11.05%	2.53%	3.70
BLDG. CONSTR	584.93	29.02	3.08	1.39	23.51%	10.41%	32.85%	64.97
BLDG. PRODUCTS	753.85	42.56	2.66	1.45	7.86%	9.81%	29.97%	4.54
CHEMICALS	531.81	21.14	5.23	1.19	11.59%	19.87%	12.88%	13.41
DIVERSIFIED OPS	448.16	43.61	2.32	1.34	10.96%	7.04%	31.54%	8.75
ENGINES	294.25	14.32	3.04	1.58	9.95%	19.72%	16.67%	32.22
MEDICAL-DRUGS	439.68	72.61	2.56	1.23	4.75%	5.44%	21.74%	13.22
PETROCHEMICALS	1744.15	45.18	2.36	1.62	7.38%	22.45%	13.43%	41.42
PWR CONV/SUP EQUIP	484.98	72.71	3.57	1.74	7.40%	9.89%	9.56%	13.41
STEEL PRODUCERS	1187.66	5.97	1.07	1.25	7.25%	18.42%	31.58%	75.20
APPL. SOFTWARE	146.70	92.09	1.95	1.64	-0.01%	0.65%	35.60%	5.57

TABLE 6

INDIAN COMPANIES

INDUSTRY	Market Cap (mill$)	PE	PBV	Beta	Net Margin	ROE	Debt/Equity	TIE
AGR. CHEMICALS	436.85	10.00	2.95	1.47	5.90%	26.54%	24.58%	50.90
AUTO/TRUCKS	1484.29	15.80	6.42	1.37	12.58%	39.62%	11.11%	25.83
BEVERAGES	**481.15**	**54.82**	**14.18**	1.13	5.72%	26.54%	17.88%	2.73
BLDG. CONSTR	705.83	38.63	8.39	1.66	8.42%	23.15%	13.36%	**41.93**
BLDG. PRODUCTS	1281.77	47.91	5.17	1.22	9.03%	19.45%	19.02%	3.88
CHEMICALS	531.81	21.14	5.23	1.19	11.59%	19.87%	12.88%	13.41
DIVERSIFIED OPS	528.95	26.20	5.64	2.10	-6.76%	**1.14%**	21.18%	3.24
ENGINES	506.36	13.40	5.81	**1.04**	15.47%	44.03%	4.57%	21.03
MEDICAL-DRUGS	1064.58	42.65	7.79	1.14	17.29%	28.45%	8.52%	33.00
PETROCHEMICALS	**7601.35**	13.10	4.13	1.44	10.48%	31.03%	7.37%	25.53
PWR CONV/SUP EQUIP	2333.99	35.79	8.18	1.37	8.45%	24.09%	2.48%	69.86
STEEL PRODUCERS	1744.83	**5.22**	**2.34**	2.09	21.78%	**56.32%**	**38.06%**	9.79
APPL. SOFTWARE	2623.49	33.12	7.30	1.28	**23.00%**	28.09%	**2.78%**	**85.00**

TABLE 7									
INDUSTRY SUMMARY									
Country	Market Cap (mill$)	PE	PBV	Beta	Reinv. Rate	Net Margin	ROE	Debt Equity	TIE
AGRICULTURAL CHEM.									
China	486.72	40.76	3.09	1.43	1.98	13.74%	15.71%	20.73%	11.08
India	436.85	10.00	2.95	1.47	0.07	5.90%	26.54%	24.58%	50.90
APPLICATIONS SOFTWARE									
China	146.70	92.09	1.95	1.64	0.11	-0.01%	0.65%	35.60%	5.57
India	2623.49	33.12	7.30	1.28	0.46	23.00%	28.09%	2.78%	85.00
AUTO/TRUCKS									
China	609.51	25.19	2.03	1.52	1.72	7.98%	15.66%	22.88%	28.36
India	1484.29	15.80	6.42	1.37	0.85	12.58%	39.62%	11.11%	25.83
BEVERAGES									
China	1376.46	42.25	3.96	0.95	-0.01	15.39%	11.05%	2.53%	3.70
India	481.15	54.82	14.18	1.13	1.78	5.72%	26.54%	17.88%	2.73
BLDG. CONSTRUCTION									
China	584.93	29.02	3.08	1.39	3.94	23.51%	10.41%	32.85%	64.97
India	705.83	38.63	8.39	1.66	1.57	8.42%	23.15%	13.36%	41.93
BLDG. PRODUCTS									
China	753.85	42.56	2.66	1.45	1.61	7.86%	9.81%	29.97%	4.54
India	1281.77	47.91	5.17	1.22	-0.05	9.03%	19.45%	19.02%	3.88
CHEMICALS									
China	591.08	30.34	3.17	1.68	2.62	13.20%	11.66%	28.13%	9.00
India	531.81	21.14	5.23	1.19	1.19	11.59%	19.87%	12.88%	13.41
DIVERSIFIED OPS.									
China	448.16	43.61	2.32	1.34	1.14	10.96%	7.04%	31.54%	8.75
India	528.95	26.20	5.64	2.10	2.93	-6.76%	1.14%	21.18%	3.24
ENGINES									
China	294.25	14.32	3.04	1.58	-0.67	9.95%	19.72%	16.67%	32.22
India	506.36	13.40	5.81	1.04	0.86	15.47%	44.03%	4.57%	21.03
MEDICAL-DRUGS									
China	439.68	72.61	2.56	1.23	2.27	4.75%	5.44%	21.74%	13.22
India	1064.58	42.65	7.79	1.14	1.52	17.29%	28.45%	8.52%	33.00

TABLE 7

INDUSTRY SUMMARY

Country	Market Cap (mill$)	PE	PBV	Beta	Reinv. Rate	Net Margin	ROE	Debt Equity	TIE
PETROCHEMICALS									
China	1744.15	45.18	2.36	1.62	0.03	7.38%	22.45%	13.43%	41.42
India	7601.35	13.10	4.13	1.44	-0.68	10.48%	31.03%	7.37%	25.53
POWER CONV/SUPPLY EQP									
China	484.98	72.71	3.57	1.74	-2.38	7.40%	9.89%	9.56%	13.41
India	2333.99	35.79	8.18	1.37	0.32	8.45%	24.09%	2.48%	69.86
STEEL PRODUCERS									
China	1187.66	5.97	1.07	1.25	0.97	7.25%	18.42%	31.58%	75.20
India	1744.83	5.22	2.34	2.09	1.05	21.78%	56.32%	38.06%	9.79

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